

**Date and Time:** Wednesday, April 13, 2022 2:41:00 PM EDT

**Job Number:** 168912206

**Documents (100)**

1. [*PROJECT TO RESTORE MAUREPAS SWAMP TAKES ONE IMPORTANT STEP FORWARD*](https://advance.lexis.com/api/document?id=urn:contentItem:656Y-RHM1-JCBF-S0XV-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

2. [*Gov. Edwards urges congressional panel to loosen Corps restrictions on restoration, levee projects*](https://advance.lexis.com/api/document?id=urn:contentItem:64VP-MJY1-DYP9-V2SW-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

3. [*House Infrastructure Subcommittee Issues Testimony From Morgan's Point Mayor Bechtel*](https://advance.lexis.com/api/document?id=urn:contentItem:64T0-J3S1-JC11-1139-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

4. [*AIR Worldwide Estimates Insured Losses for Hurricane Ida Could Be Up to $25B*](https://advance.lexis.com/api/document?id=urn:contentItem:63HM-PVN1-JBH5-P4VS-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

5. [*AIR Worldwide Estimates Insured Losses for Hurricane Ida Could Be Up to $25 Billion*](https://advance.lexis.com/api/document?id=urn:contentItem:63HM-PVN1-JBH5-P4VV-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

6. [*House Transportation and Infrastructure Subcommittee on Water Resources and Environment Hearing "Proposals for a Water Resources Development Act of 2022: Stakeholder Priorities." Testimony by Michel Bechtel, President, Gulf Coast Protection District, Mayor, City of Morgan's Point, Morgan's Point, Texas*](https://advance.lexis.com/api/document?id=urn:contentItem:64RG-X3V1-DYVR-P0W2-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

7. [*Construction begins on one flood control project along the Bayou, while another begins*](https://advance.lexis.com/api/document?id=urn:contentItem:6422-X491-JDJN-60RH-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

8. [*West Shore Lake Pontchartrain project breaks ground*](https://advance.lexis.com/api/document?id=urn:contentItem:637N-TBW1-F11P-X3SS-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

9. [*United States : Verisks AIR Worldwide Estimates Insured Losses for Hurricane Ida Will Range from USD 17 Billion to USD 25 Billion?*](https://advance.lexis.com/api/document?id=urn:contentItem:63NN-G6F1-F11P-X194-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

10. [*United States : Verisks AIR Worldwide Estimates Insured Losses for Hurricane Ida Will Range from USD 17 Billion to USD 25 Billion?*](https://advance.lexis.com/api/document?id=urn:contentItem:63NN-G6R1-JDJN-610S-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

11. [*EXPLAINER: Is New Orleans protected from a hurricane?*](https://advance.lexis.com/api/document?id=urn:contentItem:63GG-21F1-JBCN-42GN-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

12. [*How does New Orleans protect itself from hurricanes?*](https://advance.lexis.com/api/document?id=urn:contentItem:63GH-CJT1-JBCN-447B-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

13. [*EXPLAINER: Is New Orleans protected from a hurricane?*](https://advance.lexis.com/api/document?id=urn:contentItem:63G8-9TF1-DYMD-63BT-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

14. [*EXPLAINER: Is New Orleans protected from a hurricane?*](https://advance.lexis.com/api/document?id=urn:contentItem:63G9-H361-DY9S-T3HD-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

15. [*EXPLAINER: Is New Orleans protected from a hurricane?*](https://advance.lexis.com/api/document?id=urn:contentItem:63G8-9TK1-JC5B-G4SV-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

16. [*EXPLAINER: Is New Orleans protected from a hurricane?*](https://advance.lexis.com/api/document?id=urn:contentItem:63G8-9SC1-JC5B-G4S4-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

17. [*EXPLAINER: Is New Orleans protected from a hurricane?*](https://advance.lexis.com/api/document?id=urn:contentItem:63G9-VFM1-JBCN-40SW-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

18. [*EXPLAINER: Is New Orleans protected from a hurricane?*](https://advance.lexis.com/api/document?id=urn:contentItem:63G9-2BW1-JBCN-41P9-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

19. [*Letter to the Editor River Diver sions*](https://advance.lexis.com/api/document?id=urn:contentItem:62RM-HFF1-JBCN-44H0-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

20. [*Letter to the Editor River Diversions*](https://advance.lexis.com/api/document?id=urn:contentItem:62RM-HFF1-JBCN-43NH-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

21. [*Are Grand Isle , Lafitte worth Ida-like storm protection? Louisiana rethinks its strategy*](https://advance.lexis.com/api/document?id=urn:contentItem:63Y3-KMM1-DYP9-V3NB-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

22. [*Explainer | Is New Orleans protected from a hurricane?*](https://advance.lexis.com/api/document?id=urn:contentItem:63GP-SMG1-JCH9-G3YY-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

23. [*Study: Concrete umbrellas could offer shade, protection against storm surges*](https://advance.lexis.com/api/document?id=urn:contentItem:5YK5-G041-JBYT-H153-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

24. [*AP EXPLains: Will New Orleans be sufficiently protected?*](https://advance.lexis.com/api/document?id=urn:contentItem:63GH-CDC1-JBJN-M2D2-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

25. [*La. Gov. Edwards Breaks Ground on Houma Navigation Canal Lock Complex, Announces Completion of Grand Bayou Floodgate*](https://advance.lexis.com/api/document?id=urn:contentItem:641W-F4F1-JC11-12YV-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

26. [*GOV. EDWARDS BREAKS GROUND ON HOUMA NAVIGATION CANAL LOCK COMPLEX, ANNOUNCES COMPLETION OF GRAND BAYOU FLOODGATE*](https://advance.lexis.com/api/document?id=urn:contentItem:641V-FD01-F12F-F472-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

27. [*As Ida hits, New Orleans relies on improved levees to prevent Katrina -like devastation*](https://advance.lexis.com/api/document?id=urn:contentItem:63GJ-NGF1-DYJM-M2W0-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

28. [*GOV. EDWARDS BREAKS GROUND ON HOUMA NAVIGATION CANAL LOCK COMPLEX, ANNOUNCES COMPLETION OF GRAND BAYOU FLOODGATE*](https://advance.lexis.com/api/document?id=urn:contentItem:641T-YM61-JCBF-S2SS-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

29. [*Verisk's AIR Worldwide Estimates Insured Losses for Hurricane Ida Will Range from USD 17 Billion to USD 25 Billion*](https://advance.lexis.com/api/document?id=urn:contentItem:63HK-3GT1-JC8H-G324-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

30. [*Verisk's AIR Worldwide Estimates Insured Losses for Hurricane Ida Will Range from USD 17 Billion to USD 25 Billion*](https://advance.lexis.com/api/document?id=urn:contentItem:63HK-C9H1-F15W-N18H-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

31. [*Verisk's AIR Worldwide Estimates Insured Losses for Hurricane Ida Will Range from USD 17 Billion to USD 25 Billion*](https://advance.lexis.com/api/document?id=urn:contentItem:63HV-0VB1-JDJN-60N0-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

32. [*Verisk ’s AIR Worldwide Estimates Insured Losses for Hurricane Ida Will Range from USD 17 Billion to USD 25 Billion*](https://advance.lexis.com/api/document?id=urn:contentItem:63JD-TH71-F0YC-N2H9-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

33. [*Ida roars ashore with 'big test' for New Orleans levees*](https://advance.lexis.com/api/document?id=urn:contentItem:63PS-58B1-JBSK-R3TD-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

34. [*Editorial: We have a year. Let's use it to broaden support to save our city.*](https://advance.lexis.com/api/document?id=urn:contentItem:64TK-4PV1-JCB8-W006-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

35. [*Public meeting shares updates on shoreline protection*](https://advance.lexis.com/api/document?id=urn:contentItem:63BP-8J31-JBCN-40HB-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

36. [*GOV. EDWARDS ANNOUNCES START OF CONSTRUCTION ON WEST SHORE LAKE PONTCHARTRAIN HURRICANE PROTECTION PROJECT*](https://advance.lexis.com/api/document?id=urn:contentItem:637H-0F31-F12F-F04V-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

37. [*Verisk's AIR Worldwide Estimates Insured Losses for Hurricane Ida Will Range from USD 17 Billion to USD 25 Billion*](https://advance.lexis.com/api/document?id=urn:contentItem:63HK-BC81-F04Y-T1YD-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

38. [*Verisk's AIR Worldwide Estimates Insured Losses for Hurricane Ida Will Range from USD 17 Billion to USD 25 Billion*](https://advance.lexis.com/api/document?id=urn:contentItem:63HK-PG91-DY2T-6020-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

39. [*Verisk’s AIR Worldwide Estimates Insured Losses for Hurricane Ida Will Range from USD 17 Billion to USD 25 Billion*](https://advance.lexis.com/api/document?id=urn:contentItem:63HK-4PP1-JDPV-B19B-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

40. [*Verisk's AIR Worldwide Estimates Insured Losses for Hurricane Ida Will Range from USD 17 Billion to USD 25 Billion - Press Release issued by AIR Worldwide*](https://advance.lexis.com/api/document?id=urn:contentItem:63HV-01M1-JCH9-G325-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

41. [*Verisk's AIR Worldwide Estimates Insured Losses for Hurricane Ida Will Range from USD 17 Billion to USD 25 Billion*](https://advance.lexis.com/api/document?id=urn:contentItem:63HK-6N01-JDK3-93MB-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

42. [*AIR Worldwide Estimates Insured Losses for Hurricane Ida Will Range from USD 17 Billion to USD 25 Billion*](https://advance.lexis.com/api/document?id=urn:contentItem:63HK-GYN1-JC13-H1JK-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

43. [*New Orleans levees pass Ida's test while some suburbs flood*](https://advance.lexis.com/api/document?id=urn:contentItem:63GS-TTK1-DY4H-K3J1-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

44. [*New Orleans levees pass hurricane's test City protected from Ida's fury, but suburbs weren't spared flood destruction*](https://advance.lexis.com/api/document?id=urn:contentItem:63GX-WWB1-F197-539B-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

45. [*New Orleans levees pass Ida's test while some suburbs flood*](https://advance.lexis.com/api/document?id=urn:contentItem:63GY-D5J1-JBVR-342V-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

46. [*A Boston Harbor coastal resiliency system? 'Layered defense' The New Bedford model of coastal resiliency works. Boston should follow suit.*](https://advance.lexis.com/api/document?id=urn:contentItem:62T9-GD01-JB25-F15W-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

47. [*Planning a 'layered defense' for Boston Harbor The New Bedford model of coastal resiliency works. Boston should follow suit.*](https://advance.lexis.com/api/document?id=urn:contentItem:62T9-NTP1-DYHJ-30JH-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

48. [*Houma locks work begins; Grand Bayou flood project finished*](https://advance.lexis.com/api/document?id=urn:contentItem:64DC-9RR1-JBCN-44PF-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

49. [*PM reviews Cyclone Yaas damage; Odisha demands long-term solution*](https://advance.lexis.com/api/document?id=urn:contentItem:62TJ-9H41-DYDW-74TD-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

50. [*New Orleans' levees held strong against Ida*](https://advance.lexis.com/api/document?id=urn:contentItem:63H5-3PV1-JBCN-44JR-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

51. [*Houston just avoided nightmare scenario; Experts warn: If Laura-like system hit nearby, storm surge could unmoor chemical tanks*](https://advance.lexis.com/api/document?id=urn:contentItem:60R8-XT81-DYRV-4536-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

52. [*New Orleans's levees pass Ida's test while some suburbs flood*](https://advance.lexis.com/api/document?id=urn:contentItem:63GW-X2H1-DXH7-52VR-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

53. [*Rouzer Statement from WRDA 2022 Members’ Day Hearing*](https://advance.lexis.com/api/document?id=urn:contentItem:651B-FTC1-F0YC-N1V9-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

54. [*New Orleans levees pass Ida's test while some suburbs flood*](https://advance.lexis.com/api/document?id=urn:contentItem:63GS-PHX1-JC5B-G4DG-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

55. [*New Orleans levees pass Ida's test while some suburbs flood*](https://advance.lexis.com/api/document?id=urn:contentItem:63GS-PFV1-JC5B-G4CX-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

56. [*New Orleans levees pass Ida's test while some suburbs flood*](https://advance.lexis.com/api/document?id=urn:contentItem:63GS-PHK1-DYMD-61NK-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

57. [*Group of climate scientists aboard 100-ft yacht with glass walls in New York harbor plot $40 billion plan to build sea GATES that would shut to keep the city from flooding if another disaster like Hurricane Sandy hit*](https://advance.lexis.com/api/document?id=urn:contentItem:640W-9381-JBNF-W3M5-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

58. [*Yacht full of climate scientists plots giant sea gate to save Manhattan*](https://advance.lexis.com/api/document?id=urn:contentItem:641M-KXW1-F084-94RS-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

59. [*Yacht full of climate scientists plots giant sea gate to save Manhattan*](https://advance.lexis.com/api/document?id=urn:contentItem:641M-MCJ1-JCT2-M1J5-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

60. [*Hurricane Ida Batters Louisiana : University of Michigan Experts Available*](https://advance.lexis.com/api/document?id=urn:contentItem:63GY-MMS1-JC11-11N9-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

61. [*Hurricane Ida batters Louisiana : U-M experts available*](https://advance.lexis.com/api/document?id=urn:contentItem:63GT-5HD1-DY7P-T51M-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| News | -None- |

62. [*HURRICANE IDA BATTERS LOUISIANA : U-M EXPERTS AVAILABLE*](https://advance.lexis.com/api/document?id=urn:contentItem:63GX-5F41-F12F-F1DF-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

63. [*A $2 million federal grant will help repair local levee*](https://advance.lexis.com/api/document?id=urn:contentItem:626W-WYV1-JBCN-4297-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

64. [*New Orleansâ€™ Permanent Storm Surge Protection*](https://advance.lexis.com/api/document?id=urn:contentItem:5R5J-WJD1-F028-706R-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

65. [*21csgg01 - Sub-Surface Exploration for the Proposed Rehabilitation/ Reconstruction of Access Roads and National Roads with Slips, Slope Collapse, And Landslide and Construction/Maintenance/ Rehabilita*](https://advance.lexis.com/api/document?id=urn:contentItem:62WN-5P01-F11P-X4X9-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

66. [*Edwards announces three coastal restoration projects*](https://advance.lexis.com/api/document?id=urn:contentItem:62R0-FY61-F11P-X3SP-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

67. [*Construction begins on West Shore Lake Pontchartrain hurricane protection*](https://advance.lexis.com/api/document?id=urn:contentItem:63CS-CXK1-DYR7-84R9-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

68. [*Construction on West Shore Lake Pontchartrain Hurricane Protection Project begins*](https://advance.lexis.com/api/document?id=urn:contentItem:637P-S8V1-JBCN-43NJ-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

69. [*Construction begins on West Shore Lake Pontchartrain hurricane protection*](https://advance.lexis.com/api/document?id=urn:contentItem:637F-V1X1-JDJN-62H0-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

70. [*A $2 million federal grant will help repair local levee*](https://advance.lexis.com/api/document?id=urn:contentItem:626P-8DN1-DXVP-V0S1-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

71. [*Officials: Levee improvements paid off*](https://advance.lexis.com/api/document?id=urn:contentItem:60RK-6S51-JBCN-40PJ-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

72. [*21csgg01 - Sub-Surface Exploration for the Proposed Rehabilitation/ Reconstruction of Access Roads and National Roads with Slips, Slope Collapse, And Landslide and Construction/Maintenance/ Rehabilita*](https://advance.lexis.com/api/document?id=urn:contentItem:62R5-STC1-JDJN-6477-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

73. [*EDITORIAL; Build the Ike Dike, but we need more; Houston and coastal Texas should have multiple lines of flood defenses to be truly safe.*](https://advance.lexis.com/api/document?id=urn:contentItem:63NT-MVC1-JC8F-54FP-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

74. [*Protecting Miami from rising seas will take more than a wall*](https://advance.lexis.com/api/document?id=urn:contentItem:632S-YKC1-DY37-F061-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

75. [*Denmark : Construction Act for Lynetteholm adopted*](https://advance.lexis.com/api/document?id=urn:contentItem:62VJ-N5D1-F11P-X38K-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| News | -None- |

76. [*Corps gets $12M, could pay $2.1B for hurricane protection*](https://advance.lexis.com/api/document?id=urn:contentItem:61T7-M581-JC5B-G3B5-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

77. [*Yacht full of scientists plots giant sea gate to save Manhattan*](https://advance.lexis.com/api/document?id=urn:contentItem:647P-8F41-F0YC-P14N-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

78. [*Odisha not seeking immediate cyclone assistance: Naveen*](https://advance.lexis.com/api/document?id=urn:contentItem:62SP-DW41-JBYT-H3GT-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

79. [*Odisha not seeking immediate cyclone assistance: Naveen*](https://advance.lexis.com/api/document?id=urn:contentItem:62SP-DW41-JBYT-H3C3-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

80. [*La. Gov. Edwards Announces Completion of Trinity-East Island in Terrebonne Parish*](https://advance.lexis.com/api/document?id=urn:contentItem:63P8-K3F1-JC11-154M-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

81. [*GOV. EDWARDS ANNOUNCES COMPLETION OF TRINITY-EAST ISLAND IN TERREBONNE PARISH*](https://advance.lexis.com/api/document?id=urn:contentItem:63P7-4841-JCBF-S3TK-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

82. [*Bob Marshall: Grand Isle and Lafitte are being rebuilt, but here's why they won't last long*](https://advance.lexis.com/api/document?id=urn:contentItem:6405-TR51-DYP9-V4FV-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

83. [*Metropolitan Storm Surge Working Group Issues Public Comment on Corps of Engineers Notice*](https://advance.lexis.com/api/document?id=urn:contentItem:62N6-X4B1-DYG2-R32P-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

84. [*Close call with storm renews debate over Houston barrier*](https://advance.lexis.com/api/document?id=urn:contentItem:60WV-NPB1-JC5B-G1TF-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

85. [*Close call with storm renews debate over Houston barrier*](https://advance.lexis.com/api/document?id=urn:contentItem:60X1-BVB1-JBVR-31FN-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| News | -None- |

86. [*Phippsburg group’s proposed oyster reef isn’t for dining*](https://advance.lexis.com/api/document?id=urn:contentItem:63K2-HR71-JBHT-D50K-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| News | -None- |

87. [*Group hopes oyster reef reaps environmental benefits*](https://advance.lexis.com/api/document?id=urn:contentItem:63JV-KDB1-JBHT-D0KV-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

88. [*Close call with storm renews debate over Houston barrier*](https://advance.lexis.com/api/document?id=urn:contentItem:60WV-NTG1-DYMD-625M-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

89. [*Phippsburg group’s proposed oyster reef isn’t for dining*](https://advance.lexis.com/api/document?id=urn:contentItem:63K2-HR71-JBHT-D512-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

90. [*Letter to the Editor: Maritime Forest acts as both vital habitat and for storm surge mitigation*](https://advance.lexis.com/api/document?id=urn:contentItem:62MW-S2D1-JCB8-W011-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

91. [*Group hopes oyster reef reaps environmental benefits*](https://advance.lexis.com/api/document?id=urn:contentItem:63JV-KDB1-JBHT-D0JJ-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

92. [*Two coastal restoration projects get underway*](https://advance.lexis.com/api/document?id=urn:contentItem:6132-KR11-JBCN-44BK-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

93. [*A 20-Foot Sea Wall? Miami Faces the Hard Choices of Climate Change.*](https://advance.lexis.com/api/document?id=urn:contentItem:62TS-CPF1-JBG3-641G-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

94. [*United States : Cassidy Announces Pending $5.9 Million Coastal Restoration Project for St. Bernard Parish*](https://advance.lexis.com/api/document?id=urn:contentItem:60YN-WR11-JDJN-6189-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

95. [*Ike Dike concept gets a big backer; George P. Bush lends support to storm-surge wall*](https://advance.lexis.com/api/document?id=urn:contentItem:5N51-S4M1-JC8S-D2C7-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

96. [*MOP to start storm surge protection works on Avenida Perú de Viña del Mar*](https://advance.lexis.com/api/document?id=urn:contentItem:60VH-0RP1-DY1R-B4T7-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

97. [*storm. Barra leaves behind na es nationwide trail of destruction Compliance by public with red alerts helped save lives*](https://advance.lexis.com/api/document?id=urn:contentItem:6481-KV41-JCBW-N46B-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

98. [*Yaas aftermath: Amid COVID wave, Odisha decides not to seek immediate financial assistance from Centre*](https://advance.lexis.com/api/document?id=urn:contentItem:62SR-CB01-JBN6-G319-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| **Content Type** | **Narrowed by** |
| News | -None- |

99. [*Police organize storm surge evacuation drill*](https://advance.lexis.com/api/document?id=urn:contentItem:5WG1-3NW1-DY2H-6363-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

**Narrowed by:**

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| **Content Type** | **Narrowed by** |
| News | -None- |

100. [*PM announces ₹1,000 crore aid for three 'Yaas'-hit States*](https://advance.lexis.com/api/document?id=urn:contentItem:62SR-0GY1-DYDW-706B-00000-00&idtype=PID&context=1516831)

**Client/Matter:** -None-

**Search Terms:** storm surge protection

**Search Type:** Natural Language

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| News | -None- |

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[***PROJECT TO RESTORE MAUREPAS SWAMP TAKES ONE IMPORTANT STEP FORWARD***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:656Y-RHM1-JCBF-S0XV-00000-00&context=1516831)

States News Service

April 12, 2022 Tuesday

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**Length:** 586 words

**Byline:** States News Service

**Dateline:** WASHINGTON

**Body**

The following information was released by the Environmental Defense Fund (EDF):

Army Corps releases plan selecting Maurepas restoration project as mitigation for nearby levee construction.

Overview of Maurepas Swamp

As one of the largest forested wetlands in the nation, Maurepas Swamp provides important ecological and socioeconomic benefits to southeast Louisiana. The swamp not only improves water quality and habitat for many species of conservation importance, but also increases resilience against ***storms*** for coastal communities from the Greater New Orleans region to the River Parishes and up into Greater Baton Rouge.

However, due to several stressors, the health of the swamp is rapidly declining. The construction of levees along the Mississippi River have isolated the area and cut these swamps off from much-needed fresh water, sediment, and nutrients they require to survive. Other factors such as historic alterations of the landscape, increasing salinities throughout the Pontchartrain Basin caused by the now closed Mississippi River Gulf Outlet (MRGO), and the destruction of new seedlings caused by the invasive nutria have all contributed to the decline of Maurepas Swamp.

Overview of River Reintroduction Into Maurepas Swamp project

This proposed diversion will be located on the East Bank of the Mississippi River near Angelina and Garyville in St. John the Baptist Parish.

The River Reintroduction into Maurepas Swamp Project (MSP) will reconnect the swamp with the Mississippi River, providing sediment and freshwater to existing wetlands, as well as helping to offset future increases in salinity. The fine grain sediment coming from the Mississippi may also help to build land which will allow the opportunity for trees, like bald cypresses and tupelos, to grow and thrive.

This widely supported diversion project will benefit more than 45,000 acres of wetlands and forests, nearly one third of the swamp, and reduce habitat loss over the next several decades. Creating this wetland buffer can also reduce ***storm surge*** for communities stretching from the Greater Baton Rouge to the Greater New Orleans regions.

Army Corps is moving this project forward

Currently, the U.S. Army Corps of Engineers (Corps) is evaluating mitigation measures to compensate for unavoidable wetland impacts resulting from construction of the West Shore Lake Pontchartrain (WSLP) Project. The WSLP will construct a risk reduction system extending from the Bonnet Carre spillway to Garyville that will reduce the risk from ***storm surge*** associated with tropical events. Part of the assessment process includes evaluating several alternatives to mitigate for environmental impacts one of these alternatives being the Maurepas Swamp Project.

The Corps is considering the use of the Maurepas Swamp restoration project to mitigate for wetland loss caused by the construction of the WSLP levee, which is located next to the swamp. This is being done through a Supplement Environmental Impact Statement. The MSP is the environmentally-preferable mitigation option because it allows the impacts caused by WSLP to be mitigated in the same watershed.

If constructed together, the WSLP Project and MSP will provide significant ***storm surge*** ***protection*** that is collectively greater than if built separately, as well as cost savings. The integration of these two projects would demonstrate that combining risk reduction and restoration in complementary ways can achieve positive results for vulnerable communities and their surrounding ecosystems.

**Load-Date:** April 13, 2022

**End of Document**

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[***Gov. Edwards urges congressional panel to loosen Corps restrictions on restoration, levee projects***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:64VP-MJY1-DYP9-V2SW-00000-00&context=1516831)

The Times-Picayune/The New Orleans Advocate Online

February 24, 2022 Thursday

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**Section:** CONSTRUCTION NEWS & US POLITICS NEWS

**Length:** 700 words

**Byline:** MARK SCHLEIFSTEIN

**Body**

Speaking Wednesday before a congressional panel, Gov. John Bel Edwards praised a bill that could pave the way for coastal restoration and ***storm surge*** ***protection*** projects in Louisiana and other states.

Edwards spoke at a U.S. Senate field hearing in Delaware held to collect comments on the proposed Shoreline Health Oversight, Restoration, Resilience and Enhancement Act, known as the SHORRE Act.

That legislation includes language that would loosen the rules the Army Corps of Engineers follows to determine if a project should be approved and funded. It also includes provisions that would authorize a number of major Louisiana projects, clearing the way for each to eventually be funded by Congress.

Edwards and others at the hearing said the Corps' formula for approving projects should give more weight to the benefits a project provides to disadvantaged communities, even though the value of homes and businesses in those areas might not be enough to equal a project's cost.

Other issues, like the value of a project to an area's recreation, such as fishing, also should be given greater weight, Edwards said.

Identical versions of the SHORRE legislation were introduced in the Senate by Sens. Tom Carper, D-Del., and Bill Cassidy, R-La., and in the House by Reps. Lisa Blunt Rochester, D.-Del, and Garret Graves, R-Baton Rouge, in early February.

The bill includes authorizations for the following projects:

The proposed $1.6 billion, 30.6-mile Upper Barataria hurricane levee system that would reduce ***storm surge*** heights for portions of seven parishes west of the existing West Bank and Vicinity levee system

A $1.9 billion pair of projects that would keep the west bank and east bank New Orleans area hurricane levees elevated to protect from ***storm surges*** caused by a hurricane with a 1% chance of occurring in any year, a so-called 100-year ***storm***, through 2078.

Stay up-to-date on the latest on Louisiana's coast and the environment. Sign up today.

Congress would still have to appropriate money for those construction projects.

The legislation also would loosen restrictions that might require the Corps to ignore Louisiana's request to use a portion of construction costs for a proposed Maurepas freshwater diversion as required mitigation for construction of the West Shore Lake Pontchartrain hurricane levee.

The legislation might also empower the Corps to approve Louisiana's request to use a portion of money reserved for one project to mitigate the construction impacts of another. Though existing rules might bar such a move, the state wants to use some money intended for a proposed Maurepas Swamp freshwater diversion to fund mitigation efforts for a separate West Shore Lake Pontchartrain hurricane levee.

That levee would increase hurricane ***storm surge*** ***protection*** for parts of St. John the Baptist and St. James parishes that flooded after hurricanes Isaac in 2012 and Ida in 2021.

The SHORRE bill also would require the Corps to work with the state in an ongoing comprehensive management study of the flow of water in the lower Mississippi River, which could support the state's efforts to get its Mid-Barataria and Mid-Breton Sediment Diversion projects approved. Edwards said the research could also help move forward a sediment diversion project proposed for Ama in St. Charles Parish and a freshwater diversion proposed for Union in St. James Parish.

Edwards said the bill would also loosen Corps rules that require Louisiana to buy the land it uses for restoration projects. Instead, the state wants to sign agreements with present landowners to allow such projects to be built.

"Nearly three quarters of Louisiana's coastal lands are held in private ownership," Edwards said. "Louisiana cannot solve its coastal land loss crisis without engaging with willing landowners to find restoration solutions that work for their goals."

If approved, the legislation would become part of the 2022 version of the Water Resources Development Act, a much-broader bill that also authorizes new water, restoration and levee projects overseen by the Corps. That bill is expected to be considered by Congress later this year.

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**Load-Date:** February 24, 2022

**End of Document**

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[***House Infrastructure Subcommittee Issues Testimony From Morgan's Point Mayor Bechtel***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:64T0-J3S1-JC11-1139-00000-00&context=1516831)

Targeted News Service

February 16, 2022 Wednesday 7:50 AM EST

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**Length:** 1234 words

**Byline:** Targeted News Service

**Dateline:** WASHINGTON

**Body**

The House Transportation and Infrastructure Subcommittee on Water Resources and Environment issued the following testimony by Morgan's Point Mayor Michel Bechtel involving a hybrid hearing on Feb. 8, 2022, entitled "Proposals for a Water Resources Development Act of 2022: Stakeholder Priorities".

Bechtel is also the president of the Gulf Coast ***Protection*** District.

\* \* \*

Thank you for the opportunity to testify before you today to discuss stakeholder priorities for the proposed Water Resources Development Act (WRDA) of 2022.

My name is Michel Bechtel. I am Mayor of the City of Morgan's Point, Texas and the President of the Gulf Coast ***Protection*** District. In 2021, the Texas Legislature created the Gulf Coast ***Protection*** District (the District) to serve as the non-federal sponsor for the ***storm surge*** ***protection*** system described in the Coastal Texas Resiliency Improvement Plan identified in the US Army Corps of Engineers (USACE) Coastal Texas ***Protection*** and Restoration Chief's Report (Coastal Texas Chief's Report), signed on September 16, 2021. The District's five county territory: Chambers, Galveston, Harris, Jefferson, and Orange, is home to over 5.5 million residents, eight ports, and nine congressional districts. The District will also be the non-federal sponsor of the Sabine Pass to Galveston Bay Texas Coastal Risk Management (S2G) projects located in this territory and was fully funded in the Bipartisan Budget Act of 2018.

The Coastal Texas Chief's Report presents a plan that will safeguard the upper Texas coast against hurricane ***storm surge*** arising from the Gulf of Mexico and Galveston Bay. Gulf defenses include a gate system and a nature-based beach and dune stem coupled with Bay defense systems involving a Galveston Island ring barrier system and gates and pump station systems on the mainland coast.

These multiple lines of defense provide a delicately balanced approach to protecting essential human and economic infrastructure that contributes significantly to the nation's economy while preserving the beaches and unique ecosystems on the Texas coast.

This project is not only important to the safety of upper Texas Coast residents but provides vital ***protections*** for the economies of the states you represent, and the nation. During 2021, we witnessed the fragility of supply chains that resulted in monumental and catastrophic economic disruptions. Understanding supply chain perspectives when major hurricane disasters hit the upper Texas coast is important for recognizing the considerable national benefits of a Texas coastal ***storm surge*** ***protection*** system.

Following major weather events, supply chains are affected by ***storm*** damage to structural and human infrastructure. Reduced worker capacity impedes recovery work at facilities thus exacerbating supply chain disruptions. Truck driver shortages, a key component of this human infrastructure, intensify following ***storms***. Trucks move the supply chain for the top 10 commodities including electronics, grocery and convenient store goods, hardware, gravel, grains, and gasoline. Agriculture is impacted by supply chains supporting fertilizer, seed, crop ***protection*** products, and machinery parts.

In 2020, the U.S. exported over $1.171 trillion in manufactured goods, with small businesses comprising ninety-six (96) percent of all exporters in the U.S. The Houston Port Houston region is home to the largest petrochemical complex and export port in the United States, providing $801.9 billion in national economic value. With sequential major hurricanes hitting the Houston Ship Channel and direct hits 12 miles apart (similar to Louisiana in 2020), critical economic activity in the Port Houston Ship Channel could be shut down for an extended period. This means no port activity, no cargo, no commerce, and no jobs.

Staggeringly, approximately ninety-six (96) percent of all manufactured goods are directly touched by the business of chemistry. Roughly, eighty (80) percent of all primary petrochemicals are produced in Texas and Louisiana, with Texas being the largest chemistry producing state in the nation.

Approximately, forty-two (42) percent of the nation's specialty chemical stock is required in a wide range of everyday products used by consumers and industry. The business of converting these basic chemicals into textiles, food packaging, automotive parts and safety glass, home furnishings, construction and roofing materials, paints and coatings, pharmaceuticals, and fertilizers occurs in other states, many of which are represented on this subcommittee.

With over seventy (70) percent of the nation's freight by weight moved by trucking and (60) percent of the aviation fuel produced in the upper Texas Gulf Coast affecting air freight, major ***storms*** impacting petrochemical and port infrastructure would significantly disrupt manufacturing, retailers, and business operation supply chains in states across the nation. If the region's chemical producers can't produce ingredients, manufacturers can't generate products, truckers and air freight can't move inventories, retailers can't stock shelves, and exports are thwarted. In addition, eighty (80) percent of the nation's military grade fuel is supplied by this region. The deep and significant impact of protecting this region from catastrophic ***storm surge*** is evident. The security of state and national economies will be hugely improved with the implementation of the Coastal Texas projects.

In closing, I will leave you with how this could affect your jurisdictions. Import and export commodities moving through the Houston Port region are connected to manufacturing and retail supply chains in each of your states. The following are top commodities based on tonnage that import through Port Houston to states represented on the Subcommittee:

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\* Automotive are the top commodities received in South Carolina, Tennessee, North Carolina, and Louisiana.

\* Chemicals, Minerals, Resins and Plastics received in Arkansas, Arizona, California, Florida, Georgia, Illinois, Louisiana, Missouri, North Carolina, New Hampshire, New Jersey, South Carolina, Tennessee, and New York.

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\* Steel and Metals received in Arizona, New Jersey, New York, Tennessee, Oregon, and Missouri.

\* Food and Drink received in California, Arkansas, Arizona, Florida, District of Columbia, Illinois, New York, New Jersey, and Louisiana.

\* Furniture received in Florida and North Carolina.

Thank you again for this opportunity. As you deliberate the stakeholder priorities presented to you, I urge you to consider authorization of the Coastal Texas Study. The projects represented in Coastal Texas offer not only a comprehensive ***storm surge*** reduction plan but a plan of undeniable return on investment. The Gulf Coast ***Protection*** District is ready to begin a long-term partnership with the USACE to carry out this once in a lifetime and landscape-changing project.

Thank you.

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[***AIR Worldwide Estimates Insured Losses for Hurricane Ida Could Be Up to $25B***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63HM-PVN1-JBH5-P4VS-00000-00&context=1516831)

Carrier Management

September 3, 2021 Friday

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**Length:** 607 words

**Body**

Insured losses to onshore property resulting from Hurricane Ida's winds and ***storm surge*** will range from $17 billion to $25 billion, according to estimates from modeling firm AIR Worldwide.

AIR's modeled insured loss estimates include insured physical damage to property (residential, commercial, industrial, auto), both structures and their contents from winds, wind-borne debris, ***storm surge*** and the impact of demand ***surge***.

The Verisk subsidiary's industry loss estimates also reflect an adjustment to account for increased material and other repair costs in the current construction market. Hurricane flood losses are not included in AIR estimates at this time.

Ida made two landfalls in Louisiana on Aug. 29, both at Category 4 strength. The ***storm***'s first landfall was near Port Fourchon about 60 miles south of New Orleans, with a maximum sustained wind speed of 150 mph; its second landfall was southwest of Galliano, with a maximum sustained wind speed of 145 mph. New Orleans experienced strong winds on the order of 90-100 mph due to the large windfield and a slow decay of the ***storm***.

According to AIR, the ***storm surge*** Ida produced was along expected lines and generally not as severe as Hurricane Katrina's-particularly in Mississippi and New Orleans - which was fully protected by the city's levee system. However, some areas of southeastern Louisiana with insufficient ***protection*** experienced severe ***storm surge*** during Ida.

Hurricane Ida has had a significant impact on Louisiana refinery operations and Gulf of Mexico production, causing a crude supply chain disruption. According to another Verisk company, Wood Mackenzie, utility disruptions caused by lack of power, mobile data services and water could lead to Ida becoming a long-tailed event when it comes to claims reporting and payouts.

While New Orleans' levees held, the city was not spared Ida's wind impacts. Areas close to where Ida made landfall such as LaFourche Parish, where Port Fourchon is located, were particularly hard hit. Grand Isle Parish, a barrier island, has been declared uninhabitable. Even in towns just inland from where Ida came ashore, such as Galliano and Houma, wind damage was severe to catastrophic, according to AIR.

In terms of ***storm surge***, most New Orleans levees held up well, but some communities to the north, west, south and east of the hurricane ***protection*** system that surrounds New Orleans were inundated. Ida's ***storm surge*** inundated far into the bayous and inhabited areas of southeastern Louisiana, as well as areas near Lake Pontchartrain. Minor near-coastal inundation also occurred in Mississippi and Alabama. Key areas flooded by ***storm surge*** in Louisiana include Port Fourchon, Grand Isle, Delacroix, Alliance, Lafitte, Jean Lafitte, Barataria, Laplace, Mandeville, Braithwaite, Shell Beach, Galliano, Golden Meadow and Venetian Isles. ***Surge*** inundation depth exceeded 10 feet in some places, but several tide gauges near maximum ***storm surge*** broke, leading to uncertainty in Ida's maximum ***storm surge*** water level.

According to AIR and Xactware, materials costs have gone up "significantly" in the past year from supply chain disruption in the construction market. Although these costs have moderated since their peak in July when they were 80 percent higher than September of last year, they remain about 30 percent higher. Repair costs are still up significantly, the estimating firms said.

Source: AIR Worldwide

\*This story was originally published by our sister publication Insurance Journal

Photo: Homes, businesses and roads are flooded in the aftermath of Hurricane Ida in LaPlace, La., Tuesday, Aug. 31, 2021. (AP Photo/Gerald Herbert)

**Load-Date:** September 3, 2021

**End of Document**

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[***AIR Worldwide Estimates Insured Losses for Hurricane Ida Could Be Up to $25 Billion***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63HM-PVN1-JBH5-P4VV-00000-00&context=1516831)

Insurance Journal - Wells Media

September 3, 2021 Friday

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**Length:** 586 words

**Body**

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Source: AIR Worldwide

Photo: Homes, businesses and roads are flooded in the aftermath of Hurricane Ida in LaPlace, La., Tuesday, Aug. 31, 2021. (AP Photo/Gerald Herbert)

**Load-Date:** September 13, 2021

**End of Document**

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[***House Transportation and Infrastructure Subcommittee on Water Resources and Environment Hearing; "Proposals for a Water Resources Development Act of 2022: Stakeholder Priorities."; Testimony by Michel Bechtel, President, Gulf Coast Protection District, Mayor, City of Morgan's Point, Morgan's Point, Texas***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:64RG-X3V1-DYVR-P0W2-00000-00&context=1516831)

Congressional Documents and Publications

February 8, 2022

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**Section:** U.S. HOUSE OF REPRESENTATIVES DOCUMENTS

**Length:** 1205 words

**Body**

Chairman DeFazio, Chairwoman Napolitano, Ranking Member Graves, Ranking Member Rouzer, and distinguished members of the Subcommittee, thank you for the opportunity to testify before you today to discuss stakeholder priorities for the proposed Water Resources Development Act (WRDA) of 2022.

My name is Michel Bechtel. I am Mayor of the City of Morgan's Point, Texas and the President of the Gulf Coast ***Protection*** District. In 2021, the Texas Legislature created the Gulf Coast ***Protection*** District (the District) to serve as the non-federal sponsor for the ***storm surge*** ***protection*** system described in the Coastal Texas Resiliency Improvement Plan identified in the US Army Corps of Engineers (USACE) Coastal Texas ***Protection*** and Restoration Chief's Report (Coastal Texas Chief's Report), signed on September 16, 2021. The District's five county territory: Chambers, Galveston, Harris, Jefferson, and Orange, is home to over 5.5 million residents, eight ports, and nine congressional districts. The District will also be the non-federal sponsor of the Sabine Pass to Galveston Bay Texas Coastal Risk Management (S2G) projects located in this territory and was fully funded in the Bipartisan Budget Act of 2018.

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Read this original document at: [*http://docs.house.gov/meetings/PW/PW02/20220208/114380/HHRG-117-PW02-Wstate-BechtelM-20220208.pdf*](http://docs.house.gov/meetings/PW/PW02/20220208/114380/HHRG-117-PW02-Wstate-BechtelM-20220208.pdf)

**Load-Date:** February 9, 2022

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[***Construction begins on one flood control project along the Bayou, while another begins***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:6422-X491-JDJN-60RH-00000-00&context=1516831)

Real Estate Monitor Worldwide

November 10, 2021 Wednesday

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**Length:** 203 words

**Body**

Construction is underway on the Houma Navigation Canal Lock Complex in Terrebonne Parish. Its part of the states effort to provide Terrebonne and Lafourche parishes with 100-year ***storm surge*** ***protection***. Terrebonne President Gordon Dove says the HNC Lock complex will be critical during ***storm surge*** and high water events.

Marine transportation can come and go, also it stops the saltwater from coming into Terrebonne Parish, said Dove.

The project will consist of dredging over one-million cubic yards of material which will create 178 acres of marshland. He says actual construction on the structure will take place next spring.

Its something weve worked on for eight years, its funded from the BP Oil spill fine money and weve been engineering it for five years, said Dove.

State officials have also announced the construction of the 147-foot Grand Bayou Floodgate has been completed. Dove says theres now a continuous levee segment stretching 47 miles from Gibson in Terrebonne Parish to the town of Lockport in Lafourche Parish.

That floodgate completes the continuity of the Morganza to the Gulf levee system, its in Lafourche Parish, but its instrumental to Terrebonne and Lafourche parish from not flooding, said Dove.

**Load-Date:** November 10, 2021

**End of Document**

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[***West Shore Lake Pontchartrain project breaks ground***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:637N-TBW1-F11P-X3SS-00000-00&context=1516831)

Real Estate Monitor Worldwide

July 28, 2021 Wednesday

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**Length:** 238 words

**Body**

Gov. John Bel Edwards yesterday joined the Coastal ***Protection*** and Restoration Authority (CPRA) along with federal, state, and local officials for a groundbreaking ceremony on the West Shore Lake Pontchartrain Hurricane ***Protection*** system.

The project will provide 100-year hurricane and ***storm surge*** ***protection*** to 60,000 Louisianans in St. Charles, St. James, and St. John the Baptist parishes.

The $760 million project will span 18.5 miles, including 17.5 miles of levees, one mile of T-wall, drainage structures, pump stations, and several non-structural ***protection*** measures to form an integrated ***protection*** system.

