

Hurricane Georges

Storm Surge September 1998

Mississippi, Alabama, and Florida

Prepared by: U. S. Army Corps of Engineers, Mobile District,
Coastal, Hydrology, and Hydraulic Design Section
in cooperation with the United States Geological Survey;
Alabama, Florida, and Mississippi Districts

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Hurricane Georges

September 1998

High Water Marks

Purpose

Hurricane Georges (pronounced "Zhorzh") made landfall Monday, September 28th 1998 along the Gulf Coast in the Ocean Springs/Biloxi, Mississippi area. Hurricane Georges' rain and wind caused severe coastal erosion, record flooding and several fatalities. The Mobile District Corps of Engineers (COE) was tasked by the Federal Emergency Management Agency (FEMA) to locate and survey High Water Marks (HWM) along the Gulf of Mexico beaches, river bays, sounds and estuaries where significant storm surge occurred. The Gulf Coast area was limited to the coastlines of Alabama, Mississippi and Northwest Florida. The purpose of this report is to present the HWM data.

High Water Marks

As a hurricane makes landfall and water begins to recede, evidence of high water is left behind. These are referred to as High Water Marks (HWM) and categorized into 4 groups

Inside Mark (I)– Marks defined by lines of mud, seed, and small broken debris or other marking substance left in closets, storage rooms, or other protected areas that would produce stilling well¹ type marks.

Outside Mark (O)– A mark from debris, mud seeds, or other marking substance left on building, post, trees, or on the ground.

Wave Height (W.H.) – A mark such as foam, debris or seed line on sand dunes, bulkheads, etc., within 200-300 feet of the water's edge at normal water level where a wave passed between the sand dunes, bulkheads, etc.

Wave Height Run-up (W.H.R.U.) – A mark such as a foam, debris or seed line where the waves approached the shore and ran up an incline within 220-500 feet from the water's edge at normal water level.

¹Stilling Well - A device used to allow monitoring of water levels in turbulent flow.

HWM data collection began September 30, 1998, two days after the storm made landfall. While the post-Georges data gathering effort was coordinated by the Mobile District Corps of Engineers, other agencies provided invaluable assistance. The United States Geological Survey (USGS) in Alabama, Florida, and Mississippi provided HWM survey

teams to COE. The National Weather Service (NWS) provided up to the minute and final meteorological data. FEMA funded the post storm data survey effort.

A total of 255 HWM were surveyed along the Gulf Coast from Hancock County, Mississippi eastward to Franklin County, Florida. Each team attempted to collect inside HWM's whenever inside marks were available. Outside marks were collected at those locations where inside marks were unavailable

Method of Collection

Before the hurricane made landfall, COE personnel gathered USGS 7 ½ " minute Quadrangle maps (topographic), HWM information from previous storms, and vertical control information to equip ten HWM teams with required survey and mapping information. Immediately after the hurricane made landfall and driving advisories were lifted, the ten teams were dispatched. The USGS teams were sent to the coastlines within their state district and COE personnel were sent to the four most westward counties in Florida and the two coastal counties of Alabama. The ten two-man teams comprised of COE and USGS personnel collected and surveyed HWM for an 11 county area (see Appendix M for team personnel description).

HWM data was collected based on visual observations by personnel who were familiar with collection of HWM. Each HWM is described to include location information, quality of mark, classification and other pertinent information in the field book and on data forms. A minimum of 1 photograph of the HWM was taken at each site. Where possible, HWM were recovered at or near the HWM locations of previous hurricanes Betsy, Frederic, Erin, Opal and Danny.

The HWM information must be determined as quickly as possible because any subsequent rainfall will wash away the outside marks and clean-up effort can remove inside marks making them irretrievable. An efficient operation requires the field personnel to have considerable experience in location, describing, and determining the elevation of HWM.

Coordinates

The geographic location of each HWM was described by using latitude and longitude. The coordinates of the HWMS were determined where required in the field using a dual frequency Differential Geographic Position System (DGPS). Coordinates for HWM obtained at locations from previous storms were available in Mobile District archives. However, coordinates were scaled from USGS 7 ½" Quadrangle maps for a few locations were DGPS and previous storm coordinates were not available. Field personnel plotted each HWM onto USGS Quadrangle maps to verify coordinate position.

Elevation

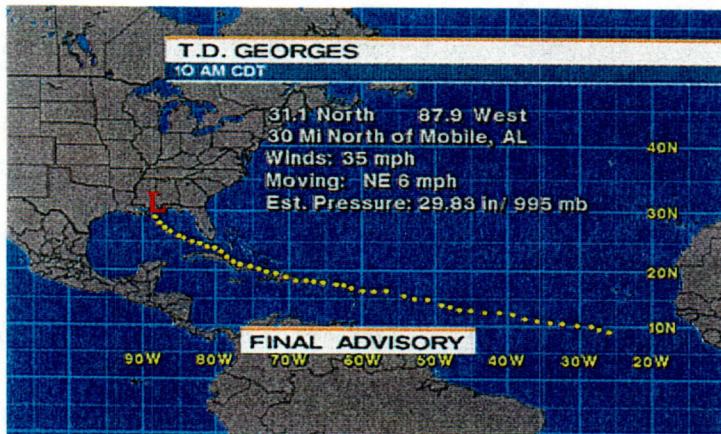
The HWM teams used conventional survey methods to determine elevations of the HWMs. The sources of benchmark elevation data for vertical control are USGS, COE, Florida Department of Natural Resources (DNR), National Geodetic Survey (NGS), State Highway Departments and Local Counties. Each 2-man crew used conventional survey level, tripod, and level rod to obtain elevations. FEMA requested COE to reference all HWM elevations to National Geodetic Vertical Datum (NGVD) of 1929. This is the datum used in the construction of the topographic charts published by USGS. Several benchmarks are converted to National American Vertical Datum (NAVD) of 1988. The NAVD 88 elevations transferred to NGVD using NGS VERTical CONversion (VERTCON) Transformation Program.

Hurricane Georges Storm Review

Development

On September 15th, a tropical depression formed in the far eastern Atlantic Ocean about

400 miles south-southwest of the Cape Verde Islands. The depression had actually evolved from a disturbance that had moved off the African coast several days prior. The depression moved west at 20 mph and was classified as tropical storm Georges the following morning. As the storm system continued westward, steady intensification continued. By late afternoon on September 17th, Georges was updated to a hurricane. Over the next two days, Georges



The classic long track of the "Cape Verde" hurricane, Georges September 1998.

continued to move on a course slightly north of due west. As the hurricane approached to within 400 miles of the Leeward Islands, sudden and rapid intensification ensued. On the afternoon of September 19th, with the storm only a couple of hundred miles east of the Caribbean, Georges was packing 150-mph winds. This made it a dangerous category 4 hurricane on the Saffir-Simpson scale. Inexplicably, the hurricane weakened to a category 2 type storm as it moved westward through the Leeward, U. S., and British Virgin Islands on September 20th and 21st. On the night of the 21st, the hurricane passed directly over the entire island of Puerto Rico with winds in excess of 100 mph. Torrential rainfall, locally up to 20 inches, swamped the island. To date, damage estimates are already over two billion dollars in Puerto Rico alone. During the next three days hurricane Georges tracked further westward across the Dominican Republic, Haiti, and



AP Photo/Daniel Morel

La Croix Catholic church which was destroyed by flooding from Hurricane Georges in Fonds Verrettes, about 50 miles (85 kms) west of the capital of Port-au-Prince, Haiti Wednesday, Sept. 30, 1998. The village was almost totally wipeout by the floodwaters, and at least 86 people have died.

Cuba. Weakened only slightly by the mountainous terrain, devastating mudslides killed hundreds of people, especially in the Dominican Republic. Preliminary reports indicate that some 300 have perished and over 500 are missing.

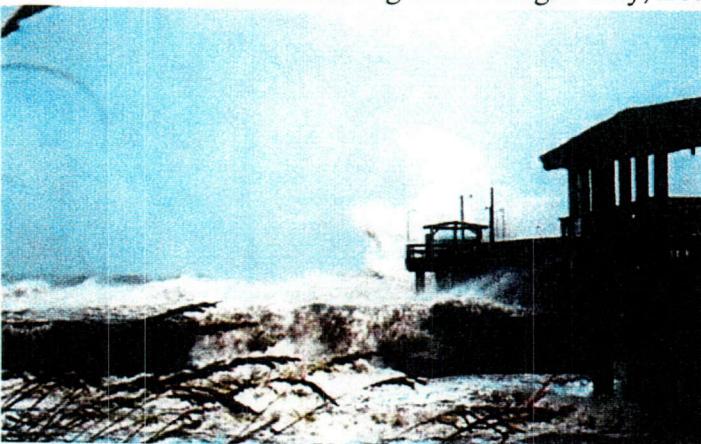
Entering the Gulf of Mexico

On the afternoon of September 24th, Georges emerged off the north coast of Cuba. Moving into the warm waters of the Florida Straits, the hurricane began to re-intensify. Pursuing a west-northwest track, the eye of the storm passed directly over Key West, Florida on the afternoon of the 25th. Winds gusted up to 115 mph throughout the lower Florida Keys. September 26th found hurricane Georges over the open waters of the southeastern Gulf of Mexico. Gradually, the storm began to turn more to the northwest. By this time, Georges was a large storm with gale force winds extending nearly 200 miles to the north and east of the center. At 10 AM CDT, a hurricane warning was issued for the northern Gulf Coast extending from Morgan City, Louisiana eastward to St. Marks,



AP Photo/Dave Martin

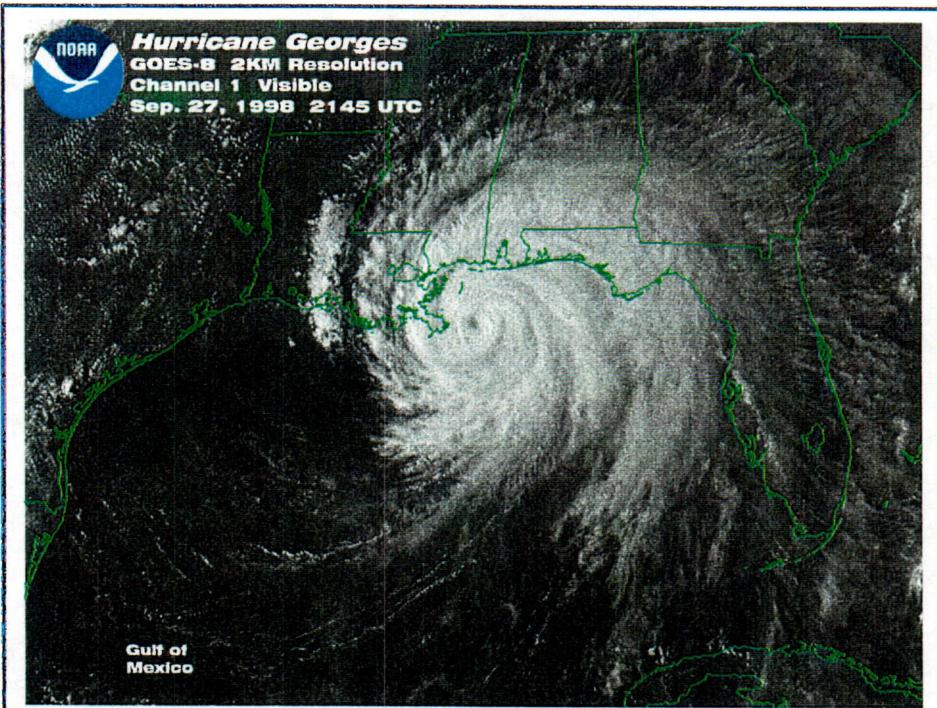
Debris from destroyed houseboats is scattered across the road near Houseboat Row in Key West, Fla., on Friday, Sept. 25, 1998 as 90 mph winds batter the island city as the eye of Hurricane Georges passes nearby. The storm destroyed several dozen houseboats and caused considerable damage from wind and flooding.



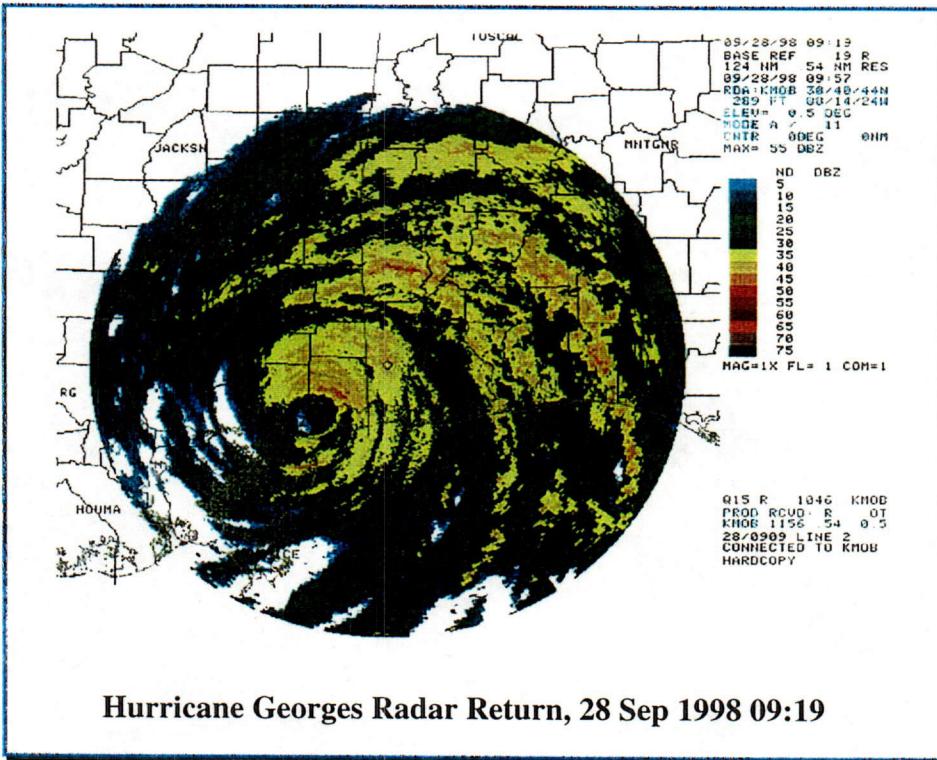
Photo/Sara Altmeyer

The state pier in Gulf Shores, Alabama on Sunday morning at 9:30 am with a huge wave crashing over the end of it. Hurricane Georges did not make landfall for many hours after this.

Florida. Georges intensified only slightly as it approached the middle Gulf Coast on the 27th. By afternoon, the hurricane was centered just east of the mouth of the Mississippi River with maximum sustained winds of 110 mph. However, its movement had slowed to a crawl, drifting to the north at only 7 to 8 mph. Gale force winds were already buffeting the coastal areas.



Hurricane Georges Visible Satellite Image, 27 Sep 1998



Hurricane Georges Radar Return, 28 Sep 1998 09:19

Landfall

Hurricane Georges made landfall at 6 AM CDT Monday, September 28th in the Ocean Springs/Biloxi, Mississippi area. The large eye was partially over Ocean Springs as clear skies and stars were observed. Maximum sustained winds at landfall were 105 mph in a small area east of the center based on the last official observation prior to landfall.

This officially made Georges a strong category 2 hurricane.

The lowest pressure measured at landfall was 28.37 inches. Keesler Air Force Base reported wind gusts of 90 to 100 mph. Over on the Alabama coast, Dauphin Island measured 80 mph winds. Other peak wind gusts included Mobile, AL with 63 mph;

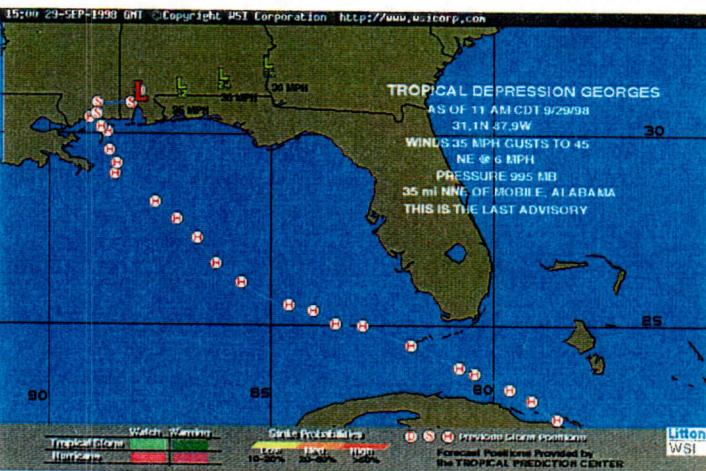
Pensacola, FL with 62 mph; and Destin, FL with 57 mph. Georges stalled on the coast shortly after making landfall, and by Monday evening had drifted only slightly inland. The storm weakened rapidly after moving ashore and was downgraded to a tropical storm at 4 PM Monday. As the weakening system moved slowly east-northeast, the final advisory on the storm was issued at 10 AM Tuesday, September 29th. At this time tropical



AP Photo/The Mobile Register, John David Mercer

The shell of a swimming pool rests behind the burned remains of Dolphin Condominiums in Orange Beach, Ala. Tuesday Sept. 29, 1998. The complex burned to the ground late Sunday evening as Hurricane Georges made its approach along the Gulf Coast.

depression George was centered some 30 miles north-northeast of Mobile, AL. The remnants of Georges then drifted slowly eastward across extreme south Alabama and the Florida panhandle.



AP Photo/Mobile Register, G.M.

Sailboats and debris clutter the lawn of a home on Dog River on the Mobile Bay tributary by the winds and storm surge of Hurricane Georges south of Mobile, Ala. Wednesday, Sept. 30, 1998.

Flooding

Because of the slow movement of the storm, coastal tidal surge and torrential rainfall was prolonged. Storm surges included Pascagoula, MS with 9.6 feet; Mobile, AL with 8.5 feet; and Gulf Shores, AL with 9 feet. Locally, up to 20 to 30 inches of rain inundated southwest Alabama and the Florida panhandle. Near Milton, FL an unofficial report measured 38.46 inches. Bay Minette, AL measured 29.66 inches; Andalusia, AL 26.90 inches; Pensacola, FL 26.83 inches; and Eglin Air Force Base 24.24 inches. Every coastal river and stream from Mississippi to the Florida panhandle experienced serious, life-threatening flooding. All-time record flood stages were measured at Flomaton, AL on the Escambia River with 20.4 feet; at Milligan, FL on the Yellow River with 20.3 feet; at Crestview, FL on the Shoal River with 23 feet; and at Baker, FL on the Blackwater River with 28.9 feet. Further east, heavy rains of 10 to 20 inches fell across south/central Alabama on the 28th and 29th. Lesser amounts of 6 to 8 inches reached as far east as southwest Georgia and the Florida Big Bend area.



Water Street in downtown Mobile was under water as Hurricane Georges made landfall along the Mississippi Coast, causing extensive flooding in four states.



Record floods occurred on many streams and rivers in the Florida Panhandle.

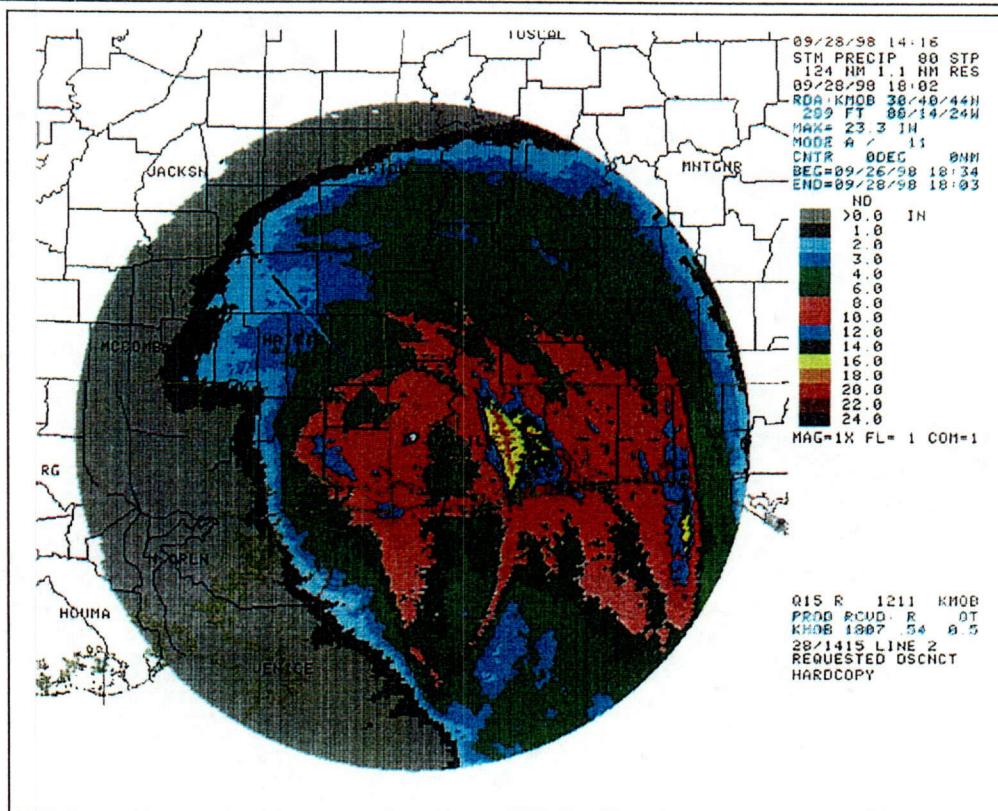
Every coastal river and stream from Mississippi to the Florida panhandle experienced serious,



Cars sit flooded in a parking garage along Water Street in Mobile on Monday, Sept. 28.

All told, in the United States, there were four storm related fatalities as a result of Georges. Georges was a classic long-track "Cape Verde" hurricane which inflicted a long trail of destruction, death, and human suffering.

Meteorological Data Precipitation



Hurricane Georges Precipitation 26-28 September 1998

Location	Rainfall (inches)
<i>Munson (NE of Milton)</i>	38.46
<i>Bay Minette</i>	29.66
<i>Andalusia</i>	26.90
<i>Gulf Breeze</i>	26.87
<i>Pensacola</i>	26.83
<i>Eglin AFB</i>	24.24
<i>Crestview</i>	19.98
<i>Brett, Florida</i>	19.97
<i>Spanish Fort</i>	19.86
<i>Niceville</i>	19.53
<i>Georgiana</i>	19.15
<i>Brewton</i>	18.44
<i>Whiting Field (Milton)</i>	18.41
<i>Daphne</i>	18.24
<i>Jay</i>	18.19
<i>Greenville</i>	18.15
<i>Semmes</i>	17.84
<i>Hurlburt Field</i>	17.08
<i>Pascagoula</i>	16.68
<i>Fairhope</i>	15.82
<i>Pensacola Airport</i>	15.78
<i>Ocean Springs</i>	15.68
<i>Whatley</i>	15.15
<i>Atmore</i>	15.15
<i>Mobile Regional Airport</i>	15.02
<i>Vancleave</i>	14.81
<i>Alabama Port</i>	13.66
<i>Wiggins</i>	13.25
<i>Mobile Downtown</i>	13.13
<i>Pensacola NAS</i>	12.84
<i>Jackson, AL</i>	12.76
<i>Leakesville</i>	11.44
<i>Camden</i>	10.77
<i>Thomasville</i>	10.20
<i>Alberta</i>	9.90
<i>Lyman</i>	9.85
<i>Keesler AFB</i>	9.18
<i>Pass Christian Harbor</i>	8.79
<i>Evergreen</i>	7.67
<i>Destin</i>	6.21
<i>Waveland</i>	4.42
<i>Bogalusa</i>	2.98

Source: National Weather Service Mobile/Slidell

Wind Data

Location	Wind Data from Hurricane Georges	
	Sustained	Wind(mph) Peak Gust
Mobile Regional Airport	51	83
Mobile Brookley Field	54	62
Pensacola Regional Airport	51	67
Crestview	32	49
Destin	38	56
Evergreen	36	45
Hurlburt Field	51	79
Eglin AFB	48	91
Pensacola NAS	46	70
Whiting Field (Milton)	44	58
Fairhope		64
Grand Bay		60
Semmes		49
Brewton		31
New Orleans International Airport	40	53
New Orleans Lakefront Airport	48	72
Pascagoula Trent Lott Airport	41	54
Gulfport Harbor	61	79
Gulfport Downtown – MS Power & Light		117

Source: National Weather Service Mobile/Slidell

Storm Track

Hurricane Georges 15-29 September 1998

ADV	LAT	LON	TIME	WIND (mph)	PR (mb)	STATUS
1	9.0	25.9	09/15/15Z	35	1006	TROPICAL DEPRESSION
2	9.5	27.4	09/15/21Z	35	1006	TROPICAL DEPRESSION
3	10.1	28.4	09/16/03Z	35	1006	TROPICAL DEPRESSION
4	10.2	30.3	09/16/09Z	35	1006	TROPICAL DEPRESSION
5	10.5	32.4	09/16/15Z	40	1005	TROPICAL STORM
6	10.7	34.0	09/16/21Z	46	1004	TROPICAL STORM
7	11.0	35.8	09/17/03Z	52	1000	TROPICAL STORM
8	11.4	37.5	09/17/09Z	52	1000	TROPICAL STORM
9	12.2	39.2	09/17/15Z	58	999	TROPICAL STORM
10	12.5	41.1	09/17/21Z	75	987	HURRICANE-1
11	12.6	43.1	09/18/03Z	81	984	HURRICANE-1
12	12.9	45.2	09/18/09Z	92	978	HURRICANE-1
13	13.1	46.6	09/18/15Z	98	978	HURRICANE-2
14	13.7	48.5	09/18/21Z	104	970	HURRICANE-2
14A	13.9	49.2	09/19/00Z	104	970	HURRICANE-2
15	14.0	50.0	09/19/03Z	104	970	HURRICANE-2
15A	14.1	50.7	09/19/06Z	104	970	HURRICANE-2
16	14.4	51.3	09/19/09Z	104	970	HURRICANE-2
16A	14.6	52.0	09/19/12Z	115	960	HURRICANE-3
17	15.0	52.8	09/19/15Z	127	948	HURRICANE-3
17A	15.4	53.5	09/19/18Z	127	949	HURRICANE-3
18	15.7	54.4	09/19/21Z	132	944	HURRICANE-4
18A	15.8	55.0	09/20/00Z	150	938	HURRICANE-4
19	15.8	55.8	09/20/03Z	150	939	HURRICANE-4
19A	15.9	56.5	09/20/06Z	150	939	HURRICANE-4
20	16.1	57.1	09/20/09Z	150	939	HURRICANE-4
20A	16.1	57.8	09/20/12Z	150	939	HURRICANE-4
21	16.3	58.5	09/20/15Z	150	939	HURRICANE-4
21A	16.4	59.2	09/20/18Z	132	949	HURRICANE-4
22	16.5	59.9	09/20/21Z	132	956	HURRICANE-4
22A	16.7	60.6	09/21/00Z	127	963	HURRICANE-3
23	16.9	61.4	09/21/03Z	115	966	HURRICANE-3
23A	17.0	62.1	09/21/06Z	115	966	HURRICANE-3
24	17.4	63.1	09/21/09Z	109	967	HURRICANE-2
24A	17.5	63.7	09/21/12Z	109	966	HURRICANE-2
25	17.7	64.3	09/21/15Z	109	966	HURRICANE-2
25A	17.9	65.2	09/21/19Z	109	972	HURRICANE-2
26	18.0	65.6	09/21/21Z	109	967	HURRICANE-2
26A	18.1	66.0	09/21/23Z	115	967	HURRICANE-3
26B	18.2	66.4	09/22/01Z	115	975	HURRICANE-3
27	18.1	66.9	09/22/03Z	109	978	HURRICANE-2
27A	18.1	67.5	09/22/05Z	109	978	HURRICANE-2
27B	18.0	67.6	09/22/07Z	109	974	HURRICANE-2
28	18.1	68.0	09/22/09Z	109	970	HURRICANE-2
28A	18.2	68.3	09/22/11Z	109	970	HURRICANE-2

ADV	LAT	LON	TIME	WIND (mph)	PR (mb)	STATUS
29	18.3	69.1	09/22/15Z	121	962	HURRICANE-3
29A	18.6	69.7	09/22/18Z	121	965	HURRICANE-3
30	18.8	70.3	09/22/21Z	109	970	HURRICANE-2
30A	18.9	71.3	09/23/00Z	92	985	HURRICANE-1
31	19.1	71.9	09/23/03Z	81	986	HURRICANE-1
31A	19.2	72.5	09/23/06Z	75	986	HURRICANE-1
32	19.5	73.3	09/23/09Z	75	986	HURRICANE-1
32A	19.8	73.8	09/23/12Z	75	987	HURRICANE-1
33	19.7	74.2	09/23/15Z	75	996	HURRICANE-1
33A	19.5	74.7	09/23/18Z	75	995	HURRICANE-1
34	19.8	75.1	09/23/21Z	75	995	HURRICANE-1
34A	20.3	75.3	09/24/00Z	75	992	HURRICANE-1
35	20.6	75.7	09/24/03Z	75	992	HURRICANE-1
35A	20.7	76.0	09/24/06Z	75	992	HURRICANE-1
36	21.1	76.7	09/24/09Z	75	992	HURRICANE-1
36A	21.1	77.0	09/24/12Z	75	989	HURRICANE-1
37	21.5	77.5	09/24/15Z	81	989	HURRICANE-1
37A	22.1	77.9	09/24/18Z	81	989	HURRICANE-1
38	23.8	80.7	09/25/09Z	98	985	HURRICANE-2
38A	22.9	79.0	09/25/00Z	86	987	HURRICANE-1
39	23.2	79.6	09/25/03Z	92	985	HURRICANE-1
39A	23.4	80.0	09/25/05Z	92	985	HURRICANE-1
39B	23.5	80.3	09/25/07Z	92	985	HURRICANE-1
40	23.8	80.7	09/25/09Z	98	985	HURRICANE-2
40A	24.0	81.1	09/25/11Z	98	984	HURRICANE-2
40B	24.2	81.5	09/25/13Z	98	982	HURRICANE-2
41	24.3	81.7	09/25/15Z	104	981	HURRICANE-2
41A	24.7	82.1	09/25/17Z	104	981	HURRICANE-2
42B	24.7	82.5	09/25/19Z	104	979	HURRICANE-2
42	24.9	82.9	09/25/21Z	104	975	HURRICANE-2
42A	24.7	83.1	09/26/00Z	104	974	HURRICANE-2
43	24.9	83.5	09/26/03Z	104	974	HURRICANE-2
44	25.5	84.5	09/26/09Z	104	974	HURRICANE-2
45	26.1	85.6	09/26/15Z	104	974	HURRICANE-2
45A	26.3	85.9	09/26/18Z	104	974	HURRICANE-2
46	26.6	86.2	09/26/21Z	109	968	HURRICANE-2
46A	27.0	86.5	09/27/00Z	109	970	HURRICANE-2
47	27.3	86.8	09/27/03Z	109	968	HURRICANE-2
47A	27.6	87.2	09/27/06Z	109	970	HURRICANE-2
48	28.1	87.6	09/27/09Z	109	970	HURRICANE-2
48A	28.2	87.8	09/27/12Z	109	962	HURRICANE-2
49	28.4	88.0	09/27/15Z	109	963	HURRICANE-2
49A	28.6	88.2	09/27/17Z	109	963	HURRICANE-2
49B	28.9	88.3	09/27/19Z	109	962	HURRICANE-2
50	29.0	88.5	09/27/21Z	109	961	HURRICANE-2
50A	29.2	88.4	09/27/23Z	109	962	HURRICANE-2
50B	29.3	88.5	09/28/01Z	109	961	HURRICANE-2
51	29.5	88.6	09/28/03Z	104	961	HURRICANE-2
51A	29.6	88.6	09/28/05Z	104	964	HURRICANE-2

ADV	LAT	LON	TIME	WIND (mph)	PR (mb)	STATUS
51B	29.9	88.7	09/28/07Z	104	964	HURRICANE-2
52	30.2	88.8	09/28/09Z	104	962	HURRICANE-2
52A	30.4	88.9	09/28/11Z	104	961	HURRICANE-2
52B	30.4	89.0	09/28/13Z	98	965	HURRICANE-2
53	30.5	88.9	09/28/18Z	75	972	HURRICANE-1
53A	30.5	88.9	09/28/18Z	75	972	HURRICANE-1
54	30.8	88.9	09/28/21Z	69	975	TROPICAL STORM
54A	30.7	89.0	09/29/00Z	52	977	TROPICAL STORM
55	30.5	88.9	09/29/03Z	46	985	TROPICAL STORM
55A	30.6	88.4	09/29/06Z	46	992	TROPICAL STORM
56	30.8	88.1	09/29/09Z	40	993	TROPICAL STORM
56A	31.0	88.0	09/29/12Z	40	993	TROPICAL STORM
57	31.1	87.9	09/29/15Z	35	995	TROPICAL DEPRESSION

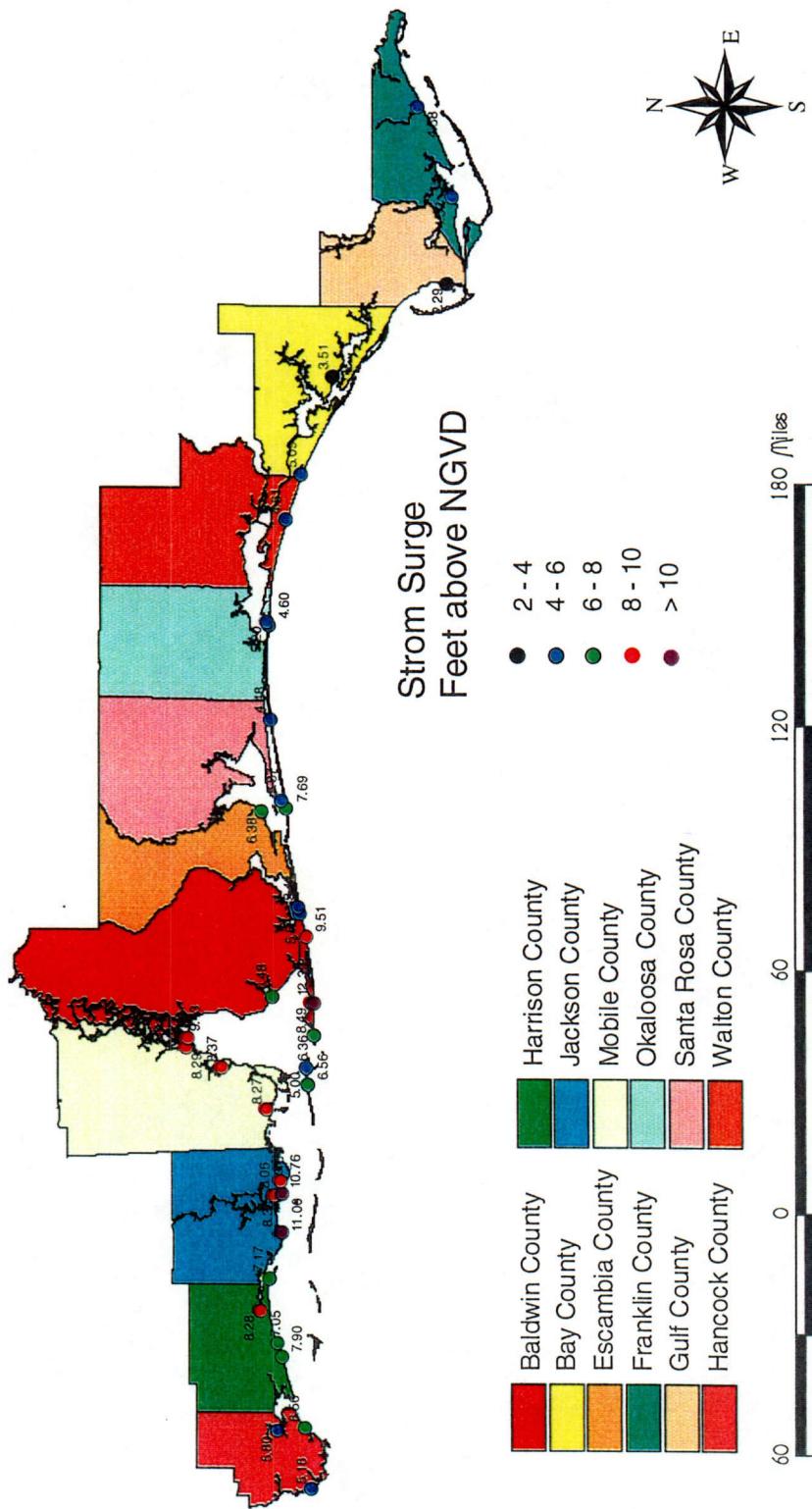
Storm Surge Representative

**Representative Storm Surge Elevations
Hurricane Georges**

Location	Surge Elevation, (Ft-NGVD)	Wave Height Run-up Elevation, (Ft-NGVD)
Mississippi		
Pearlington	5.2	
Waveland	6.6	
Bay St. Louis	5.8	
Pass Christian	7.9	
Gulfport	7.1	
Biloxi – Pt Cadet	8.1	
Biloxi – Back Bay	8.3	
Belle Fontaine Point	11.0	
Pascagoula – Hwy 90	8.1	
Pascagoula	8.4	
Pascagoula – Mississippi Sound	10.8	
Pascagoula – Bayou Chico	9.6	
Alabama		
Bayou La Batre	8.3	
Dauphin Island, Gulf	6.6	
Dauphin Island, Bay	5.0	
Mobile Bay – Hollingers Island	8.4	
Downtown Mobile	8.3	
Mobile Bay - Causeway	9.4	
Weeks Bay	6.5	
Fort Morgan – Bay	6.4	
Pine Beach – Bay	8.5	
Pine Beach – Gulf	10.8	
Gulf Shores	9.5	
Perdido Pass	5.6	
Ono Island	5.4	
Florida		
Pensacola	6.4	
Pensacola Beach	7.7	
Gulf Breeze – Santa Rosa Sound	4.5	
Navarre – Santa Rosa Sound	4.5	
Choctawhatchee Bay	5.2	
Destin Harbor	4.6	
Grayton Beach	4.6	
Panama City Beach	5.1	
Panama City Harbor	3.5	
Mexico Beach	---	6.8
Port St. Joe – Gulf Side	---	6.7
Port St. Joe – North Side	2.3	
Apalachicola Bay	4.5	
Carabelle	4.6	

Source: U. S. Army Corps of Engineers, Mobile District

Hurricane Georges Representative Storm Surge



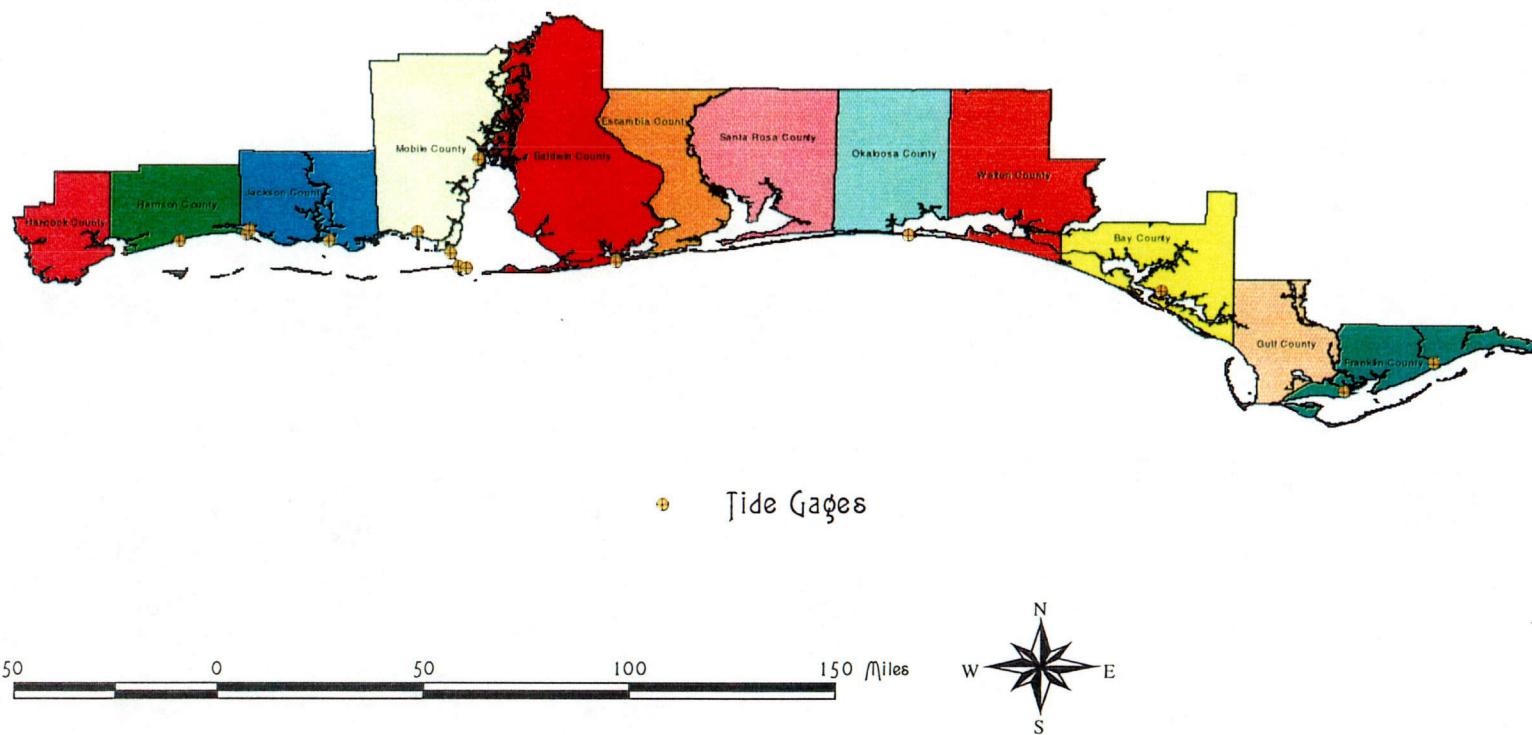
Tide Gage Data

Mobile District maintains a network of tide gages along the Gulf Coast from Gulfport, MS eastward to Carrabelle, FL. When there is a great possibility that a hurricane is going to strike the Gulf Coast COE personnel are dispatched to remove recorded data from coastal gages and insure that the gages are working properly to record the hurricane surge. All equipment is removed from gage sites in areas of direct storm path. Tide levels along the Gulf Coast for the time period during the storm are available at 12 gages. One gage was destroyed by the storm and a second gage malfunctioned. However, peak elevations are available at two gages. The next section contains the tide hydrographs. The following table contains location and storm peak information for the tide gages.

Tide Gage Designation	Peak During Georges (ft-NGVD)	Latitude	Longitude
Gulfport Harbor at Gulfport, MS (A-35)	7.05	30° 21' 50"	89° 05' 22"
Biloxi Bay at Point Cadet	7.17	30° 23' 23"	88° 51' 26"
Back Bay Biloxi at Biloxi, MS	8.05	30° 24' 17"	88° 50' 40"
*Pascagoula River at Pascagoula, MS	8.36	30° 21' 36"	88° 33' 50"
Middle Gage at Bayou LaBatre	8.27	30° 23' 55"	88° 15' 25"
Mobile River at Mobile, AL	8.94	30° 42' 16"	88° 02' 22"
Mobile Bay at Cedar Point, AL	5.60	30° 18' 38"	88° 08' 18"
Dauphin Island Bay at Dauphin Island	5.00	30° 15' 30"	88° 06' 28"
Mobile Bay at Dauphin Island (USCG)	4.59	30° 15' 04"	88° 04' 46"
Perdido Pass Orange Beach, AL	5.58	30° 16' 43"	87° 33' 18"
East Pass at Destin, FL	4.60	30° 23' 31"	86° 31' 33"
Watson Bayou at Panama City, FL	3.51	30° 09' 22"	85° 38' 12"
Apalachicola River at Apalachicola, FL	4.52	29° 43' 59"	84° 59' 43"
Carrabelle River at Carrabelle, FL	4.58	29° 51' 06"	84° 40' 33"

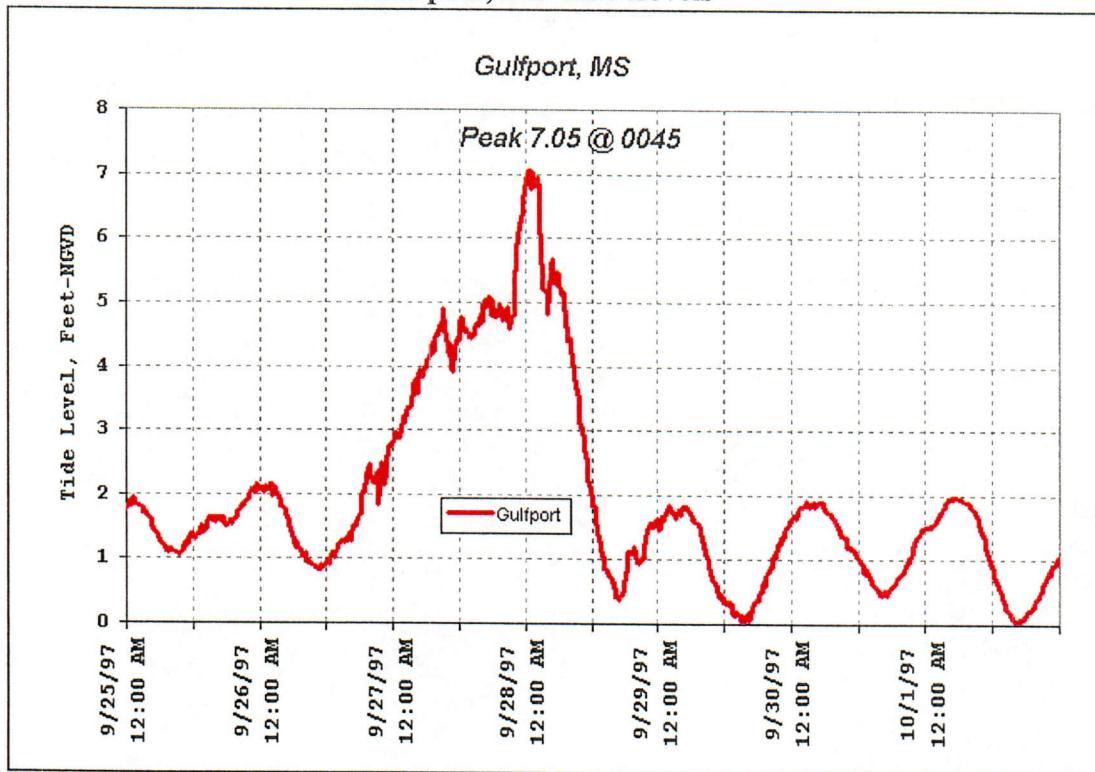
* destroyed by Hurricane Georges

Mobile District Tide Gages

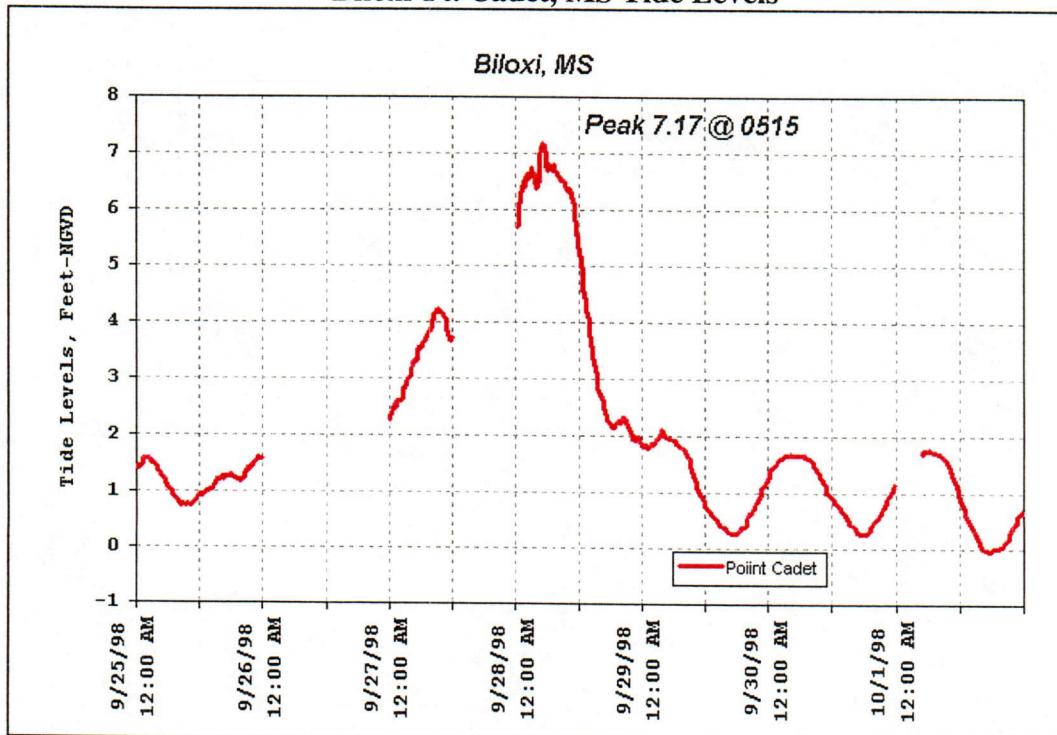


Tide Gage Hydrographs

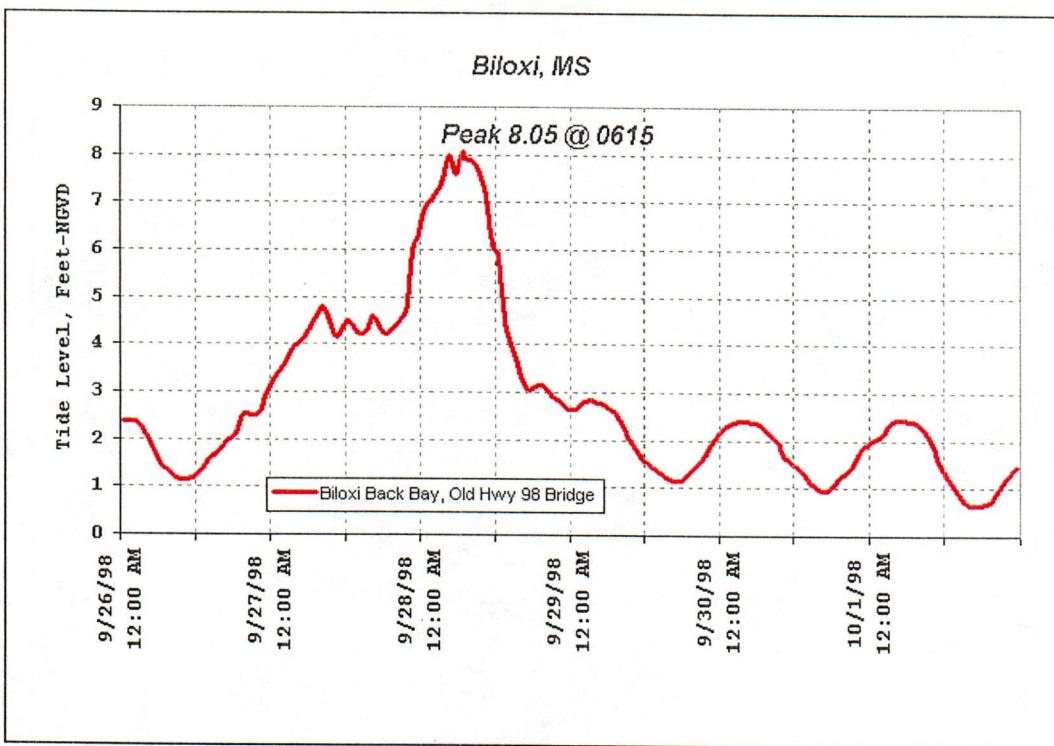
Gulfport, MS Tide Levels



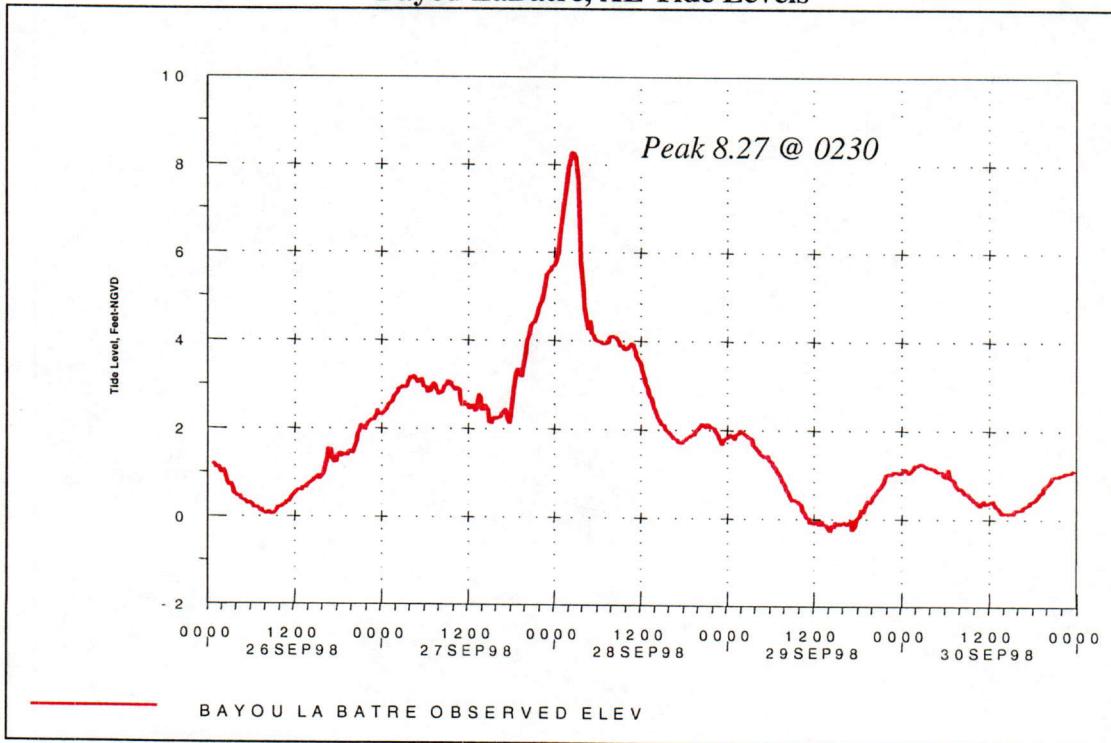
Biloxi-Pt. Cadet, MS Tide Levels



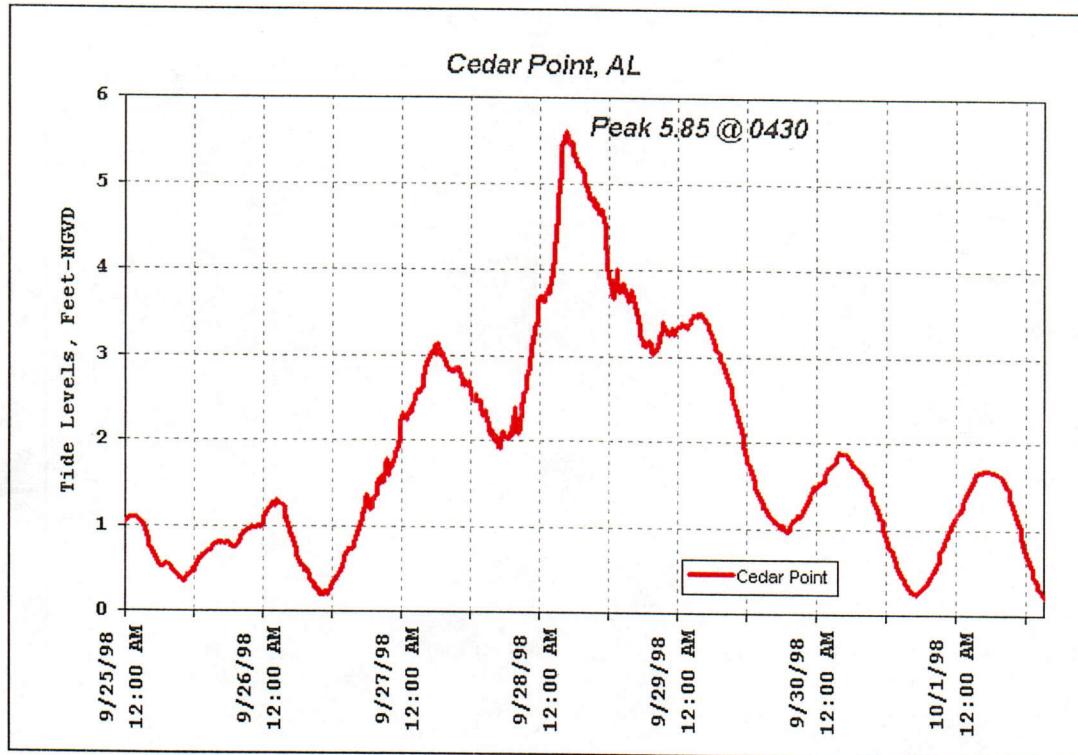
Biloxi-Back Bay, MS Tide Levels



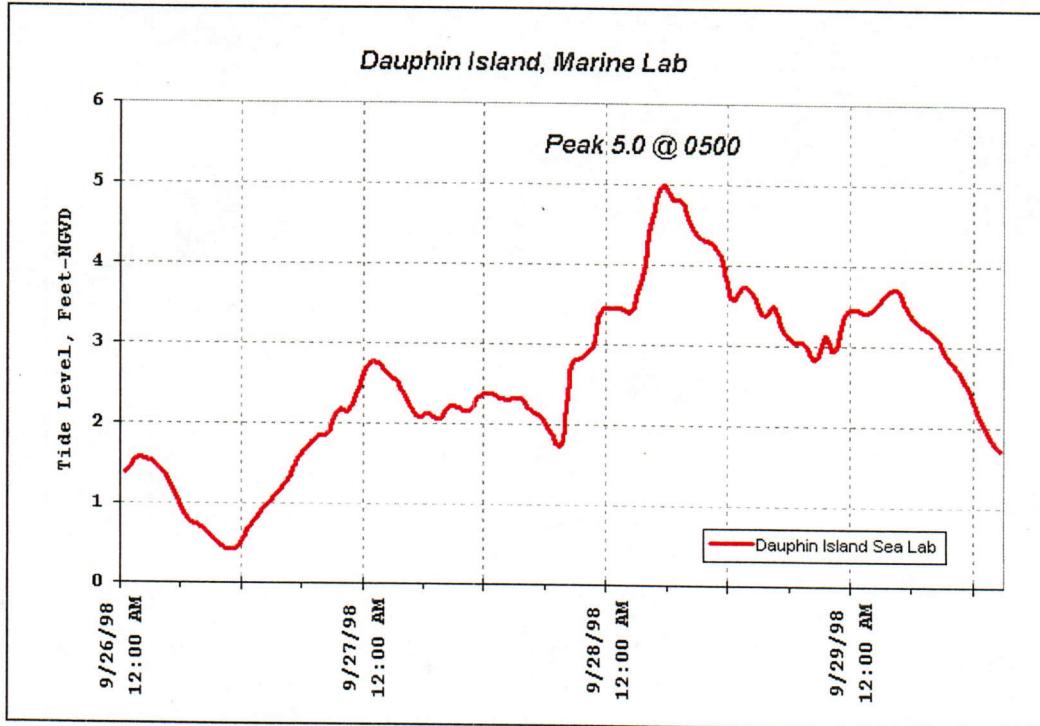
Bayou LaBatre, AL Tide Levels



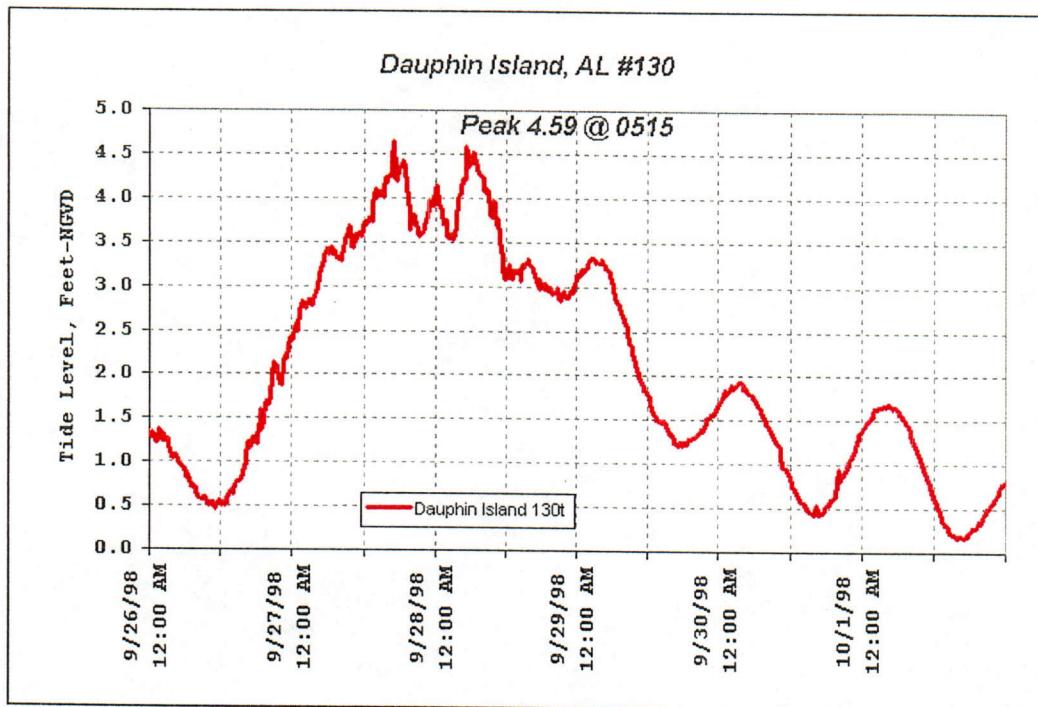
Cedar Point, AL Tide Levels



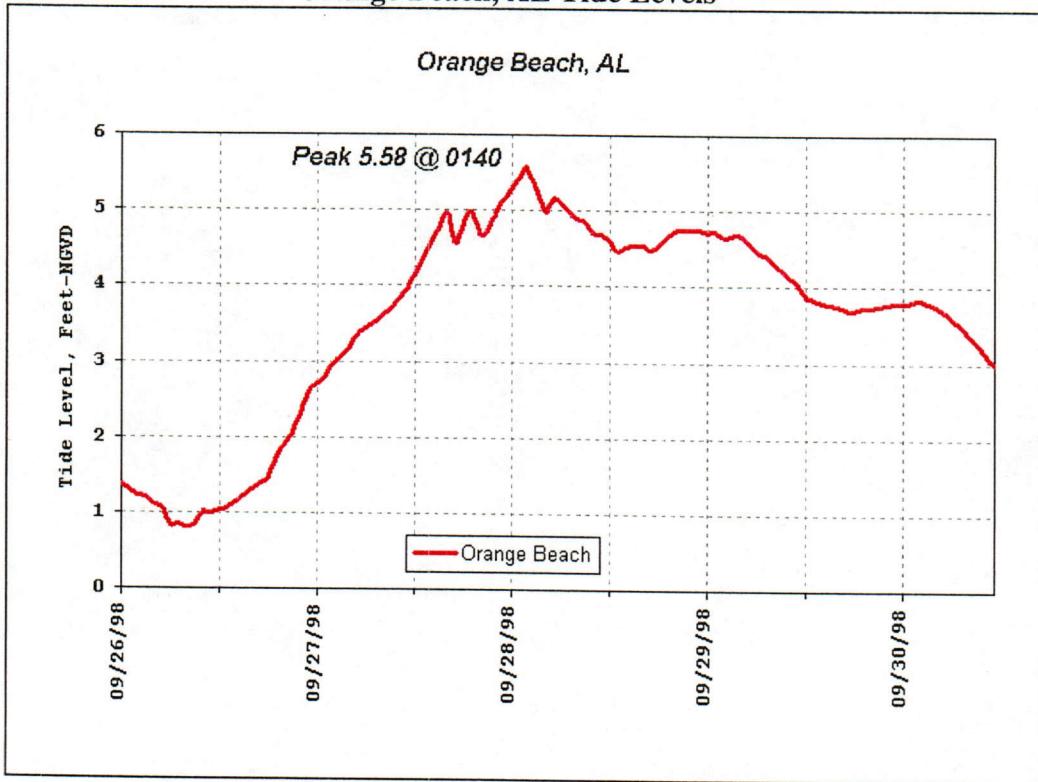
Dauphin Island, AL Tide Levels



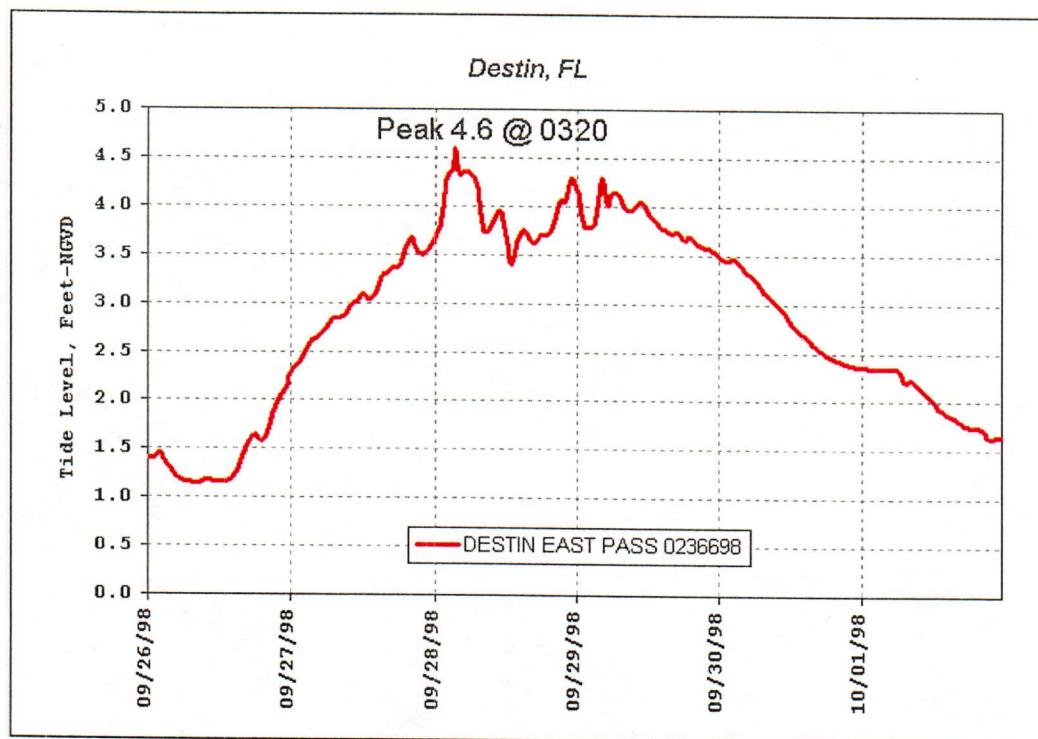
Dauphin Island, AL Tide Levels



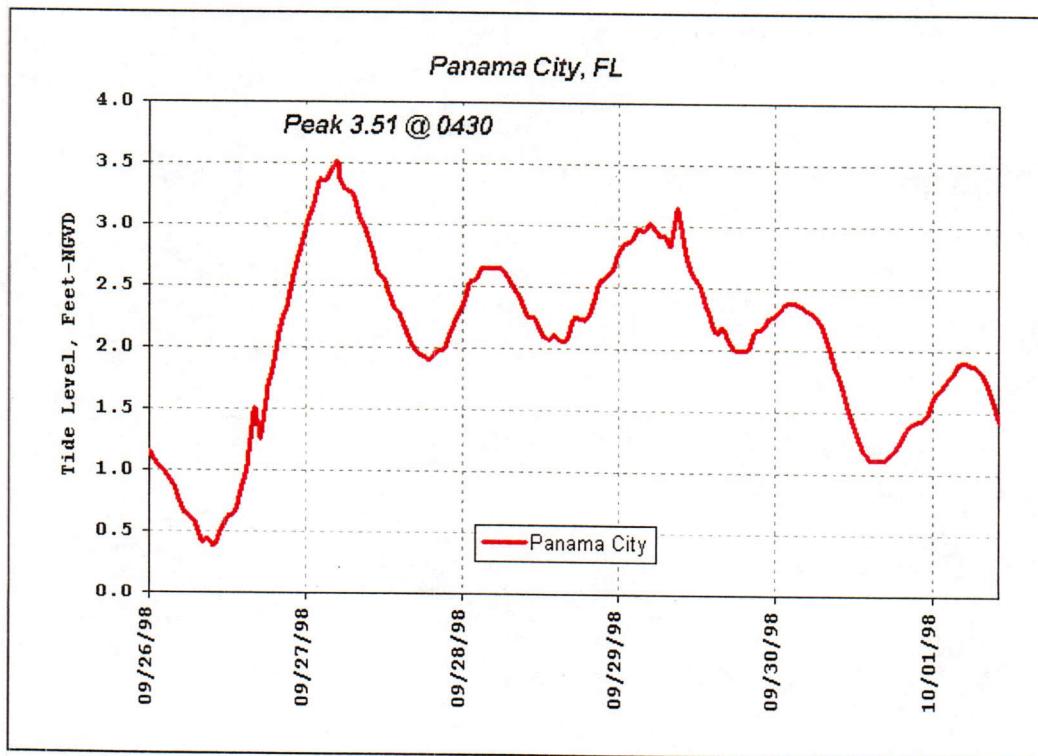
Orange Beach, AL Tide Levels



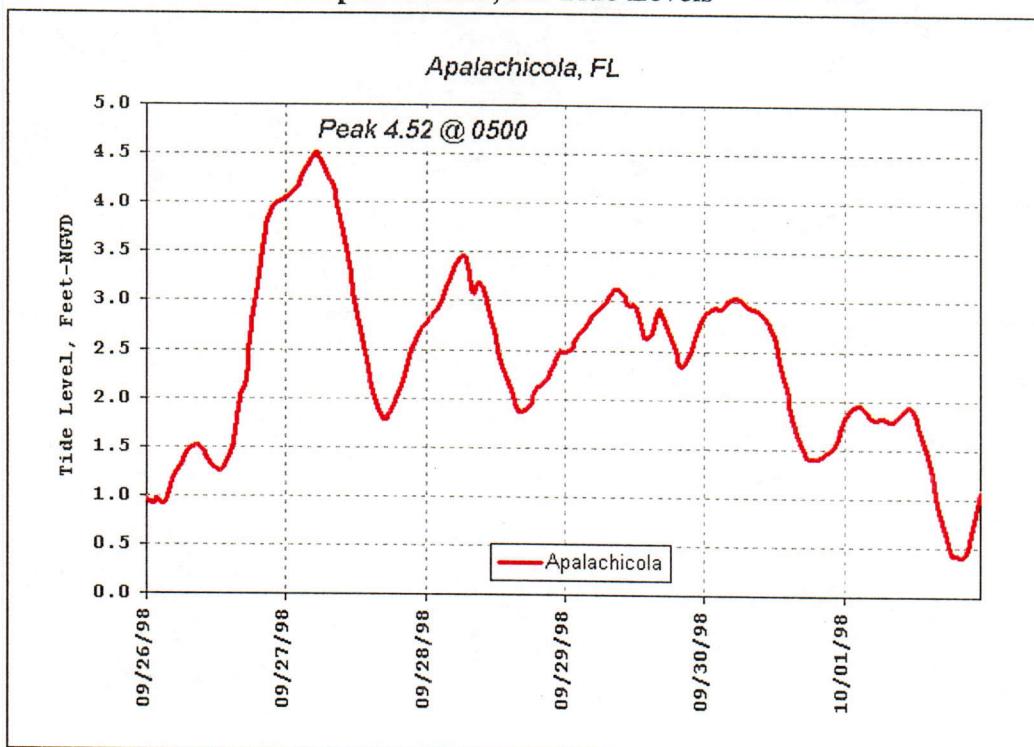
Destin, FL Tide Levels



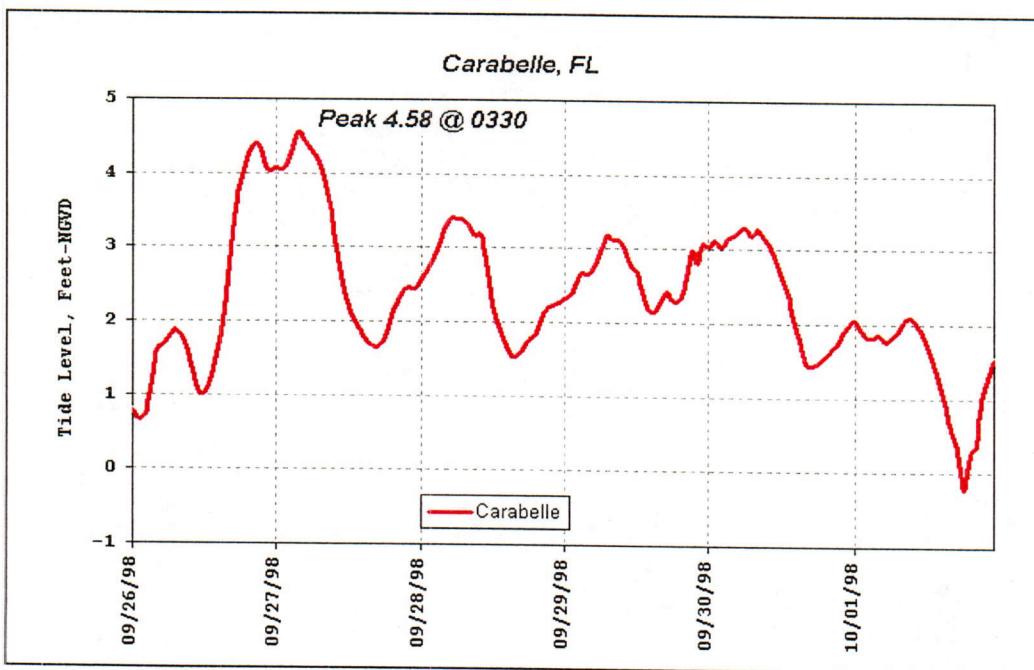
Panama City, FL Tide Levels



Apalachicola, FL Tide Levels



Carrabelle, FL Tide Levels



HWM Data

Detailed information on each HWM along with photographs are shown in the appendices of this report. The data is sorted by county west to east. The following table summarizes the pertinent data for each HWM. There are 12 locations with no elevation data because of unavailable vertical control. COE expects to eventually include elevation data for the 12 marks once vertical control is established, or additional benchmark information can be located. Appendix N is a brief description of the GIS developed for Hurricane Georges.

HWM Name	Date taken	Agency	Elevation Feet, NGVD	HWM Type	HWM Quality	County	USGS Quad	Nearest Town	Latitude (degrees)	Longitude (degrees)
St. Tammy Parish, LA										
GEELMS01	06-Oct-98	USGS	5.16	Outside	Excellent	ST. TAMMANY PARISH	ENGLISH LOOKOUT, MS	PEARLINGTON	30.238700	-89.619200
Hancock County, MS										
GEWAMS02	02-Oct-98	USGS	5.70	Outside	Excellent	HANCOCK	WAVELAND, MS	DIAMONDHEAD	30.330600	-89.425600
GEWAMS01	02-Oct-98	USGS	5.80	Outside	Good	HANCOCK	WAVELAND, MS	DIAMONDHEAD	30.362800	-89.409200
GEWAMS03	06-Oct-98	USGS	6.56	Outside	Good	HANCOCK	WAVELAND, MS	WAVELAND	30.263400	-89.394500
GEBSMS02	02-Oct-98	USGS	5.70	Outside	Fair	HANCOCK	BAY ST. LOUIS, MS	BAY ST. LOUIS	30.322800	-89.326700
Harrison County, MS										
GEBSMS01	02-Oct-98	USGS	5.66	Outside	Excellent	HARRISON	BAY ST. LOUIS, MS	HENDERSON POINT	30.309400	-89.287200
GEPCMS03	02-Oct-98	USGS	6.80	Inside	Excellent	HARRISON	PASS CHRISTIAN, MS	PASS CHRISTIAN	30.312400	-89.245800
GENWMS01	02-Oct-98	USGS	4.78	Outside	Excellent	HARRISON	GULFPORT NW, MS	CUEVAS	30.375600	-89.231200
GEPCMS01	02-Oct-98	USGS	4.97	Outside	Fair	HARRISON	PASS CHRISTIAN, MS	CUEVAS	30.337600	-89.218100
GEPCMS02	02-Oct-98	USGS	6.27	Outside	Excellent	HARRISON	PASS CHRISTIAN, MS	PASS CHRISTIAN	30.337600	-89.218100
GEPCMS05	02-Oct-98	USGS	7.20	Outside	Good	HARRISON	PASS CHRISTIAN, MS	LONG BEACH	30.333600	-89.178900
GEPCMS04	02-Oct-98	USGS	7.90	Inside	Good	HARRISON	PASS CHRISTIAN, MS	LONG BEACH	30.346000	-89.142300
GEGSMS02	02-Oct-98	USGS	6.77	Outside	Poor	HARRISON	GULFPORT SOUTH, MS	GULFPORT	30.358000	-89.097000
'GEGUMS08	02-Oct-98	USGS	12.60	Inside	Good	HARRISON	GULFPORT NORTH, MS	GULFPORT	30.413100	-89.092800
GEGSMS01	01-Oct-98	USGS	6.97	Inside	Excellent	HARRISON	GULFPORT SOUTH, MS	GULFPORT	30.365200	-89.089500
GEGSMS03	04-Oct-98	COE	7.05	Inside	Excellent	HARRISON	GULFPORT SOUTH, MS	GULFPORT	30.363893	-89.089424
GEGUMS07	02-Oct-98	USGS	9.40	Inside	Excellent	HARRISON	GULFPORT NORTH, MS	GULFPORT	30.431500	-89.087600

HWM Name	Date taken	Agency	Elevation Feet, NGVD	HWM Type	HWM Quality	County	USGS Quad	Nearest Town	Latitude (degrees)	Longitude (degrees)
GEGUMS09	02-Oct-98	USGS	7.60	Outside	Excellent	HARRISON	GULFPORT NORTH, MS	GULFPORT	30.396500	-89.057400
GEGUMS04	01-Oct-98	USGS	7.50	Inside	Excellent	HARRISON	GULFPORT NORTH, MS	GULFPORT	30.378100	-89.043700
¹ GEGUMS06	02-Oct-98	USGS	10.00	Inside	Excellent	HARRISON	GULFPORT NORTH, MS	LORAIN	30.452800	-89.027700
GEGUMS05	01-Oct-98	USGS	8.87	Inside	Excellent	HARRISON	GULFPORT NORTH, MS	GULFPORT	30.403500	-89.026900
GEGUMS03	01-Oct-98	USGS	7.60	Outside	Poor	HARRISON	GULFPORT NORTH, MS	GULFPORT	30.383800	-89.020100
GEGUMS02	01-Oct-98	USGS	9.30	Inside	Excellent	HARRISON	GULFPORT NORTH, MS	LORAIN	30.453400	-89.013300
GEGUMS01	01-Oct-98	USGS	8.70	Inside	Excellent	HARRISON	GULFPORT NORTH, MS	LORAIN	30.452700	-89.013100
GEBIMS02	01-Oct-98	USGS	8.17	Outside	Excellent	HARRISON	BILOXI, MS	BILOXI	30.414200	-88.975600
GEBIMS01	01-Oct-98	USGS	8.28	Outside	Good	HARRISON	BILOXI, MS	BILOXI	30.424600	-88.974600
GEBIMS06	01-Oct-98	USGS	9.70	Outside	Excellent	HARRISON	BILOXI, MS	D'IBERVILLE	30.453100	-88.942500
GEBIMS03	01-Oct-98	USGS	7.28	Outside	Good	HARRISON	BILOXI, MS	BILOXI	30.393700	-88.933000
GEBIMS05	01-Oct-98	USGS	8.08	Inside	Excellent	HARRISON	BILOXI, MS	D'IBERVILLE	30.426900	-88.895900
GEBIMS04	01-Oct-98	USGS	7.30	Outside	Excellent	HARRISON	BILOXI, MS	BILOXI	30.393700	-88.877700
GEOSMS05	01-Oct-98	USGS	7.67	Outside	Excellent	HARRISON	OCEAN SPRINGS, MS	BILOXI	30.399300	-88.863600
GEOSMS04	01-Oct-98	USGS	8.07	Inside	Excellent	HARRISON	OCEAN SPRINGS, MS	BILOXI	30.396400	-88.860400
GEOSMS09	04-Oct-98	COE	7.17	Inside	Excellent	Harrison	Ocean Springs, MS	Biloxi	30.389722	-88.857222
GEOSMS08	04-Nov-98	COE	8.05	Inside	Excellent	Harrison	Ocean Springs, MS	Biloxi	30.404722	-88.844444
Jackson County, MS										
GEOSMS03	01-Oct-98	USGS	8.27	Outside	Excellent	JACKSON	OCEAN SPRINGS, MS	OCEAN SPRINGS	30.411300	-88.841100
GEOSMS07	30-Sep-98	USGS	8.40	Outside	Good	JACKSON	OCEAN SPRINGS, MS	OCEAN SPRINGS	30.408300	-88.828100
GEOSMS06	30-Sep-98	USGS	8.10	Outside	Good	JACKSON	OCEAN SPRINGS, MS	OCEAN SPRINGS	30.403600	-88.823300
GEOSMS01	08-Oct-98	USGS	7.70	Inside	Excellent	JACKSON	OCEAN SPRINGS, MS	OCEAN SPRINGS	30.393300	-88.797700
¹ GEOSMS02	30-Sep-98	USGS	11.17	Outside	Excellent	JACKSON	OCEAN SPRINGS, MS	OCEAN SPRINGS	30.407400	-88.763900
GEGNMS02	30-Sep-98	USGS	9.99	Outside	Excellent	JACKSON	GAUTIER NORTH, MS	FONTAINEBLEAU	30.381700	-88.742200
¹ GEGNMS01	30-Sep-98	USGS	11.09	Outside	Excellent	JACKSON	GAUTIER NORTH, MS	FONTAINEBLEAU	30.442800	-88.721400
GEGAMS02	30-Sep-98	USGS	11.00	Outside	Excellent	JACKSON	GAUTIER SOUTH, MS	GAUTIER	30.346900	-88.694700
GEGAMS01	30-Sep-98	USGS	10.60	Outside	Excellent	JACKSON	GAUTIER SOUTH, MS	GAUTIER	30.364700	-88.661900
GEPNMS02	30-Sep-98	USGS	8.80	Outside	Good	JACKSON	PASCAGOULA NORTH, MS	ESCATAWPA	30.438300	-88.617500

HWM Name	Date taken	Agency	Elevation Feet, NGVD	HWM Type	HWM Quality	County	USGS Quad	Nearest Town	Latitude (degrees)	Longitude (degrees)
GEPNMS03	30-Sep-98	USGS	9.40	Outside	Fair	JACKSON	PASCAGOULA NORTH, MS	ESCATAWPA	30.437200	-88.617200
GEPNMS04	30-Sep-98	USGS	9.20	Outside	Good	JACKSON	PASCAGOULA NORTH, MS	ESCATAWPA	30.437800	-88.616700
GEPNMS08	30-Sep-98	USGS	8.77	Outside	Good	JACKSON	PASCAGOULA NORTH, MS	GAUTIER	30.381600	-88.603500
GEPNMS07	30-Sep-98	USGS	8.47	Outside	Good	JACKSON	PASCAGOULA NORTH, MS	GAUTIER	30.382000	-88.603300
GEPNMS05	30-Sep-98	USGS	8.47	Inside	Excellent	JACKSON	PASCAGOULA NORTH, MS	GAUTIER	30.383300	-88.603000
GEPNMS06	30-Sep-98	USGS	8.77	Outside	Good	JACKSON	PASCAGOULA NORTH, MS	GAUTIER	30.383300	-88.603000
GEPSMS02	30-Sep-98	USGS	7.96	Outside	Good	JACKSON	PASCAGOULA SOUTH, MS	PASCAGOULA	30.372800	-88.564700
GEPSMS08	04-Oct-98	COE	8.36	Inside	Good	JACKSON	PASCAGOULA SOUTH, MS	PASCAGOULA	30.360000	-88.563889
GEPSMS01	30-Sep-98	USGS	8.06	Outside	Excellent	JACKSON	PASCAGOULA SOUTH, MS	PASCAGOULA	30.371700	-88.560800
GEPSMS03	30-Sep-98	USGS	10.76	Outside	Excellent	JACKSON	PASCAGOULA SOUTH, MS	PASCAGOULA	30.344200	-88.558300
GEPNMS01	30-Sep-98	USGS	5.30	Outside	Good	JACKSON	PASCAGOULA NORTH, MS	ESCATAWPA	30.438400	-88.550800
GEPNMS09	30-Sep-98	USGS	8.60	Inside	Excellent	JACKSON	PASCAGOULA NORTH, MS	MOSS POINT	30.432500	-88.544300
GEPSMS05	06-Oct-98	USGS	10.79	Inside	Fair	JACKSON	PASCAGOULA SOUTH, MS	PASCAGOULA	30.344600	-88.544100
GEPSMS04	06-Oct-98	USGS	9.35	Inside	Good	JACKSON	PASCAGOULA SOUTH, MS	PASCAGOULA	30.343700	-88.522700
GEPSMS06	06-Oct-98	USGS	9.55	Inside	Excellent	JACKSON	PASCAGOULA SOUTH, MS	PASCAGOULA	30.343400	-88.522100
¹ GEPNMS10	07-Oct-98	USGS	7.35	Outside	Fair	JACKSON	PASCAGOULA NORTH, MS	MOSS POINT	30.424300	-88.521300
GEPSMS07	07-Oct-98	USGS	9.64	Inside	Good	JACKSON	PASCAGOULA SOUTH, MS	PASCAGOULA	30.352400	-88.509400
¹ GEKRMS01	06-Oct-98	USGS	9.06	Outside	Excellent	JACKSON	KREOLE, MS	ORANGE GROVE	30.423100	-88.456400
¹ GEKRMS03	06-Oct-98	USGS	11.90	Inside	Good	JACKSON	KREOLE, MS	ORANGE GROVE	30.458600	-88.452700
¹ GEKRMS02	06-Oct-98	USGS	12.10	Inside	Excellent	JACKSON	KREOLE, MS	ORANGE GROVE	30.460000	-88.443400
Mobile County, AL										
GEBFAL02	04-Oct-98	COE	10.26	W.H.R.U.	Good	Mobile	BelleFontaine, AL	Fowl River Point		

HWM Name	Date taken	Agency	Elevation Feet, NGVD	HWM Type	HWM Quality	County	USGS Quad	Nearest Town	Latitude (degrees)	Longitude (degrees)
GEGBAL05	01-Oct-98	COE	10.13	Wave Height	Good	Mobile	Grand Bay, AL	Bayou La Batre	30.382598	-88.270106
GEGBAL04	01-Oct-98	COE	8.56	Outside	Good	Mobile	Grand Bay, AL	Bayou La Batre	30.386890	-88.267331
GEGBAL03	30-Sep-98	COE	8.77	Outside	Good	Mobile	Grand Bay, AL	Bayou LaBatre	30.389543	-88.266570
GEGBAL06	30-Sep-98	COE	8.27	Inside	Excellent	Mobile	Grand Bay, AL	Bayou LaBatre	30.398673	-88.257059
GEGBAL01	06-Oct-98	COE	5.06	Outside	Good	Mobile	Grand Bay, AL	Bayou La Batre	30.407041	-88.256962
GEGBAL02	01-Oct-98	COE	10.09	Outside	Good	Mobile	Grand Bay, AL	Bayou La Batre	30.398884	-88.256773
GECOAL03	30-Sep-98	COE	8.70	Outside	Excellent	Mobile	Coden, AL	Bayou La Batre	30.404126	-88.248189
GECOAL02	30-Sep-98	COE	8.72	Outside	Good	Mobile	Coden, AL	Bayou La Batre	30.406669	-88.247318
GECOAL01	01-Oct-98	COE	8.65	Outside	Excellent	Mobile	Coden, AL	Bayou La Batre	30.409780	-88.244914
GECOAL05	02-Oct-98	COE	8.31	Inside	Excellent	Mobile	Coden, AL	Coden	30.382731	-88.238071
GECOAL06	05-Oct-98	COE	8.26	Inside	Excellent	Mobile	Coden, AL	Coden	30.382731	-88.238071
GECOAL04	02-Oct-98	COE	8.68	Outside	Excellent	Mobile	Coden, AL	Bayou La Batre	30.407004	-88.237662
GENWAL02	09-Oct-98	COE	5.80	Inside	Excellent	Mobile	NW Fort Morgan, AL	Dauphin Island West End	30.248872	-88.191415
GENWAL01	09-Oct-98	COE	5.46	Inside	Excellent	Mobile	NW Fort Morgan, AL	Dauphin Island	30.249386	-88.182997
GEHBAL10	09-Oct-98	COE	6.56	Inside	Excellent	Mobile	Heron Bay, AL	Dauphin Island	30.250907	-88.170855
GEHBAL11	09-Oct-98	COE	6.41	Inside	Excellent	Mobile	Heron Bay, AL	Daupin Island	30.250865	-88.159258
GECOAL07	05-Oct-98	COE	7.15	Outside	Excellent	Mobile	Coden, AL	Coden	30.376836	-88.158883
GEHBAL01	06-Oct-98	COE	7.22	Outside	Excellent	Mobile	Heron Bay, AL	Heron Bay	30.371142	-88.155250
GEHBAL09	07-Oct-98	COE	6.30	Inside	Good	Mobile	Heron Bay, AL	Dauphin Island	30.251525	-88.152890
GEHBAL02	05-Oct-98	COE	7.44	Outside	Excellent	Mobile	Heron Bay, AL	Heron Bay	30.361268	-88.144080
GEHBAL12	07-Oct-98	COE	6.73	Inside	Excellent	Mobile	Heron Bay, AL	Dauphin Island	30.362661	-88.143901
GEHBAL07	03-Oct-98	COE	5.17	Inside	Excellent	Mobile	Heron Bay, AL	Dauphin Island	30.253021	-88.140897
GEHBAL08	03-Oct-98	COE	6.43	Inside	Fair	Mobile	Heron Bay, AL	Dauphin Island	30.251915	-88.140078
GEHBAL13	30-Sep-98	COE	5.60	Inside	Excellent	Mobile	Heron Bay, AL		30.310454	-88.138211
GEHBAL03	04-Oct-98	COE	2.47	Outside	Good	Mobile	Heron Bay, AL	Heron Bay	30.366877	-88.135513
GEHBAL05	04-Oct-98	COE	7.54	W.H.R.U.	Excellent	Mobile	Heron Bay, AL	Heron Bay	30.338147	-88.128746
GEHBAL06	03-Oct-98	COE	5.18	Inside	Excellent	Mobile	Heron Bay, AL	Dauphin Island	30.250873	-88.127756
GELDAL03	03-Oct-98	COE	5.84	Outside	Excellent	Mobile	Little Dauphin Island, AL	Dauphin Island	30.252863	-88.121739

HWM Name	Date taken	Agency	Elevation Feet, NGVD	HWM Type	HWM Quality	County	USGS Quad	Nearest Town	Latitude (degrees)	Longitude (degrees)
GELDAL01	04-Oct-98	COE	8.36	Outside	Excellent	Mobile	Little Dauphin Island, AL	Alabama Point	30.362029	-88.115369
GEBFAL03	05-Oct-98	COE	7.13	Inside	Good	Mobile	BelleFontaine, AL	Fowl River Pt	30.444940	-88.114070
GEBFAL06	05-Oct-98	COE	6.94	Inside	Good	Mobile	BelleFontaine, AL	Alabama Port	30.394517	-88.109415
GEHIAL07	04-Oct-98	COE	8.37	Inside	Excellent	Mobile	Hollingers Island, AL	Hollingers Island	30.558014	-88.108917
GEBFAL07	06-Oct-98	COE	7.38	Inside	Good	Mobile	BelleFontaine, AL	Alabama Port	30.373695	-88.108729
GEBFAL05	05-Oct-98	COE	6.92	Outside	Good	Mobile	BelleFontaine, AL	Alabama Port	30.398875	-88.108648
GEHIAL05	02-Oct-98	COE	8.11	W.H.R.U.	Good	Mobile	Hollingers Island, AL	Hollingers Island	30.532881	-88.108075
GEHIAL08	05-Oct-98	COE	8.10	Inside	Good	Mobile	Hollingers Island, AL	BelleFontaine	30.517480	-88.107778
GELDAL02	03-Oct-98	COE	5.38	Outside	Excellent	Mobile	Little Dauphin Island, AL	Dauphin Island	30.257778	-88.107778
GELDAL06	30-Sep-98	COE	5.00	Inside	Excellent	Mobile	Little Dauphin Island, AL	Dauphin Island	30.258333	-88.107778
GEBFAL04	05-Oct-98	COE	6.91	Outside	Good	Mobile	BelleFontaine, AL	Faustinas	30.418541	-88.106627
GEBFAL01	01-Oct-98	COE	10.33	W.H.R.U.	Good	Mobile	BelleFontaine, AL	Sunny Cove	30.493648	-88.104291
GEHIAL04	02-Oct-98	COE	9.24	W.H.R.U.	Fair	Mobile	Hollingers Island, AL	Hollingers Island	30.524724	-88.093453
GEHIAL03	02-Oct-98	COE	8.05	Inside	Good	Mobile	Hollingers Island, AL	Brookley	30.563137	-88.089201
GELDAL04	03-Oct-98	COE	5.01	Outside	Good	Mobile	Little Dauphin Island, AL	Dauphin Island	30.257543	-88.088488
GEHIAL06	05-Oct-98	COE	8.79	Outside	Good	Mobile	Hollingers Island, AL	Brookley	30.609815	-88.086751
GEHIAL02	01-Oct-98	COE	8.67	Outside	Good	Mobile	Hollingers Island, AL	Brookley	30.584881	-88.082054
GELDAL05	03-Oct-98	COE	6.00	W.H.R.U.	Good	Mobile	Little Dauphin Island, AL	Dauphin Island	30.250119	-88.079380
GELDAL07	30-Sep-98	COE	4.59	Inside	Excellent	Mobile	Little Dauphin Island, AL	Dauphin Island	30.251222	-88.079321
GEFMAL01	08-Oct-98	COE	6.60	Outside	Excellent	Mobile	Fort Morgan, AL	Dauphin Island	30.247644	-88.077925
GECHAL01	30-Sep-98	COE	8.03	Inside	Good	Mobile	Chickasaw, AL	Chickasaw	30.782125	-88.072631
GEHIAL01	01-Oct-98	COE	9.27	W.H.R.U.	Fair	Mobile	Hollingers Island, AL	Brookley	30.598698	-88.061062
GEMOAL02	30-Oct-98	COE	7.99	Outside	Good	Mobile	Mobile, AL	Mobile	30.724157	-88.058839
GEMOAL03	30-Oct-98	COE	7.58	Inside	Excellent	Mobile	Mobile, AL	Mobile	30.698686	-88.042729
GEMOAL04	03-Oct-98	COE	7.94	Outside	Good	Mobile	Mobile, AL	Mobile	30.695219	-88.040485
GEMOAL01	30-Sep-98	COE	8.94	Inside	Good	Mobile	Mobile, AL	Mobile	30.704583	-88.039493
GEMOAL07	30-Oct-98	COE	8.29	Inside	Excellent	Mobile	Mobile, AL	Mobile	30.690570	-88.038260
GEMOAL05	03-Oct-98	COE	7.96	Inside	Excellent	Mobile	Mobile, AL	Mobile	30.687048	-88.017364

HWM Name	Date taken	Agency	Elevation Feet, NGVD	HWM Type	HWM Quality	County	USGS Quad	Nearest Town	Latitude (degrees)	Longitude (degrees)
GEMOAL06	03-Oct-98	COE	9.43	Outside	Good	Mobile	Mobile, AL	Mobile	30.680618	-88.001061
Baldwin County, AL										
GEFMAL04	01-Oct-98	USGS	8.34	Outside	Fair	Baldwin	Fort Morgan, AL	Fort Morgan	30.228333	-88.023611
GEFMAL05	01-Oct-98	USGS	3.79	Outside	Fair	Baldwin	Fort Morgan, AL	Fort Morgan	30.230556	-88.023611
GEFMAL02	01-Oct-98	USGS	5.59	W.H.R.U.	Poor	Baldwin	Fort Morgan, AL	Fort Morgan	30.227500	-88.021389
GEFMAL03	01-Oct-98	USGS	4.44	Outside	Good	Baldwin	Fort Morgan, AL	Fort Morgan	30.231389	-88.017500
GESBAL01	30-Sep-98	USGS	6.36	Outside	Good	Baldwin	St. Andrews Bay, AL	St. Andrews	30.231667	-87.993889
GEBRAL01	04-Oct-98	USGS	8.31	Inside	Excellent	Baldwin	Bridgehead, AL	Bridgehead	30.674167	-87.964444
GEBRAL03	04-Oct-98	USGS		Outside	Good	Baldwin	Bridgehead, AL	Bridgehead	30.671944	-87.958333
GEBRAL02	04-Oct-98	USGS	7.64	Outside	Good	Baldwin	Bridgehead, AL	Bridgehead	30.672778	-87.955000
GESBAL02	30-Sep-98	USGS	7.71	Outside	Good	Baldwin	St. Andrews Bay, AL	St. Andrews	30.233056	-87.942778
GEBRAL04	04-Oct-98	USGS	8.89	Inside	Excellent	Baldwin	Bridgehead, AL	bridgehead	30.670556	-87.939444
GEPCAL01	03-Oct-98	USGS	4.87	Outside	Good	Baldwin	Point Clear, AL	Point Clear	30.486389	-87.933611
GEBRAL05	04-Oct-98	USGS	7.37	Outside	Fair	Baldwin	Bridgehead, AL	Bridgehead	30.668333	-87.927778
GEDAAL01	04-Oct-98	USGS		Outside	Good	Baldwin	Daphne, AL	Daphne	30.598333	-87.914167
GEDAAL02	04-Oct-98	USGS		Outside	Good	Baldwin	Daphne, AL	Daphne	30.575278	-87.911389
GESBAL03	30-Sep-98	USGS	11.05	Outside	Good	Baldwin	St. Andrews Bay, AL	St. Andrews	30.230556	-87.908611
GEPCAL02	03-Oct-98	USGS		Outside	Good	Baldwin	Point Clear, AL	Point Clear	30.416111	-87.908333
GEDAAL03	04-Oct-98	USGS		Outside	Good	Baldwin	Daphne, AL	Daphne	30.557778	-87.899444
GEPEAL02	01-Oct-98	USGS	8.49	Inside	Excellent	Baldwin	Pine Beach, AL	Pine Beach	30.238611	-87.874722
GEBMAL01	01-Oct-98	COE	6.97	Outside	Good	Baldwin	Bay Minette, AL	Live Oak	30.956944	-87.874444
GEPEAL01	01-Oct-98	USGS	12.39	Outside	Excellent	Baldwin	Pine Beach, AL	Pine Beach	30.229444	-87.873333
GEMSAL04	03-Oct-98	USGS	6.48	Inside	Excellent	Baldwin	Magnolia Springs, AL	Magnolia Springs	30.378889	-87.853056
GEBBAL02	04-Oct-98	USGS		Outside	Excellent	Baldwin	Bon Secour Bay, AL	Bon Secour	30.369167	-87.837500
GEMSAL01	04-Oct-98	USGS	4.47	Outside	Fair	Baldwin	Magnolia Springs, AL	Magnolia Springs	30.415833	-87.826111
GEMSAL02	04-Oct-98	USGS		Outside	Fair	Baldwin	Magnolia Springs, AL	Magnolia Springs	30.391667	-87.810833
GEPEAL03	30-Sep-98	USGS	7.37	Outside	Good	Baldwin	Pine Beach, AL	Pine Beach	30.231944	-87.796389
GEMSAL03	04-Oct-98	USGS		Inside	Excellent	Baldwin	Magnolia Springs, AL	Magnolia Springs	30.394444	-87.776111

HWM Name	Date taken	Agency	Elevation Feet, NGVD	HWM Type	HWM Quality	County	USGS Quad	Nearest Town	Latitude (degrees)	Longitude (degrees)
GEPEAL05	01-Oct-98	USGS	7.64	Outside	Good	Baldwin	Pine Beach, AL	Pine Beach	30.247778	-87.767778
GEGSAL02	01-Oct-98	USGS	7.13	Outside	Fair	Baldwin	Gulf Shores, AL	Gulf Shores	30.285556	-87.749722
GEGSAL01	02-Oct-98	USGS	6.95	Outside	Fair	Baldwin	Gulf Shores, AL	Gulf Sholes	30.283611	-87.749444
GEGSAL04	02-Oct-98	USGS	8.43	Inside	Good	Baldwin	Gulf Shores, AL	Gulf Shores	30.240556	-87.740556
GEGSAL05	02-Oct-98	USGS	5.14	Inside	Excellent	Baldwin	Gulf Shores, AL	Gulf Shores	30.241667	-87.738333
GEGSAL03	02-Oct-98	USGS	5.72	Outside	Good	Baldwin	Gulf Shores, AL	Gulf Shores	30.300556	-87.737500
GEPEAL04	01-Oct-98	USGS	7.89	Inside	Excellent	Baldwin	Pine Beach, AL	Pine Beach	30.300833	-87.737222
GEGSAL07	02-Oct-98	USGS	8.18	Inside	Good	Baldwin	Gulf Shores, AL	Gulf Shores	30.245833	-87.703889
GEGSAL06	02-Oct-98	USGS	6.10	Outside	Good	Baldwin	Gulf Shores, AL	Gulf Shores	30.246944	-87.703889
GEGSAL09	02-Oct-98	USGS	8.88	Outside	Fair	Baldwin	Gulf Shores, AL	Gulf Shores	30.247778	-87.689722
GEGSAL12	02-Oct-98	USGS	6.00	Inside	Excellent	Baldwin	Gulf Shores, AL	Gulf Shores	30.254722	-87.689444
GEGSAL08	02-Oct-98	USGS	9.05	Inside	Good	Baldwin	Gulf Shores, AL	Gulf Shores	30.247778	-87.689444
GEGSAL14	02-Oct-98	USGS	5.94	Inside	Excellent	Baldwin	Gulf Shores, AL	Gulf Shores	30.255000	-87.689444
GEGSAL13	02-Oct-98	USGS	6.03	Inside	Excellent	Baldwin	Gulf Shores, AL	Gulf Shores	30.254722	-87.689167
GEGSAL10	02-Oct-98	USGS	10.89	Inside	Good	Baldwin	Gulf Shores, AL	Gulf Shores	30.248889	-87.683333
GEGSAL11	02-Oct-98	USGS	6.48	Outside	Good	Baldwin	Gulf Shores, AL	Gulf Shores	30.248889	-87.683333
GEGSAL15	02-Oct-98	USGS	9.51	Inside	Excellent	Baldwin	Gulf Shores, AL	Gulf Shores	30.256111	-87.638333
GEOBAL01	02-Oct-98	USGS	10.73	Outside	Fair	Baldwin	Orange Beach, AL/FL	Orange Beach	30.269444	-87.581944
GEOBAL02	02-Oct-98	USGS	7.13	Outside	Good	Baldwin	Orange Beach, AL/FL	Orange Beach	30.277222	-87.556111
GEOBFL07	30-Sep-98	COE	5.58	Inside	Excellent	Baldwin	Orange Beach, AL/FL	Orange Beach	30.278593	-87.554864
GEOBAL04	02-Oct-98	USGS	5.28	Inside	Good	Baldwin	Orange Beach, AL/FL	Orange Beach	30.281944	-87.541389
GEOBAL05	02-Oct-98	USGS	5.24	Outside	Fair	Baldwin	Orange Beach, AL/FL	Orange Beach	30.281750	-87.536667
GEOBAL03	02-Oct-98	USGS	11.20	Outside	Excellent	Baldwin	Orange Beach, AL/FL	Orange Beach	30.277778	-87.535556
GEOBAL06	02-Oct-98	USGS	5.41	Outside	Good	Baldwin	Orange Beach, AL/FL	Orange Beach	30.284167	-87.532778
GEPBAL02	06-Oct-98	COE		Outside	Excellent	BALDWIN	PERDIDO BAY, FL/AL	LILLIAN, AL.	30.360730	-87.468100
GELIAL01	05-Oct-98	COE		Outside	Excellent	BALDWIN	LILLIAN, AL/FL	LILLIAN, AL.	30.408520	-87.436800
Escambia County, FL										
GEPBFL04	05-Oct-98	COE	10.05	Outside	Excellent	ESCAMBIA	PERDIDO BAY, FL/AL	PERDIDO, FL.	30.283030	-87.510900