The structure will span from the Bonnet Carre Spillway to the Mississippi River Levee near Garyville and provide ***storm surge*** ***protection*** and improved resilience on the western shores of Lake Pontchartrain and Lake Maurepas.

The West Shore Lake Pontchartrain Hurricane ***Protection*** project is a joint effort of CPRA and the New Orleans District of the U.S. Army Corps of Engineers, the Pontchartrain Levee District, and St. Charles, St. John the Baptist, and St. James parishes. Construction of the project is being funded through a 65 percent federal, 35 percent local cost share.

Initial vegetation clearing and data collection are now complete and contracts to excavate and stockpile levee material from the Bonnet Carre Spillway have been awarded, with project completion anticipated for 2024. 2021 Global Data Point.

**Load-Date:** July 28, 2021

**End of Document**

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[***United States : Verisks AIR Worldwide Estimates Insured Losses for Hurricane Ida Will Range from USD 17 Billion to USD 25 Billion?***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63NN-G6F1-F11P-X194-00000-00&context=1516831)

Mena Report

September 21, 2021 Tuesday

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**Length:** 984 words

**Body**

Extreme event modeling firm AIR Worldwide estimates that industry insured losses to onshore property resulting from Hurricane Idas winds and ***storm surge*** will range from USD 17 billion to USD 25 billion.?AIR Worldwide is a Verisk (Nasdaq:VRSK) business.

AIRs modeled insured loss estimates include insured physical damage to?property (residential, commercial, industrial, auto), both structures and?their contents?from winds, wind-borne debris, ***storm surge***, and the impact of demand ***surge***. The industry loss estimates also reflect an adjustment to account for increased material and other repair costs in the current construction market. Hurricane precipitation-induced flood losses, including any impacts from flooding as Ida moved through the Northeast, are not included in AIR estimates at this time.

Ida traveled over very warm Gulf waters, including a thick layer of warm water in the Loop Current, and intensified to make two landfalls in Louisiana, both at Category 4 strength, on August 29. The ***storms*** first landfall was near Port Fourchon about 60 miles south of New Orleans, with a maximum sustained wind speed of 150 mph; its second landfall was southwest of Galliano, with a maximum sustained wind speed of 145 mph. Around the time of landfall, the ***storm*** was undergoing an eyewall replacement. In practical terms, New Orleans experienced strong winds on the order of 90 to 100 mph due to the large windfield and a slow decay of the ***storm***.

The ***storm surge*** Ida produced was along expected lines and generally not as severe as Hurricane Katrinasparticularly in Mississippi and New Orleans (the latter of which was fully protected by the citys levee system)but some areas of southeastern Louisiana with insufficient ***protection*** experienced severe ***storm surge*** during Ida.

According to analysis by Wood Mackenzie, a sister company in the Verisk family, Hurricane Ida has had a significant impact on Louisiana refinery operations and Gulf of Mexico production, causing a historic U.S. crude supply chain disruption. Utility disruptions caused by lack of power, mobile data services, and water, could lead to Ida becoming a long-tailed event when it comes to claims reporting, payouts, etc.

While New Orleans levees held, the city was not spared Idas wind impacts. Damage was variable given the nature of building inventory in the metro New Orleans area. Areas close to where Ida made landfall such as LaFourche Parish, where Port Fourchon is located, was particularly hard hit with widespread destruction. Grand Isle Parish, a barrier island, has been declared uninhabitable. Even in towns just inland from where Ida came ashore, such as Galliano and Houma, wind damage was severe to catastrophic.

In terms of ***storm surge***, most levees held up well, with a few localized failures that have created flooding beyond that from ***storm surge***. Communities to the north, west, south, and east of the hurricane ***protection*** system that surrounds New Orleans were inundated. Idas ***storm surge*** inundated far into the bayous and inhabited areas of southeastern Louisiana, as well as areas near Lake Pontchartrain. Minor near-coastal inundation also occurred in Mississippi and Alabama. Key areas flooded by ***storm surge*** in Louisiana include Port Fourchon, Grand Isle, Delacroix, Alliance, Lafitte, Jean Lafitte, Barataria, Laplace, Mandeville, Braithwaite, Shell Beach, Galliano, Golden Meadow, and Venetian Isles. ***Surge*** inundation depth exceeded 10 feet in some places, but several tide gauges near maximum ***storm surge*** broke, leading to uncertainty in Idas maximum ***storm surge*** water level.

Louisiana has a statewide adoption of the Louisiana State Uniform Construction Code. These codes were adopted and have been effective since early 2018. According to these standards, buildings are required to be designed to a prescribed wind speed that varies spatially with higher design wind speeds along the coast and the values decreasing as we move inland. For Port Fourchon and Grand Isle, the design 3-second gust wind speeds for typical residential and commercial structures is between 160 and 170 mph. For towns such as Golden Meadow, Galliano, Dulac, and the southern portions of Houma, design requirements are between 150 and 160 mph on 3-second gust basis. New Orleans, Lockport, and towns along Route 90 require buildings to be designed to winds of 140 to 150 mph 3-second gust.

Commercial buildings with higher human occupancy requirements and those serving essential functions such as hospitals are typically subject to more stringent requirements per the IBC, given the risk category in which individual commercial buildings fall. Generally, Hurricane Ida was below the design standards for structures built under these standards. Widespread catastrophic structural failure was therefore not expected. Buildings that are older and predate the adoption of some of these standards can be expected to perform worse and sometimes become debris sources that can impact adjacent newer buildings. While adoption of building codes is one aspect, an equally important aspect is their enforcement. While enforcement is good for coastal counties, the same is not true for inland counties. Therefore, as Ida trekked through the state and continued to produce damaging winds, damage can be expected to buildings across the entire state.

According to AIR and Xactware, a sister company within Verisk, materials costs have gone up significantly in the past year from supply chain disruption in the construction market. Although these costs have moderated since their peak in July when they were 80% higher than September of last year, they remain about 30% higher. Repair costs are still up significantly.

Reconstruction costs are more expensive today than they were a year ago. The increase in the total reconstruction cost index means that costs are higher on average nationally; this affects the low- as well as the high-severity events.

**Load-Date:** September 30, 2021

**End of Document**

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[***United States : Verisks AIR Worldwide Estimates Insured Losses for Hurricane Ida Will Range from USD 17 Billion to USD 25 Billion?***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63NN-G6R1-JDJN-610S-00000-00&context=1516831)

TendersInfo

September 21, 2021 Tuesday

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**Length:** 984 words

**Body**

Extreme event modeling firm AIR Worldwide estimates that industry insured losses to onshore property resulting from Hurricane Idas winds and ***storm surge*** will range from USD 17 billion to USD 25 billion.?AIR Worldwide is a Verisk (Nasdaq:VRSK) business.

AIRs modeled insured loss estimates include insured physical damage to?property (residential, commercial, industrial, auto), both structures and?their contents?from winds, wind-borne debris, ***storm surge***, and the impact of demand ***surge***. The industry loss estimates also reflect an adjustment to account for increased material and other repair costs in the current construction market. Hurricane precipitation-induced flood losses, including any impacts from flooding as Ida moved through the Northeast, are not included in AIR estimates at this time.

Ida traveled over very warm Gulf waters, including a thick layer of warm water in the Loop Current, and intensified to make two landfalls in Louisiana, both at Category 4 strength, on August 29. The ***storms*** first landfall was near Port Fourchon about 60 miles south of New Orleans, with a maximum sustained wind speed of 150 mph; its second landfall was southwest of Galliano, with a maximum sustained wind speed of 145 mph. Around the time of landfall, the ***storm*** was undergoing an eyewall replacement. In practical terms, New Orleans experienced strong winds on the order of 90 to 100 mph due to the large windfield and a slow decay of the ***storm***.

The ***storm surge*** Ida produced was along expected lines and generally not as severe as Hurricane Katrinasparticularly in Mississippi and New Orleans (the latter of which was fully protected by the citys levee system)but some areas of southeastern Louisiana with insufficient ***protection*** experienced severe ***storm surge*** during Ida.

According to analysis by Wood Mackenzie, a sister company in the Verisk family, Hurricane Ida has had a significant impact on Louisiana refinery operations and Gulf of Mexico production, causing a historic U.S. crude supply chain disruption. Utility disruptions caused by lack of power, mobile data services, and water, could lead to Ida becoming a long-tailed event when it comes to claims reporting, payouts, etc.

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**Load-Date:** September 22, 2021

**End of Document**

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[***EXPLAINER: Is New Orleans protected from a hurricane?***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63GG-21F1-JBCN-42GN-00000-00&context=1516831)

Dayton Daily News (Ohio)

August 28, 2021 Saturday

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**Section:** NATION WORLD

**Length:** 1036 words

**Byline:** JEFF AMY

**Body**

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The system already has been tested by multiple ***storms***, including 2012's Isaac, with little damage to the areas it protects. Every ***storm*** raises questions about New Orleans' defenses, though, and as Ida approaches, here are some answers:

WHAT'S CHANGED SINCE KATRINA?

The federal government spent $14.5 billion on levees, pumps, seawalls, floodgates and drainage that provides enhanced ***protection*** from ***storm surge*** and flooding in New Orleans and surrounding suburbs south of Lake Pontchartrain. With the exception of three drainage projects, that work is complete.

"The post-Katrina system is so different than what was in place before," said U.S. Army Corps of Engineers spokesperson Matt Roe.

Starting with a giant ***surge*** barrier east of the city, the system is a 130-mile (210-kilometer) ring built to hold out ***storm surge*** of about 30 feet (9 meters). The National Hurricane Center on Friday projected Ida would bring a ***surge*** of 10 feet to 15 feet (3 to 4.6 meters) on the west bank.

At that level, it could come over the levees in some areas, said emergency manager Heath Jones of the Army Corps of Engineers' New Orleans District.

"They're designed to overtop in places" with ***protections*** against worse damage, including armoring, splash pads and pumps with backup generators, he said.

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Governments as of Friday were not ordering people protected by the levees to evacuate, showing their confidence in the system.

A number of floodgates are being closed as the ***storm*** approaches. That includes massive gates that ships can normally sail through, such as ones that close off the Inner Harbor Navigation Canal near the Lower 9th Ward. That has reduced the risk of flooding in an area long viewed as among the city's most exposed. At least one smaller floodgate on land has been removed for maintenance, though, with officials planning to close the gap with sandbags.

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Inside the ring of levees, rainfall must be pumped out. The New Orleans area has an elaborate system of canals and pumps to remove water, but it can be overwhelmed by persistent heavy rainfall, like in 2017 and 2019, when two ***storms*** each dumped more than 9 inches (23 centimeters) of rain in some areas. Heavy downpours have been a constant on the soggy Gulf Coast, but some exceptional rainstorms have been observed in recent years, with experts saying such torrents are becoming more common as a warming atmosphere carries more water vapor.

Capacity in some areas has been improved since 2005 through more than $2 billion in drainage work, allowing parts of the system to remove as much as 4.7 inches (120 millimeters) of rain in three hours — what designers accounted as a rainstorm that would come only once every 10 years.

The city of New Orleans drainage system has 24 pumping stations with a combined capacity of over 50,000 cubic feet per second (cfs), which is nearly 400,000 gallons (1.5 million liters) per second. That doesn't include pumps in neighboring suburbs.

But some of the pumps as well as the power system supplying them in the city are antiques plagued with reliability problems. On Friday, officials were trying to bring an electrical turbine back online to provide reserve power for the system. Three of 99 pumps were also out of commission, but New Orleans Sewerage & Water Board Executive Director Ghassan Korban said there's enough redundancy to back them up.

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Experts note that the levee system was built to protect against a 100-year level of ***storm surge*** — a ***surge*** that has a 1% chance of happening any given year. With rising seas from climate change and the sinking of Louisiana's spongy coast, there's concern that simply isn't enough.

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Suburbs north of Lake Pontchartrain are also not protected by levees or floodgates, although improvements for St. Tammany Parish are being studied. Areas close to the shore, as well as the rivers that feed into the lake and the Mississippi Sound, are vulnerable to ***storm surge***.

**Graphic**

FILE - In this Saturday, March 10, 2007 file photo, Pumps put in place by the Army Corps of Engineers pump water from New Orleans' 17th Street Canal to Lake Pontchartra in New Orleans. New Orleans finds itself in the path of Hurricane Ida 16 years to the day after floodwalls collapsed and levees were overtopped by a ***storm surge*** driven by Hurricane Katrina. The federal government spent $14.5 billion on levees, pumps, seawalls, floodgates and drainage that provides enhanced ***protection*** from ***storm surge*** and flooding in New Orleans and surrounding suburbs south of Lake Pontchartrain. With the exception of three drainage projects, that work is complete (AP Photo/Bill Haber, File)

**Load-Date:** August 29, 2021

**End of Document**

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[***How does New Orleans protect itself from hurricanes?***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63GH-CJT1-JBCN-447B-00000-00&context=1516831)

NBC - 13 WVTM (Birmingham, Alabama)

August 28, 2021 Saturday

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**Section:** NATIONAL NEWS

**Length:** 1014 words

**Byline:** JEFF AMY, REPORTER

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**Load-Date:** August 29, 2021

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Associated Press International

August 28, 2021 Saturday 5:05 AM GMT

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**Section:** DOMESTIC NEWS; STATE AND REGIONAL

**Length:** 1032 words

**Byline:** JEFF AMY, Associated Press

**Body**

New Orleans finds itself in the path of [*Hurricane Ida*](https://apnews.com/article/health-environment-and-nature-louisiana-coronavirus-pandemic-hurricanes-8870fde4261f7a3171205d9b018ee7c4) 16 years to the day after floodwalls collapsed and levees were overtopped by a ***storm surge*** driven by Hurricane Katrina. That flooding killed more than 1,000 people and caused billions in damage. But Ida arrives at the doorstep of a region transformed since 2005 by a giant civil works project and closer attention to flood control.

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**Load-Date:** August 28, 2021

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Canadian Press

August 28, 2021 Saturday 01:07 AM EST

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**Section:** INTERNATIONAL

**Length:** 1032 words

**Byline:** Jeff Amy, The Associated Press

**Body**

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[***EXPLAINER: Is New Orleans protected from a hurricane?***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63G8-9TK1-JC5B-G4SV-00000-00&context=1516831)

The Associated Press

August 28, 2021 Saturday 5:05 AM GMT

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**Section:** DOMESTIC NEWS; STATE AND REGIONAL

**Length:** 1032 words

**Byline:** JEFF AMY, Associated Press

**Body**

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Associated Press State & Local

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Delta Democrat Times (Greenville, Mississippi)

August 28, 2021 Saturday

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**Byline:** JEFF AMY

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The Sun-Sentinel (Charleston, Mississippi)

August 28, 2021

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The St. Bernard Voice (Arabi, LA)

May 7, 2021

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**Section:** NEWS; Pg. 4

**Length:** 428 words

**Body**

The parish council made a wise decision by opposing the Mississippi River diversions.

Questions the CPRA will not address: 1) The real science? The computer model uses data from the West Bay Diversion (WBD) which was a total disaster until the Corp of Engineers (COE) decided to dredge the Pilot Town anchorage and place the spoil in the diversion footprint.

The islands in the WBD are man-made. The questionable WBD data was the only source that could be used to validate the model since there are no other comparable projects on the planet. Using data from other comparable streams such as the Venice Passes should have been used.

2) Dredging and pipelining borrow? The CPRA used Mississippi river dredging/pipelining cost for comparison to diversions. That borrow source cost about $16 to $18 per cubic yard. Unlimited quantities of borrow material is available just off-shore of the barrier islands for $6 per cubic yard. That is what the material used on the Bayou Grand Liard Ridge Restoration project (BA-68) cost. Weeks Marine got the bid and sourced material just offshore of Sandy Point Islands. That project required about 8 miles of discharge pipeline. There is an almost endless supply of suitable dredge material all along the shore of the Gulf of Mexico.3) Effect of the 75, 000 cubic feet per second flow? That flow rate will fill the Louisiana Superdome in 11 hours. It will have a disastrous effect on the salt/brackish ecosystem extending through Barataria Bay, Lafitte, Grand Isle, Port Sulphur, and possibly further west along the Gulf of Mexico (GOM).

4) ***Storm surge*** ***protection***? Southeast Louisiana needs a timely process of preventing ***storm surge***.

Spending the BP money on projects that have a 50-year questionable outcome is not a viable option. The future cannot by predicted based on land building projects dependent on unknown future events which are not predictable. The 1.5 billion $cost of the diversion would provide 250, 000, 000 cubic yards of material from the GOM. That source could be utilized immediately. A NAS study comparing the cost of ***storm surge*** ***protection*** versus the cost of rebuilding areas damaged by tropical ***storms*** supported the building of hard structures to prevent ***storm surge*** damage.

5) Adaptive management? Adaptive management is a 'trial and error' method which will not satisfy the initial cost outlay for diversion projects. The only path which could be used is supplementing the stream with expensive dredged material from the river. Th

is could cause buildup of material in the diversion structure.

Kenneth Ragas

**Load-Date:** May 23, 2021

**End of Document**

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[***Letter to the Editor River Diversions***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:62RM-HFF1-JBCN-43NH-00000-00&context=1516831)

The Plaquemines Gazette (LA)

May 4, 2021

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**Section:** NEWS; Pg. 11

**Length:** 420 words

**Body**

e parish council made a wise decision by opposing the Mississippi River diversions.

Questions the CPRA will not address: 1) e real science? e computer model uses data from the West Bay Diversion (WBD) which was a total disaster until the Corp of Engineers (COE) decided to dredge the Pilot Town anchorage and place the spoil in the diversion footprint.

e islands in the WBD are man-made. e questionable WBD data was the only source that could be used to validate the model since there are no other comparable projects on the planet. Using data from other comparable streams such as the Venice Passes should have been used.

2) Dredging and pipelining borrow? e CPRA used Mississippi river dredging/pipelining cost for comparison to diversions. at borrow source cost about $16 to $18 per cubic yard. Unlimited quantities of borrow material is available just o -shore of the barrier islands for $6 per cubic yard. at is what the material used on the Bayou Grand Liard Ridge Restoration project (BA-68) cost. Weeks Marine got the bid and sourced material just o shore of Sandy Point Islands. at project required about 8 miles of discharge pipeline. ere is an almost endless supply of suitable dredge material all along the shore of the Gulf of Mexico.3) E ect of the 75, 000 cubic feet per second ow? at ow rate will ll the Louisiana Superdome in 11 hours. It will have a disastrous e ect on the salt/brackish ecosystem extending through Barataria Bay, La tte, Grand Isle, Port Sulphur, and possibly further west along the Gulf of Mexico (GOM).4) ***Storm surge*** ***protection***? Southeast Louisiana needs a timely process of preventing ***storm surge***.

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Kenneth Ragas

**Load-Date:** May 23, 2021

**End of Document**

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[***Are Grand Isle, Lafitte worth Ida-like storm protection? Louisiana rethinks its strategy***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63Y3-KMM1-DYP9-V3NB-00000-00&context=1516831)

The Times-Picayune/The New Orleans Advocate Online

October 22, 2021 Friday

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**Section:** NEW ORLEANS NEWS & US NEWS

**Length:** 1276 words

**Byline:** MARK SCHLEIFSTEIN

**Body**

Hurricane Ida's devastating ***storm surge*** has prompted Louisiana officials to reconsider whether Grand Isle's 13½-foot-high dunes and the Lafitte area's 7-foot levees and floodwalls are adequate for the survival of both communities and - if not - whether the towns are worth the cost of greater ***protection***.

"You have heard from the Corps and others about the sand dunes on Grand Isle being sacrificial," Chairman Chip Kline told the Coastal ***Protection*** and Restoration Authority on Wednesday. "I think it's safe to say that if the sand dune, the burrito levee, had not been there, the devastation would have been much worse on Grand Isle."

But going forward will require "hard conversations" that must weigh potentially dramatic costs for increased ***storm surge*** ***protection*** for both locations against the value of keeping both areas populated, Kline said.

[embedded content]

For Grand Isle, the strategy to date has been to pump sand from the Gulf of Mexico to keep dunes elevated atop burrito levees, which are fabric-covered tubes of sand that serve as a base for the dunes. After each hurricane washes away the exterior sand, more is pumped in.

But Ida's ***surge*** almost wiped out the sand part of the dunes and shredded the burritos, washing sand inland to cover streets and yards across the island. Portions of the dune system suffered slightly less damage during hurricanes in 2020 and in past hurricanes, including Katrina in 2005.

In the Lafitte area, the state and Corps agreed years ago that the number of residents and financial value of businesses were not enough to provide ***protection*** against ***storm surges*** from major hurricanes, the same 1 percent or "100-year" level provided by the West Bank and Vicinity levee system to the north. Ida overwhelmed Lafitte area's 7-foot levees with ***surge*** levels at least that high and waves half again as high.

[embedded content]

Grand Isle and Lafitte leaders have long begged for greater ***protection*** from ***storms***. Notwithstanding the population - 1,450 in Grand Isle and an estimated 4,000 in Jean Lafitte, Barataria, Crown Point and lower Lafitte, - they stress that these areas serve as important buffers against hurricanes hammering more populated and developed parts of the New Orleans area.

"If the federal government is going to make investments in Grand Isle and Lafitte, they're going to need to make resilient investments, and those don't look resilient to me," Kline said of proposals to rebuild the same ***protection*** that was in place before Ida.

On Thursday, Kline said the state and the Army Corps of Engineers are looking at a "more robust beach and dune template along the entire island," possibly including "a hardened dune feature at strategic locations" to reduce breaching and scour during ***storms***. The review includes revisiting the "design ***storm***" on which the levee is based, which is now a ***surge*** event with a 2% chance of occurring in any year, a so-called 50-year ***storm***.

For the Lafitte communities, state officials are interested in reviewing levee ***protection*** from at least tidal flooding, with a review of higher levels of ***protection*** for hurricanes. In addition, the state wants to consider whether it's feasible to elevate all structures and harden, or ***storm***-proof, the drainage pumps, Kline said.

Terrebonne Parish also received an expensive and unexpected wake-up call from Ida's ***surge***. The 98-mile-long Morganza-to-the-Gulf levee system surrounding Houma was designed to protect the region from ***surges*** moving north from of the Gulf of Mexico. It is not complete, with much of the system built to protect from only 12 feet of ***surge***, the equivalent of a 50-year ***storm***, largely because Congress has failed to pay its 75 percent share of the construction cost.

But Ida delivered an unwelcome surprise, said Reggie Dupre, director of the Terrebonne Levee and Conservation District. The ***storm*** made landfall at Port Fourchon, east of the parish, which meant ***surge*** from the Gulf moved up the Barataria Basin instead of across the front of the Morganza system.

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The Category 4 ***storm***'s counterclockwise winds then pushed water south into the supposedly protected area behind the levee system, with a tsunami-like effect on the Bubba Dove ***storm surge*** barge gate. A wall of water higher than the gate, 14 feet above sea level, damaged its electrical and hydraulic systems and knocked it 70 feet out of place.

Dupre estimated the damage to be as much as $7 million, and damage to four other gates, plus the cost of removing ***storm*** debris from gate areas and atop earthen levees, will cost the system another $20 million or more.

[embedded content]

The Larose to Golden Meadow levee system, already at the 1 percent or 100-year height, made it through Ida with no significant damage, Windell Curole, executive director of the South Lafourche Levee District, told the coastal authority.

While 96 percent of the North Lafourche Levee District's levees weren't topped by Ida's ***surge***, the rest sustained significant damage, especially around Larose and Kraemer, said district executive director Duane Bourgeois. Some of the damage might have been averted by the long-delayed construction of the Upper Barataria hurricane levee system.

This aerial photo shows flooding of North American Shipbuilding and neighboring homes in Larose along the Gulf Intracoastal Waterway after Hur...

The Corps has proposed completing that levee during the next few years, but the plan has not yet made it through the agency's approval process.

There is some good news involving levees and Ida's ***surge***. The West Bank and Vicinity levee system, completed to 100-year standards after Katrina, protected Algiers and the more populated parts of West Jefferson from any flood damage, said Nicholas Cali, regional director of the Southeast Louisiana Flood ***Protection*** Authority-West.

"This ***storm*** was a true test of the system, and this is proof of concept. This is a return on investment," he said, adding that $242 million in building value in Algiers and $1.2 billion in western Jefferson, and their 210,000 residents, suffered no ***surge*** damage.

This drone view of Kraemer shows flooding caused by Hurricane Ida's ***storm surge***. (North Lafourche Levee District)

Heath Jones, emergency manager for the Corps' New Orleans District office, told the coastal authority that the new and upgraded segments of the West Bank levees eliminated wave and ***surge*** topping much of the western half of the system, as well as along the Harvey and Algiers canals, now cut off from ***surge*** by the West Closure Complex. A recent project elevating the Mississippi River levee in St. Charles Parish also protected that part of the West Bank from overtopping.

The same held true for the Lake Pontchartrain and Vicinity, or east bank, levee system, overseen by Southeast Louisiana Flood ***Protection*** Authority-East, said regional director Kelli Chandler. "It's proof in the investment the Corps made," she said.

In all, Congress authorized $14 billion for the east and West Bank levee improvements after Katrina.

This map shows how improvements to the New Orleans area levee system after Hurricane Katrina halted potential flooding from ***storm surge*** during...

Jones said the east bank system likely protected St. Bernard Parish from topping by ***surge*** on its southwestern corner near Caernarvon. The new Lake Borgne Barrier wall likely blocked ***surge*** and waves from topping the Gulf Intracoastal Waterway and the western wall of the Industrial Canal in New Orleans, which would have flooded parts of the Lower 9th Ward and New Orleans East.

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**Load-Date:** October 27, 2021

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[***Explainer | Is New Orleans protected from a hurricane?***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63GP-SMG1-JCH9-G3YY-00000-00&context=1516831)

The China Post

August 28, 2021 Saturday

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**Length:** 1032 words

**Body**

New Orleans finds itself in the path of Hurricane Ida 16 years to the day after floodwalls collapsed and levees were overtopped by a ***storm surge*** driven by Hurricane Katrina. That flooding killed more than 1,000 people and caused billions in damage. But Ida arrives at the doorstep of a region transformed since 2005 by a giant civil works project and closer attention to flood control.

The system already has been tested by multiple ***storms***, including 2012's Isaac, with little damage to the areas it protects. Every ***storm*** raises questions about New Orleans' defenses, though, and as Ida approaches, here are some answers:

WHAT'S CHANGED SINCE KATRINA?

The federal government spent $14.5 billion on levees, pumps, seawalls, floodgates and drainage that provides enhanced ***protection*** from ***storm surge*** and flooding in New Orleans and surrounding suburbs south of Lake Pontchartrain. With the exception of three drainage projects, that work is complete.

'The post-Katrina system is so different than what was in place before,' said U.S. Army Corps of Engineers spokesperson Matt Roe.

Starting with a giant ***surge*** barrier east of the city, the system is a 130-mile (210-kilometer) ring built to hold out ***storm surge*** of about 30 feet (9 meters). The National Hurricane Center on Friday projected Ida would bring a ***surge*** of 10 feet to 15 feet (3 to 4.6 meters) on the west bank.

At that level, it could come over the levees in some areas, said emergency manager Heath Jones of the Army Corps of Engineers' New Orleans District.

'They're designed to overtop in places' with ***protections*** against worse damage, including armoring, splash pads and pumps with backup generators, he said.

'We've built all that since Katrina,' and they're designed for a worse ***storm*** than the Ida is expected to be, he said.

Jones said there does not appear to be any danger of ***storm surge*** coming over the levees on the east bank, which makes up most of the city. It was the east bank levees that broke after Katrina.

Governments as of Friday were not ordering people protected by the levees to evacuate, showing their confidence in the system.

A number of floodgates are being closed as the ***storm*** approaches. That includes massive gates that ships can normally sail through, such as ones that close off the Inner Harbor Navigation Canal near the Lower 9th Ward. That has reduced the risk of flooding in an area long viewed as among the city's most exposed. At least one smaller floodgate on land has been removed for maintenance, though, with officials planning to close the gap with sandbags.

WHAT ABOUT RAINFALL FLOODING?

Inside the ring of levees, rainfall must be pumped out. The New Orleans area has an elaborate system of canals and pumps to remove water, but it can be overwhelmed by persistent heavy rainfall, like in 2017 and 2019, when two ***storms*** each dumped more than 9 inches (23 centimeters) of rain in some areas. Heavy downpours have been a constant on the soggy Gulf Coast, but some exceptional rainstorms have been observed in recent years, with experts saying such torrents are becoming more common as a warming atmosphere carries more water vapor.

Capacity in some areas has been improved since 2005 through more than $2 billion in drainage work, allowing parts of the system to remove as much as 4.7 inches (120 millimeters) of rain in three hours - what designers accounted as a rainstorm that would come only once every 10 years.

The city of New Orleans drainage system has 24 pumping stations with a combined capacity of over 50,000 cubic feet per second (cfs), which is nearly 400,000 gallons (1.5 million liters) per second. That doesn't include pumps in neighboring suburbs.

But some of the pumps as well as the power system supplying them in the city are antiques plagued with reliability problems. On Friday, officials were trying to bring an electrical turbine back online to provide reserve power for the system. Three of 99 pumps were also out of commission, but New Orleans Sewerage and Water Board Executive Director Ghassan Korban said there's enough redundancy to back them up.

One of the lessons of the 2017 and 2019 ***storms*** has been that maintenance of drains, pipes and canals has been neglected. Officials urged residents Friday to sweep up around ***storm*** drains, underlining a concern that even the best pumps won't work if drains are clogged.

'Our mission is obviously to stay ahead of the ***storm***, stay ahead of the rain and keep the city dry,' Korban told reporters Friday. 'But at one point, once our system is overrun, our mission shifts from keeping the city dry to just pumping the city as fast as we can.'

WILL THE LEVEES HOLD UP OVER THE LONG RUN?

Experts note that the levee system was built to protect against a 100-year level of ***storm surge*** - a ***surge*** that has a 1% chance of happening any given year. With rising seas from climate change and the sinking of Louisiana's spongy coast, there's concern that simply isn't enough.

Reports issued in 2021 recommend spending a projected $1.7 billion to raise levees and floodwalls to keep providing the 100-year ***protection*** through 2078. That includes raising the height of 99 miles (159 kilometers) of levees, replacing more than 1 mile (1.6 kilometers) of floodwall and building 3.2 miles (5.15 kilometers) of new floodwall.

WHAT ARE THE RISKS IN OUTLYING AREAS?

Areas outside the urban core that the levee system protects may have little or no ***protection*** against ***storm surge***. Hurricane Isaac in 2012 flooded about 7,000 homes in LaPlace and other areas upriver from New Orleans after 8 feet (2.5 meters) of ***storm surge*** entered Lake Pontchartrain. The Corps of Engineers has started construction on a levee to protect that area, but Corps of Engineers spokesperson Rene Poche said it's not projected to be completed until 2024.

A number of local governments have ordered people to evacuate from low-lying and exposed areas outside of protective levees, including parts of New Orleans.

Suburbs north of Lake Pontchartrain are also not protected by levees or floodgates, although improvements for St. Tammany Parish are being studied. Areas close to the shore, as well as the rivers that feed into the lake and the Mississippi Sound, are vulnerable to ***storm surge***.

**Load-Date:** August 30, 2021

**End of Document**

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[***Study: Concrete umbrellas could offer shade, protection against storm surges***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:5YK5-G041-JBYT-H153-00000-00&context=1516831)

India Engineering news

April 3, 2020

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**Length:** 261 words

**Dateline:** New Delhi, 2020-04-03 21:45:50

**Body**

April 03 --

The researchers calculated that the proposed umbrellas would remain stable when faced with a wall of water about 75% of their deployed height of 26 feet. Source: Princeton UniversityTo protect against future ***storm surges***, a team from Princeton is developing plans for kinetic concrete umbrellas to be placed along coastlines, offering shade under normal conditions and behaving as a flood barrier or seawall under stormy conditions

The team from Princeton is proposing that shells of 4 in thick reinforced concrete in a hyperbolic paraboloid shape - a structure that curves outward along one axis and inward along another axis - hinged at the vertex where the column meets the umbrella, will be capable of "tipping" to offer a shield against ***storm surges***.

To demonstrate how the umbrella structures would serve the dual purpose of offering shade and then shielding against ***storm surges***, the Princeton team used computational modeling to gauge the effectiveness of the structures. Researchers amassed ***storm surge*** data from 1899 to 2012 along the East Coast, using the data to model an 18 ft tall ***storm surge***. During simulations of the ***storm surge***, researchers determined that physical models of the umbrellas remained stable.

As the team continues to develop plans for the kinetic umbrellas, they will consider building the structures using sustainable materials. They will also consider how to add sensors and actuators to the structures to determine how well the umbrellas perform and to enable the structures to capture both solar energy and stormwater.

**Load-Date:** April 3, 2020

**End of Document**

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[***AP EXPLains: Will New Orleans be sufficiently protected?***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63GH-CDC1-JBJN-M2D2-00000-00&context=1516831)

CE Noticias Financieras English

August 28, 2021 Saturday

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**Length:** 1012 words

**Body**

New Orleans is in the path of Hurricane Ida exactly 16 years to the day that the city's levees were insufficient to hold back floodwaters and collapsed in the face of a massive ***storm surge*** from the rains caused by Hurricane Katrina. Those floods killed more than 1,000 people and caused billions of dollars in damage, but Ida now arrives on the doorstep of a region transformed since 2005 by a massive civil works project and increased attention to water control.

The system has already been tested by numerous ***storms***, including Isaac in 2012, with little damage to the areas it protects. However, each new meteor that hits the area brings questions about New Orleans' defenses. As Ida approaches, here are some answers:

WHAT HAS CHANGED SINCE KATRINA?

The federal government spent $14.5 billion on levees, pumps, walls, floodwalls, floodgates, and drainage that provide high ***surge*** and flood ***protection*** in New Orleans and the suburbs south of Lake Pontchartrain. With the exception of three drainage projects, the work is complete.

"The post-Katrina system is very different from what was in place before," said Matt Roe, spokesman for the Army Corps of Engineers.

Starting with a massive ***storm surge*** barrier east of the city, the system is a 130-mile (210-kilometer) ring built to withstand a 30-foot (9-meter) ***storm surge***.

On Friday, the National Hurricane Center projected Ida would cause a ***storm surge*** of 10 to 15 feet (4 to 4.5 meters) on the west side. At that level, water could overtop levees in some areas, said emergency manager Heath Jones of the Corps of Engineers' New Orleans district.

"They're designed to be overtopped in some spots," with ***protections*** against the worst damage, including bracing, drains and pumps with auxiliary generators, he said.

"We built all that since Katrina," and they are designed for a ***storm*** far worse than what Ida is expected to be, he added.

Jones said there doesn't appear to be any danger of a ***storm surge*** overtopping the levees on the eastern margin. Those levees were the ones that collapsed after Katrina.

As of Friday, governments were not ordering evacuations from areas protected by the levees, showing confidence in the system.

Several floodgates have been closed ahead of the ***storm***'s arrival. That includes huge gates that allow ships to pass through, such as those closing the Inner Harbor Navigation Canal near the 9th Ward. That has reduced the risk of flooding in an area considered the most exposed in the city. At least one smaller gate on land has been removed for maintenance and officials planned to close the breach with sandbags.

WHAT ABOUT FLOODING FROM DOWNPOURS?

Inside the levee ring, rainwater must be pumped out. The New Orleans area has a complicated system of canals and pumps to get water out, but it can be overwhelmed by persistent rains, as in 2017 and 2019, when two ***storms*** dumped more than 9 inches (23 centimeters) of water each in some areas.

Downpours are a constant along the U.S. coast to the Gulf of Mexico, but some exceptional ***storms*** have been observed in recent years, with experts saying such torrents are becoming more common as the warmed atmosphere holds more steam.

Still, capacity has been improved in some areas since 2005, with more than $2 billion devoted to drainage, allowing parts of the system to extract up to 120 millimeters (4.7 inches) of rain in three hours - what designers say is a ***storm*** that would occur just once every 10 years.

The city's drainage system has 24 pumping stations with a combined capacity of more than 1.5 million litres (nearly 400,000 gallons) per second. That doesn't include pumps in the surrounding suburbs.

But some of the pumps and the electrical systems that supply them in the city are antiquities plagued with reliability problems. On Friday, officials were trying to restart an electric turbine in the system to provide backup supply. Three of 99 pumps were not working, but New Orleans Water and Sewer Commission Director Ghassan Korban said there was enough redundant system to back them up.

One of the lessons of the 2017 and 2019 ***storms*** has been that maintenance of drains, pipes and canals had been neglected. Officials called on residents Friday to sweep around sewers, highlighting fears that even the best pumps might not work if the drainage is clogged.

"Our mission obviously is to anticipate the ***storm***, the rains and keep the city dry," Korban told reporters Friday. "But at some point, once the system is overwhelmed, it shows mission shifts from keeping the city dry to getting the water out as quickly as possible."

WILL THE LEVEES HOLD IN THE LONG RUN?

Experts point out that the levee system was built to withstand a tidal ***surge*** that occurs every 100 years, something that has a 1% chance of happening in any given year. With rising sea levels due to global warming and the sinking of Louisiana's porous coastline, there is concern that this may not be enough.

Reports issued in 2021 recommend spending about $1.7 billion to raise levees and seawalls to continue to provide a 100-year level of ***protection*** through 2078. That includes raising the height of 159 kilometers (99 miles) of levees, replacing more than 1.6 kilometers (1 mile) of levees and building 5.15 kilometers (3.2 miles) of new levees.

WHAT ARE THE RISKS TO LOW-LYING AREAS?

Areas outside the urban core protected by the levee system may have little or no ***storm surge*** ***protection***. In 2012, Hurricane Isaac flooded about 7,000 homes in LaPlace and other upstream areas after an 8-foot ***storm surge*** entered Lake Pontchartrain. The Corps of Engineers has begun construction of a levee to protect that area, but spokesman Rene Poche said it won't be completed until 2024.

Several local governments have ordered evacuations of low-lying and exposed areas outside the levees, including parts of the city.

Suburbs north of the lake are also not protected by levees or floodgates, although improvements are being studied for the St. Tammany jurisdiction. Areas near the shoreline, as well as areas along the rivers that feed the lake and Mississippi Sound, are vulnerable to ***storm surges***.

**Load-Date:** August 29, 2021

**End of Document**

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[***La. Gov. Edwards Breaks Ground on Houma Navigation Canal Lock Complex, Announces Completion of Grand Bayou Floodgate***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:641W-F4F1-JC11-12YV-00000-00&context=1516831)

Targeted News Service

November 9, 2021 Tuesday 7:40 AM EST

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**Length:** 895 words

**Byline:** Targeted News Service

**Dateline:** BATON ROUGE, Louisiana

**Body**

Gov. John Bel Edwards, D-Louisiana, issued the following news on Nov. 8, 2021:

Gov. John Bel Edwards today joined the Louisiana Coastal ***Protection*** and Restoration Authority (CPRA) as well as local and state officials to break ground on the Houma Navigation Canal (HNC) Lock Complex and announce the completion of the Grand Bayou Floodgate, two critical components of the Morganza to the Gulf Hurricane ***Protection*** System.

With the completion of the 147-foot Grand Bayou Floodgate, the Morganza to the Gulf system now has a continuous levee segment stretching 47 miles from Grand Bayou in Lafourche Parish to upper Bayou Dularge in Terrebonne Parish to prevent floodwaters from impacting the region. The newly completed floodgate was named in honor of the late Louisiana Rep. Reggie Bagala, who passed away from complications due to COVID-19 in April 2020.

"Today we are announcing two substantial advances in our efforts to provide Terrebonne and Lafourche parishes with 100-year ***storm surge*** ***protection***," Gov. Edwards said. "The Grand Bayou Floodgate will honor Rep. Bagala's memory while providing improved hurricane ***protection*** to the people and place he called home. This project, combined with the soon to begin HNC Lock Complex, are game-changers for the entire Morganza to the Gulf system."

The Morganza to the Gulf system will benefit approximately 1,900 square miles in Terrebonne and Lafourche parishes through flood control, salinity control, and ecosystem restoration.

"The road to strengthening the Morganza to the Gulf system and providing the Bayou Region with upgraded hurricane ***protection*** has been paved by hard work and collaboration with parish governments and levee districts," CPRA Chairman Chip Kline said. "We're thrilled to announce such meaningful progress toward our shared goal of providing a safer and better protected future for those in Terrebonne and Lafourche parishes."

Phase 1 of the HNC Lock Complex project will dredge over 1 million cubic yards of material to prepare the area for the lock complex and create 178 acres of marsh in six areas north of the complex along the navigation channel. Phase 1 is anticipated to be complete in the fall of 2022.

The HNC Lock will allow a longer window of opportunity for navigation activities when the adjacent Bubba Dove Floodgate is closed to protect communities from ***storm surge*** or high water events. During gate closures, the lock will allow vessels to travel in either direction on the HNC, enabling officials to close the floodgate earlier and keep it closed longer, benefiting the area's ecosystem suffering from saltwater intrusion.

Terrebonne Parish President Gordon "Gordy" Dove and Lafourche Parish President Archie Chaisson joined the Governor for the announcements and praised the projects for enhancing the Morganza to the Gulf system's hurricane ***protection*** capabilities.

"The Grand Bayou Floodgate is a critical link in the Morganza to the Gulf Hurricane ***Protection*** system," Dove said. "We are delighted with its completion and express our thanks to Gov. Edwards and CPRA. In the foreseeable future, the Morganza levee will rise to 18 feet, its full design height, providing both Terrebonne and Lafourche parishes with considerably more ***storm surge*** ***protection***. The HNC Lock complex is a companion piece to the 'Bubba Dove' Floodgate, and will allow marine traffic to effectively bypass the floodgate when it's required to be closed to protect against ***storm surge*** and saltwater intrusion. Terrebonne Parish has worked very closely with CPRA and the Levee District to bring this project to its long-awaited start."

"The new Grand Bayou Floodgate is another tool to help protect our residents and I'm glad to see construction being completed," Chaisson said. "This culminates the work of a lot of agencies over many years and will help protect our residents for years to come. Additionally, to see this structure dedicated to Rep. Bagala defines what the people of Lafourche are about. Hard work, dedication, and resilience are three things that Reggie stood for and three words that mean so much to so many in Lafourche Parish."

The HNC Lock Complex is a joint effort of CPRA and the Terrebonne Levee and Conservation District. A tentative bid date for construction of Phase 2 of the lock structure, which will include an 800-foot lock chamber with 110-foot-wide sector gates, is anticipated in spring 2022.