HWM Name	Date taken	Agency	Elevation Feet, NGVD	HWM Type	HWM Quality	County	USGS Quad	Nearest Town	Latitude (degrees)	Longitude (degrees)
GEPBFL05	05-Oct-98	COE	10.11	Outside	Excellent	ESCAMBIA	PERDIDO BAY, FL/AL	PERDIDO, FL	30.283030	-87.510900
GEPBFL06	05-Oct-98	COE	9.21	Outside	Excellent	ESCAMBIA	PERDIDO BAY, FL/AL	PERDIDO, FL	30.289490	-87.478600
GEPBFL07	05-Oct-98	COE	10.83	Outside	Excellent	ESCAMBIA	PERDIDO BAY, FL/AL	PERDIDO, FL.	30.293980	-87.451500
GEPBFL03	04-Oct-98	COE	9.93	Outside	Good	ESCAMBIA	PERDIDO BAY, FL/AL	PERDIDO, FL.	30.296100	-87.435900
GEPBFL02	04-Oct-98	COE	13.64	Outside	Good	ESCAMBIA	PERDIDO BAY, FL/AL	PERDIDO, FL	30.296100	-87.435900
GEPBFL01	04-Oct-98	COE	11.35	W.H.R.U.	Fair	ESCAMBIA	PERDIDO BAY, FL/AL	GULF BEACH, FL.	30.298333	-87.414167
GEFBFL03	04-Oct-98	COE	5.21	Outside	Excellent	ESCAMBIA	FT. BARRANCAS, FL	PENSACOLA, FL.	30.326944	-87.365833
GEFBFL02	04-Oct-98	COE	6.32	Outside	Excellent	ESCAMBIA	FT. BARRANCAS, FL	PENSACOLA, FL.	30.346111	-87.289722
GEFBFL01	04-Oct-98	COE	5.68	Outside	Excellent	ESCAMBIA	FT. BARRANCAS, FL	PENSACOLA, FL.	30.373611	-87.274722
GEPEFL03	04-Oct-98	COE	5.43	Outside	Excellent	ESCAMBIA	PENSACOLA, FL	PENSACOLA, FL.	30.399944	-87.242222
GEPEFL02	04-Oct-98	COE	6.38	Outside	Excellent	ESCAMBIA	PENSACOLA, FL	PENSACOLA, FL.	30.414806	-87.192844
GEPEFL01	04-Oct-98	COE	9.14	Outside	Good	ESCAMBIA	PENSACOLA, FL	PENSACOLA, FL.	30.414740	-87.192212
GEBFL02	03-Oct-98	COE	6.51	Outside	Good	ESCAMBIA	GULF BREEZE, FL	PENSACOLA BEACH, FL.	30.325833	-87.178333
GEBFL01	03-Oct-98	COE	7.69	Outside	Excellent	ESCAMBIA	GULF BREEZE, FL	PENSACOLA BEACH, FL.	30.325833	-87.178333
GEBFL03	03-Oct-98	COE	8.08	Outside	Excellent	ESCAMBIA	GULF BREEZE, FL	PENSACOLA BEACH, FL	30.327436	-87.164668
GEBFL04	03-Oct-98	COE	9.83	Outside	Good	ESCAMBIA	GULF BREEZE, FL	PENSACOLA BEACH, FL.	30.327436	-87.164668
GEBFL05	03-Oct-98	COE	4.62	Outside	Excellent	ESCAMBIA	GULF BREEZE, FL	PENSACOLA BEACH, FL.	30.336667	-87.156944
GEBFL06	03-Oct-98	COE	5.87	Outside	Excellent	ESCAMBIA	GULF BREEZE, FL	PENSACOLA BEACH, FL.	30.343611	-87.150000
GEOBFL03	02-Oct-98	COE	5.91	Outside	Excellent	ESCAMBIA	ORIOLE BEACH, FL	PENSACOLA BCH, FL.	30.336389	-87.121111
GEOBFL05	02-Oct-98	COE	9.89	Wave Height	Good	ESCAMBIA	ORIOLE BEACH, FL	PENSACOLA BEACH, FL.	30.335583	-87.117956
GEOBFL04	02-Oct-98	COE	9.57	Wave Height	Good	ESCAMBIA	ORIOLE BEACH, FL	PENSACOLA BEACH, FL.	30.335576	-87.117950
GEOBFL02	02-Oct-98	COE	9.38	W.H.R.U.	Good	ESCAMBIA	ORIOLE BEACH, FL	PENSACOLA BEACH, FL.	30.348333	-87.051667
GEOBFL01	02-Oct-98	COE	9.26	Outside	Good	Escambia	Oriole Beach, FL	Pensacola Beach, Fl.	30.355278	-87.007500
GESHFL02	02-Oct-98	COE	7.53	W.H.R.U.	Good	ESCAMBIA	South of Holley, FL	NAVARRE BEACH, FL.	30.368889	-86.932501
GESHFL01	02-Oct-98	COE	7.99	W.H.R.U.	Good	ESCAMBIA	South of Holley, FL	NAVARRE BEACH, FL.	30.368888	-86.932500

HWM Name	Date taken	Agency	Elevation Feet, NGVD	HWM Type	HWM Quality	County	USGS Quad	Nearest Town	Latitude (degrees)	Longitude (degrees)
GEHOFLO1	01-Oct-98	COE	10.30	W.H.R.U.	Good	ESCAMBIA	HOLLEY, FL	NAVARRE, FL.	30.376907	-86.885548
GENAFL01	01-Oct-98	COE	4.48	Outside	Excellent	ESCAMBIA	NAVARRE, FL	NAVARRE, FL	30.385830	-86.862500
GENAFL03	01-Oct-98	COE	12.32	Wave Height	Poor	ESCAMBIA	NAVARRE, FL	NAVARRE BEACH, FL.	30.381944	-86.854444
GENAFL02	01-Oct-98	COE	5.58	Outside	Excellent	ESCAMBIA	NAVARRE, FL	NAVARRE BEACH, FL.	30.385830	-86.822500
Santa Rosa County, FL										
GEGBFL08	03-Oct-98	COE	7.72	Outside	Excellent	SANTA ROSA	GULF BREEZE, FL	GULF BREEZE, FL.	30.373611	-87.176944
GEGBFL07	03-Oct-98	COE	3.99	Outside	Good	SANTA ROSA	GULF BREEZE, FL	GULF BREEZE, FL.	30.356944	-87.160833
¹ GEWBFL04	03-Oct-98	COE	18.05	Outside	Excellent	SANTA ROSA	WARD BASIN, FL	NAVARRE, FL.	30.571111	-86.924167
¹ GEWBFL03	03-Oct-98	COE	18.50	Outside	Excellent	SANTA ROSA	WARD BASIN, FL	NAVARRE, FL.	30.571111	-86.924167
¹ GEWBFL02	01-Oct-98	COE	16.63	Outside	Excellent	SANTA ROSA	WARD BASIN, FL	NAVARRE, FL.	30.571111	-86.924166
¹ GEWBFL01	01-Oct-98	COE	16.74	Outside	Excellent	SANTA ROSA	WARD BASIN, FL	NAVARRE, FL.	30.571111	-86.924166
GENAFL05	01-Oct-98	COE	5.53	Outside	Good	SANTA ROSA	NAVARRE, FL	NAVARRE, FL.	30.439722	-86.866667
GENAFL04	01-Oct-98	COE	5.06	Outside	Excellent	SANTA ROSA	NAVARRE, FL	NAVARRE, FL.	30.439722	-86.866667
Okaloosa County, FL										
GEMEFL01	04-Oct-98	COE	4.68	Outside	Good	Okaloosa	Mary Esther, FL	Ft. Walton Beach Fl.	30.400280	-86.699722
GEMEFL02	04-Oct-98	COE	8.47	Wave Height	Good	Okaloosa	Mary Esther, FL	Ft. Walton Beach Fl.	30.397222	-86.650555
GEFWFL05	04-Oct-98	COE	4.96	Outside	Good	OKALOOSA	FT. WALTON BEACH, FL	Ft. Walton Beach Fl.	30.404444	-86.623056
GEFWFL04	04-Oct-98	COE	8.75	Outside	Good	OKALOOSA	FT. WALTON BEACH, FL	Ft. Walton Beach Fl.	30.397500	-86.619722
GEFWFL03	04-Oct-98	COE	4.83	Outside	Good	OKALOOSA	FT. WALTON BEACH, FL	Ft. Walton Beach Fl.	30.348611	-86.601667
GEFWFL06	30-Sep-98	COE	4.60	Inside	Excellent	Okaloosa	FT. WALTON BEACH, FL	Destin	30.392005	-86.525906
GEFWFL02	04-Oct-98	COE	5.20	Outside	Good	OKALOOSA	FT. WALTON BEACH, FL	DESTIN, FL.	30.397222	-86.515556
GEFWFL01	03-Oct-98	COE	4.25	Outside	Good	OKALOOSA	FT. WALTON BEACH, FL	DESTIN, FL.	30.388889	-86.501111
GEDEFLO1	03-Oct-98	COE	10.75	Wave Height	Good	OKALOOSA	DESTIN, FL	DESTIN, FL.	30.380833	-86.410278
Walton County, FL										

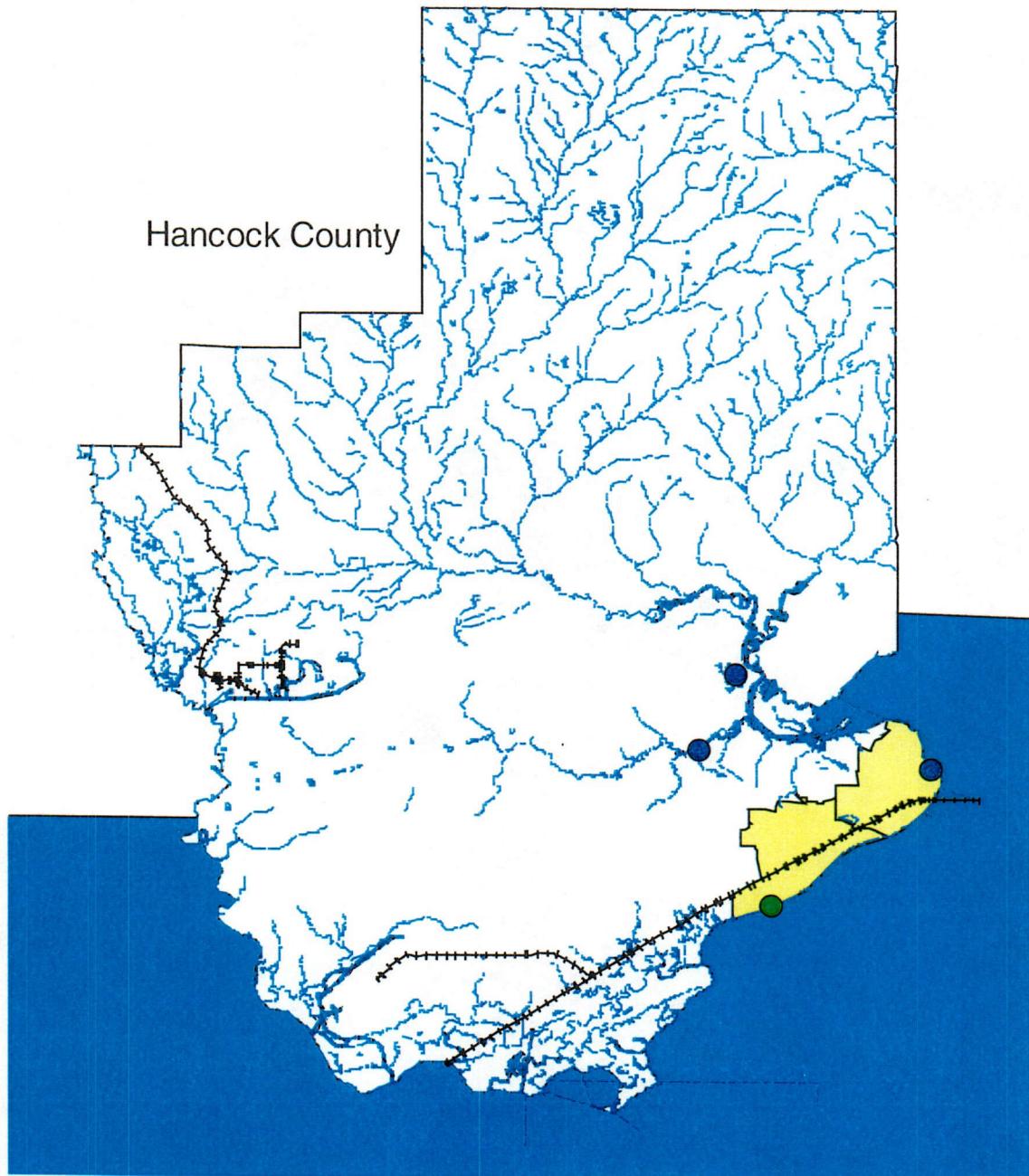
HWM Name	Date taken	Agency	Elevation Feet, NGVD	HWM Type	HWM Quality	County	USGS Quad	Nearest Town	Latitude (degrees)	Longitude (degrees)
GECBFL01	03-Oct-98	COE	3.62	Outside		WALTON	CHOCTAW BEACH, FL	SAND DESTIN, FL.	30.375278	-86.363889
GEGEFL01	02-Oct-98	COE	10.38	W.H.R.U.	Good	WALTON	GRAYTON BEACH, FL	DESTIN, FL	30.350278	-86.242222
GEGEFL02	02-Oct-98	COE	10.00	W.H.R.U.	Good	WALTON	GRAYTON BEACH, FL	DESTIN, FL.	30.338611	-86.200833
GEGEFL03	02-Oct-98	COE	8.67	W.H.R.U.	Fair	WALTON	GRAYTON BEACH, FL	DESTIN, FL.	30.328889	-86.166389
GEGEFL04	02-Oct-98	COE	4.61	Outside	Good	WALTON	GRAYTON BEACH, FL	DESTIN, FL.	30.327500	-86.147778
GEPWFL01	01-Oct-98	COE	6.27	Outside	Good	WALTON	POINT WASHINGTON, FL	SEA GROVE BEACH, FL.	30.312500	-86.092778
GEPWFL02	01-Oct-98	COE	9.57	Outside	Good	WALTON	POINT WASHINGTON, FL	INLET BEACH, FL.	30.307222	-86.078333
GEPWFL03	01-Oct-98	COE	4.27	Outside	Good	WALTON	POINT WASHINGTON, FL	INLET BEACH, FL.	30.295278	-86.057222
GEPWFL04	01-Oct-98	COE	9.27	W.H.R.U.	Good	WALTON	POINT WASHINGTON, FL	INLET BEACH, FL.	30.274028	-86.008333
Bay County, FL										
GESIFL01	01-Oct-98	USGS	5.09	Outside	Good	Bay	Seminole Hills, FL	Panama City Beach	30.271944	-85.983056
GELBFL01	01-Oct-98	USGS	7.77	Outside	Good	Bay	Laguna Beach, FL	Panama City Beach	30.215514	-85.876460
GEPHFL01	01-Oct-98	USGS	7.42	Outside	Good	Bay	Panama City Beach, FL	Panama City Beach	30.186362	-85.823631
GEPHFL02	01-Oct-98	USGS	7.91	Outside	Good	Bay	Panama City Beach, FL	Panama City Beach	30.139639	-85.750667
GEPCFL06	02-Oct-98	USGS	5.22	Outside	Good	Bay	Panama City, FL	Panama City	30.187344	-85.747461
GEBBFL01	02-Oct-98	USGS		Outside	Good	Bay	Beacon Beach, FL	Panama City	30.123643	-85.733634
GEPCFL01	01-Oct-98	USGS	1.03	Outside	Good	Bay	Panama City, FL	Panama City	30.186822	-85.729333
GEPCFL02	01-Oct-98	USGS	3.21	Outside	Good	Bay	Panama City, FL	Panama City	30.169047	-85.702636
GEPCFL03	01-Oct-98	USGS	2.99	W.H.R.U.	Good	Bay	Panama City, FL	Panama City	30.165400	-85.701267
GEPCFL04	01-Oct-98	USGS	4.37	W.H.R.U.	Poor	Bay	Panama City, FL	Panama City	30.159806	-85.670147
GEPCFL05	30-Sep-98	COE	3.51	Inside	Excellent	Bay	Panama City, FL	Panama City	30.156111	-85.636667
GESFFL01	01-Oct-98	USGS	2.56	W.H.R.U.	Good	Bay	Springfield, FL	Springfield	30.135000	-85.615278
GELPFL01	01-Oct-98	USGS	3.23	W.H.R.U.	Good	Bay	Long Point, FL	Panama City	30.101389	-85.610361
GELPFL02	02-Oct-98	USGS	3.06	W.H.R.U.	Good	Bay	Long Point, FL	Panama City	30.069361	-85.584556
GEBHFL01	02-Oct-98	USGS	4.46	W.H.R.U.	Good	Bay	Beacon Hill, FL	Mexico Beach	29.967417	-85.474611
GEBHFL02	02-Oct-98	USGS	6.76	Outside	Good	Bay	Beacon Hill, FL	Mexco Beach	29.953056	-85.426944
GEBHFL03	02-Oct-98	USGS	9.30	W.H.R.U.	Good	Bay	Beacon Hill, FL	Mexco Beach	29.936083	-85.397917
Gulf County, FL										

HWM Name	Date taken	Agency	Elevation Feet, NGVD	HWM Type	HWM Quality	County	USGS Quad	Nearest Town	Latitude (degrees)	Longitude (degrees)
GEOVFL01	02-Oct-98	USGS	4.64	W.H.R.U.	Good	Gulf	Overstreet, FL	Saint Joe Beach	29.905111	-85.369306
GECSFL02	02-Oct-98	USGS	2.29	W.H.R.U.	Good	Gulf	Cape San Blas, FL	Port St. Joe	29.747694	-85.304417
GEPJFL01	02-Oct-98	USGS	2.87	W.H.R.U.	Good	Gulf	Port St. Joe, FL	Port St. Joe	29.808778	-85.301472
GECSFL01	02-Oct-98	USGS	6.71	W.H.R.U.	Good	Gulf	Cape San Blas, FL	Port St. Joe	29.684250	-85.280056
Franklin County, FL										
GEAPFL02	30-Sep-98	COE	4.52	Inside	Excellent	Franklin	Apalachicola, FL	Apalachicola	29.733056	-84.995278
GEAPFL01	03-Oct-98	USGS	3.35	Outside	Good	Franklin	Apalachicola, FL	Apalachicola	29.734167	-84.993611
GECAFL01	30-Sep-98	COE	4.58	Inside	Excellent	Franklin	Carrabelle, FL	Carrabelle	29.851667	-84.675833

¹High Water Mark impacted by headwater flooding

Appendix A

Hancock County, MS High Water Marks



Hurricane Georges, September 1998

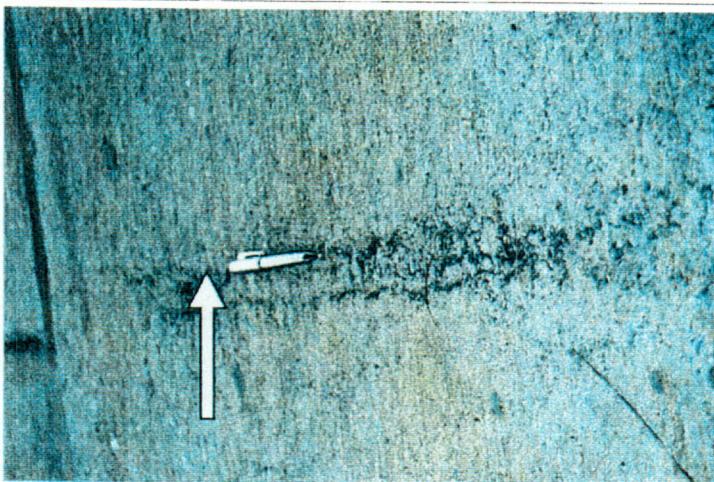


HWM Name:	GEBSMS02	Taken by:	BALDWIN / STOCKS		
HWM Elev. (ft, NGVD):	5.70	Agency:	USGS		
HWM Type :	Outside	Date Taken:	02-Oct-98		
HWM Quality:	Fair	State:	Mississippi		
Latitude:	30° 19' 22.08"	Longitude:	-89° 19' 36.12"		
Nearest Town:	BAY ST. LOUIS	County:	HANCOCK		
USGS 7.5 minute Quad Sheet:		BAY ST. LOUIS, MS			
Address of HWM: SHORELINE, 500 FT SOUTH OF BAY WAVELAND YACHT CLUB					
Remarks:	Fair driftline along shoreline of St. Louis Bay about 500 ft south of Bay Waveland Yacht Club. Surveyed to NGS bm "NO.2 1968 MS-04A" (elev. 7.88 ft--NAVD 88). [adjusted to NGVD + -0.10]				



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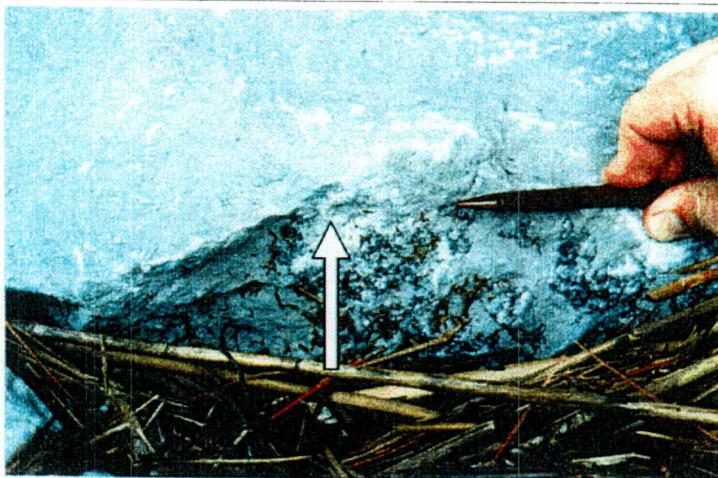


HWM Name:	GEWAMS01	Taken by:	BALDWIN / STOCKS		
HWM Elev. (ft, NGVD):	5.80	Agency:	USGS		
HWM Type :	Outside	Date Taken:	02-Oct-98		
HWM Quality:	Good	State:	Mississippi		
Latitude:	30° 21' 46.08"	Longitude:	-89° 24' 33.12"		
Nearest Town:	DIAMONDHEAD	County:	HANCOCK		
USGS 7.5 minute Quad Sheet:		WAVELAND, MS			
Address of HWM: WEST END, UPSTREAM I-10 BRIDGE OVER JOURDAN RIVER					
Remarks:	Good seedline on concrete spill-through slope at W. abut. of upstream bridge. Surveyed to bridge seat elev. 15.06 ft (think NGVD 29) at W. abut. of upstream bridge. Bridge seat elevation obtained from "as-built" plans provided by MDOT.				



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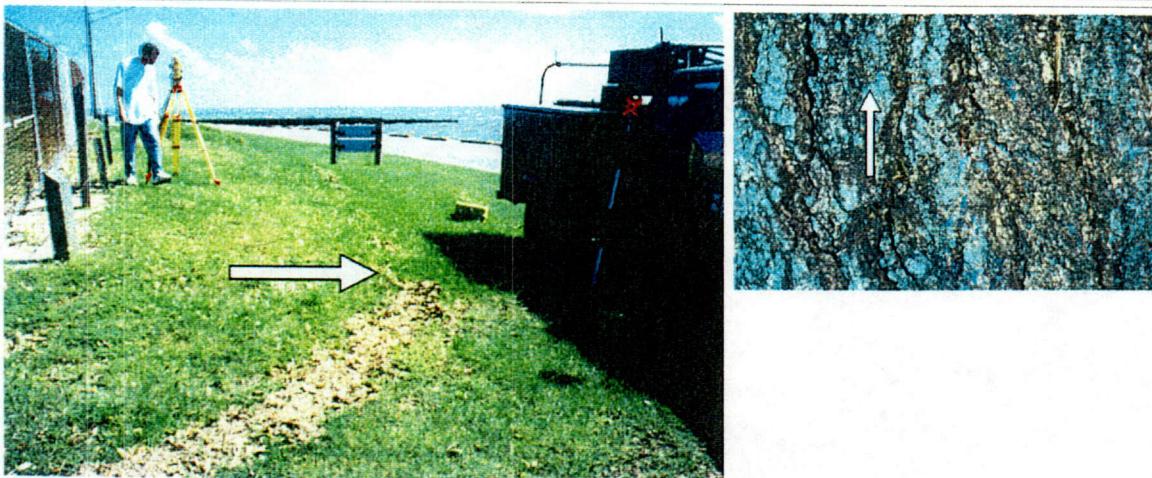


HWM Name:	GEWAMS02	Taken by:	BALDWIN / STOCKS		
HWM Elev. (ft, NGVD):	5.70	Agency:	USGS		
HWM Type :	Outside	Date Taken:	02-Oct-98		
HWM Quality:	Excellent	State:	Mississippi		
Latitude:	30° 19' 50.16"	Longitude:	-89° 25' 32.16"		
Nearest Town:	DIAMONDHEAD	County:	HANCOCK		
USGS 7.5 minute Quad Sheet:		WAVELAND, MS			
Address of HWM: NORTH END, STATE HWY 43 BRIDGE OVER BAYOU LA CROIX					
Remarks: Excellent seedline on riprap at north bridge abutment of downstream (east) bridge. Surveyed to centerline elev. 12.34 ft (think NGVD 29) at south end of bridge. Centerline elevation provided by MDOT.					



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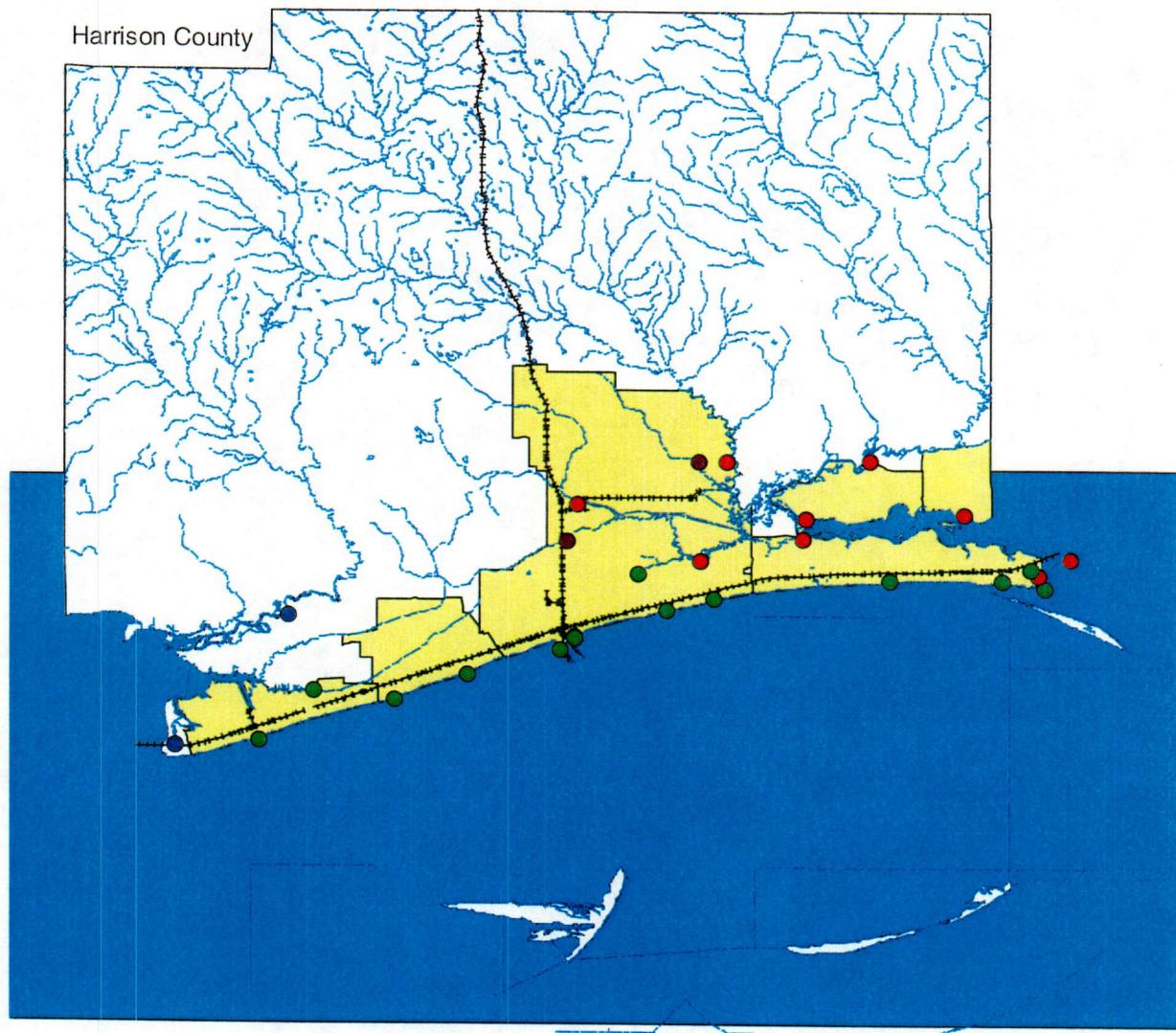
HWM Name:	GEWAMS03	Taken by:	BALDWIN / WINTERS
HWM Elev. (ft, NGVD):	6.56	Agency:	USGS
HWM Type :	Outside	Date Taken:	06-Oct-98
HWM Quality:	Good	State:	Mississippi
Latitude:	30° 15' 48.24"	Longitude:	-89° 23' 40.20"
Nearest Town:	WAVELAND	County:	HANCOCK
USGS 7.5 minute Quad Sheet: WAVELAND, MS			
Address of HWM: ENTRANCE TO PICNIC AREA OF BUCCANEER STATE PARK			
Remarks: Good seedline on tree about 500 ft west of bm and 100 ft north of Beach blvd. Poor drift north of Beach Blvd. at same elevation. Surveyed to NGS bm "STONEWALL NO.1 1966" (elev. 4.81 ft-NAVD 88). [adjusted to NGVD + -0.14]			



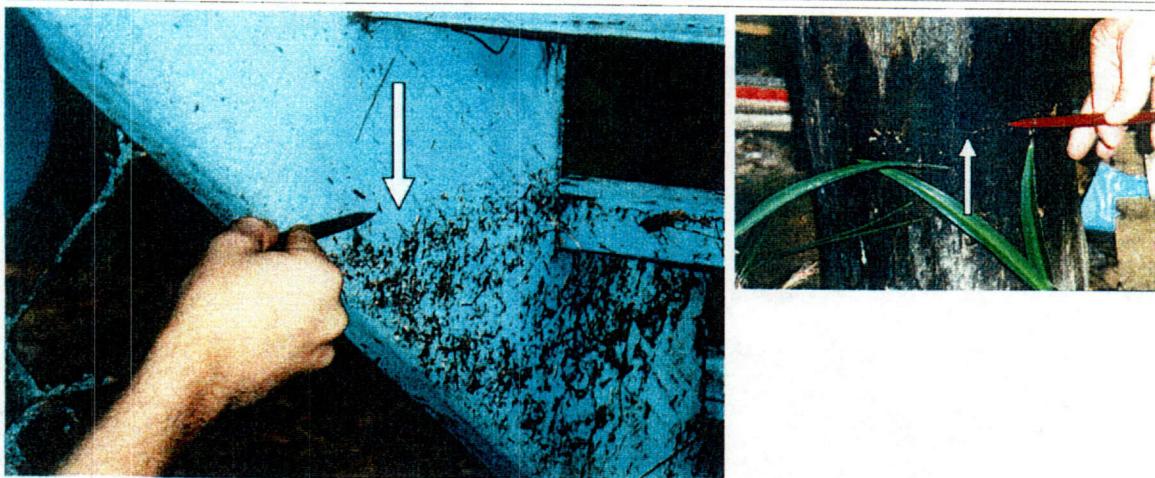
US Army Corps of Engineers
Mobile District

Appendix B

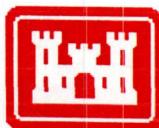
Harrison County, MS High Water Marks



Hurricane Georges, September 1998

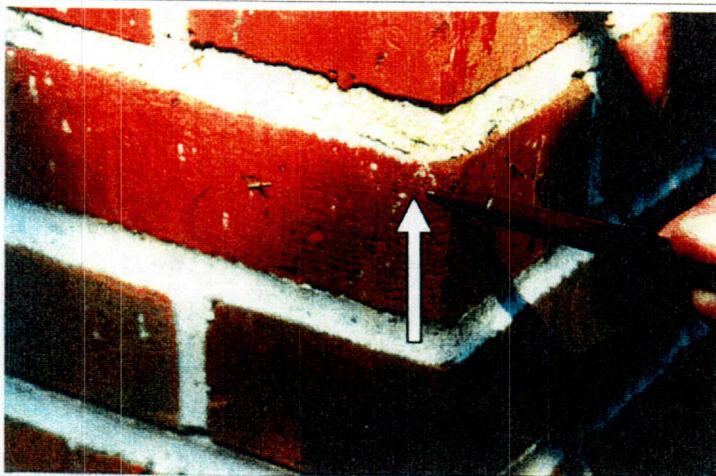


HWM Name:	GEBSMS01	Taken by:	BALDWIN / STOCKS		
HWM Elev. (ft, NGVD)	5.66	Agency:	USGS		
HWM Type :	Outside	Date Taken:	02-Oct-98		
HWM Quality:	Excellent	State:	Mississippi		
Latitude:	30° 18' 33.84"	Longitude:	-89° 17' 13.92"		
Nearest Town:	HENDERSON POINT	County:	HARRISON		
USGS 7.5 minute Quad Sheet:		BAY ST. LOUIS, MS			
Address of HWM: NW CORNER OF U.S. HWY 90 AND RAILROAD INTERSECTION					
Remarks:	Excellent seedline under stairs and excellent seedline on piling under house. Surveyed to NGS bm "U 190 1955" (elev. 10.21 ft--NAVD 88). [adjusted to NGVD + -0.14]				

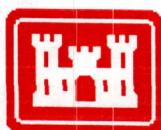


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HWM Name:	GEBIMS01	Taken by:	BALDWIN / STOCKS
HWM Elev. (ft, NGVD)	8.28	Agency:	USGS
HWM Type :	Outside	Date Taken:	01-Oct-98
HWM Quality:	Good	State:	Mississippi
Latitude:	30° 25' 28.56"	Longitude:	-88° 58' 28.56"
Nearest Town:	BILOXI	County:	HARRISON
USGS 7.5 minute Quad Sheet: BILOXI, MS			
Address of HWM: WEST OF NORTH ABUTMENT OF POPPS FERRY BRIDGE			
Remarks: Good seedline on house about 500 ft west of north bridge abutment. Owner said highest since Camille. Surveyed to COE bm "MS 13A" (elev. 5.04 ft--NAVD 88). [adjusted to NGVD + -0.12]			

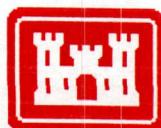


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Hurricane Georges, September 1998

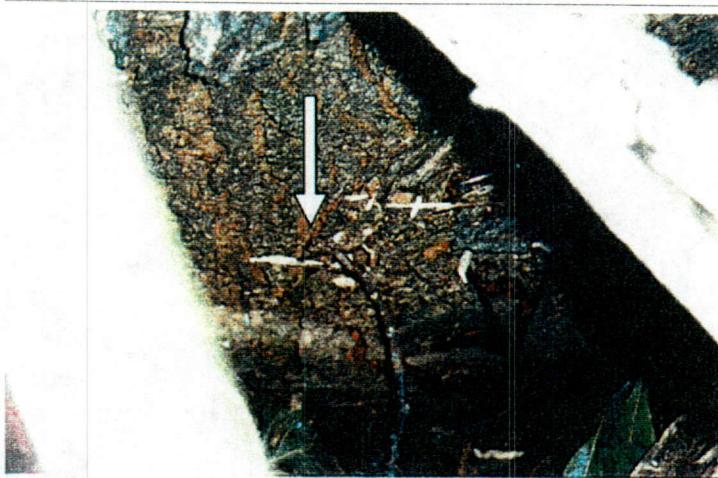


HWM Name:	GEBIMS02	Taken by:	BALDWIN / STOCKS
HWM Elev. (ft, NGVD)	8.17	Agency:	USGS
HWM Type :	Outside	Date Taken:	01-Oct-98
HWM Quality:	Excellent	State:	Mississippi
Latitude:	30° 24' 51.12"	Longitude:	-88° 58' 32.16"
Nearest Town:	BILOXI	County:	HARRISON
USGS 7.5 minute Quad Sheet: BILOXI, MS			
Address of HWM: EAST OF SOUTH ABUTMENT OF POPPS FERRY BRIDGE			
Remarks:	Excellent seedline on stairwell, excellent seedline on air conditioner, & good seedline on door facing. Used ave. of elev of the 2 excellent seedlines. Surveyed to NOS bm "4671F 1979" (elev.2.01 ft--NAVD 88). Bm elev provided by COE. [adj to NGVD + -0.13]		



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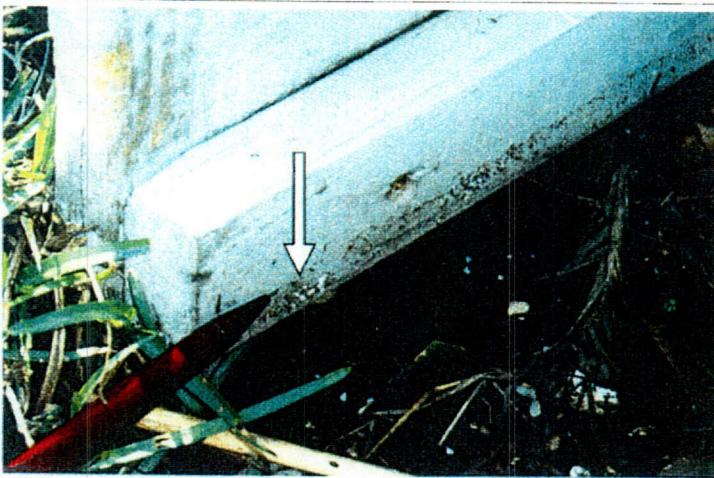


HWM Name:	GEBIMS03	Taken by:	BALDWIN / STOCKS
HWM Elev. (ft, NGVD)	7.28	Agency:	USGS
HWM Type :	Outside	Date Taken:	01-Oct-98
HWM Quality:	Good	State:	Mississippi
Latitude:	30° 23' 37.32"	Longitude:	-88° 55' 58.80"
Nearest Town:	BILOXI	County:	HARRISON
USGS 7.5 minute Quad Sheet: BILOXI, MS			
Address of HWM: ON MIRAMAR AVENUE 100 FT NORTH OF U.S. HWY 90			
Remarks:	Good seedline on large tree about 80 ft west of Mirimar Ave. and 80 ft north of U.S. Highway 90. Surveyed to NGS bm "NO.1 BILOXI 1930" (elev. 18.43 ft--NAVD 88). [adjusted to NGVD + -0.12]		



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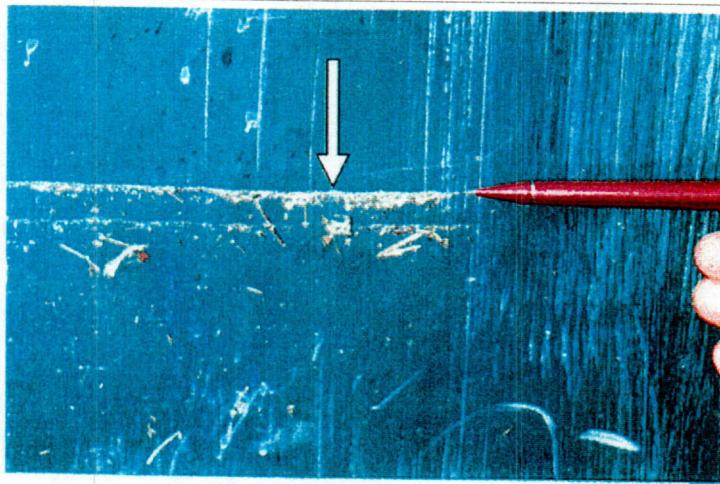


HWM Name:	GEBIMS04	Taken by:	BALDWIN / STOCKS		
HWM Elev. (ft, NGVD)	7.30	Agency:	USGS		
HWM Type :	Outside	Date Taken:	01-Oct-98		
HWM Quality:	Excellent	State:	Mississippi		
Latitude:	30° 23' 37.32"	Longitude:	-88° 52' 39.72"		
Nearest Town:	BILOXI	County:	HARRISON		
USGS 7.5 minute Quad Sheet:		BILOXI, MS			
Address of HWM: NORTH OF U.S. HWY 90 IN FRONT OF PELICAN CAY CONDO					
Remarks:	Excellent seedline on light box in front of Pelican Cay Condo entrance about 50 ft north of U.S. Highway 90. Surveyed to U.S. Engineer Dept. bm "STA 12 1939 BILOXI HARBOR" (elev. 7.27 ft--NGVD 29).				



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HWM Name:	GEBIMS05	Taken by:	BALDWIN / STOCKS		
HWM Elev. (ft, NGVD)	8.08	Agency:	USGS		
HWM Type :	Inside	Date Taken:	01-Oct-98		
HWM Quality:	Excellent	State:	Mississippi		
Latitude:	30° 25' 36.84"	Longitude:	-88° 53' 45.24"		
Nearest Town:	D'IBERVILLE	County:	HARRISON		
USGS 7.5 minute Quad Sheet:		BILOXI, MS			
Address of HWM: WEST OF NORTH ABUTMENT I110 BRIDGE OVER BILOXI BAY					
Remarks:	Excellent seedline inside door of abandoned restaurant about 50 ft west of north end of I-110 bridge. Surveyed to NGS bm "15V 2" (elev. 23.85 ft--NAVD 88) [adjusted to NGVD + -0.12]				



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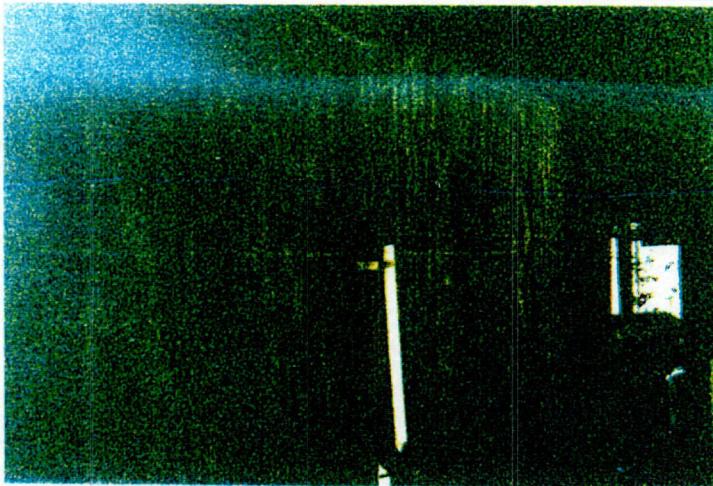
Hurricane Georges, September 1998

HWM Name:	GEBIMS06	Taken by:	BALDWIN / STOCKS		
HWM Elev. (ft, NGVD)	9.70	Agency:	USGS		
HWM Type :	Outside	Date Taken:	01-Oct-98		
HWM Quality:	Excellent	State:	Mississippi		
Latitude:	30° 27' 11.16"	Longitude:	-88° 56' 33.00"		
Nearest Town:	D'IBERVILLE	County:	HARRISON		
USGS 7.5 minute Quad Sheet:		BILOXI, MS			
Address of HWM: DOWNSTREAM I-10 BRIDGE OVER TCHOUTACABOUFFA RIVER					
Remarks:	Headwater flooding. Excellent seedlines on 4th and 5th pile bents from east abutment of downstream bridge. Surveyed to painted square 46 ft east and 30 ft south of east abutment (MDOT tbm--elev. 29.30 ft, probably about NGVD 29). (no photo)				



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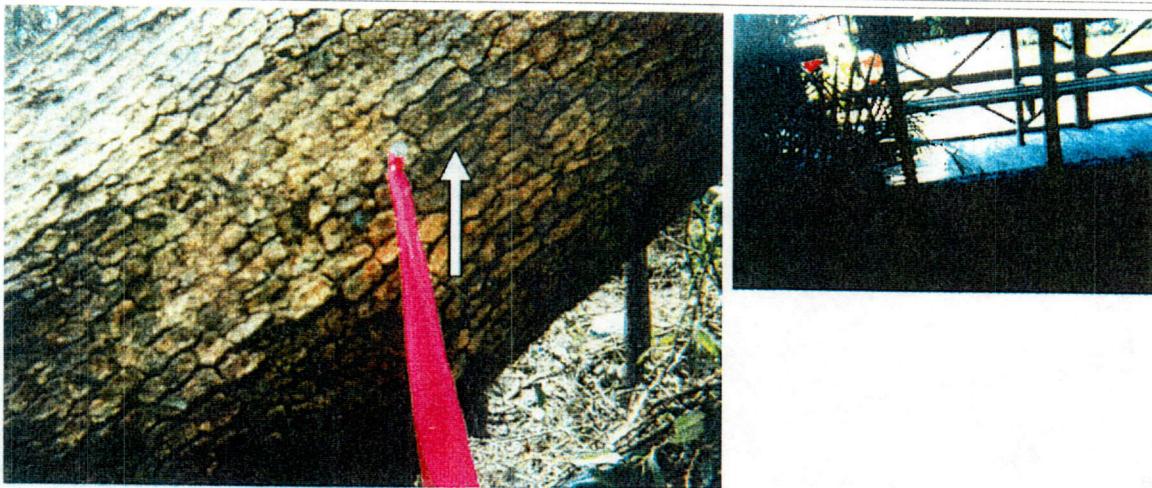


HWM Name:	GEGUMS01	Taken by:	WILSON / JOINER
HWM Elev. (ft, NGVD)	8.70	Agency:	USGS
HWM Type :	Inside	Date Taken:	01-Oct-98
HWM Quality:	Excellent	State:	Mississippi
Latitude:	30° 27' 09.72"	Longitude:	-89° 00' 47.16"
Nearest Town:	LORAIN	County:	HARRISON
USGS 7.5 minute Quad Sheet: GULFPORT NORTH, MS			
Address of HWM: BILOXI RIVER AT LORAIN ROAD			
Remarks:	Headwater flooding. Excellent foamline with scattered seed under house about 120 ft downstream from east bridge abutment. Surveyed to RP-1 (elev. 21.58 ft) on downstream handrail (NGVD 29). RP-1 was set in 1985 by USGS when surveying Hurricane Elena HWM.		



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HWM Name:	GEGUMS02	Taken by:	WILSON / JOINER
HWM Elev. (ft, NGVD)	9.30	Agency:	USGS
HWM Type :	Inside	Date Taken:	01-Oct-98
HWM Quality:	Excellent	State:	Mississippi
Latitude:	30° 27' 12.24"	Longitude:	-89° 00' 47.88"
Nearest Town:	LORAIN	County:	HARRISON
USGS 7.5 minute Quad Sheet: GULFPORT NORTH, MS			
Address of HWM: BILOXI RIVER AT LORAIN ROAD			
Remarks:	Headwater flooding. Exc. seedline in Daffy's on the River bar on upstream side of road about 150 ft from east bridge abut. Surveyed to RP-1 (elev. 21.58 ft) on downstream handrail (NGVD 29). RP-1 set in 1985 by USGS when surveying Hurricane Elena HWM.		

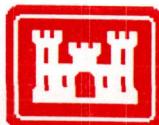


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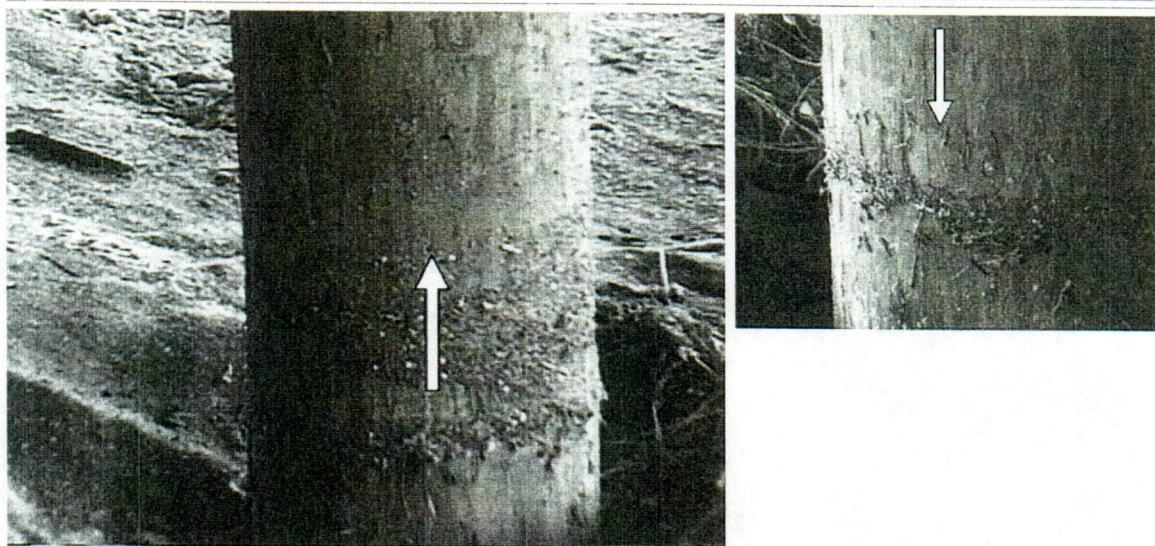


HWM Name:	GEGUMS03	Taken by:	WILSON / JOINER		
HWM Elev. (ft, NGVD)	7.60	Agency:	USGS		
HWM Type :	Outside	Date Taken:	01-Oct-98		
HWM Quality:	Poor	State:	Mississippi		
Latitude:	30° 23' 01.68"	Longitude:	-89° 01' 12.36"		
Nearest Town:	GULFPORT	County:	HARRISON		
USGS 7.5 minute Quad Sheet:		GULFPORT NORTH, MS			
Address of HWM: MISS. SOUND NEAR U.S. 90 AND ANNISTON AVE. INT.					
Remarks:	Poor driftline found along beach. Used average of three survey shots. Surveyed to COE bm "B67 1958" (elev. 10.58 ft). Elev.(think NGVD 29) provided by COE on 10-05-98.				



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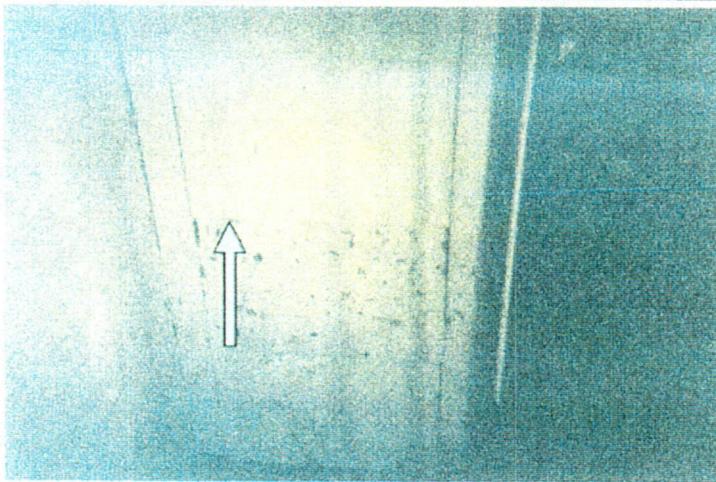


HWM Name:	GEGUMS04	Taken by:	WILSON / JOINER		
HWM Elev. (ft, NGVD)	7.50	Agency:	USGS		
HWM Type :	Inside	Date Taken:	01-Oct-98		
HWM Quality:	Excellent	State:	Mississippi		
Latitude:	30° 22' 41.16"	Longitude:	-89° 02' 37.32"		
Nearest Town:	GULFPORT	County:	HARRISON		
USGS 7.5 minute Quad Sheet:		GULFPORT NORTH, MS			
Address of HWM: MISS. SOUND AT U.S 90 AND COURTHOUSE RD. INT.					
Remarks:	Excellent seedline under deck at bathroom/showers bldg. on east side of road going south to pier. Surveyed to black painted "+804" (elev. 10.72 ft) and "+806" (elev. 10.63 ft) on seawall. Elev's (NGVD 29) provided by MDOT on 10-26-98.				



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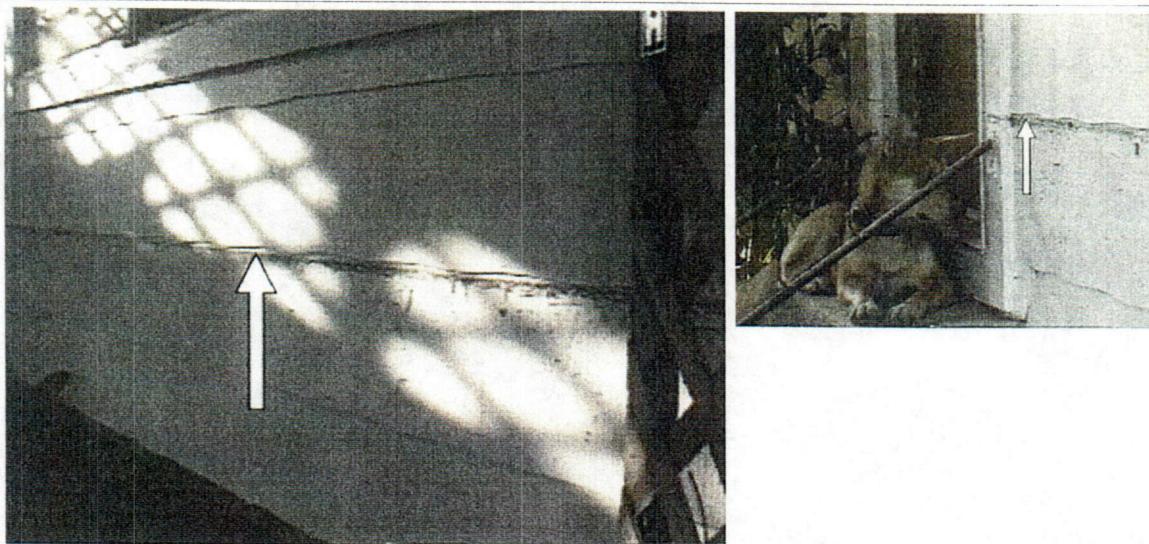


HWM Name:	GEGUMS05	Taken by:	WILSON / JOINER		
HWM Elev. (ft, NGVD)	8.87	Agency:	USGS		
HWM Type :	Inside	Date Taken:	01-Oct-98		
HWM Quality:	Excellent	State:	Mississippi		
Latitude:	30° 24' 12.60"	Longitude:	-89° 01' 36.84"		
Nearest Town:	GULFPORT	County:	HARRISON		
USGS 7.5 minute Quad Sheet:		GULFPORT NORTH, MS			
Address of HWM: BERNARD BAYOU AT COWAN ROAD AT HANDSBORO BRIDGE					
Remarks:	Affected by headwater flooding. Exc.seedline inside bldg at NW corner of int south & us of Handsboro Bridge. Good seed/drift (elev 9.0 ft) outside. Surveyed to C.P.S. (MDOT tbm elev 4.33 ft). Elev (NAVD 88) provided by MDOT on 10-07-98. [NGVD adj + -.13]				

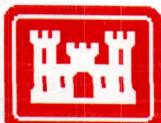


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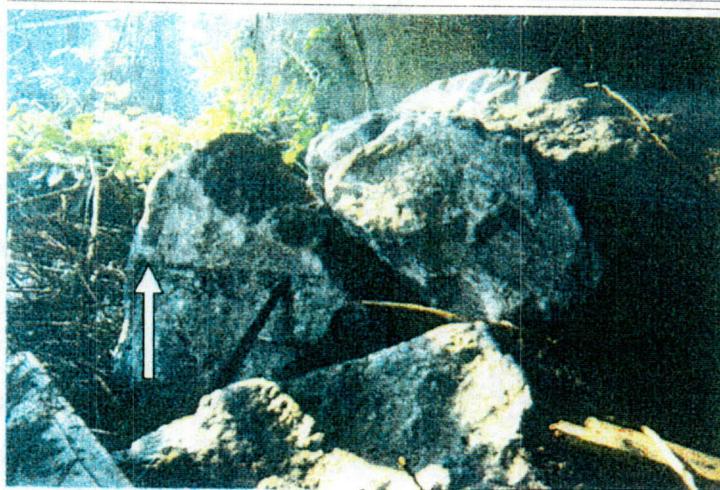


HWM Name:	GEGUMS06	Taken by:	WILSON / JOINER		
HWM Elev. (ft, NGVD)	10.00	Agency:	USGS		
HWM Type :	Inside	Date Taken:	02-Oct-98		
HWM Quality:	Excellent	State:	Mississippi		
Latitude:	30° 27' 10.08"	Longitude:	-89° 01' 39.72"		
Nearest Town:	LORAIN	County:	HARRISON		
USGS 7.5 minute Quad Sheet:		GULFPORT NORTH, MS			
Address of HWM: FRITZ CREEK AT LORAIN ROAD					
Remarks:	Headwater flooding. Excellent seedline inside screened area on north side of house (11414 Loraine Rd. owned by Mr. Dan Fulton). Surveyed to RP (elev. 13.04 ft--NGVD 29) on downstream handrail. RP set in 1985 by USGS when surveying Hurricane Elena HWM.				



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HWM Name:	GEGUMS07	Taken by:	WILSON / JOINER		
HWM Elev. (ft, NGVD)	9.40	Agency:	USGS		
HWM Type :	Inside	Date Taken:	02-Oct-98		
HWM Quality:	Excellent	State:	Mississippi		
Latitude:	30° 25' 53.40"	Longitude:	-89° 05' 15.36"		
Nearest Town:	GULFPORT	County:	HARRISON		
USGS 7.5 minute Quad Sheet:		GULFPORT NORTH, MS			
Address of HWM: BERNARD BAYOU AT THREE RIVERS ROAD					
Remarks:	Headwater flooding. Excellent seedline 1.78 ft below downstream south bridge seat. Surveyed to COE bm "HARR 2 MS-10B" (elev. 14.35 ft--NGVD 29). Bm elev. provided by COE on 10-05-98.				



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HWM Name:	GEGUMS08	Taken by:	WILSON / JOINER
HWM Elev. (ft, NGVD)	12.60	Agency:	USGS
HWM Type :	Inside	Date Taken:	02-Oct-98
HWM Quality:	Good	State:	Mississippi
Latitude:	30° 24' 47.16"	Longitude:	-89° 05' 34.08"
Nearest Town:	GULFPORT	County:	HARRISON
USGS 7.5 minute Quad Sheet: GULFPORT NORTH, MS			
Address of HWM: TURKEY CREEK AT U.S. 49			
Remarks:	Headwater flooding. Good seedline 2.31 ft below downstream south br. seat of downstream bridge. Surveyed to SW bridge seat of downstream bridge (elev. 14.88 ft--think NGVD 29). Br. seat elev. from USGS levels on 5-18-95 for MDOT bridge-site study.		



**US Army Corps of Engineers
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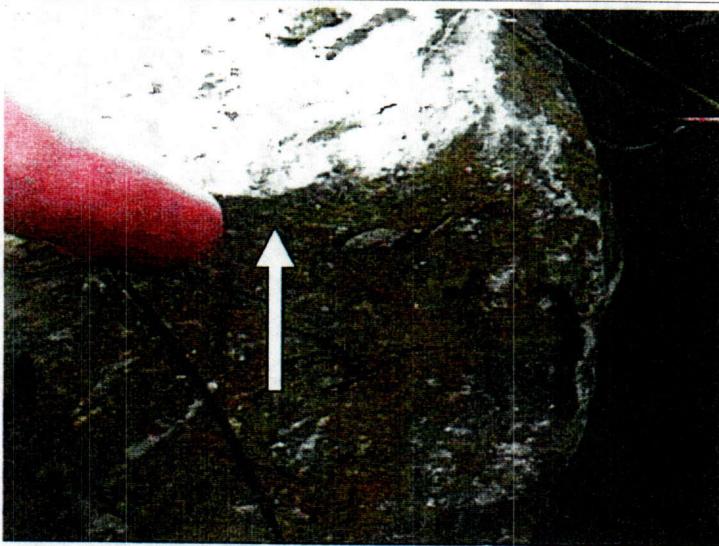


HWM Name:	GEGUMS09	Taken by:	WILSON / JOINER
HWM Elev. (ft, NGVD)	7.60	Agency:	USGS
HWM Type :	Outside	Date Taken:	02-Oct-98
HWM Quality:	Excellent	State:	Mississippi
Latitude:	30° 23' 47.40"	Longitude:	-89° 03' 26.64"
Nearest Town:	GULFPORT	County:	HARRISON
USGS 7.5 minute Quad Sheet: GULFPORT NORTH, MS			
Address of HWM: BRICKYARD BAYOU AT HEWES AVENUE			
Remarks:	Affected by headwater flooding. Excellent seedline 1.38 ft below SE br. seat. Surveyed to FEMA RM-27 (elev. 11.19 ft --NGVD 29). Also surveyed good drift along ds (east) side of rd. emb. (elev. 7.5 ft) and along us (west) side of road emb. (elev. 7.7 ft).		



**US Army Corps of Engineers
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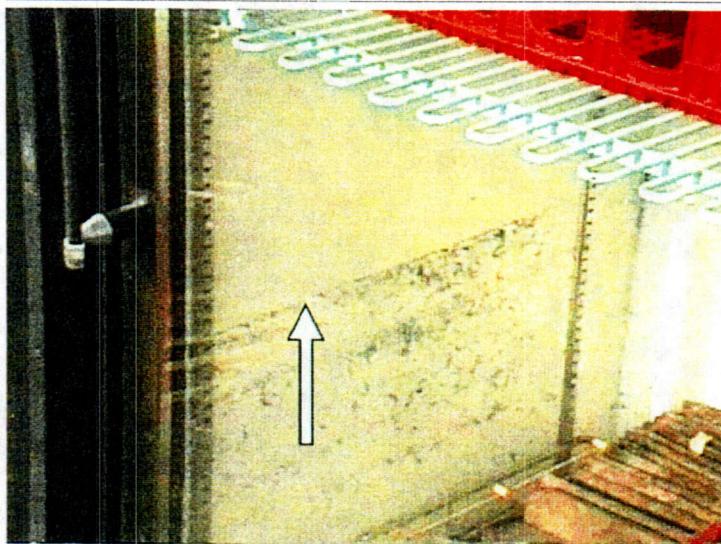


HWM Name:	GENWMS01	Taken by:	WINTERS / WALLACE
HWM Elev. (ft, NGVD)	4.78	Agency:	USGS
HWM Type :	Outside	Date Taken:	02-Oct-98
HWM Quality:	Excellent	State:	Mississippi
Latitude:	30° 22' 32.16"	Longitude:	-89° 13' 52.32"
Nearest Town:	CUEVAS	County:	HARRISON
USGS 7.5 minute Quad Sheet: GULFPORT NW, MS			
Address of HWM: @ NORTH ABUT OF ROUSE BRIDGE OVER WOLF RIVER			
Remarks:	Excellent seedlines on riprap at upstream and downstream sides of bridge at north bridge abutment. Surveyed to NGS bm "Y 134" (elev. 13.28 ft--NAVD 88). [adjusted to NGVD + -0.12]		

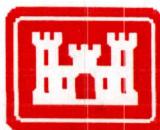


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HWM Name:	GEGSMS01	Taken by:	WINTERS / WALLACE		
HWM Elev. (ft, NGVD)	6.97	Agency:	USGS		
HWM Type :	Inside	Date Taken:	01-Oct-98		
HWM Quality:	Excellent	State:	Mississippi		
Latitude:	30° 21' 54.72"	Longitude:	-89° 05' 22.20"		
Nearest Town:	GULFPORT	County:	HARRISON		
USGS 7.5 minute Quad Sheet:		GULFPORT SOUTH, MS			
Address of HWM: INSIDE LARGE COOLER AT 2265 US HIGHWAY 90					
Remarks:	Excellent seedline inside large cooler at 2265 U.S. Highway 90. Surveyed to NGS bm "M 191 RESET 1963" (elev. 22.34 ft--NAVD 88). [adjusted to NGVD + -0.13]				



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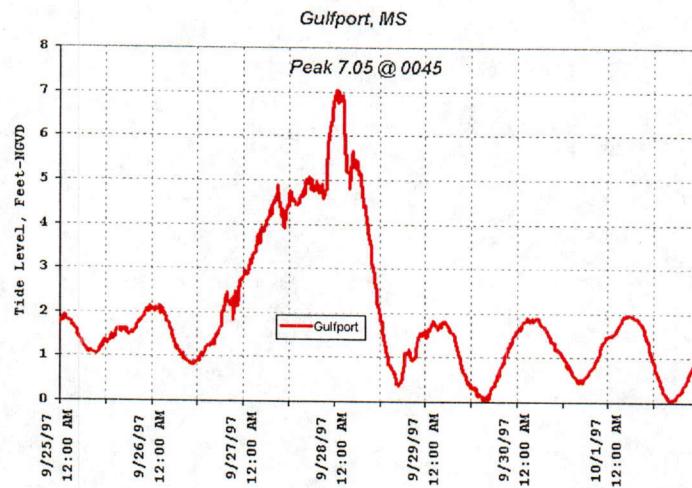


HWM Name:	GEGSMS02	Taken by:	WINTERS / WALLACE		
HWM Elev. (ft, NGVD)	6.77	Agency:	USGS		
HWM Type :	Outside	Date Taken:	02-Oct-98		
HWM Quality:	Poor	State:	Mississippi		
Latitude:	30° 21' 28.80"	Longitude:	-89° 05' 49.20"		
Nearest Town:	GULFPORT	County:	HARRISON		
USGS 7.5 minute Quad Sheet:		GULFPORT SOUTH, MS			
Address of HWM: ALONG WEST SIDE OF GULFPORT HARBOR					
Remarks: Poor driftline. Used average elevation based on ten survey shots along driftline. Surveyed to NGS bm "M191 RESET 1963" (elev. 22.34 ft--NAVD 88). [adjusted to NGVD + -0.13]					



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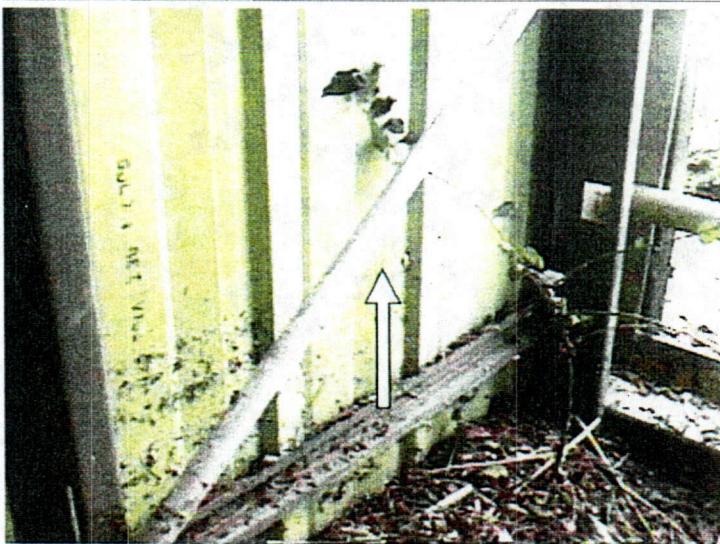


HWM Name:	GEGSMS03	Taken by:	TIDE GAGE		
HWM Elev. (ft, NGVD)	7.05	Agency:	COE		
HWM Type :	Inside	Date Taken:	04-Oct-98		
HWM Quality:	Excellent	State:	Mississippi		
Latitude:	30° 21' 50.01"	Longitude:	-89° 05' 21.93"		
Nearest Town:	GULFPORT	County:	HARRISON		
USGS 7.5 minute Quad Sheet:		GULFPORT SOUTH, MS			
Address of HWM: Gulfport Harbor at Gulfport, MS (A-35)					
Remarks: Peak occurred 28 Sep 98 at 0045.					



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HWM Name:	GEOSMS04	Taken by:	WINTERS / WALLACE		
HWM Elev. (ft, NGVD)	8.07	Agency:	USGS		
HWM Type :	Inside	Date Taken:	01-Oct-98		
HWM Quality:	Excellent	State:	Mississippi		
Latitude:	30° 23' 47.04"	Longitude:	-88° 51' 37.44"		
Nearest Town:	BILOXI	County:	HARRISON		
USGS 7.5 minute Quad Sheet:		OCEAN SPRINGS, MS			
Address of HWM: IN UTIL SHED 235' NW OF SW END OLD US 90 BRIDGE					
Remarks:	Excellent seedline in electrical shed about 235 ft northwest of bm and 40 ft west of Palace Casino near southwest end of old U.S. Highway 90 bridge. Surveyed to NGS bm "MORROW" (ELEV. 11.49 FT--NAVD 88). [adjusted to NGVD + -0.13]				



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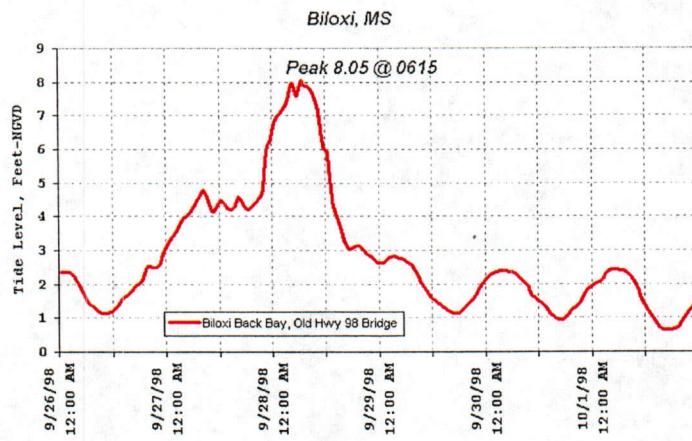
Hurricane Georges, September 1998

HWM Name:	GEOSMS05	Taken by:	WINTERS / WALLACE
HWM Elev. (ft, NGVD)	7.67	Agency:	USGS
HWM Type :	Outside	Date Taken:	01-Oct-98
HWM Quality:	Excellent	State:	Mississippi
Latitude:	30° 23' 57.48"	Longitude:	-88° 51' 48.96"
Nearest Town:	BILOXI	County:	HARRISON
USGS 7.5 minute Quad Sheet: OCEAN SPRINGS, MS			
Address of HWM: AT SE CORNER PARKING LOT ON 5th ST, 300' W OF RR			
Remarks:	Excellent seedline on post at southeast corner of casino parking lot on 5th Street about 300 west of railroad. Surveyed to NGS bm "W189" (elev. 12.77 ft--NAVD 88). No photo is available. [adjusted to NGVD + -0.13]		



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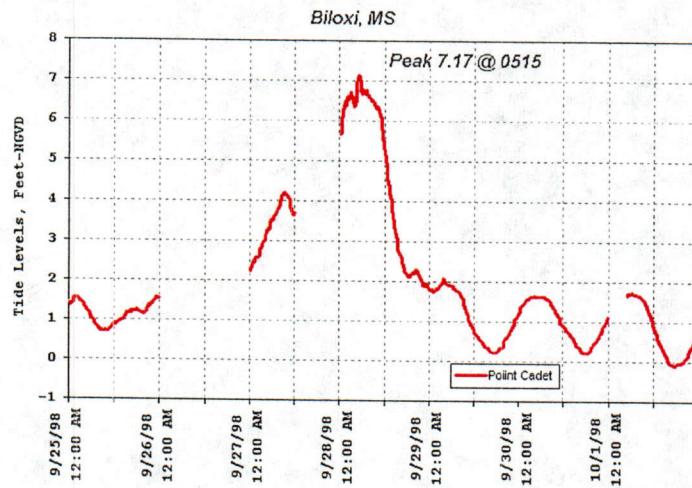


HWM Name:	GEOSMS08	Taken by:	TIDE GAGE		
HWM Elev. (ft, NGVD)	8.05	Agency:	COE		
HWM Type :	Inside	Date Taken:	04-Nov-98		
HWM Quality:	Excellent	State:	Mississippi		
Latitude:	30° 24' 17.00"	Longitude:	-88° 50' 40.00"		
Nearest Town:	Biloxi	County:	Harrison		
USGS 7.5 minute Quad Sheet:		Ocean Springs, MS			
Address of HWM: Back Bay Biloxi at Biloxi, MS					
Remarks: Peak occurred 28 Sep 98 at 0615.					

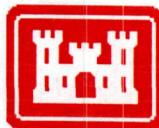


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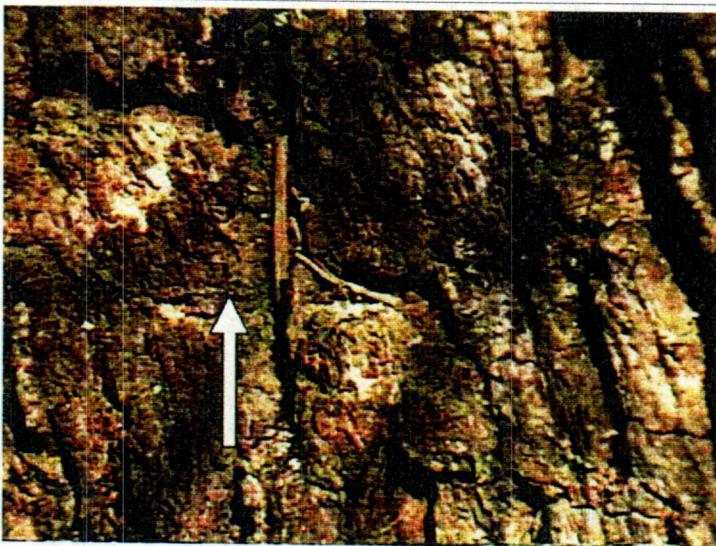


HWM Name:	GEOSMS09	Taken by:	TIDE GAGE
HWM Elev. (ft, NGVD)	7.17	Agency:	COE
HWM Type :	Inside	Date Taken:	04-Oct-98
HWM Quality:	Excellent	State:	Mississippi
Latitude:	30° 23' 23.00"	Longitude:	-88° 51' 26.00"
Nearest Town:	Biloxi	County:	Harrison
USGS 7.5 minute Quad Sheet:	Ocean Springs, MS		
Address of HWM:	Biloxi Bay at Point Cadet		
Remarks:	Peak occurred 28 Sep 98 at 0500.		

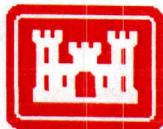


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HWM Name:	GEPCMS01	Taken by:	WINTERS / WALLACE		
HWM Elev. (ft, NGVD)	4.97	Agency:	USGS		
HWM Type :	Outside	Date Taken:	02-Oct-98		
HWM Quality:	Fair	State:	Mississippi		
Latitude:	30° 20' 15.36"	Longitude:	-89° 13' 05.16"		
Nearest Town:	CUEVAS	County:	HARRISON		
USGS 7.5 minute Quad Sheet:		PASS CHRISTIAN, MS			
Address of HWM: SOUTH BANK OF BAYOU ACADIAN NE 1/4 SEC 12					
Remarks:	Fair seedline on 2-3 ft diameter oak tree. Also, average elevation of 5.2 ft based on four survey shots of poor drift lines in the vicinity. Surveyed to NGS bm "TIE 10 AND 7" (elev. 14.87 ft--NAVD 88). [adjusted to NGVD + -0.13]				



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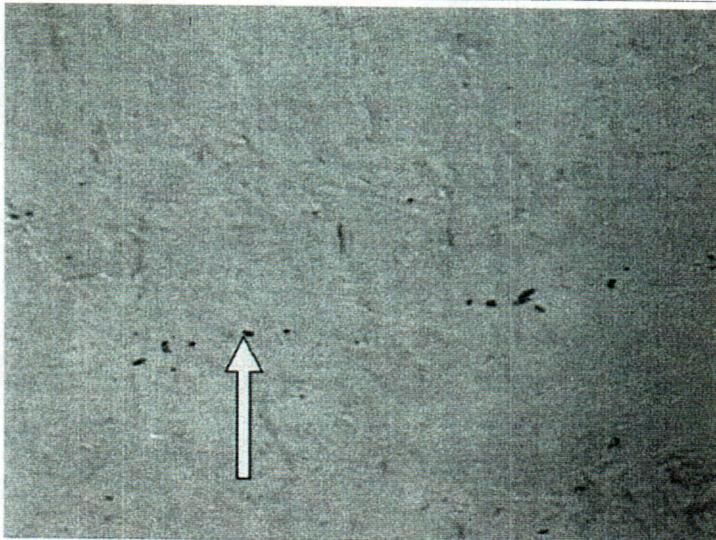


HWM Name:	GEPCMS02	Taken by:	WINTERS / WALLACE		
HWM Elev. (ft, NGVD)	6.27	Agency:	USGS		
HWM Type :	Outside	Date Taken:	02-Oct-98		
HWM Quality:	Excellent	State:	Mississippi		
Latitude:	30° 20' 15.36"	Longitude:	-89° 13' 05.16"		
Nearest Town:	PASS CHRISTIAN	County:	HARRISON		
USGS 7.5 minute Quad Sheet:		PASS CHRISTIAN, MS			
Address of HWM: NW CORNER MENGE AVE. BRIDGE OVER JOHNSON BAYOU					
Remarks: Prob. aff. by headwater flooding. Exc seedline on post at N. end of guardrail on ds (W.) side (photo 211). Exc seedline on post at N. end of guardrail on us side at elev 6.7 ft (photo 221). Surveyed to NGS bm "X190 1955" (6.14 ft--NAVD 88). [NGVD adj -.13]					



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HWM Name:	GEPCMS03	Taken by:	WINTERS / WALLACE
HWM Elev. (ft, NGVD)	6.80	Agency:	USGS
HWM Type :	Inside	Date Taken:	02-Oct-98
HWM Quality:	Excellent	State:	Mississippi
Latitude:	30° 18' 44.64"	Longitude:	-89° 14' 44.88"
Nearest Town:	PASS CHRISTIAN	County:	HARRISON
USGS 7.5 minute Quad Sheet: PASS CHRISTIAN, MS			
Address of HWM: HWM INSIDE KIMBALL FISHING CO. BLDG @ HARBOR			
Remarks: Exc. seedline 1.11 ft above slab inside small white bldg. Surveyed to COE bm "R7 1977" (elev. 10.57 ft--probably NGVD 29). Bm elevation provided by COE.			



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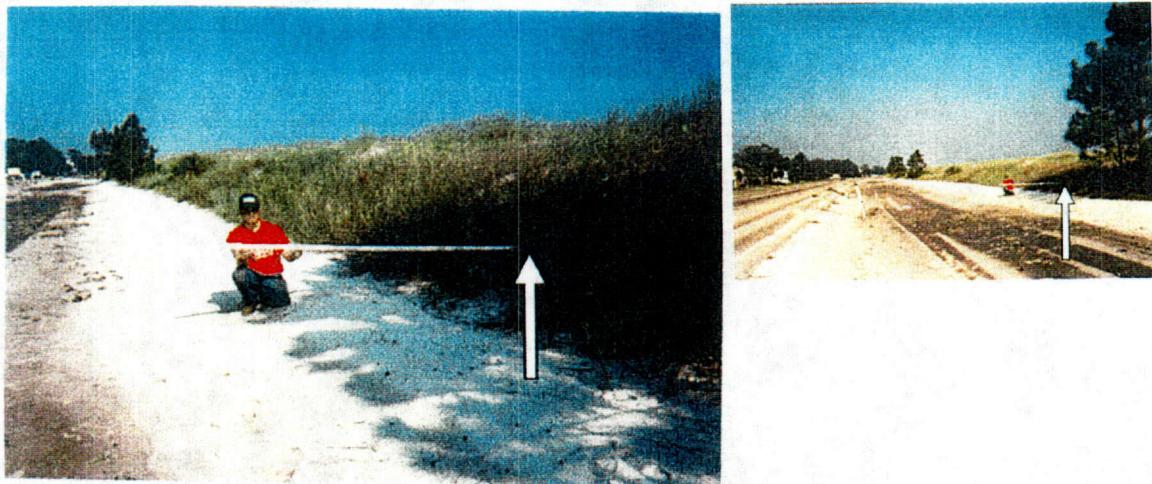


HWM Name:	GEPCMS04	Taken by:	WILSON / JOINER
HWM Elev. (ft, NGVD)	7.90	Agency:	USGS
HWM Type :	Inside	Date Taken:	02-Oct-98
HWM Quality:	Good	State:	Mississippi
Latitude:	30° 20' 45.60"	Longitude:	-89° 08' 32.28"
Nearest Town:	LONG BEACH	County:	HARRISON
USGS 7.5 minute Quad Sheet: PASS CHRISTIAN, MS			
Address of HWM: MISS. SOUND AT FRANK A. LAROSA BEACH PARK			
Remarks:	Good seedline below bottom of deck of bathroom/showers bldg. east of road to pier. Surveyed to COE bm "B-57 1958" (elev. 10.76 ft--think NGVD 29) provided by COE on 10-06-98.		



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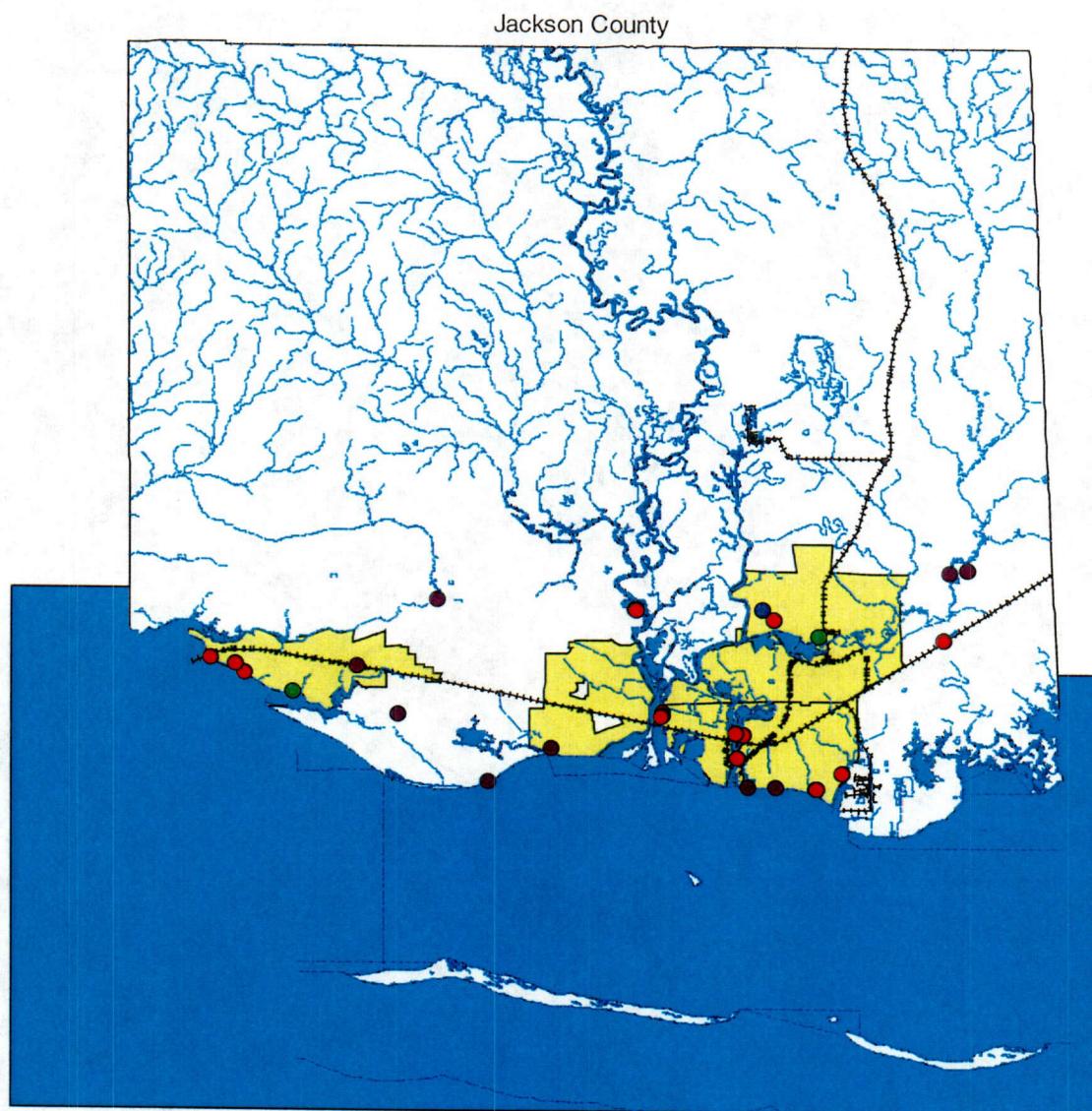
HWM Name:	GEPCMS05	Taken by:	WILSON / JOINER		
HWM Elev. (ft, NGVD)	7.20	Agency:	USGS		
HWM Type :	Outside	Date Taken:	02-Oct-98		
HWM Quality:	Good	State:	Mississippi		
Latitude:	30° 20' 00.96"	Longitude:	-89° 10' 44.04"		
Nearest Town:	LONG BEACH	County:	HARRISON		
USGS 7.5 minute Quad Sheet:		PASS CHRISTIAN, MS			
Address of HWM: MISS. SOUND NEAR PITCHER PT.					
Remarks: Good drift on inland side of vegetated sand dune near small pine trees. Surveyed to chiseled "+370" (elev. 7.68 ft -- NGVD 29) on seawall. Elev. provided by MDOT on 10-26-98.					



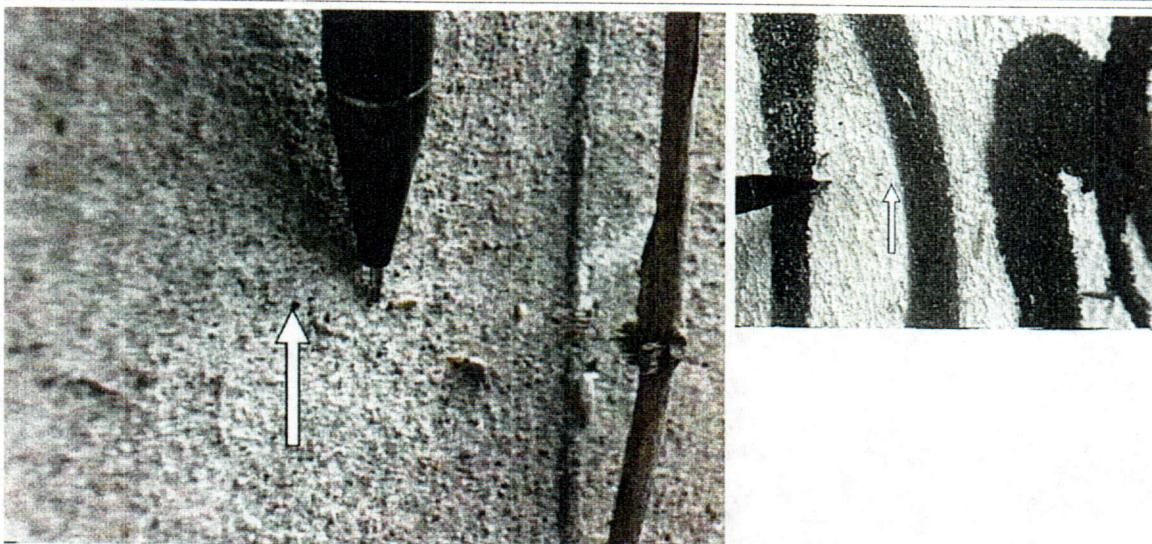
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Appendix C

Jackson County, MS High Water Marks



Hurricane Georges, September 1998

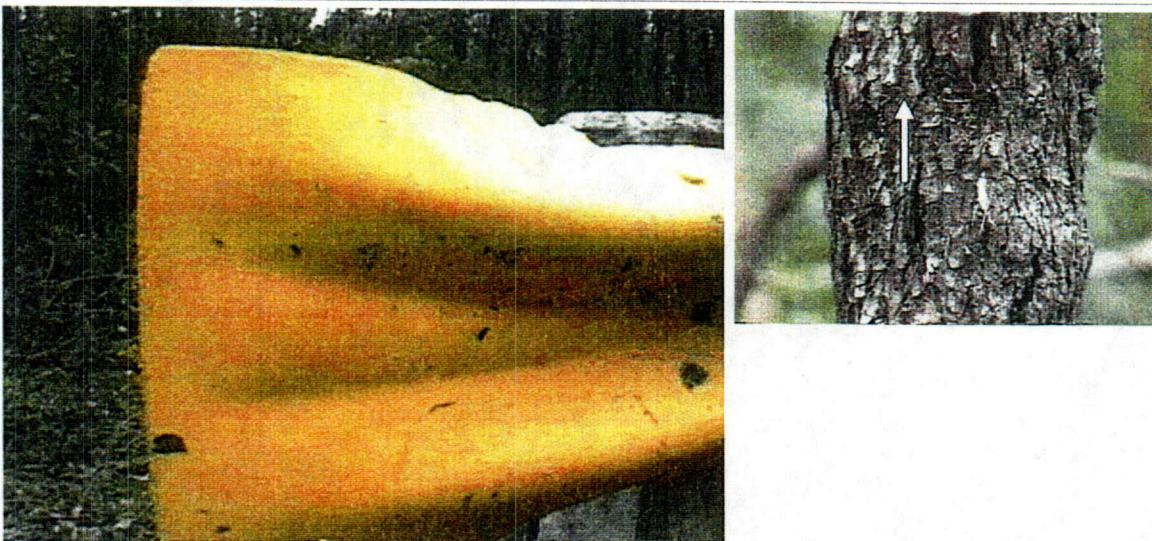


HWM Name:	GEGNMS01	Taken by:	WINTERS / WALLACE
HWM Elev. (ft, NGVD)	11.09	Agency:	USGS
HWM Type :	Outside	Date Taken:	30-Sep-98
HWM Quality:	Excellent	State:	Mississippi
Latitude:	30° 26' 34.08"	Longitude:	-88° 43' 17.04"
Nearest Town:	FONTAINEBLEAU	County:	JACKSON
USGS 7.5 minute Quad Sheet: GAUTIER NORTH, MS			
Address of HWM: EAST ABUT DS BRIDGE, I-10 @ OLD FORT BAYOU			
Remarks:	Headwater flooding. Average of two excellent seedlines at upstream east bridge seat of downstream bridge. Surveyed to NGS bm "H364 1993" (elev. 19.83 ft-- NAVD 88). [adjusted to NGVD + -0.11]		

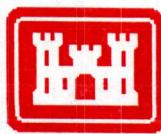


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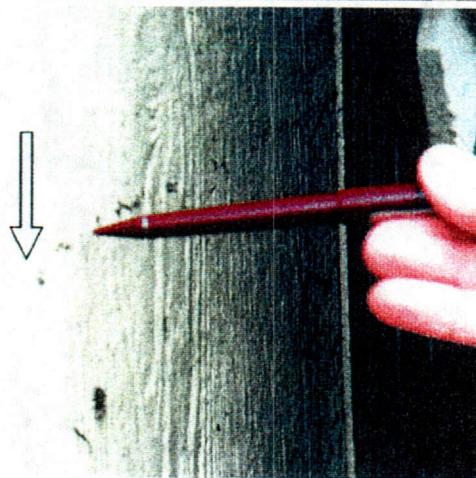


HWM Name:	GEGNMS02	Taken by:	WINTERS / WALLACE
HWM Elev. (ft, NGVD)	9.99	Agency:	USGS
HWM Type :	Outside	Date Taken:	30-Sep-98
HWM Quality:	Excellent	State:	Mississippi
Latitude:	30° 22' 54.12"	Longitude:	-88° 44' 31.92"
Nearest Town:	FONTAINEBLEAU	County:	JACKSON
USGS 7.5 minute Quad Sheet: GAUTIER NORTH, MS			
Address of HWM: SIMMONS BAYOU TRIBUTARY @ FOUNTAINEBLEAU RD			
Remarks:	Exc. seedline on ds E. guardrail (photo 231). Also average elevation of 9.1 ft based on 3 survey shots of exc. seedlines in the vicinity (photos 211 & 221 of two of them). Surveyed to NGS bm "FOUNTAINE 1943" (elev. 20.94 ft--NAVD 88). [NGVD adj -0.11]		



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HWM Name:	GEGAMS01	Taken by:	BALDWIN / STOCKS		
HWM Elev. (ft, NGVD)	10.60	Agency:	USGS		
HWM Type :	Outside	Date Taken:	30-Sep-98		
HWM Quality:	Excellent	State:	Mississippi		
Latitude:	30° 21' 52.92"	Longitude:	-88° 39' 42.84"		
Nearest Town:	GAUTIER	County:	JACKSON		
USGS 7.5 minute Quad Sheet:		GAUTIER SOUTH, MS			
Address of HWM: BEHIND HOUSE AT 3120 GULF VIEW DRIVE					
Remarks:	Good seedline on shed and excellent seedline on dog house behind house. Surveyed to NOS bm "2205 D 1960" (elev. 16.72 ft --MSL). Elevation was provided by Compton Engineering on 10-08-98.				



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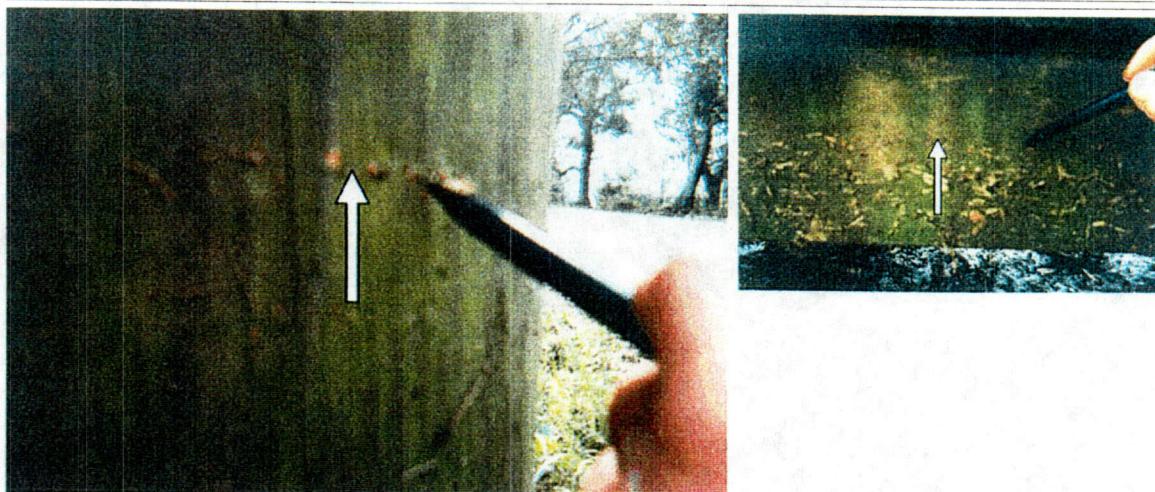


HWM Name:	GEGAMS02	Taken by:	BALDWIN / STOCKS		
HWM Elev. (ft, NGVD)	11.00	Agency:	USGS		
HWM Type :	Outside	Date Taken:	30-Sep-98		
HWM Quality:	Excellent	State:	Mississippi		
Latitude:	30° 20' 48.84"	Longitude:	-88° 41' 40.92"		
Nearest Town:	GAUTIER	County:	JACKSON		
USGS 7.5 minute Quad Sheet:		GAUTIER SOUTH, MS			
Address of HWM: ABOUT 2 MILES EAST OF BELLE FONTAINE POINT					
Remarks:	Ave. of 3 seedlines (exc. in storage room at 2-story blue house, fair on dog house, and exc. in same storage room--diff. wall). Surveyed to ref. mark at NW corner of Tanglewood Bluff Sub.(elev. 19.24 ft--MSL). Rm elev. provided by Compton Eng. on 10-08-98				



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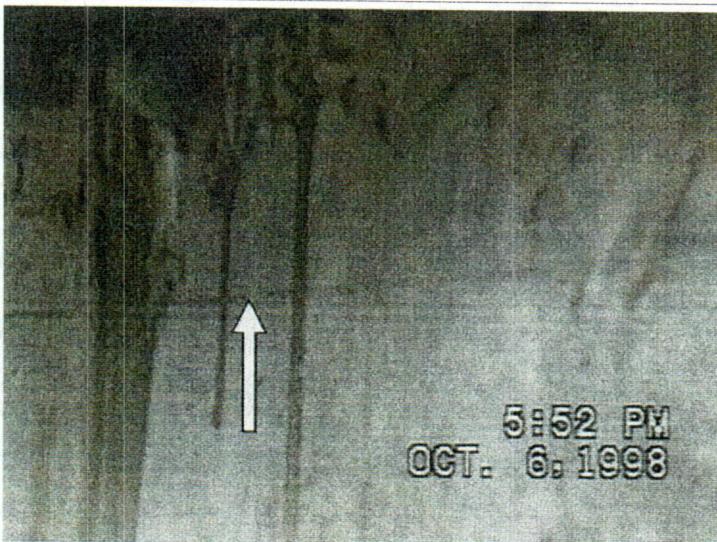


HWM Name:	GEKRMS01	Taken by:	WILSON / WALLACE
HWM Elev. (ft, NGVD)	9.06	Agency:	USGS
HWM Type :	Outside	Date Taken:	06-Oct-98
HWM Quality:	Excellent	State:	Mississippi
Latitude:	30° 25' 23.16"	Longitude:	-88° 27' 23.04"
Nearest Town:	ORANGE GROVE	County:	JACKSON
USGS 7.5 minute Quad Sheet: KREOLE, MS			
Address of HWM: ESCATAWPA RIVER (SOUTH SIDE) AT OAKS STORE			
Remarks:	Probably affected by headwater flooding. Local described as headwater flooding. Excellent seed lines. Surveyed to NGS bm "GROVE NO.1 1930" (elev. 8.77 -- NAVD 88). The store is on the north side of U.S. 90. [adjusted to NGVD + -0.14]		

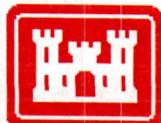


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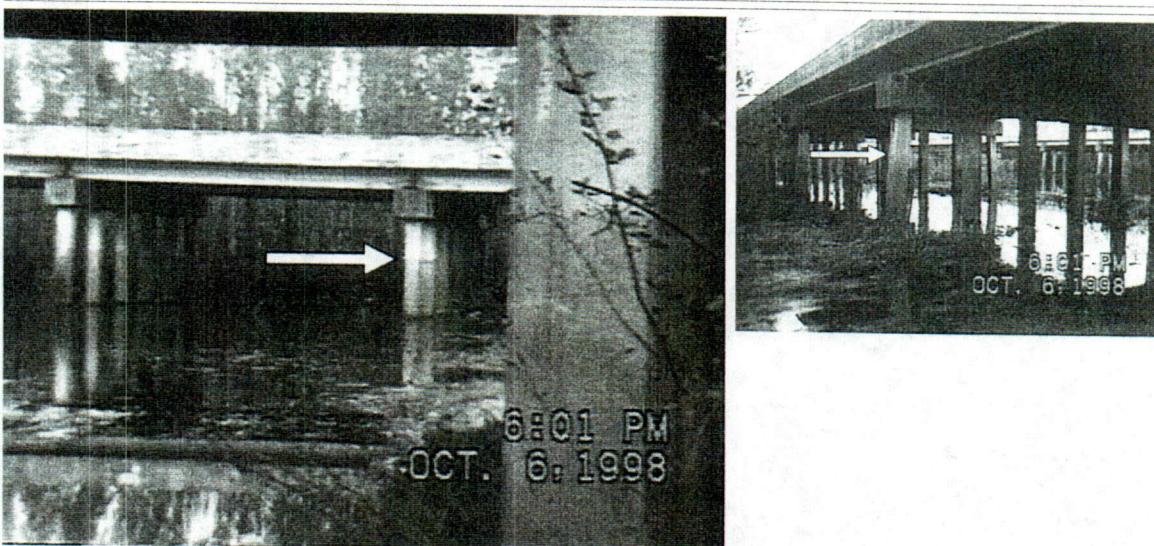


HWM Name:	GEKRAMS02	Taken by:	WILSON / WALLACE
HWM Elev. (ft, NGVD)	12.10	Agency:	USGS
HWM Type :	Inside	Date Taken:	06-Oct-98
HWM Quality:	Excellent	State:	Mississippi
Latitude:	30° 27' 36.00"	Longitude:	-88° 26' 36.24"
Nearest Town:	ORANGE GROVE	County:	JACKSON
USGS 7.5 minute Quad Sheet: KREOLE, MS			
Address of HWM: ESCATAWPA RIVER NEAR EAST END OF I-10 BRIDGE			
Remarks:	Headwater flooding. Excellent seedline on 1st pile bent from east end of upstream bridge. Surveyed to CL elev. 17.00 ft at east end of upstream bridge. Elev.(about NGVD 29) from "as-built" plans provided by MDOT on 10-07-98.		



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HWM Name:	GEKRMS03	Taken by:	WILSON / WALLACE
HWM Elev. (ft, NGVD)	11.90	Agency:	USGS
HWM Type :	Inside	Date Taken:	06-Oct-98
HWM Quality:	Good	State:	Mississippi
Latitude:	30° 27' 30.96"	Longitude:	-88° 27' 09.72"
Nearest Town:	ORANGE GROVE	County:	JACKSON
USGS 7.5 minute Quad Sheet: KREOLE, MS			
Address of HWM: ESCATAWPA RIVER NEAR WEST END OF I-10 BRIDGE			
Remarks:	Headwater flooding. Good discoloration line on 1st pile bent from west end of upstream bridge. Surveyed to CL elev. 21.77 ft at west end of upstream bridge. Elev.(about NGVD 29) from "as-built" plans provided by MDOT on 10-07-98.		

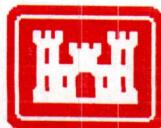


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HWM Name:	GEOSMS01	Taken by:	WINTERS / BALDWIN		
HWM Elev. (ft, NGVD)	7.70	Agency:	USGS		
HWM Type :	Inside	Date Taken:	08-Oct-98		
HWM Quality:	Excellent	State:	Mississippi		
Latitude:	30° 23' 35.88"	Longitude:	-88° 47' 51.72"		
Nearest Town:	OCEAN SPRINGS	County:	JACKSON		
USGS 7.5 minute Quad Sheet:		OCEAN SPRINGS, MS			
Address of HWM: IN STORAGE BLDG AT GULF COAST RESEARCH LABORATORY					
Remarks:	Excellent seedline inside storage bldg. behind "Hopkins Bldg. 3" at Gulf Coast Research Laboratory. Surveyed to COE bm "OSV-2 1970" (elev. 7.42 ft--NGVD 29). Bm elevation provided by COE on 10-06-98.				



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HWM Name:	GEOSMS02	Taken by:	WINTERS / WALLACE		
HWM Elev. (ft, NGVD)	11.17	Agency:	USGS		
HWM Type :	Outside	Date Taken:	30-Sep-98		
HWM Quality:	Excellent	State:	Mississippi		
Latitude:	30° 24' 26.64"	Longitude:	-88° 45' 50.04"		
Nearest Town:	OCEAN SPRINGS	County:	JACKSON		
USGS 7.5 minute Quad Sheet:		OCEAN SPRINGS, MS			
Address of HWM: HERON BAYOU TRIBUTARY @ RR 3 MI EAST OF OCEAN SPR.					
Remarks:	Headwater flooding. Excellent seedline on 3-in tree about 40 ft downstream of east abutment of railroad bridge about 2 ft above the ground. Surveyed to NGS bm "B192" (elev. 20.86 ft--NAVD 88). [adjusted to NGVD + -0.13]				



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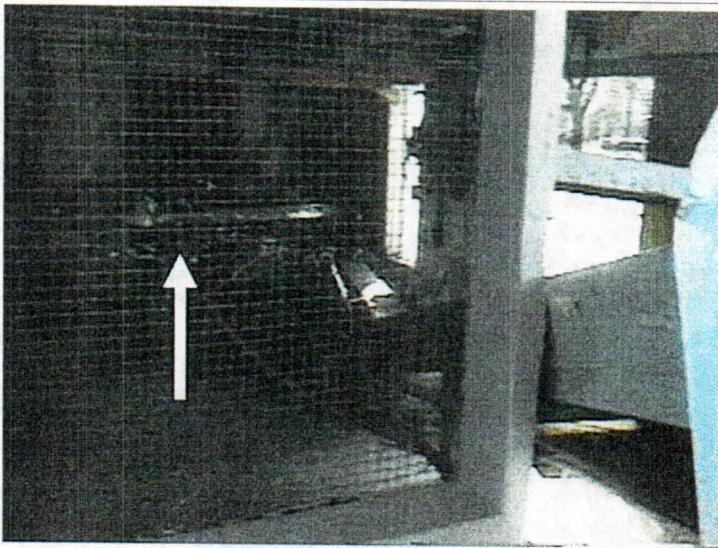


HWM Name:	GEOSMS03	Taken by:	WINTERS / WALLACE
HWM Elev. (ft, NGVD)	8.27	Agency:	USGS
HWM Type :	Outside	Date Taken:	01-Oct-98
HWM Quality:	Excellent	State:	Mississippi
Latitude:	30° 24' 40.68"	Longitude:	-88° 50' 27.96"
Nearest Town:	OCEAN SPRINGS	County:	JACKSON
USGS 7.5 minute Quad Sheet: OCEAN SPRINGS, MS			
Address of HWM: NE END OF US 90 BRIDGE OVER BILOXI BAY			
Remarks:	Excellent seedline at upstream (inland) side of 3rd pile bent from northeast end of bridge. Also, excellent seedline (elev. 7.1 ft) located 2.25 ft below bm. Surveyed to NGS bm "U234" (elev. 9.32 ft--NAVD 88). [adjusted to NGVD + - 0.13]		

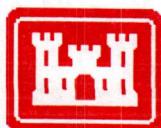


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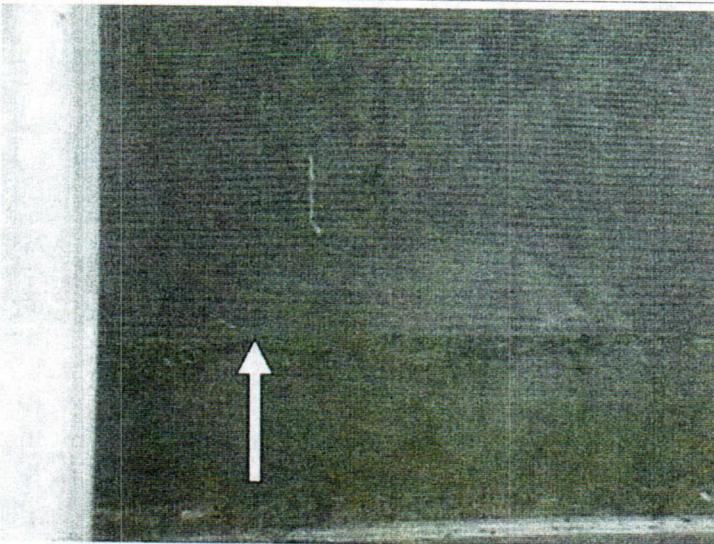


HWM Name:	GEOSMS06	Taken by:	WINTERS / WALLACE
HWM Elev. (ft, NGVD)	8.10	Agency:	USGS
HWM Type :	Outside	Date Taken:	30-Sep-98
HWM Quality:	Good	State:	Mississippi
Latitude:	30° 24' 12.96"	Longitude:	-88° 49' 23.88"
Nearest Town:	OCEAN SPRINGS	County:	JACKSON
USGS 7.5 minute Quad Sheet: OCEAN SPRINGS, MS			
Address of HWM: SEED LINE ON SCREEN OF BLDG, WEST SIDE OF INLET			
Remarks:	Good seedline on window screen on north side of yellow bldg. Also, elevation of 8.0 ft determined by ave. of four survey shots on poor drift lines in the vicinity. Surveyed to Ocean Springs City bm "BM 42" (elev. 5.71 ft--NGVD 29.) Bm elev. from FEMA map.		