Engineering, design, and construction for Phases 1 and 2 of the HNC Lock Complex are funded with money resulting from the damages of the Deepwater Horizon oil spill, allocated through the Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast States Act (RESTORE Act).

Construction of the Grand Bayou Floodgate was funded by $18.5 million in Gulf of Mexico Energy Security Act (GOMESA) funds and $1.5 million in capital outlay funds. The project is a collaborative effort of CPRA with the South Lafourche Levee District, North Lafourche Levee District, Lafourche Parish Government, Terrebonne Parish Consolidated Government, and Terrebonne Levee and Conservation District.

Sealevel Construction, Inc., headquartered in Thibodaux, won the competitively bid dredging contract for the lock site, as well as the contract for construction of the Grand Bayou Floodgate and Receiving Structure.

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**Load-Date:** November 9, 2021

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[***GOV. EDWARDS BREAKS GROUND ON HOUMA NAVIGATION CANAL LOCK COMPLEX, ANNOUNCES COMPLETION OF GRAND BAYOU FLOODGATE***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:641V-FD01-F12F-F472-00000-00&context=1516831)

US Fed News

November 8, 2021 Monday 9:31 AM EST

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**Length:** 928 words

**Body**

BATON ROUGE, La., Nov. 8 -- The Office of Governor issued the following news release:

Gov. John Bel Edwards today joined the Louisiana Coastal ***Protection*** and Restoration Authority (CPRA)as well aslocaland stateofficials to break ground on the Houma Navigation Canal (HNC) Lock Complex and announce the completion of the Grand Bayou Floodgate, two critical components of the Morganza to the Gulf Hurricane ***Protection*** System.

With the completion of the 147-foot Grand Bayou Floodgate, the Morganza to the Gulf system now has a continuous levee segment stretching 47 miles from Grand Bayou in Lafourche Parish to upper Bayou Dularge in Terrebonne Parish to prevent floodwaters from impacting the region. The newly completed floodgate was named in honor of the late Louisiana Rep. Reggie Bagala, who passed away from complications due to COVID-19 in April 2020.

"Today we are announcing two substantial advances in our efforts to provide Terrebonne and Lafourche parishes with 100-year ***storm surge*** ***protection***," Gov. Edwards said. "The Grand Bayou Floodgate will honor Rep. Bagala's memory while providing improved hurricane ***protection*** to the people and place he called home. This project, combined with the soon to begin HNC Lock Complex, are game-changers for the entire Morganza to the Gulf system."

The Morganza to the Gulf system will benefit approximately 1,900 square miles in Terrebonne and Lafourche parishes through flood control, salinity control, and ecosystem restoration.

"The road to strengthening the Morganza to the Gulf system and providing the Bayou Region with upgraded hurricane ***protection*** has been paved by hard work and collaboration with parish governments and levee districts," CPRA Chairman Chip Kline said. "We're thrilled to announce such meaningful progress toward our shared goal of providing a safer and better protected future for those in Terrebonne and Lafourche parishes."

Phase 1 of the HNC Lock Complex project will dredge over 1 million cubic yards of material to prepare the area for the lock complex and create 178 acres of marsh in six areas north of the complex along the navigation channel. Phase 1 is anticipated to be complete in the fall of 2022.

The HNC Lock will allow a longer window of opportunity for navigation activities when the adjacent Bubba Dove Floodgate is closed to protect communities from ***storm surge*** or high water events. During gate closures, the lock will allow vessels to travel in either direction on the HNC, enabling officials to close the floodgate earlier and keep it closed longer, benefiting the area's ecosystem suffering from saltwater intrusion.

Terrebonne Parish President Gordon "Gordy" Dove and Lafourche Parish President Archie Chaisson joined the Governor for the announcements and praised the projects for enhancing the Morganza to the Gulf system's hurricane ***protection*** capabilities.

"The Grand Bayou Floodgate is a critical link in the Morganza to the Gulf Hurricane ***Protection*** system," Dove said. "We are delighted with its completion and express our thanks to Gov. Edwards and CPRA. In the foreseeable future, the Morganza levee will rise to 18 feet, its full design height, providing both Terrebonne and Lafourche parishes with considerably more ***storm surge*** ***protection***. The HNC Lock complex is a companion piece to the 'Bubba Dove' Floodgate, and will allow marine traffic to effectively bypass the floodgate when it's required to be closed to protect against ***storm surge*** and saltwater intrusion. Terrebonne Parish has worked very closely with CPRA and the Levee District to bring this project to its long-awaited start."

"The new Grand Bayou Floodgate is another tool to help protect our residents and I'm glad to see construction being completed," Chaisson said. "This culminates the work of a lot of agencies over many years and will help protect our residents for years to come. Additionally, to see this structure dedicated to Rep. Bagala defines what the people of Lafourche are about. Hard work, dedication, and resilience are three things that Reggie stood for and three words that mean so much to so many in Lafourche Parish."

The HNC Lock Complex is a joint effort of CPRA and the Terrebonne Levee and Conservation District. A tentative bid date for construction of Phase 2 of the lock structure, which will include an 800-foot lock chamber with 110-foot-wide sector gates, is anticipated in spring 2022.

Engineering, design, and construction for Phases 1 and 2 of the HNC Lock Complex are funded with money resulting from the damages of theDeepwater Horizonoil spill, allocated through the Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast States Act (RESTORE Act).

Construction of the Grand Bayou Floodgate was funded by $18.5 million in Gulf of Mexico Energy Security Act (GOMESA) funds and $1.5 million in capital outlay funds. The project is a collaborative effort of CPRA with the South Lafourche Levee District, North Lafourche Levee District, Lafourche Parish Government, Terrebonne Parish Consolidated Government, and Terrebonne Levee and Conservation District.

Sealevel Construction, Inc., headquartered in Thibodaux, won the competitively bid dredging contract for the lock site, as well as the contract for construction of the Grand Bayou Floodgate and Receiving Structure.

For more information about the HNC Lock Complex, clickhere. For more information about the Grand Bayou Floodgate, clickhere. For any query with respect to this article or any other content requirement, please contact Editor at [*contentservices@htlive.com*](mailto:contentservices@htlive.com)

**Load-Date:** November 9, 2021

**End of Document**

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[***As Ida hits, New Orleans relies on improved levees to prevent Katrina-like devastation***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63GJ-NGF1-DYJM-M2W0-00000-00&context=1516831)

The Biloxi Sun Herald (Mississippi)

August 29, 2021 Sunday

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**Section:** weather\_news

**Length:** 724 words

**Byline:**  Bailey Aldridge

SunHerald

**Body**

Hurricane Ida is bearing down on New Orleans, Louisiana, exactly 16 years after Hurricane Katrina devastated the city -- but experts say the levees protecting the area are more prepared to withstand its impacts.

Ida -- a Category 4 hurricane -- was located 45 miles southwest of New Orleans and 70 miles south-southeast of Baton Rouge, Louisiana, as of 4 p.m. CDT Sunday with maximum sustained winds of 130 mph. according to the National Hurricane Center. It was moving northwest at 10 mph.

The "extremely dangerous" ***storm*** made landfall in southeastern Louisiana on Sunday afternoon.

Ida was moving northwestward over southeastern Louisiana as of 4 p.m. and bringing extreme winds, catastrophic ***storm surge***, heavy rain and flash flooding to the area, the hurricane center says. Officials in some areas in its path -- including parts of New Orleans -- ordered residents to evacuate ahead of the ***storm***.

Hurricane conditions are expected to spread further inland Sunday night.

Ida is one of the most powerful ***storms*** to hit the area since Hurricane Katrina and will test the 350 miles of levees, flood walls and other ***storm*** ***protection*** structures around New Orleans that were enhanced following Katrina, The New York Times reports.

Hurricane Katrina

On Aug. 29, 2005, Hurricane Katrina made landfall near New Orleans as a Category 3 ***storm***.

The ***storm***, the costliest to ever impact the United States, devastated New Orleans and other areas within its path, according to the National Weather Service. It was one of the five deadliest hurricanes to hit the country -- killing more than 1,800 people.

"Considering the scope of its impacts, Katrina was one of the most devastating natural disasters in United States history," the weather service says.

The levees, or walls that are designed to prevent ***storm surge*** from flooding a city, that separate New Orleans from Lake Pontchartrain failed as a result of the ***storm*** -- leading to catastrophic flooding and heightening the loss of life and damage caused by Katrina, the NWS says.

By Aug. 31, 80% of New Orleans was under flood waters.

'Not the same state we were'

After Hurricane Katrina, the U.S. spent $14.5 billion on levees, pumps, seawalls, floodgates and drainage to provide improved ***storm surge*** and flooding ***protection*** to New Orleans and surrounding areas, The Associated Press reports.

The levees, including those that breached during Katrina, were reinforced with concrete and other measures, and are built high enough to protect against the water levels of a 100-year ***storm***, or a ***storm*** that has a 1% chance of happening every year, according to The New York Times.

"We're not the same state we were 16 years ago," Louisiana Gov. John Bel Edwards said Saturday, referring to the improved federal levee system, according to the AP.

But officials have said that Hurricane Ida will still test the flood ***protection*** system. On Friday, New Orleans issued a mandatory evacuation for areas outside of the levees and a voluntary evacuation for those inside the levees.

The levels of ***storm surge*** projected from Hurricane Ida could come over the levees in some areas. But "there does not appear to be any danger of ***storm surge*** coming over the levees on the east bank," which makes up most of New Orleans and which is where the levees failed during Katrina, officials with the Army Corps of Engineers' New Orleans District told the AP.

The NWS has also said that "overtopping" of local levees is possible outside of the Hurricane and ***Storm*** Damage Risk Reduction System where "local inundation values may be higher."

"We are testing a different part of the flood ***protection*** in and around southeast Louisiana than we did in Katrina," Barry Keim, a professor at Louisiana State University and Louisiana State Climatologist, told The Times. "Some of the weak links in this area maybe haven't been quite as exposed.

The levees, however, are designed to overtop.

"It's a different system than we had in Katrina. By it being designed to be overtopped, we won't have the erosion and the scouring that leads to breaching," Ricky Boyett, spokesperson for the U.S. Army Corps of Engineers in New Orleans, told NOLA.com. "Once that water recedes you'll still have a levee there. There's a big difference between a breach where water is running uncontrolled into an area and water coming over the top for a brief period of time."

**Load-Date:** August 30, 2021

**End of Document**

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States News Service

November 8, 2021 Monday

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**Length:** 885 words

**Byline:** States News Service

**Dateline:** BATON ROUGE, La.

**Body**

The following information was released by the office of the Governor of Louisiana:

November 08, 2021

Gov. John Bel Edwards today joined the Louisiana Coastal ***Protection*** and Restoration Authority (CPRA) as well as local and state officials to break ground on the Houma Navigation Canal (HNC) Lock Complex and announce the completion of the Grand Bayou Floodgate, two critical components of the Morganza to the Gulf Hurricane ***Protection*** System.

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The road to strengthening the Morganza to the Gulf system and providing the Bayou Region with upgraded hurricane ***protection*** has been paved by hard work and collaboration with parish governments and levee districts, CPRA Chairman Chip Kline said. Were thrilled to announce such meaningful progress toward our shared goal of providing a safer and better protected future for those in Terrebonne and Lafourche parishes.

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**Load-Date:** November 8, 2021

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[***Verisk's AIR Worldwide Estimates Insured Losses for Hurricane Ida Will Range from USD 17 Billion to USD 25 Billion***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63HK-3GT1-JC8H-G324-00000-00&context=1516831)

Thomson Reuters ONE

September 3, 2021 Friday 7:16 AM EST

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This content is provided to LexisNexis by Comtex News Network, Inc.

**Length:** 1343 words

**Body**

BOSTON, Sept. 03, 2021 (GLOBE NEWSWIRE) -- Extreme event modeling firm AIR Worldwide estimates that industry insured losses to onshore property resulting from Hurricane Ida's winds and ***storm surge*** will range from USD 17 billion to USD 25 billion.AIR Worldwide is a Verisk (Nasdaq:VRSK) business.

AIR's modeled insured loss estimates include insured physical damage toproperty (residential, commercial, industrial, auto), both structures andtheir contentsfrom winds, wind-borne debris, ***storm surge***, and the impact of demand ***surge***. The industry loss estimates also reflect an adjustment to account for increased material and other repair costs in the current construction market. Hurricane precipitation-induced flood losses are not included in AIR estimates at this time.

Ida traveled over very warm Gulf waters, including a thick layer of warm water in the Loop Current, and intensified to make two landfalls in Louisiana, both at Category 4 strength, on August 29. The ***storm***'s first landfall was near Port Fourchon about 60 miles south of New Orleans, with a maximum sustained wind speed of 150 mph; its second landfall was southwest of Galliano, with a maximum sustained wind speed of 145 mph. Around the time of landfall, the ***storm*** was undergoing an eyewall replacement. In practical terms, New Orleans experienced strong winds on the order of 90 to 100 mph due to the large windfield and a slow decay of the ***storm***.

The ***storm surge*** Ida produced was along expected lines and generally not as severe as Hurricane Katrina's--particularly in Mississippi and New Orleans (the latter of which was fully protected by the city's levee system)--but some areas of southeastern Louisiana with insufficient ***protection*** experienced severe ***storm surge*** during Ida.

According to analysis by Wood Mackenzie, a sister company in the Verisk family, Hurricane Ida has had a significant impact on Louisiana refinery operations and Gulf of Mexico production, causing a historic U.S. crude supply chain disruption. Utility disruptions caused by lack of power, mobile data services, and water, could lead to Ida becoming a long-tailed event when it comes to claims reporting, payouts, etc.

While New Orleans' levees held, the city was not spared Ida's wind impacts. Damage was variable given the nature of building inventory in the metro New Orleans area. Areas close to where Ida made landfall such as LaFourche Parish, where Port Fourchon is located, was particularly hard hit with widespread destruction. Grand Isle Parish, a barrier island, has been declared uninhabitable. Even in towns just inland from where Ida came ashore, such as Galliano and Houma, wind damage was severe to catastrophic.

In terms of ***storm surge***, most levees held up well, with a few localized failures that have created flooding beyond that from ***storm surge***. Communities to the north, west, south, and east of the hurricane ***protection*** system that surrounds New Orleans were inundated. Ida's ***storm surge*** inundated far into the bayous and inhabited areas of southeastern Louisiana, as well as areas near Lake Pontchartrain. Minor near-coastal inundation also occurred in Mississippi and Alabama. Key areas flooded by ***storm surge*** in Louisiana include Port Fourchon, Grand Isle, Delacroix, Alliance, Lafitte, Jean Lafitte, Barataria, Laplace, Mandeville, Braithwaite, Shell Beach, Galliano, Golden Meadow, and Venetian Isles. ***Surge*** inundation depth exceeded 10 feet in some places, but several tide gauges near maximum ***storm surge*** broke, leading to uncertainty in Ida's maximum ***storm surge*** water level.

Louisiana has a statewide adoption of the Louisiana State Uniform Construction Code. These codes were adopted and have been effective since early 2018. According to these standards, buildings are required to be designed to a prescribed wind speed that varies spatially with higher design wind speeds along the coast and the values decreasing as we move inland. For Port Fourchon and Grand Isle, the design 3-second gust wind speeds for typical residential and commercial structures is between 160 and 170 mph. For towns such as Golden Meadow, Galliano, Dulac, and the southern portions of Houma, design requirements are between 150 and 160 mph on 3-second gust basis. New Orleans, Lockport, and towns along Route 90 require buildings to be designed to winds of 140 to 150 mph 3-second gust.

Commercial buildings with higher human occupancy requirements and those serving essential functions such as hospitals are typically subject to more stringent requirements per the IBC, given the risk category in which individual commercial buildings fall. Generally, Hurricane Ida was below the design standards for structures built under these standards. Widespread catastrophic structural failure was therefore not expected. Buildings that are older and predate the adoption of some of these standards can be expected to perform worse and sometimes become debris sources that can impact adjacent newer buildings. While adoption of building codes is one aspect, an equally important aspect is their enforcement. While enforcement is good for coastal counties, the same is not true for inland counties. Therefore, as Ida trekked through the state and continued to produce damaging winds, damage can be expected to buildings across the entire state.

According to AIR and Xactware(R), a sister company within Verisk, materials costs have gone up significantly in the past year from supply chain disruption in the construction market. Although these costs have moderated since their peak in July when they were 80% higher than September of last year, they remain about 30% higher. Repair costs are still up significantly.

Reconstruction costs are more expensive today than they were a year ago. The increase in the total reconstruction cost index means that costs are higher on average nationally; this affects the low- as well as the high-severity events. The difference in magnitude of the impact will come from the mix of construction materials used. For example, minor wind losses are less likely to require repairs that use more expensive inputs such as structural lumber; however, dwellings that are a total loss would require a broader mix of inputs that reflect the higher increases indicated by the total reconstruction index. Therefore, companies should bear these increases in mind and should expect the average claim to be higherbeforeconsidering demand ***surge***.

An additional source of uncertainty related to materials cost demand ***surge*** is the cost of diesel fuel, which has been impacted by the shutdown of refineries during Ida; this fuel would be used to transport materials. While some of these facilities were undamaged, the uncertainty around the timing of the restoration of the power grid and lack of electricity in the meantime is going to keep some of them from coming back online and contributing to the diesel fuel supply.

One other important aspect of demand ***surge*** to note is that after Hurricane Katrina, about half of the population of New Orleans moved away and the city never returned to pre Katrina population levels. This mass migration probably mitigated economic demand ***surge***, which was not as great as it might have been after that ***storm***.

About AIR Worldwide

AIR Worldwide (AIR) provides risk modeling solutions that make individuals, businesses, and society more resilient to extreme events. In 1987, AIR Worldwide founded the catastrophe modeling industry and today models the risk from natural catastrophes, terrorism, pandemics, casualty catastrophes, and cyber incidents. Insurance, reinsurance, financial, corporate, and government clients rely on AIR's advanced science, software, and consulting services for catastrophe risk management, insurance-linked securities, longevity modeling, site-specific engineering analyses, and agricultural risk management. AIR Worldwide, a Verisk (Nasdaq:VRSK) business, is headquartered in Boston, with additional offices in North America, Europe, and Asia. For more information, please visit [*www.air-worldwide.com*](http://www.air-worldwide.com).

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**Load-Date:** September 3, 2021

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GlobeNewswire - English

September 3, 2021 Friday 01:16 PM GMT

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**Length:** 1338 words

**Dateline:** Boston September 03, 2021

**Body**

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**Load-Date:** September 3, 2021

**End of Document**

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Financial Services Monitor Worldwide

September 4, 2021 Saturday

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**Length:** 1330 words

**Body**

(GlobeNewswire) - Extreme event modeling firm AIR Worldwide estimates that industry insured losses to onshore property resulting from Hurricane Idas winds and ***storm surge*** will range from USD 17 billion to USD 25 billion.?AIR Worldwide is a Verisk (Nasdaq:VRSK) business.

AIRs modeled insured loss estimates include insured physical damage to?property (residential, commercial, industrial, auto), both structures and?their contents?from winds, wind-borne debris, ***storm surge***, and the impact of demand ***surge***. The industry loss estimates also reflect an adjustment to account for increased material and other repair costs in the current construction market. Hurricane precipitation-induced flood losses are not included in AIR estimates at this time.

Ida traveled over very warm Gulf waters, including a thick layer of warm water in the Loop Current, and intensified to make two landfalls in Louisiana, both at Category 4 strength, on August 29. The ***storms*** first landfall was near Port Fourchon about 60 miles south of New Orleans, with a maximum sustained wind speed of 150 mph; its second landfall was southwest of Galliano, with a maximum sustained wind speed of 145 mph. Around the time of landfall, the ***storm*** was undergoing an eyewall replacement. In practical terms, New Orleans experienced strong winds on the order of 90 to 100 mph due to the large windfield and a slow decay of the ***storm***.

The ***storm surge*** Ida produced was along expected lines and generally not as severe as Hurricane Katrinasparticularly in Mississippi and New Orleans (the latter of which was fully protected by the citys levee system)but some areas of southeastern Louisiana with insufficient ***protection*** experienced severe ***storm surge*** during Ida.

According to analysis by Wood Mackenzie, a sister company in the Verisk family, Hurricane Ida has had a significant impact on Louisiana refinery operations and Gulf of Mexico production, causing a historic U.S. crude supply chain disruption. Utility disruptions caused by lack of power, mobile data services, and water, could lead to Ida becoming a long-tailed event when it comes to claims reporting, payouts, etc.

While New Orleans levees held, the city was not spared Idas wind impacts. Damage was variable given the nature of building inventory in the metro New Orleans area. Areas close to where Ida made landfall such as LaFourche Parish, where Port Fourchon is located, was particularly hard hit with widespread destruction. Grand Isle Parish, a barrier island, has been declared uninhabitable. Even in towns just inland from where Ida came ashore, such as Galliano and Houma, wind damage was severe to catastrophic.

In terms of ***storm surge***, most levees held up well, with a few localized failures that have created flooding beyond that from ***storm surge***. Communities to the north, west, south, and east of the hurricane ***protection*** system that surrounds New Orleans were inundated. Idas ***storm surge*** inundated far into the bayous and inhabited areas of southeastern Louisiana, as well as areas near Lake Pontchartrain. Minor near-coastal inundation also occurred in Mississippi and Alabama. Key areas flooded by ***storm surge*** in Louisiana include Port Fourchon, Grand Isle, Delacroix, Alliance, Lafitte, Jean Lafitte, Barataria, Laplace, Mandeville, Braithwaite, Shell Beach, Galliano, Golden Meadow, and Venetian Isles. ***Surge*** inundation depth exceeded 10 feet in some places, but several tide gauges near maximum ***storm surge*** broke, leading to uncertainty in Idas maximum ***storm surge*** water level.

Louisiana has a statewide adoption of the Louisiana State Uniform Construction Code. These codes were adopted and have been effective since early 2018. According to these standards, buildings are required to be designed to a prescribed wind speed that varies spatially with higher design wind speeds along the coast and the values decreasing as we move inland. For Port Fourchon and Grand Isle, the design 3-second gust wind speeds for typical residential and commercial structures is between 160 and 170 mph. For towns such as Golden Meadow, Galliano, Dulac, and the southern portions of Houma, design requirements are between 150 and 160 mph on 3-second gust basis. New Orleans, Lockport, and towns along Route 90 require buildings to be designed to winds of 140 to 150 mph 3-second gust.

Commercial buildings with higher human occupancy requirements and those serving essential functions such as hospitals are typically subject to more stringent requirements per the IBC, given the risk category in which individual commercial buildings fall. Generally, Hurricane Ida was below the design standards for structures built under these standards. Widespread catastrophic structural failure was therefore not expected. Buildings that are older and predate the adoption of some of these standards can be expected to perform worse and sometimes become debris sources that can impact adjacent newer buildings. While adoption of building codes is one aspect, an equally important aspect is their enforcement. While enforcement is good for coastal counties, the same is not true for inland counties. Therefore, as Ida trekked through the state and continued to produce damaging winds, damage can be expected to buildings across the entire state.

According to AIR and Xactware, a sister company within Verisk, materials costs have gone up significantly in the past year from supply chain disruption in the construction market. Although these costs have moderated since their peak in July when they were 80% higher than September of last year, they remain about 30% higher. Repair costs are still up significantly.

Reconstruction costs are more expensive today than they were a year ago. The increase in the total reconstruction cost index means that costs are higher on average nationally; this affects the low- as well as the high-severity events. The difference in magnitude of the impact will come from the mix of construction materials used. For example, minor wind losses are less likely to require repairs that use more expensive inputs such as structural lumber; however, dwellings that are a total loss would require a broader mix of inputs that reflect the higher increases indicated by the total reconstruction index. Therefore, companies should bear these increases in mind and should expect the average claim to be higher?before?considering demand ***surge***.

An additional source of uncertainty related to materials cost demand ***surge*** is the cost of diesel fuel, which has been impacted by the shutdown of refineries during Ida; this fuel would be used to transport materials. While some of these facilities were undamaged, the uncertainty around the timing of the restoration of the power grid and lack of electricity in the meantime is going to keep some of them from coming back online and contributing to the diesel fuel supply.

One other important aspect of demand ***surge*** to note is that after Hurricane Katrina, about half of the population of New Orleans moved away and the city never returned to pre Katrina population levels. This mass migration probably mitigated economic demand ***surge***, which was not as great as it might have been after that ***storm***.

About AIR Worldwide

AIR Worldwide (AIR) provides risk modeling solutions that make individuals, businesses, and society more resilient to extreme events. In 1987, AIR Worldwide founded the catastrophe modeling industry and today models the risk from natural catastrophes, terrorism, pandemics, casualty catastrophes, and cyber incidents. Insurance, reinsurance, financial, corporate, and government clients rely on AIRs advanced science, software, and consulting services for catastrophe risk management, insurance-linked securities, longevity modeling, site-specific engineering analyses, and agricultural risk management. AIR Worldwide, a Verisk (Nasdaq:VRSK) business, is headquartered in Boston, with additional offices in North America, Europe, and Asia. For more information, please visit [*www.air-worldwide.com*](http://www.air-worldwide.com) .

**Load-Date:** September 4, 2021

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[***Verisk’s AIR Worldwide Estimates Insured Losses for Hurricane Ida Will Range from USD 17 Billion to USD 25 Billion***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63JD-TH71-F0YC-N2H9-00000-00&context=1516831)

Impact Financial News

September 6, 2021 Monday

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**Length:** 1221 words

**Body**

United States: VERISK ANALYTICS INC. has issued the following press release:

Extreme event modeling firm AIR Worldwide estimates that industry insured losses to onshore property resulting from Hurricane Ida ’ s winds and ***storm surge*** will range from USD 17 billion to USD 25 billion. AIR Worldwide is a Verisk (Nasdaq:VRSK) business.

AIR ’ s modeled insured loss estimates include insured physical damage to property (residential, commercial, industrial, auto), both structures and their contents from winds, wind-borne debris, ***storm surge***, and the impact of demand ***surge***. The industry loss estimates also reflect an adjustment to account for increased material and other repair costs in the current construction market. Hurricane precipitation-induced flood losses, including any impacts from flooding as Ida moved through the Northeast, are not included in AIR estimates at this time.

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**Load-Date:** September 7, 2021

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[***Ida roars ashore with 'big test' for New Orleans levees***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63PS-58B1-JBSK-R3TD-00000-00&context=1516831)

Greenwire

August 30, 2021 Monday

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**Section:** TODAY'S STORIES; Vol. 10; No. 9

**Length:** 1361 words

**Body**

By Hannah Northey The sprawling federal flood-control system that failed the city of New Orleans 16 years ago during Hurricane Katrina is believed to have stood firm against the wrath of Hurricane Ida, a ***storm*** so powerful it reversed the flow of the Mississippi River. The city's system of floodgates, flood walls and levees, hardened since the deadly 2005 ***storm*** with more than $14 billion of federal investments, appears to have done its job when hit with the winds and ***storm surge*** from Ida, a Category 4 ***storm*** that rammed through the Gulf of Mexico and churned north into Louisiana. The massive ***storm***, which has since been downgraded to a tropical ***storm***, left much of the Gulf Coast in the dark from extended power outages. "The early assessment is that it did perform as designed," said Matthew Roe, a spokesperson for the Army Corps of Engineers. "[The system] has been tested during Hurricanes Isaac and Gustav, ... but this is definitely a big test for it."

After Katrina, which killed more than 1,000 people in widespread flooding and caused billions of dollars in damage, the Army Corps hardened the city's systems with levees, pumps, sea walls, floodgates and drainage to improve ***protection*** from ***storm surge*** and flooding in New Orleans and surrounding suburbs south of Lake Pontchartrain. Except for three drainage projects, the work is complete. In 2018, the Army Corps completed a defensive ring exceeding 100 miles around the city of New Orleans. Upon completing the project, the corps handed over operation to the Southeast Louisiana Flood ***Protection*** Authority. Kelli Chandler, the authority's regional director, confirmed in an email that the system is holding up and that she does not anticipate a breach. "For the most part, all of our levees performed extremely well, especially the federal levees, but at the end of the day, the ***storm surge***, the rain, the wind all had devastating impacts across southeast Louisiana," Gov. John Bel Edwards (D) said this morning. While Roe also said the system is performing, he emphasized that federal officials are still in the early stages of getting out into the field to conduct inspections. Ida came ashore in Lafourche Parish, right on the Gulf of Mexico west of New Orleans, making a direct hit to that area and Terrebonne Parish, which both have levees run by state boards. Limited information was available this morning about damage in that region. Outside the city of New Orleans and the federal ***protection*** system, reports of overwhelmed levees, flooding and calls for help started last night and continued into this morning. Some of the most desperate calls on social media about homes flooding came from the town of LaPlace northwest of New Orleans in St. John the Baptist Parish. In 2012, residential areas of that town flooded during Hurricane Isaac, inundated by water from Lake Pontchartrain. This summer, work began on a new $760 million federal levee to protect parts of St. Charles, St. John the Baptist and St. James parishes from lake ***storm surge*** during hurricanes. Last night, officials in Plaquemines Parish south of New Orleans ordered evacuations for people near the community of Braithwaite after reports of an overtopped levee on the east bank of the Mississippi River. Parish officials later reported a floodgate failure on the river's west bank near Alliance with water pushing north up Louisiana Highway 23 toward Belle Chasse. The National Weather Service warned of "life-threatening flash flooding from a levee failure." In St. Bernard Parish, a permanent rip-rap structure built at the mouth of the Mississippi River Gulf Outlet overtopped yesterday afternoon, according to a video feed from the parish. Many argued that MRGO was a primary conduit for catastrophic ***storm surge*** reaching New Orleans' Lower North Ward during Hurricane Katrina as water pushed up the 76-mile-long channel from Lake Borgne into Orleans Parish. The Army Corps completed the rock barrier in 2009 with a 12-foot crown, providing ***protection*** against a roughly 7-foot ***surge***, according to Army Corps. And in lower Jefferson Parish, reports surfaced of more than 7 feet of floodwaters overtopping a levee and forcing residents to flee to their attics. Cynthia Lee Sheng, president of the parish that includes some suburbs on the west side of New Orleans, said during an interview on CNN that she was receiving "credible" reports of people being forced to ride out the ***storm*** without power as floodwaters rose to the rooftops in a remote area known for its swampy nature and alligators. Sheng noted that residents were under a mandatory evacuation order but some people didn't leave, and police officers are checking on their status. "I'm hoping for very good survival rates," she said. "It must have been a horrifying evening for people stranded in the water in the dark last night." Is New Orleans protected? New Orleans' flood-***protection*** system may be withstanding the force of Ida, but some experts say billions of dollars more are needed to survive a future of rising seas from climate change and sinking lands along the Gulf Coast. In the past decade, in the wake of Hurricanes Katrina and Rita, the Army Corps has strengthened levees, flood walls, gated structures and pump stations that form a 133-mile-long perimeter around New Orleans. The system, according to the Army Corps, includes the world's largest ***surge*** barrier of its kind, and the largest drainage pump station in the world. Roe noted the system was built to protect against a 100-year level ***storm surge***, which has a 1% chance of happening any given year. And yet the Army Corps is now in the process of wrapping up a three-year study looking at the level of federal investments needed to maintain the levees for the next 50 years. Drafts of the study have recommended spending a projected $1.7 billion to raise levees and flood walls to keep providing the 100-year ***protection*** through 2078. That includes raising the height of 99 miles of levees, replacing more than 1 mile of flood wall and building 3.2 miles of new flood barriers. Roe said the needed improvements are the result of both sea-level rise and settlement of the levees. "Any levee you build, no matter where it is, is going to settle over time and you're going to have to go in and lift it," he said. "Settlement, consolidation and sea-level rise, it's those things together." Mississippi's 'rare' reversal Not since Hurricane Katrina hit in 2005 had Scott Perrien, a hydrologist with the U.S. Geological Survey in Baton Rouge, La., seen the Mississippi flow in reverse. While the Big Muddy usually flows south more than 2,300 miles from Minnesota down to the Gulf of Mexico, that wasn't the case yesterday as Hurricane Ida approached, he said. USGS gauges in the Mississippi River that usually detect the gentle ebb and flow of tidal fluctuations instead recorded a ***storm surge*** of about 7 feet at Belle Chasse, La., he said. "The ***storm surge*** from the hurricane started pushing water basically upstream, so it started pushing the water up," Perrien said. "It basically caused the water to slow down and reverse." Perrien emphasized the reversal of the Mississippi is a "rare event" and Hurricane Katrina is the only other such event in recent recorded history of such a shift in the river's flow occurring from ***storm*** inundation. "During Katrina we saw about 11 feet of ***storm surge*** in that same area," he said. But he also noted there's also a "high level of uncertainty in our model" and USGS scientists hope to get out in the field to make more measurements. He also noted that the sensors at Belle Chasse weren't installed until 2008, and it's not clear if the river has been reversed in the past. "Yesterday wasn't the first occurrence, but it was a very rare occurrence," he said. Perrien noted that USGS also saw extensive damage to its water-monitoring system spanning from Texas to Mississippi. "We've had extensive damage to our stream gauging along the coast due the ***storm***," he said. "It's going to take us some time to get us to where we can start collecting data. It's a historic event for us." The Associated Press and reporters Daniel Cusick and Mike Lee contributed.

**Load-Date:** September 27, 2021

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[***Editorial: We have a year. Let's use it to broaden support to save our city.***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:64TK-4PV1-JCB8-W006-00000-00&context=1516831)

Post & Courier (Charleston, SC)

February 20, 2022 Sunday

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**Section:** C; opinion; opinion/editorials; Pg. 1

**Length:** 691 words

**Byline:** THE EDITORIAL STAFF;

**Highlight:** After three consecutive years of damaging floods and recent planning to protect Charleston from rising seas, heavier rains and hurricanes, more people than ever appreciate the urgency and existential nature of the challenge ahead. That's why it seems a bit odd that the city faces a year-long lull in its biggest flood-control project, a $1.1 billion wall protecting downtown from ***storm surge***.

**Body**

After three consecutive years of damaging floods and recent planning to protect Charleston from rising seas, heavier rains and hurricanes, more people than ever appreciate the urgency and existential nature of the challenge ahead. That's why it seems a bit odd that the city faces a year-long lull in its biggest flood-control project, a $1.1 billion wall protecting downtown from ***storm surge***.

But the reality is that the city and the Army Corps of Engineers have completed the first phase - [*a preliminary plan that suggests how a peninsula barrier might work and where it might go*](https://www.sac.usace.army.mil/Missions/Civil-Works/Charleston-Peninsula-Study/)- and the federal government needs time, likely many months, to digest the work so far and find money for the next phase, known as Preliminary Construction, Engineering and Design.

How can the city make the best use of this pause? The most critical step might be for Mayor John Tecklenburg and leaders in the business and nonprofit spheres to build support in South Carolina's congressional delegation for [*a bill that would give the Corps more flexibility*](https://www.cassidy.senate.gov/newsroom/press-releases/cassidy-carper-graves-blunt-rochester-introduce-legislation-to-combat-coastal-erosion) on such projects.

Currently, only ***storm surge*** would be addressed under the cost-sharing agreement, where the Corps would pay 65% and the city would pay 35%. Any additional improvements would be funded solely by the city. In the best-case scenario, Congress would agree to expand the Corps' flexibility so it could cooperate in a project that maximized ***protection*** not only from ***storm surges*** but also from heavy rains and rising tides. The legislation also might allow the federal government to pick up the entire cost of protecting at-risk communities; in Charleston's case, that could apply to the Rosemont and Bridgeview neighborhoods.

City leaders need to stay in close contact with our congressional delegation, and they also must urge Congress to approve money later this year for the Corps to begin the PED phase, which will cost the feds about $34 million and the city about $17 million.

Meanwhile, the city's projected $385 million share of the wall is significantly less than the almost $600 million first envisioned in the Corps' planning, but it's still far more than the city can or should be expected to pay by itself. Its annual budget is only about $220 million. The county and state should help defray part of the cost, and the coming year could be used to essentially lobby county and state officials about the project and its potential costs. Those conversations would lay important groundwork before the city has to pass the hat.

Of course, we still don't know if this project will take shape in such a way to maintain public support. There are key questions to be answered about the alignment of any wall or ***surge*** barrier, what gates might be needed, what the barrier will look like, to what extent it will work with nature and how it will affect views, pedestrian access and more. City officials believe the Corps will be flexible on these points, but we won't know for sure until more specific design work is underway.

Since a year is a long time, it might seem tempting for city officials to go ahead and start local design work, but that seems like an unwise use of city dollars for several reasons. It's unclear how quickly the city could authorize such work, hire the appropriate consultants and begin. It's also unclear if the work itself would be acceptable to the Corps (and count toward the city's 35% cost share). And there are other important flooding projects that the city could apply any such money toward - without those sorts of doubts.

The city soon is expected to hire a consultant for a comprehensive water plan that will look at citywide needs and make recommendations. That's a hugely important step because City Council will insist, as it should, that a massive investment to protect peninsular Charleston not starve needed drainage work in other parts of the city.

Using the rest of 2022 to encourage Congress to improve the Corps' funding and flexibility, loop in key county and state partners and focus on other needed drainage work won't resolve the big questions about any peninsula ***surge*** ***protection***. But it will be time well-spent.



**Load-Date:** February 19, 2022

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[***Public meeting shares updates on shoreline protection***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63BP-8J31-JBCN-40HB-00000-00&context=1516831)

L'Observateur (La Place, Louisiana)

August 11, 2021

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**Section:** NEWS

**Length:** 737 words

**Byline:** Brooke Robichaux Email the author Published 12:00 am Wednesday

**Body**

LAPLACE – The St. John the Baptist Parish Planning and Zoning Department will hold a public meeting for the Lake Pontchartrain Shoreline ***Protection*** Project at 5:30 p.m. Thursday, August 12 at Frenier Landing in LaPlace.

Light refreshments will be served before the presentation. The public meeting will discuss updates on the Lake Pontchartrain Shoreline ***Protection*** Project, which includes the construction of a breakwater system to prevent shoreline erosion and increase ***protection*** from ***storm surge*** events.

The design phase is currently at 65% completion, and this meeting gives an opportunity for public comment before the Parish submits to federal and state agencies for permitting.

Planning and Zoning Director Rene Pastorek said one breakwater will be placed on the Southern reach of the shoreline, below Frenier Landing, and the other will be placed at the Northern reach near Manchac. He said the breakwater will be designed to prevent shoreline erosion from ***storm surge*** and sea level rise to protect the wetlands and also to strengthen the West Shore Levee Project once it's completed.

"This will be one line of defense for ***storm surge*** in addition to the West Shore Project. As ***storm surge*** comes in from hurricanes, every line of defense – the breakwater, the wetlands and the levee – all act to strengthen and protect the parish from ***storm surge*** flooding," Pastorek said.

Benefits of the Lake Pontchartrain Shoreline ***Protection*** Project include erosion reduction, shoreline stabilization, and sediment accretion and land build-up. The project will connect to existing breakwater features in Tangipahoa Parish.

According to St. John Parish administration, the Western shore of Lake Pontchartrain has eroded at a rate of approximately 10 feet per year since 1915, culminating in roughly 1,060 feet of land lost in the past 106 years. The gradual loss is occurring near the St. John the Baptist/ St. Charles Parish line, extending the length of the shore to Tangipahoa Parish.

In December 2019, HDR Engineering Inc. was awarded a $1,129,129 contract to design a breakwater system strengthening the existing shoreline and preventing sediment erosion. The construction of this project will be funded with a $9.5 million bond issue from the Gulf of Mexico Energy Security Act.

GOMESA was passed in 2006 to aid coastal parishes such as St. John with projects addressing coastal conservation and restoration, hurricane ***protection*** and infrastructure relating to wetland loss. St. John Parish received approval for the issuance of $9.5 million in bonds for the Lake Pontchartrain Shoreline ***Protection*** Project in Fall 2019.

For more information on St. John Parish's resilience efforts, please visit sjbparish.gov/Departments/Planning-and-Zoning/Resilience-Projects or contact the Planning and Zoning Department at 985-651-5565. More information, including annual updates on the Parish's flood ***protection*** outreach efforts, can be found in the e-edition round-up on page 5A and online at lobservateur.com.

Thursday's public meeting at Frenier Landing will also include information on the status of the Manchac Greenway Master Plan, a new initiative that seeks to improve opportunities for outdoor recreation, eco-tourism and the preservation of wetlands along the Old Highway 51 low road stretching from LaPlace to Akers.

Pastorek said the Treasury has approved an amendment to the plan for RESTORE funds, meaning the Parish is now able to apply to use funding for the Manchac Greenway Master Plan.

Situated on an isthmus formed from natural sediment thousands of years ago, the Manchac Greenway has been home to Native American tribes and colonial settlers. The Cypress swamp played a role in the rebuilding of Chicago after the city was destroyed by fire in the 1870s.

George Becnel, a representative of the Friends of the Manchac Greenway Foundation, shared that the Manchac Greenway is the perfect place to paddle, fish, run, ride bikes and enjoy the beautiful Louisiana cypress swamp.

Becnel said Friends of the Manchac Greenway received a grant from Entergy late last year, and plans for the Greenway include improving the safety of a launch site that kayakers use around the 4.5-mile mark. Other plans involve landscaping and beautification efforts.

The Manchac Greenway could be included in a proposed Louisiana Bootlace Trail that would connect existing and future bike trails and greenways across Southeast Louisiana.

**Load-Date:** August 11, 2021

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[***GOV. EDWARDS ANNOUNCES START OF CONSTRUCTION ON WEST SHORE LAKE PONTCHARTRAIN HURRICANE PROTECTION PROJECT***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:637H-0F31-F12F-F04V-00000-00&context=1516831)

US Fed News

July 26, 2021 Monday 8:47 PM EST

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**Length:** 363 words

**Body**

BATON ROUGE, La., July 26 -- The Office of Governor issued the following news release:

Today, Gov. Edwards joined the Coastal ***Protection*** and Restoration Authority (CPRA) along with federal, state, and local officials for a groundbreaking ceremony on the West Shore Lake Pontchartrain Hurricane ***Protection*** system. The project will provide 100-year hurricane and ***storm surge*** ***protection*** to 60,000 Louisianans in St. Charles, St. James, and St. John the Baptist parishes.

The $760 million project will span 18.5 miles, including 17.5 miles of levees, one mile of T-wall, drainage structures, pump stations, and several non-structural ***protection*** measures to form an integrated ***protection*** system. The structure will span from the Bonnet Carre Spillway to the Mississippi River Levee near Garyville and provide ***storm surge*** ***protection*** and improved resilience on the western shores of Lake Pontchartrain and Lake Maurepas.