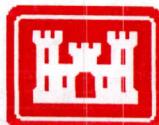


**US Army Corps of Engineers
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HWM Name:	GEOSMS07	Taken by:	WINTERS / WALLACE
HWM Elev. (ft, NGVD)	8.40	Agency:	USGS
HWM Type :	Outside	Date Taken:	30-Sep-98
HWM Quality:	Good	State:	Mississippi
Latitude:	30° 24' 29.88"	Longitude:	-88° 49' 41.16"
Nearest Town:	OCEAN SPRINGS	County:	JACKSON
USGS 7.5 minute Quad Sheet: OCEAN SPRINGS, MS			
Address of HWM: SEED LINE BENEATH HOUSE @ 315 WASHINGTON AVE.			
Remarks:	Good seedline on post under house (no photos). Also exc. seedlines in the vicinity (elev. 8.0- 8.2 ft--photos 0711 & 0721). Surveyed to Ocean Springs City bm "BM 23" (elev. 17.25 ft--NGVD 29.) Bm elev. from FEMA map.		

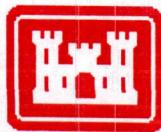


US Army Corps of Engineers
Mobile District

Hurricane Georges, September 1998



HWM Name:	GEPNMS01	Taken by:	WILSON / JOINER
HWM Elev. (ft, NGVD)	5.30	Agency:	USGS
HWM Type :	Outside	Date Taken:	30-Sep-98
HWM Quality:	Good	State:	Mississippi
Latitude:	30° 26' 18.24"	Longitude:	-88° 33' 02.88"
Nearest Town:	ESCATAWPA	County:	JACKSON
USGS 7.5 minute Quad Sheet: PASCAGOULA NORTH, MS			
Address of HWM: PASCAGOULA RIVER NEAR EAST END OF I-10 BRIDGE			
Remarks:	Good stain at 2nd pile bt. from east abut. of ds bridge. Surveyed to CL elev. of 19.15 ft at east abut. of ds bridge. Elev. (about NGVD 29) from "as-built" plans provided by MDOT. Think elev. 5.3 ft not representative of Pasc. storm surge (see GEPNMS09)		



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HWM Name:	GEPNMS02	Taken by:	WILSON / JOINER		
HWM Elev. (ft, NGVD)	8.80	Agency:	USGS		
HWM Type :	Outside	Date Taken:	30-Sep-98		
HWM Quality:	Good	State:	Mississippi		
Latitude:	30° 26' 17.88"	Longitude:	-88° 37' 03.00"		
Nearest Town:	ESCATAWPA	County:	JACKSON		
USGS 7.5 minute Quad Sheet:		PASCAGOULA NORTH, MS			
Address of HWM: WEST PASCAGOULA RIVER NEAR WEST END OF I-10 BRIDGE					
Remarks:	Good seedline on backside of leaning tree about 100 ft us (inland) and 200 ft west of west abutment of upstream bridge. Surveyed to CL elev. of 24.15 ft at west abutment of downstream bridge. Elev.(about NGVD 29) from "as-built" plans provided by MDOT.				



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HWM Name:	GEPNMS03	Taken by:	WILSON / JOINER		
HWM Elev. (ft, NGVD)	9.40	Agency:	USGS		
HWM Type :	Outside	Date Taken:	30-Sep-98		
HWM Quality:	Fair	State:	Mississippi		
Latitude:	30° 26' 13.92"	Longitude:	-88° 37' 01.92"		
Nearest Town:	ESCATAWPA	County:	JACKSON		
USGS 7.5 minute Quad Sheet:		PASCAGOULA NORTH, MS			
Address of HWM: WEST PASCAGOULA NEAR WEST END OF I-10 BRIDGE					
Remarks:	Fair seedline on tree about 100 ft ds (gulfward) and 150 ft west of west abutment of downstream bridge. Surveyed to CL elev. of 24.15 ft at west abutment of downstream bridge. Elev.(about NGVD 29) from "as-built" plans provided by MDOT.				



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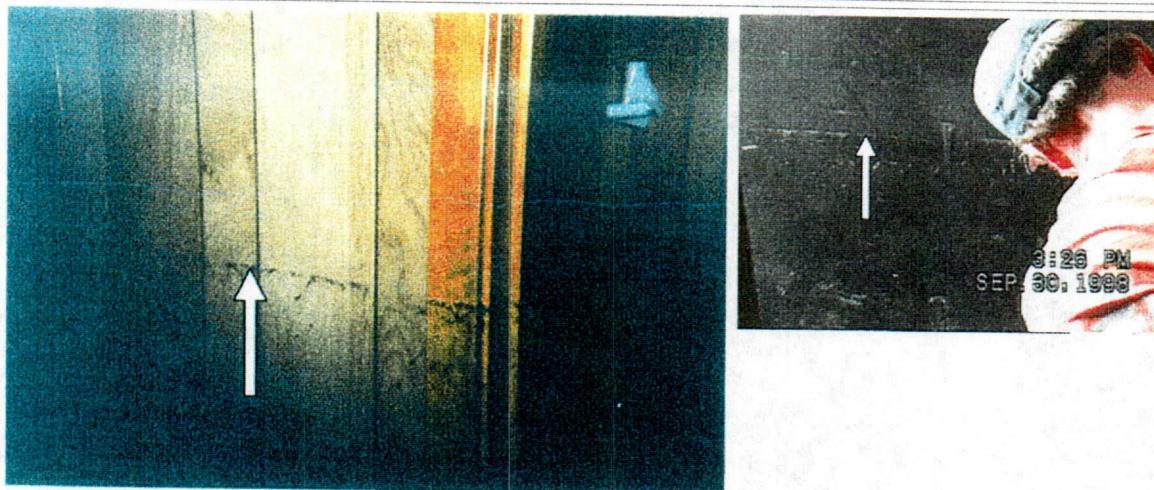


HWM Name:	GEPNMS04	Taken by:	WILSON / JOINER
HWM Elev. (ft, NGVD)	9.20	Agency:	USGS
HWM Type :	Outside	Date Taken:	30-Sep-98
HWM Quality:	Good	State:	Mississippi
Latitude:	30° 26' 16.08"	Longitude:	-88° 37' 00.12"
Nearest Town:	ESCATAWPA	County:	JACKSON
USGS 7.5 minute Quad Sheet: PASCAGOULA NORTH, MS			
Address of HWM: WEST PASCAGOULA NEAR WEST END OF I-10 BRIDGE			
Remarks:	Good drift between bridges near west abutments. Surveyed to CL elev. of 24.15 ft at west abutment of downstream bridge. Elev.(about NGVD 29) from "as-built" plans provided by MDOT.		



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HWM Name:	GEPNMS05	Taken by:	WILSON / JOINER		
HWM Elev. (ft, NGVD)	8.47	Agency:	USGS		
HWM Type :	Inside	Date Taken:	30-Sep-98		
HWM Quality:	Excellent	State:	Mississippi		
Latitude:	30° 22' 59.88"	Longitude:	-88° 36' 10.80"		
Nearest Town:	GAUTIER	County:	JACKSON		
USGS 7.5 minute Quad Sheet:		PASCAGOULA NORTH, MS			
Address of HWM: WEST PASCAGOULA NEAR EAST END OF U.S. 90 BRIDGE					
Remarks:	Excellent seedline inside bldg. upstream of U.S. 90. Surveyed to NGS bm "W 192 1955" (elev. 16.27 ft-NAVD 88). [adjusted to NGVD + -0.13]				



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HWM Name:	GEPNMS06	Taken by:	WILSON / JOINER
HWM Elev. (ft, NGVD)	8.77	Agency:	USGS
HWM Type :	Outside	Date Taken:	30-Sep-98
HWM Quality:	Good	State:	Mississippi
Latitude:	30° 22' 59.88"	Longitude:	-88° 36' 10.80"
Nearest Town:	GAUTIER	County:	JACKSON
USGS 7.5 minute Quad Sheet: PASCAGOULA NORTH, MS			
Address of HWM: WEST PASCAGOULA NEAR EAST END OF U.S. 90 BRIDGE			
Remarks:	Good seedline on outside of bldg. upstream of U.S. 90. Surveyed to NGS bm "W 192 1955" (elev. 16.27 ft--NAVD 88). [adjusted to NGVD + -0.13]		



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HWM Name:	GEPNMS07	Taken by:	WILSON / JOINER		
HWM Elev. (ft, NGVD)	8.47	Agency:	USGS		
HWM Type :	Outside	Date Taken:	30-Sep-98		
HWM Quality:	Good	State:	Mississippi		
Latitude:	30° 22' 55.20"	Longitude:	-88° 36' 11.88"		
Nearest Town:	GAUTIER	County:	JACKSON		
USGS 7.5 minute Quad Sheet:		PASCAGOULA NORTH, MS			
Address of HWM: WEST PASCAGOULA NEAR EAST END OF U.S. 90 BRIDGE					
Remarks:	Good seed/drift along upstream (inland) side of highway embankment about 430 ft east of east bridge abutment. Surveyed to NGS bm "W 192 1955" (elev. 16.27 ft--NAVD 88). [adjusted to NGVD + -0.13]				



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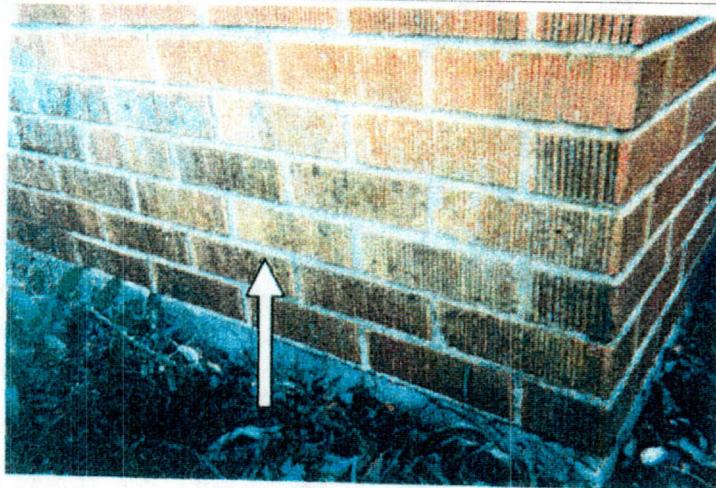


HWM Name:	GEPNMS08	Taken by:	WILSON / JOINER
HWM Elev. (ft, NGVD)	8.77	Agency:	USGS
HWM Type :	Outside	Date Taken:	30-Sep-98
HWM Quality:	Good	State:	Mississippi
Latitude:	30° 22' 53.76"	Longitude:	-88° 36' 12.60"
Nearest Town:	GAUTIER	County:	JACKSON
USGS 7.5 minute Quad Sheet: PASCAGOULA NORTH, MS			
Address of HWM: WEST PASCAGOULA NEAR EAST END OF U.S. 90 BRIDGE			
Remarks:	Good seed/drift along downstream (gulfward) side of highway embankment across from GEPNMS07. Surveyed to NGS bm "W 192 1955" (elev. 16.27 ft-- NAVD 88). [adjusted to NGVD + -0.13]		



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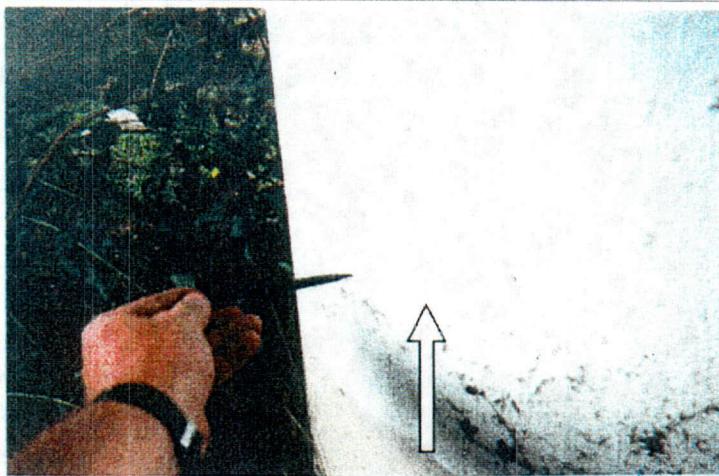


HWM Name:	GEPNMS09	Taken by:	WILSON / JOINER
HWM Elev. (ft, NGVD)	8.60	Agency:	USGS
HWM Type :	Inside	Date Taken:	30-Sep-98
HWM Quality:	Excellent	State:	Mississippi
Latitude:	30° 25' 57.00"	Longitude:	-88° 32' 39.48"
Nearest Town:	MOSS POINT	County:	JACKSON
USGS 7.5 minute Quad Sheet: PASCAGOULA NORTH, MS			
Address of HWM: ESCATAWPA RIVER NEAR NORTH END OF SR 613 BRIDGE			
Remarks:	Headwater flooding was lower. Exc. seedline inside shop behind house on south side of Dutch Bayou Rd. Same as outside HWM found next door. Surveyed to CL(elev.13.95 ft) at N.abut. of SR 613 bridge. Elev.(about NGVD 29) from "as-built" plans prov. by MDOT.		

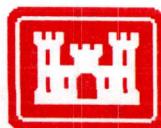


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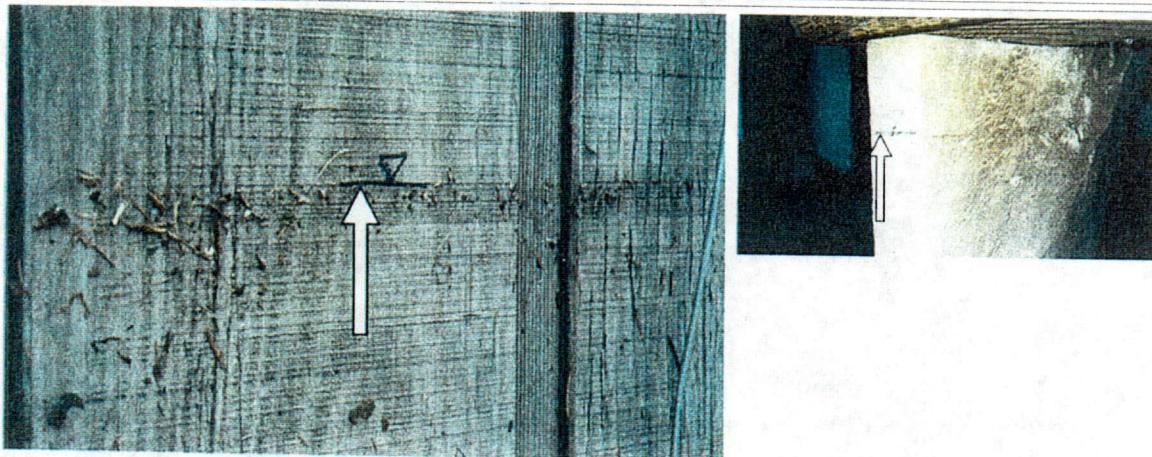


HWM Name:	GEPNMS10	Taken by:	WILSON / WALLACE
HWM Elev. (ft, NGVD)	7.35	Agency:	USGS
HWM Type :	Outside	Date Taken:	07-Oct-98
HWM Quality:	Fair	State:	Mississippi
Latitude:	30° 25' 27.48"	Longitude:	-88° 31' 16.68"
Nearest Town:	MOSS POINT	County:	JACKSON
USGS 7.5 minute Quad Sheet: PASCAGOULA NORTH, MS			
Address of HWM: ESCATAWPA RIVER NEAR NORTH END OF SR 63 BRIDGE			
Remarks:	Possibly affected by headwater flooding. Ave of 5 marks under bridge (2 poor stain lines on bridge piers and 3 good seed/drift lines on ground). Surveyed to COE bm "MS-23B" (elev. 4.72 ft -- NAVD 88) provided by COE on 10-06-98. [adjusted to NGVD + -0.15]		



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HWM Name:	GEPSMS01	Taken by:	BALDWIN / STOCKS		
HWM Elev. (ft, NGVD)	8.06	Agency:	USGS		
HWM Type :	Outside	Date Taken:	30-Sep-98		
HWM Quality:	Excellent	State:	Mississippi		
Latitude:	30° 22' 18.12"	Longitude:	-88° 33' 38.88"		
Nearest Town:	PASCAGOULA	County:	JACKSON		
USGS 7.5 minute Quad Sheet:		PASCAGOULA SOUTH, MS			
Address of HWM: EAST END, U.S. HWY 90 BRIDGE AT PASCAGOULA RIVER					
Remarks: 3 seedlines. Exc.(1) on bldg. about 150 ft us & 100 ft W., exc.(2) on SE corner of bldg. about 500 ft ds & 150 ft W., & fair(3) on check-in station about 350 ft ds & 150 W. of E br. abut. Surveyed to NGS bm "Z192" (elev 23.17 ft--NAVD 88). [NGVD adj -.14]					



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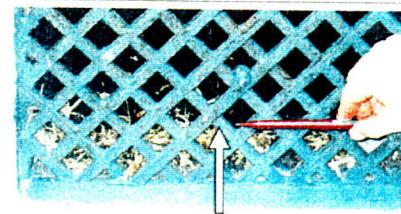


HWM Name:	GEPSMS02	Taken by:	BALDWIN / STOCKS		
HWM Elev. (ft, NGVD)	7.96	Agency:	USGS		
HWM Type :	Outside	Date Taken:	30-Sep-98		
HWM Quality:	Good	State:	Mississippi		
Latitude:	30° 22' 22.08"	Longitude:	-88° 33' 52.92"		
Nearest Town:	PASCAGOULA	County:	JACKSON		
USGS 7.5 minute Quad Sheet:		PASCAGOULA SOUTH, MS			
Address of HWM: WEST END, U.S. HWY 90 BRIDGE AT PASCAGOULA RIVER					
Remarks:	Good driftline along north (inland) side of highway embankment near west bridge abutment. Used average of five survey shots along driftline. Surveyed to NGS bm "Y192 1955" (elev. 23.07 ft--NAVD 88). [adjusted to NGVD + -0.14]				



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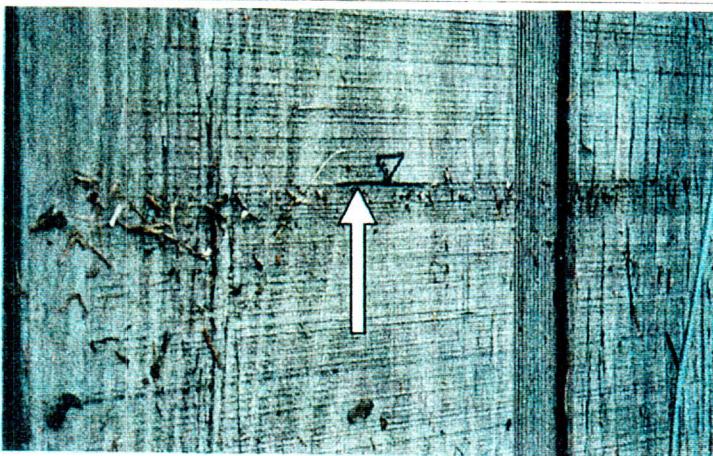


HWM Name:	GEPSMS03	Taken by:	BALDWIN / STOCKS
HWM Elev. (ft, NGVD)	10.76	Agency:	USGS
HWM Type :	Outside	Date Taken:	30-Sep-98
HWM Quality:	Excellent	State:	Mississippi
Latitude:	30° 20' 39.12"	Longitude:	-88° 33' 29.88"
Nearest Town:	PASCAGOULA	County:	JACKSON
USGS 7.5 minute Quad Sheet: PASCAGOULA SOUTH, MS			
Address of HWM: BEHIND HOUSE #715 ON BEACH BOULEVARD			
Remarks:	Excellent seedline on north (inland) side of house. Surveyed to COE bm "MS-19B" (elev. 6.54 ft--NAVD 88). Bm elevation provided by COE on 10-06-98. [adjusted to NGVD + -0.04]		

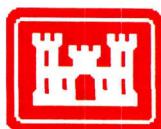


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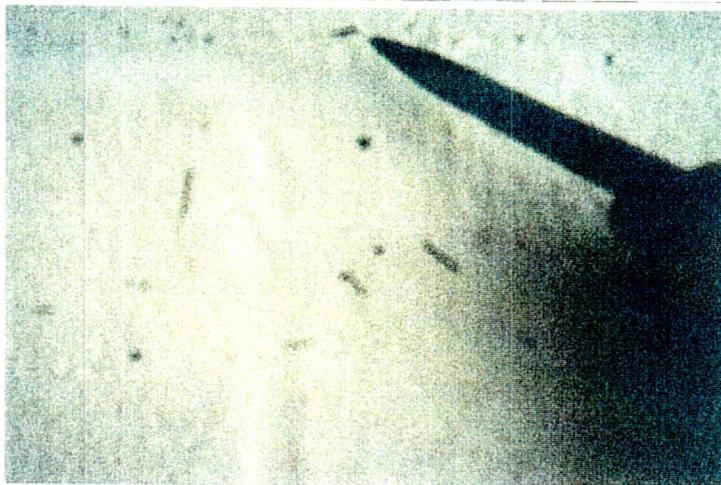


HWM Name:	GEPSMS04	Taken by:	WILSON / WALLACE		
HWM Elev. (ft, NGVD)	9.35	Agency:	USGS		
HWM Type :	Inside	Date Taken:	06-Oct-98		
HWM Quality:	Good	State:	Mississippi		
Latitude:	30° 20' 37.32"	Longitude:	-88° 31' 21.72"		
Nearest Town:	PASCAGOULA	County:	JACKSON		
USGS 7.5 minute Quad Sheet:		PASCAGOULA SOUTH, MS			
Address of HWM: 607 MARTIN ST.(1st house inland & north of bridge)					
Remarks:	Good-excellent seedline inside garage at 1st house us (inland & west) and north of Bayou Chico bridge. Also, exc. seedline below at elev. 8.8 ft. Surveyed to COE bm "MS-21" (elev. 3.93 ft -- NAVD 88) provided by COE on 10-06-98. [adjusted to NGVD + -0.05]				



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HWM Name:	GEPSMS05	Taken by:	WILSON / WALLACE		
HWM Elev. (ft, NGVD)	10.79	Agency:	USGS		
HWM Type :	Inside	Date Taken:	06-Oct-98		
HWM Quality:	Fair	State:	Mississippi		
Latitude:	30° 20' 40.56"	Longitude:	-88° 32' 38.76"		
Nearest Town:	PASCAGOULA	County:	JACKSON		
USGS 7.5 minute Quad Sheet:		PASCAGOULA SOUTH, MS			
Address of HWM: WASHINGTON AVE. AT 1ST HOUSE W. OF UNNAMED DITCH					
Remarks:	Fair seedline inside garage. There was also a good seedline inside garage at elev. 9.3 ft. Surveyed to NGS bm "D234 RESET 1980". Elev. 5.2 ft -- NAVD 88--vertcon (+-.066 ft) provided by NGS. House is about 300 ft west of Washington & 11th St. intersection				



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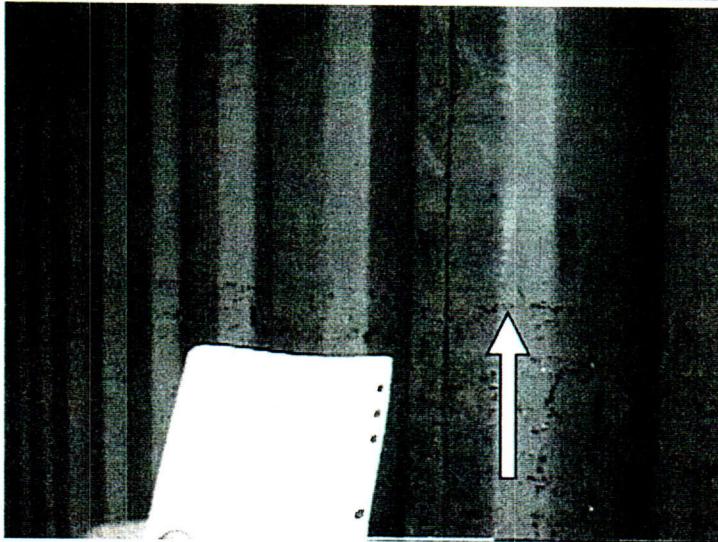
Hurricane Georges, September 1998

HWM Name:	GEPSMS06	Taken by:	WILSON / WALLACE		
HWM Elev. (ft, NGVD)	9.55	Agency:	USGS		
HWM Type :	Inside	Date Taken:	06-Oct-98		
HWM Quality:	Excellent	State:	Mississippi		
Latitude:	30° 20' 36.24"	Longitude:	-88° 31' 19.56"		
Nearest Town:	PASCAGOULA	County:	JACKSON		
USGS 7.5 minute Quad Sheet:		PASCAGOULA SOUTH, MS			
Address of HWM: 4000 SOUTHSHERE DRIVE (1st house from Martin St.)					
Remarks:	Excellent seedline inside 1st house ds (east & gulfward) and north of Bayou Chico bridge. Fine line below at elev. 8.9 ft. Surveyed to COE bm "MS-21" (elev. 3.93 ft -- NAVD 88) provided by COE on 10-06-98. No photos. [adjusted to NGVD + -0.05]				



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HWM Name:	GEPSMS07	Taken by:	WILSON / WALLACE		
HWM Elev. (ft, NGVD)	9.64	Agency:	USGS		
HWM Type :	Inside	Date Taken:	07-Oct-98		
HWM Quality:	Good	State:	Mississippi		
Latitude:	30° 21' 08.64"	Longitude:	-88° 30' 33.84"		
Nearest Town:	PASCAGOULA	County:	JACKSON		
USGS 7.5 minute Quad Sheet:		PASCAGOULA SOUTH, MS			
Address of HWM: BAYOU CASOTTE NEAR BOAT RAMP (COE MS22)					
Remarks:	Good seedline inside boxcar. Also surveyed good drift at elev. 9.6 ft outside in vicinity. Surveyed to COE bm "MS-22" (elev. 4.82 ft -- NAVD 88) provided by COE on 10-06-98. [adjusted to NGVD + -0.06]				



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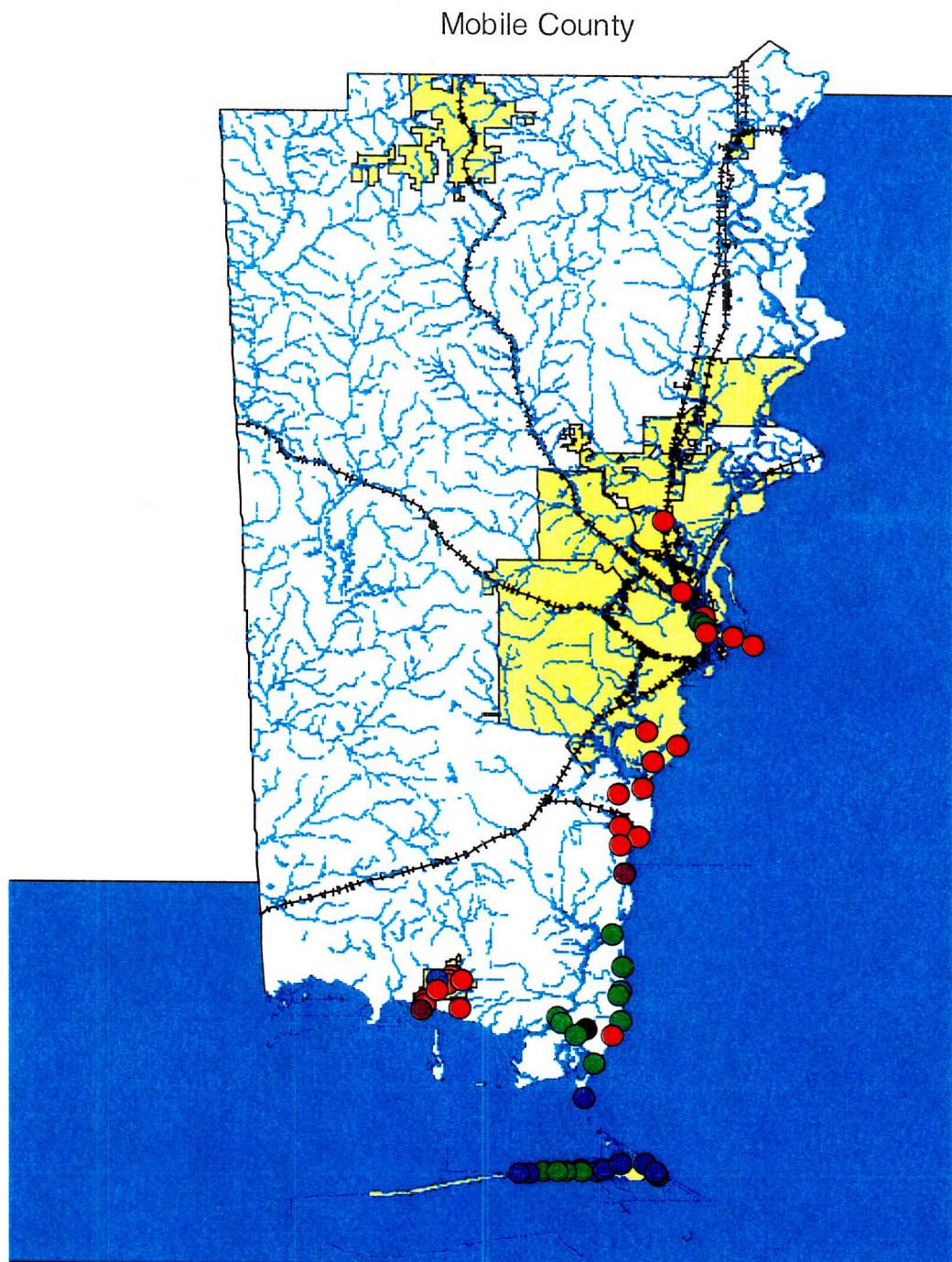
HWM Name:	GEPSMS08	Taken by:	TIDE GAGE		
HWM Elev. (ft, NGVD)	8.36	Agency:	COE		
HWM Type :	Inside	Date Taken:	04-Oct-98		
HWM Quality:	Good	State:	Mississippi		
Latitude:	30° 21' 36.00"	Longitude:	-88° 33' 50.00"		
Nearest Town:	PASCAGOULA	County:	JACKSON		
USGS 7.5 minute Quad Sheet:		PASCAGOULA SOUTH, MS			
Address of HWM: Pascagoula River at Pascagoula, MS					
Remarks: Gage located on the Pascagoula river at river mile 0.85. Destroyed by Hurricane Georges HWM is a good seed line, 1 foot above floor in galley of US Coast Guard Office. No photo available					



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Appendix D

Mobile County, AL High Water Marks



Hurricane Georges, September 1998



HWM Name:	GEBFAL01	Taken by:	LEE / HATHORN
HWM Elev. (ft, NGVD)	10.33	Agency:	COE
HWM Type :	W.H.R.U.	Date Taken:	01-Oct-98
HWM Quality:	Good	State:	Alabama
Latitude:	30° 29' 37.13"	Longitude:	-88° 06' 15.45"
Nearest Town:	Sunny Cove	County:	Mobile
USGS 7.5 minute Quad Sheet: BelleFontaine, AL			
Address of HWM: 9485 Sunny Cove			
Remarks: Deby lin in backyard of Ms. Fry's house; lower line used as outside mark, upper line as wave height run-up			



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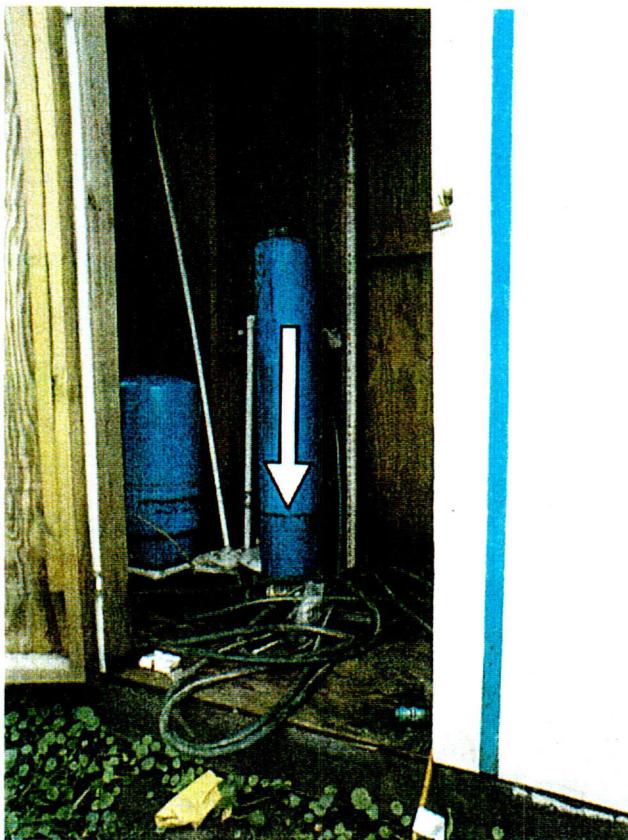
Hurricane Georges, September 1998

HWM Name:	GEBFAL02	Taken by:	LEE / HATHORN
HWM Elev. (ft, NGVD)	10.26	Agency:	COE
HWM Type :	W.H.R.U.	Date Taken:	04-Oct-98
HWM Quality:	Good	State:	
Latitude:	o o o	Longitude:	o o o
Nearest Town:	Fowl River Point	County:	Mobile
USGS 7.5 minute Quad Sheet:	BelleFontaine, AL		
Address of HWM:	10605 Salt Air Rd (Leo Caine Sr.)		
Remarks:	Good mud line and debry lin in NW corner of backyard		



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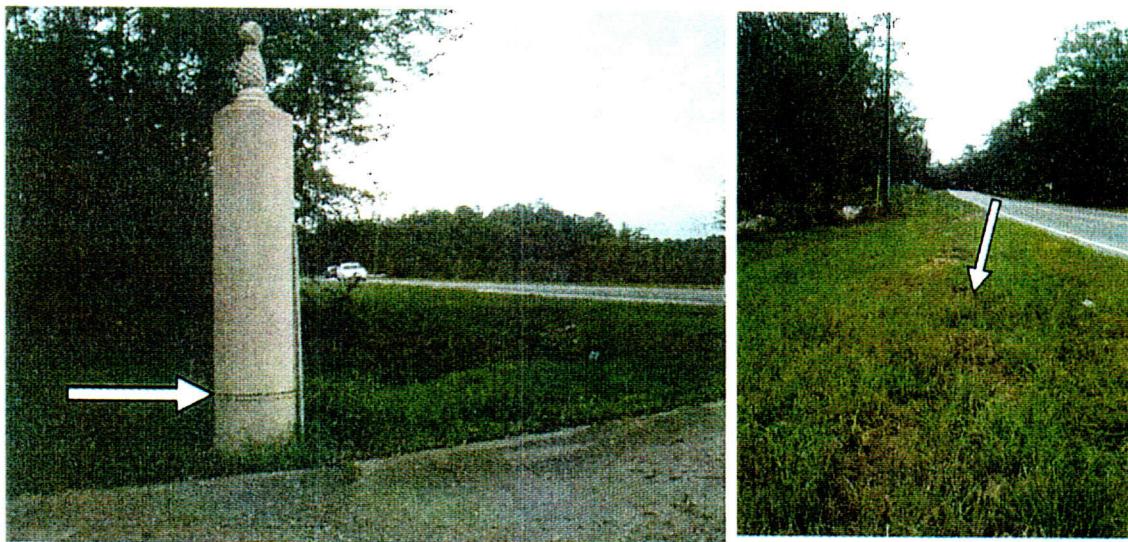


HWM Name:	GEBFAL03	Taken by:	LEE / HATHORN		
HWM Elev. (ft, NGVD)	7.13	Agency:	COE		
HWM Type :	Inside	Date Taken:	05-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 26' 41.78"	Longitude:	-88° 06' 50.65"		
Nearest Town:	Fowl River Pt	County:	Mobile		
USGS 7.5 minute Quad Sheet:		BelleFontaine, AL			
Address of HWM: Fowl River Marina					
Remarks: Good seed line in sheet metal sheet metal shack on North end of boat ramp, ramp on LF bank DS side of DIP bridge over Fowl River					



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HWM Name:	GEBFAL04	Taken by:	LEE / HATHORN		
HWM Elev. (ft, NGVD)	6.91	Agency:	COE		
HWM Type :	Outside	Date Taken:	05-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 25' 06.75"	Longitude:	-88° 06' 23.86"		
Nearest Town:	Faustinas	County:	Mobile		
USGS 7.5 minute Quad Sheet:		BelleFontaine, AL			
Address of HWM: 13101 DIP					
Remarks: Good seed line on South concrete column marking entrance to property, 20 feet East of center line of road.					



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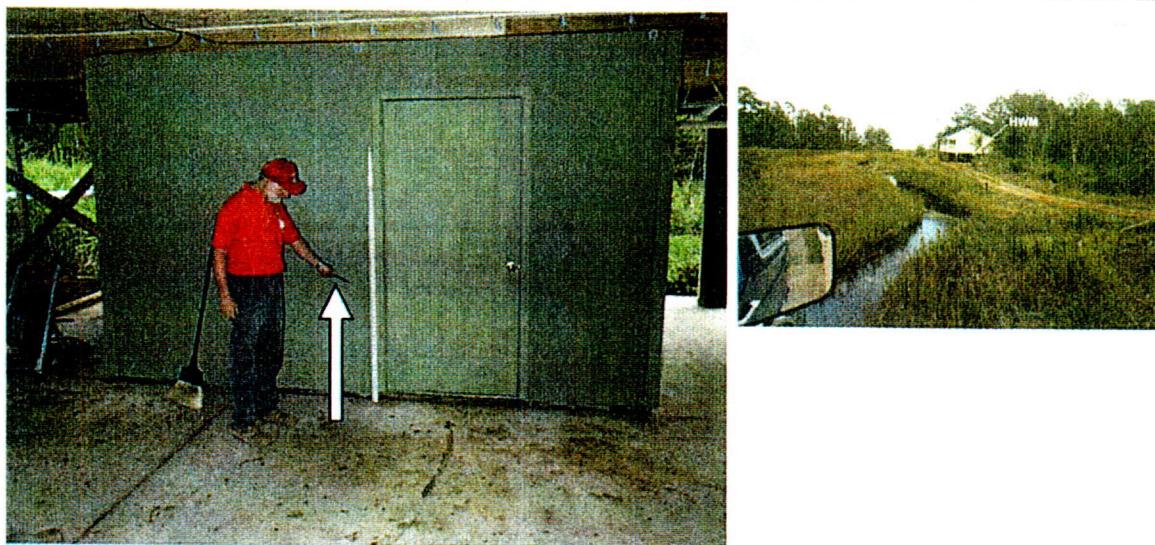


HWM Name:	GEBFAL05	Taken by:	LEE / HATHORN		
HWM Elev. (ft, NGVD)	6.92	Agency:	COE		
HWM Type :	Outside	Date Taken:	05-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 23' 55.95"	Longitude:	-88° 06' 31.13"		
Nearest Town:	Alabama Port	County:	Mobile		
USGS 7.5 minute Quad Sheet:		BelleFontaine, AL			
Address of HWM: DIP Bridge over Whitehouse Bayou					
Remarks: Good seed line on downstream concrete support beam of DIP bridge crossing Whitehouse Bayou					



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HWM Name:	GEBFAL06	Taken by:	LEE / HATHORN		
HWM Elev. (ft, NGVD)	6.94	Agency:	COE		
HWM Type :	Inside	Date Taken:	05-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 23' 40.26"	Longitude:	-88° 06' 33.89"		
Nearest Town:	Alabama Port	County:	Mobile		
USGS 7.5 minute Quad Sheet:		BelleFontaine, AL			
Address of HWM: 14215 DIP (Delchamps Bayou)					
Remarks: Good seed line inside storage room underhouse on 12 foot pilings, house is on the right bank 300 feet downstream of DIP bridge crossing Delchamps Bayou					



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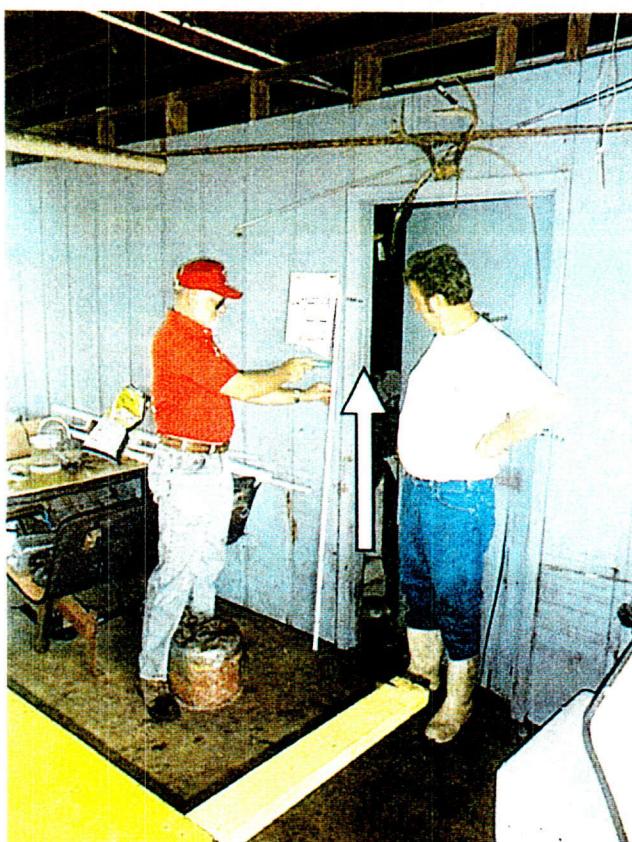


HWM Name:	GEBFAL07	Taken by:	LEE / DAVIS		
HWM Elev. (ft, NGVD)	7.38	Agency:	COE		
HWM Type :	Inside	Date Taken:	06-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 22' 25.30"	Longitude:	-88° 06' 31.42"		
Nearest Town:	Alabama Port	County:	Mobile		
USGS 7.5 minute Quad Sheet:		BelleFontaine, AL			
Address of HWM: SouthEast corner of Regus Rd Dead End					
Remarks: Good mud line in storage room on washing machine and wall					

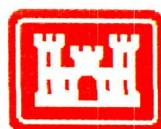


**US Army Corps of Engineers
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HWM Name:	GECHAL01	Taken by:	LEE / HATHORN		
HWM Elev. (ft, NGVD)	8.03	Agency:	COE		
HWM Type :	Inside	Date Taken:	30-Sep-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 46' 55.65"	Longitude:	-88° 04' 21.47"		
Nearest Town:	Chickasaw	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Chickasaw, AL			
Address of HWM: 601 & 619 N. Kraft Hwy					
Remarks: Average of 2 HWM HWM1- good mud line about 2 feet above slab on interior wooden column on Chickasaw Marina 1st floor. HWM2-good seed line inside 1st floor storage room of resident at 601 N. Kraft Hwy					



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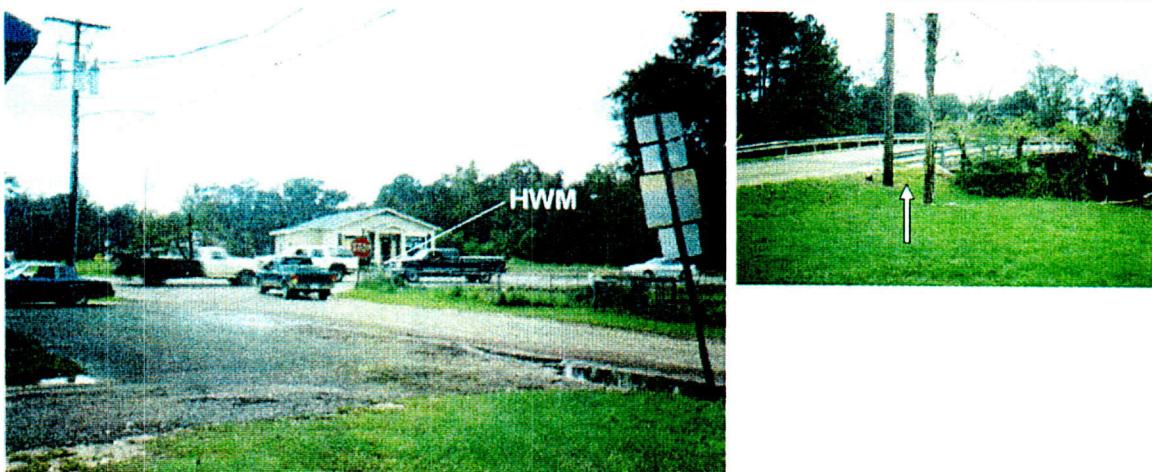


HWM Name:	GECOAL01	Taken by:	DUVAL / GUIDRY		
HWM Elev. (ft, NGVD)	8.65	Agency:	COE		
HWM Type :	Outside	Date Taken:	01-Oct-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 24' 35.21"	Longitude:	-88° 14' 41.69"		
Nearest Town:	Bayou La Batre	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Coden, AL			
Address of HWM: 13510 Simonson Ave					
Remarks: Excellent trash line on North side of house under carport					



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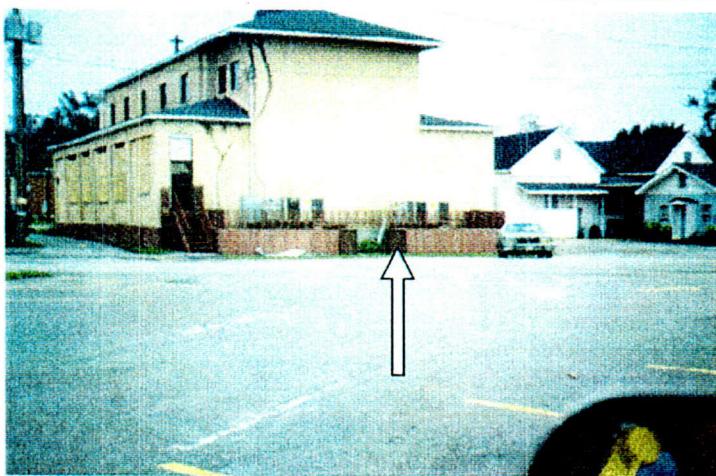


HWM Name:	GECOAL02	Taken by:	DUVAL / GUIDRY		
HWM Elev. (ft, NGVD)	8.72	Agency:	COE		
HWM Type :	Outside	Date Taken:	30-Sep-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 24' 24.01"	Longitude:	-88° 14' 50.34"		
Nearest Town:	Bayou La Batre	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Coden, AL			
Address of HWM: De Duce Bayou					
Remarks: Average 3 HWMs HW M1-fair trash line on front porch "Pizza&Sub" resturant 141 N. Wintzell Ave (9.07) HW M3-excellent seed line on blue-gray sheet metal bldg 4 ft above ground (8.57) HW M4-excellent water mark brwn house 13650 Davenport St E (8.53)					



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HWM Name:	GECOAL03	Taken by:	DUVAL / GUIDRY		
HWM Elev. (ft, NGVD)	8.70	Agency:	COE		
HWM Type :	Outside	Date Taken:	30-Sep-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 24' 14.85"	Longitude:	-88° 14' 53.48"		
Nearest Town:	Bayou La Batre	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Coden, AL			
Address of HWM: 13790 Wintzell Ave (St. Margaret Church)					
Remarks: Average of 2 HWM marks HWM1-Excellent seed line on inside of 3 ft high double wooden doors leading to A/C pad on east side of church HWM2-Excellent seed line on N. side of conc. Block Bldg 500' W. of Church 13780 S. Winstel Ave					

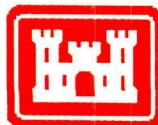


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HWM Name:	GECOAL04	Taken by:	DUVAL / GUIDRY		
HWM Elev. (ft, NGVD)	8.68	Agency:	COE		
HWM Type :	Outside	Date Taken:	02-Oct-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 24' 25.21"	Longitude:	-88° 14' 15.58"		
Nearest Town:	Bayou La Batre	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Coden, AL			
Address of HWM: No address on Residence					
Remarks: Excellent debri line 4.5 ft above ground on North side of wooden frame house					



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Hurricane Georges, September 1998

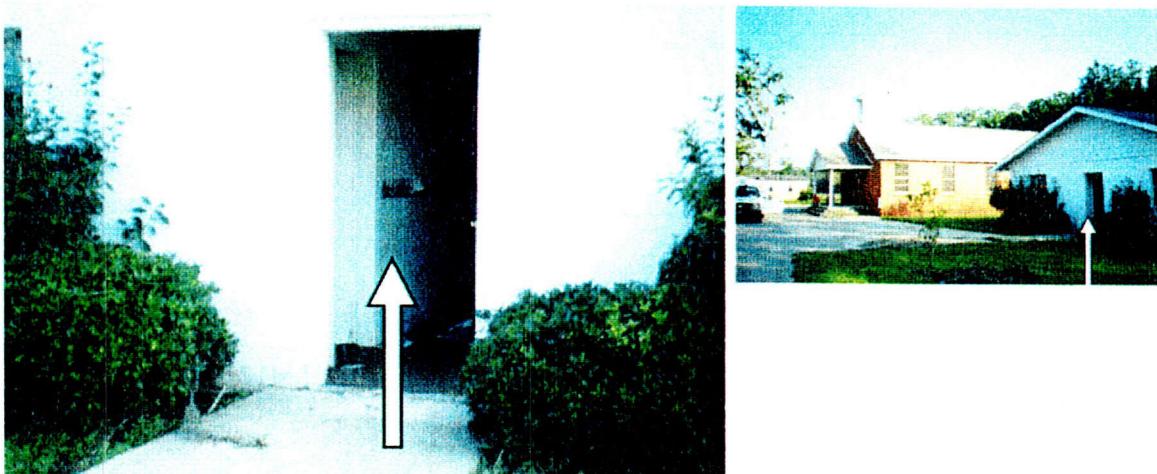


HWM Name:	GECOAL05	Taken by:	DUVAL / GUDRY		
HWM Elev. (ft, NGVD)	8.31	Agency:	COE		
HWM Type :	Inside	Date Taken:	02-Oct-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 22' 57.83"	Longitude:	-88° 14' 17.06"		
Nearest Town:	Coden	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Coden, AL			
Address of HWM: 14740 Tom Jonshson Rd					
Remarks: Excellent trash line on inside North wall of carport on North end of house 3.5 feet above concrete floor					



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Hurricane Georges, September 1998

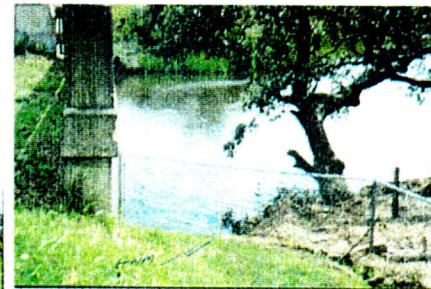


HWM Name:	GECOAL06	Taken by:	DUVAL / GUIDRY		
HWM Elev. (ft, NGVD)	8.26	Agency:	COE		
HWM Type :	Inside	Date Taken:	05-Oct-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 22' 57.83"	Longitude:	-88° 14' 17.06"		
Nearest Town:	Coden	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Coden, AL			
Address of HWM: Coden West-Belt Rd (Coden United Methodist Church)					
Remarks: Excellent seed line 2.5 feet above concrete slab building in concrete block building East of Coden United Methodisit Church Sanatuary					



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HWM Name:	GECOAL07	Taken by:	DUVAL / GUIDRY		
HWM Elev. (ft, NGVD)	7.15	Agency:	COE		
HWM Type :	Outside	Date Taken:	05-Oct-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 22' 36.61"	Longitude:	-88° 09' 31.98"		
Nearest Town:	Coden	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Coden, AL			
Address of HWM: Hwy 188 Bridge over West Fowl River					
Remarks: Average of 3 marks Excellent debi line on downstream right bank, upstream right bank, and under bridge on right bank.					