"The River Parishes represent some of the most vibrant and vital areas in the state," said Gov. John Bel Edwards. "With the completion of the West Shore project, thousands of Louisianans and millions of dollars of residential and commercial property will receive a much-deserved increase in their level of hurricane ***protection***. Today's event is a testament to the dedication of CPRA, the U.S. Army Corps of Engineers, the Pontchartrain Levee District, and all those who worked tirelessly to make this important project a reality."

The West Shore Lake Pontchartrain project began as a study of the area between the Mississippi River and Lakes Pontchartrain and Maurepas in the aftermath of Hurricane Betsy. Lack of funding caused the proposed project to remain dormant until 2012, when Hurricane Isaac flooded 7,000 homes in the area and interstate 10, which delayed emergency response for days. Following pressure from state and local leaders, Congress authorized the project in 2016 and allocated funds in the Bipartisan Budget Act of 2018.

\*The rest of the document can be viewed at:

[*https://gov.louisiana.gov/index.cfm/newsroom/detail/3283*](https://gov.louisiana.gov/index.cfm/newsroom/detail/3283) For any query with respect to this article or any other content requirement, please contact Editor at [*contentservices@htlive.com*](mailto:contentservices@htlive.com)

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[***Verisk's AIR Worldwide Estimates Insured Losses for Hurricane Ida Will Range from USD 17 Billion to USD 25 Billion***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63HK-BC81-F04Y-T1YD-00000-00&context=1516831)

MENAFN - Press Releases (English)

September 3, 2021 Friday

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**Length:** 1378 words

**Body**

[*Link to Story*](https://menafn.com/1102736303/Verisks-AIR-Worldwide-Estimates-Insured-Losses-for-Hurricane-Ida-Will-Range-from-USD-17-Billion-to-USD-25-Billion)

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Tags Hurricane Ida insurance catastrophe modeling risk management United States Related Links

* Quantifying Flood Risk in the United States

1. Using AIR's New Modeling Framework to Understand Climate Change Impacts

MENAFN03092021004107003653ID1102736303

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[***Verisk's AIR Worldwide Estimates Insured Losses for Hurricane Ida Will Range from USD 17 Billion to USD 25 Billion***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63HK-PG91-DY2T-6020-00000-00&context=1516831)

National Post (f/k/a The Financial Post) (Canada)

September 3, 2021 Friday

Web Edition

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**Section:** GLOBENEWSWIRE

**Length:** 1381 words

**Body**

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Kevin Long AIR Worldwide 01-617-267-6645 [*klong@air-worldwide.com*](mailto:klong@air-worldwide.com) !@COPYRIGHT=© 2021 Postmedia Network Inc. All rights reserved.

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GlobeNewswire

September 3, 2021 Friday 4:16 AM PT

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**Section:** PRESS RELEASES; RESEARCH ANALYSIS AND REPORTS

**Length:** 1350 words

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[***Verisk's AIR Worldwide Estimates Insured Losses for Hurricane Ida Will Range from USD 17 Billion to USD 25 Billion - Press Release issued by AIR Worldwide***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63HV-01M1-JCH9-G325-00000-00&context=1516831)

Pakistan Press International

September 4, 2021 Saturday

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**Length:** 1362 words

**Body**

September 04, 2021 (PPI-OT) / GlobeNewswire / Asianet-Pakistan: Following is the text of press release issued by AIR Worldwide

Quote

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Reconstruction costs are more expensive today than they were a year ago. The increase in the total reconstruction cost index means that costs are higher on average nationally; this affects the low- as well as the high-severity events. The difference in magnitude of the impact will come from the mix of construction materials used.

For example, minor wind losses are less likely to require repairs that use more expensive inputs such as structural lumber; however, dwellings that are a total loss would require a broader mix of inputs that reflect the higher increases indicated by the total reconstruction index. Therefore, companies should bear these increases in mind and should expect the average claim to be higher?before?considering demand ***surge***.

An additional source of uncertainty related to materials cost demand ***surge*** is the cost of diesel fuel, which has been impacted by the shutdown of refineries during Ida; this fuel would be used to transport materials. While some of these facilities were undamaged, the uncertainty around the timing of the restoration of the power grid and lack of electricity in the meantime is going to keep some of them from coming back online and contributing to the diesel fuel supply.

One other important aspect of demand ***surge*** to note is that after Hurricane Katrina, about half of the population of New Orleans moved away and the city never returned to pre Katrina population levels. This mass migration probably mitigated economic demand ***surge***, which was not as great as it might have been after that ***storm***.

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Insurance, reinsurance, financial, corporate, and government clients rely on AIR's advanced science, software, and consulting services for catastrophe risk management, insurance-linked securities, longevity modeling, site-specific engineering analyses, and agricultural risk management. AIR Worldwide, a Verisk (NASDAQ:VRSK) business, is headquartered in Boston, with additional offices in North America, Europe, and Asia. For more information, please visit [*www.air-worldwide.com*](http://www.air-worldwide.com).

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[***Verisk's AIR Worldwide Estimates Insured Losses for Hurricane Ida Will Range from USD 17 Billion to USD 25 Billion***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63HK-6N01-JDK3-93MB-00000-00&context=1516831)

Postmedia Breaking News

September 3, 2021 Friday

Web Edition

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**Section:** GLOBENEWSWIRE

**Length:** 1381 words

**Body**

BOSTON, Sept. 03, 2021 (GLOBE NEWSWIRE) - Extreme event modeling firm AIR Worldwide estimates that industry insured losses to onshore property resulting from Hurricane Ida's winds and ***storm surge*** will range from USD 17 billion to USD 25 billion.?AIR Worldwide is a Verisk (Nasdaq:VRSK) business.

AIR's modeled insured loss estimates include insured physical damage to?property (residential, commercial, industrial, auto), both structures and?their contents?from winds, wind-borne debris, ***storm surge***, and the impact of demand ***surge***. The industry loss estimates also reflect an adjustment to account for increased material and other repair costs in the current construction market. Hurricane precipitation-induced flood losses are not included in AIR estimates at this time.

Ida traveled over very warm Gulf waters, including a thick layer of warm water in the Loop Current, and intensified to make two landfalls in Louisiana, both at Category 4 strength, on August 29. The ***storm***'s first landfall was near Port Fourchon about 60 miles south of New Orleans, with a maximum sustained wind speed of 150 mph; its second landfall was southwest of Galliano, with a maximum sustained wind speed of 145 mph. Around the time of landfall, the ***storm*** was undergoing an eyewall replacement. In practical terms, New Orleans experienced strong winds on the order of 90 to 100 mph due to the large windfield and a slow decay of the ***storm***.

The ***storm surge*** Ida produced was along expected lines and generally not as severe as Hurricane Katrina's-particularly in Mississippi and New Orleans (the latter of which was fully protected by the city's levee system)-but some areas of southeastern Louisiana with insufficient ***protection*** experienced severe ***storm surge*** during Ida.

According to analysis by Wood Mackenzie( [*https://www.woodmac.com/news/opinion/hurricane-ida-causes-historic-us-crude-supply-chain-disruption/*](https://www.woodmac.com/news/opinion/hurricane-ida-causes-historic-us-crude-supply-chain-disruption/) ), a sister company in the Verisk family, Hurricane Ida has had a significant impact on Louisiana refinery operations and Gulf of Mexico production, causing a historic U.S. crude supply chain disruption. Utility disruptions caused by lack of power, mobile data services, and water, could lead to Ida becoming a long-tailed event when it comes to claims reporting, payouts, etc.

While New Orleans' levees held, the city was not spared Ida's wind impacts. Damage was variable given the nature of building inventory in the metro New Orleans area. Areas close to where Ida made landfall such as LaFourche Parish, where Port Fourchon is located, was particularly hard hit with widespread destruction. Grand Isle Parish, a barrier island, has been declared uninhabitable. Even in towns just inland from where Ida came ashore, such as Galliano and Houma, wind damage was severe to catastrophic.

In terms of ***storm surge***, most levees held up well, with a few localized failures that have created flooding beyond that from ***storm surge***. Communities to the north, west, south, and east of the hurricane ***protection*** system that surrounds New Orleans were inundated. Ida's ***storm surge*** inundated far into the bayous and inhabited areas of southeastern Louisiana, as well as areas near Lake Pontchartrain. Minor near-coastal inundation also occurred in Mississippi and Alabama. Key areas flooded by ***storm surge*** in Louisiana include Port Fourchon, Grand Isle, Delacroix, Alliance, Lafitte, Jean Lafitte, Barataria, Laplace, Mandeville, Braithwaite, Shell Beach, Galliano, Golden Meadow, and Venetian Isles. ***Surge*** inundation depth exceeded 10 feet in some places, but several tide gauges near maximum ***storm surge*** broke, leading to uncertainty in Ida's maximum ***storm surge*** water level.

Louisiana has a statewide adoption of the Louisiana State Uniform Construction Code. These codes were adopted and have been effective since early 2018. According to these standards, buildings are required to be designed to a prescribed wind speed that varies spatially with higher design wind speeds along the coast and the values decreasing as we move inland. For Port Fourchon and Grand Isle, the design 3-second gust wind speeds for typical residential and commercial structures is between 160 and 170 mph. For towns such as Golden Meadow, Galliano, Dulac, and the southern portions of Houma, design requirements are between 150 and 160 mph on 3-second gust basis. New Orleans, Lockport, and towns along Route 90 require buildings to be designed to winds of 140 to 150 mph 3-second gust.

Commercial buildings with higher human occupancy requirements and those serving essential functions such as hospitals are typically subject to more stringent requirements per the IBC, given the risk category in which individual commercial buildings fall. Generally, Hurricane Ida was below the design standards for structures built under these standards. Widespread catastrophic structural failure was therefore not expected. Buildings that are older and predate the adoption of some of these standards can be expected to perform worse and sometimes become debris sources that can impact adjacent newer buildings. While adoption of building codes is one aspect, an equally important aspect is their enforcement. While enforcement is good for coastal counties, the same is not true for inland counties. Therefore, as Ida trekked through the state and continued to produce damaging winds, damage can be expected to buildings across the entire state.

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Kevin Long AIR Worldwide 01-617-267-6645 [*klong@air-worldwide.com*](mailto:klong@air-worldwide.com) !@COPYRIGHT=© 2021 Postmedia Network Inc. All rights reserved.

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[***AIR Worldwide Estimates Insured Losses for Hurricane Ida Will Range from USD 17 Billion to USD 25 Billion***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63HK-GYN1-JC13-H1JK-00000-00&context=1516831)

Market News Publishing

September 3, 2021 Friday 9:10 AM PST

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**Length:** 1415 words

**Body**

VERISK ANALYTICS INC ("VRSK-Q") - AIR Worldwide Estimates Insured Losses for Hurricane Ida - Will Range from USD 17 Billion to USD 25 Billion

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AIR's modeled insured loss estimates include insured physical damage to?property (residential, commercial, industrial, auto), both structures and?their contents?from winds, wind-borne debris, ***storm surge***, and the impact of demand ***surge***. The industry loss estimates also reflect an adjustment to account for increased material and other repair costs in the current construction market. Hurricane precipitation-induced flood losses are not included in AIR estimates at this time.

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According to analysis by Wood Mackenzie, a sister company in the Verisk family, Hurricane Ida has had a significant impact on Louisiana refinery operations and Gulf of Mexico production, causing a historic U.S. crude supply chain disruption. Utility disruptions caused by lack of power, mobile data services, and water, could lead to Ida becoming a long-tailed event when it comes to claims reporting, payouts, etc.

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**Load-Date:** September 3, 2021

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[***New Orleans levees pass Ida's test while some suburbs flood***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63GS-TTK1-DY4H-K3J1-00000-00&context=1516831)

The Independent (United Kingdom)

August 30, 2021 Monday 9:02 PM GMT

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**Section:** NEWS; Version:1

**Length:** 779 words

**Byline:** Via AP news wire

**Highlight:** The levees, floodwalls and floodgates that protect New Orleans held up against Hurricane Ida's fury, but costly upgrades to the city's flood ***protection*** system couldn't spare some neighboring communities from the rising water

**Body**

The levees, floodwalls and floodgates that protect [*New Orleans*](https://www.independent.co.uk/topic/new-orleans) held up against Hurricane Ida's fury, passing their toughest test since the federal government spent billions of dollars to upgrade a system that catastrophically failed when Hurricane Katrina struck 16 years ago.

But strengthening the flood ***protection*** system in New Orleans couldn't spare some neighboring communities from Ida's destructive ***storm surge***. Many residents of LaPlace, a western suburb where work only recently began on a long-awaited levee project, had to be rescued from rising floodwaters.

Marcie Jacob Hebert evacuated before Ida, but she has no doubt that the ***storm*** flooded her LaPlace home based on what she has seen and heard from neighbors. Her house didn't flood in 2005 during Katrina, but it took on nearly 2 feet (60 centimeters) of water during Hurricane Isaac in 2012.

"We haven't had these problems until everybody else's levees worked," said Hebert, 46. "It may not be the only factor, but I sure do think it contributes."

Christina Stephens, a spokesperson for Gov. John Bel Edwards, said the pumps in New Orleans were working on generator power Monday and operating properly.

"The levee system worked the way it was supposed to," she said.

Two flood ***protection*** districts oversee the system in Orleans, Jefferson and St. Bernard parishes. Neither district reported any breaches or overtopping of levees.

"The system performed as designed," said Nicholas Cali, regional director of the Southeast Louisiana Flood ***Protection*** Authority-West, which oversees the west bank of Orleans and Jefferson parishes. "We are still completing inspections but so far have zero evidence of overtopping or structural issues."

The Southeast Louisiana Flood ***Protection*** Authority-East, which covers St. Bernard Parish and most of Orleans and Jefferson parishes, also planned to inspect its system Monday but hadn't found any problems, according to regional director Kelli [*Chandler*](https://www.independent.co.uk/topic/chandler) A ***surge*** barrier opened Monday morning to allow maritime traffic through a major shipping channel, she said.

"It was an intense ***storm*** and the levee systems functioned as designed," Chandler said. "We start preparing for a ***storm*** the day after the last one ended, and that's exactly what we're going to do today."

Tulane University history professor Andy Horowitz, author of "Katrina: A History, â1915-2015," said it is "unequivocally great news" that the levees held up against Ida's ***surge***. That doesn't mean that a city as vulnerable as New Orleans is safe from flooding "in the face of a changing climate," he added

"It does not mean that the lesson of Hurricane Ida is that metropolitan New Orleans has adequate hurricane ***protection***. It means it had adequate ***protection*** against this ***storm surge***," Horowitz said. "As the system is challenged by stronger and more frequent hurricanes. I think many experts are very concerned about the rather low level of ***protection*** that New Orleans has."

A federal judge in New Orleans ruled in 2009 that the U.S. Army Corps of Engineers' failure to properly maintain and operate the Mississippi River-Gulf Outlet, a navigational channel known as "MR-GO," was a significant cause of the catastrophic flooding during Katrina. Levee failures near Lake Pontchartrain also flooded New Orleans neighborhoods.

After Katrina, the federal government spent $14.5 billion on projects designed to enhance ***protection*** from ***storm surge*** and flooding in New Orleans and surrounding suburbs south of Lake Pontchartrain. Starting with a giant ***surge*** barrier east of the city, the system is a 130-mile (210-kilometer) ring built to hold out ***storm surge*** of about 30 feet (9 meters).

[*Work*](https://www.independent.co.uk/topic/work) recently began on a levee project to protect tens of thousands of residents of LaPlace and other communities outside New Orleans' levee system. That project is not projected to be completed until 2024.

"I'm glad they're building us a levee, but I worry about what happens to the next group further to the west," Hebert said. "The water has got to go somewhere. We can't just keep funneling it from person to person, place to place."

Bernardo Fallas, a spokesperson for Phillips 66, said the company did not immediately have information about whether a reported levee collapse in Plaquemines Parish affected its Alliance Refinery in Belle Chasse. Fallas said the refinery has been shut down since Saturday, ahead of Ida's arrival. "We will proceed to conduct a post-***storm*** assessment of the refinery when it is safe to do so," Fallas said.

\_\_\_

Kunzelman reported from College Park, [*Maryland*](https://www.independent.co.uk/topic/maryland) Amy reported from [*Atlanta*](https://www.independent.co.uk/topic/atlanta) Associated Press writers Michael Biesecker in Washington and Melinda Deslatte in Baton Rouge contributed to this report.

**Load-Date:** August 30, 2021

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[***New Orleans levees pass hurricane's test; City protected from Ida's fury, but suburbs weren't spared flood destruction***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63GX-WWB1-F197-539B-00000-00&context=1516831)

The Toronto Star

August 31, 2021 Tuesday

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**Section:** NEWS; Pg. A9

**Length:** 763 words

**Byline:** Janet Mcconnaughey, Michael Kunzelman And Jeff Amy The Associated Press

**Body**

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Marcie Jacob Hebert evacuated before Ida, but she has no doubt that the ***storm*** flooded her LaPlace home based on what she has seen and heard from neighbours. Her house didn't flood in 2005 during Katrina, but it took on nearly 60 centimetres of water during Hurricane Isaac in 2012.

"We haven't had these problems until everybody else's levees worked," said Hebert, 46. "It may not be the only factor, but I sure do think it contributes."

Louisiana State University professor emeritus Craig Colten, who has taught historical geography, said most of the New Orleans levee systems has been in place for decades. He said the flooding in LaPlace can be explained by wind direction, not by any floodwater diverted from New Orleans.

"Isaac was really a minor ***storm*** in terms of wind speed, but it did drive water into Lake Pontchartrain to the western edge, toward LaPlace, as this ***storm*** did. And that just is going to pile water up where LaPlace is," Colten said. "I haven't seen anything that was done since Katrina that's really going to make a huge difference."

Gov. John Bel Edwards said a preliminary survey of levees across Louisiana showed they did exactly as they intended and held water out.

"We don't believe there is a single levee anywhere now that actually breached or failed. There were a few smaller levees that were overtopped to a degree for a certain period of time," Edwards said.

Two flood ***protection*** districts oversee the system in Orleans, Jefferson and St. Bernard parishes. Neither district reported any breaches or overtopping of levees.

"The system performed as designed," said Nicholas Cali, regional director of the Southeast Louisiana Flood ***Protection*** Authority-West, which oversees the west bank of Orleans and Jefferson parishes.

The Southeast Louisiana Flood ***Protection*** Authority-East, which covers St. Bernard Parish and most of Orleans and Jefferson parishes, also planned to inspect its system Monday but hadn't found any problems, according to regional director Kelli Chandler. A ***surge*** barrier opened Monday morning to allow maritime traffic through a major shipping channel, she said.

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Canadian Press

August 30, 2021 Monday 04:16 PM EST

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**Section:** INTERNATIONAL

**Length:** 800 words

**Byline:** Janet Mcconnaughey, Michael Kunzelman And Jeff Amy, The Associated Press

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John Vincent, whose LaPlace subdivision was covered by floodwaters, also said it seems as if the water has risen faster since floodwalls were built in other communities farther east. He blamed a lack of coordination between parishes.

“It seems like now with any kind of ***storm*** it doesn’t take anything to flood,” said Vincent, 65.

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“We start preparing for a ***storm*** the day after the last one ended, and that’s exactly what we’re going to do today," Chandler said.

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“It does not mean that the lesson of Hurricane Ida is that metropolitan New Orleans has adequate hurricane ***protection***. It means it had adequate ***protection*** against this ***storm surge***,” Horowitz said. "As the system is challenged by stronger and more frequent hurricanes. I think many experts are very concerned about the rather low level of ***protection*** that New Orleans has."

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After Katrina, the federal government spent $14.5 billion on projects designed to enhance ***protection*** from ***storm surge*** and flooding in New Orleans and surrounding suburbs south of Lake Pontchartrain. Starting with a giant ***surge*** barrier east of the city, the system is a 130-mile (210-kilometer) ring built to hold out ***storm surge*** of about 30 feet (9 meters).

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“We will proceed to conduct a post-***storm*** assessment of the refinery when it is safe to do so,” Fallas said.

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Kunzelman reported from College Park, Maryland. Amy reported from Atlanta. Associated Press writers Michael Biesecker in Washington and Melinda Deslatte in Baton Rouge contributed to this report.

**Load-Date:** September 2, 2021

**End of Document**

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[***A Boston Harbor coastal resiliency system? 'Layered defense'; The New Bedford model of coastal resiliency works. Boston should follow suit.***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:62T9-GD01-JB25-F15W-00000-00&context=1516831)

bostonglobe.com

May 31, 2021 Monday 07:00 AM EST

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**Section:** OPINION

**Length:** 834 words

**Byline:** Bill Golden

**Body**

**ABSTRACT**

The New Bedford model of coastal resiliency works. Boston should follow suit.

**FULL TEXT**

[*Link to Image*](https://www.bostonglobe.com/resizer/Nh8gAo67e7Nt3NtqXQl0xVKsTvI=/cloudfront-us-east-1.images.arcpublishing.com/bostonglobe/YLSFFR25OVDKXKJV64OFJOTSIY.jpg)

Devastated by multiple nor'easters that have shut down Logan Airport, flooded Boston's downtown and Seaport District, and inundated Boston Harbor neighborhoods from Hull to Winthrop, it's clear the entire Boston Harbor coastal region is dangerously vulnerable to increasingly frequent and more destructive extreme ***storm*** events due to the climate crisis.

To preserve the Boston Metropolitan region as New England's economic engine and hub of cultural and social diversity, we must act now to protect [*the 15 cities and towns that are linked to Boston Harbor*](https://www.bostonharborfloodprevention.com/) from future ***storm-surge*** flooding. The flood ***protection*** choices of two cities, New Bedford and New York, represent divergent public policy decisions that can inform and guide coastal resiliency options for the Boston Harbor metro region.

Eight years after Hurricane Sandy caused [*44 deaths and $19 billion in damages*](https://www1.nyc.gov/site/cdbgdr/about/About%20Hurricane%20Sandy.page#:~:text=Hurricane%20Sandy%20hit%20New%20York%20City%20on%20October%2029%2C%202012.&text=The%20storm%20resulted%20in%20the,across%20the%20New%20York%20City.) in New York, the city has chosen to reject [*a regional sea gate system*](https://www.wnyc.org/story/five-years-later-sandy-project-grinding/) and to rely solely on a 15-to-20-foot-high land-based combined sea-level-rise and ***storm-surge*** barrier. As a result, New York has not built a single linear foot of ***storm-surge*** land-based ***protection***, leaving its business districts and residential neighborhoods as vulnerable now as they were when Sandy devastated the city. In fact, the only city-developed project that has completed design and is scheduled for construction is a [*2.4-mile park on the East River*](https://www.ny1.com/nyc/all-boroughs/news/2021/04/18/protesters-march-against-plans-to-demolish-east-river-park) of the city's more that 500 miles of coastline.

New Bedford, on the other hand, has been protected continuously and reliably for over 50 years from ***storm-surge*** devastation with its regional sea gate system. In developing our Boston Harbor coastal resiliency system, the 15 cities and towns that flood through the Massachusetts Bay opening to Boston Harbor have the opportunity to benefit directly from developing a regional Boston Harbor coastal resiliency system based on New Bedford's successful sea gate system.

While the City of Boston has taken the lead with its nationally acclaimed Climate Ready Boston initiative and the City of Quincy has spearheaded a regional response by bringing together public and private sector leaders from the 15 communities, there is still no regional coastal resiliency plan for all Boston Harbor communities. As a result, each municipality is now faced with an "every city and town for itself" competition for design and construction funds with no common design standards or systems integration between communities.

Instead of the current go-it-alone approach, all municipalities could be included in the fully integrated [*"layered defense" regional plan advocated by the City of Quincy*](https://bostonharborfloodprevention.com/). By implementing on a regional basis the land-based coastal resiliency innovations of Climate Ready Boston, combined with the regional system success of New Bedford, the Boston Harbor metro region can develop and construct an integrated regional layered defense system. As proposed by Quincy, layered defense would consist of an outer harbor regional sea gate system from Hull to Winthrop that would protect all 15 municipalities from the more urgent threat of ***storm-surge*** devastation, as well as an integrated local land-based municipal system of green and gray infrastructure designed to protect low-lying communities from gradual sea-level rise as developed by Climate Ready Boston.

Such a layered defense would extend and optimize the success of the Climate Ready Boston program and the state's [*Municipal Vulnerability Preparedness*](https://www.google.com/search?q=I%27m+coming+viriginia+Bix&rlz=1C1CHFX_enUS580US580&oq=I%27m+coming+viriginia+Bix&aqs=chrome..69i57j0i13j46i13j0i13j46i13j0i22i30j0i22i30i395l4.5660j1j4&sourceid=chrome&ie=UTF-8) program, by integrating the local land-based coastal resiliency plans with the regional benefits of a Boston Harbor regional sea gate system that would protect the entire Boston Harbor metro area for a hundred years or more.

In considering the advantages of a regional layered defense system over a land-based seawall-only system, it is important to consider that without a sea gate system, all marine operations, including all ferry services, commercial marine docks and piers, marinas, terminals, condo wharves, and other structures too expensive to be encircled with seawalls, as well as the rapidly eroding Harbor Islands, would be on the wrong side of the land-based coastal perimeter seawall and would be repeatedly devastated by ***storm-surge*** flooding.

A regional seagate system would universally protect all neighborhoods in a manner consistent with our highest social and environmental justice values, ensuring that it was not just the wealthy neighborhoods or individual office buildings with flood resistance designs that were protected from the devastation of coastal flooding.

We must act now to develop a Boston Harbor Regional Layered Defense Plan that keeps our citizens safe, meets our social and environmental justice goals, preserves our natural environment, and protects our regional economy for the next 100 years or more.

*Bill Golden is a former Massachusetts state senator who helped to shape the Environmental* ***Protection*** *Agency.*

**Graphic**

Nasser Brahim, senior planner in climate risk and resiliency at Kleinfelder, displays a flood map of greater Boston in December 2019.

**Load-Date:** May 31, 2021

**End of Document**

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[***Planning a 'layered defense' for Boston Harbor; The New Bedford model of coastal resiliency works. Boston should follow suit.***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:62T9-NTP1-DYHJ-30JH-00000-00&context=1516831)

The Boston Globe

May 31, 2021 Monday

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**Section:** EDITORIAL OPINION; Opinion; Pg. A,10,1

**Length:** 853 words

**Byline:** By Bill Golden

**Body**

**ABSTRACT**

The New Bedford model of coastal resiliency works. Boston should follow suit.

**BODY**

Nasser Brahim, senior planner in climate risk and resiliency at Kleinfelder, displays a flood map of greater Boston in December.

Devastated by multiple nor'easters that have shut down Logan Airport, flooded Boston's downtown and Seaport District, and inundated Boston Harbor neighborhoods from Hull to Winthrop, it's clear the entire Boston Harbor coastal region is dangerously vulnerable to increasingly frequent and more destructive extreme ***storm*** events due to the climate crisis.

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Eight years after Hurricane Sandy caused 44 deaths and $19 billion in damages in New York, the city has chosen to reject a regional sea gate system and to rely solely on a 15-to-20-foot-high land-based combined sea-level-rise and ***storm-surge*** barrier. As a result, New York has not built a single linear foot of ***storm-surge*** land-based ***protection***, leaving its business districts and residential neighborhoods as vulnerable now as they were when Sandy devastated the city. In fact, the only city-developed project that has completed design and is scheduled for construction is a 2.4-mile park on the East River of the city's more that 500 miles of coastline.

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Instead of the current go-it-alone approach, all municipalities could be included in the fully integrated "layered defense" regional plan advocated by the City of Quincy. By implementing on a regional basis the land-based coastal resiliency innovations of Climate Ready Boston, combined with the regional system success of New Bedford, the Boston Harbor metro region can develop and construct an integrated regional layered defense system. As proposed by Quincy, layered defense would consist of an outer harbor regional sea gate system from Hull to Winthrop that would protect all 15 municipalities from the more urgent threat of ***storm-surge*** devastation, as well as an integrated local land-based municipal system of green and gray infrastructure designed to protect low-lying communities from gradual sea-level rise as developed by Climate Ready Boston.

Such a layered defense would extend and optimize the success of the Climate Ready Boston program and the state's Municipal Vulnerability Preparedness program, by integrating the local land-based coastal resiliency plans with the regional benefits of a Boston Harbor regional sea gate system that would protect the entire Boston Harbor metro area for a hundred years or more.

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**Load-Date:** May 31, 2021

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[***Houma locks work begins; Grand Bayou flood project finished***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:64DC-9RR1-JBCN-44PF-00000-00&context=1516831)

The Daily Review (Morgan City, Louisiana)

November 12, 2021 Friday

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**Section:** NEWS; Pg. 16

**Length:** 461 words

**Body**

Gov. John Bel Edwards on Tuesday joined the Louisiana Coastal ***Protection*** and Restoration Authority as well as local and state officials to break ground on the Houma Navigation Canal Lock Complex and announce the completion of the Grand Bayou Floodgate, two critical components of the Morganza to the Gulf Hurricane ***Protection*** System.

With the completion of the 147-foot Grand Bayou Floodgate, the Morganza to the Gulf system now has a continuous levee segment stretching 47 miles from Grand Bayou in Lafourche Parish to upper Bayou Dularge in Terrebonne Parish to prevent floodwaters from impacting the region. The newly completed floodgate was named in honor of the late Louisiana Rep. Reggie Bagala, who passed away from complications due to COVID-19 in April 2020.

“Today we are announcing two substantial advances in our efforts to provide Terrebonne and Lafourche parishes with 100-year ***storm surge*** ***protection***,” Gov. Edwards said. “The Grand Bayou Floodgate will honor Rep. Bagala’s memory while providing improved hurricane ***protection*** to the people and place he called home. This project, combined with the soon to begin HNC Lock Complex, are game-changers for the entire Morganza to the Gulf system.”

The Morganza to the Gulf system will benefit approximately 1,900 square miles in Terrebonne and Lafourche parishes through flood control, salinity control, and ecosystem restoration.

“The road to strengthening the Morganza to the Gulf system and providing the Bayou Region with upgraded hurricane ***protection*** has been paved by hard work and collaboration with parish governments and levee districts,” CPRA Chairman Chip Kline said. “We’re thrilled to announce such meaningful progress toward our shared goal of providing a safer and better protected future for those in Terrebonne and Lafourche parishes.”

Phase 1 of the HNC Lock Complex project will dredge over 1 million cubic yards of material to prepare the area for the lock complex and create 178 acres of marsh in six areas north of the complex along the navigation channel. Phase 1 is anticipated to be complete in the fall of 2022.

The HNC Lock will allow a longer window of opportunity for navigation activities when the adjacent Bubba Dove Floodgate is closed to protect communities from ***storm surge*** or high water events. During gate closures, the lock will allow vessels to travel in either direction on the HNC, enabling officials to close the floodgate earlier and keep it closed longer, benefiting the area’s ecosystem suffering from saltwater intrusion.

Terrebonne Parish President Gordon “Gordy” Dove and Lafourche Parish President Archie Chaisson joined the Governor for the announcements and praised the projects for enhancing the Morganza to the Gulf system’s hurricane ***protection*** capabilities.

**Load-Date:** December 28, 2021

**End of Document**

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[***PM reviews Cyclone Yaas damage; Odisha demands long-term solution***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:62TJ-9H41-DYDW-74TD-00000-00&context=1516831)

Indian Media news

June 1, 2021 Tuesday

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**Length:** 645 words

**Dateline:** New Delhi, 2021-06-01 16:36:08

**Body**

June 01 -- Prime Minister Narendra Modi on Friday reviewed the post-cyclone situation and damages caused by Cyclone Yaas in the state at a meeting here where Odisha government demanded long term solutions to mitigate problems of repeated cyclones and provision of disaster resilient power systems.

The state government sought no immediate funds to manage the expenditure incurred in disaster management, but stressed on long term solutions to the problem as Odisha is frequently hit by major calamities like cyclones, Odishas Special Relief Commissioner (SRC) P K Jena told reporters after the meeting.

Immediately after the review meeting which continued for about an hour, attended by Odisha Governor Ganeshi Lal, Chief Minister Naveen Patnaik, two Union Ministers- Dharmendra Pradhan and Pratap Sarangi and senior officials, the Prime Minister left for aerial survey to the worst cyclone affected areas of Balasore and Bdahrak in Odisha, on his way to West Bengal.

The Prime Minister was earlier received by Governor Ganeshi Lal, Chief Minister Naveen Patnaik, Union Ministers Dharmendra Pradhan and Pratap Sarangi at the Biju Patnaik International Airport here.

The Chief Minister sought both a disaster resilient power infrastructure and a permanent solution to protect the coastal region from ***storm surges*** which accompany cyclones, the SRC said adding that Odisha has a long coastline of about 480 kilometres of which above 200 km is vulnerable to tidal ***surge***.

The state has sought no immediate funds or assistance from the Government of India today. The state will manage the situation from its resources. We will assess the damage in seven days and later seek central assistance, Jena said.

Union Minister Pratap Sarangi, who was present in the PMs review meeting said: The Centre is all along with Odisha. The state has not made immediate demanded, but sought permanent solution by setting of disaster resilient infrastructure in power sector and measures against the ***storm surge***.

Since the Prime Minister is now going on an aerial survey to see the damages done by Yaas, he will announce a relief package by this evening, Sarangi said.

The state government, at the beginning of the review meeting, welcomed the Prime Minister to the state. A video film of 8-mimute duration and a PowerPoint presentation was made before the Prime Minister on how the state responded to the calamity.

The Chief Minister categorically said that both the centre and the state should join hands to work for the ***protection*** from the danger of ***storm surge***, which this time saw ingresses of saline water to over 120 villages in the coast districts, the SRC said.

Patnaik also wanted long term solution to the problem of coastal erosion which adds to the danger from ***storms*** in the coastal belt. The Chief Minister also drew attention of the Prime Minister to the disaster resilient power system, the demand for which is being made for the last two years. This apart, the CM also empathetically demanded coastal ***storm surge*** ***protection*** mechanism, Jena said.

Jena said there is every possibility that the height of ***storm surge*** in Oddisha coast may go up to 8 meters along the state coast. Therefore, robust planning is required. The state governments demand was to ensure a disaster resilient coastal infrastructure, he said.

Cyclone Yaas, packing winds gusting to 145 kmph whip lashed parts of India's eastern coast on Wednesday, killing at least three people in Odisha and one in West Bengal and leaving behind a trail of damaged homes and flooded farmland, forcing more than 21 lakh people to be evacuated to safe shelters in the states of West Bengal, Odisha and Jharkhand.

After the havoc caused by the cyclone, heavy post- cyclone rains on Thursday has seen river water levels rising above the danger mark, placing four districts of Odisha-Bhadrak, Jajpur, Kendrapara and Keonjhar-on high alert.

**Load-Date:** June 1, 2021

**End of Document**

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[***New Orleans' levees held strong against Ida***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63H5-3PV1-JBCN-44JR-00000-00&context=1516831)

FOX - 6 WITI (Milwaukee, Wisconsin)

August 30, 2021 Monday

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**Section:** NEWS

**Length:** 860 words

**Byline:** Janet McConnaughey

**Body**

NEW ORLEANS - The levees, floodwalls and floodgates that protect New Orleans held up against Hurricane Ida's fury, passing their toughest test since the federal government spent billions of dollars to upgrade a system that catastrophically failed when Hurricane Katrina struck 16 years ago.

But strengthening the flood ***protection*** system in New Orleans couldn't spare some neighboring communities from Ida's destructive ***storm surge***. Many residents of LaPlace, a western suburb where work only recently began on a long-awaited levee project, had to be rescued from rising floodwaters.

Marcie Jacob Hebert evacuated before Ida, but she has no doubt that the ***storm*** flooded her LaPlace home based on what she has seen and heard from neighbors. Her house didn't flood in 2005 during Katrina, but it took on nearly 2 feet (60 centimeters) of water during Hurricane Isaac in 2012.

"We haven't had these problems until everybody else's levees worked," said Hebert, 46. "It may not be the only factor, but I sure do think it contributes."

RELATED: Ida downgraded to tropical depression after devastating Louisiana, leaving 1 million in the dark

John Vincent, whose LaPlace subdivision was covered by floodwaters, also said it seems as if the water has risen faster since floodwalls were built in other communities farther east. He blamed a lack of coordination between parishes.

"It seems like now with any kind of ***storm*** it doesn't take anything to flood," said Vincent, 65.

Christina Stephens, a spokesperson for Gov. John Bel Edwards, said the pumps in New Orleans were working on generator power Monday and operating properly.

"The levee system worked the way it was supposed to," she said.

RELATED: Ida: Rescues underway after hurricane brings flooding, 'catastrophic' damage to power grid

Two flood ***protection*** districts oversee the system in Orleans, Jefferson and St. Bernard parishes. Neither district reported any breaches or overtopping of levees.

"The system performed as designed," said Nicholas Cali, regional director of the Southeast Louisiana Flood ***Protection*** Authority-West, which oversees the west bank of Orleans and Jefferson parishes.

The Southeast Louisiana Flood ***Protection*** Authority-East, which covers St. Bernard Parish and most of Orleans and Jefferson parishes, also planned to inspect its system Monday but hadn't found any problems, according to regional director Kelli Chandler. A ***surge*** barrier opened Monday morning to allow maritime traffic through a major shipping channel, she said.

"We start preparing for a ***storm*** the day after the last one ended, and that's exactly what we're going to do today," Chandler said.

RELATED: How to help victims of Hurricane Ida

Tulane University history professor Andy Horowitz, author of "Katrina: A History, 1915-2015," said it is "unequivocally great news" that the levees held up against Ida's ***surge***. That doesn't mean that a city as vulnerable as New Orleans is safe from flooding "in the face of a changing climate," he added

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RELATED: Ida aftermath forces Louisiana hospitals to evacuate patients

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"I'm glad they're building us a levee, but I worry about what happens to the next group further to the west," Hebert said. "The water has got to go somewhere. We can't just keep funneling it from person to person, place to place."

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Kunzelman reported from College Park, Maryland. Amy reported from Atlanta. Associated Press writers Michael Biesecker in Washington and Melinda Deslatte in Baton Rouge contributed to this report. Storyful also contributed.

**Graphic**

Ida rain

**Load-Date:** September 1, 2021

**End of Document**

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[***Houston just avoided nightmare scenario; Experts warn: If Laura-like system hit nearby, storm surge could unmoor chemical tanks***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:60R8-XT81-DYRV-4536-00000-00&context=1516831)

The Houston Chronicle

August 29, 2020 Saturday

Houston Edition

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**Section:** A; Pg. A001

**Length:** 1240 words

**Byline:** Lisa Gray

**Highlight:** 1) Associated Press Source: NOAA Components of a ***storm surge*** (GRAPHIC) 2) The Houston Ship Channel is lined with chemical storage tanks that could be ruptured if a high ***storm surge*** were to hit. A Category 4 hurricane like Laura could bring a ***surge*** of 25 feet. PHOTO: Brett Coomer/Staff file photo 3) A single house is left standing amid the devastation left by Ike, a Category 2 hurricane, in 2008 in Gilchrist. PHOTO: Staff file photo

**Body**

Last week, when the lower tip of Galveston Island moved out of Hurricane Laura's "cone of uncertainty," Phil Bedient breathed a sigh of relief. Bedient, director of Rice University's ***storm***-studying SSPEED Center, knew maybe better than anyone else in the world what a nightmare it would be if a Laura-sized ***storm*** made landfall in the wrong place.

For the last 15 years or so, Bedient's team - the acronym stands for Severe ***Storm*** Prediction, Education and Evacuation from Disasters - has modeled big ***storms***' possible effects on Houston.

Laura, Bedient saw, was the fast-moving kind of hurricane. Slow ***storms***, like Hurricane Harvey, inflict most of their pain through flooding. Fast ones, like Hurricane Ike, deal most of their destruction through wind and ***storm surge***.

Of all the risks that hurricanes bring, a big ***storm surge*** is the rarest and most dangerous.

Imagine, Bedient said, that you're aiming a blow dryer at a brownie pan full of water, blowing the water out of the pan: That's how a hurricane behaves in a body of water.

In real life, that wall of water would move incredibly fast - 10-20 feet per second - wiping away almost everything in its path. Beams from the first row of houses to fall would become waterborne battering rams. Ike, a Category 2 ***storm***, pushed an 18-foot ***storm surge*** across Bolivar Peninsula, famously wiping houses off their foundations.

The ***surge*** from Laura, a Category 4 ***storm***, could have been far worse. But when the hurricane made landfall, its eye was relatively narrow, so though its winds were powerful, the ***surge*** they drove scoured a narrower area than expected. And blessedly, that area was mainly a swampy spot where few people live.

Had Laura instead come ashore at the wrong spot near Houston, Bedient's models show a far grimmer outcome. If a smallish Category 4 ***storm*** made landfall at San Luis Pass, just below Galveston, the winds would drive a ***storm surge*** as high as 26 feet.

Those walls of water would blow not only out of the open ocean but also out of Galveston Bay, which nestles between the island and the mainland. Much of the damage to Galveston would come not as the ***storm*** pushes water forward, but hours later, as that debris-laden water comes rushing back toward the ocean.

That nightmare scenario, though, doesn't stop with Galveston. The "dirty side" of the ***storm*** - the most dangerous part, with the fastest-moving wind and highest ***storm surge*** - would likely affect the Houston Ship Channel, which is lined with chemical storage tanks.

Industry, says Bedient, is prepared for a Ship Channel ***surge*** of 15 feet. But for that smallish Category 4 ***storm***, his models show a ***surge*** of 25 feet. Thousands of chemical tanks could be affected.

Those enormous tanks are made of steel. And in the same way that a steel car will float, a ***surge*** can lift part-empty tanks - "they float like ships," Bedient said - breaking their pipes and releasing whatever chemicals they contain. The tanks themselves would then become waterborne wrecking balls.

Good operators can fill their tanks to the brim and tie them down to lessen damage. But decades of environmental disasters make it obvious that such measures are unlikely to be universal. "Hundreds of those tanks could go," Bedient said grimly.

After Hurricane Katrina, he saw the effects of just one tank's rupture. When New Orleans' levees failed, a ***storm surge*** somewhere between 6 feet and 18 feet hit the Murphy Oil refinery. The ***surge*** knocked a tank off its moorings, and the resulting leak released more than 1 million gallons of crude oil.

That crude mixed with floodwaters, which spread the goo over roughly a square mile, contaminating 1,700 homes in nearby neighborhoods. It was Katrina's worst environmental disaster.

"You could smell the crude from 5 miles away," Bedient remembered. "Just from one tank."