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HWM Name:	GEFML01	Taken by:	DUVAL / GUIDRY		
HWM Elev. (ft, NGVD)	6.60	Agency:	COE		
HWM Type :	Outside	Date Taken:	08-Oct-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 14' 51.52"	Longitude:	-88° 04' 40.53"		
Nearest Town:	Dauphin Island	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Fort Morgan, AL			
Address of HWM: Dauphin Island Sea Lab, Galathea Hall Bldg G					
Remarks: Excellent seed line, 1.3 feet above ground on stairway north side of building					



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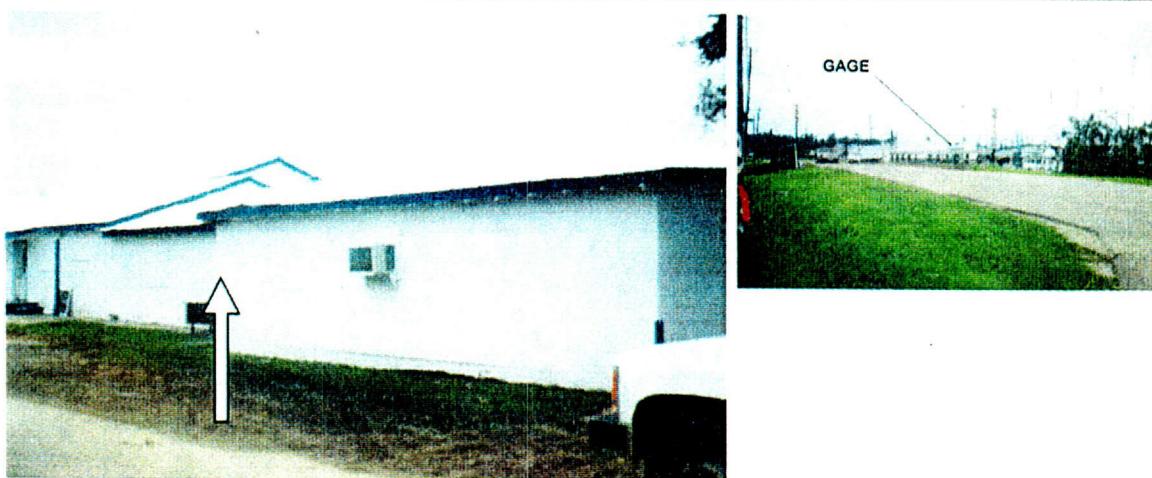


HWM Name:	GEGBAL01	Taken by:	DUVAL / GUDRY		
HWM Elev. (ft, NGVD)	5.06	Agency:	COE		
HWM Type :	Outside	Date Taken:	06-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 24' 25.35"	Longitude:	-88° 15' 25.06"		
Nearest Town:	Bayou La Batre	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Grand Bay, AL			
Address of HWM: Lyons & Bryant Street, Snake Creek Bridge					
Remarks: Seed line on North exterior wall of abandoned residence on Northwest corner of Lyons St & Bryant St.; 2.8 feet above ground					



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HWM Name:	GEGBAL02	Taken by:	DUVAL / GUDRY		
HWM Elev. (ft, NGVD)	10.09	Agency:	COE		
HWM Type :	Outside	Date Taken:	01-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 23' 55.98"	Longitude:	-88° 15' 24.38"		
Nearest Town:	Bayou La Batre	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Grand Bay, AL			
Address of HWM: Shell Belt Rd. and Warner St. W.					
Remarks: Excellent seed line on North wall of concrete block building on Southeast corner of intersection of Shell Belt Rd and Warner St.					



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HWM Name:	GEGBAL03	Taken by:	DUVAL / GUDRY		
HWM Elev. (ft, NGVD)	8.77	Agency:	COE		
HWM Type :	Outside	Date Taken:	30-Sep-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 23' 22.35"	Longitude:	-88° 15' 59.65"		
Nearest Town:	Bayou LaBatre	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Grand Bay, AL			
Address of HWM: 14530 Shell Belt Rd. (Deep Sea Food Inc.)					
Remarks: Average of 2 marks HWM1-Excellent mud line on inside of metal doors on North end of metal building behind Deep Sea Food Inc. HWM2-Good trash lin, 4 ft. above ground on conc. block pier behind lattice on vinyl sided wood bldg. Deep Sea Foods Inc.					



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HWM Name:	GEGBAL04	Taken by:	DUVAL / GUIDRY		
HWM Elev. (ft, NGVD)	8.56	Agency:	COE		
HWM Type :	Outside	Date Taken:	01-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 23' 12.80"	Longitude:	-88° 16' 02.39"		
Nearest Town:	Bayou La Batre	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Grand Bay, AL			
Address of HWM: 640 Shell Belt Rd (Johnson Ship Buildings)					
Remarks: Average of 2 marks HWM1-Excellent oil line inside time punch clock on Southwest side of metal warehouse HWM2-Fair mud line on wood porch on North side of office trailer "Johnson Ship Building"; mark is 2 inches above 1st floor elevation.					



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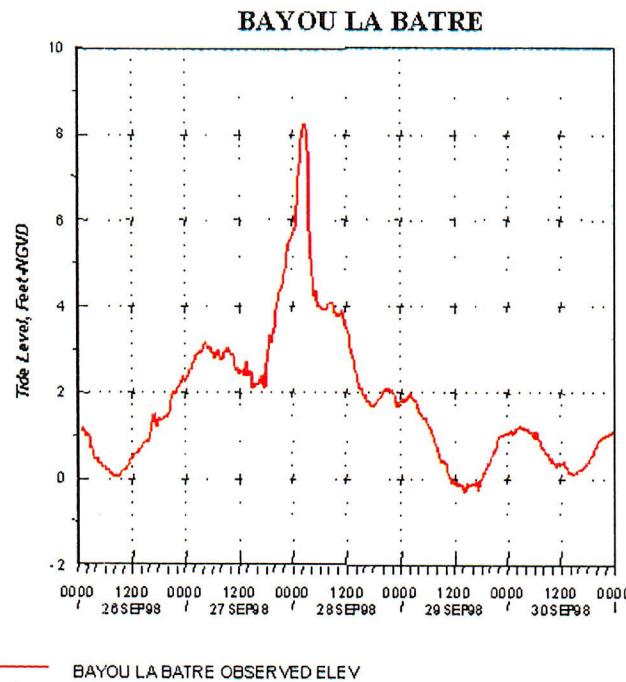


HWM Name:	GEGBAL05	Taken by:	DUVAL / GUIDRY		
HWM Elev. (ft, NGVD)	10.13	Agency:	COE		
HWM Type :	Wave Height	Date Taken:	01-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 22' 57.35"	Longitude:	-88° 16' 12.38"		
Nearest Town:	Bayou La Batre	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Grand Bay, AL			
Address of HWM: Bayou La Batre Access Area					
Remarks: Good trash line on berm North side of picnic area and South side of entrance road					



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HWM Name:	GEGBAL06	Taken by:	TIDE GAGE		
HWM Elev. (ft, NGVD)	8.27	Agency:	COE		
HWM Type :	Inside	Date Taken:	30-Sep-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 23' 55.22"	Longitude:	-88° 15' 25.41"		
Nearest Town:	Bayou LaBatre	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Grand Bay, AL			
Address of HWM: Middle Gage at Bayou LaBatre					
Remarks: Peak occurred 28Sep98 at 0230					



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HWM Name:	GEHBAL01	Taken by:	DUVAL / GUIDRY		
HWM Elev. (ft, NGVD)	7.22	Agency:	COE		
HWM Type :	Outside	Date Taken:	06-Oct-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 22' 16.11"	Longitude:	-88° 09' 18.90"		
Nearest Town:	Heron Bay	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Heron Bay, AL			
Address of HWM: 15373 Morris Dr. (West Fowl River)					
Remarks: Excellent seed line 0.6 feet above ground on steps, West end of residence					



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HWM Name:	GEHBAL02	Taken by:	DUVAL / GUIDRY		
HWM Elev. (ft, NGVD)	7.44	Agency:	COE		
HWM Type :	Outside	Date Taken:	05-Oct-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 21' 40.56"	Longitude:	-88° 08' 38.69"		
Nearest Town:	Heron Bay	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Heron Bay, AL			
Address of HWM: 4345 Heron Bay Loop Rd (J&J Starters)					
Remarks: Excellent seed line on shop door 3.1 ft above grouond, door on North side of building					



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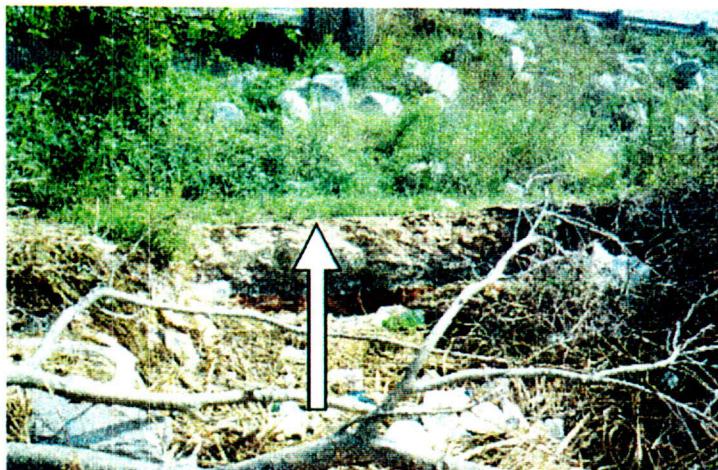
Hurricane Georges, September 1998

HWM Name:	GEHBAL03	Taken by:	DUVAL / GUIDRY		
HWM Elev. (ft, NGVD)	2.47	Agency:	COE		
HWM Type :	Outside	Date Taken:	04-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 22' 00.76"	Longitude:	-88° 08' 07.85"		
Nearest Town:	Heron Bay	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Heron Bay, AL			
Address of HWM: Hwy 188 Bridge of Heron Bay					
Remarks: Excellent seed line on Northwest end of concrete block building on downstream left bank from bridge, south of Hwy 188 W (no photo available)					



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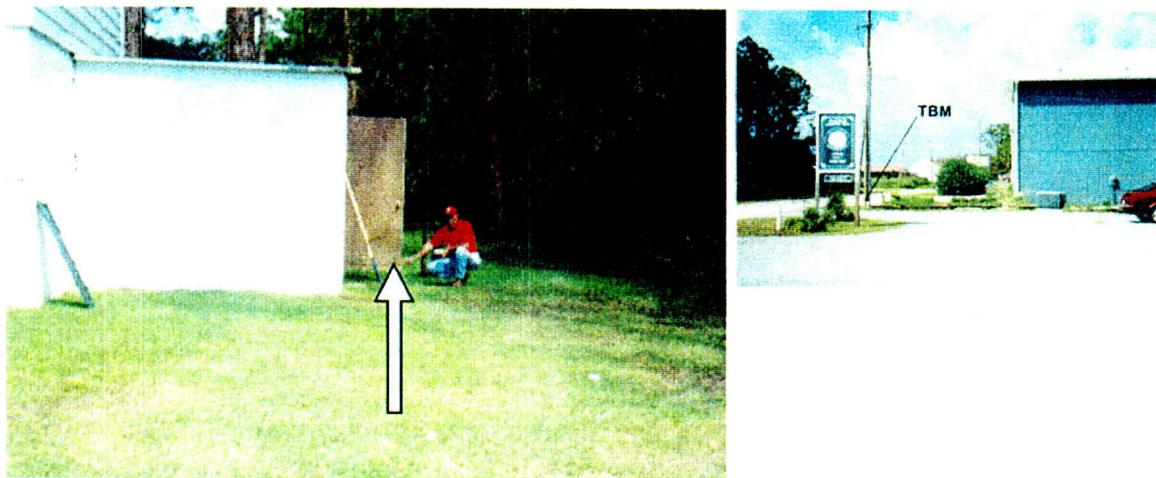


HWM Name:	GEHBAL05	Taken by:	DUVAL / GUIDRY		
HWM Elev. (ft, NGVD)	7.54	Agency:	COE		
HWM Type :	W.H.R.U.	Date Taken:	04-Oct-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 20' 17.33"	Longitude:	-88° 07' 43.49"		
Nearest Town:	Heron Bay	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Heron Bay, AL			
Address of HWM: Hwy 163 Bridge at Heron Bay Cutoff					
Remarks: Average of 2 marks HWM12-Wave height run-up on road fill, downstream left bank 50 feet from BM V404, excellent trash line HWM14-Trash line on west road embankment 90 feet south of BM V404					



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HWM Name:	GEHBAL06	Taken by:	DUVAL / GUIDRY		
HWM Elev. (ft, NGVD)	5.18	Agency:	COE		
HWM Type :	Inside	Date Taken:	03-Oct-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 15' 03.14"	Longitude:	-88° 07' 39.92"		
Nearest Town:	Dauphin Island	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Heron Bay, AL			
Address of HWM: 1506 Cadillac Ave West					
Remarks: Excellent seed line on utility room door, inside and 1 foot above ground.; utility room is attached to East end of Harbor Lights Inn at 1506 Cadillac Ave.					

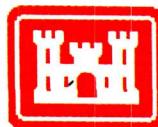


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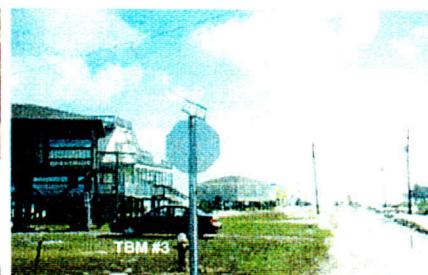


HWM Name:	GEHBAL07	Taken by:	DUVAL / GUIDRY		
HWM Elev. (ft, NGVD)	5.17	Agency:	COE		
HWM Type :	Inside	Date Taken:	03-Oct-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 15' 10.88"	Longitude:	-88° 08' 27.23"		
Nearest Town:	Dauphin Island	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Heron Bay, AL			
Address of HWM: 2027 Cadillac Ave					
Remarks: Excellent seed line on inside utility room wall, 1.8 feet above concrete slab					



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HWM Name:	GEHBAL08	Taken by:	DUVAL / GUIDRY		
HWM Elev. (ft, NGVD)	6.43	Agency:	COE		
HWM Type :	Inside	Date Taken:	03-Oct-98		
HWM Quality:	Fair	State:	Alabama		
Latitude:	30° 15' 06.89"	Longitude:	-88° 08' 24.28"		
Nearest Town:	Dauphin Island	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Heron Bay, AL			
Address of HWM: 111 Pontchartrain Ct.					
Remarks: Fair seed line 2.5 feet above concrete slab on creosote piling in Northeast corner of utility room on slob below house					



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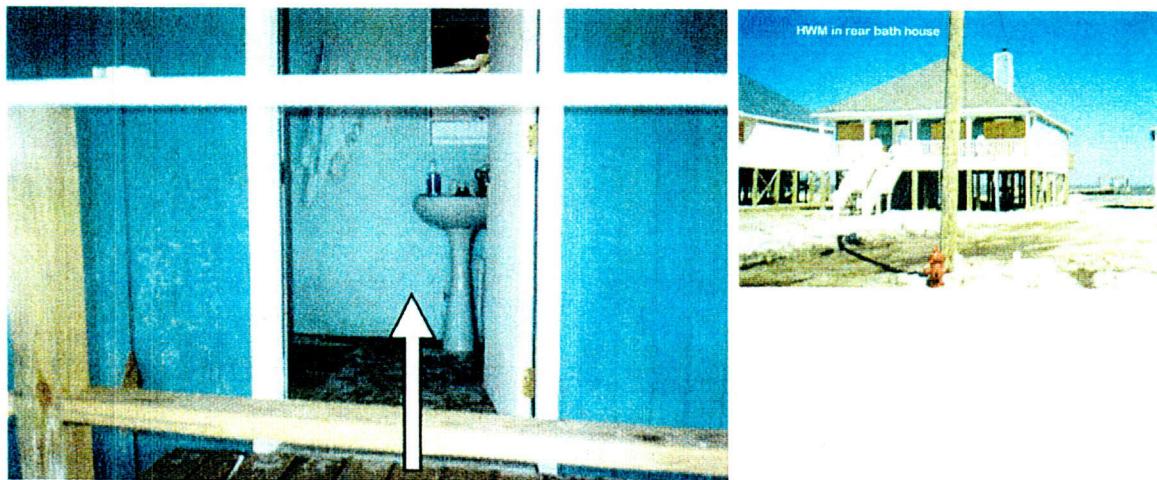


HWM Name:	GEHBAL09	Taken by:	DUVAL / GUIDRY		
HWM Elev. (ft, NGVD)	6.30	Agency:	COE		
HWM Type :	Inside	Date Taken:	07-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 15' 05.49"	Longitude:	-88° 09' 10.40"		
Nearest Town:	Dauphin Island	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Heron Bay, AL			
Address of HWM: 2312 Island Shore Drive					
Remarks: Good mud line inside storage room, south wall					



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HWM Name:	GEHBAL10	Taken by:	DUVAL / GUIDRY		
HWM Elev. (ft, NGVD)	6.56	Agency:	COE		
HWM Type :	Inside	Date Taken:	09-Oct-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 15' 03.27"	Longitude:	-88° 10' 15.08"		
Nearest Town:	Dauphin Island	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Heron Bay, AL			
Address of HWM: 2530 Bridgeview St. and Sehoy St.					
Remarks: Excellent mud line in bathroom beneath house on North side of house					



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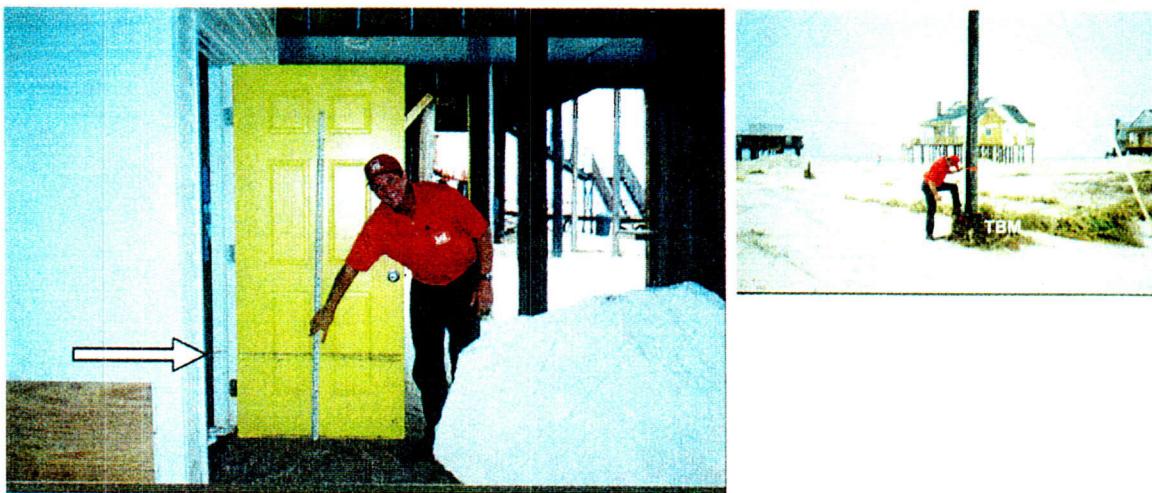


HWM Name:	GEHBAL11	Taken by:	DUVAL / GUIDRY		
HWM Elev. (ft, NGVD)	6.41	Agency:	COE		
HWM Type :	Inside	Date Taken:	09-Oct-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 15' 03.11"	Longitude:	-88° 09' 33.33"		
Nearest Town:	Dauphin Island	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Heron Bay, AL			
Address of HWM: 2400 Bienville Blvd					
Remarks: Excellent mud line 2.4 feet above concrete slab, north side of house in utility room					



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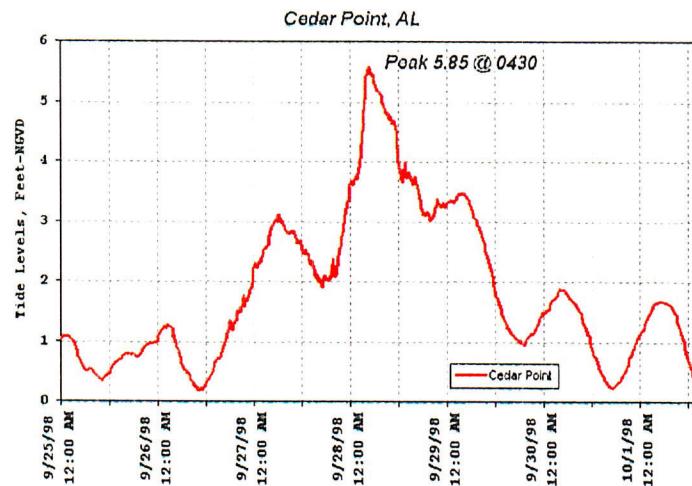


HWM Name:	GEHBAL12	Taken by:	DUVAL / GUIDRY		
HWM Elev. (ft, NGVD)	6.73	Agency:	COE		
HWM Type :	Inside	Date Taken:	07-Oct-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 21' 45.58"	Longitude:	-88° 08' 38.04"		
Nearest Town:	Dauphin Island	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Heron Bay, AL			
Address of HWM: 626 Bienville Blvd					
Remarks: Excellent seed line and good mud line on storage room door at house on North side of Bienville Blvd directly North of intersection of Sneca Ct. with Bienville Blvd.					



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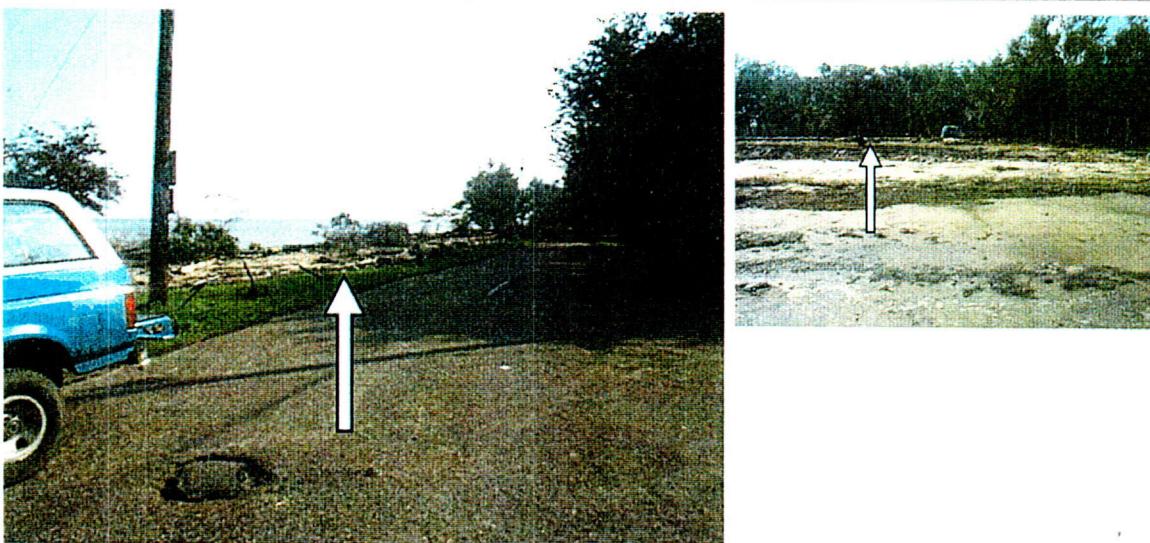


HWM Name:	GEHBAL13	Taken by:	TIDE GAGE		
HWM Elev. (ft, NGVD)	5.60	Agency:	COE		
HWM Type :	Inside	Date Taken:	30-Sep-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 18' 37.63"	Longitude:	-88° 08' 17.56"		
Nearest Town:		County:	Mobile		
USGS 7.5 minute Quad Sheet:		Heron Bay, AL			
Address of HWM: Mobile Bay at Cedar Point, AL					
Remarks: Peak occurred 28 Sep 98 at 0430.					



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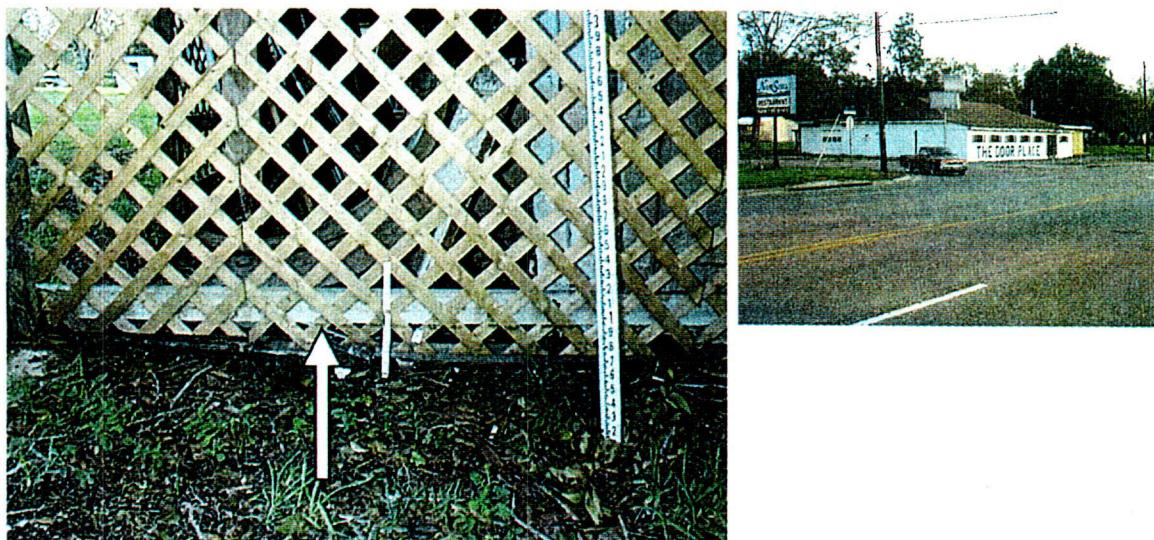


HWM Name:	GEHAL01	Taken by:	LEE / HATHORN		
HWM Elev. (ft, NGVD)	9.27	Agency:	COE		
HWM Type :	W.H.R.U.	Date Taken:	01-Oct-98		
HWM Quality:	Fair	State:	Alabama		
Latitude:	30° 35' 55.31"	Longitude:	-88° 03' 39.82"		
Nearest Town:	Brookley	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Hollingers Island, AL			
Address of HWM: Intersection of Hannon and Bay Front Road					
Remarks: Wave Height Run-up along bay Front Rd. and Hannon Rd., average of 6 marks					



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HWM Name:	GEHAL02	Taken by:	LEE / HATHORN		
HWM Elev. (ft, NGVD)	8.67	Agency:	COE		
HWM Type :	Outside	Date Taken:	01-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 35' 05.57"	Longitude:	-88° 04' 55.39"		
Nearest Town:	Brookley	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Hollingers Island, AL			
Address of HWM: Intersection of DIP and Terrell					
Remarks: Average of 2 Marks HWM1-good seed line NE corner of DIP and Terrell Rd on sheetmetal shed in back yard of house at 1520 Terrell HWM2-good seed line SE corner of intersection on storage room of 'The Door Place" at 4201 DIP					



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Hurricane Georges, September 1998



HWM Name:	GEHAL03	Taken by:	LEE / HATHORN		
HWM Elev. (ft, NGVD)	8.05	Agency:	COE		
HWM Type :	Inside	Date Taken:	02-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 33' 47.29"	Longitude:	-88° 05' 21.12"		
Nearest Town:	Brookley	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Hollingers Island, AL			
Address of HWM: 6158 Marina Dr. S, (Grand View Marina)					
Remarks: Good seed line in wooden utility shed 5 ft North of marina on the right bank of Dog River on the Southend of Dog River bridge					



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Hurricane Georges, September 1998

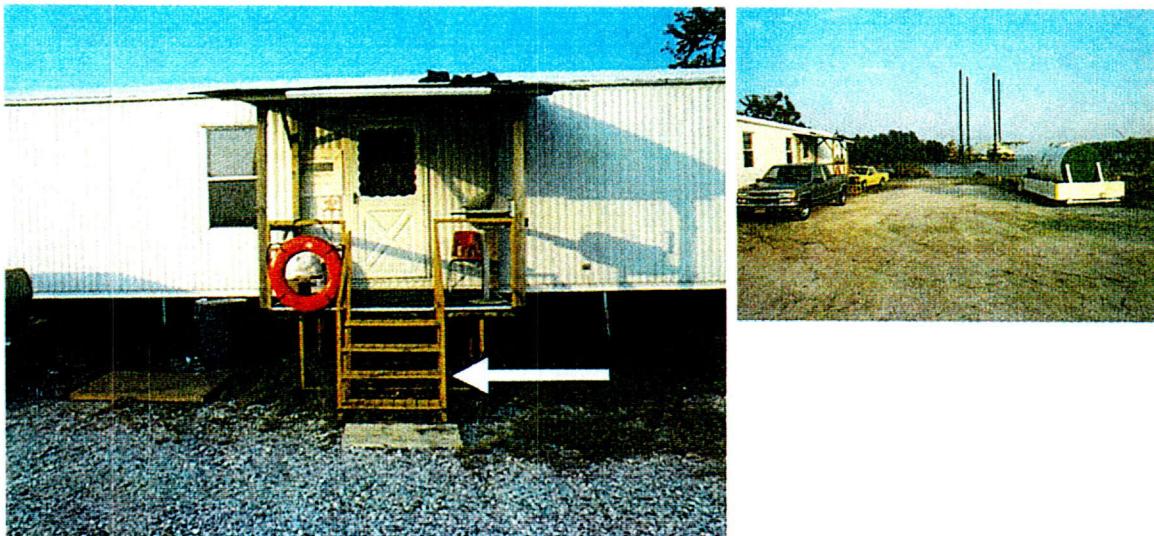


HWM Name:	GEHAL04	Taken by:	LEE / HATHORN		
HWM Elev. (ft, NGVD)	9.24	Agency:	COE		
HWM Type :	W.H.R.U.	Date Taken:	02-Oct-98		
HWM Quality:	Fair	State:	Alabama		
Latitude:	30° 31' 29.01"	Longitude:	-88° 05' 36.43"		
Nearest Town:	Hollingers Island	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Hollingers Island, AL			
Address of HWM: Mouth of Theodore Ship Channel					
Remarks: Trash line along North side of Theodore Ship Channel starting 100 ft. West of mouth going West 500 ft.					



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HWM Name:	GEHIAL05	Taken by:	LEE / HATHORN		
HWM Elev. (ft, NGVD)	8.11	Agency:	COE		
HWM Type :	W.H.R.U.	Date Taken:	02-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 31' 58.37"	Longitude:	-88° 06' 29.07"		
Nearest Town:	Hollingers Island	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Hollingers Island, AL			
Address of HWM: 7625 DIP (dead end)					
Remarks: Trash line and second step of trailer in work yard of MI Drilling fluids (Halliburton) located at end of DIP near Left Bank of Middle Fork Deer River (Theodore Ship Channel)					



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HWM Name:	GEHIAL06	Taken by:	LEE / HATHORN
HWM Elev. (ft, NGVD)	8.79	Agency:	COE
HWM Type :	Outside	Date Taken:	05-Oct-98
HWM Quality:	Good	State:	Alabama
Latitude:	30° 36' 35.33"	Longitude:	-88° 05' 12.30"
Nearest Town:	Brookley	County:	Mobile
USGS 7.5 minute Quad Sheet: Hollingers Island, AL			
Address of HWM: 2100 Grove Court (Robinson Bayou)			
Remarks: Average of 3 Marks HWM1-good seed line inside storage room, underneath house at 2100 Grove Ct. (Will Hall) HWM2-good seed line inside storage shed in backyard of 2101 Grove Ct. HWM3-good seed line on back of house located at 2101 Gove Ct.			



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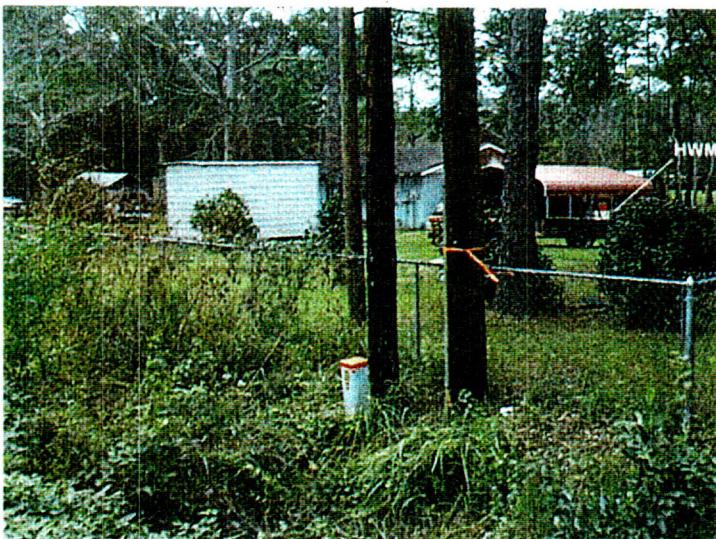


HWM Name:	GEHAL07	Taken by:	LEE / HATHORN		
HWM Elev. (ft, NGVD)	8.37	Agency:	COE		
HWM Type :	Inside	Date Taken:	04-Oct-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 33' 28.85"	Longitude:	-88° 06' 32.10"		
Nearest Town:	Hollingers Island	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Hollingers Island, AL			
Address of HWM: 6391 Belle Bayou (Alligator Bayou)					
Remarks: Excellent seed line in the garage of John Martin about 100 ft. east of centerline of Belle Bayou and 50 ft from waters edge. House on east side of road and 3rd to last house.					



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HWM Name:	GEHAL08	Taken by:	LEE / HATHORN		
HWM Elev. (ft, NGVD)	8.10	Agency:	COE		
HWM Type :	Inside	Date Taken:	05-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 31' 02.93"	Longitude:	-88° 06' 28.00"		
Nearest Town:	Bellefontaine	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Hollingers Island, AL			
Address of HWM: 8350 DIP					
Remarks: Good seed line in wooden utility shed 200 ft Upstream of South Deer River on RightBank; 150 from centerline of DIP. Shed located on NW corner of property, 5 ft N of house under aluminum carport cover.					



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HWM Name:	GELDAL01	Taken by:	DUVAL / GUDRY		
HWM Elev. (ft, NGVD)	8.36	Agency:	COE		
HWM Type :	Outside	Date Taken:	04-Oct-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 21' 43.30"	Longitude:	-88° 06' 55.33"		
Nearest Town:	Alabama Point	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Little Dauphin Island, AL			
Address of HWM: 15783A Hwy 163					
Remarks: Excellent trash line 150 feet west of house nearest the bay (no photo available)					



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Hurricane Georges, September 1998



HWM Name:	GELDAL02	Taken by:	DUVAL / GUIDRY		
HWM Elev. (ft, NGVD)	5.38	Agency:	COE		
HWM Type :	Outside	Date Taken:	03-Oct-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 15' 28.00"	Longitude:	-88° 06' 28.00"		
Nearest Town:	Dauphin Island	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Little Dauphin Island, AL			
Address of HWM: Dauphin Island Marine Lab					
Remarks: Excellent seed line 2.3 feet above ground on North wall at Northwest corner of Marine Lab Building					



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Hurricane Georges, September 1998

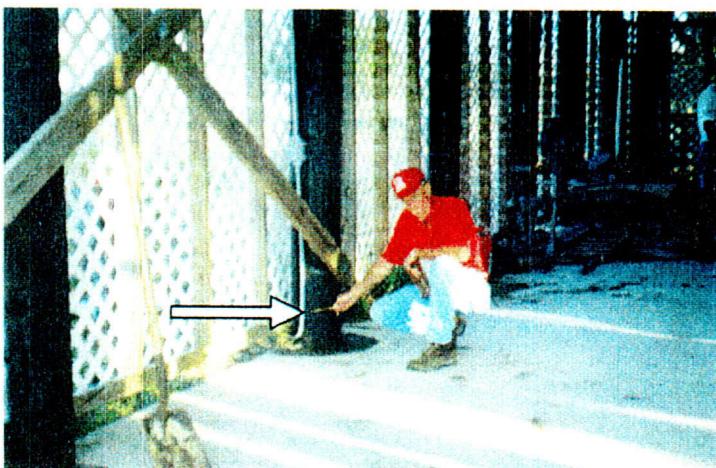


HWM Name:	GELDAL03	Taken by:	DUVAL / GUIDRY		
HWM Elev. (ft, NGVD)	5.84	Agency:	COE		
HWM Type :	Outside	Date Taken:	03-Oct-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 15' 10.31"	Longitude:	-88° 07' 18.26"		
Nearest Town:	Dauphin Island	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Little Dauphin Island, AL			
Address of HWM: 176 Orleans Dr.					
Remarks: Excellent seed line on east side of house, 1.3 feet above ground					



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Hurricane Georges, September 1998

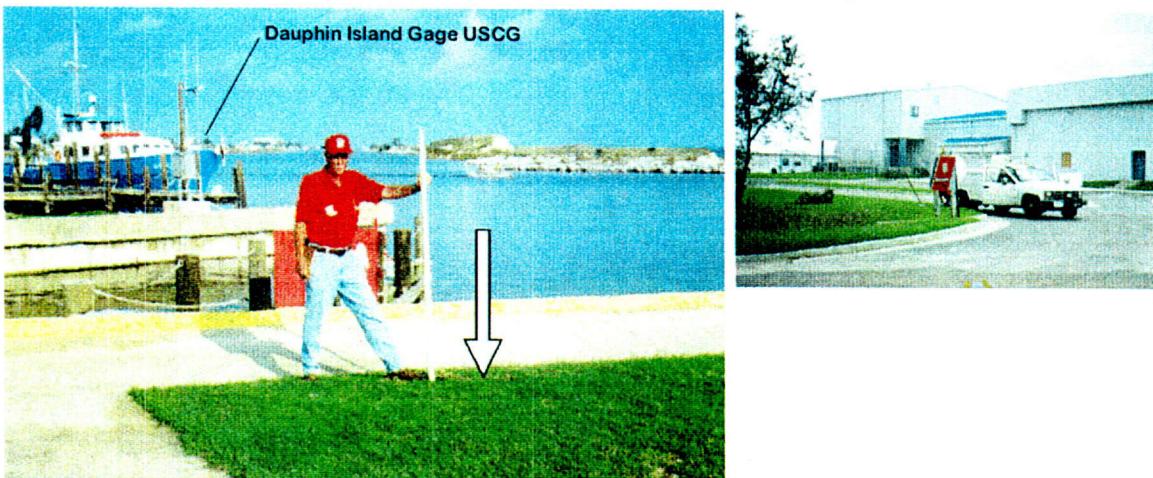


HWM Name:	GELDAL04	Taken by:	DUVAL / GUIDRY		
HWM Elev. (ft, NGVD)	5.01	Agency:	COE		
HWM Type :	Outside	Date Taken:	03-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 15' 27.15"	Longitude:	-88° 05' 18.56"		
Nearest Town:	Dauphin Island	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Little Dauphin Island, AL			
Address of HWM: 435 Seapointe Loop					
Remarks: Good seed line, 1 foot above concrete slab on creosote piling under house on Northeast side					



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Hurricane Georges, September 1998



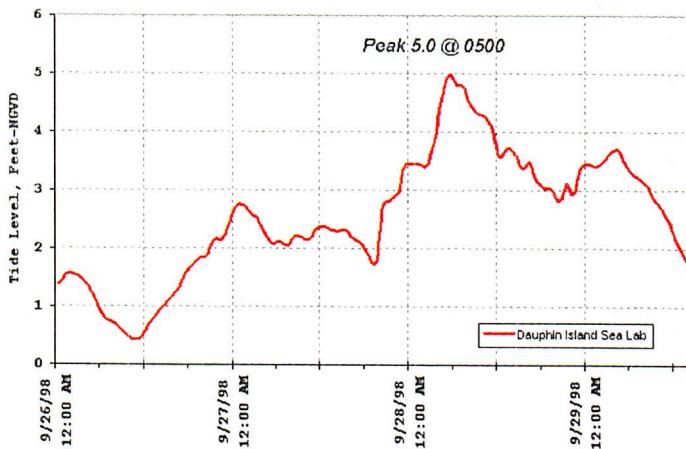
HWM Name:	GELDAL05	Taken by:	DUVAL / GUIDRY
HWM Elev. (ft, NGVD)	6.00	Agency:	COE
HWM Type :	W.H.R.U.	Date Taken:	03-Oct-98
HWM Quality:	Good	State:	Alabama
Latitude:	30° 15' 00.43"	Longitude:	-88° 04' 45.77"
Nearest Town:	Dauphin Island	County:	Mobile
USGS 7.5 minute Quad Sheet: Little Dauphin Island, AL			
Address of HWM: USGS, SAR Detachment, Bienville Blvd			
Remarks: Good trash line 2.5 feet south of sidewalk, 56 ft Northeast of Northwest corner of C.G. building, 11.7 feet East of power pole w/ emergency fuel pump disconnect attached to it			



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Dauphin Island, Marine Lab



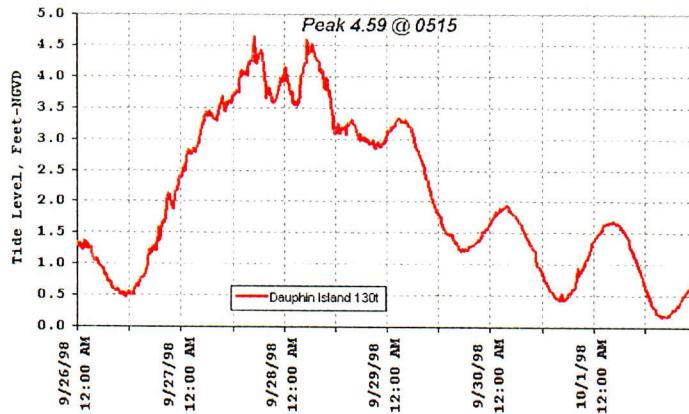
HWM Name:	GELDAL06	Taken by:	TIDE GAGE		
HWM Elev. (ft, NGVD)	5.00	Agency:	COE		
HWM Type :	Inside	Date Taken:	30-Sep-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 15' 30.00"	Longitude:	-88° 06' 28.00"		
Nearest Town:	Dauphin Island	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Little Dauphin Island, AL			
Address of HWM: Dauphin Island Bay at Dauphin Island					
Remarks: Peak occurred 28 Sep 98 at 0500.					



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Hurricane Georges, September 1998

Dauphin Island, AL #130



HWM Name:	GELDAL07	Taken by:	TIDE GAGE		
HWM Elev. (ft, NGVD)	4.59	Agency:	COE		
HWM Type :	Inside	Date Taken:	30-Sep-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 15' 04.40"	Longitude:	-88° 04' 45.56"		
Nearest Town:	Dauphin Island	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Little Dauphin Island, AL			
Address of HWM: Mobile Bay at Dauphin Island (USCG)					
Remarks: Peak occurred 28 Sep 98 at 0515.					



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HWM Name:	GEMOAL01	Taken by:	LEE / HATHORN		
HWM Elev. (ft, NGVD)	8.94	Agency:	COE		
HWM Type :	Inside	Date Taken:	30-Sep-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 42' 16.50"	Longitude:	-88° 02' 22.17"		
Nearest Town:	Mobile	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Mobile, AL			
Address of HWM: Alabama State Docks Gage					
Remarks: Good seed line on plywood wall inside building upstream of gage house, wall 100 feet upstream of gage					



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Hurricane Georges, September 1998

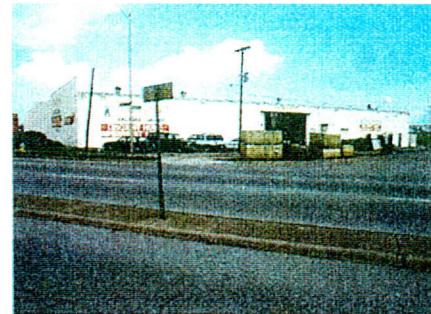
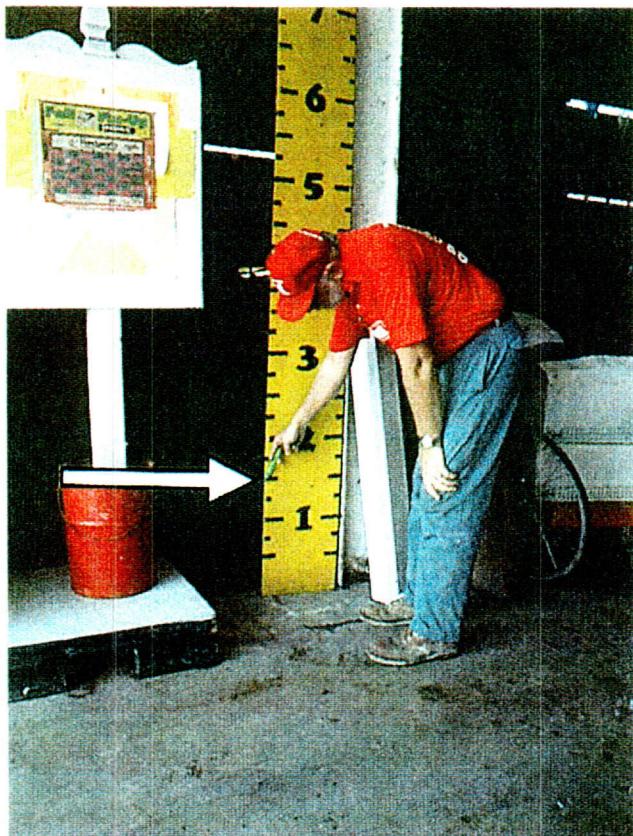


HWM Name:	GEMOAL02	Taken by:	LEE / HATHORN		
HWM Elev. (ft, NGVD)	7.99	Agency:	COE		
HWM Type :	Outside	Date Taken:	30-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 43' 26.97"	Longitude:	-88° 03' 31.82"		
Nearest Town:	Mobile	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Mobile, AL			
Address of HWM: Telegraph Road Bridge over 3 Mile Creek					
Remarks: Average of 3 Marks HWM1-good seed line on upstream right bank abutment HWM2-fair seed line on downstream right bank abutment HWM5-good seed line on 3rd RR tie from left bank, RR bridge 50 ft upstream of Telegraph Rd bridge					



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HWM Name:	GEMOAL03	Taken by:	LEE / HATHORN		
HWM Elev. (ft, NGVD)	7.58	Agency:	COE		
HWM Type :	Inside	Date Taken:	30-Oct-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 41' 55.27"	Longitude:	-88° 02' 33.82"		
Nearest Town:	Mobile	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Mobile, AL			
Address of HWM: 70 Adams St. (Handyman's RR Salvage Inc.)					
Remarks: Excellent seed line inside Handyman's RR Salvage on Northeast corner of Water St. and Adam St.					



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Hurricane Georges, September 1998

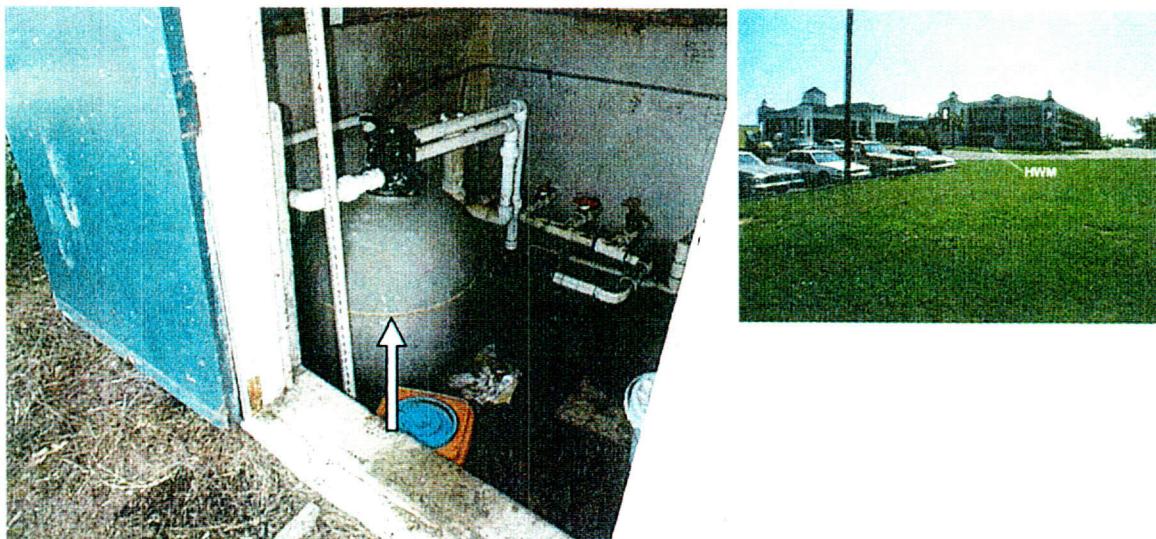


HWM Name:	GEMOAL04	Taken by:	LEE / HATHORN		
HWM Elev. (ft, NGVD)	7.94	Agency:	COE		
HWM Type :	Outside	Date Taken:	03-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 41' 42.79"	Longitude:	-88° 02' 25.75"		
Nearest Town:	Mobile	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Mobile, AL			
Address of HWM: 1 St. Louis St.					
Remarks: Average of 3 marks HWM1-excellent seed line on wall located at South end of One St. Louis parking lot HWM2-trash line in driveway for teller window, on NW corner of Water St and St Louis HWM3-good seed line in St Louis St Entrance of the Commerce Bldg.					