A ***storm surge*** in the Houston Ship Channel, he said, "could create one of the worst environmental disasters ever to befall the coastal U.S."

'Zero' progress

Of all the proposals to protect Texas' coast from a ***storm surge***, the "Ike Dike" coastal spine is the best known, and Bill Merrell, of Texas A&M-Galveston, will forever be remembered as the "Ike Dike" professor.

A ***storm*** like Laura, he said, was exactly what the Ike Dike was designed for.

After Ike hit in 2008, Merrell proposed a "coastal spine" plan to protect Galveston from future ***storm surges***. The complex would include barriers, levees and two gates, each about the size of the Eiffel Tower, that would close off Galveston Bay from a ***storm surge***.

The Army Corps of Engineers and the Texas General Land Office are studying the project, but no funding has been approved. Cost estimates range from $10 to $32 billion, depending on which features, such as engineered sand dunes, are included. (By comparison, Ike alone is estimated to have caused $35 billion in damage.)

Asked how much progress our area has made with ***surge*** ***protection*** since Ike, Merrell sounded bitter. "We've made none," he said. "Zero."

Merrell believes his coastal spine would provide all the ***storm-surge*** ***protection*** needed. Bedient and Jim Blackburn, the co-director of the SSPEED Center, recommend layering in other approaches as well - some of which would be cheaper and faster to build, and would have benefits in addition to ***surge*** ***protection***.

For instance, Blackburn notes, the SSPEED Center recently proposed that for the next 100 years, the silt regularly dredged from the Ship Channel to keep it passable would be used to build a system of barrier islands inside Galveston Bay - islands that would not only protect the Ship Channel from a ***storm surge*** but also provide recreational space and wildlife habitat.

The proposal recently won the Vision Award from the American Institute of Architects-Houston, and its first phase would cost less than $3 billion. But so far it, too, has yet to find either political or philanthropic backers.

'No political will'

One problem, Blackburn said, is that the scale of ***surge***-***protections*** is often enormous, and the time to complete them is long, often on the order of 15 years. Former Houston mayor Annise Parker, Blackburn said, once explained the political difficulty to him: The hardest thing a politician can do is to go to bat for a project that won't be completed during her time in office.

Merrell, often at odds with the SSPEED Center, concurred on that point: Though ***storm surges*** pose an extraordinary threat to Houston, "there's no political will" to address them.

Bedient sounded resigned. "I understand the physics," he said. "I just don't understand the politics. Physics is straightforward."

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Online

Learn more about ***storm surge***: houstonchronicle.com/ projects/2020/***storm-surge***-houston/

**Load-Date:** September 1, 2020

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[***New Orleans's levees pass Ida's test while some suburbs flood***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63GW-X2H1-DXH7-52VR-00000-00&context=1516831)

bostonglobe.com

August 30, 2021 Monday 10:13 PM EST

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**Section:** NATION

**Length:** 846 words

**Byline:** JANET MCCONNAUGHEY, The Associated Press

MICHAEL KUNZELMAN, The Associated Press

JEFF AMY, The Associated Press

**Body**

**ABSTRACT**

The levees, floodwalls, and floodgates that protect New Orleans held up against Hurricane Ida's fury, passing their toughest test since the federal government spent billions of dollars to upgrade a system that catastrophically failed when Hurricane Katrina struck 16 years ago.

**FULL TEXT**

[*Link to Image*](https://www.bostonglobe.com/resizer/y_JiR-lAi3ery0OfbRrJ7ougIQQ=/cloudfront-us-east-1.images.arcpublishing.com/bostonglobe/G2UG4JNYS2L4N25ZU364ZEY42I.jpg)

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Marcie Jacob Hebert evacuated before Ida, but she has no doubt that the ***storm*** flooded her LaPlace home based on what she has seen and heard from neighbors. Her house didn't flood in 2005 during Katrina, but it took on nearly 2 feet (60 centimeters) of water during Hurricane Isaac in 2012.

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Louisiana State University professor emeritus Craig Colten, who has taught historical geography, said most of the New Orleans levee systems has been in place for decades. He said the flooding in LaPlace can be explained by wind direction, not by any floodwater diverted from New Orleans.

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**Graphic**

In this June 22, 2012 file photo, the Inner Harbor Navigation Canal (IHNC) ***Surge*** Barrier, constructed after Hurricane Katrina to prevent tidal ***surges*** from hurricanes from reaching New Orleans.

**Load-Date:** August 31, 2021

**End of Document**

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[***Rouzer Statement from WRDA 2022 Members’ Day Hearing***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:651B-FTC1-F0YC-N1V9-00000-00&context=1516831)

Impact News Service

March 17, 2022 Thursday

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**Length:** 257 words

**Body**

Washington, DC: U.S House of Representatives Committee on Transportation & Infrastructure has issued the following press release:

Thank you, Chair Napolitano. I appreciate you holding this hearing.

Today ’ s hearing marks the third hearing of the House of Representatives ’ portion of the drafting of a Water Resources Development Act (WRDA) for 2022.

As I mentioned in our last two WRDA hearings, this is one of the most important pieces of legislation that we do here on the Transportation and Infrastructure Committee.

WRDA is one of the best examples of Congress working the way it should. Since 2014, Congress has passed a WRDA bill every two years. In addition to being on a dependable schedule, these talks have been bipartisan, and it has made a big difference for all stakeholders and our water infrastructure. In fact, in 2020 WRDA passed by voice vote in the House.

I look forward to working with my colleagues on both sides of the aisle here on the Committee and the full House to pass another bipartisan WRDA this year.

In our previous WRDA hearing, we heard testimony from witnesses representing a cross-section of those partnering with the Army Corps of Engineers on a variety of programs, ranging from ***storm surge*** ***protection*** to navigation at ports to environmental infrastructure.

Today, we ’ ll hear directly from our colleagues in Congress on the priorities that are important to them and their constituents. I look forward to hearing about these member priorities and how they will be of benefit to their communities and our country.

**Load-Date:** March 18, 2022

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[***New Orleans levees pass Ida's test while some suburbs flood***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63GS-PHX1-JC5B-G4DG-00000-00&context=1516831)

Associated Press International

August 30, 2021 Monday 10:22 PM GMT

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**Section:** DOMESTIC NEWS; STATE AND REGIONAL

**Length:** 836 words

**Byline:** JANET MCCONNAUGHEY, MICHAEL KUNZELMAN and JEFF AMY, Associated Press

**Dateline:** NEW ORLEANS

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Associated Press State & Local

August 30, 2021 Monday 10:22 PM GMT

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The Associated Press

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[***Group of climate scientists aboard 100-ft yacht with glass walls in New York harbor plot $40 billion plan to build sea GATES that would shut to keep the city from flooding if another disaster like Hurricane Sandy hit***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:640W-9381-JBNF-W3M5-00000-00&context=1516831)

MailOnline

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**Section:** NEWS; Version:1

**Length:** 966 words

**Byline:** Adam Manno For Dailymail.Com

**Body**

* The group toured the coast last week on the ninth anniversary of Sandy

1. The ***storm*** killed 60 people in NY and NJ and caused $19bn in damage in NYC
2. The group has proposed a series of ***surge*** barriers to prevent harsh floods
3. The project would cost as much as $40bn; the Army Corps of Engineers says the longest sea barrier would take 25 years to build and cost $36.4 billion
4. The group met aboard the Manhattan II yacht, which rents for up to $2.4K/hour

A group that is proposing a $40 billion system of sea gates to protect New York and New Jersey from deadly ***storm surges*** toured the coast aboard a 100-ft-long boat with a full bar last week.

Engineers, scientists and city planners with the New York New Jersey ***Storm Surge*** Working Group met on the ninth anniversary of Hurricane Sandy to discuss how to best protect the area from floods like the one caused by the deadly ***storm*** in 2012.

The hurricane killed 60 people in New York and New Jersey, flooding homes and businesses and causing New York City alone an estimated $19 billion in damage, according to the Army Corps of Engineers.

As a result, the Working Group has proposed three sea walls at the East River, Jones Inlet and East Rockway, plus a bigger one in the Outer New York Harbor connecting New York and New Jersey.

Members of the group discussed the $40 billion plans aboard the Manhattan II, a mahogany-finished, air conditioned vessel with panel windows that rents for up to $2,400 an hour, according to Classic Harbor Line.

'Don't underestimate the destruction, dislocation, and human misery that climate change and rising seas will bring in the decades ahead,' said Stony Brook oceanography professor and chair of the Working Group Malcolm Bowman, according to Bloomberg.

One person aboard the yacht pointed pointed out that a low tide mark he saw when he first moved to New York is now completely covered, even when the water is at its lowest.

The Working Group says their four proposed barriers would cost about $30 to $40 billion to build.

Flooding continues to be a major problem for New York City.

Over the summer, Tropical ***Storm*** Elsa left residents trawling through flooded subway stops, with photos and videos of stations bursting with water going viral.

One shocking video circulating on social media showed a woman plunging into the squalid, trash-filled water to catch a train as it arrived in the station, holding shopping bags high above her head to keep them dry.

The Army Corps of Engineers, which would need to approve the project, said in a 2019 report that the largest barrier - running from Sandy Hook, New Jersey to Breezy Point, New York - would cost about $36.4 billion and take 25 years to build.

How do ***surge*** barriers work?

***Storm surge*** barriers - also called flood barriers - are hard engineered structures that prevent coastal flooding.

They're fixed barriers or moveable gates that can be closed shut when an extreme water level is forecast.

They're usually proposed in narrow areas, like the parts of the New York harbor that the NY/NJ Working Group is trying to protect.

They're expensive projects, and there are no known examples in the developing world.

Moveable ***storm surge*** barriers and closure dams provide a high degree of ***protection*** and allow the economy and culture of a region to continue unabated, by opening and closing to water traffic when needed.

Source: Climate Technology Centre & Network

The Corps pointed out that it would need to study the cost and time it would take to build the barriers as well as any environmental risks and navigational concerns.

'Any ***surge*** barrier across a navigable waterway will include a gate large enough to allow vessels to pass through. A navigational traffic analysis would be required to be completed if a ***surge*** barrier is recommended,' the Corps wrote.

Recent ***storms*** in New York have caused floods that have inundated apartments and left cars stuck on drowned roads.

New York Gov. Kathy Hochul declared a state of emergency last month as the city braced for fall ***storms***.

Sea barriers have been erected throughout the world, and many are still functioning.

In the Netherlands, the 688-ft-long Maeslant Barrier was built from 1991 to 1997.

It cost $727,832,700 to build in 2021 US dollars. It's made up of two steel barriers that swing open and close to keep water out during ***storms***.

The Thames Barrier in the UK is another example, spanning 1,700 feet and consisting of 10 steel gates as tall as a five-story building that can be raised into position across the River Thames, according to the UK government.

'Regional sea gates constructed as part of a layered defense system will provide the best ***protection*** from coastal ***storm surge*** and rain-induced inland flooding,' said Sandeep Mehrotra, an environmental scientist who was aboard the Manhattan II last week.

Examples can also be found close to home.

The largest ***storm*** barrier in the US is in New Orleans, where the Army Corps of Engineers expedited a project after Hurricane Katrina.

The ***storm*** pummeled the city in 2005 and caused more than $100 billion in property damage and 1,800 deaths, according to the Wall Street Journal.

Dubbed the IHNC Lake Borgne ***Surge*** Barrier, the 1.8-mile-long barrier cost $1.1 billion and was completed in 2013, according to Corps.

The effectiveness of flood barriers depends on how well the planet can work to keep global warming down.

Higher temperatures melt ice, which leads to higher sea levels. Water also expands when it warms, according to the University Corporation for Atmospheric Research.

Most international agreements seek to keep warming at 1.5 degrees Celsius above pre-industrial levels, a proposal that billionaire philanthropist Bill Gates, attending the COP26 climate change conference in Scotland this week, said would be 'difficult.'

**Load-Date:** November 4, 2021

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[***Yacht full of climate scientists plots giant sea gate to save Manhattan***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:641M-KXW1-F084-94RS-00000-00&context=1516831)

The Daily Gleaner (New Brunswick)

November 8, 2021 Monday

Final Edition

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**Section:** CANADA&;WORLD; Pg. B1

**Length:** 891 words

**Byline:** Polly Mosendz, Bloomberg

**Body**

Aboard the Manhattan II, a 100-foot yacht with glass walls and mahogany panelling, a group of scientists, engineers, politicians, and a ship captain spent a recent morning contemplating the deaths of their fellow New Yorkers at the hands of Hurricane Ida's flood waters.

The day trip marked the ninth anniversary of Superstorm Sandy, and everyone on board had been brought together by a singular mission. They think a series of gates -vast steel doors arranged around the city that can be shut if disaster looms -are the key to protecting the region from disastrous ***storm*** damage caused by climate change.

"Don't underestimate the destruction, dislocation, and human misery that climate change and rising seas will bring in the decades ahead," said Malcolm Bowman, a professor of oceanography at the State University of New York, Stony Brook. He serves as chair of New York New Jersey ***Storm Surge*** Working Group, the organization that hosted the boat ride. The group includes engineers, architects, scientists, and city planners in the region. Traveling around the bottom tip of Manhattan, past Battery Park City, one seafarer pointed out that a low tide mark he had seen when first moving to New York was now perpetually covered, even when the water was at its lowest ebb. As the wake of the boat crested three feet, others wondered what the Statue of Liberty and Ellis Island, seen in the distance, would look like in 100 years if sea levels rose at the rate expected.

Can an enormous gate really fend off disaster? These kinds of ***storm surge*** barriers have proven successful elsewhere. In the Netherlands, the Maeslant Barrier is almost as long as the Eiffel Tower is tall. Comprised of two steel barriers that swing like arms, the barrier cost $635 million euros to build in 1997 currency, the year it was completed. The Thames Barrier in the U.K. is as tall as a five-story building.

There's also a hurricane barrier in the port of New Bedford, Massachusetts, which was built by the Army Corps of Engineers. "The barrier's 150-foot opening closes during hurricane conditions and coastal ***storms*** make the harbour one of the safest hubs on the eastern seaboard," boasts the Port of New Bedford website.

The sea wall enthusiasts on the Manhattan II are hoping for similar barriers to be built in four areas surrounding New York City. The working group has proposed three gates at the East River, Jones Inlet and East Rockway, plus an Outer New York Harbour gateway. A sea barrier's moving gates stay open most of the time. When forecasters warn of inclement weather that might cause a ***storm surge***, the gates swing closed. The idea is that when the ***surge*** begins, it will only be severe on the far side of the gate, protecting what is within the walls.

"Regional sea gates constructed as part of a layered defense system will provide the best ***protection*** from coastal ***storm surge*** and rain-induced inland flooding," said Sandeep Mehrotra, an environmental scientist at Hazen and Sawyer, a water engineering firm, who was on board the Manhattan II. In addition to building the barrier, the group is advocating for fortified dunes, levees, and restoring wetlands. A project of this magnitude-the working group estimates a cost between $30 and $40 billion-would require the blessing, planning, and funding of the Army Corps, an engineering branch of the military that oversees mega-projects on the nation's coastlines. Along with state and local partners, it published an interim report on coastal ***storm*** risk management in the New York-New Jersey area in February 2019, which considered the possibility of building ***surge*** barriers.

The Corps previously estimated the initial cost of construction for two barriers the Working Group is interested in building at around $40 billion. The predicted duration of construction for one of them was 25 years. In the 2019 Corps report, opponents of the proposal pointed not only to cost and time but also to environmental risk, navigational concerns, and worries that the area inside the wall would flood if the water could not bypass the barrier. There's also concern that by the time the project is completed, at least two decades from now, the walls won't be high enough to accommodate the rapidly rising seas. Even a costly solution may be far from permanent, if rising temperatures aren't brought under control.

Despite opposition, the Corps is continuing to study the best approach to preserving the city for future generations. The Trump administration halted this research, but study is again underway again under President Joe Biden and is expected to be complete in 2024. The Corps has not fully ruled out sea gates, said James D'Ambrosio, a spokesman for the agency.

"For a challenge of this magnitude, all options need to be on the table," said Carrie Grassi, deputy director at the New York City Mayor's Office of Recovery and Resiliency. "We are glad the study was restarted and look forward to the next phase of the Corps' analysis."

The ***Storm Surge*** Working Group brought flood maps on their yacht trip into the harbour. William Golden, deputy chair of the group, had these maps around him as he stood at the front of the ship, imagining what the future might bring. "If we can save New York City for another 100 years, damn it," he said, "I think it's worth it." !@COPYRIGHT=© 2021 The Daily Gleaner (Fredericton)

**Graphic**

Photo: Victor J. Blue, Washington Post; Buildings in lower Manhattan in New York on June 17, 2021.;

**Load-Date:** November 8, 2021

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The Times & Transcript (New Brunswick)

November 8, 2021 Monday

Final Edition

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**Section:** CANADA &; WORLD; Pg. B9

**Length:** 890 words

**Byline:** Polly Mosendz, Bloomberg

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**Graphic**

Photo: Polly Mosendz, Bloomberg; Bill Golden addresses seafarers abroad the Manhattan II.;

**Load-Date:** November 8, 2021

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[***Hurricane Ida Batters Louisiana: University of Michigan Experts Available***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63GY-MMS1-JC11-11N9-00000-00&context=1516831)

Targeted News Service

August 31, 2021 Tuesday 9:10 AM EST

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**Length:** 1182 words

**Byline:** Targeted News Service

**Dateline:** ANN ARBOR, Michigan

**Body**

(TNSOps) -- The University of Michigan issued the following news release:

University of Michigan experts are available to discuss Hurricane Ida and its aftermath. Ida made landfall in Louisiana on Sunday as a Category 4 hurricane. More than a million customers in Louisiana and Mississippi were reportedly without power on Monday as Ida, one of the most powerful ***storms*** ever to strike the U.S. mainland, weakened and slowly moved northward.

Chris Ruf, professor of climate and space sciences and engineering, and colleagues have been monitoring Ida's intensification in the CYGNSS Science Operations Center on U-M's campus. NASA's CYGNSS, or Cyclone Global Navigation Satellite System, is a constellation of eight microsatellite observatories that track ***storm*** intensification in unprecedented detail. Today, this process is not fully understood and some ***storms*** can increase in intensity unexpectedly. The problem is exacerbated by climate change. CYGNSS tracks wind speed data at tropical hurricane latitudes across the globe, taking 32 measurements per second.

"Our measurements have been generally consistent with what's being reported in the news," he said. "The track, intensity, precipitation and ***storm surge*** forecasts have all been quite good for this ***storm*** over the past week. Hopefully, that has resulted in better preparedness by the emergency response teams down there."

Read more about CYGNSS: [*https://news.engin.umich.edu/2017/04/into-the-****storm****/*](https://news.engin.umich.edu/2017/04/into-the-storm/)

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Jonathan Overpeck is an interdisciplinary climate scientist and dean of the School for Environment and Sustainability. He is an expert on paleoclimate, climate-vegetation interactions, climate and weather extremes, sea-level rise, the impacts of climate change and options for dealing with it. He served as a lead author on the authoritative Intergovernmental Panel on Climate Change 2007 and 2014 reports.

"Climate change is pummeling the U.S. this year in many ways, and Hurricane Ida is yet another glimpse of what is only going to become more common if we don't stop climate change fast," he said. "The biggest, most destructive hurricanes are becoming more frequent due to the rapid warming of the oceans, while the warming atmosphere is causing ***storms*** to rain harder and harder.

"Ida's ***storm surge*** was also worsened by accelerating sea-level rise, and the Gulf Coast is already seeing some of the fastest sea-level rise in the nation due to the warming and expanding oceans, melting ice sheets and subsiding land. Unfortunately, the chances of unusually heavy rainfall will also extend well inland, likely affecting areas already hit by flooding this year. It'll only get worse for as long as we continue burning fossil fuels and let global warming continue."

Contact: 520-369-0117, [*overpeck@umich.edu*](mailto:overpeck@umich.edu)

Sue Anne Bell, assistant professor of nursing, focuses on disaster preparedness and response. Her research addresses health effects of disasters and the impact of climate change on human health, and she is active in clinical disaster response with recent deployments to Hurricane Maria, the Paradise wildfire and the COVID-19 response.

"The accepted definition of a disaster is when a hazard and a vulnerability combine to exceed the capacity of the community. There is a much more real definition of what a disaster is, one that involves the impact of the ***storm*** on people and the communities who live in the ***storm***'s way and the very real experience of recovering from these events," she said. "We aren't prepared for the increasing number of catastrophic disasters such as Hurricane Ida, and need to make a marked shift from our current reactive approach to one that is proactive in order to better support communities affected by disasters."

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Jeremy Bricker, associate professor of civil and environmental engineering, investigates the resilience of structures and infrastructure exposed to both increasing hazards due to climate change and increasing consequences due to expansion of development in coastal and flood-prone areas.

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"In all, the ***storm surge*** ***protection*** system built after Hurricane Katrina is working like it is supposed to. Nonetheless, for the parishes outside the levee system in southern Louisiana, Ida was yet another blow in addition to the increasing threats they face from coastal erosion, sea level rise and land subsidence. Also unlike Katrina, Mississippi did not get hit with a large ***storm surge***, due to Ida's smaller size and landfall occurring further west."

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Seth Guikema, assistant professor of industrial and operations engineering and civil and environmental engineering, can discuss the power restoration process.

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"Hurricanes have disrupted Gulf of Mexico dead zones in the past, and Ida is likely to mix the waters sufficiently to reduce the zone this year," he said. "But the relatively warm surface waters of the Gulf of Mexico will isolate the bottom waters rather quickly, and continued oxygen consumption in the bottom waters will likely lead to a reestablishment of the dead zone within a few days or weeks."

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Chuanwu Xi is a professor of environmental health sciences at the School of Public Health and director of its Global Environmental Health program. He is a microbiologist and microbial ecologist whose research focuses on biofilms, water quality and treatment, and human health. His research studies water quality in different regions of the world with a particular focus on the impact of biofilms on water quality.

Contact: [*cxi@umich.edu*](mailto:cxi@umich.edu)

Aubree Gordon, associate professor of epidemiology, works on infectious disease epidemiology and global health, particularly the epidemiologic features and transmission of influenza. She's currently conducting studies on COVID-19 in children and across people's lifespan and on SARS-CoV-2 transmission and immunity. She is an investigator with the Centers of Excellence for Influenza Research and Response.

Contact: [*gordonal@umich.edu*](mailto:gordonal@umich.edu)

Contact: Jim Erickson, [*ericksn@umich.edu*](mailto:ericksn@umich.edu)

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[***Hurricane Ida batters Louisiana: U-M experts available***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63GT-5HD1-DY7P-T51M-00000-00&context=1516831)

Michigan Independent: University of Michigan - Ann Arbor

August 30, 2021 Monday

University Wire

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**Section:** NEW; Pg. 1

**Length:** 1090 words

**Byline:** Jim Erickson

**Body**

EXPERTS ADVISORY

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US Fed News

August 30, 2021 Monday 9:31 AM EST

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**Length:** 1201 words

**Body**

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Contact: [*sguikema@umich.edu*](mailto:sguikema@umich.edu)

Don Scavia

Don Scavia is an aquatic ecologist and environmental engineer who has worked on water quality issues in the Gulf of Mexico, Chesapeake Bay and the Great Lakes for more than four decades. He is a member of the NOAA-funded research team that forecasts the size of the annual Gulf of Mexico hypoxic area or "dead zone," a near-bottom region of low to no oxygen that can kill fish and other marine life.

"Hurricanes have disrupted Gulf of Mexico dead zones in the past, and Ida is likely to mix the waters sufficiently to reduce the zone this year," he said. "But the relatively warm surface waters of the Gulf of Mexico will isolate the bottom waters rather quickly, and continued oxygen consumption in the bottom waters will likely lead to a reestablishment of the dead zone within a few days or weeks."

Contact: [*scavia@umich.edu*](mailto:scavia@umich.edu)

Chuanwu Xi

Chuanwu Xi is a professor of environmental health sciences at the School of Public Health and director of its Global Environmental Health program. He is a microbiologist and microbial ecologist whose research focuses on biofilms, water quality and treatment, and human health. His research studies water quality in different regions of the world with a particular focus on the impact of biofilms on water quality.

Contact: [*cxi@umich.edu*](mailto:cxi@umich.edu)

Aubree Gordon

Aubree Gordon, associate professor of epidemiology, works on infectious disease epidemiology and global health, particularly the epidemiologic features and transmission of influenza. She's currently conducting studies on COVID-19 in children and across people's lifespan and on SARS-CoV-2 transmission and immunity. She is an investigator with the Centers of Excellence for Influenza Research and Response.

Contact: [*gordonal@umich.edu*](mailto:gordonal@umich.edu) For any query with respect to this article or any other content requirement, please contact Editor at [*contentservices@htlive.com*](mailto:contentservices@htlive.com)

**Load-Date:** August 31, 2021

**End of Document**

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[***A $2 million federal grant will help repair local levee***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:626W-WYV1-JBCN-4297-00000-00&context=1516831)

Daily Comet (Thibodaux, LA)

15 March 2021

HOU-Comet Edition

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**Section:** NEWS; Pg. A5

**Length:** 299 words

**Byline:** Keith Magill, THE COURIER

**Body**

A nearly $2 million federal grant will help pay for repairs to a Terrebonne Parish levee that was overtopped during Hurricane Barry in 2019.

The Federal Emergency Management Agency has approved the $1.99 million grant, U.S. Sen. Bill Cassidy, R-La., said Friday.

The money will help cover repair costs for the Montegut levee, which was damaged during the ***storm*** in July 2019.

The money will reimburse the Terrebonne Levee District for 75% of the total $2.6 million in repair costs.

"Hurricane Barry eroded portions of Terrebonne Parish's levee system, posing a serious threat," Cassidy said in a news release. "This funding makes needed repairs to keep residents and businesses safe from flooding."

Hurricane Barry's ***storm surge*** overtopped the levee, which was undergoing construction at the time, and floodwaters washed away hundreds of thousands of cubic yards of earthen material, officials said.

The levee, which runs about five miles from Humble Canal to Pointe-aux-Chenes, has already been restored and upgraded to about 12 1/2 feet in height, Parish President Gordy Dove said in an interview.

The stretch of levee, called Reach J, is part of the Morganza-to-the-Gulf hurricane-***protection*** system. The 98-mile collection of levees, locks and floodgates protects Terrebonne and parts of Lafourche from flooding during Gulf ***storms***. Almost all of the levees are now complete to a height of 12 feet.

Barry, a Category 1 hurricane, made landfall July 13, 2019, in Intracoastal City, about 80 miles west of Houma. Local officials credited Morganza's levees with repelling Barry's 9-foot ***storm surge***, which otherwise would have inundated thousands of homes in Terrebonne.

-- Executive Editor Keith Magill can be reached at 857-2201 or [*keith.magill@houmatoday.com*](mailto:keith.magill@houmatoday.com) Follow him on Twitter @CourierEditor.

**Graphic**

Workers with the Terrebonne Levee District, along with residents, respond after Hurricane Barry's ***storm surge*** overtopped a flood-***protection*** levee in Montegut on July 13, 2019. The Courier and Daily Comet/File

**Load-Date:** March 15, 2021

**End of Document**

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[***New Orleansâ€™ Permanent Storm Surge Protection***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:5R5J-WJD1-F028-706R-00000-00&context=1516831)

ENR Engineering News-Record

December 4, 2017

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**Section:** FEATURES

**Length:** 1465 words

**Byline:** Autumn Cafiero Giusti

**Body**

The U.S. Army Corps of Engineers is preparing to hand ownership of three new permanent pump stations and ***storm surge*** gates on  canals in New Orleans to local levee districts that will oversee them for the next century.

The system is the last major piece of a $14.6-billion hurricane-defense system designed after Hurricane Katrina to protect low-lying areas of New Orleans.

The structures at the mouths of the 17th Street, Orleans Avenue and London Avenue canals flowing into Lake Pontchartrain, part of a $693-million project, have been under construction since 2013. Ownership will change hands in January. Work is 97% complete as of late November, with completion set for December.

The project's biggest challenge of late has been preparing the Coastal ***Protection*** and Restoration Authority of Louisiana (CPRA)-the nonfederal sponsor of the project-to operate the stations during the 2018 hurricane season. The Corps has been working with the authority to develop a comprehensive testing plan for the eight weeks of government testing that are part of the contract.

Testing entails running the pumps for extended periods and turning them off and on. During testing, the Corps is helping the CPRA troubleshoot minor bugs while familiarizing the authority with operational issues such as common alarms and their causes and normal equipment temperatures.

"We're in the middle of that eight-week 'shakedown cruise' right now and learning a lot about how the stations operate," say Brad Drouant, senior project manager for the Corps. "It's been an excellent opportunity for the nonfederal sponsor to get into the building and gain a level of comfort with their operation before we hand them the keys to the building next year."

The authority and the local levee districts will operate, maintain, repair and rehabilitate the system.

**Schedule Adjustments**

The project had been running about six months ahead of schedule and was on track for completion by June, in time for the peak of the 2017 hurricane season. But delays arose over interpretations of design requirements, so the design-build project team decided to stick with the original completion date, says Ignacio Harrouch, chief of the CPRA Operations Division.

"CPRA felt the delay was necessary and prudent to ensure a quality project that meets design requirements for such a large project affecting such a large part of the local population and landscape," Harrouch says.

The contractor is PCCP Constructors, a joint venture led by Kiewit Louisiana Co. with partners Traylor Brothers Inc. and MR Pittman Group. It is the same team that built the West Closure Complex in Belle Chasse, La., also part of the hurricane-defense system.

Because the design-build nature of the project allowed the contractor to proceed at its own risk during some stages, CPRA had to stay on top of changes as they arose, Harrouch says. The contract called for each completed station to be accepted individually or after all three are complete.

"We decided to accept all three stations from the contractor at the same time, and as a result, the joint venture adjusted resources to complete them closer together. There hasn't been a delay to the overall contract completion date," Drouant says.

**Working in Neighborhoods**

Building three massive pump stations in and around established neighborhoods required extensive planning. Most of the other structures in the flood-control system, such as the Inner Harbor Navigation Canal ***surge*** barrier and the Western Closure Complex, are located in the marsh or in less densely populated areas. These three pump stations are next to lakefront restaurants, developed neighborhoods and the University of New Orleans.

The construction team minimized noise and impacts to daily traffic and special events on the lakefront, such as marathons and bicycle races. "We communicated regularly with the neighborhoods through community meetings, email and door hangers about ongoing work so they would know what to expect when loud activities were going on and how long they would last," Drouant says.

Crews took steps to monitor noise and vibrations and used a GPS system to monitor truck delivery routes to the jobsite. The team also worked to ensure that the design of the structures would be aesthetically pleasing and their exteriors would conform to similar stations in the New Orleans area.

Given the tight urban jobsite and New Orleans' soil conditions, teams used a specially designed cofferdam, patented by PND Engineers Inc. of Alaska. The system braces cofferdam walls from the outside. That meant the interior of the dam was clear of supports and work would not have to stop to move them. At the 17th Street Canal, the 40-ft to 50-ft-deep cofferdams were as large as a football field and strong enough to support a 300-ton crane within 5 ft of the edge.

One advantage has been having the contractor, the Corps and the sponsor in the same location. That helped prevent construction delays. "It made it easier to meet quickly and resolve issues face to face that may have taken longer via correspondence," Drouant says.

**Critical *Protection***

The PCCP is part of the Hurricane and ***Storm*** Damage Risk Reduction System, the $14.45-billion hurricane-defense project that includes five parishes and consists of 350 miles of levees and floodwalls, 73 nonfederal pumping stations, three canal closure structures with pumps and four gated outlets.

The three main outfall canals are critical to the area's flood-control system and serve as drainage conduits for much of the city. They run south to north near the Orleans Parish lakefront between the Jefferson Parish line and the Inner Harbor Navigation Canal, with floodwall-topped levees lining each canal. During Katrina, ***storm surge*** pushed through floodwalls along all three canals and resulted in catastrophic flooding citywide.

Congress authorized funding for the Corps to design and construct the permanent canal closures and pumps in 2006. But even before work began, the project was pushed back two years after an intense legal battle over project costs, scope and other details among prospective bidders.

A massive contract dispute resulted in the Corps scrapping its original contract with the joint venture of design firm CDM (now CDMSmith) and contractors Brasfield & Gorrie and Gates Construction. After a second bidding process, the Corps awarded the job to the PCCP Contractors JV in April 2013. Notice to proceed on the 44-month project was issued the next month.

The contractor is providing a permanent, sustainable way to reduce the risks of a 100-year ***storm surge*** entering the outfall canals-a flood that has a 1% probability of occurring in any given year. "Once the project is complete, Greater New Orleans will have a complete system that will provide more robust and reliable risk ***protection*** to the city than ever before," Harrouch says.

Officials anticipate that the new pump station and floodgate system will prevent future floodwall failures from ***storm surge***. The floodgates are designed to protect canals from a 16-ft ***storm surge*** on Lake Pontchartrain.

When fully operational, the three pump stations combined will be able to drain water at 24,000 cu ft per second, enough to fill an Olympic-size swimming pool in 3.63 seconds and the Mercedes-Benz Superdome in less than 90 minutes.

The system consists of permanent gated ***storm-surge*** barriers and brick-facade pump stations near the lakefront of the three outfall canals.

Nearly 8,000 tons of reinforcing steel will be used on the job, which surpasses the amount of steel used to build the St. Louis Arch by 2,000 tons. The pumps will be equipped with a stand-alone emergency power supply so the system can operate independently of a public utility.

The new structures will replace the $400-million interim closure and pump stations, built in 2006 after Katrina as a short-term ***storm***-***protection*** measure that was meant to last five to seven years.

Because of anticipated settlement and sea-level rise, the levees that make up the hurricane and ***storm***-damage risk-reduction system will need to be raised continually to stay above the height required to provide ***protection*** against a 100-year flood.

"Though the construction will end, the protective work will never end," Harrouch says. "Levees and the land upon which the other flood-***protection*** features are constructed are constantly settling, necessitating lifting and maintenance. Part of the design process includes estimates of settlement of structures, which will be measured on an ongoing basis to confirm the designs."

Several of the levee districts are performing levee lifts even before the Corps armors them in order to extend the time required before their next lifts. "This is a smart investment in the system on their part that will reduce their future costs," Drouant says.

**Load-Date:** December 13, 2017

**End of Document**

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[***21csgg01 - Sub-Surface Exploration for the Proposed Rehabilitation/ Reconstruction of Access Roads and National Roads with Slips, Slope Collapse, And Landslide and Construction/Maintenance/ Rehabilita***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:62WN-5P01-F11P-X4X9-00000-00&context=1516831)

Tenders Monitor Africa-Asia

June 11, 2021 Friday

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**Length:** 1709 words

**Body**

Company : DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS - ILOILO 2ND DISTRIC

Address : Barangay Balabag

Dumangas

Iloilo 5006

Attn: MA. BELEN POLIDO ACUESTA, Procurement Head/Head - BAC Secretariat

Tel: +63-02-3963047

Email : [*dpwh\_iloilo2ed@yahoo.com*](mailto:dpwh_iloilo2ed@yahoo.com)

Country : Philippines

Location : Philippines

Tender\_No : 21CSGG01

Value : PHP 3430000

Dead line : 2021-06-23

Local International : International

Funding Agency : No

Description : Request for Expression of Interest: 21csgg01 - Sub-Surface Exploration for the Proposed Rehabilitation/ Reconstruction of Access Roads and National Roads with Slips, Slope Collapse, And Landslide and Construction/Maintenance/ Rehabilita

Closing Date / Time: 23/06/2021 10:00 AM

Area of Delivery: Iloilo

Procurement Mode: Public Bidding

Brief: Department of Public Works and Highways

Contract Id: 21csgg01

Contract Name: Sub-Surface Exploration for the Proposed Rehabilitation/ Reconstruction of Access Roads and National Roads with Slips, Slope Collapse, And Landslide and Construction/Maintenance/ Rehabilitation of Flood Mitigation Structures/ Facilities along 3rd and 4th Congressional Districts, Province of Iloilo

A. Rehabilitation/ Reconstruction of Access Roads and National Roads with Slips, Slope Collapse, And Landslide

1. Iloilo-Capiz (New Route) K0060+850 - K0060+950

2. Iloilo-Capiz Rd (Old Route) K0031+533 - K0031+725, K0041+240 - K0041+380, K0041+431 - K0041+485, K0041+560 - K0041+646, K0041+834 - K0041+905, K0041+905 - K0041+977

3. Iloilo-Capiz Rd (Old Route) K0063+740 - K0063+800

4. Baje-Ngi-Ngi-An-Bingawan Rd K0063+785 - K0063+891, K0066+290 - K0066+384

5. Janiuay-Badiangan-Tina Rd K0035+(-181) - K0035+(-150), K0043+(-014) - K0043+032

6. Mandurriao-Sn Miguel-Alimodian-Maasin-Cabatuan Rd K0030+675 - K0030+760, K0031+105 - K0031+137

7. Cabatuan-New Lucena-Banga-Bante Rd K0030+200 - K0030+245, K0030+700 - K0030+815, K0031+187 - K0031+193

8. Pototan-Tina-Lambunao Rd K0043+800 - K0043+900, K0044+037 - K0044+128, K0050+350 - K0050+385

9. Lambunao-Inca Rd K0058+335 - K0058+393

10. Jct. Cayos National Road-Bantud Fabrica-Jct. Coastal Road, Dumangas, Iloilo (Slope ***Protection*** Works)

B. Construction/Maintenance/Rehabilitation of Flood Mitigation Structures/Facilities

11. Construction of Sea Wall/***Storm Surge*** ***Protection*** with Embankment/Road Concreting, Banate, Iloilo

12. Construction of Sea Wall/***Storm Surge*** ***Protection*** with Embankment/Road Concreting, Coastal Road, Dumangas, Iloilo

13. Construction of Ulian River Control System, Dueñas, Iloilo

14. Construction of Flood Control/Slope ***Protection*** in Brgy. Lub-Lub, Dumangas, Iloilo

15. Construction of Flood Control/Slope ***Protection*** in Barotac Nuevo, Iloilo

16. Construction of Suage River Control System, Mina, Iloilo

17. Construction of Flood Control Structure along Tigum River, Cabatuan, Iloilo

18. Construction of Flood Control Structure/Slope ***Protection*** Structure along Suage River, Pototan, Iloilo

19. Construction of Flood Control Structure/Slope ***Protection*** Structure along Tigum River, Maasin, Iloilo

20. Construction of Flood Control Structure along Jalaur River, Barotac Nuevo, Iloilo

21. Construction of Flood Control/Slope ***Protection*** along Jalaur River in Dumangas, Iloilo

22. Construction of Jalaur River Control at the Pototan, Iloilo

23. Construction of Flood Control along Jalaur River in Calinog, Iloilo

Contract Location: 3rd and 4th Congressional Districts, Province of Iloilo

Iloilo 2nd District Engineering Office

Balabag, Dumangas, Iloilo

Request for Expression of Interest (Rei)

For Sub-Surface Exploration

1. The Iloilo 2nd District Engineering Office, Through the Pde 2021 Intends to Apply the Sum of Php. 3,430,000.00 being the Approved Budget for the Contract (Abc) to Payments under the Contract for Sub-Surface Exploration/21csgg01. Bids Received in Excess of the Abc shall be Automatically Rejected at the Opening of the Financial Proposals.

2. The Iloilo 2nd District Engineering Office Now Calls for the Submission of Eligibility Documents for Sub-Surface Exploration. Prospective Bidders must Submit Their Eligibility Documents on or before may 28, 2021, 10:00 a.M. At Dpwh Iloilo 2nd Deo, Balabag, Dumangas, Iloilo. Applications for Eligibility will be Evaluated Based on a Non-Discretionary "Pass/Fail" Criterion.

Department of Public Works and Highways

Contract Id: 21csgg01

Contract Name: Sub-Surface Exploration for the Proposed Rehabilitation/ Reconstruction of Access Roads and National Roads with Slips, Slope Collapse, And Landslide and Construction/Maintenance/ Rehabilitation of Flood Mitigation Structures/ Facilities along 3rd and 4th Congressional Districts, Province of Iloilo

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23. Construction of Flood Control along Jalaur River in Calinog, Iloilo

Contract Location: 3rd and 4th Congressional Districts, Province of Iloilo

3. The Terms of Reference (Tor), Request for Expression of Interest (Rei) and Eligibility Forms are Now Available at Dpwh and Philgeps Websites.

4. Bidding Documents are Also Available at the Dpwh and Philgeps Websites until the Deadline for the Submission and Receipt of Technical and Financial Proposals.

5. Mandatory Submission of Philgeps Certificate of Registration and Membership (Platinum Membership) as Class "A" Document will No Longer be a Requirement in the Determination of the Eligibility of the Prospective Bidder Per Gppb Resolution No. 26-2017, Dated July 31, 2017. In Lieu of the above, Prospective Bidders are Required to Submit All Class "A" Eligibility Documents Stated under Section 24.1a of 2016 Revised Irr, Using the Forms Prescribed in the Eligibility and Bidding Documents3.

6. The Bac shall Draw up the Short List of Consultants from Those Who have Submitted Expressions of Interest and/Or Eligibility Documents and have been Determined as Eligible in Accordance with the Provisions of Republic Act (Ra) No. 9184, Otherwise Known as the "Government Procurement Reform Act," and its Implementing Rules and Regulations (Irr).

Department of Public Works and Highways

Contract Id: 21csgg01

Contract Name: Sub-Surface Exploration for the Proposed Rehabilitation/ Reconstruction of Access Roads and National Roads with Slips, Slope Collapse, And Landslide and Construction/Maintenance/ Rehabilitation of Flood Mitigation Structures/ Facilities along 3rd and 4th Congressional Districts, Province of Iloilo

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20. Construc

Document : [*http://www.bidsinfo.com/adminexe/documents/-PH1~20210611-24308563.html*](http://www.bidsinfo.com/adminexe/documents/-PH1~20210611-24308563.html)

**Load-Date:** June 11, 2021

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[***Edwards announces three coastal restoration projects***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:62R0-FY61-F11P-X3SP-00000-00&context=1516831)

Real Estate Monitor Worldwide

May 20, 2021 Thursday

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**Length:** 486 words

**Body**

Louisiana Governor John Bel Edwards yesterday announced three large-scale coastal restoration projects are now under construction to restore more than 2,900 acres of beach, dune, marsh and ridge in four parishes in Southeast Louisiana.

The Spanish Pass marsh restoration near the town of Venice, the West Grand Terre barrier island restoration near Grand Isle, and the Golden Triangle marsh restoration east of New Orleans and Chalmette, will address significant land loss due to erosion and subsidence and restore a combined total of nearly five square miles of coastal land.