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Hurricane Georges, September 1998

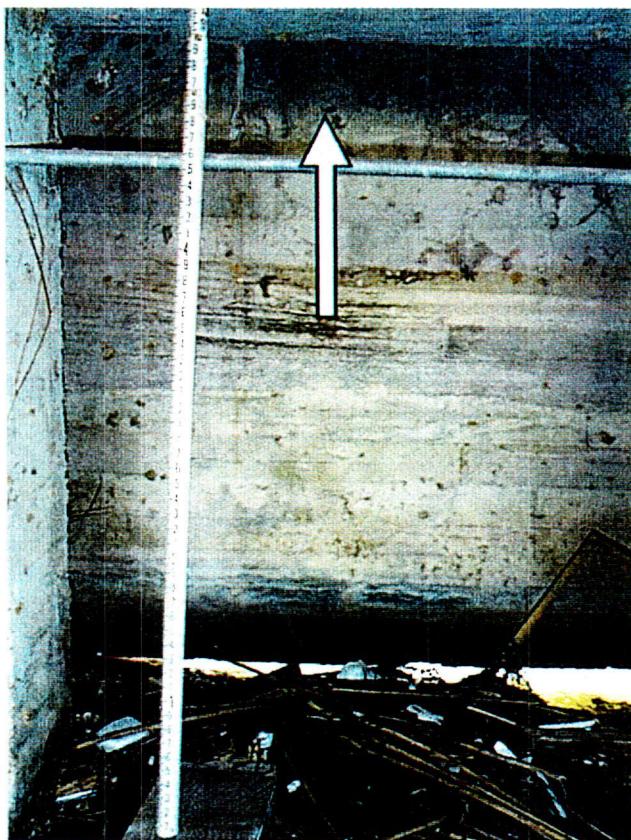


HWM Name:	GEMOAL05	Taken by:	LEE / HATHORN		
HWM Elev. (ft, NGVD)	7.96	Agency:	COE		
HWM Type :	Inside	Date Taken:	03-Oct-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 41' 13.37"	Longitude:	-88° 01' 02.51"		
Nearest Town:	Mobile	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Mobile, AL			
Address of HWM: 2701 Battleship Parkway					
Remarks: Average of 2 marks HWM1-Excellent seed line on water pump located in wooden shed at the NW corner of the hotel HWM2-excellent seed line in storage shed at the SW corner of hotel property, hotel located on west side of the USS Alabama Battleship Park					



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HWM Name:	GEMOAL06	Taken by:	LEE / HATHORN		
HWM Elev. (ft, NGVD)	9.43	Agency:	COE		
HWM Type :	Outside	Date Taken:	03-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 40' 50.22"	Longitude:	-88° 00' 03.82"		
Nearest Town:	Mobile	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Mobile, AL			
Address of HWM: 1263 Battleship Parkway (Radio Station WLVV 1410)					
Remarks: Good seed line in rear of radio station about 6 ft above ground, station .25 miles east of USS Alabama Battleship on North side of Battleship Pkwy					



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HWM Name:	GEMOAL07	Taken by:	LEE / HATHORN		
HWM Elev. (ft, NGVD)	8.29	Agency:	COE		
HWM Type :	Inside	Date Taken:	30-Oct-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 41' 26.05"	Longitude:	-88° 02' 17.74"		
Nearest Town:	Mobile	County:	Mobile		
USGS 7.5 minute Quad Sheet:		Mobile, AL			
Address of HWM: 11 Government St (CSX Building)					
Remarks: Average of 2 marks HWM1-excellent seed line inside CSX office on NW corner of building HWM2-excellent seed line inside CSX office middle of building					



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HWM Name:	GENWAL01	Taken by:	DUVAL / GUDRY		
HWM Elev. (ft, NGVD)	5.46	Agency:	COE		
HWM Type :	Inside	Date Taken:	09-Oct-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 14' 57.79"	Longitude:	-88° 10' 58.79"		
Nearest Town:	Dauphin Island	County:	Mobile		
USGS 7.5 minute Quad Sheet:		NW Fort Morgan, AL			
Address of HWM: 2926 Bienville Blvd					
Remarks: Excellent seed line inside shower under house on North side of 2926 Bienville Blvd					



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Hurricane Georges, September 1998



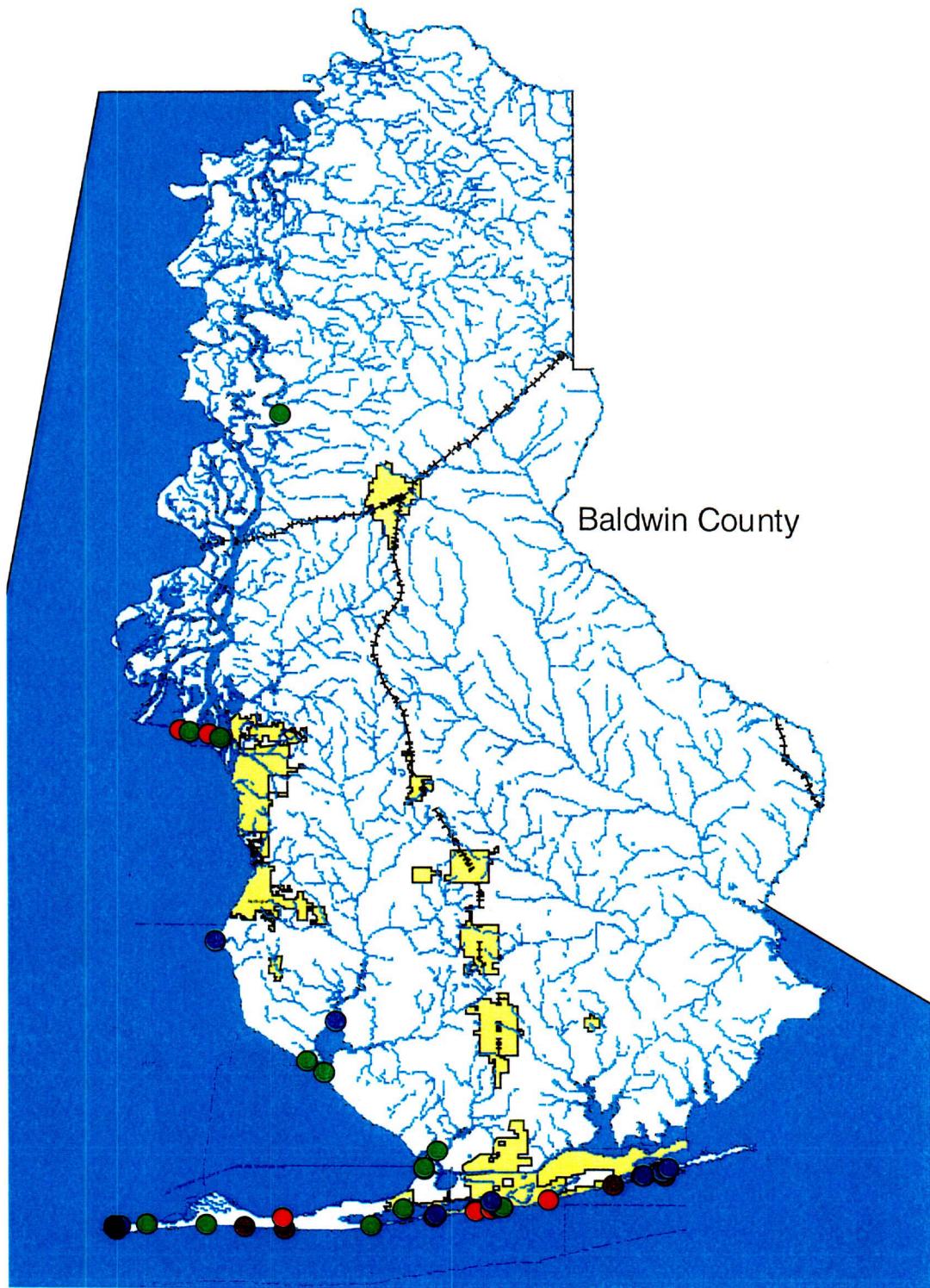
HWM Name:	GENWAL02	Taken by:	DUVAL / GUIDRY		
HWM Elev. (ft, NGVD)	5.80	Agency:	COE		
HWM Type :	Inside	Date Taken:	09-Oct-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 14' 55.94"	Longitude:	-88° 11' 29.09"		
Nearest Town:	Dauphin Island West En	County:	Mobile		
USGS 7.5 minute Quad Sheet:		NW Fort Morgan, AL			
Address of HWM: 2324 Bienville Blvd.					
Remarks: Excellent mud line 2.9 feet above concrete slab on West side of house in utility room					



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Appendix E

Baldwin County High Water Marks



Hurricane Georges, September 1998



HWM Name:	GEBMAL01	Taken by:	LEE / HATHORN
HWM Elev. (ft, NGVD)	6.97	Agency:	COE
HWM Type :	Outside	Date Taken:	01-Oct-98
HWM Quality:	Good	State:	Alabama
Latitude:	30° 57' 25.00"	Longitude:	-87° 52' 28.00"
Nearest Town:	Live Oak	County:	Baldwin
USGS 7.5 minute Quad Sheet: Bay Minette, AL			
Address of HWM: Live Oak Landing on Mobile River			
Remarks:	Average of 2 marks hwm1-downstream side of covered platform 100 ft downstream of boat ramp HWM2-fair seed line on 24 inch diameter dead tree, 100 ft downstream fo boat ramp and 100 ft landward of dirt road running along RB of Mobile River		



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HWM Name:	GEBBAL02	Taken by:	KIDD / DICKMAN
HWM Elev. (ft, NGVD)		Agency:	USGS
HWM Type :	Outside	Date Taken:	04-Oct-98
HWM Quality:	Excellent	State:	Alabama
Latitude:	30° 22' 09.00"	Longitude:	-87° 50' 15.00"
Nearest Town:	Bon Secour	County:	Baldwin
USGS 7.5 minute Quad Sheet: Bon Secour Bay, AL			
Address of HWM: 9913 Beach Road			
Remarks: HWM15- Excellent seedline on NE face of house			



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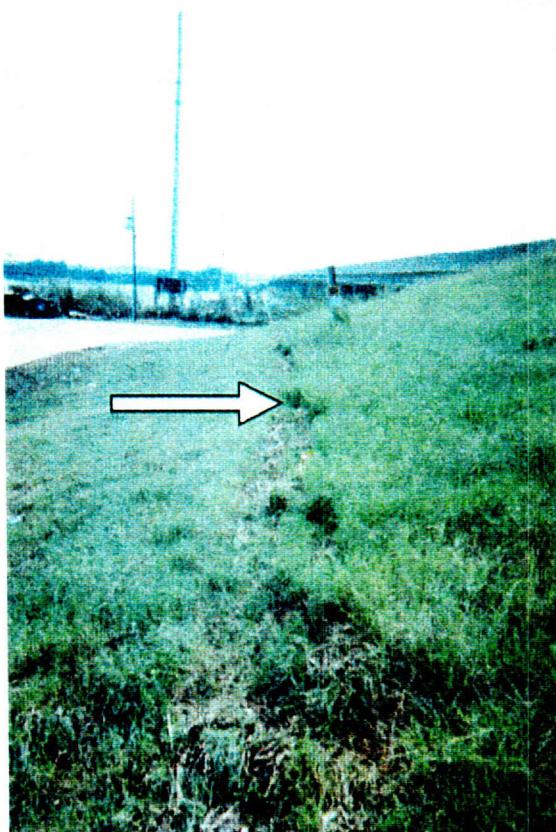


HWM Name:	GEBRAL01	Taken by:	KIDD / DICKMAN
HWM Elev. (ft, NGVD)	8.31	Agency:	USGS
HWM Type :	Inside	Date Taken:	04-Oct-98
HWM Quality:	Excellent	State:	Alabama
Latitude:	30° 40' 27.00"	Longitude:	-87° 57' 52.00"
Nearest Town:	Bridgehead	County:	Baldwin
USGS 7.5 minute Quad Sheet: Bridgehead, AL			
Address of HWM: E of Woody's Motel on Mobile Causeway			
Remarks:	HWM1- Excellent seedline inside abandoned Amoco Gas Station in hallway to bathroom, station is E of Woody's		



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HWM Name:	GEBRAL02	Taken by:	HEDGE COCK / STRICKLAN		
HWM Elev. (ft, NGVD)	7.64	Agency:	USGS		
HWM Type :	Outside	Date Taken:	04-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 40' 22.00"	Longitude:	-87° 57' 18.00"		
Nearest Town:	Bridgehead	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		Bridgehead, AL			
Address of HWM: West end of Apalachee River bridge, NW embankment					
Remarks: HWM2- Good drift line on the u/s right of the qwest bound lane					



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HWM Name:	GEBRAL03	Taken by:	KIDD / DICKMAN
HWM Elev. (ft, NGVD)		Agency:	USGS
HWM Type :	Outside	Date Taken:	04-Oct-98
HWM Quality:	Good	State:	Alabama
Latitude:	30° 40' 19.00"	Longitude:	-87° 57' 30.00"
Nearest Town:	Bridgehead	County:	Baldwin
USGS 7.5 minute Quad Sheet: Bridgehead, AL			
Address of HWM: Mobile C/way NE of westbound bridge, Apalachee Rv			
Remarks: HWM3- Good dedris line on abutment, u/s left of bridge			



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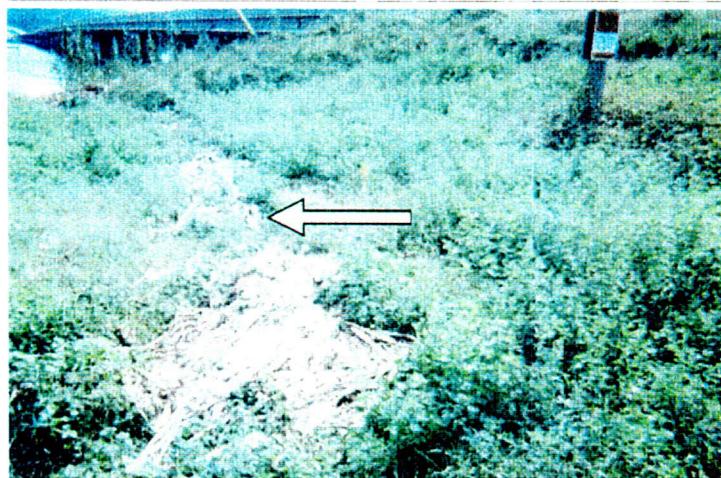


HWM Name:	GEBRAL04	Taken by:	KIDD / DICKMAN
HWM Elev. (ft, NGVD)	8.89	Agency:	USGS
HWM Type :	Inside	Date Taken:	04-Oct-98
HWM Quality:	Excellent	State:	Alabama
Latitude:	30° 40' 14.00"	Longitude:	-87° 56' 22.00"
Nearest Town:	Bridgehead	County:	Baldwin
USGS 7.5 minute Quad Sheet: Bridgehead, AL			
Address of HWM: The Shoulder Hotel & Delta Catering, on Causeway			
Remarks: HWM4- Excellent seedline on inside W facing door closet, Delta Catering			



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HWM Name:	GEBRAL05	Taken by:	HEDGECOCK / STRICKLAN
HWM Elev. (ft, NGVD)	7.37	Agency:	USGS
HWM Type :	Outside	Date Taken:	04-Oct-98
HWM Quality:	Fair	State:	Alabama
Latitude:	30° 40' 06.00"	Longitude:	-87° 55' 40.00"
Nearest Town:	Bridgehead	County:	Baldwin
USGS 7.5 minute Quad Sheet: Bridgehead, AL			
Address of HWM: W end of Bblakeley Bridge, NW embankment			
Remarks: HWM5- Fair drift line on the u/s end of bridge			



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Hurricane Georges, September 1998

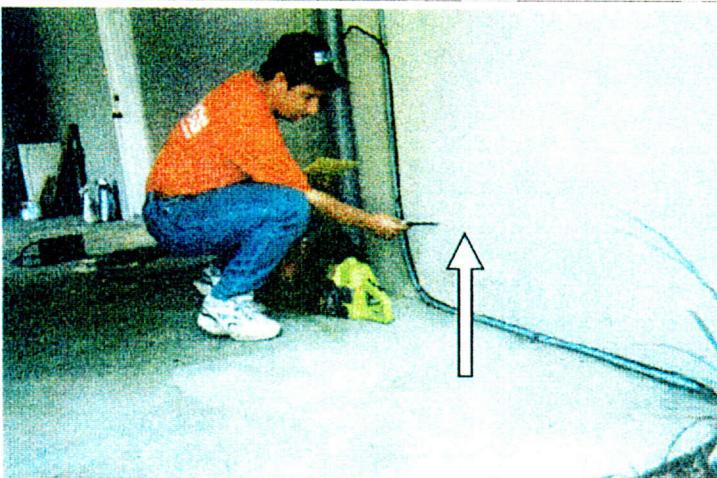


HWM Name:	GEDAAL01	Taken by:	HEDGE COCK / STRICKLAN
HWM Elev. (ft, NGVD)		Agency:	USGS
HWM Type :	Outside	Date Taken:	04-Oct-98
HWM Quality:	Good	State:	Alabama
Latitude:	30° 35' 54.00"	Longitude:	-87° 54' 51.00"
Nearest Town:	Daphne	County:	Baldwin
USGS 7.5 minute Quad Sheet: Daphne, AL			
Address of HWM: College Ave., Daphne Municipal Pier			
Remarks: HWM6- Fair stainline on wooden trash receptacle, 2nd one South of boat launch, mark is on West side of can			



**US Army Corps of Engineers
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Hurricane Georges, September 1998

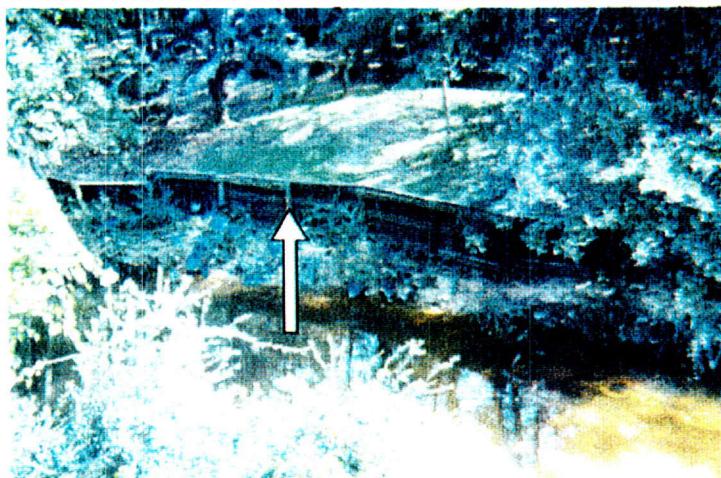


HWM Name:	GEDAAL02	Taken by:	HEDGEBOCK / STRICKLAN		
HWM Elev. (ft, NGVD)		Agency:	USGS		
HWM Type :	Outside	Date Taken:	04-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 34' 31.00"	Longitude:	-87° 54' 41.00"		
Nearest Town:	Daphne	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		Daphne, AL			
Address of HWM: Last house on Bendabout Lane					
Remarks: HWM7- Fair/good seed line on West side of last house					



**US Army Corps of Engineers
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Hurricane Georges, September 1998



HWM Name:	GEDAAL03	Taken by:	HEDGECOCK / STRICKLAN		
HWM Elev. (ft, NGVD)		Agency:	USGS		
HWM Type :	Outside	Date Taken:	04-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 33' 28.00"	Longitude:	-87° 53' 58.00"		
Nearest Town:	Daphne	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		Daphne, AL			
Address of HWM: East Shore Blvd., Rock Creek bridge, u/s left bank					
Remarks: HWM8- Good seedline on retaining wall on left bank 100 ft. u/s of new bridge					



**US Army Corps of Engineers
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Hurricane Georges, September 1998

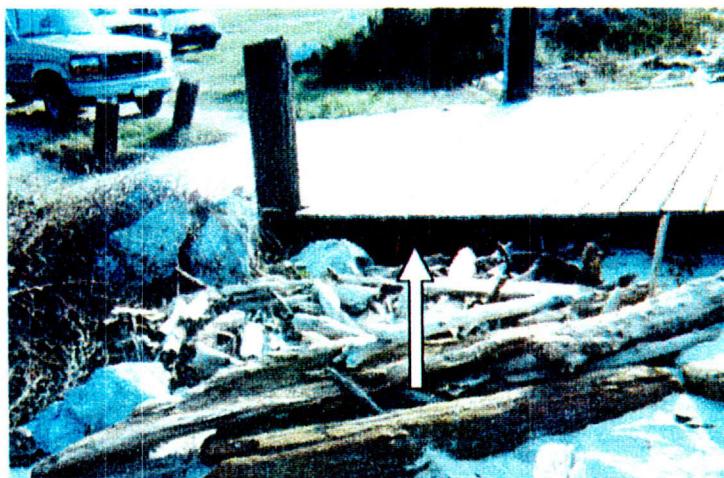


HWM Name:	GEFMLAL02	Taken by:	KIDD / DICKMAN
HWM Elev. (ft, NGVD)	5.59	Agency:	USGS
HWM Type :	W.H.R.U.	Date Taken:	01-Oct-98
HWM Quality:	Poor	State:	Alabama
Latitude:	30° 13' 39.00"	Longitude:	-88° 01' 17.00"
Nearest Town:	Fort Morgan	County:	Baldwin
USGS 7.5 minute Quad Sheet: Fort Morgan, AL			
Address of HWM: 20 ft. W of USGS BM#5 on sea wall			
Remarks: HWM2- Poor drift line in riprap on NW shore, 200 ft NW of V/Center			



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Hurricane Georges, September 1998

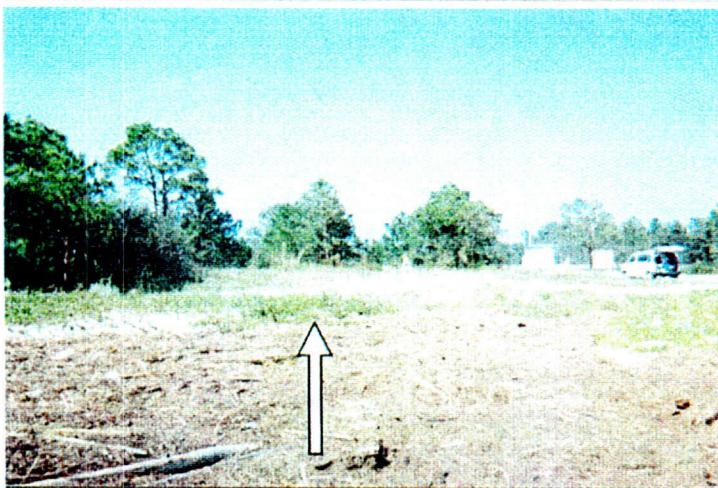


HWM Name:	GEFML03	Taken by:	HEDGECOCK / STRICKLAN
HWM Elev. (ft, NGVD)	4.44	Agency:	USGS
HWM Type :	Outside	Date Taken:	01-Oct-98
HWM Quality:	Good	State:	Alabama
Latitude:	30° 13' 53.00"	Longitude:	-88° 01' 03.00"
Nearest Town:	Fort Morgan	County:	Baldwin
USGS 7.5 minute Quad Sheet: Fort Morgan, AL			
Address of HWM: Pier on N side of shoreline of Ft. Morgan Pk. Area			
Remarks: HWM3- Good seedline on E side of fishing pier-underside of support girder			



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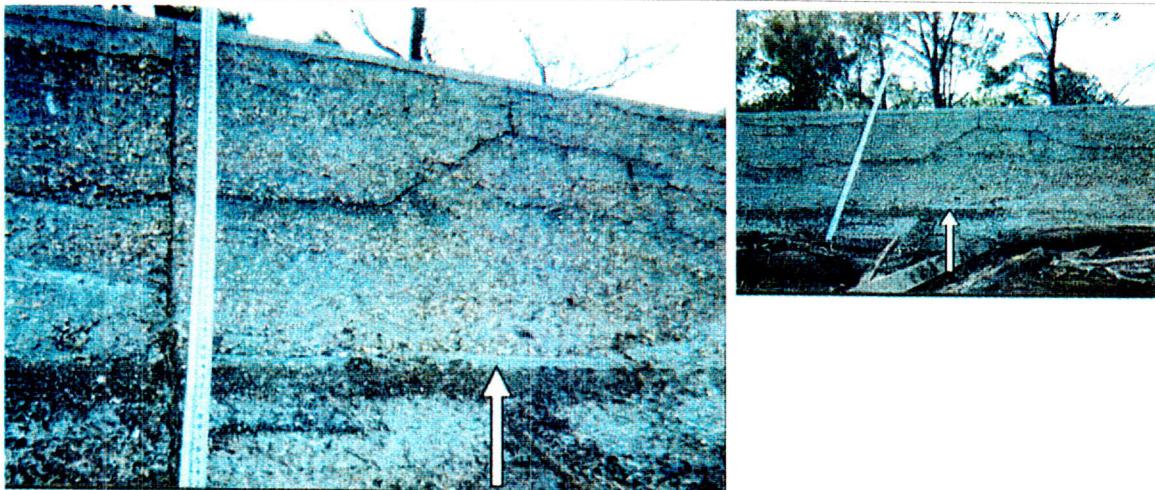


HWM Name:	GEFML04	Taken by:	KIDD / DICKMAN
HWM Elev. (ft, NGVD)	8.34	Agency:	USGS
HWM Type :	Outside	Date Taken:	01-Oct-98
HWM Quality:	Fair	State:	Alabama
Latitude:	30° 13' 42.00"	Longitude:	-88° 01' 25.00"
Nearest Town:	Fort Morgan	County:	Baldwin
USGS 7.5 minute Quad Sheet: Fort Morgan, AL			
Address of HWM: 280 ft. S of Pk. Entrance on W side of Beach Road			
Remarks: HWM4- Fair/poor drift line 80 ft. S of BM			



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HWM Name:	GEFMLA05	Taken by:	KIDD / DICKMAN		
HWM Elev. (ft, NGVD)	3.79	Agency:	USGS		
HWM Type :	Outside	Date Taken:	01-Oct-98		
HWM Quality:	Fair	State:	Alabama		
Latitude:	30° 13' 50.00"	Longitude:	-88° 01' 25.00"		
Nearest Town:	Fort Morgan	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		Fort Morgan, AL			
Address of HWM: N end of concrete sea wall at entrance to park					
Remarks: HWM5- Fair seedline on E side of concrete sea wall					



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HWM Name:	GEGSAL01	Taken by:	KIDD / DICKMAN		
HWM Elev. (ft, NGVD)	6.95	Agency:	USGS		
HWM Type :	Outside	Date Taken:	02-Oct-98		
HWM Quality:	Fair	State:	Alabama		
Latitude:	30° 17' 01.00"	Longitude:	-87° 44' 58.00"		
Nearest Town:	Gulf Shores	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		Gulf Shores, AL			
Address of HWM: At Sailboat Bay Condos					
Remarks: HWM1- Fair trash line near dock between Bldg. 200 & 103					



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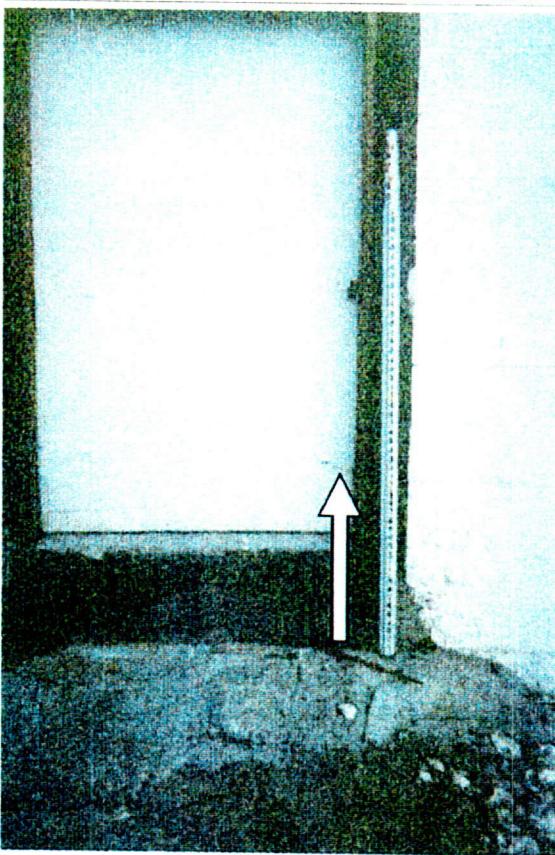


HWM Name:	GEGSAL02	Taken by:	HEDGEBOCK / STRICKLAN
HWM Elev. (ft, NGVD)	7.13	Agency:	USGS
HWM Type :	Outside	Date Taken:	01-Oct-98
HWM Quality:	Fair	State:	Alabama
Latitude:	30° 17' 08.00"	Longitude:	-87° 44' 59.00"
Nearest Town:	Gulf Shores	County:	Baldwin
USGS 7.5 minute Quad Sheet: Gulf Shores, AL			
Address of HWM: Sail Boat bay Conds, Bay side of Bldg 1022			
Remarks: HWM2- Fair trash line on Bay side of building			



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HWM Name:	GEGSAL03	Taken by:	HEDGE COCK / STRICKLAN		
HWM Elev. (ft, NGVD)	5.72	Agency:	USGS		
HWM Type :	Outside	Date Taken:	02-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 18' 02.00"	Longitude:	-87° 44' 15.00"		
Nearest Town:	Gulf Shores	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		Gulf Shores, AL			
Address of HWM: Billy's Seafood, Bon Secour Bay					
Remarks: HWM5- Good mud line on door of ice house @ Billy's Seafood					



US Army Corps of Engineers
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Hurricane Georges, September 1998

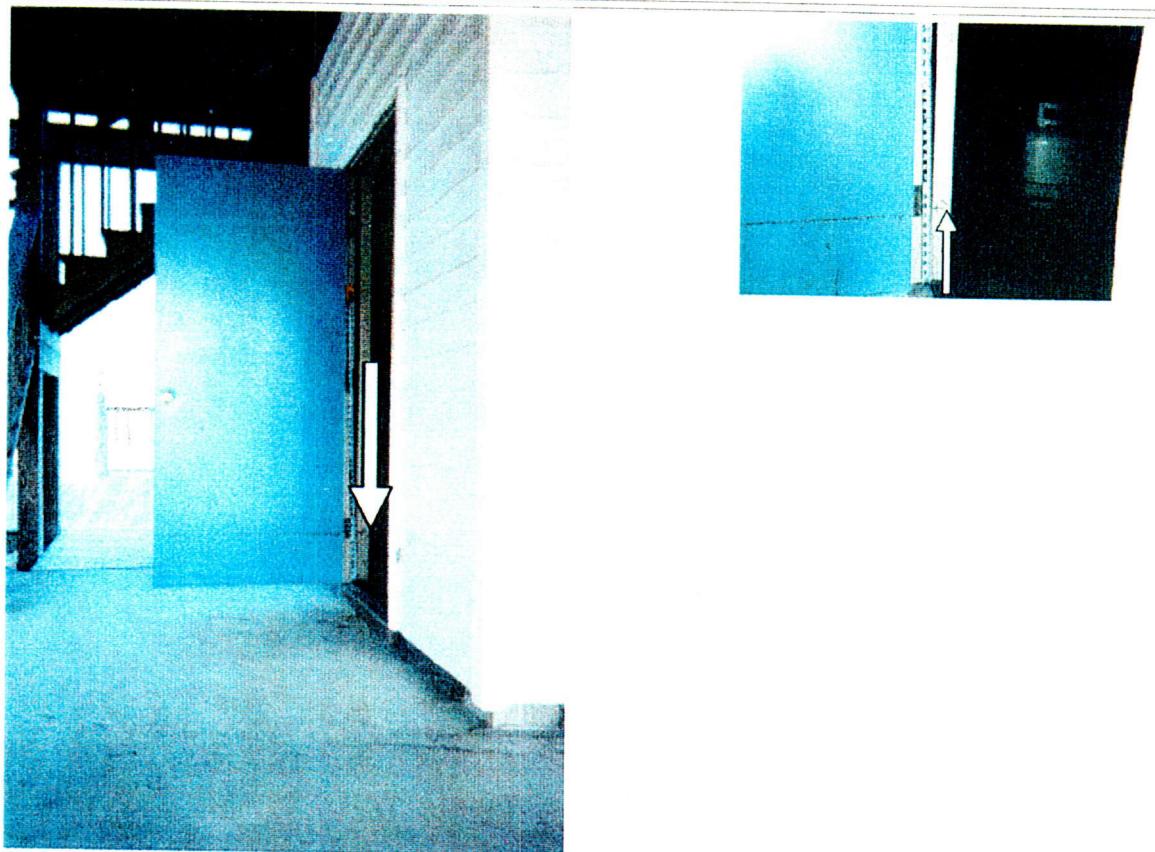


HWM Name:	GEGSAL04	Taken by:	HEDGECOCK / STRICKLAN		
HWM Elev. (ft, NGVD)	8.43	Agency:	USGS		
HWM Type :	Inside	Date Taken:	02-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 14' 26.00"	Longitude:	-87° 44' 26.00"		
Nearest Town:	Gulf Shores	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		Gulf Shores, AL			
Address of HWM: 1717 HWY 182					
Remarks: HWM6-God mud line in storage room on SE side of house					



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Hurricane Georges, September 1998

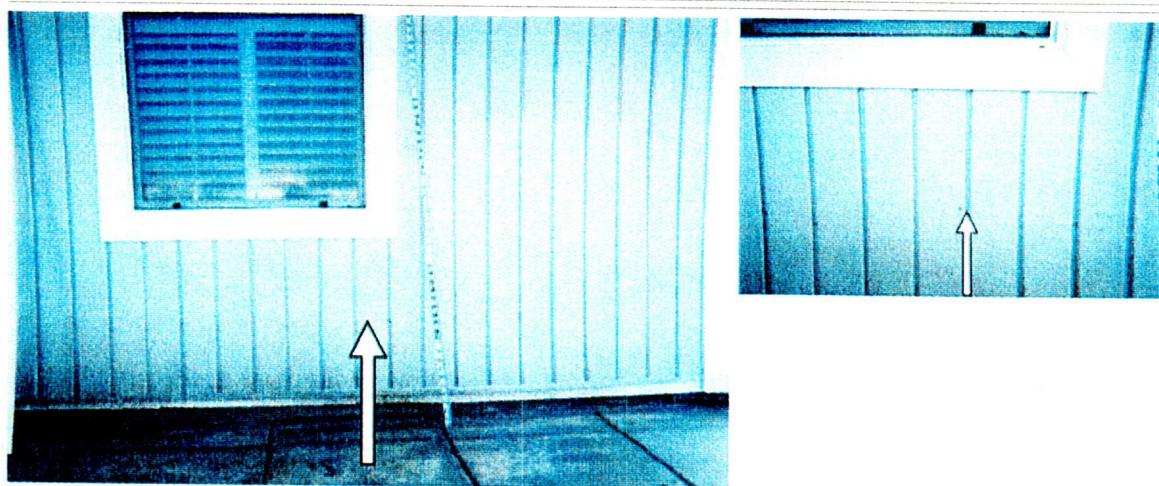


HWM Name:	GEGSAL05	Taken by:	KIDD / DICKMAN		
HWM Elev. (ft, NGVD)	5.14	Agency:	USGS		
HWM Type :	Inside	Date Taken:	02-Oct-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 14' 30.00"	Longitude:	-87° 44' 18.00"		
Nearest Town:	Gulf Shores	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		Gulf Shores, AL			
Address of HWM: 113 Pass Dr.					
Remarks: HWM7- Excellent seedline in closet on lower floor of house					



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Hurricane Georges, September 1998

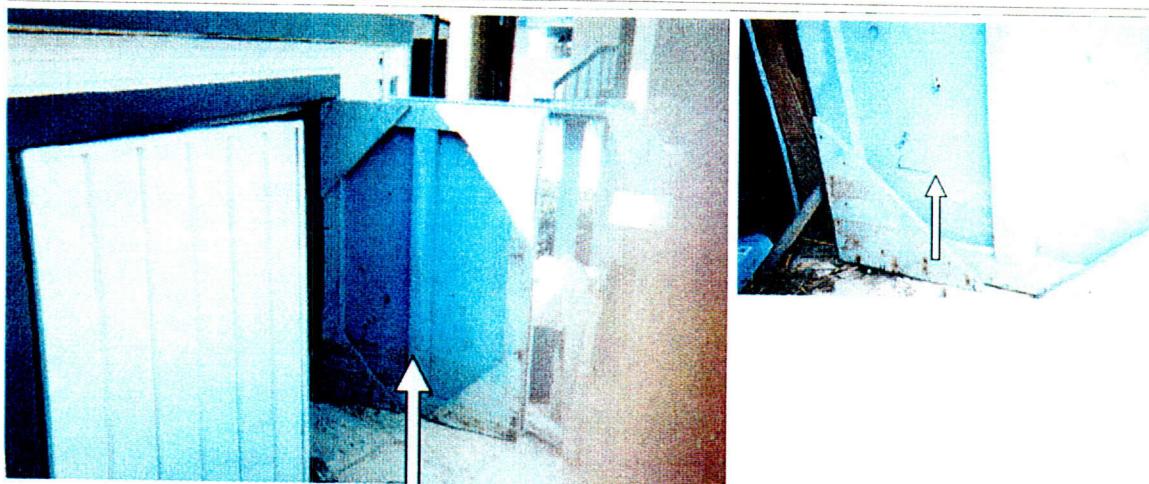


HWM Name:	GEGSAL06	Taken by:	HEDGEBOCK / STRICKLAN		
HWM Elev. (ft, NGVD)	6.10	Agency:	USGS		
HWM Type :	Outside	Date Taken:	02-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 14' 49.00"	Longitude:	-87° 42' 14.00"		
Nearest Town:	Gulf Shores	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		Gulf Shores, AL			
Address of HWM: 900 W Shoreland Dr.					
Remarks: HWM8- Good seedline behind gray house, on NW side of house					



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HWM Name:	GEGSAL07	Taken by:	KIDD / DICKMAN		
HWM Elev. (ft, NGVD)	8.18	Agency:	USGS		
HWM Type :	Inside	Date Taken:	02-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 14' 45.00"	Longitude:	-87° 42' 14.00"		
Nearest Town:	Gulf Shores	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		Gulf Shores, AL			
Address of HWM: The Beach House Condo, 930 HWY 182					
Remarks: HWM9- Good mudline on inside of pool pump house door, behind Condo 106					



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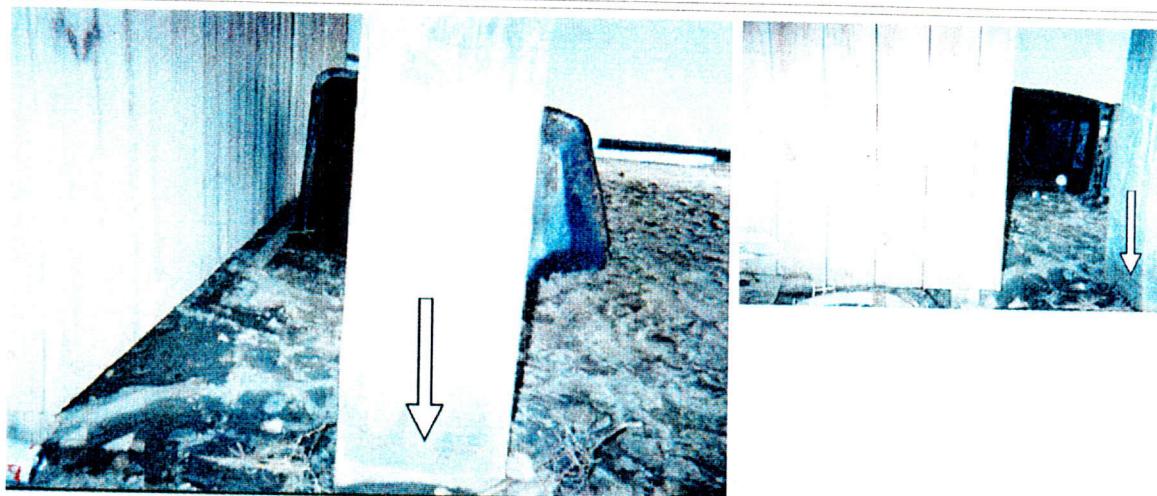


HWM Name:	GEGSAL08	Taken by:	KIDD / DICKMAN		
HWM Elev. (ft, NGVD)	9.05	Agency:	USGS		
HWM Type :	Inside	Date Taken:	02-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 14' 52.00"	Longitude:	-87° 41' 22.00"		
Nearest Town:	Gulf Shores	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		Gulf Shores, AL			
Address of HWM: Arcade under Fat Tuesday Restaurant, HWY 59 & 182					
Remarks: HWM10- Good mudline on inside wall & door of W side of arcade					



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HWM Name:	GEGSAL09	Taken by:	KIDD / DICKMAN		
HWM Elev. (ft, NGVD)	8.88	Agency:	USGS		
HWM Type :	Outside	Date Taken:	02-Oct-98		
HWM Quality:	Fair	State:	Alabama		
Latitude:	30° 14' 52.00"	Longitude:	-87° 41' 23.00"		
Nearest Town:	Gulf Shores	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		Gulf Shores, AL			
Address of HWM: HWY 59 & 182, public beach restroom building					
Remarks: HWM11- Fair seed/mudline on piling of building					



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HWM Name:	GEGSAL10	Taken by:	HEDGEBOCK / STRICKLAN		
HWM Elev. (ft, NGVD)	10.89	Agency:	USGS		
HWM Type :	Inside	Date Taken:	02-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 14' 56.00"	Longitude:	-87° 40' 60.00"		
Nearest Town:	Gulf Shores	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		Gulf Shores, AL			
Address of HWM: Holiday Inn HWY 182, Gulf Shores					
Remarks: HWM12- Good mudline on inside hall wall, just N of pool					



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HWM Name:	GEGSAL11	Taken by:	HEDGE COCK / STRICKLAN		
HWM Elev. (ft, NGVD)	6.48	Agency:	USGS		
HWM Type :	Outside	Date Taken:	02-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 14' 56.00"	Longitude:	-87° 40' 60.00"		
Nearest Town:	Gulf Shores	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		Gulf Shores, AL			
Address of HWM: HWY 182, Sand Dollad Condo, Gulf Shores					
Remarks: HWM13- Good seedline in backside of parking lot, line on support post of rear garage					



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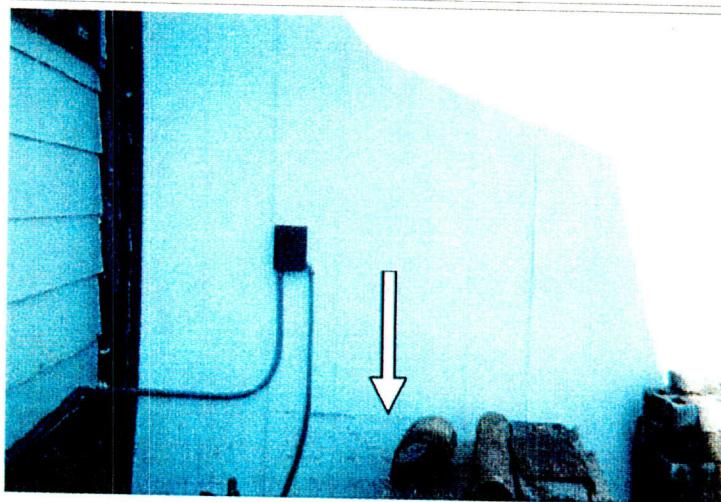


HWM Name:	GEGSAL12	Taken by:	KIDD / DICKMAN		
HWM Elev. (ft, NGVD)	6.00	Agency:	USGS		
HWM Type :	Inside	Date Taken:	02-Oct-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 15' 17.00"	Longitude:	-87° 41' 22.00"		
Nearest Town:	Gulf Shores	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		Gulf Shores, AL			
Address of HWM: HWY 59, Iverson Dolls & Clocks @ Bayou Village					
Remarks: HWM14- Excellent seed line inside of door on NW corner of Iverson's					



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HWM Name:	GEGSAL13	Taken by:	KIDD / DICKMAN		
HWM Elev. (ft, NGVD)	6.03	Agency:	USGS		
HWM Type :	Inside	Date Taken:	02-Oct-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 15' 17.00"	Longitude:	-87° 41' 21.00"		
Nearest Town:	Gulf Shores	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		Gulf Shores, AL			
Address of HWM: HWY 59, Iverson's Dolls & Clocks, Bayou Village					
Remarks: HWM15- Excellent seed line on outside wall of building.					



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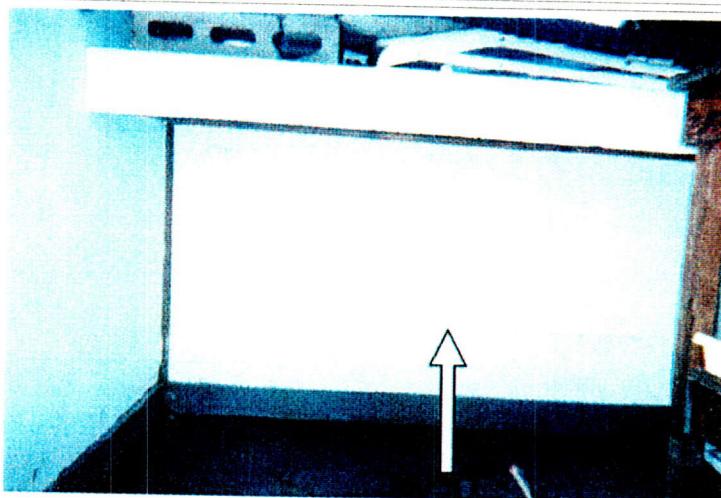


HWM Name:	GEGSAL14	Taken by:	KIDD / DICKMAN		
HWM Elev. (ft, NGVD)	5.94	Agency:	USGS		
HWM Type :	Inside	Date Taken:	02-Oct-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 15' 18.00"	Longitude:	-87° 41' 22.00"		
Nearest Town:	Gulf Shores	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		Gulf Shores, AL			
Address of HWM: HWY 59, Artist's Gallery, 0.5 mile N of HWY 182					
Remarks: HWM16- Excellent seedline on inside wall & door					



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HWM Name:	GEGSAL15	Taken by:	KIDD / DICKMAN		
HWM Elev. (ft, NGVD)	9.51	Agency:	USGS		
HWM Type :	Inside	Date Taken:	02-Oct-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 15' 22.00"	Longitude:	-87° 38' 18.00"		
Nearest Town:	Gulf Shores	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		Gulf Shores, AL			
Address of HWM: HWY 182, Gulf State Park Beach Pavillion					
Remarks: HWM17- Excellent seedline inside walls & doors of guard house					



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HWM Name:	GELIAL01	Taken by:	LLOYD / HRABOVSKY		
HWM Elev. (ft, NGVD)		Agency:	COE		
HWM Type :	Outside	Date Taken:	05-Oct-98		
HWM Quality:	Excellent	State:	Florida		
Latitude:	30° 24' 30.67"	Longitude:	-87° 26' 12.48"		
Nearest Town:	LILLIAN, AL.	County:	BALDWIN		
USGS 7.5 minute Quad Sheet:		LILLIAN, AL/FL			
Address of HWM: WEST END OF LILLIAN BRIDGE					
Remarks:	TBM SPIKE - SM. SPIKE IN POWER POLE W/BREAKER BOX, 30FT. N. OF C/L OF HWY 98 AND 45FT. E. OF C/L OF CO. RD. 99. HWM - EXCELLENT TRASH LINE IN PARK AREA R.B U.S OF LILLIAN BRIDGE, ON 6" POPCORN TREE, 120FT. N. OF HWY 98 & 110FT. E. OF CO.				



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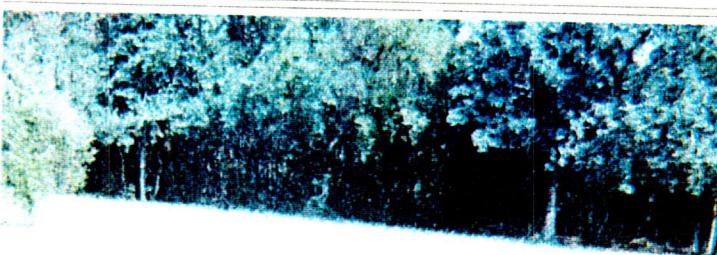


HWM Name:	GEMSAL01	Taken by:	KIDD / DICKMAN		
HWM Elev. (ft, NGVD)	4.47	Agency:	USGS		
HWM Type :	Outside	Date Taken:	04-Oct-98		
HWM Quality:	Fair	State:	Alabama		
Latitude:	30° 24' 57.00"	Longitude:	-87° 49' 34.00"		
Nearest Town:	Magnolia Springs	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		Magnolia Springs, AL			
Address of HWM: Fish River, at the SW corner of HWY 98 crossing					
Remarks: HWM12- Poor/fair drift line along SW embankment of HWY 98					



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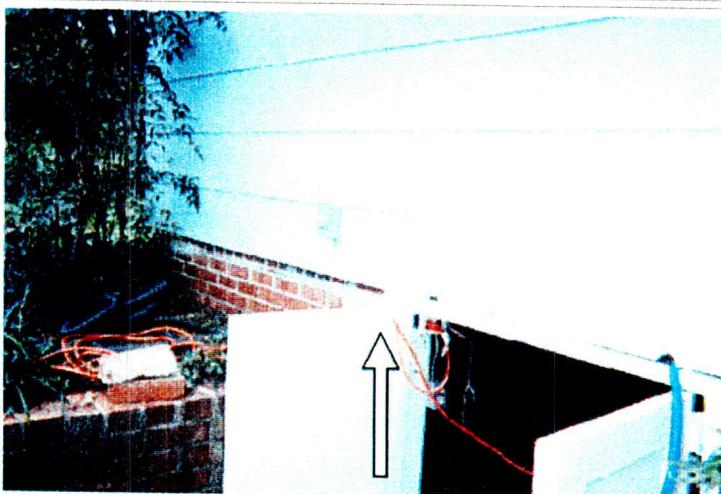


HWM Name:	GEMSAL02	Taken by:	KIDD / DICKMAN		
HWM Elev. (ft, NGVD)		Agency:	USGS		
HWM Type :	Outside	Date Taken:	04-Oct-98		
HWM Quality:	Fair	State:	Alabama		
Latitude:	30° 23' 30.00"	Longitude:	-87° 48' 39.00"		
Nearest Town:	Magnolia Springs	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		Magnolia Springs, AL			
Address of HWM: 12934 yupon Road extension					
Remarks: HWM13- Fair trash line along SE slope of yard					



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HWM Name:	GEMSAL03	Taken by:	KIDD / DICKMAN
HWM Elev. (ft, NGVD)		Agency:	USGS
HWM Type :	Inside	Date Taken:	04-Oct-98
HWM Quality:	Excellent	State:	Alabama
Latitude:	30° 23' 40.00"	Longitude:	-87° 46' 34.00"
Nearest Town:	Magnolia Springs	County:	Baldwin
USGS 7.5 minute Quad Sheet: Magnolia Springs, AL			
Address of HWM: 11580 Magnolia Street			
Remarks: HWM14- Excellent mudline on basement door inside facing NW			



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HWM Name:	GEMSAL04	Taken by:	KIDD / DICKMAN		
HWM Elev. (ft, NGVD)	6.48	Agency:	USGS		
HWM Type :	Inside	Date Taken:	03-Oct-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 22' 44.00"	Longitude:	-87° 51' 11.00"		
Nearest Town:	Magnolia Springs	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		Magnolia Springs, AL			
Address of HWM: 10651 Quite Water, house SW corner Co. Rd. 1 & 27					
Remarks: HWM11- Excellent seedline inside shed attached to house					



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HWM Name:	GEOBAL01	Taken by:	KIDD / DICKMAN		
HWM Elev. (ft, NGVD)	10.73	Agency:	USGS		
HWM Type :	Outside	Date Taken:	02-Oct-98		
HWM Quality:	Fair	State:	Alabama		
Latitude:	30° 16' 10.00"	Longitude:	-87° 34' 55.00"		
Nearest Town:	Orange Beach	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		Orange Beach, AL/FL			
Address of HWM: SW corner of 25698 Crystal Beach Condo					
Remarks: HWM1- Fair debris line about 30 ft. SW of condo					



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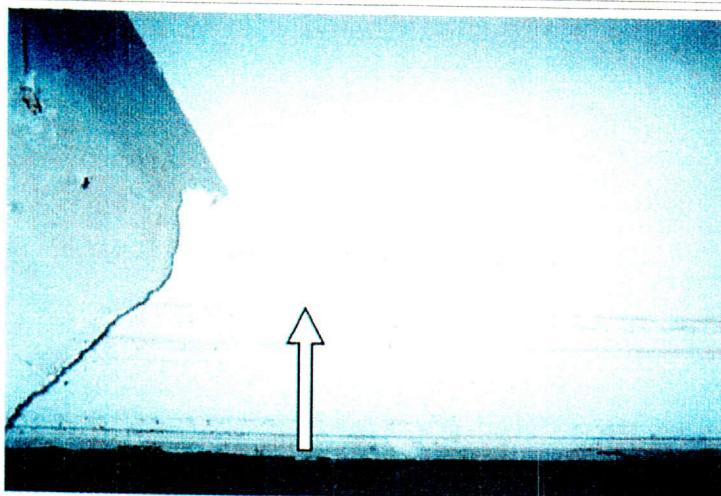


HWM Name:	GEOBAL02	Taken by:	KIDD / DICKMAN
HWM Elev. (ft, NGVD)	7.13	Agency:	USGS
HWM Type :	Outside	Date Taken:	02-Oct-98
HWM Quality:	Good	State:	Alabama
Latitude:	30° 16' 38.00"	Longitude:	-87° 33' 22.00"
Nearest Town:	Orange Beach	County:	Baldwin
USGS 7.5 minute Quad Sheet: Orange Beach, AL/FL			
Address of HWM: AL Marine Police Office @ Perdido Pass Bdg HWY 182			
Remarks: HWM2- Good debris line 30 ft. North of helicopter pad			



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HWM Name:	GEOBAL03	Taken by:	KIDD / DICKMAN		
HWM Elev. (ft, NGVD)	11.20	Agency:	USGS		
HWM Type :	Outside	Date Taken:	02-Oct-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 16' 40.00"	Longitude:	-87° 32' 08.00"		
Nearest Town:	Orange Beach	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		Orange Beach, AL/FL			
Address of HWM: Wind Drift-West Condo on HWY 182					
Remarks: HWM3- Excellent mud line in main entrance, N side of condo					



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Hurricane Georges, September 1998

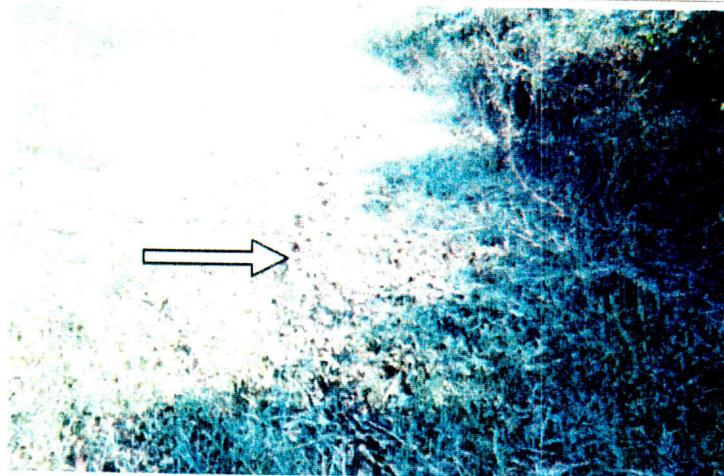


HWM Name:	GEOBAL04	Taken by:	HEDGEBOCK / STRICKLAN		
HWM Elev. (ft, NGVD)	5.28	Agency:	USGS		
HWM Type :	Inside	Date Taken:	02-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 16' 55.00"	Longitude:	-87° 32' 29.00"		
Nearest Town:	Orange Beach	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		Orange Beach, AL/FL			
Address of HWM: At 28361 Ono Blvd					
Remarks: HWM4- Good seed line inside garage, 1st center post from garage door					



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HWM Name:	GEOBAL05	Taken by:	HEDGEBOCK / STRICKLAN
HWM Elev. (ft, NGVD)	5.24	Agency:	USGS
HWM Type :	Outside	Date Taken:	02-Oct-98
HWM Quality:	Fair	State:	Alabama
Latitude:	30° 16' 54.30"	Longitude:	-87° 32' 12.00"
Nearest Town:	Orange Beach	County:	Baldwin
USGS 7.5 minute Quad Sheet: Orange Beach, AL/FL			
Address of HWM: NW embankment of Ono Island Bridge			
Remarks: HWM5- Fair wash line on embankment of bridge			



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Hurricane Georges, September 1998



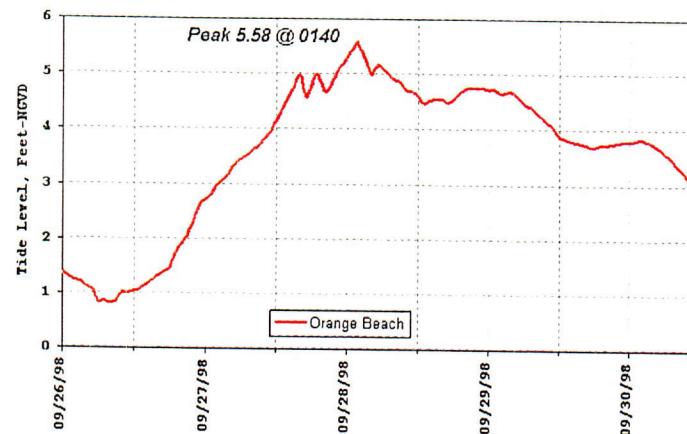
HWM Name:	GEOBAL06	Taken by:	HEDGE COCK / STRICKLAN		
HWM Elev. (ft, NGVD)	5.41	Agency:	USGS		
HWM Type :	Outside	Date Taken:	02-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 17' 03.00"	Longitude:	-87° 31' 58.00"		
Nearest Town:	Orange Beach	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		Orange Beach, AL/FL			
Address of HWM: Ono Island, 3995 Oleander Court					
Remarks: HWM06- Good seed line on tember structure 15 ft. W of carport					



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Hurricane Georges, September 1998

Orange Beach, AL

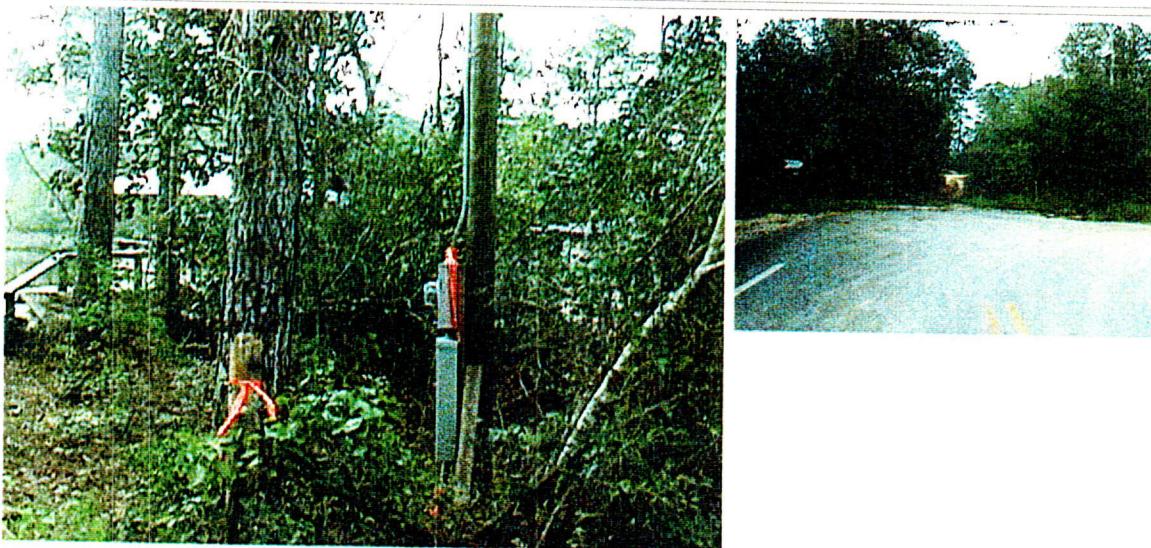


HWM Name:	GEOBFL07	Taken by:	TIDE GAGE		
HWM Elev. (ft, NGVD)	5.58	Agency:	COE		
HWM Type :	Inside	Date Taken:	30-Sep-98		
HWM Quality:	Excellent	State:	Florida		
Latitude:	30° 16' 42.93"	Longitude:	-87° 33' 17.51"		
Nearest Town:	Orange Beach	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		Orange Beach, AL/FL			
Address of HWM: Perdido Pass Orange Beach, AL					
Remarks: Peak occurred 28 Sep 98 at 0140.					