The rebuilding of one of our most important barrier islands in West Grand Terre, along with the restoration of crucial marshland in Spanish Pass and Golden Triangle, are major components in our long-term approach to creating a sustainable coast, said Gov. Edwards.

Id like to commend CPRA for planning and aggressively advancing these strategic coastal restoration projects to construction. We look forward to watching the continued progress on these projects throughout the year.

All three projects are being accomplished using $256.6 million in funds resulting from the aftermath of the Deepwater Horizon oil spill.

Those funds are administered and approved for use by the Gulf Coast Ecosystem Restoration Council (RESTORE Act), the National Resource Damage Assessment (NRDA), and the Louisiana Trustee Implementation Group (LA TIG).

The Spanish Pass Increment of the Barataria Basin Ridge and Marsh Creation Project will build more than 1,500 acres of marsh and 132 acres of ridge west of Venice in Plaquemines Parish. The project is part of a large-scale restoration strategy to address land loss in Barataria Basin, where over 10,000 acres of land have been restored since 2007. The estimated total project cost of $100 million is being funded through NRDA.

The West Grand Terre Beach Nourishment and Stabilization project, located in Jefferson Parish northeast of Grand Isle, will address the areas significant shoreline erosion and marsh subsidence by restoring over 371 acres of beach and dune and 160 acres of back barrier marsh. Using over 2.9 million cubic yards of material, the West Grand Terre project will construct marsh containment dikes and rock breakwaters to allow for land building and increased ***protection*** from wave impacts and ***storm surge***. The estimated total project cost of $102 million is being funded through RESTORE and NRDA.

By creating and nourishing over 770 acres of marsh habitat, the Golden Triangle Marsh Creation project will reduce ***storm surge***, increase flood ***protection*** and restore estuary habitat in Orleans and St. Bernard parishes. The project will support the New Orleans hurricane ***protection*** and levee system by restoring the wetland buffer that acts as the areas first line of defense against dangerous ***storm surge***. NRDA is funding the estimated total project cost of $54 million. 2021 Global Data Point.

**Load-Date:** May 20, 2021

**End of Document**

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[***Construction begins on West Shore Lake Pontchartrain hurricane protection***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63CS-CXK1-DYR7-84R9-00000-00&context=1516831)

The Louisiana Weekly

August 2, 2021

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Ethnic NewsWatch

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**Section:** Pg. 3; Vol. 95; No. 47

**Length:** 522 words

**Byline:** Wesley Muller

**Dateline:** New Orleans, La.

**Body**

(lailluminator.com) - State and federal officials joined with the Coastal ***Protection*** and Restoration Authority to break ground on construction of the West Shore Lake Pontchartrain project, which is designed to provide 100-year hurricane and ***storm surge*** ***protection*** to 60,000 residents in St. Charles, St. James, and St. John the Baptist parishes.

The $760 million project will include 17.5 miles of levees, a mile of concrete flood wall, pumping stations, drainage structures and other non-structural ***protection*** measures to form an integrated hurricane ***protection*** system, according to a news release from the office of Gov. John Bel Edwards.

Overall, the system will span 18.5 miles from the Bonnet Carre Spillway to the Mississippi River Levee near Garyville and is designed to provide ***storm surge*** ***protection*** to the western shores of Lake Pontchartrain and Lake Maurepas, giving residents in the River Parishes a "much-deserved increase in their level of hurricane ***protection***," Gov. Edwards said.

The project is a joint effort by CPRA and the New Orleans District of the U.S. Army Corps of Engineers, the Pontchartrain Levee District, and St. Charles, St. John the Baptist, and St. James parishes. Construction is being funded through a 65 percent federal and 35 percent local cost-share.

The idea for the West Shore Lake Pontchartrain project began as a study of the area between the Mississippi River and Lakes Pontchartrain and Maurepas in the aftermath of Hurricane Betsy. A lack of funding shelved the proposal until 2012 when Hurricane Isaac flooded 7,000 homes in the area and a portion of interstate 10, delaying emergency response for days. According to the governor's news release, pressure from state and local leaders finally prompted Congress to authorize the project in 2016 and allocate the funds in the Bipartisan Budget Act of 2018.

"This is what protecting South Louisiana looks like; this is what progress looks like," said CPRA Chairman Chip Kline, who also chairs the Climate Initiatives Task Force. "With this long-awaited effort, we are breaking ground on a project that will provide immense benefits to some of our state's most susceptible regions. We've recognized the necessity of this project for some time, and we're eager to provide our River Parishes with the ***protection*** they deserve."

The project is expected to be completed in 2024.

"This project dates back to before I was born. We're cutting through the bureaucracy and red tape, and the people in the River Parishes are finally going to get the flood ***protection*** they deserve," U.S. Rep. Garret Graves said. "Dirt is turning and we will be protecting our families, homes, businesses, and communities. It will lower flood insurance rates, and lure economic development and jobs to the region. The West Shore Project will ultimately make St. John, St. Charles, and St. James parishes safer places to raise a family. This is exactly how we invest in our infrastructure before a ***storm*** rather than after the fact - spending much more on disaster recovery."

Louisiana Illuminator ([*www.lailluminator.com*](http://www.lailluminator.com)) is an independent, nonprofit, nonpartisan news organization.?

**Load-Date:** August 16, 2021

**End of Document**

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[***Construction on West Shore Lake Pontchartrain Hurricane Protection Project begins***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:637P-S8V1-JBCN-43NJ-00000-00&context=1516831)

L'Observateur (La Place, Louisiana)

July 28, 2021

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**Section:** NEWS

**Length:** 507 words

**Byline:** Special to Email the author Published 12:00 am Wednesday

**Body**

RESERVE – This week, St. John the Baptist Parish President Jaclyn Hotard and Council joined Governor Edwards along with federal, state and local officials for a groundbreaking ceremony on the West Shore Lake Pontchartrain Hurricane ***Protection*** system.

The $760 million project will span 18.5 miles, including 17.5 miles of levees, one mile of T-wall, drainage structures, pump stations and several non-structural ***protection*** measures to form an integrated ***protection*** system. The project will provide 100-year hurricane and ***storm surge*** ***protection*** to 60,000 residents in St. Charles, St. James and St. John the Baptist parishes. The structure will span from the Bonnet Carre Spillway to the Mississippi River Levee near Garyville and provide ***storm surge*** ***protection*** and improved resilience on the western shores of Lake Pontchartrain and Lake Maurepas.

"The River Parishes represent some of the most vibrant and vital areas in the state," said Gov. John Bel Edwards. "With the completion of the West Shore project, thousands of Louisianans and millions of dollars of residential and commercial property will receive a much-deserved increase in their level of hurricane ***protection***. Today's event is a testament to the dedication of CPRA, the U.S. Army Corps of Engineers, the Pontchartrain Levee District and all those who worked tirelessly to make this important project a reality."

Louisiana Representative Garret Graves said, "This project dates back to before I was born. We're cutting through the bureaucracy and red tape, and the people in the River Parishes are finally going to get the flood ***protection*** they deserve. Dirt is turning, and we will be protecting our families, homes, businesses and communities.

"It will lower flood insurance rates and lure economic development and jobs to the region. The West Shore Project will ultimately make St. John, St. Charles and St. James parishes safer places to raise a family. This is exactly how we invest in our infrastructure before a ***storm*** rather than after the fact – spending much more on disaster recovery."

As chair of the Water Resources and Environment Subcommittee, Graves had jurisdiction over the Corps of Engineers at the time and had been working with the White House and Army Corps Leadership on appropriations, expediting projects such as West Shore. In 2018, Graves announced one of the largest flood ***protection*** investments in Louisiana history – nearly $3 billion in federal funding for priority flood and hurricane ***protection*** projects in south Louisiana – including the full $760 million for the West Shore Project.

"Today's groundbreaking marks a significant milestone for much-needed flood ***protection*** in St. John the Baptist Parish," said Parish President Hotard. "Construction of the West Shore Lake Pontchartrain Levee project is a critical step forward in protecting thousands of residents and businesses from coastal flooding and ensuring a more resilient community for many generations to come."

For more information, visit [*https://www.mvn.usace.army.mil/…/West-Shore-Lake…/*](https://www.mvn.usace.army.mil/…/West-Shore-Lake…/)

**Load-Date:** July 28, 2021

**End of Document**

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[***Construction begins on West Shore Lake Pontchartrain hurricane protection***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:637F-V1X1-JDJN-62H0-00000-00&context=1516831)

Real Estate Monitor Worldwide

July 27, 2021 Tuesday

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**Length:** 501 words

**Body**

State and federal officials joined with the Coastal ***Protection*** and Restoration Authority to break ground on construction of the West Shore Lake Pontchartrain project, which is designed to provide 100-year hurricane and ***storm surge*** ***protection*** to 60,000 residents in St. Charles, St. James, and St. John the Baptist parishes.

The $760 million project will include 17.5 miles of levees, a mile of concrete flood wall, pumping stations, drainage structures and other non-structural ***protection*** measures to form an integrated hurricane ***protection*** system, according to a news release from the office of Gov. John Bel Edwards.

Overall, the system will span 18.5 miles from the Bonnet Carre Spillway to the Mississippi River Levee near Garyville and is designed to provide ***storm surge*** ***protection*** to the western shores of Lake Pontchartrain and Lake Maurepas, giving residents in the River Parishes a much-deserved increase in their level of hurricane ***protection***, Gov. Edwards said.

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This is what protecting South Louisiana looks like; this is what progress looks like, said CPRA Chairman Chip Kline, who also chairs the Climate Initiatives Task Force. With this long-awaited effort, we are breaking ground on a project that will provide immense benefits to some of our states most susceptible regions. Weve recognized the necessity of this project for some time, and were eager to provide our River Parishes with the ***protection*** they deserve.

The project is expected to be completed in 2024.

This project dates back to before I was born. Were cutting through the bureaucracy and red tape, and the people in the River Parishes are finally going to get the flood ***protection*** they deserve, U.S. Rep. Garret Graves said. Dirt is turning and we will be protecting our families, homes, businesses, and communities. It will lower flood insurance rates, and lure economic development and jobs to the region. The West Shore Project will ultimately make St. John, St. Charles, and St. James parishes safer places to raise a family. This is exactly how we invest in our infrastructure before a ***storm*** rather than after the fact spending much more on disaster recovery. 2021 Global Data Point.

**Load-Date:** July 27, 2021

**End of Document**

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[***A $2 million federal grant will help repair local levee***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:626P-8DN1-DXVP-V0S1-00000-00&context=1516831)

The Courier (Houma, LA)

14 March 2021

HOU-Courier Edition

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**Section:** NEWS; Pg. A6

**Length:** 298 words

**Byline:** Keith Magill, THE COURIER

**Body**

A nearly $2 million federal grant will help pay for repairs to a Terrebonne Parish levee that was overtopped during Hurricane Barry in 2019.

The Federal Emergency Management Agency has approved the $1.99 million grant, U.S. Sen. Bill Cassidy, R-La., said Friday.

The money will help cover repair costs for the Montegut levee, which was damaged during the ***storm*** in July 2019.

The money will reimburse the Terrebonne Levee District for 75% of the total $2.6 million in repair costs.

"Hurricane Barry eroded portions of Terrebonne Parish's levee system, posing a serious threat," Cassidy said in a news release. "This funding makes needed repairs to keep residents and businesses safe from flooding."

Hurricane Barry's ***storm surge*** overtopped the levee, which was undergoing construction at the time, and floodwaters washed away hundreds of thousands of cubic yards of earthen material, officials said.

The levee, which runs about five miles from Humble Canal to Pointe-aux-Chenes, has already been restored and upgraded to about 12 1/2 feet in height, Parish President Gordy Dove said in an interview.

The stretch of levee, called Reach J, is part of the Morganza-to-the-Gulf hurricane-***protection*** system. The 98-mile collection of levees, locks and floodgates protects Terrebonne and parts of Lafourche from flooding during Gulf ***storms***. Almost all of the levees are now complete to a height of 12 feet.

Barry, a Category 1 hurricane, made landfall July 13, 2019, in Intracoastal City, about 80 miles west of Houma. Local officials credited Morganza's levees with repelling Barry's 9-foot ***storm surge***, which otherwise would have inundated thousands of homes in Terrebonne.

Executive Editor Keith Magill can be reached at 857-2201 or [*keith.magill@houmatoday.com*](mailto:keith.magill@houmatoday.com) Follow him on Twitter @CourierEditor.

**Graphic**

Workers with the Terrebonne Levee District, along with residents, respond after Hurricane Barry's ***storm surge*** overtopped a flood-***protection*** levee in Montegut on July 13, 2019. The Courier and Daily Comet/File A crew works to bolster the Montegut levee in September 2019, a couple of months after Hurricane Barry damaged it. Terrebonne Parish President Gordy Dove

**Load-Date:** March 14, 2021

**End of Document**

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[***Officials: Levee improvements paid off***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:60RK-6S51-JBCN-40PJ-00000-00&context=1516831)

The Daily Review (Morgan City, Louisiana)

August 31, 2020 Monday

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**Section:** NEWS; Pg. 1

**Length:** 399 words

**Byline:** GEOFF STOUTE gstoute @dailyreview.com

**Body**

While frequent comparisons have been made between Hurricane Laura and Hurricane Rita, for St. Mary Parish, it was Rita along with Hurricane Ike that provided the bench mark for the current level of ***protection*** from ***storm surge***.

Since those two ***storms***, the St. Mary Parish Levee District has installed floodgates on the western end of the parish on the Yellow Bayou and Hanson and Franklin canals and is working on a floodgate on Bayou Teche to protect other areas of Franklin. That project is scheduled to be complete later in 2020, and will protect the Eastwood Subdivision, among other areas.

The floodgates completed since Ike worked as projected during Laura.

“Some of the investments that have been made in the levee system over the last few years are certainly paying off in those particular areas,” levee district Executive Director Tim Matte said.

While there was success, there still is a disconnect with the numbers the state gives the parish for projected ***storm surge***, St. Mary Parish Office of Emergency Preparedness Director David Naquin said.

He said the ***storm surge*** numbers the parish receives don’t factor in all current ***protection*** improvements.

“It makes a difference,” he said, noting that projections for inundation in some areas don’t materialize because the parish has levees in place to protect those areas.

Therefore, the local levee district has to convert the projected ***storm surge*** totals given to them to factor in the additional ***protections***, Naquin said,

While the protected flood structures worked as planned, Matte cautioned that they only are built to meet a certain level of ***protection*** and may not provide relief from every ***storm***.

As for updates since Rita and Ike, the Yellow Bayou and Hanson Canal floodgates installed since Ike kept water from the Centerville area where U.S. 90 was underwater in previous ***storms***.

The Franklin Canal floodgate also has kept water from flooding the Pecan Acres area in Franklin, an area that flooded in Rita and Ike.

Since Hurricane Barry, the U.S. Army Corps of Engineers has raised levees near Cabot Corp. in Franklin. The facility flooded during Barry, but it didn’t flood during Laura.

The parish also has raised the Yokley Levee, which extends from the pump station in Franklin to the Charenton Canal.

“I don’t know if they would have been topped in this event, but there again, we’ve added some ***protection*** there,” Matte said.

**Graphic**

The Hurricane Laura ***storm surge*** and local rainfall flooded the area near Metal Shark and Gulf Craft on Thursday near Franklin. The Daily Review/Bill Decker

**Load-Date:** September 2, 2020

**End of Document**

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[***21csgg01 - Sub-Surface Exploration for the Proposed Rehabilitation/ Reconstruction of Access Roads and National Roads with Slips, Slope Collapse, And Landslide and Construction/Maintenance/ Rehabilita***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:62R5-STC1-JDJN-6477-00000-00&context=1516831)

Tenders Monitor Africa-Asia

May 21, 2021 Friday

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**Length:** 1709 words

**Body**

Company : DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS - ILOILO 2ND DISTRIC

Address : Barangay Balabag

Dumangas

Iloilo 5006

Attn: MA. BELEN POLIDO ACUESTA, Procurement Head/Head - BAC Secretariat

Tel: +63-02-3963047

Email : [*dpwh\_iloilo2ed@yahoo.com*](mailto:dpwh_iloilo2ed@yahoo.com)

Country : Philippines

Location : Philippines

Tender\_No : 21CSGG01

Value : PHP 3430000

Dead line : 2021-05-28

Local International : International

Funding Agency : No

Description : Request for Expression of Interest: 21csgg01 - Sub-Surface Exploration for the Proposed Rehabilitation/ Reconstruction of Access Roads and National Roads with Slips, Slope Collapse, And Landslide and Construction/Maintenance/ Rehabilita

Closing Date / Time: 28/05/2021 10:00 AM

Area of Delivery: Iloilo

Procurement Mode: Public Bidding

Brief: Department of Public Works and Highways

Contract Id: 21csgg01

Contract Name: Sub-Surface Exploration for the Proposed Rehabilitation/ Reconstruction of Access Roads and National Roads with Slips, Slope Collapse, And Landslide and Construction/Maintenance/ Rehabilitation of Flood Mitigation Structures/ Facilities along 3rd and 4th Congressional Districts, Province of Iloilo

A. Rehabilitation/ Reconstruction of Access Roads and National Roads with Slips, Slope Collapse, And Landslide

1. Iloilo-Capiz (New Route) K0060+850 - K0060+950

2. Iloilo-Capiz Rd (Old Route) K0031+533 - K0031+725, K0041+240 - K0041+380, K0041+431 - K0041+485, K0041+560 - K0041+646, K0041+834 - K0041+905, K0041+905 - K0041+977

3. Iloilo-Capiz Rd (Old Route) K0063+740 - K0063+800

4. Baje-Ngi-Ngi-An-Bingawan Rd K0063+785 - K0063+891, K0066+290 - K0066+384

5. Janiuay-Badiangan-Tina Rd K0035+(-181) - K0035+(-150), K0043+(-014) - K0043+032

6. Mandurriao-Sn Miguel-Alimodian-Maasin-Cabatuan Rd K0030+675 - K0030+760, K0031+105 - K0031+137

7. Cabatuan-New Lucena-Banga-Bante Rd K0030+200 - K0030+245, K0030+700 - K0030+815, K0031+187 - K0031+193

8. Pototan-Tina-Lambunao Rd K0043+800 - K0043+900, K0044+037 - K0044+128, K0050+350 - K0050+385

9. Lambunao-Inca Rd K0058+335 - K0058+393

10. Jct. Cayos National Road-Bantud Fabrica-Jct. Coastal Road, Dumangas, Iloilo (Slope ***Protection*** Works)

B. Construction/Maintenance/Rehabilitation of Flood Mitigation Structures/Facilities

11. Construction of Sea Wall/***Storm Surge*** ***Protection*** with Embankment/Road Concreting, Banate, Iloilo

12. Construction of Sea Wall/***Storm Surge*** ***Protection*** with Embankment/Road Concreting, Coastal Road, Dumangas, Iloilo

13. Construction of Ulian River Control System, Dueñas, Iloilo

14. Construction of Flood Control/Slope ***Protection*** in Brgy. Lub-Lub, Dumangas, Iloilo

15. Construction of Flood Control/Slope ***Protection*** in Barotac Nuevo, Iloilo

16. Construction of Suage River Control System, Mina, Iloilo

17. Construction of Flood Control Structure along Tigum River, Cabatuan, Iloilo

18. Construction of Flood Control Structure/Slope ***Protection*** Structure along Suage River, Pototan, Iloilo

19. Construction of Flood Control Structure/Slope ***Protection*** Structure along Tigum River, Maasin, Iloilo

20. Construction of Flood Control Structure along Jalaur River, Barotac Nuevo, Iloilo

21. Construction of Flood Control/Slope ***Protection*** along Jalaur River in Dumangas, Iloilo

22. Construction of Jalaur River Control at the Pototan, Iloilo

23. Construction of Flood Control along Jalaur River in Calinog, Iloilo

Contract Location: 3rd and 4th Congressional Districts, Province of Iloilo

Iloilo 2nd District Engineering Office

Balabag, Dumangas, Iloilo

Request for Expression of Interest (Rei)

For Sub-Surface Exploration

1. The Iloilo 2nd District Engineering Office, Through the Pde 2021 Intends to Apply the Sum of Php. 3,430,000.00 being the Approved Budget for the Contract (Abc) to Payments under the Contract for Sub-Surface Exploration/21csgg01. Bids Received in Excess of the Abc shall be Automatically Rejected at the Opening of the Financial Proposals.

2. The Iloilo 2nd District Engineering Office Now Calls for the Submission of Eligibility Documents for Sub-Surface Exploration. Prospective Bidders must Submit Their Eligibility Documents on or before may 28, 2021, 10:00 a.M. At Dpwh Iloilo 2nd Deo, Balabag, Dumangas, Iloilo. Applications for Eligibility will be Evaluated Based on a Non-Discretionary "Pass/Fail" Criterion.

Department of Public Works and Highways

Contract Id: 21csgg01

Contract Name: Sub-Surface Exploration for the Proposed Rehabilitation/ Reconstruction of Access Roads and National Roads with Slips, Slope Collapse, And Landslide and Construction/Maintenance/ Rehabilitation of Flood Mitigation Structures/ Facilities along 3rd and 4th Congressional Districts, Province of Iloilo

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Contract Location: 3rd and 4th Congressional Districts, Province of Iloilo

3. The Terms of Reference (Tor), Request for Expression of Interest (Rei) and Eligibility Forms are Now Available at Dpwh and Philgeps Websites.

4. Bidding Documents are Also Available at the Dpwh and Philgeps Websites until the Deadline for the Submission and Receipt of Technical and Financial Proposals.

5. Mandatory Submission of Philgeps Certificate of Registration and Membership (Platinum Membership) as Class "A" Document will No Longer be a Requirement in the Determination of the Eligibility of the Prospective Bidder Per Gppb Resolution No. 26-2017, Dated July 31, 2017. In Lieu of the above, Prospective Bidders are Required to Submit All Class "A" Eligibility Documents Stated under Section 24.1a of 2016 Revised Irr, Using the Forms Prescribed in the Eligibility and Bidding Documents3.

6. The Bac shall Draw up the Short List of Consultants from Those Who have Submitted Expressions of Interest and/Or Eligibility Documents and have been Determined as Eligible in Accordance with the Provisions of Republic Act (Ra) No. 9184, Otherwise Known as the "Government Procurement Reform Act," and its Implementing Rules and Regulations (Irr).

Department of Public Works and Highways

Contract Id: 21csgg01

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Document : [*http://www.bidsinfo.com/adminexe/documents/-PH1~20210521-24065600.html*](http://www.bidsinfo.com/adminexe/documents/-PH1~20210521-24065600.html)

**Load-Date:** May 21, 2021

**End of Document**

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[***EDITORIAL; Build the Ike Dike, but we need more; Houston and coastal Texas should have multiple lines of flood defenses to be truly safe.***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63NT-MVC1-JC8F-54FP-00000-00&context=1516831)

The Houston Chronicle

September 19, 2021 Sunday

Houston Edition

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**Section:** A; Pg. A018

**Length:** 1367 words

**Byline:** The Editorial Board

**Highlight:** 1) A single house remains on Sept. 14, 2008, in Gilchrist after Hurricane Ike hit. Restoring wetlands and oyster reefs could be the first step in securing the coast. PHOTO: Staff file photo

**Body**

Doomsday, we're told, will go something like this: A 20-foot ***storm surge*** propelled by 150 mph winds from a cyclonic beast spawned in the balmy Gulf of Mexico is on a collision course with the Houston Ship Channel. The wave tosses debris, vehicles, shipping containers into refineries and chemical plants, unleashing pyrotechnic clouds of toxicity unlike anything we've ever seen.

Mass evacuations ensue. Hundreds, if not thousands are left dead or severely injured. Galveston Bay, an ecological jewel vital to the local economy, becomes so polluted it's rendered unusable for a generation. The Port of Houston, one of the busiest in the nation, is crippled, stalling the global supply chain.

If you've lived in the Houston-Galveston region through even one hurricane season you're likely familiar with this scenario.

After Hurricane Ike hit in 2008, pushing a 17-foot ***storm surge*** over Galveston Island and Bolivar Peninsula, causing $30 billion of damage and killing 43 people, there was a collective epiphany. We could no longer rely on our prayers, weather forecasters and emergency go-bags to get us through the most volatile months of hurricane season. We needed ***protection*** from deadly ***storm surges*** as fast as possible.

Thirteen years later - the Army Corps of Engineers won't win any awards for speed - the agency has finally unveiled full-fledged plans for the so-called Ike Dike. Named by Texas A&M oceanographer Bill Merrell who proposed the concept shortly after Ike hit, the proposal is the product of an exhaustive, seven-year study that the Corps' chief of engineers is expected sign off on by Oct. 12 and send to Congress.

The $29 billion plan is more expansive than Merrell's original idea. It includes projects up and down the Texas Gulf Coast, but the bulk of the work will be south of Houston. A series of gates designed to protect against a ***surge*** of up to 22 feet would stretch from the east end of Galveston Island across the mouth of Galveston Bay to Bolivar Peninsula. Other coastal ***protections*** include 43 miles of 14- and 12-foot dunes on Galveston's west end and on the peninsula. Gates are also planned on the western bank of Galveston Bay for Clear Lake and Dickinson Bayou.

While the dunes were a significant concession the Corps made after the public comment period - the original 2018 alignment proposed much more intrusive concrete levees spanning Galveston and Bolivar Peninsula - it has nonetheless been consistently opposed by a significant number of the coastal residents and business owners it is designed to protect. Concerns ranged from provincial - "How dare they obstruct my beachfront view!" - to environmental - "How would this project affect endangered sea turtles and crucial marine life?" For these skeptics, an elemental question underpins this project: Would this expensive, taxpayer-funded plan that would take 20 years to design and build even protect us from the Big One in that doomsday scenario that keeps us up at night whenever a tropical depression churns in the Gulf?

The answer appears to be no. The Corps uses a cost-benefit analysis, among other factors, to decide what to design. The agency argues that building the project to a height that can withstand a Category 3 ***storm surge*** is the best use of money, even as sea levels rise, returning $2 for every $1 spent and paying for itself after one ***storm***. Kelly Burks-Copes, the Corps' project manager, admitted to the Chronicle's Emily Foxhall that stronger ***storms*** could over-top the sea gates and dunes.

When it comes to flood ***protection*** of this scale, though, trade-offs can be a slippery slope. What exactly are we prepared to sacrifice to erect a barrier that, for instance, wouldn't have even blunted the impacts of Hurricane Ida, a Category 4 ***storm*** which narrowly missed us weeks ago?

Taxpayers will be footing the 20-year cost of the project's construction - 65 percent from the federal government, 35 percent from the state - as well as its maintenance, estimated up to $100 million per year. The Gulf Coast Community ***Protection*** and Recovery District, an entity recently created by the Legislature, has the power to levy taxes and issue bonds to pay for that. Translation: don't get too comfortable with your current property tax rate.

Most of the project's largest components - the sea gates and dunes - have not yet been thoroughly assessed for environmental impacts. The Corps' study process is structured in a way that the public will not have the ability to review environmental impacts before federal funds are appropriated. The Corps estimates that the sea gates will reduce the flow of water into Galveston Bay by nearly one-tenth, creating half-inch lower high tides and half-inch higher low tides. For a bay system that contributes one-third of Texas' commercial fishing income, a full accounting of these impacts is essential.

Given the limitations of the current plan, and the questions still lingering, it's time for our political leaders championing this project to acknowledge that the Ike Dike alone is not enough. It is surely not the panacea that many, including this editorial board, hoped it would be.

But is it worth it? We believe so.

Now that the preliminary hurdles have been cleared, our congressional delegation must hold the Corps' accountable for beating the 20-year construction timeline. Simply green-lighting the Ike Dike means in a best case scenario, we're two decades away from having a major line of defense against flooding. Our congressional leaders should vote to fund the project with the understanding that we will likely need even more than the $29 billion Ike Dike to build out other defenses. And we cannot simply rely on the good faith of the petrochemical industry to protect themselves.

For state and local lawmakers, waiting for the Ike Dike provides an opportunity to take a full inventory of our flood ***protection*** needs. Thousands of storage tanks along the Houston Ship Channel have been identified as being at risk for flooding and contamination. We agree with the Galveston Bay Foundation and Bayou City Waterkeeper's recommendation that Harris County Judge Lina Hidalgo appoint a task force to study which tanks are most dangerous and whether a ***storm surge*** threat can be mitigated with industry-funded defenses.

The city and county should also move forward with funding a full engineering and environmental study of the Galveston Bay Park Plan . The $4 billion to $6 billion proposal from Rice University's SSPEED Center would create barrier islands in Galveston Bay using dredge material to help block ***storm surge***, providing robust ***protection*** for the Ship Channel and coastal residents on the bay that would not be adequately protected by the Ike Dike alone.

Nature-based solutions, from restoring paved-over wetlands to rebuilding oyster reefs, are all a part of the Corps' Ike Dike plan, but wouldn't be funded until well after the gates and dunes are built. These are small-scale, affordable measures that coastal governments could partner with nonprofit environmental organizations to accomplish much sooner. Coastal communities should continue to elevate homes, flood-proof buildings and critical infrastructure, and improve drainage systems. And buyouts of homes in floodplains must continue to be a part of this conversation.

Building the Ike Dike cannot become an excuse for complacency, nor can it be a one-time alignment of stars where all the levels of government unite behind a common goal. At a time when Texas is making headlines for all the wrong reasons, this is a chance for us to show the country that we can build stronger for the future, that we are united in at least one way to fight rising seas and vicious ***storms*** - but also that we're clear-eyed enough to know that preventing doomsday will take even more work.

**Load-Date:** September 23, 2021

**End of Document**

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[***Protecting Miami from rising seas will take more than a wall***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:632S-YKC1-DY37-F061-00000-00&context=1516831)

Orlando Sentinel (Florida)

July 5, 2021 Monday

ROP Edition

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**Section:** MAIN; A; Pg. 9

**Length:** 851 words

**Byline:** John Burr

John Burr has more than 30 years of experience as an editor and reporter in Northeast Florida, and is a member of the Jacksonville chapter of the Citizens' Climate Lobby.

"The Invading Sea" is the opinion arm of the Florida Climate Reporting Network, a collaborative of news organizations across the state focusing on the threats posed by the warming climate.

**Body**

You've probably heard about the plans to build a six-mile, $6 billion wall across Biscayne Bay and downtown Miami to protect the city from a massive hurricane ***storm surge***.

Whatever your thoughts about that, two important points are clear: The wall won't get built for years to come, if ever, and it won't get built if the people of Miami don't want it.

First, a little background: We got to this point following the devastation of hurricanes Katrina and Sandy, when Congress authorized the U.S. Army Corps of Engineers to identify coastal areas particularly vulnerable to hurricanes.

Miami jumped to the top of the list in 2018 because it was already experiencing bouts of climate change-induced flooding, Miami-Dade County's population of over 2 million people, its flat terrain and Miami's location smack dab in the middle of Hurricane Alley.

Coming up with the best steps to protect Miami from hurricane ***storm surge*** is a long, complicated process. The first phase, a three-year study scheduled to conclude this fall, will produce a draft report that represents 10% of the work needed to come up with a full flood ***protection*** plan.

That full plan from the Army Corps, with local and state input, is still 10 years away, assuming it passes funding hurdles in Congress.

"That means 90 percent (of the plan) is still in front of us," said James Murley, Miami-Dade's chief resiliency officer. "90 percent - that means you could never build it, you could end up building something else, or you could build it and supplement it by adding to it."

So, these are early days in the discussion, or in baseball terms, somewhere in the bottom of the first inning.

Murley and Corps officials agree that there will be many opportunities over the next decade for local officials and agencies to weigh in on the overall plan.

In the final analysis, Miami will have to agree to fund 35% of the multi-billion-dollar cost for the work to start, with the feds paying the rest.

"We obviously would like to have a plan that the community likes," said Niklas Hallberg, the Army Corps project manager based in Miami.

"We're not going to be building a project without community support."

A simple way to envision how this could play out is to consider the project recommendation in phases, starting with the simple steps and progressing to the expensive and potentially controversial "structural" projects - the ***surge*** wall and a series of movable flood gates that would protect the Miami River and nearby canals from a hurricane ***storm surge***.

Finding the right mix of projects will be key, said Jayantha Obeysekera, a professor at Florida International University. To its credit, he added, the Army Corps has been open to working with others to find that mix.

Obeysekera, director of the university's Sea Level Solutions Center, favors an approach he calls dynamic adaptive pathways, which, simply put, means starting out by building natural barriers, such as mangrove groves and berms. Such steps, he said, are less invasive and costly, but still offer improved ***protection*** from ***storm surge***.

As threats increase over time with sea-level rise and stronger ***storms***, authorities should move on to raising buildings in flood prone areas, and hardening properties such as police and fire stations and hospitals.

If wanted, the higher-level ***protection*** of a ***storm surge*** wall and canal gates with their massive pump stations can come into play at a later time if the flooding danger rises, as climate scientists predict.

Murley said the natural ***protections*** and the elevating of flood prone buildings are likely to move forward. In fact, Miami is already doing some of that, and would certainly continue with the federal government helping to pay.

The big wall and the river gates will be the most controversial. These steps are by far the most expensive parts of the Army Corps proposal, and also offer the most ***protection*** to the highest number of people.

"It's all about risk - how much are you willing to take on?" Murley said. "It comes down to the community's decision, is this the level of ***protection*** we want, given the risk?"

That's the question that all the coastal Florida cities will face as we move deeper into the 21st century. What can we preserve, but even more difficult, what do we abandon?

And how do we make those decisions fairly for the greatest number of people, and not for the people with money and political connections first and foremost?

Given the fractured and divisive politics we are saddled with today, such dilemmas seem insoluble. Can the true crisis of climate change eventually focus us on the tough choices we face?

Indeed, that may well prove to be the most difficult challenge we have to save the Sunshine State - not how we do it, but can we work together in common accord?

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**Load-Date:** July 10, 2021

**End of Document**

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[***Denmark : Construction Act for Lynetteholm adopted***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:62VJ-N5D1-F11P-X38K-00000-00&context=1516831)

TendersInfo

June 5, 2021 Saturday

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**Length:** 356 words

**Body**

A broad majority in the Folketing has today voted in favor of the law on the construction of Lynetteholm, which will be a new peninsula in the port of Copenhagen. Work on the island will begin this year, and Lynetteholm will in the future become part of the climate ***protection*** of the capital.

The new peninsula, Lynetteholm, will in future solve two of the capital's problems: handling surplus soil from the construction industry and contributing to improved climate ***protection*** of Copenhagen. The construction of the island can begin after the Social Democrats, the Liberal Party, the Socialist People's Party, the Radical Left, the Danish People's Party and the Liberal Alliance today voted in favor of the construction law for Lynetteholm.

- It is a large and long-term project to build a new peninsula in the port of Copenhagen, and it is timely care to get started now, because the peninsula helps to climate-proof the capital. That is why I am glad that a very broad majority in the Folketing is behind the decision to build Lynetteholm, so that the work can begin already this year. It also means that we can now start writing the next chapter of the story of Copenhagen's new peninsula and find out what it will be used for. There is plenty of time for that, and I therefore hope that citizens and organizations in the coming years will contribute with ideas and suggestions for what Lynetteholm can be used for, says Minister of Transport Benny Engelbrecht.

Lynetteholm will be built from Refshaleen from surplus land from construction in the capital area. The length of the construction phase depends on the activity in the construction industry. The current landfills are filled up, and it is therefore necessary to find a new landfill for the surplus soil. At the same time, Lynetteholm functions as climate ***protection*** for Copenhagen. In the event of a ***storm surge***, Copenhagen is at risk of devastating water damage, and it is therefore necessary to protect the capital from the water masses. This means that Lynetteholm, as soon as possible, must be connected to Nordhavn with a gate solution to achieve full ***storm surge*** ***protection***.

**Load-Date:** June 6, 2021

**End of Document**

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[***Corps gets $12M, could pay $2.1B for hurricane protection***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:61T7-M581-JC5B-G3B5-00000-00&context=1516831)

Associated Press State & Local

January 19, 2021 Tuesday 10:38 PM GMT

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**Section:** STATE AND REGIONAL

**Length:** 261 words

**Dateline:** NEW ORLEANS

**Body**

NEW ORLEANS (AP) — The Army Corps of Engineers is getting nearly $12.5 million to help build a Louisiana hurricane ***protection*** system and could pay $2.1 billion of the expected cost, officials said.

Three Republicans in Louisiana’s congressional delegation announced approval of the construction money — U.S. Sen. John Kennedy last week and U.S. House Whip Steve Scalise and Rep. Garrett Graves on Tuesday.

“After years of facing bureaucratic red tape, this vital hurricane and ***storm surge*** ***protection*** project will receive federal funding to help build upon the local investments in the project,” Scalise said in a news release with Graves.

The money was approved after the Corps worked with the state and local levee districts to bring the project’s cost estimate down from more than $10 billion to approximately $3 billion, they said.

That brought the federal share down to $2.1 billion over 15 years, Erin McBride, Scalise's press secretary, said in an email.

The system is deigned to protect more than 150,000 Terrebonne and Lafourche parish residents and more than 1,700 square miles of fresh and saltwater marsh from a Category 3 hurricane's ***storm surge***. State and local governments have spent or committed nearly $1 billion, including $400 million in [*BP oil spill*](https://www.restorethegulf.gov/history/about-restore-act) money, McBride said.

“The people of south Louisiana have worked hard to make the Morganza to the Gulf Project a reality for 13 years. It’s both smart and fair for the federal government to step up and help them complete this crucial hurricane ***protection*** initiative," Kennedy said in a news release Friday.

**Load-Date:** January 19, 2021

**End of Document**

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[***Yacht full of scientists plots giant sea gate to save Manhattan***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:647P-8F41-F0YC-P14N-00000-00&context=1516831)

ClimateWire

November 5, 2021 Friday

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**Section:** TODAY'S STORIES; Vol. 10; No. 9

**Length:** 824 words

**Body**

By Bloomberg Aboard the Manhattan II, a 100-foot yacht with glass walls and mahogany paneling, a group of scientists, engineers, politicians and a ship captain spent a recent morning contemplating the deaths of their fellow New Yorkers at the hands of Hurricane Ida's floodwaters. The day trip marked the ninth anniversary of Superstorm Sandy, and everyone on board had been brought together by a singular mission. They think a series of gates - vast steel doors arranged around the city that can be shut if disaster looms - are the key to protecting the region from disastrous ***storm*** damage caused by climate change. "Don't underestimate the destruction, dislocation, and human misery that climate change and rising seas will bring in the decades ahead," said Malcolm Bowman, a professor of oceanography at the State University of New York, Stony Brook.

He serves as chair of New York New Jersey ***Storm Surge*** Working Group, the organization that hosted the boat ride. The group includes engineers, architects, scientists, and city planners in the region. Traveling around the bottom tip of Manhattan, past Battery Park City, one seafarer pointed out that a low tide mark he had seen when first moving to New York was now perpetually covered, even when the water was at its lowest ebb. As the wake of the boat crested 3 feet, others wondered what the Statue of Liberty and Ellis Island, seen in the distance, would look like in 100 years if sea levels rose at the rate expected. Can an enormous gate really fend off disaster? These kinds of ***storm surge*** barriers have proven successful elsewhere. In the Netherlands, the Maeslant Barrier is almost as long as the Eiffel Tower in the U.K. is as tall as a five-story building. There's also a hurricane barrier in the port of New Bedford, Mass., which was built by the Army Corps of Engineers. "The barrier's 150-foot opening closes during hurricane conditions and coastal ***storms*** make the harbor one of the safest hubs on the eastern seaboard," boasts the Port of New Bedford website. The sea wall enthusiasts on the Manhattan II are hoping for similar barriers to be built in four areas surrounding New York City. The working group has proposed three gates at the East River, Jones Inlet and East Rockaway, plus an Outer New York Harbor gateway. A sea barrier's moving gates swing closed. The idea is that when the ***surge*** begins, it will only be severe on the far side of the gate, protecting what is within the walls. "Regional sea gates constructed as part of a layered defense system will provide the best ***protection*** from coastal ***storm surge*** and rain-induced inland flooding," said Sandeep Mehrotra, an environmental scientist at Hazen and Sawyer, a water engineering firm, who was on board the Manhattan II. In addition to building the barrier, the group is advocating for fortified dunes, levees and restoring wetlands. A project of this magnitude - the working group estimates a cost between $30 billion and $40 billion - would require the blessing, planning and funding of the Army Corps, an engineering branch of the military that oversees megaprojects on the nation's coastlines. Along with state and local partners, it published an interim report on coastal ***storm*** risk management in the New York-New Jersey area in February 2019, which considered the possibility of building ***surge*** barriers. The Army Corps previously estimated the initial cost of construction for two barriers the Working Group is interested in building at around $40 billion report, opponents of the proposal pointed not only to cost and time but also to environmental risk, navigational concerns and worries that the area inside the wall would flood if the water could not bypass the barrier. There's also concern that by the time the project is completed, at least two decades from now, the walls won't be high enough to accommodate the rapidly rising seas. Even a costly solution may be far from permanent, if rising temperatures aren't brought under control. Despite opposition, the Army Corps is continuing to study the best approach to preserving the city for future generations. The Trump administration halted this research, but study is underway again under President Biden and is expected to be complete in 2024. The Army Corps has not fully ruled out sea gates, said James D'Ambrosio, a spokesperson for the agency. "For a challenge of this magnitude, all options need to be on the table," said Carrie Grassi, deputy director at the New York City Mayor's Office of Recovery and Resiliency. "We are glad the study was restarted and look forward to the next phase of the Corps' analysis." The ***Storm Surge*** Working Group brought flood maps on their yacht trip into the harbor. William Golden, deputy chair of the group, had these maps around him as he stood at the front of the ship, imagining what the future might bring. "If we can save New York City for another 100 years, damn it," he said, "I think it's worth it."

**Load-Date:** December 6, 2021

**End of Document**

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[***Odisha not seeking immediate cyclone assistance: Naveen***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:62SP-DW41-JBYT-H3GT-00000-00&context=1516831)

The Hindu

May 28, 2021 Friday

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**Length:** 558 words

**Dateline:** BHUBANESWAR,2021-05-28 18:02:13

**Body**

Chief Minister Naveen Patnaik on Friday said Odisha did not want to burden the Centre at the peak of COVID-19 second wave by demanding immediate financial assistance for carrying out cyclone restoration works.

In a meeting with Prime Minister Narendra Modi here, Mr. Patnaik instead called for provisioning of assistance for long term cyclone mitigation measures.

"As the country is at the peak of COVID-19 pandemic, we have not sought any immediate financial assistance to burden the Central government and would like to manage it through our own resources to tide over the crisis," he said.

He apprised Mr. Modi of the large-scale devastation caused by the cyclone and steps taken by the State government ahead of the cyclone and the ongoing restoration efforts.

Before undertaking an aerial survey of Bhadrak and Balasore districts, which were ravaged by very severe cyclonic ***storm***, 'Yaas', Mr. Modi reviewed its impact on Odisha at the Biju Patnaik International Airport here.

Governor Ganeshi Lal, Mr. Patnaik, Union Minister for Petroleum and Natural Gas Dharmendra Pradhan and Minister of State of Fisheries, Animal Husbandry and Dairying Pratap Chandra Sarangi were present at the meeting.

In a series of tweets, Mr. Patnaik thanked the Prime Minister for visiting the State. Mr. Patnaik, "I have sought assistance for long-term measures to make Odisha disaster resilient as we are frequented by such climate hazards every year and highlighted State's demand for disaster resilient power infrastructure and resilient coastal ***protection*** with ***storm surge*** resilient embankments."

It needs to be mentioned that on May 1, the Centre had released ₹641.6 crore in advance as the first instalment of the Central share of the State Disaster Response Fund.

Disaster resilient power system After the review meeting Pradeep Kumar Jena, Special Relief Commissioner, elaborated that disaster resilient power system meant adoption of better technology and design preferably going in for underground power supply and strengthening of the power infrastructure.

"Similarly, though we have a 480-km long coastline, we have more than 1,600 km of saline embankment. Of which, about 400 to 450 km is vulnerable as it can give ***protection*** to a tidal ***surge*** of 2 to 2.5 metre. If the ***storm surge*** goes beyond that height, we will be unable to give ***protection*** to the coastal region. The model says Balasore district could receive a ***storm surge*** upto 7-8 metre high, for which we want a robust ***protection*** system."

Emphasis was laid on sharing of funds by Centre and the State for creating a disaster resilient infrastructure.

In 2019, when extremely severe cyclonic ***storm*** 'Fani' hit the Odisha coast, especially Puri district, the State government had come up with a demand for long-term disaster mitigation plan that required ₹17,000 crore from the Centre, including ₹10,000 crore for disaster resilient power infrastructure.

Similarly, after cyclone 'Amphan' hit four coastal districts in 2020, Odisha sought a ₹ 20,000 crore-package from the Centre to develop a disaster resilient infrastructure.

Mr. Pradhan said in tweet, " PM Modi reassured that his government will continue to work together and will extend all the support to Odisha in mitigating the impact of Cyclone Yaas, further strengthening disaster preparedness and building a disaster resilient Odisha."

**Load-Date:** May 28, 2021

**End of Document**

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[***Odisha not seeking immediate cyclone assistance: Naveen***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:62SP-DW41-JBYT-H3C3-00000-00&context=1516831)

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**Load-Date:** May 28, 2021

**End of Document**

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[***La. Gov. Edwards Announces Completion of Trinity-East Island in Terrebonne Parish***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63P8-K3F1-JC11-154M-00000-00&context=1516831)

Targeted News Service

September 25, 2021 Saturday 8:00 AM EST

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**Length:** 1016 words

**Byline:** Targeted News Service

**Dateline:** BATON ROUGE, Louisiana

**Body**

Gov. John Bel Edwards, D-Louisiana, issued the following news on Sept. 24, 2021:

Gov. John Bel Edwards today joined the Louisiana Coastal ***Protection*** and Restoration Authority (CPRA) in announcing the completion of restoration efforts on Trinity-East Island. The island was restored as part of the Terrebonne Basin Barrier Island and Beach Nourishment project, which includes the restoration of West Belle Headland and Timbalier Island.

The Terrebonne Basin project is using $167 million in funds from the Deepwater Horizon oil spill administered by the National Fish and Wildlife Foundation (NFWF) and $3 million in state funds to restore 1,257 acres of marsh, dune, and beach in Terrebonne and Lafourche parishes. The completed Trinity-East project built over 2.5 miles of continuous shoreline and 301 acres of beach habitat on the historic barrier island.

"The newly completed Trinity-East Island project faced an immediate test with Hurricane Ida, and it passed," Gov. Edwards said. "The project's success is a testament to the resiliency of our coastal projects and the importance of restoring and preserving Louisiana's barrier island chain. We're excited to announce the completion of Trinity-East Island and the continuation of this 1,257-acre restoration effort on Timbalier Island and West Belle Headland."

Trinity-East Island is part of the Isle Dernieres Wildlife Refuge, a once-popular resort island on Louisiana's Southeast coast. The Last Island Hurricane of 1856 destroyed Isle Derniere, also known as "Last Island," causing its eventual split into five individual islands including Wine, Trinity, East, Whiskey, and Raccoon.

"Despite facing one of the strongest hurricanes in our state's history, Trinity-East Island fared incredibly well and sustained minimal damage," CPRA Chairman Chip Kline said. "Hurricane Ida reaffirmed the necessity of protecting the systems that protect us. The Terrebonne Basin project serves both ***protection*** and restoration functions while playing an integral role in the coastal program's multiple lines of defense strategy."

The project's next phase will include the restoration of 376 acres of beach and marsh on Timbalier Island and 97 acres of additional beach on West Belle Headland. Construction on Timbalier Island began on July 31.

The Louisiana Department of Wildlife and Fisheries (LDWF) manages the Isle Dernieres Wildlife Refuge, which includes a portion of the Trinity-East project site.

"This project is an impressive example of the state's commitment to protect coastal properties, as well as to provide critical habitat for birds and other species of greatest conservation need," LDWF Secretary Jack Montoucet said.

Jeff Trandahl, executive director and CEO of NFWF, said the landscape scale of the Terrebonne Basin project will drive long-term sustainability for the iconic wildlife populations of coastal Louisiana, as well as for the communities and industries that rely on these natural habitats as a first line of defense against ***storms*** and erosion.

"The Foundation's $167 million investment in the Terrebonne project was made through our Gulf Environmental Benefit Fund, which was established to help mitigate the effects of the Deepwater Horizon oil spill," Trandahl said. "As recently demonstrated by Hurricane Ida, these kinds of investments can provide both immediate and long-term benefits to local communities and wildlife habitat."

The offshore sand source being used for restoration is provided through a mineral lease with the Bureau of Ocean Energy Management (BOEM).

"BOEM is pleased to work with our partners in restoring critical coastal areas in the Gulf of Mexico region," said Michael Celata, BOEM's Gulf of Mexico Regional Director. "Using offshore sand resources is a smart way to protect communities from the accelerated effects of climate change."

CPRA is the lead state agency charged with building and strengthening Louisiana's coastal habitats as well as manmade protective structures. It also serves as the designated state representative in coastal partnerships with federal entities.

"Over nine million cubic yards of sediment are being used to complete this large-scale restoration project and provide improved ***storm surge*** ***protection*** to Terrebonne and Lafourche parishes," CPRA Executive Director Bren Haase said. "We're proud of the planning and collaboration that went into ensuring the state's largest barrier island restoration project is a success for the people and wildlife who call these parishes home."

Local leaders including Terrebonne Parish President Gordon "Gordy" Dove and Lafourche Parish President Archie Chaisson joined in celebrating the completion of the island's restoration.

"Terrebonne's Barrier Islands serve a number of important purposes," Dove said. "Not only do they offer critical habitat for wildlife and nesting migratory birds, they offer excellent fishing opportunities and protect our important coastal marshes, which are the breeding grounds for shrimp and fish species. But, most important for Terrebonne Parish, the barrier islands are our critical first line of defense against hurricane ***storm surge***. They help to reduce hurricane-driven ***storm surge***, which can be so damaging as it travels inland. The Terrebonne Basin Barrier Island and Beach Nourishment project is very much needed and welcomed. I want to thank Gov. John Bel Edwards, CPRA and its Chairman Chip Kline, and Jeff Trandahl, Executive Director and CEO of NFWF for completing this critical barrier island restoration project on Trinity-East Island for Terrebonne Parish."

"Our critical barrier island chains help to protect our basin and knock down ***storm surge*** like we recently experienced during Hurricane Ida," said Lafourche Parish President Archie Chaisson. "I'm grateful for our partnership with CPRA and their commitment to our coastal communities. Now, more than ever, it is crucial that we preserve and maintain our barrier island chains, marshes, and levee systems across South Louisiana."

Vegetative plantings will begin on Trinity-East Island this fall.

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**Load-Date:** September 25, 2021

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[***GOV. EDWARDS ANNOUNCES COMPLETION OF TRINITY-EAST ISLAND IN TERREBONNE PARISH***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63P7-4841-JCBF-S3TK-00000-00&context=1516831)

States News Service

September 24, 2021 Friday

Copyright 2021 States News Service

**Length:** 999 words

**Byline:** States News Service

**Dateline:** BATON ROUGE, La.

**Body**

The following information was released by the office of the Governor of Louisiana:

Gov. John Bel Edwards today joined the Louisiana Coastal ***Protection*** and Restoration Authority (CPRA) in announcing the completion of restoration efforts on Trinity-East Island. The island was restored as part of the Terrebonne Basin Barrier Island and Beach Nourishment project, which includes the restoration of West Belle Headland and Timbalier Island.

The Terrebonne Basin project is using $167 million in funds from the Deepwater Horizon oil spill administered by the National Fish and Wildlife Foundation (NFWF) and $3 million in state funds to restore 1,257 acres of marsh, dune, and beach in Terrebonne and Lafourche parishes. The completed Trinity-East project built over 2.5 miles of continuous shoreline and 301 acres of beach habitat on the historic barrier island.

The newly completed Trinity-East Island project faced an immediate test with Hurricane Ida, and it passed, Gov. Edwards said. The projects success is a testament to the resiliency of our coastal projects and the importance of restoring and preserving Louisianas barrier island chain. Were excited to announce the completion of Trinity-East Island and the continuation of this 1,257-acre restoration effort on Timbalier Island and West Belle Headland."

Trinity-East Island is part of the Isle Dernires Wildlife Refuge, a once-popular resort island on Louisianas Southeast coast. The Last Island Hurricane of 1856 destroyed Isle Dernire, also known as Last Island, causing its eventual split into five individual islands including Wine, Trinity, East, Whiskey, and Raccoon.

Despite facing one of the strongest hurricanes in our states history, Trinity-East Island fared incredibly well and sustained minimal damage, CPRA Chairman Chip Kline said. Hurricane Ida reaffirmed the necessity of protecting the systems that protect us. The Terrebonne Basin project serves both ***protection*** and restoration functions while playing an integral role in the coastal programs multiple lines of defense strategy.

The projects next phase will include the restoration of 376 acres of beach and marsh on Timbalier Island and 97 acres of additional beach on West Belle Headland. Construction on Timbalier Island began on July 31.

The Louisiana Department of Wildlife and Fisheries (LDWF) manages the Isle Dernires Wildlife Refuge, which includes a portion of the Trinity-East project site.

This project is an impressive example of the states commitment to protect coastal properties, as well as to provide critical habitat for birds and other species of greatest conservation need, LDWF Secretary Jack Montoucet said.

Jeff Trandahl, executive director and CEO of NFWF, said the landscape scale of the Terrebonne Basin project will drive long-term sustainability for the iconic wildlife populations of coastal Louisiana, as well as for the communities and industries that rely on these natural habitats as a first line of defense against ***storms*** and erosion.

The Foundations $167 million investment in the Terrebonne project was made through our Gulf Environmental Benefit Fund, which was established to help mitigate the effects of the Deepwater Horizon oil spill, Trandahl said. As recently demonstrated by Hurricane Ida, these kinds of investments can provide both immediate and long-term benefits to local communities and wildlife habitat.

The offshore sand source being used for restoration is provided through a mineral lease with the Bureau of Ocean Energy Management (BOEM).

"BOEM is pleased to work with our partners in restoring critical coastal areas in the Gulf of Mexico region, said Michael Celata, BOEMs Gulf of Mexico Regional Director. "Using offshore sand resources is a smart way to protect communities from the accelerated effects of climate change.

CPRA is the lead state agency charged with building and strengthening Louisianas coastal habitats as well as manmade protective structures. It also serves as the designated state representative in coastal partnerships with federal entities.

Over nine million cubic yards of sediment are being used to complete this large-scale restoration project and provide improved ***storm surge*** ***protection*** to Terrebonne and Lafourche parishes, CPRA Executive Director Bren Haase said. Were proud of the planning and collaboration that went into ensuring the states largest barrier island restoration project is a success for the people and wildlife who call these parishes home.

Local leaders including Terrebonne Parish President Gordon Gordy Dove and Lafourche Parish President Archie Chaisson joined in celebrating the completion of the islands restoration.

Terrebonnes Barrier Islands serve a number of important purposes, Dove said. Not only do they offer critical habitat for wildlife and nesting migratory birds, they offer excellent fishing opportunities and protect our important coastal marshes, which are the breeding grounds for shrimp and fish species. But, most important for Terrebonne Parish, the barrier islands are our critical first line of defense against hurricane ***storm surge***. They help to reduce hurricane-driven ***storm surge***, which can be so damaging as it travels inland. The Terrebonne Basin Barrier Island and Beach Nourishment project is very much needed and welcomed. I want to thank Gov. John Bel Edwards, CPRA and its Chairman Chip Kline, and Jeff Trandahl, Executive Director and CEO of NFWF for completing this critical barrier island restoration project on Trinity-East Island for Terrebonne Parish.

Our critical barrier island chains help to protect our basin and knock down ***storm surge*** like we recently experienced during Hurricane Ida, said Lafourche Parish President Archie Chaisson. "Im grateful for our partnership with CPRA and their commitment to our coastal communities. Now, more than ever, it is crucial that we preserve and maintain our barrier island chains, marshes, and levee systems across South Louisiana.

Vegetative plantings will begin on Trinity-East Island this fall.

**Load-Date:** September 24, 2021

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[***Bob Marshall: Grand Isle and Lafitte are being rebuilt, but here's why they won't last long***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:6405-TR51-DYP9-V4FV-00000-00&context=1516831)

The Times-Picayune/The New Orleans Advocate Online

November 01, 2021 Monday

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**Section:** CLIMATE CHANGE NEWS & OPINION LATEST

**Length:** 703 words

**Byline:** BOB MARSHALL

**Body**

Suppose your home has just been diagnosed with every Louisiana property owner's greatest fear: termites!

The contractor says the living room and kitchen must be gutted and rebuilt. While the bottom line on the estimate for repairs is staggering, you realize that's the cost of living here.

Then you notice something odd: The price doesn't include termite treatment for the rest of the house. No bait system. No chemicals. Nothing. And everyone knows those hungry wood-crunchers are still out there, waiting to feast on whatever you rebuild.

"This doesn't make sense," you tell the contractor. "We're not addressing the cause. We're just throwing good money after bad."

That scenario comes to mind when reading the debate on the future of Grand Isle, Lafitte and other coastal communities devastated by Hurricane Ida.

As climate change advances, serious questions must be answered about the viability of communities like these outside ***storm surge*** ***protection*** levees. Projections made a decade ago that the heating of the Gulf of Mexico would lead to more large hurricanes have come true.

Ida was just the latest ***storm*** to show those record high water temperatures have become the crystal meth of hurricane development. In just 24 hours a mild-mannered Category 1 turned into a monster Category 4. Its towering ***storm surge*** literally picked up large sections of Barataria Bay's remaining marshes - grass as well as several feet of underlying soil - and dropped them 20 miles inshore on communities like Barataria and Lafitte. Its brutal 170 mph winds wrecked homes, businesses, and lives.

Residents and their political allies have responded by looking for financial help so they can continue to live on the edge of the Gulf. They are talking about rebuilding with higher and stronger berms, levees and floodwalls and raising roads, homes and businesses. All the ideas aim to reduce the damages from these huge ***storms***.

Are Grand Isle, Lafitte worth Ida-like ***storm*** ***protection***? Louisiana rethinks its strategy

But like that example of the termite-damaged house, those treatments will end up being expensive failures because they only address the symptoms of the problem, not the cause.

That cause, of course, is the greenhouse gas emissions primarily from fossils fuels that are driving the warming of the oceans. That warming, in turn, has caused the acceleration of sea level rise producing hurricanes with higher, stronger ***storm surges*** and home-smashing winds that levees and floodwalls can't stop.

Indeed, by the time Hurricane Katrina came ashore in 2005, the number of Category 4 and Category 5 ***storms*** had doubled over previous 35 years.

You see this head-in-the sand approach to climate change across the nation under the euphemism of "climate adaptation programs." Endless billions in taxpayer funding are being sought to "prepare communities" for the obvious climate impacts like rising seas, sunny day flooding, record torrential rainfalls and, of course, more and bigger hurricanes.

But in GOP-held states there is rarely a similar effort to reduce the causes of this growing problem.

Perhaps most frustrating of all is that these governments and their supporters no longer deny climate change exists. The Georgetown University Climate Center's Adaptation Clearinghouse tracks state efforts to adjust to the impacts. It seems to be growing by the day.

But only 14 states have actually addressed the cause by passing laws requiring reductions in greenhouse gas emissions. Louisiana and eight others have programs being pushed by their governors but so far not backed by legislation.

Equally puzzling is how residents in coastal states such as Louisiana continue to elect GOP candidates to Congress and their legislatures. Sure, these politicians are now demanding the rest of the nation provide them with money to "adapt" to climate change, but at the same time they block efforts to require nationwide regulations to reduce fossil fuel emissions because it might hurt their local businesses. Kind of like wanting to get paid for doing nothing.

That's like asking taxpayers to buy more respirators for COVID-19 patients but opposing vaccination mandates.

Oh, wait ...

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**Load-Date:** November 1, 2021

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[***Metropolitan Storm Surge Working Group Issues Public Comment on Corps of Engineers Notice***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:62N6-X4B1-DYG2-R32P-00000-00&context=1516831)

Targeted News Service

May 11, 2021 Tuesday 3:33 AM EST

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**Length:** 2215 words

**Byline:** Targeted News Service

**Dateline:** WASHINGTON

**Body**

WASHINGTON, May 11 -- Malcolm J. Bowman, distinguished professor of oceanography at the State University of New York at Stony Brook, and environmental planner Daniel Gutman have issued a public comment on behalf of the Metropolitan ***Storm Surge*** Working Group on the Corps of Engineers notice entitled "Meetings: Water Resources Development Act; Comment Period and Stakeholder Sessions". The comment was written and posted on May 7, 2021:

\* \* \*

On behalf of the Metropolitan ***Storm Surge*** Working Group (SSWG), we are writing with regard to expedited completion of the Army Corps of Engineers' New York and New Jersey Harbor and Tributaries Study (HATS), as required by the Water Resources Development Act of 2020 [WRDA, Sec. 203(a)(4)].

The SSWG is a professional alliance of scientists, engineers, architects, social scientists and planners who have come together to advocate for regional solutions to these inherently regional problems. For us, that means both regional offshore barrier systems to hold back occasional but devastating extreme ***storm surges*** from hurricanes and winter nor'easters, plus modest seawalls where needed to protect the cities from gradual but accelerating sea level rise.

The recently-adopted WRDA not only called on the Corps to expedite completion of the HATS study, but it included provisions to correct perceived study deficiencies. To that end, Congress provided that, in addition to addressing coastal flooding, the HATS study should also address impacts of higher precipitation events and sea level rise on the study area. Further, Congress insisted that the Corps do a better job of consulting with affected communities [Sec.203(a)(4)].

Consultation and Collaboration

Following the devastation to the New York region caused by Hurricane Sandy, interest in measures to prevent a recurrence has naturally been very high. Perhaps to the surprise of the New York District, the HATS study has generated a tremendous amount of interest, for which they have at times seemed unprepared. While the New York District has tried to respond to the many demands from civic groups and local political representatives for consultation and collaboration, they did not seem to have an effective public participation strategy.

In formulating alternative plans, the objective of the New York District seems to have been proposing a range of different projects that the Corp could construct, rather than proposing different way of preventing a recurrence of the destruction caused by Hurricane Sandy. In taking this approach, the District was limited by its own cost-benefit methodology and ignored potential contributions by state and local partners.

For example, two HATS alternatives are based largely on New York City's OneNYC Comprehensive Coastal ***Protection*** Plan (Alternatives 3B and 4)./1

But the HATS alternatives leave out 40% of the local shoreline barriers in New York City's plan. Some elements were never included and others were later removed by the District for failing to meet the Corps' (now broadened) cost-benefit criteria./2

As a result, those two alternatives would reduce coastal flooding risks in the study area by only 59% and 40%./3

In contrast, two alternatives that emphasize regional ***storm-surge*** barriers (Alternatives 2 and 3A), which we favor, would reduce coastal flooding risk by 94% and 78%. A fifth alternative (Alternative 5) relying exclusively on local shoreline barriers would reduce coast flooding risk by a mere 4%.

Presenting alternatives with such a wide range of risk reduction is unfair to local governments because, if the Corps were to recommend a project that provided less than comprehensive risk reduction, local governments would have difficulty judging the cost of providing more complete ***protection***, and consequently whether to agree with the Corps' recommendation. If the Corps omits large parts of New York City's coastal ***protection*** plan, for example, the city and its citizens, not knowing the additional cost of completing their plan, would be hampered in their ability to judge which HATS alternative presented is best for them overall.

We are not alone in seeking alternatives that provide greater risk reduction. New York City Comptroller Scott Stringer and the environmental organization Riverkeeper, both of whom prefer the local-barriers-only alternative, are disappointed with its limited reach. Both have urged the Corps to expand that alternative to cover much more of the waterfront./4,/5

Riverkeeper also has questioned the District's overall selection of alternatives, "particularly if each will result in differing levels of coastal ***storm surge*** risk mitigation."/6

Your implementation guidance to the New York District should suggest that they utilize the Corps' ability to develop collaborative plans with local governments./7

These collaborative plans "have not only Corps components, . . . but also collaborator components . . . that meet the objectives of the study." "Collaborators will fund their portions of the projects while the Corps and the non-Federal sponsors will fund their portions."/8

Not only could such collaborative plans provide comprehensive flood ***protection***, but local governments and the public would then have a better understanding of overall costs and benefits and consequently would be able to make more informed choices among alternatives.

We suggest that the New York District be encouraged to design all action alternatives to achieve coastal ***storm*** risk reduction of at least 75%, as measured by the HATS composite risk index, the level that two of the current alternatives would already achieve.

Incorporation of New York City's Comprehensive Coastal ***Protection*** Plan (see attached diagram) into HATS Alternatives 3B and 4 to achieve more comprehensive coastal ***storm*** risk reduction would be consistent with the policy directive issued by your office on January 5, 2021, which states that "Non-federal partners, federal, state, and local agencies and public interests bring their expertise, programs, and projects together with USACE to solve complex water resources problems. . . . [and] to ensure scoping decisions will enable an assessment of benefits in total and by type."/9

Your January 21 policy directive also requires a non-structural alternative that would include such measures as elevation, relocation, and flood-proofing. New York City, which represents 82% of potential flood damage in the study area,/10 also has adopted many flood-damage-reduction programs and policies based on these and other non-structural methods. These partner non-structural programs and policies are another reason for incorporation of New York City's and other cities' plans into the appropriate HATS alternatives.

Sea Level Rise

The HATS study was motivated by a desire to prevent a recurrence of the devastation to the New York region caused by Hurricane Sandy in 2012. Despite the clear danger of future higher sea levels increasing coastal ***storm*** risk, most of those who commented on the study scope were more concerned about the direct impact of sea level rise on monthly or daily flooding, both in current and future low-lying areas./11

The District responded that wherever it proposed ***storm-surge*** barriers, it intended to also propose complimentary measures to address residual coastal flooding during more frequent, less severe coastal ***storms*** when the ***surge*** gates would not be closed. Those measures would also prevent flooding due to rising sea level.

But there were three problems with the District's promise. First, it postponed study of the most pressing concern for most respondents. To date, the District has yet to make public the proposals it developed to address high-frequency flooding. Second, the proposals only covered "the study area behind the gates."/12

Since some ***storm-surge*** barrier alternatives protect as little as 35% of the land area that would be impacted by ***storm surge***,/13 there was no guarantee that more than a small portion of flood-prone areas would receive attention. Third, since residual risk features were treated by the District as an after-thought, there was no effort to explain or create illustrations of the measures proposed, other than listing in a chart the number of miles of each kind of feature.

Dissatisfaction with the New York District's approach led Congress to add to the HATS study the objective of addressing impacts of sea level rise on the study area. Proposing solutions to address sea level rise that are acceptable to multiple publics throughout the entire study area will require reaching out to local shorefront communities on a scale the District has likely never before attempted./14

To ensure success, the District should be encouraged to collaborate with local governments, particularly the City of New York and the major cities of New Jersey, which do have extensive experience at local outreach.

Low Frequency Precipitation

Drainage is another issue that the New York District postponed to later in the study. Improvements to the drainage system are a major cost issue associated with onshore barriers because, while onshore barriers are holding back ***storm surges*** and sewer system tide gates are closed, sewage and rain water must be stored. Postponing drainage analyses to a later date distorted onshore barrier costs that the District presented to the public.

New York City has experience with this issue on the federally-aided East Side Coastal Resiliency Project. Drainage improvements nearly doubled the cost of ***storm-surge*** ***protection*** for this project. Again, collaboration with local governments will be essential, especially since stormwater system improvements are not a federal responsibility./15

An effective and comprehensive flood-risk-reduction system that addresses the risk of catastrophic flooding of New York and other coastal cities and suburban communities in the study area is critical for the continuing survival, viability and security of the entire New York metropolitan region. The Army Corps of Engineers HATS study can provide the impetus for advancing the system we need, but only if protecting the vast majority of the study area from coastal ***storms*** and other impacts of climate change is clearly incorporated as the goal of the action alternatives.

Sincerely,

Daniel Gutman, Environmental Planner

Malcolm J. Bowman PhD, PE, Distinguished Professor of Oceanography, State University of New York at Stony Brook

\* \* \*

Footnotes:

1/ Those alternatives also include mid-sized ***storm-surge*** barriers on waterways separating New York and New Jersey (Alternative 3B) or on the Hackensack River in New Jersey (Alternative 4).

2/ Decision-making criteria have since been broadened by the January 5, 2021 Policy Directive from the Assistant Secretary of the Army (Civil Works) on "Compehensive Documentation of Benefits in Decision Document" at [*https://planning.erdc.dren.mil/toolbox/library/MemosandLetters/ComprehensiveDocumentationofBenefitsinDecisionDocument\_5January2021.pdf*](https://planning.erdc.dren.mil/toolbox/library/MemosandLetters/ComprehensiveDocumentationofBenefitsinDecisionDocument_5January2021.pdf).

3/ These estimates are based on a non-monetary composite risk index. See New York-New Jersey Harbor and Tributaries Coastal ***Storm*** Risk Management: Interim Report (HATS Interim Report), February 2019, pp. 48-53 at [*https://www.nan.usace.army.mil/Portals/37/docs/civilworks/projects/ny/coast/NYNJHAT/*](https://www.nan.usace.army.mil/Portals/37/docs/civilworks/projects/ny/coast/NYNJHAT/) NYNJHAT%20Interim%20Report%20-%20Main%20Report%20Feb%202019.pdf.

4/ See Scott Stringer letter to Army Corps of Engineers, Oct. 23, 2019 at [*https://comptroller.nyc.gov/wp-content/uploads/2019/11/Army-Corps-Letter-10-24-19.pdf*](https://comptroller.nyc.gov/wp-content/uploads/2019/11/Army-Corps-Letter-10-24-19.pdf).

5/ See Riverkeeper letter to Army Corps of Engineers, May 1, 2019 at [*https://www.riverkeeper.org/wp-content/uploads/2019/04/2019.05.01-Riverkeeper-Interim-Report-Comments\_final.pdf*](https://www.riverkeeper.org/wp-content/uploads/2019/04/2019.05.01-Riverkeeper-Interim-Report-Comments_final.pdf).

6/ See Riverkeeper letter to Army Corps of Engineers, Nov. 5, 2018 at [*https://www.riverkeeper.org/wp-content/uploads/2018/07/Riverkeeper-NYNJHAT-Feasibility-Study-NEPA-scoping-comments\_FINAL\_with-attachments-1.pdf*](https://www.riverkeeper.org/wp-content/uploads/2018/07/Riverkeeper-NYNJHAT-Feasibility-Study-NEPA-scoping-comments_FINAL_with-attachments-1.pdf)..

7/ At workshops convened by the District prior to commencement of the HATS study, local governments asked for collaboration. See HATS Interim Report, p. 11.

8/ Carol Hollaway, "Project Planning in Collaboration with Government Entities: Practical Approaches," USACE, IWR Report 07-R-2, July, 2007.

9/ Assistant Secretary of the Army (Civil Works), "Policy Directive - Comprehensive Documentation of Benefits in Decision Document," January 5, 2021.

10/ The HATS study measured potential flood damage using the Corps' HEC-FDA model.

11/ See HATS Interim Report, p. 16.

12/ HATS Interim Report, p. 78.

13/ HATS Interim Report, p. 90.

14/ "This study area encompasses the New York Metropolitan Area, including the most populous and densely populated city in the United States, and the six largest cities in New Jersey. . . The study area . . . comprises parts of 25 counties in New Jersey and New York," HATS Interim Report, p. 6.

15/ HATS Interim Report, p. 67.

\* \* \*

The notice can be viewed at: [*https://www.regulations.gov/document/COE-2021-0002-0001*](https://www.regulations.gov/document/COE-2021-0002-0001)

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[***Close call with storm renews debate over Houston barrier***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:60WV-NPB1-JC5B-G1TF-00000-00&context=1516831)

Associated Press State & Local

September 22, 2020 Tuesday 9:04 PM GMT

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**Section:** DOMESTIC NEWS; STATE AND REGIONAL

**Length:** 1027 words

**Byline:** JUAN A. LOZANO, Associated Press

**Dateline:** GALVESTON, Texas

**Body**

GALVESTON, Texas (AP) — Houston, a Gulf Coast city that barely rises above sea level, has long worried about a worst-case weather scenario — a direct hit from a powerful ***storm*** that sends a wall of water barreling into the region's petrochemical facilities, possibly triggering an environmental disaster.

When it was spared a blow from [*Hurricane Laura*](https://apnews.com/1a98e1a8297e5a72d893fefa9a342a98) last month, the city breathed a sigh of relief. Now the close call has renewed a debate about whether the Houston area should build a massive and expensive barrier to protect against ***storm surge***.

After Laura’s close call, Houston Mayor Sylvester Turner said he hopes some kind of barrier eventually gets built.

“I don’t know how many chances we are going to have ... Whatever it may be that can mitigate ***storm surge***, then that’s what I am in favor of,” Turner said. “What I do know is we can’t keep just talking about it.”

In addition to a lack of ***storm surge*** ***protection***, the nation's fourth-largest city floods frequently because it does not have enough [*infrastructure*](https://apnews.com/8fa4f61352de495db8ddbbdeac1faa4f) to handle heavy rain. The area has developed rapidly in a way that sharply reduced the natural wetlands that could soak up ***storm*** water runoff. Its Depression-era [*drainage*](https://apnews.com/d279b95b3eff430f88fed9c4c2a22fad/Houston-drainage-grid-%27so-obsolete-it%27s-just-unbelievable) systems are woefully inadequate.

The city's vulnerability was apparent again this week when [*Tropical* ***Storm*** *Beta*](https://apnews.com/f19bbc72c7ec3d2040c0b942666eee90) flooded roads and filled waterways.

Bill Merrell, a marine sciences professor at Texas A&M University at Galveston who first proposed the coastal barrier, believes ***storm surge*** is a grave threat that has been ignored for too long.

“We’re overdue for a Laura ... We’re starting to see pretty convincing evidence we will have stronger hurricanes” due to climate change, said Merrell, who nicknamed the proposed barrier the “Ike Dike,” after 2008's Hurricane Ike.

Merrell spoke earlier this month in Galveston, near the inlet between the Gulf of Mexico and Galveston Bay. That's where he envisions building the Ike Dike’s floodgates, which would stop ***storm surge*** from entering the bay and traveling north into the Houston Ship Channel, home to some of the largest oil refineries in the world and 40 percent of the nation’s petrochemical industry.

Researchers at Rice University in Houston have estimated that a strong Category 4 ***storm*** with a 25-foot ***storm surge*** could damage storage tanks along the ship channel, resulting in the release of more than 90 million gallons of oil and hazardous substances into neighborhoods and then into the bay.

The barrier system, also referred to locally as the coastal spine, has been studied since Merrell first proposed it after Ike, which made landfall in Galveston as a Category 2 ***storm*** and resulted in nearly $30 billion in damage, mostly from ***storm surge***. Because the ***storm*** and its ***surge*** did not come up the ship channel, most of the chemical plants and many homes were spared from a direct hit. Ike was also much weaker than a potentially catastrophic Category 4 or 5 system.

But a variety of concerns about the dike, including a price tag of up to $32 billion and possible environmental effects, have been roadblocks in its construction.

The U.S. Army Corps of Engineers and the state are reviewing a proposed project that borrows from the Ike Dike. It would build floodgates, including some sets that would be 650 feet wide, the equivalent of a 60-story building laid on its side.

The corps' proposal also includes constructing a beach and dune system and undertaking ecosystem restoration projects along the Texas coast, said Kelly Burks-Copes, manager of the project.

The coastal barrier would create “additional ***protections*** and added security for our nation’s largest petrochemical hub, and for the people who live and work in these communities,” said Dennis Winkler, executive director of East Harris County Manufacturers Association, an alliance of chemical manufacturers in the Houston area.

Another draft report of the project is to be released in October, with a final report set to be given to Congress by May. If the project gets funded, construction could start as early as 2025. It would take 10 to 15 years to complete, Burks-Copes said. The project would have to be funded by both federal and local dollars.

Rice University’s Severe ***Storm*** Prediction, Education and Evacuation from Disasters Center, or SSPEED, has proposed its own project — a series of man-made islands near the western section of Galveston Bay and the entrance to the ship channel that would be both a ***storm surge*** barrier and a park with trails and camping. The Galveston Bay Park, with a price tag of up to $6 billion, could be done by 2030.

“We’re going to need multiple lines of defense. And right now, we have zero lines of defense,” said Jim Blackburn, the SSPEED Center’s co-director.

But questions remain about both projects.

Environmental groups are concerned that the Army Corps project's floodgates could affect water flow between the bay and the Gulf of Mexico. Galveston Bay is healthy, and fish and other animals thrive there because water circulates in and out of the gulf, said Bob Stokes, president of the Galveston Bay Foundation environmental group.

Burks-Copes said the Corps has made changes to address environmental and other concerns.

Neither project would have protected the area from [*Hurricane Harvey*](https://apnews.com/9a1b2e5f3a4a4213be31e48437d530cb), which dumped more than 50 inches (127 centimeters) of rain on Houston in 2017, causing $125 billion in damage in Texas.

Harris County, which includes Houston, is also completing several other flood-mitigation projects, including widening bayous, improving drainage and buying flood-prone homes, that are part of a $2.5 billion bond program [*approved by voters*](https://apnews.com/0e8dadd5ea0d47d985440e2c6bfbdd95/Houston-area-voters-overwhelmingly-back-flood-control-bond) in 2018 after Harvey.

“We’re doing it as quickly as possible," Harris County Judge Lina Hidalgo, the county's top elected official, said Tuesday of the flood-mitigation projects. “And these ***storms*** keep coming."

Stokes was realistic about the prospects for shielding the city from nature.

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Follow Juan A. Lozano on Twitter at [*www.twitter.com/juanlozano70.*](file:///Users/cognac.steven/Downloads/www.twitter.com/juanlozano70)

**Load-Date:** September 22, 2020

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[***Close call with storm renews debate over Houston barrier***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:60X1-BVB1-JBVR-31FN-00000-00&context=1516831)

Canadian Press

September 22, 2020 Tuesday 05:05 PM EST

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**Section:** INTERNATIONAL

**Length:** 1027 words

**Byline:** Juan A. Lozano, The Associated Press

**Body**

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In addition to a lack of ***storm surge*** ***protection***, the nation's fourth-largest city floods frequently because it does not have enough infrastructure to handle heavy rain. The area has developed rapidly in a way that sharply reduced the natural wetlands that could soak up ***storm*** water runoff. Its Depression-era drainage systems are woefully inadequate.

The city's vulnerability was apparent again this week when Tropical ***Storm*** Beta flooded roads and filled waterways.

Bill Merrell, a marine sciences professor at Texas A&M University at Galveston who first proposed the coastal barrier, believes ***storm surge*** is a grave threat that has been ignored for too long.

"We're overdue for a Laura ... We're starting to see pretty convincing evidence we will have stronger hurricanes" due to climate change, said Merrell, who nicknamed the proposed barrier the "Ike Dike," after 2008's Hurricane Ike.

Merrell spoke earlier this month in Galveston, near the inlet between the Gulf of Mexico and Galveston Bay. That's where he envisions building the Ike Dike's floodgates, which would stop ***storm surge*** from entering the bay and travelling north into the Houston Ship Channel, home to some of the largest oil refineries in the world and 40 per cent of the nation's petrochemical industry.

Researchers at Rice University in Houston have estimated that a strong Category 4 ***storm*** with a 25-foot ***storm surge*** could damage storage tanks along the ship channel, resulting in the release of more than 90 million gallons of oil and hazardous substances into neighbourhoods and then into the bay.

The barrier system, also referred to locally as the coastal spine, has been studied since Merrell first proposed it after Ike, which made landfall in Galveston as a Category 2 ***storm*** and resulted in nearly $30 billion in damage, mostly from ***storm surge***. Because the ***storm*** and its ***surge*** did not come up the ship channel, most of the chemical plants and many homes were spared from a direct hit. Ike was also much weaker than a potentially catastrophic Category 4 or 5 system.

But a variety of concerns about the dike, including a price tag of up to $32 billion and possible environmental effects, have been roadblocks in its construction.

The U.S. Army Corps of Engineers and the state are reviewing a proposed project that borrows from the Ike Dike. It would build floodgates, including some sets that would be 650 feet wide, the equivalent of a 60-story building laid on its side.

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But questions remain about both projects.

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[***Phippsburg group’s proposed oyster reef isn’t for dining***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63K2-HR71-JBHT-D50K-00000-00&context=1516831)

Kennebec Journal

September 9, 2021 Thursday

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**Section:** Pg. 2.B; ISSN: 07452039

**Length:** 900 words

**Byline:** Kathleen O’Brien

**Dateline:** Augusta, Me.

**Body**

**FULL TEXT**

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According to the National Oceanic and Atmospheric Administration, the environmental benefits an oyster brings stem from how they eat: by filtering algae. One oyster filters up to 50 gallons of water per day, and that clearer, cleaner water can support underwater grasses that other marine species like crabs, scallops and fish use for a habitat.

Oyster reefs are also known to fight against other symptoms of global warming including ***storm surge*** and coastal erosion because the reefs form vertical underwater structures that break up waves and help hold the coastline in place.

“When you think about it, the ways people have protected a coast from ***storm surge*** like cement walls, but we know these don’t work very well,” said McMahan. “An oyster reef is a natural structure you’re putting between the coast and ocean that works better than a cement barrier.”

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“Oysters have such a large capacity for water filtration and shellfish reefs, in general, have a lot of habitat value. With the emerging oyster industry in Maine, we wanted to see if there was a possibility for us to do a noncommercial-based project that benefits the environment.”

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The Phippsburg group is raising its oysters in bags that float on the surface of the water, keeping the oysters away from predators and in warmer water at the surface. The group is waiting for the oysters to grow to roughly 1 1/4 to 1 1/2 inches in length before releasing them into the ocean. The hope is they’ll attach to one another and grow as a vertical structure.

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**Load-Date:** September 10, 2021

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[***Group hopes oyster reef reaps environmental benefits***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63JV-KDB1-JBHT-D0KV-00000-00&context=1516831)

Kennebec Journal

September 8, 2021 Wednesday

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**Section:** Pg. 2.B; ISSN: 07452039

**Length:** 885 words

**Byline:** Kathleen O’Brien

**Dateline:** Augusta, Me.

**Body**

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**Load-Date:** September 9, 2021

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The Associated Press

September 22, 2020 Tuesday 9:04 PM GMT

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**Section:** DOMESTIC NEWS; STATE AND REGIONAL

**Length:** 1026 words

**Byline:** JUAN A. LOZANO, Associated Press

**Dateline:** GALVESTON, Texas

**Body**

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The city's vulnerability was apparent again this week when [*Tropical* ***Storm*** *Beta*](https://apnews.com/f19bbc72c7ec3d2040c0b942666eee90) flooded roads and filled waterways.

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Morning Sentinel; Waterville, Me.

September 9, 2021 Thursday

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**Section:** Pg. 2.B

**Length:** 900 words

**Byline:** Kathleen O’Brien

**Dateline:** Waterville, Me.

**Body**

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**Load-Date:** September 10, 2021

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[***Letter to the Editor: Maritime Forest acts as both vital habitat and for storm surge mitigation***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:62MW-S2D1-JCB8-W011-00000-00&context=1516831)

Post & Courier (Charleston, SC)

May 12, 2021 Wednesday

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**Section:** A; moultrie-news/opinion; Pg. 10

**Length:** 640 words

**Highlight:** The high density of trees and vegetation on Sullivan's Island serves to fortify its diffusive effect on the velocity of ocean waves during a ***storm surge*** while the trees and shrubs of the Maritime Forest act as a critical habitat for migratory and indigenous songbirds and butterflies.

**Body**

Dear Editor,

Sullivan's Island does not exist in a vacuum. The importance of Sullivan's Island's Maritime Forest is closely related to the neighboring communities of Mount Pleasant and Charleston.

The islands along the coast of South Carolina are called "barrier islands" for a reason. They act as a barrier between the enormous forces of the Atlantic Ocean and the mainland. Were it not for the barrier islands, there would be waves crashing onto the Battery in Charleston and the Intracoastal side of Mount Pleasant. One has only to look at an aerial photo of Sullivan's Island to realize its vital position as a massive surf break for Mount Pleasant during hurricanes.

A high density of trees and vegetation on the island serves to fortify its diffusive effect on the velocity of ocean waves during a ***storm surge***. Thus the trees and shrubs of the Maritime Forest on Sullivan's Island's accreted land play an important role in the ***protection*** of Mount Pleasant and downtown Charleston, in addition to the protecting the middle and back side of the island itself.

Besides protecting the mainland, the trees and shrubs of the Maritime Forest act as a critical habitat for migratory and indigenous songbirds and butterflies. Moreover, the flora and fauna of the Maritime Forest are woven in a complex web of co-dependence to create a thriving ecosystem.

As an example, the lowly wax myrtle provides a necessary food source for tree swallows which migrate in masses of thousands and swoop through the myrtles to snatch berries on the fly. The berries of the myrtle also are a necessary food source for the beautiful myrtle warbler, which overwinters here. These birds, in turn, help to propagate the myrtles by spreading seeds in their droppings. Cutting myrtles to 3-feet or 5-feet, as designated in the Sullivan's Island mediation agreement, could deprive the tiny warbler of protective cover, and also affect the availability and accessibility of berries. The lack of an abundant source of food could threaten individuals of both these species during their most vulnerable seasons.

Most people are aware of the habitat needs of the Monarch butterfly, which stops on Sullivan's Island during its southern migration in fall. But they might not realize the importance of the Hackberry tree for our indigenous Hackberry butterfly. Hackberry nectar and sap are important food sources for the butterfly. Also, it lays its eggs exclusively on that species and the larva hatch to feast on the leaves of the Hackberry before pupating. The larva and butterflies, in turn, provide food for many migrating songbirds. Yet in the Sullivan's Island mediation agreement, the Hackberry tree is considered expendable and allowed to be removed.

During the last 25 years, there has been a vitally important occurrence in Mount Pleasant that has largely gone unrecognized. For countless eons, one of the the southward neotropical song-bird migrations has generally followed the Eastern coastline. One of the reliable and important stopovers on their journey has been Patriots Point, where the birds have dropped down for rest, food and water before crossing the "big water" of Charleston Harbor. However, the state-sanctioned development of Patriot's Point has resulted in a significant loss of valuable habitat. When the millions of migrating birds and butterflies arrive here, each year there is less land and vegetation to support them.

However, as that door has shut, a window has opened in the growth of an alternative habitat on Sullivan's Island, just a few miles away.

The importance of Sullivan's Island's Maritime Forest is interwoven with the area around it, both as habitat and in ***storm surge*** mitigation. Its ***protection*** should be considered vital for Islanders and mainlanders alike.

Grace Reed

Sullivan's Island



**Load-Date:** May 10, 2021

**End of Document**

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[***Group hopes oyster reef reaps environmental benefits***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63JV-KDB1-JBHT-D0JJ-00000-00&context=1516831)

Morning Sentinel; Waterville, Me.

September 8, 2021 Wednesday

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**Section:** Pg. 2.B

**Length:** 885 words

**Byline:** Kathleen O’Brien

**Dateline:** Waterville, Me.

**Body**

**FULL TEXT**

Oyster reefs have been grown in other parts of the east coast and have proven to improve water quality, protect a shoreline from erosion and ***storm surge***, and act as a habitat for other smaller shellfish, expanding an area’s biodiversity.

Volunteers and local organizations want to grow a natural oyster reef in an area off the coast of Phippsburg, but these tasty shellfish won’t be for eating.

If successful, the group believes an oyster reef will bring a slew of environmental benefits to the area to fight “the immense amount of change we’re seeing in our waters,” said Marissa McMahan, a senior fisheries scientist at Manomet, a Brunswick-based conservation nonprofit involved in the project.

The group of roughly 14 volunteers from Manomet, the Phippsburg Conservation Commission, Bates-Morse Mountain, local residents, oyster farmers and shellfish harvesters is growing the oysters in a protected area of the New Meadows River off the coast of Phippsburg.

Oyster reefs have been grown in other parts of the east coast and have proven to improve water quality, protect a shoreline from erosion and ***storm surge***, and act as a habitat for other smaller shellfish, expanding an area’s biodiversity.

“We need to create these very resilient ecosystems that can support abundant species that potentially (could) be commercial resources,” said McMahan. “Creating thriving habitats will only be beneficial to commercial populations.”

According to the National Oceanic and Atmospheric Administration, the environmental benefits an oyster brings stem from how they eat: by filtering algae. One oyster filters up to 50 gallons of water per day, and that clearer, cleaner water can support underwater grasses that other marine species like crabs, scallops and fish use for a habitat.

Oyster reefs are also known to fight against other symptoms of global warming including ***storm surge*** and coastal erosion because the reefs form vertical underwater structures that break up waves and help hold the coastline in place.

“When you think about it, the ways people have protected a coast from ***storm surge*** like cement walls, but we know these don’t work very well,” said McMahan. “An oyster reef is a natural structure you’re putting between the coast and ocean that works better than a cement barrier.”

While the protected part of the New Meadows River the oysters are in now doesn’t necessarily need ***protection*** against ***storm surge*** and beach erosion, McMahan said Maine’s success can be used as a model for other cold water regions.

The project is the continuation of a two-year pilot program the Nature Conservancy began in 2017. The conservatory’s goal was to see if an oyster reef could be grown on the ocean floor in the Gulf of Maine, which is warming faster than 99% of the world’s large bodies of saltwater, according to NOAA.

“Oysters have such a large capacity for water filtration and shellfish reefs, in general, have a lot of habitat value. With the emerging oyster industry in Maine, we wanted to see if there was a possibility for us to do a noncommercial-based project that benefits the environment.”

“We know from neighbors that in the 1950s, the basin was full of shellfish, but mostly clams, mussels and scallops,” said Phippsburg Conservation Commission member and volunteer Dot Kelly. “With climate warming, our waters are now capable of supporting oysters, which is exciting.”

The project is funded by $1,000 in start-up aid from the Nature Conservancy and donations from the community, according to Kelly.

The Phippsburg group is raising its oysters in bags that float on the surface of the water, keeping the oysters away from predators and in warmer water at the surface. The group is waiting for the oysters to grow to roughly 1 1/4 to 1 1/2 inches in length before releasing them into the ocean. The hope is they’ll attach to one another and grow as a vertical structure.

“By putting them on the surface in the warmer water, they grow faster and it keeps them away from predators like green crabs,” said Dean Doyle, a local clam digger assisting with the project. “The green crabs find them in a matter of minutes and eat them, shell and everything. They’re nasty.”

Doyle has been harvesting shellfish in the southern Midcoast for 25 years. Despite his decades of experience, he said attempting to build the oyster reef is “the most fun thing I’ve ever done on the ocean; it’s neat to take a bag of seed that’s two handfuls and watch them grow.”

Although the Nature Conservancy didn’t grow a towering reef in its initial program, Nature Conservancy Climate Adaptation Program Director Jeremy Bell said the organization deems the program a success because “The question was whether we could grow an oyster on the bottom in a wild habitat and the answer was yes.”

Other oysters in the initial attempt, however, were eaten by green crabs, an invasive species that preys on baby clams, oysters and lobster and destroys eelgrass in its hunt for food. Some oysters also sank into the mud of softer parts of the ocean floor and suffocated.

The conservancy was interested in continuing the program but didn’t have the funding or staff at the time, so it was given to the Phippsburg group, said Bell.

“We wanted to keep the project going, so the community-based approach Phippsburg is taking is really exciting,” said Bell.

**Load-Date:** September 9, 2021

**End of Document**

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[***Two coastal restoration projects get underway***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:6132-KR11-JBCN-44BK-00000-00&context=1516831)

The Courier (Houma, LA)

6 October 2020

HOU-Courier Edition

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**Section:** NEWS; Pg. A3

**Length:** 362 words

**Byline:** Tristan Baurick, TIMES-PICAYUNE | NEW ORLEANS ADVOCATE

**Body**

The state is undertaking two "record-breaking" restoration projects aimed at reviving 7 square miles of coastal habitat and bolstering natural ***storm*** defenses east of New Orleans and near Venice in lower Plaquemines Parish.

Long planned but now funded with $215 million from money BP set aside after the Deepwater Horizon oil disaster, the projects amount to the largest marsh restoration and the largest coastal ridge-building effort the state Coastal ***Protection*** and Restoration Authority has ever attempted.

"The only way to describe them is 'massive,'" CPRA Executive Director Bren Haase said. "They're both record-breaking projects."

The marsh project is set for a section of Lake Borgne in St. Bernard Parish, about 10 miles east of New Orleans. Costing about $114.7 million, the project is expected to revive almost 3,000 acres of marsh, making it "by far the largest" wetland creation project the state has led, Haase said.

Restoring marshlands in Lake Borgne, actually a large saltwater bay, is part of a wider effort to rebuild wetlands in the Pontchartrain Basin for both ecological and ***storm*** ***protection*** functions. Like much of the coast, the basin has been rapidly losing land from erosion, ***storm surges***, rising seas and subsidence, the natural compacting and sinking of the soil.

A U.S. Army Corps of Engineers assessment found that boosting the marshlands in Lake Borgne could provide significant ***storm surge*** ***protection*** for New Orleans.

"While these two projects are located outside of New Orleans, these massive marshes are a part of critical landscape features that reduce ***storm surge*** and alleviate pressure on the hurricane risk reduction system and the New Orleans to Venice system," CPRA Chairman Chip Kline said.

Approval of the Lake Borgne project's funding was also good news for St. Bernard Parish.

The second project, estimated to cost $100 million, envisions dredging 16 million cubic yards of sediment – enough to fill the Superdome three times – and pouring it across a section of coast in Spanish Pass near Venice and the mouth of the Mississippi River. Once completed, the project would rebuild more than 130 acres of ridge and 1,700 acres of marsh.

**Load-Date:** October 16, 2020

**End of Document**

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[***A 20-Foot Sea Wall? Miami Faces the Hard Choices of Climate Change.***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:62TS-CPF1-JBG3-641G-00000-00&context=1516831)

The New York Times

June 2, 2021 Wednesday 16:48 EST

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**Section:** US

**Length:** 1602 words

**Byline:** Patricia Mazzei

**Highlight:** A proposal to construct barriers for ***storm surge*** ***protection*** has forced South Floridians to reckon with the many environmental challenges they face.

**Body**

A proposal to construct barriers for ***storm surge*** ***protection*** has forced South Floridians to reckon with the many environmental challenges they face.

To hear more audio stories from publications like The New York Times, [*download Audm for iPhone or Android*](https://www.audm.com/?utm_source=nyt&amp;utm_medium=embed&amp;utm_campaign=sea_wall_miami_climate).

MIAMI — Three years ago, not long after [*Hurricane*](https://www.audm.com/?utm_source=nyt&amp;utm_medium=embed&amp;utm_campaign=sea_wall_miami_climate) Irma left parts of [*Miami*](https://www.audm.com/?utm_source=nyt&amp;utm_medium=embed&amp;utm_campaign=sea_wall_miami_climate) underwater, the federal government embarked on a study to find a way to protect the vulnerable South Florida coast from deadly and destructive [***storm surge***](https://www.audm.com/?utm_source=nyt&amp;utm_medium=embed&amp;utm_campaign=sea_wall_miami_climate).

Already, no one likes the answer.

Build a wall, the U.S. Army Corps of Engineers proposed in its [*first draft of the study*](https://www.audm.com/?utm_source=nyt&amp;utm_medium=embed&amp;utm_campaign=sea_wall_miami_climate), now under review. Six miles of it, in fact, mostly inland, running parallel to the coast through neighborhoods — except for a one-mile stretch right on Biscayne Bay, past the [*gleaming sky-rises of Brickell*](https://www.audm.com/?utm_source=nyt&amp;utm_medium=embed&amp;utm_campaign=sea_wall_miami_climate), the city’s financial district.

The dramatic $6 billion proposal remains tentative and at least five years off. But the startling suggestion of a massive [*sea wall*](https://www.audm.com/?utm_source=nyt&amp;utm_medium=embed&amp;utm_campaign=sea_wall_miami_climate) up to 20 feet high cutting across beautiful Biscayne Bay was enough to jolt some Miamians to attention: The hard choices that will be necessary to deal with the city’s many environmental challenges are here, and few people want to face them.

“You need to have a conversation about, culturally, what are our priorities?” said Benjamin Kirtman, a professor of atmospheric sciences at the University of Miami. “Where do we want to invest? Where does it make sense?”

“Those are what I refer to as generational questions,” he added. “And there is a tremendous amount of reluctance to enter into that discussion.”

In Miami, the U.S. metropolitan area that is [*perhaps most exposed to sea-level rise*](https://www.audm.com/?utm_source=nyt&amp;utm_medium=embed&amp;utm_campaign=sea_wall_miami_climate), the problem is not climate change denialism. Not when hurricane season, which begins this week, returns each year with more intense and frequent ***storms***. Not when finding flood insurance has become increasingly difficult and unaffordable. Not when the nights stay so hot that leaving home with a sweater to fend off the evening chill has become a thing of the past.

The trouble is that the magnitude of the interconnected obstacles the region faces can feel overwhelming, and none of the possible solutions are cheap, easy or pretty.

For its study, the corps focused on ***storm surge*** — the rising seas that often inundate the coastline during ***storms*** — made worse lately by stronger hurricanes and higher sea levels. But that is only one concern.

South Florida, flat and low-lying, sits on porous limestone, which allows the ocean to swell up through the ground. Even when there is no ***storm***, rising seas contribute to more significant [*tidal flooding*](https://www.audm.com/?utm_source=nyt&amp;utm_medium=embed&amp;utm_campaign=sea_wall_miami_climate), where [*streets fill with water even on sunny days*](https://www.audm.com/?utm_source=nyt&amp;utm_medium=embed&amp;utm_campaign=sea_wall_miami_climate). The expanding saltwater threatens to spoil the underground aquifer that supplies the region’s drinking water, and to crack old sewer pipes and aging septic tanks. It leaves less space for the earth to absorb liquid, so floodwaters linger longer, their runoff polluting the bay and killing fish.

And that is just [*sea-level rise*](https://www.audm.com/?utm_source=nyt&amp;utm_medium=embed&amp;utm_campaign=sea_wall_miami_climate). Temperatures have [*gotten so sweltering*](https://www.audm.com/?utm_source=nyt&amp;utm_medium=embed&amp;utm_campaign=sea_wall_miami_climate) over recent summers that Miami-Dade County has named a new interim “chief heat officer.”

“What you realize is each of these problems, which are totally intersecting, are handled by different parts of the government,” said Amy C. Clement, a professor of atmospheric science at the University of Miami and the chairwoman of the city of Miami’s climate resilience committee. “It’s divided up in ways that make things really, really difficult to move forward. And the bottom line is it’s way more money than any local government has to spend.”

The state could help, to a point. Republican lawmakers, who have controlled the Florida Legislature for more than 20 years, acknowledged in late 2019 that they had ignored climate change for so long that the state had “lost a decade.” They have begun to take steps to fund solutions, directing more than $200 million in tax dollars, collected on real estate transactions, to sea-level rise and sewer projects. Legislators also designated $500 million in federal stimulus money for the fund.

The price tag for all that needs to be done, however, is in the billions. The estimate for Miami-Dade County alone to phase out some 120,000 septic tanks is about $4 billion, and that does not include the thousands of dollars that each homeowner would also have to pay.

Enter the corps, whose engineering projects, if funded by Congress, are covered 65 percent by the federal government and 35 percent by a local government sponsor.

No one wants to turn away a penny from Washington, but the proposal for a massive sea wall along one of Miami’s most scenic stretches has produced a rare moment of agreement between environmentalists and real estate developers, who fear harm to the bay’s delicate ecology and lower property values.

“We were, like, ruh-roh,” said Ken Russell, the Miami city commissioner whose district includes Brickell. “The $40 billion in assets you’re trying to protect will be diminished if you build a wall around downtown because you’re going to affect market values and quality of life.”

Other parts of the corps’s draft plan, which includes ***surge*** barriers at the mouth of the Miami River and several other waterways, are more appealing: fortifying sewer plants and fire and police stations to withstand a crush of seawater. Elevating or flood-proofing thousands of businesses and homes. [*Planting some mangroves*](https://www.audm.com/?utm_source=nyt&amp;utm_medium=embed&amp;utm_campaign=sea_wall_miami_climate), which can provide a first line of defense against flooding and erosion. Miami-Dade County wants all of those portions to take priority; a final draft of the plan is due this fall.

Sticking points remain. Among the homes proposed to be elevated on the taxpayer dime are multimillion-dollar waterfront mansions — a result of the corps’s mandate to efficiently protect as much life and [*property*](https://www.audm.com/?utm_source=nyt&amp;utm_medium=embed&amp;utm_campaign=sea_wall_miami_climate) as possible, which critics say inevitably leads to more ***protection*** for the wealthy, whose properties are worth more.

And then there are the walls. The inland walls, some fairly small but others up to 13 feet high, would divide neighborhoods, leaving homes on the seaward side with less ***protection***. The sea wall along Biscayne Bay, which could rise to 20 feet and look as formidable as the sound barriers along Interstate 95, would reverse decades of policies intended to avoid dredging and filling the bay.

To some critics, the plan harks back to more than a century of dredging and pumping of the [*Florida Everglades*](https://www.audm.com/?utm_source=nyt&amp;utm_medium=embed&amp;utm_campaign=sea_wall_miami_climate), which made way for intensive farming and sprawling development but disregarded the serious damage to the environment that the state is still wrestling with.

“It is my sense that most Floridians would live with the risk of water to preserve their lifestyle,” said Cynthia Barnett, a Gainesville-based environmental journalist who has published books about [*rain*](https://www.audm.com/?utm_source=nyt&amp;utm_medium=embed&amp;utm_campaign=sea_wall_miami_climate) and [*the fate of the oceans*](https://www.audm.com/?utm_source=nyt&amp;utm_medium=embed&amp;utm_campaign=sea_wall_miami_climate). “This idea of working with water rather than always fighting against it is really the lesson of Florida history. If Florida history has taught us one thing, it’s that hardscaping this water that defines us will bring hardships to future generations.”

In fact, when local governments have asked the public how they would like to tackle climate change, residents by far prefer what is known as green infrastructure: layered coastal ***protection*** from a mix of dunes, sea grasses, coral reefs and mangroves, said Zelalem Adefris, vice president for policy and advocacy at Catalyst Miami, which works with low-income communities in the county.

“The Army Corps’s plan just looks so different,” she said. “It seemed to be really incongruous with the conversations that are being had locally.”

Officials with the corps, though, say — gently — that they see no way around what they call structural elements. The ***storm surge*** threat to Miami-Dade County is just too grave.

“It’s going to be a part of the solution,” said Niklas Hallberg, the study’s project manager.

He said the corps is committed to working with the community in the next phase of design for the project, so “maybe it doesn’t look like so much of a wall.”

That sounds like inching toward the vision that emerged from engineering consultants hired by Swire Properties, a big local developer, after the corps’s draft plan alarmed Miami’s Downtown Development Authority. The consultants suggested building a berm of earth and rock that could be further elevated over time. (A landscape architectural firm brought in by the Downtown Development Authority developed renderings of the corps’s plan showing dirty brown water in the bay and, yes, “Berlin” graffitied on the wall.)

On a recent afternoon along the stretch of Brickell Bay Drive where a wall might go, Rachel Silverstein, executive director of Miami Waterkeeper, an environmental research and activist group, stood next to high-rises built right up to the water, which she called “the fundamental problem with Miami” because they leave the ***storm surge*** with nowhere to go.

(Ms. Silverstein is in the camp of people who favor more natural structural elements to combat ***storm surge***, such as bolstering coral reefs that would also provide an ecological benefit to the bay.)

She pointed over the shimmering blue-green bay.

“Instead of seeing this beautiful water, you would see a gross wall,” she said.

In front of her, a manatee came up for air.

PHOTOS: A proposed sea wall would run through several Miami neighborhoods. Plans for the wall, top right, describe it as six miles long and up to 20 feet high. Rising seas already affect tidal flooding, and runoff could threaten wildlife. Above, part of the wall would run alongside the high rises of Brickell, the financial district. (PHOTOGRAPHS BY ZACK WITTMAN FOR THE NEW YORK TIMES) (A18)

**Load-Date:** August 21, 2021

**End of Document**

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[***United States : Cassidy Announces Pending $5.9 Million Coastal Restoration Project for St. Bernard Parish***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:60YN-WR11-JDJN-6189-00000-00&context=1516831)

TendersInfo

September 30, 2020 Wednesday

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**Length:** 281 words

**Body**

U.S. Senator Bill Cassidy, M.D. announced the National Fish and Wildlife Foundation is considering providing a nearly $6 million grant to install shoreline ***protection*** and reforestation measures near Delacroix.

This project is needed to help restore Louisianas natural buffers to hurricanes and protect coastal communities from the threat of ***storm surge***, said Dr. Cassidy. I urge the National Fish and Wildlife Foundation to swiftly approve this project and deliver St. Bernard Parish the critical ***protection*** it requires.

St. Bernard Parish Government will lead the project, which is officially titled the Bayou Terre aux Boeufs Ridge Restoration project. Shoreline ***protection*** and Cypress and Tupelo forest will be placed along the Bayou Terre aux Boeufs ridge and other intersecting bayous.

The goal of the project is to protect the remaining ridge through strategic armoring and reforestation. St. Bernard Parish Government has included the proposal as a tier one priority in multiple duplications of its Coastal Strategy Document, and the Louisiana Coastal ***Protection*** and Restoration Authority incorporated the project in its 2017 State Master Plan.

The surrounding area relies on the Bayou Terre aux Boeufs ridge for fish and wildlife habitat and ***storm surge*** ***protection***. Only 1-5 percent of such forests have survived statewide, and the remaining natural levee forests near Delacroix are fragmented and under constant threat due to relative sea-level rise and coastal erosion.

Historically, Bayou Terre aux Boeufs was an extensive distributary channel of the Mississippi River, and Native American tribes such as the Chaoucha and Choctaw originally inhabited the area in the 17th century.

**Load-Date:** October 1, 2020

**End of Document**

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[***Ike Dike concept gets a big backer; George P. Bush lends support to storm-surge wall***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:5N51-S4M1-JC8S-D2C7-00000-00&context=1516831)

The Houston Chronicle

March 22, 2017 Wednesday

Houston Edition

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**Section:** A; Pg. A003

**Length:** 733 words

**Byline:** Harvey Rice

**Highlight:** Bush

**Body**

GALVESTON - Texas Land Commissioner George P. Bush has emerged as the long-awaited champion for what supporters say is a much-needed ***storm-surge*** barrier for the Texas Gulf Coast. Advocates of the "Ike Dike" concept have longed bemoaned the lack of a prominent state official to champion construction of a costal barrier that could protect Galveston Island and the Bolivar Peninsula from a ***storm surge*** like the devastating one generated by Hurricane Ike in 2008. In an interview with the Houston Chronicle, Bush said a ***storm-surge*** barrier is needed to protect one of the largest concentrations of petroleum refining and petrochemical processing plants in the country, as well as tens of thousands homes that are vulnerable to an Ike-like ***storm surge***, he said. "It is unacceptable policy to wait for the next ***storm***," before taking action, Bush said. In addition to making public statements supporting the structures, he said his office is in contact with key congressional committees and is seeking a meeting with the White House to make sure that the estimated $12 billion needed for the six-county ***storm*** barrier system is high on a list of projects for President Donald Trump's $1 trillion capital improvements initiative.

Bush is "the first person who has shown true leadership and real concern about protecting the coast," Bob Mitchell, president of the Bay Area Houston Economic Partnership. "We've made more progress in the last eight months than we made in the last eight and a half years." Among the accomplishments are a bill finally being put before the Legislature; a bill passed that was spearheaded by U.S. Sen. John Cornyn and U.S. Rep. Randy Weber, R-Friendswood, to speed the U.S. Army Corps of Engineers ***storm-surge*** ***protection*** study; and the ***storm-surge*** district's recommendation of project embracing the Ike Dike. 'Sensible policy' The Corps of Engineers is scheduled to have a preliminary recommendation in June next year. The land commissioner pointed out that more than $17.5 billion in federal money was spent after Hurricane Katrina struck New Orleans in 2005 to protect the city from ***storm surge***. "We have three times the population and we estimate five times the economic impact," Bush said. "We think it's sensible policy for the national government to be a financial partner." He is embracing a study by the six-county Gulf Coast Community Coastal ***Protection*** and Recovery District, known as the ***surge*** district, that recommended the Ike Dike to protect Galveston, Harris and Chambers counties, as well as a system of barriers to protect Brazoria, Jefferson and Orange counties. Bush's outspoken support has encouraged advocates who have been working to make it a reality since Texas A&M University Galveston professor Bill Merrell proposed the idea more than eight years ago. Harris "Shrub" Kempner of Galveston, owner of Kempner Capital Management and an influential Ike Dike supporter, said Bush's advocacy is an important development. "It mobilizes a level of support that wasn't there before and it mobilizes it in a very direct way," Kempner said. Bush said he would be working in the Legislature with Sen. Larry Taylor, R-Friendswood, who has filed a resolution expressing the Legislature's support for the Ike Dike that has not yet come for a vote. City, county support Bush's leadership comes in the absence of strong vocal support for a ***storm-surge*** plan from officials in Houston and Harris County, although Mayor Sylvester Turner has signed a statement supporting the Ike Dike. "The two gorillas in the room are the county and the city," said Houston Councilman David Robinson, one of the councilmembers most involved in ***storm-surge*** ***protection*** issues. Robinson said the city lacks the expertise and resources to lead the way in ***storm-surge*** ***protection*** and is bowing to the ***surge*** district and researchers at Rice University's Sever ***Storm*** Prediction Education and Evacuation from Disasters, as well as Texas A&M University at Galveston's Texas Center for Beaches and Shores. Harris County Judge Ed Emmett said the county supported the ***surge*** district's recommendation, but it was inappropriate for the county to throw its support behind a plan until more studies are complete. Bush, as head of the agency charged with protecting Texas coasts, is more properly positioned to push for a ***storm-surge*** solution, Emmett said. [*harvey.rice@chron.com*](mailto:harvey.rice@chron.com) twitter.com/harveyricechron

**Load-Date:** April 22, 2017

**End of Document**

LexisNexis®

[***MOP to start storm surge protection works on Avenida Perú de Viña del Mar***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:60VH-0RP1-DY1R-B4T7-00000-00&context=1516831)

CE Noticias Financieras English

September 15, 2020 Tuesday

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**Length:** 456 words

**Body**

The **Ministry of Public Works (MOP)** will launch in the coming weeks the coastal ***protection* project of Avenida Peru, of Viña del Mar, which considers an investment of $5.9 billion and which will be completed in February 2022.**

The announcement was made **by the Minister of Public Works, Alfredo Moreno,** who on Tuesday toured the Costa Rican vineyard with the mayor of the **Valparaíso region, Jorge Martínez, and the mayor of Viña del Mar, Virginia Reginato.**

**"We are here on Avenida Peru, such a traditional place in Viña del Mar that has suffered so many times the damage caused by *storm surges*, as happened in 2015.** With this project, for an investment of 5.9 billion pesos, which it considers a new reddening and ***protection***, we will be able to maintain and preserve this wonderful tourist walk," Minister Moreno said amid his tour of the sector with the local authorities.

The Secretary of State explained that the initiative is part of the **"Plan Paso a Paso Chile Recupera".**

**"This is just one of the works we are going to be doing in the coming months and years under the government plan to recover jobs that have been lost as a product of the pandemic.**  We have just had a meeting with the mayor, with representatives of the public, private and academic sector of the region, to form a joint committee to carry out all these works of the MOP for more than US$700 million, in addition to the works of the ministries of Housing and Urbanism, Agriculture and the Subsedere, among others," he said.

In turn, Mayor Jorge Martínez stated that **"the task of reviving employment requires a public and private sector effort to generate jobs that, as in this case, are a fundamental necessity for the city of Viña del Mar".**

Meanwhile, Mayor Virginia Reginato stressed the importance of these works in that **"here are many, businesses, houses and many apartments that have been harmed by the tides that follow and have complicated quite a bit."**

"I take advantage of asking those residing on Peru Avenue to be patient because they are going to be months of quite a complication, but this is undoubtedly for the well-being of those who live here and to improve the avenue much more," she added.

The work, which will begin in the coming weeks, will be carried out by the MOP through the Port Works Directorate and include the improvement of the arrangement of existing henched and the coating - with concrete structures - over a total area of 780 meters, divided into two sections from the mouth of the Marga-Marga ester to 8 North Street.

During the tour along the coastal edge of Viña del Mar the minister of the MOP was accompanied by the deputy Ovaldo Urrutia, the seremi of the MOP, Raúl Fuhrer and the regional director of Port Works, Christian Wunderlinch.

**Load-Date:** September 16, 2020

**End of Document**

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[***storm. Barra leaves behind na es nationwide trail of destruction; Compliance by public with red alerts helped save lives***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:6481-KV41-JCBW-N46B-00000-00&context=1516831)

Irish Independent

December 8, 2021 Wednesday

Edition 1, National Edition

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**Section:** NEWS; Pg. 2,3

**Length:** 855 words

**Byline:** Ralph Riegel

**Body**

***STORM*** Barra swept over Ireland leaving destruction in its wake as councils and emergency services admitted the toll could have been far worse.

Nearly 40,000 homes and businesses still had no power last night, dozens of roads were flooded and coastal cities and towns including Limerick, Cork, Bantry, Youghal, Kenmare, Waterville and Tralee were flooded by a ***storm surge***.

Schools, childcare and thirdlevel colleges in 12 Status Red or Orange counties - Dublin, Donegal, Sligo, Leitrim, Cork, Kerry, Waterford, Limerick, Clare, Galway, Mayo and Wexford - will remain closed today.

A man was killed and another injured in a two-vehicle collision on the R458 between Ardrahan and Gort in Co Galway amid poor driving conditions about 3pm.

Property damage was far less severe than initially feared. The worst power outages caused by ***storm*** damage were in Cork, Kerry, Wexford, Wicklow and Donegal.

At its height, ***Storm*** Barra winds raged to a damaging 158kmh, with the most powerful gust recorded at the Fastnet Rock lighthouse off the west Cork coast.

Irish Water also issued boil notices for several areas and said the supplies of nearly 80,000 people were at risk of poor water quality due to turbulence from the ***storm***.

By 1pm, sustained Atlantic winds off the west Munster coast were raging at just below hurricane level.

The Government and emergency services said the widespread compliance with the 'stay at home' Status Red alert in Cork, Clare and Kerry and Status Orange alert in 12 other counties undoubtedly saved lives given the extent of fallen trees and flying debris.

There were some near misses, with a tree falling near a car in Wicklow, another tree falling near a Kerry school and debris which was ripped off Cork city centre buildings tossed like missiles across normally busy shopping streets by the raging winds.

In Cork, householder Maddie O'Brien had a tree topple into her garden, narrowly missing her home.

A lorry driver avoided serious injury when his articulated vehicle was blown onto its side by severe gusts on the high span bypass of Fermoy on the M8 Dublin-Cork motorway shortly after 2pm.

The northbound section of the motorway was closed with significant damage caused to the central median safety barrier. A heavy lift crane will recover the lorry once the Status Red alert is lifted.

Cork City Council had to close a road at Kilcully after power lines were dangerously brought down across the route. Householders in Cork also suffered the loss of water supplies. Irish Water warned that power disruption and ***Storm*** Barra damage affected supplies to customers in Drinagh, Whiddy Island, Carrigtwohill, Blarney, Tower, Eyries and Ardgroom.

Housing Minister Darragh O'Brien said the ***storm*** was as severe as forecast - and paid tribute to councils and emergency services for their response. "This was a multi-hazard event with high winds, a ***storm surge*** and torrential rainfall," he said. National Emergency Coordination Group (NECG) chairman Keith Leonard urged people to be cautious as weather alerts were lifted amid concern that some trees may still fall over the coming days having been critically weakened by ***Storm*** Barra.

There is also concern over debris from buildings damaged by the ***storm***. Gardaí are investigating reports of '***storm*** watchers' who ignored the Status Red warning to take selfies or photos at exposed coastal areas amid dangerous winds and raging seas - putting themselves and members of the emergency services at risk.

Cork, Clare and Kerry virtually shut down in light of the Met Éireann warning - with everything from schools to hospitals, shops and vaccination centres remaining closed.

While the two Munster counties were hammered by ***Storm*** Barra winds from 8am until 2pm, the worst of the ***storm*** winds hit Clare, Galway and the south-east from mid-afternoon. Cork Airport cancelled or diverted all morning flights including services to London,

Birmingham and Amsterdam. Shannon Airport operated a Ryanair flight to Tenerife at 7.21am but afternoon Aer Lingus services to and from

Heathrow were cancelled.

Vaccination centres in Cork, Kerry and Clare all closed.

Bantry in west Cork suffered the worst of the damage as the one-metre ***storm surge*** overwhelmed local flood ***protection*** systems. The west Cork town - which is awaiting a special flood defence scheme - had its town square left under water with 23 premises hit by floods.

The greatest flooding fears were focused on Cork city where low-lying quays again succumbed to the tidal ***surge*** from 7am, though there were no reports of property damage.

While the status red warnings were lifted last night, 15 counties remained under a status orange alert until between 8am and 8am today.

A separate status orange warning is in force for Donegal between 2am and 2pm on Wednesday as ***Storm*** Barra departs Ireland. A status yellow warning will remain in place for the entire country until 8pm today.

Met Éireann's Gerry Murphy said at its height ***Storm*** Barra winds raged just below hurricane force offshore.

"***Storm*** Barra was very slow moving which was a key aspect of the ***storm***," he said. Mr Murphy said parts of Ireland were hit by very powerful and damaging winds.

**Graphic**

Aftermath: A man leaps out of the way of ***surging*** water that breaches the pier wall at Howth Harbour in Dublin (left). Far left: Council workers clear the road and restore power in Timoleague, west Cork, after ***Storm*** Barra hit.PHOTOS: ANDY GIBSON/GERRY MOONEY

**Load-Date:** December 8, 2021

**End of Document**

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[***Yaas aftermath: Amid COVID wave, Odisha decides not to seek immediate financial assistance from Centre***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:62SR-CB01-JBN6-G319-00000-00&context=1516831)

Times Now

May 28, 2021 Friday 3:40 PM EST

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**Length:** 390 words

**Byline:** Times Now Digital

**Highlight:** During the review meeting, PM Narendra Modi advised the concerned agencies to ensure normal life is restored in the affected areas at the earliest.

**Body**

[*Link to Image*](https://imgk.timesnownews.com/story/Modi_Patnaik1.jpg?tr=w-600)

**Bhubaneswar:**Odisha Chief Minister Naveen Patnaik on Friday said that his government will not seek any immediate financial assistance to burden the Centre as the country is at the peak of the COVID-19 pandemic and the state would like to manage it through their own resources to tide over the crisis.

Taking to Twitter, Patnaik expressed his gratitude to Prime Minister Narendra Modi for visiting Odisha in the aftermath of cyclonic ***storm*** Yaas which wreaked havoc in the coastal state. PM Modi today held a review meeting with the Odisha Chief Minister and other officials of the state administrations to assess the impact of the cyclonic ***storm***.

"Thank you Hon'ble PM @narendramodi ji for visiting #Odisha in the aftermath of #CycloneYaas. Apprised him about the large scale devastation caused by the cyclone and steps taken by the State Govt ahead of the cyclone and the ongoing restoration efforts (sic)," he said in a series of tweets.

Sought assistance for long term measures to make  [*#Odisha*](https://twitter.com/hashtag/Odisha?src=hash&ref_src=twsrc%5Etfw)  disaster resilient as we are frequented by such climate hazards every year. Highlighted  [*#Odisha*](https://twitter.com/hashtag/Odisha?src=hash&ref_src=twsrc%5Etfw) 's demand for disaster resilient power infrastructure and resilient coastal ***protection*** with ***storm surge*** resilient embankments.  [*pic.twitter.com/2pwt4YesHQ*](https://t.co/2pwt4YesHQ) - Naveen Patnaik (@Naveen\_Odisha)  [*May 28, 2021*](https://twitter.com/Naveen_Odisha/status/1398182184171708416?ref_src=twsrc%5Etfw)

However, Patnaik sought assistance for long term measures from the Prime Minister to make Odisha disaster resilient.

"Sought assistance for long term measures to make #disha disaster resilient as we are frequented by such climate hazards every year. Highlighted Odisha's demand for disaster resilient power infrastructure and resilient coastal ***protection*** with ***storm surge*** resilient embankments," he said.

**PM holds review meeting with Odisha CM**

During the review meeting, PM Modi advised the concerned agencies to ensure normal life is restored in the affected areas at the earliest. The cyclonic ***storm*** made landfall in Odisha on May 26.

At least 3 persons have lost their lives in Odisha when Cyclone Yaas made landfall, while the Baitarani river has crossed danger level at Anandpur and Akhuapada.

Around 106 teams of the National Disaster Response Force (NDRF) were deployed with 46 teams each in West Bengal and Odisha that rescued more than 1000 persons and removed more than 2500 trees/poles that had fallen and obstructed the roads.

**Graphic**

Yaas aftermath: Amid COVID wave, Odisha decides not to seek immediate financial assistance from Centre

**Load-Date:** May 29, 2021

**End of Document**

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[***Police organize storm surge evacuation drill***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:5WG1-3NW1-DY2H-6363-00000-00&context=1516831)

Macau Daily Times

July 1, 2019 Monday

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**Length:** 323 words

**Body**

The Judiciary Police (PJ) held another ***storm surge*** evacuation drill yesterday, simulating the evacuation of the populace from low-lying areas of the city. It also coordinated similar exercises with the six gaming operators in order to review their disaster management and evacuation procedures.

Yesterday the PJ conducted briefing sessions and a simulation drill to raise public awareness on disaster prevention and ***storm surge*** evacuation as the typhoon season approaches.

The PJ noted in a statement that it, together with the Unitary Police Service, aims to facilitate safe and orderly evacuations among the public during typhoons and ***storm surges***.

The "***Storm Surge*** Evacuation Plan in Low-lying Areas during Typhoon" simulation drill was held yesterday from Ponte 16 to R. Francisco Antonio and moved east to NAPE, where the PJ was responsible for the evacuation process.

The drill simulated Macau being hit by a ***storm surge***, and civil ***protection*** entities activated the evacuation plan as directed.

The PJ carried out the evacuation in the designated zone and explained the plan to shop owners and residents, including precautionary measures for disasters, and further explained the emergency evacuation gathering points to the public.

Broadcasts will be made via Judiciary Police vehicles to remind residents in the area about the recent drill.

"We believe the drill will not only help enhance the coordination and support between the command center and the evacuation team members, but also give the public a clearer picture of the escape routes, evacuation processes and the necessary precautions in advance," the bureau said.

The PJ pledged to review the drill via public feedback in order to ensure a smooth and effective evacuation in the future.

Last month, the PJ also partnered with the Social Welfare Bureau to organize workshop and simulation drill to raise public awareness of the plan for the city's low-lying areas. **LV**

[*Link to Image*](https://macaudailytimes.com.mo/wp-content/uploads/2019/07/Storm-Surge-Evacuation-Simulation-Drill-2.jpg)

**Load-Date:** July 1, 2019

**End of Document**

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[***PM announces ₹1,000 crore aid for three 'Yaas'-hit States***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:62SR-0GY1-DYDW-706B-00000-00&context=1516831)

The Hindu

May 28, 2021 Friday

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**Length:** 644 words

**Dateline:** BHUBANESWAR,2021-05-28 20:02:19

**Body**

Prime Minister Narendra Modi on Friday announced a ₹1000 crore assistance for cyclone 'Yaas'-hit Odisha, West Bengal and Jharkhand.

While ₹500 crore would be immediately given to Odisha, ₹500 crore was announced for West Bengal and Jharkhand, which would be released on the basis of the damage, said the Prime Minister's Office in a statement.

The Centre would send an inter-ministerial team to visit the States to assess the extent of damage, based on which further assistance would be given, it said.

Soon after attending a review meeting with Odisha Chief Minister Naveen Patnaik here, Mr. Modi undertook an aerial survey of Bhadrak and Balasore districts battered by 'Yaas', en route to West Bengal.

Appreciating the preparedness and disaster management activities by Odisha, which resulted in minimal loss of lives, he, according to the statement, noted that the State embarked on long-term mitigation efforts to dealt with such natural disasters.

In pictures | Cyclone Yaas uproots life

Mr. Modi mentioned that disaster mitigation had been given emphasis by the Finance Commission too by provisioning for mitigation funds to the tune of ₹30,000 crore.

He announced ex-gratia of ₹2 lakh to the next of kin of the deceased and ₹50,000 to the seriously injured in the cyclone.

Naveen's plea Earlier, after meeting with Mr. Modi, Mr. Patnaik said Odisha did not want to burden the Centre at the peak of COVID-19 second wave by demanding immediate financial assistance for carrying out cyclone restoration works. He instead called for provisioning of assistance for long-term cyclone mitigation measures.

"As the country is at the peak of COVID-19 pandemic, we have not sought any immediate financial assistance to burden the Central government and would like to manage it through our own resources to tide over the crisis," said Mr. Patnaik.

In a series of tweets, Mr. Patnaik thanked the Prime Minister for visiting the State. He said, "I have sought assistance for long-term measures to make Odisha disaster resilient as we are frequented by such climate hazards every year and highlighted State's demand for disaster resilient power infrastructure and resilient coastal ***protection*** with ***storm surge*** resilient embankments."

It needs to be mentioned that on May 1, the Centre had released ₹641.6 crore in advance as the first instalment of the Central share of the State Disaster Response Fund.

Disaster resilient power system After the review meeting, Pradeep Kumar Jena, Special Relief Commissioner, elaborated that disaster resilient power system meant adoption of better technology and design preferably going in for underground power supply and strengthening of the power infrastructure.

"Similarly, though we have a 480-km long coastline, we have more than 1,600 km of saline embankment. Of which, about 400 to 450 km is vulnerable as it can give ***protection*** to a tidal ***surge*** of 2 to 2.5 metre. If the ***storm surge*** goes beyond that height, we will be unable to give ***protection*** to the coastal region. The model says Balasore district could receive a ***storm surge*** upto 7-8 metre high, for which we want a robust ***protection*** system," Mr. Jena pointed out.

In 2019, when extremely severe cyclonic ***storm*** 'Fani' hit the Odisha coast, especially Puri district, the State government had come up with a demand for long-term disaster mitigation plan that required ₹17,000 crore from the Centre, including ₹10,000 crore for disaster resilient power infrastructure.

Similarly, after cyclone 'Amphan' hit four coastal districts in 2020, Odisha sought a ₹20,000 crore-package from the Centre to develop a disaster resilient infrastructure.

Governor Ganeshi Lal, Chief Minister Naveen Patnaik, Union Minister for Petroleum and Natural Gas Dharmendra Pradhan and Minister of State of Fisheries, Animal Husbandry and Dairying Pratap Chandra Sarangi were present at the meeting.

**Load-Date:** May 28, 2021

**End of Document**