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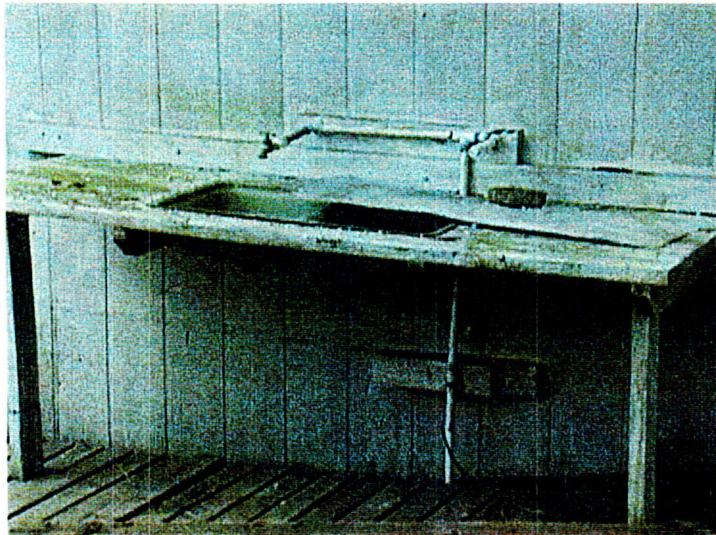


HWM Name:	GEPBAL01	Taken by:	LLOYD / HRABOVSKY		
HWM Elev. (ft, NGVD)		Agency:	COE		
HWM Type :	Outside	Date Taken:	06-Oct-98		
HWM Quality:	Excellent	State:	Florida		
Latitude:	30° 20' 47.15"	Longitude:	-87° 29' 21.12"		
Nearest Town:	LILLIAN, AL.	County:	BALDWIN		
USGS 7.5 minute Quad Sheet:		PERDIDO BAY, FL/AL			
Address of HWM: N/RED BLUFF, AL. AREA.					
Remarks: TBM NAIL - 60d NAIL ON POWER POLE 8 IN. ABOVE GROUND, PAINTED ORANGE, 100FT. S. OF END OF CO. RD. 91. HWM - EXCELLENT SEED LINE IN & OUTSIDE OF POWER BOX TO BOAT HOUSE & DOCK. 40FT. NW OF BOAT HOUSE & 15FT. SE OF DIRT RD.					



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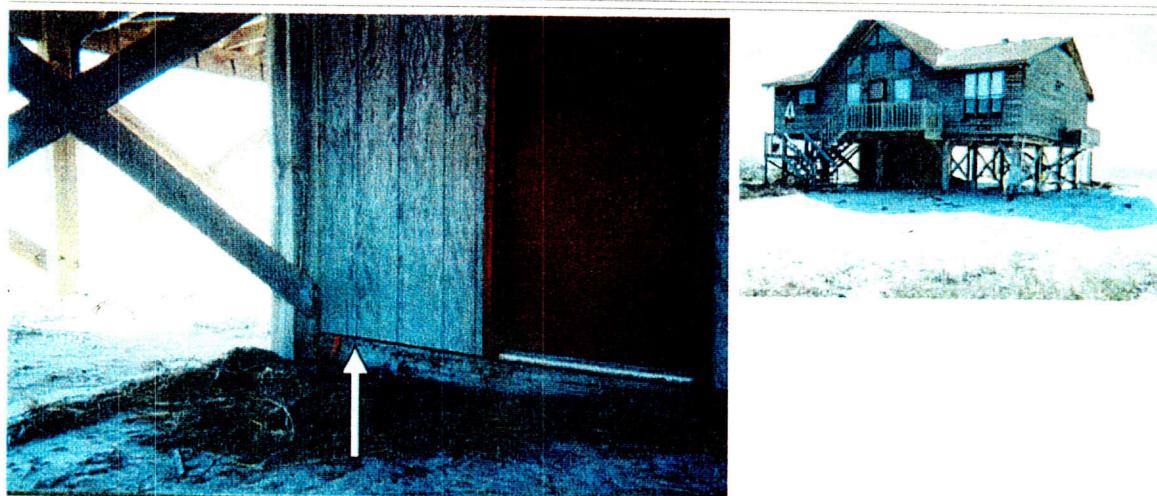


HWM Name:	GEPBAL02	Taken by:	LLOYD / HRABOVSKY		
HWM Elev. (ft, NGVD)		Agency:	COE		
HWM Type :	Outside	Date Taken:	06-Oct-98		
HWM Quality:	Excellent	State:	Florida		
Latitude:	30° 21' 38.63"	Longitude:	-87° 28' 05.16"		
Nearest Town:	LILLIAN, AL.	County:	BALDWIN		
USGS 7.5 minute Quad Sheet:		PERDIDO BAY, FL/AL			
Address of HWM: MANUEL BAYOU BRIDGE, CO. RD. 99.					
Remarks:	R.P SQUARE - A CHISELED SQUARE ON SW. BRIDGE WALL (RAIL). ELEV. HWM - EXCELLENT SEED LINE ON BOAT HOUSE 50FT. U.S, R.B FROM BRIDGE THAT CROSSES MANUEL BAYOU, CO. RD. 99. MARKED WITH A BLACK LINE ON SE. CORNER OF BOAT HOUSE.				



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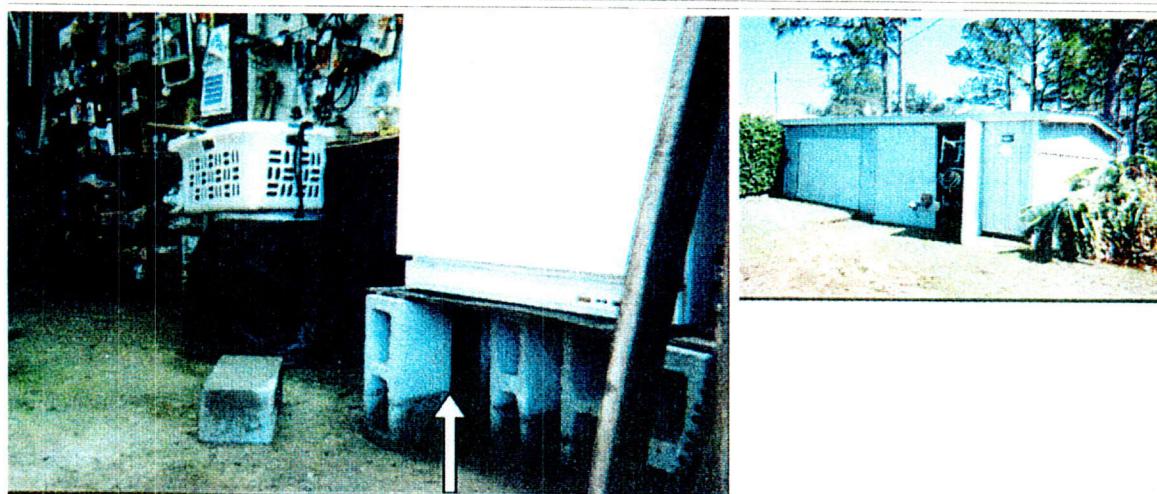


HWM Name:	GEPEAL01	Taken by:	KIDD / DICKMAN		
HWM Elev. (ft, NGVD)	12.39	Agency:	USGS		
HWM Type :	Outside	Date Taken:	01-Oct-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 13' 46.00"	Longitude:	-87° 52' 24.00"		
Nearest Town:	Pine Beach	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		Pine Beach, AL			
Address of HWM: 8752 Pompano Way					
Remarks: HWM1- Excellent seedline outside closet on N side of house					



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HWM Name:	GEPEAL02	Taken by:	KIDD / DICKMAN		
HWM Elev. (ft, NGVD)	8.49	Agency:	USGS		
HWM Type :	Inside	Date Taken:	01-Oct-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 14' 19.00"	Longitude:	-87° 52' 29.00"		
Nearest Town:	Pine Beach	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		Pine Beach, AL			
Address of HWM: 8091 Gulf Beach Lane, Boat House					
Remarks: HWM2- Excellent seedline inside SW corner on block under refrigerator					



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HWM Name:	GEPEAL03	Taken by:	HEDGE COCK / STRICKLAN		
HWM Elev. (ft, NGVD)	7.37	Agency:	USGS		
HWM Type :	Outside	Date Taken:	30-Sep-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 13' 55.00"	Longitude:	-87° 47' 47.00"		
Nearest Town:	Pine Beach	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		Pine Beach, AL			
Address of HWM: 1st house on Dolphin Dr., Laguna Key Subdivision					
Remarks: HWM3- Good mudline on E wall of garage					



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HWM Name:	GEPEAL04	Taken by:	KIDD / DICKMAN		
HWM Elev. (ft, NGVD)	7.89	Agency:	USGS		
HWM Type :	Inside	Date Taken:	01-Oct-98		
HWM Quality:	Excellent	State:	Alabama		
Latitude:	30° 18' 03.00"	Longitude:	-87° 44' 14.00"		
Nearest Town:	Pine Beach	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		Pine Beach, AL			
Address of HWM: 2532 HWY 182, N side of road, 2572 HWY 182					
Remarks:	Agerage of 2 marks HWM4- Excellent mudline on facing gulf, at 2532 HWY 182 HWM5- Fair mudline under house on N wall, 2517 HWY 182				



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HWM Name:	GEPEAL05	Taken by:	KIDD / DICKMAN		
HWM Elev. (ft, NGVD)	7.64	Agency:	USGS		
HWM Type :	Outside	Date Taken:	01-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 14' 52.00"	Longitude:	-87° 46' 04.00"		
Nearest Town:	Pine Beach	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		Pine Beach, AL			
Address of HWM: 15054 HWY 182 & 15062 HWY 182					
Remarks: Average of 2 marks HWM6- Good seedline in front of house on the E wall HWM7- Excellenet seedline on blue shed N of house, E side of shed					



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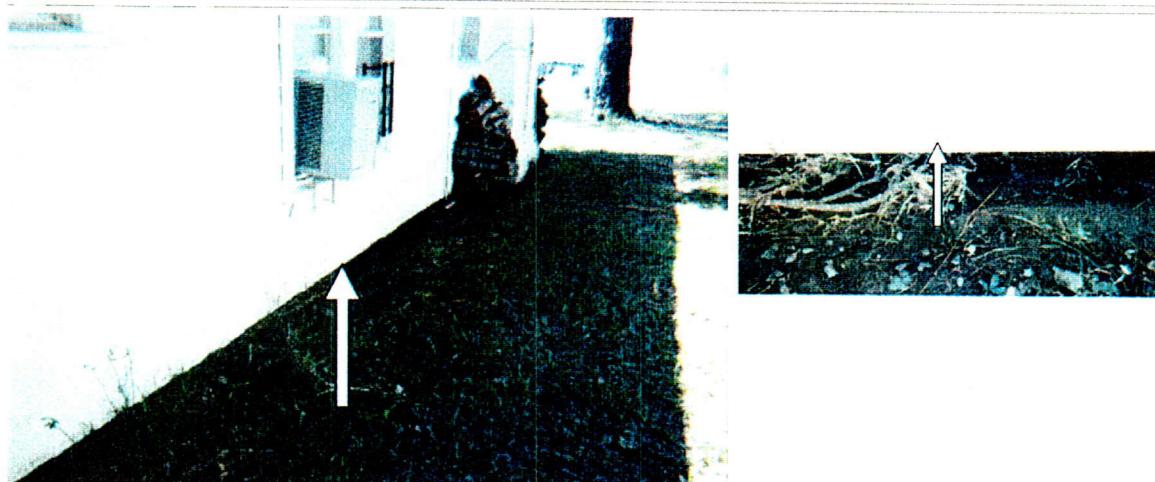
Hurricane Georges, September 1998

HWM Name:	GEPCAL01	Taken by:	HEDGECOCK / STRICKLAN		
HWM Elev. (ft, NGVD)	4.87	Agency:	USGS		
HWM Type :	Outside	Date Taken:	03-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 29' 11.00"	Longitude:	-87° 56' 01.00"		
Nearest Town:	Point Clear	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		Point Clear, AL			
Address of HWM: Point Clear Marina off Alt U.S. HWY 98					
Remarks: HWM9 - Fair/good mud line on concrete slab supporting diesel tank, tank is at the end of access road to harbor master office (no photo available)					



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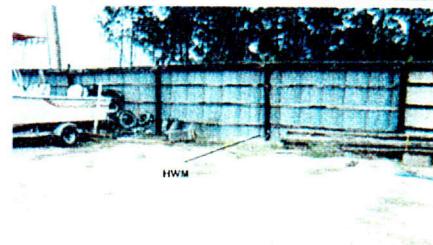
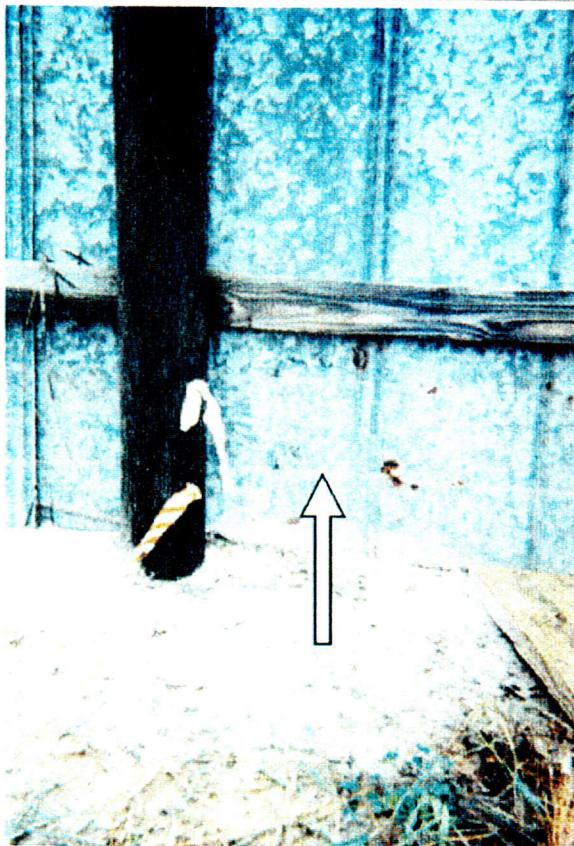


HWM Name:	GEPCAL02	Taken by:	HEDGE COCK / STRICKLAN		
HWM Elev. (ft, NGVD)		Agency:	USGS		
HWM Type :	Outside	Date Taken:	03-Oct-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 24' 58.00"	Longitude:	-87° 54' 30.00"		
Nearest Town:	Point Clear	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		Point Clear, AL			
Address of HWM: 13203 Co. Rd., Mullet Point Park					
Remarks: HWM10 - Good seed line on N side of house 1/2 ft. above ground					



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HWM Name:	GESBAL01	Taken by:	KIDD / DICKMAN		
HWM Elev. (ft, NGVD)	6.36	Agency:	USGS		
HWM Type :	Outside	Date Taken:	30-Sep-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 13' 54.00"	Longitude:	-87° 59' 38.00"		
Nearest Town:	St. Andrews	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		St. Andrews Bay, AL			
Address of HWM: Fort Morgan Marina, storage shed 150 ft of marina					
Remarks: HWM1- Good seedline on metal wall of shed					



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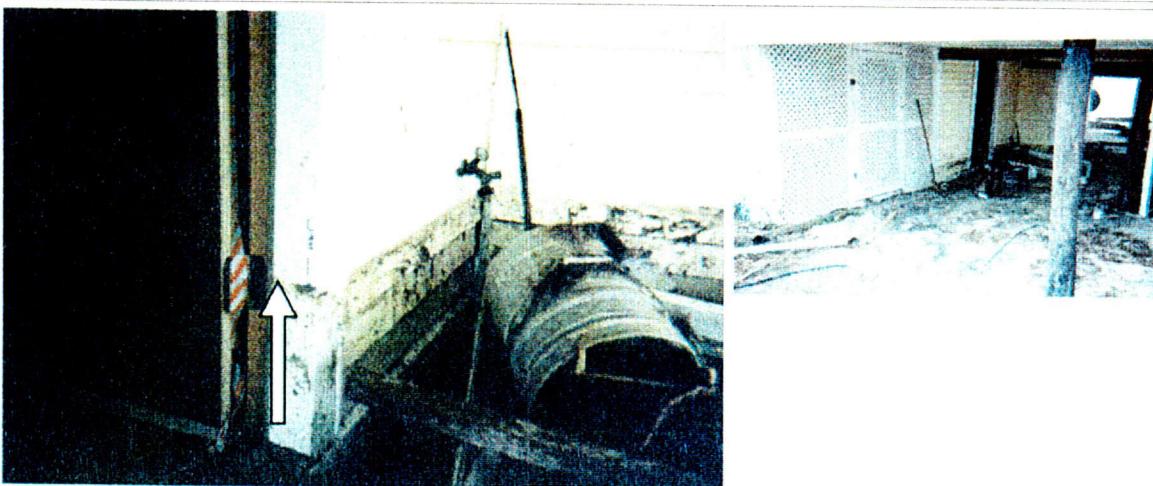


HWM Name:	GESBAL02	Taken by:	HEDGE COCK / STRICKLAN		
HWM Elev. (ft, NGVD)	7.71	Agency:	USGS		
HWM Type :	Outside	Date Taken:	30-Sep-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 13' 59.00"	Longitude:	-87° 56' 34.00"		
Nearest Town:	St. Andrews	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		St. Andrews Bay, AL			
Address of HWM: 4590 HWY 180 & Ftort Morgan Road					
Remarks: HWM2- Good mudline NW corner of house, 1 ft. above ground					



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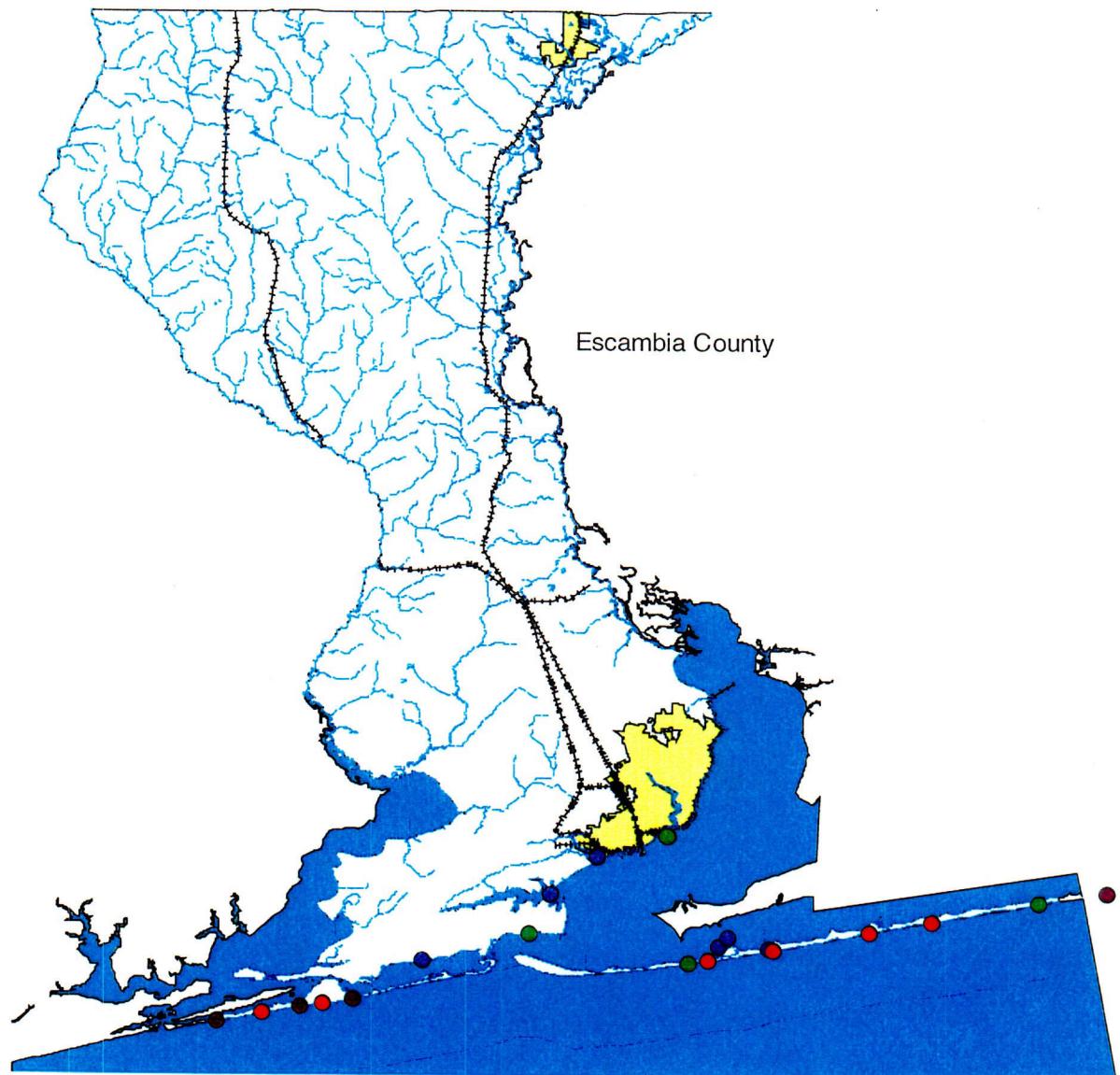
HWM Name:	GESBAL03	Taken by:	KIDD / DICKMAN		
HWM Elev. (ft, NGVD)	11.05	Agency:	USGS		
HWM Type :	Outside	Date Taken:	30-Sep-98		
HWM Quality:	Good	State:	Alabama		
Latitude:	30° 13' 50.00"	Longitude:	-87° 54' 31.00"		
Nearest Town:	St. Andrews	County:	Baldwin		
USGS 7.5 minute Quad Sheet:		St. Andrews Bay, AL			
Address of HWM: 6864 Beach Shore Dr., and 6530 Sea Shell Dr.					
Remarks:	Average of 2 marks HWM3- Good seedline on utility room door facing washing machine, 6864 Beach S Dr. HWM4- Excellent mudline in carport @ 6530 Sea Shell Dr.				



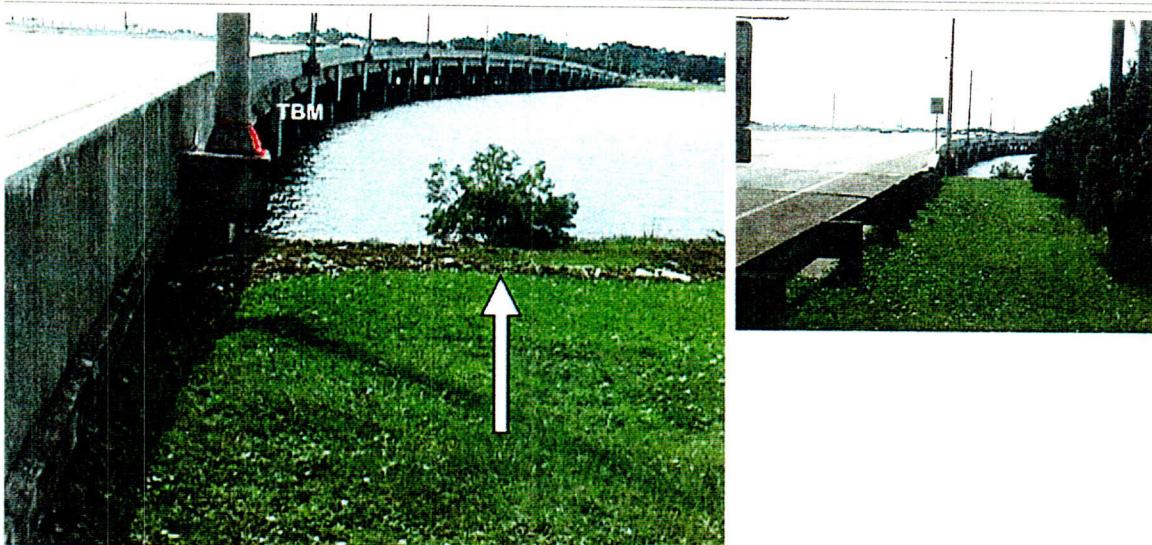
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Appendix F

Escambia County, FL High Water Marks



Hurricane Georges, September 1998



HWM Name:	GEFBFL01	Taken by:	LLOYD / HRABOVSKY
HWM Elev. (ft, NGVD)	5.68	Agency:	COE
HWM Type :	Outside	Date Taken:	04-Oct-98
HWM Quality:	Excellent	State:	Florida
Latitude:	30° 22' 25.00"	Longitude:	-87° 16' 29.00"
Nearest Town:	PENSACOLA, FL.	County:	ESCAMBIA
USGS 7.5 minute Quad Sheet: FT. BARRANCAS, FL			
Address of HWM: ST.RD. 295 BRIDGE TO NAVAL AIR STATION (PENSACOLA)			
Remarks: BM - NGS V-163 RESET 1984. ELEV. 13.34 N.G.V.D TBM - LOCATED ON 1ST WOODEN BRACE FOR CURB RAIL N. OF NW. BRIDGE ABUTMENT. HWM - EXCELLENT SEED & TRASHLINE 25FT. S. OF NW. BRIDGE ABUTMENT & 1FT. W. OF BRIDGE, UN/FIRST BRIDGE LT.			



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HWM Name:	GEFBFL02	Taken by:	LLOYD / HRABOVSKY
HWM Elev. (ft, NGVD)	6.32	Agency:	COE
HWM Type :	Outside	Date Taken:	04-Oct-98
HWM Quality:	Excellent	State:	Florida
Latitude:	30° 20' 46.00"	Longitude:	-87° 17' 23.00"
Nearest Town:	PENSACOLA, FL.	County:	ESCAMBIA
USGS 7.5 minute Quad Sheet: FT. BARRANCAS, FL			
Address of HWM: U.S COAST GUARD BASE PENSACOLA			
Remarks: BM - U.S COAST AND GEODEDIC SURVEY - FERRY - 1942. ELEV. 6.706FT. N.G.V.D HWM - EXCELLENT SEED AND TRASHLINE 100FT. W. OF MAIN COAST GUARD BUILDING AND 25FT. N. OF FOOT BRIDGE THAT LEADS TO THE BEACH.			



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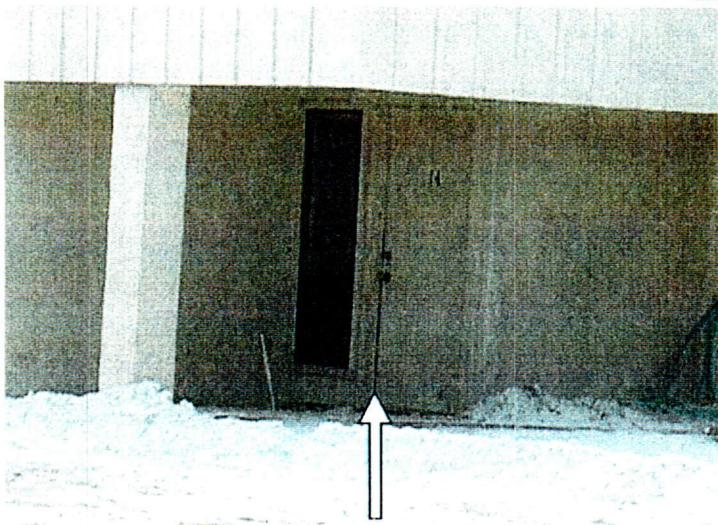


HWM Name:	GEFBFL03	Taken by:	LLOYD / HRABOVSKY
HWM Elev. (ft, NGVD)	5.21	Agency:	COE
HWM Type :	Outside	Date Taken:	04-Oct-98
HWM Quality:	Excellent	State:	Florida
Latitude:	30° 19' 37.00"	Longitude:	-87° 21' 57.00"
Nearest Town:	PENSACOLA, FL.	County:	ESCAMBIA
USGS 7.5 minute Quad Sheet: FT. BARRANCAS, FL			
Address of HWM: 10605 , HWY 292. ESCAMBIA BAY MARINE INSTITUTE			
Remarks: TBM - NAIL IN UTILITY POLE 20FT. S. OF HWY 292 AND 20FT. E. OF INST. DRIVEWAY. HWM - EXCELLENT TRASHLINE IN THE SE. PARKING LOT BEHIND THE MARINE INST., ON METAL FENCE POLE ON E. PROPERTY LINE AND 25FT. N. OF BIG LAGOON.			



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HWM Name:	GEGBFL01	Taken by:	LLOYD / HRABOVSKY
HWM Elev. (ft, NGVD)	7.69	Agency:	COE
HWM Type :	Outside	Date Taken:	03-Oct-98
HWM Quality:	Excellent	State:	Florida
Latitude:	30° 19' 33.00"	Longitude:	-87° 10' 42.00"
Nearest Town:	PENSACOLA BEACH, F	County:	ESCAMBIA
USGS 7.5 minute Quad Sheet: GULF BREEZE, FL			
Address of HWM: PORT SIDE VILLA'S, 1299 FT.PICKENS RD.			
Remarks: S.R.I.A BM1 - ELEV. 6.09' N.G.V.D. HWM - EXCELLENT MUDLINE ON DOOR CASING, APPROX. .5FT. ABOVE GROUND. AT CONDO # 14.			



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HWM Name:	GEGBFL02	Taken by:	LLOYD / HRABOVSKY		
HWM Elev. (ft, NGVD)	6.51	Agency:	COE		
HWM Type :	Outside	Date Taken:	03-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	30° 19' 33.00"	Longitude:	-87° 10' 42.00"		
Nearest Town:	PENSACOLA BEACH, F	County:	ESCAMBIA		
USGS 7.5 minute Quad Sheet:		GULF BREEZE, FL			
Address of HWM: BAY WATCH CONDO'S, 1150 FT. PICKENS RD.					
Remarks: BM - SAME AS GEGBFL01 HWM - GOOD TRASHLINE IN GRASS AT THE SIGN FOR BAY WATCH CONDO'S.					



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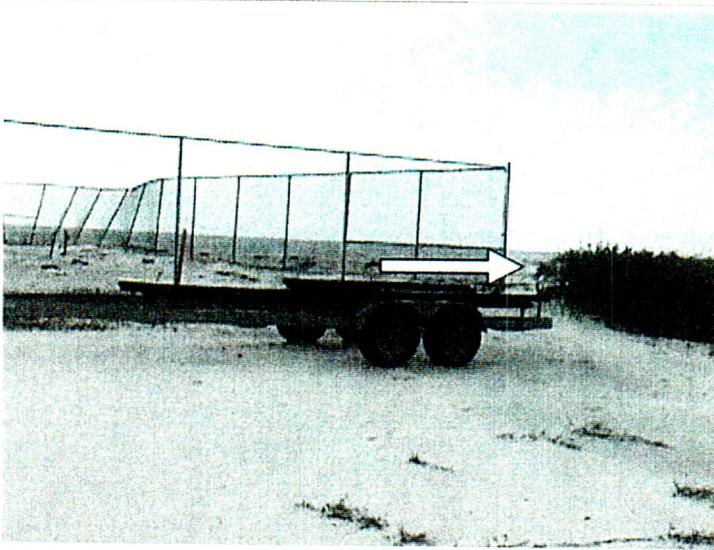


HWM Name:	GEGBFL03	Taken by:	LLOYD / HRABOVSKY		
HWM Elev. (ft, NGVD)	8.08	Agency:	COE		
HWM Type :	Outside	Date Taken:	03-Oct-98		
HWM Quality:	Excellent	State:	Florida		
Latitude:	30° 19' 38.77"	Longitude:	-87° 09' 52.80"		
Nearest Town:	PENSACOLA BEACH, F	County:	ESCAMBIA		
USGS 7.5 minute Quad Sheet:		GULF BREEZE, FL			
Address of HWM: PARKING LOT OF THE SAN SOUCI CONDO'S					
Remarks: FL. DNR. BM (R - 113ES - 95). ELEV. 8.85 N.G.V.D. HWM - EXCELLENT TRASHLINE IN THE PARKING LOT OF THE SAN SOUCI CONDO'S. 20FT. N. OF TENNIS COURTS.					



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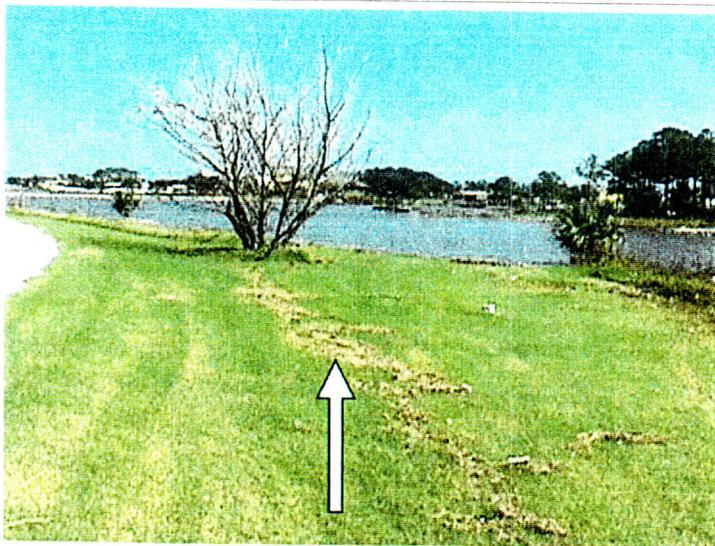


HWM Name:	GEGBFL04	Taken by:	LLOYD / HRABOVSKY
HWM Elev. (ft, NGVD)	9.83	Agency:	COE
HWM Type :	Outside	Date Taken:	03-Oct-98
HWM Quality:	Good	State:	Florida
Latitude:	30° 19' 38.77"	Longitude:	-87° 09' 52.80"
Nearest Town:	PENSACOLA BEACH, F	County:	ESCAMBIA
USGS 7.5 minute Quad Sheet: GULF BREEZE, FL			
Address of HWM: SAN SOUCI CONDO'S. 20FT. DUE WEST OF TENNIS COURTS			
Remarks: BM - SAME AS GEGBFL03 HWM - GOOD WASHLINE AT SMALL DUNE , DUE WEST OF SAN SOUCI CONDO'S. APPROX. 20FT. DUE WEST OF TENNIS COURTS.			



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HWM Name:	GEGBFL05	Taken by:	LLOYD / HRABOVSKY		
HWM Elev. (ft, NGVD)	4.62	Agency:	COE		
HWM Type :	Outside	Date Taken:	03-Oct-98		
HWM Quality:	Excellent	State:	Florida		
Latitude:	30° 20' 12.00"	Longitude:	-87° 09' 25.00"		
Nearest Town:	PENSACOLA BEACH, F	County:	ESCAMBIA		
USGS 7.5 minute Quad Sheet:		GULF BREEZE, FL			
Address of HWM: U.S DEPT OF INTERIOR, EPA LAB., PENSACOLA BCH, FL.					
Remarks: U.S. COE BM (22 - 5 - C) 1993. ELEV. 4.69FT N.G.V.D HWM - EXCELLENT TRASHLINE ON SW SIDE OF ISLAND, 15FT SSW OF BM.					



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HWM Name:	GEGBFL06	Taken by:	LLOYD / HRABOVSKY
HWM Elev. (ft, NGVD)	5.87	Agency:	COE
HWM Type :	Outside	Date Taken:	03-Oct-98
HWM Quality:	Excellent	State:	Florida
Latitude:	30° 20' 37.00"	Longitude:	-87° 09' 00.00"
Nearest Town:	PENSACOLA BEACH, F	County:	ESCAMBIA
USGS 7.5 minute Quad Sheet: GULF BREEZE, FL			
Address of HWM: SE END OF BRIDGE GOING FROM GULF BREEZE TO PC. BCH			
Remarks: FL. DOT. BRONZE DISK (48 - 74 - X17). ELEV. 16.34 FT. N.G.V.D. SE BRIDGE RAIL. HWM - EXCELLENT WIND AND WAVE BLOWN TRASHLINE 100 FT. NE OF SE BRIDGE ABUTMENT.			



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HWM Name:	GEHOFL01	Taken by:	LLOYD / HRABOVSKY
HWM Elev. (ft, NGVD)	10.30	Agency:	COE
HWM Type :	W.H.R.U.	Date Taken:	01-Oct-98
HWM Quality:	Good	State:	Florida
Latitude:	30° 22' 36.87"	Longitude:	-86° 53' 07.97"
Nearest Town:	NAVARRE, FL.	County:	ESCAMBIA
USGS 7.5 minute Quad Sheet: HOLLEY, FL			
Address of HWM: ACROSS ST. RD. 399 FROM 8068 WEST; SUNDIAL CONDO'S			
Remarks: BM IS LOCATED 100FT. SE OF SUNDAIL CONDO'S ACROSS TOLL RD. 399. FL. DNR. (MON. R 203 ES - 95) HWM1 - GOOD WHRU DIRECTLY ACROSS (TOLL) ST. RD. 399 FROM 8068 WEST, SUNDIAL CONDO'S.			

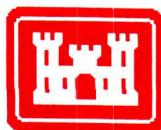


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HWM Name:	GENAFL01	Taken by:	LLOYD / HRABOVSKY		
HWM Elev. (ft, NGVD)	4.48	Agency:	COE		
HWM Type :	Outside	Date Taken:	01-Oct-98		
HWM Quality:	Excellent	State:	Florida		
Latitude:	30° 23' 08.99"	Longitude:	-86° 51' 45.00"		
Nearest Town:	NAVARRE, FL	County:	ESCAMBIA		
USGS 7.5 minute Quad Sheet:		NAVARRE, FL			
Address of HWM: NAVARRE BEACH RELIEF BRIDGE					
Remarks: BM IS SET ON SOUTHEAST BRIDGE ABUTTMENT.(FL. S.R. DOT - 9678A) HWM1 - EAST SIDE OF NAVARRE BCH. RD. 100FT. SOUTH OF BRIDGE AND 40FT. EASTOF C/L OF RD.(ST.RD.399)					



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HWM Name:	GENAFL02	Taken by:	LLOYD / HRABOVSKY		
HWM Elev. (ft, NGVD)	5.58	Agency:	COE		
HWM Type :	Outside	Date Taken:	01-Oct-98		
HWM Quality:	Excellent	State:	Florida		
Latitude:	30° 23' 08.99"	Longitude:	-86° 49' 21.00"		
Nearest Town:	NAVARRE BEACH, FL.	County:	ESCAMBIA		
USGS 7.5 minute Quad Sheet:		NAVARRE, FL			
Address of HWM: NAVARRE BEACH RELIEF BRIDGE					
Remarks: BM IS SET ON SE BRIDGE ABUTTMENT. (FL. S.R. DOT - 9678A) HWM2- IS ON WEST SIDE OF NAVARRE BCH. RD.(ST.RD.399), 75FT. SOUTH OF SW BRIDGE ABUTTMENT AND 40FT., WEST OF C/L OF RD.					



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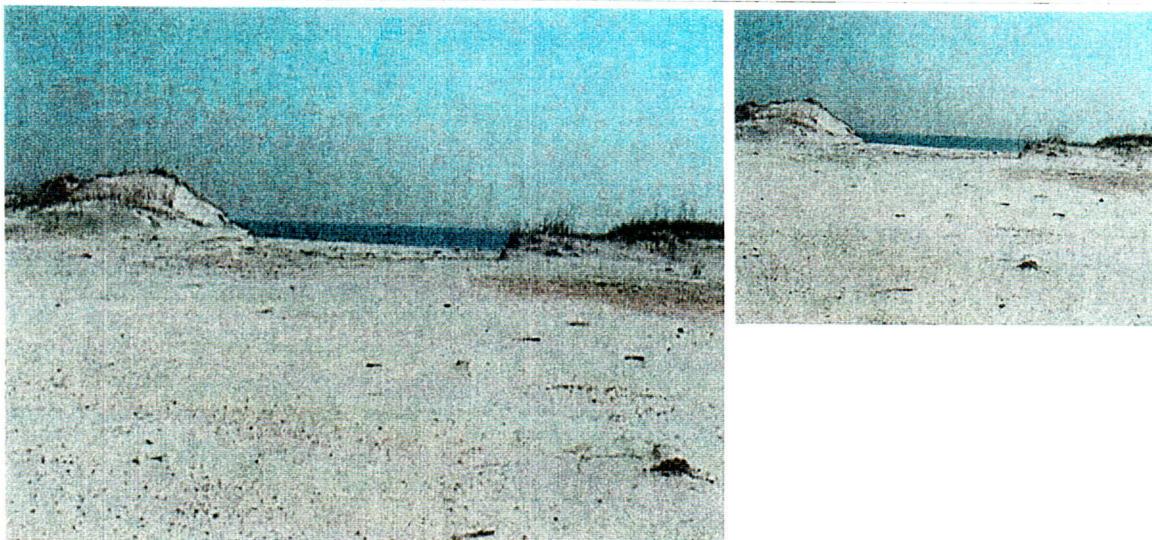
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HWM Name:	GENAFL03	Taken by:	LLOYD / HRABOVSKY		
HWM Elev. (ft, NGVD)	12.32	Agency:	COE		
HWM Type :	Wave Height	Date Taken:	01-Oct-98		
HWM Quality:	Poor	State:	Florida		
Latitude:	30° 22' 55.00"	Longitude:	-86° 51' 16.00"		
Nearest Town:	NAVARRE BEACH, FL.	County:	ESCAMBIA		
USGS 7.5 minute Quad Sheet:		NAVARRE, FL			
Address of HWM: EAST OF NAVARRE FISHING PIER .4 MILE.					
Remarks: BM IS A FL. DEPT OF ENVIROMENTAL PROTECTION MON. (R 213 ESCM - RESET 1998). HWM IS A POOR WASHLINE 50FT. SW OF D.E.P MON. (no photo)					



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HWM Name:	GEOBFL01	Taken by:	LLOYD / HRABOVSKY
HWM Elev. (ft, NGVD)	9.26	Agency:	COE
HWM Type :	Outside	Date Taken:	02-Oct-98
HWM Quality:	Good	State:	Florida
Latitude:	30° 21' 19.00"	Longitude:	-87° 00' 27.00"
Nearest Town:	Pensacola Beach, Fl.	County:	Escambia
USGS 7.5 minute Quad Sheet: Oriole Beach, FL			
Address of HWM: Santa Rosa Island			
Remarks: HWM1-good wash line 25 ft north of BM and 80 ft south of CenterLine of ST. 399 toll Road HWM2-good wash line 15 ft West of HWM1 HWM3-good wash line 40 ft West of HWM 2			



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HWM Name:	GEOBFL02	Taken by:	LLOYD / HRABOVSKY
HWM Elev. (ft, NGVD)	9.38	Agency:	COE
HWM Type :	W.H.R.U.	Date Taken:	02-Oct-98
HWM Quality:	Good	State:	Florida
Latitude:	30° 20' 54.00"	Longitude:	-87° 03' 06.00"
Nearest Town:	PENSACOLA BEACH, F	County:	ESCAMBIA
USGS 7.5 minute Quad Sheet: ORIOLE BEACH, FL			
Address of HWM: APPROX. 2.2 MILES EAST OF P'COLA BCH ON ST. RD 399.			
Remarks: BM - FL. DOT. 48 -84 - B25 (ELEV. 12.75 FT. N.G.V.D) HWM1 - GOOD WASHLINE 65FT. SOUTH OF BM AND 35FT. SOUTH OF C/L OF ROAD. HWM2 - 20FT. WEST OF HWM1. HWM3 - 50FT. WEST OF HWM1 AND 30FT. WEST OF HWM2.			



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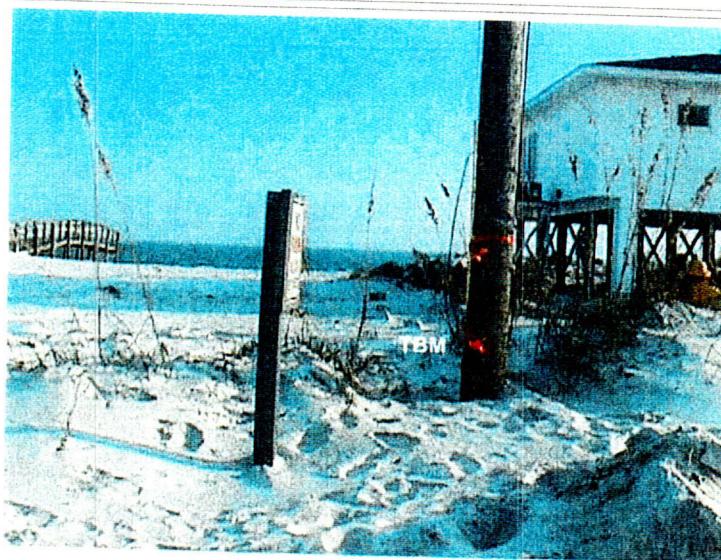


HWM Name:	GEOBFL03	Taken by:	LLOYD / HRABOVSKY
HWM Elev. (ft, NGVD)	5.91	Agency:	COE
HWM Type :	Outside	Date Taken:	02-Oct-98
HWM Quality:	Excellent	State:	Florida
Latitude:	30° 20' 11.00"	Longitude:	-87° 07' 16.00"
Nearest Town:	PENSACOLA BCH, FL.	County:	ESCAMBIA
USGS 7.5 minute Quad Sheet: ORIOLE BEACH, FL			
Address of HWM: 805 VIA DELUNA, PENSACOLA BEACH, FL.			
Remarks: BM IS A FL. DNR. MON.(48 -84 - B19). ELEV. 5.82 FT. N.G.V.D. HWM - IS A EXCELLENT SEED & DEBRIS LINE IN FRONT YARD OF A HOUSE AT 805 VIA DELUNA. HWM IS 50FT. N. OF C/L OF ROAD AND 70FT. N. OF DNR MON.			



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HWM Name:	GEOBFL04	Taken by:	LLOYD / HRABOVSKY		
HWM Elev. (ft, NGVD)	9.57	Agency:	COE		
HWM Type :	Wave Height	Date Taken:	02-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	30° 20' 08.07"	Longitude:	-87° 07' 04.62"		
Nearest Town:	PENSACOLA BEACH, FL	County:	ESCAMBIA		
USGS 7.5 minute Quad Sheet:		ORIOLE BEACH, FL			
Address of HWM: 714 ARIOLA DR.					
Remarks: TBM LAG - 6" LAG BOLT ON THE SIDE OF A POWER POLE APPROX. 2FT. ABOVE GROUND. THE POLE IS # 49510. LOCATED AT 714 ARIOLA DR. HWM - GOOD WASHLINE NEAR THE SE CORNER OF WHITE HOUSE AT 714 ARIOLA DR. AND AVENIDA 16 ST. HOUSE IS ON BEACH SIDE OF ARIOLA DR.					



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HWM Name:	GEOBFL05	Taken by:	LLOYD / HRABOVSKY		
HWM Elev. (ft, NGVD)	9.89	Agency:	COE		
HWM Type :	Wave Height	Date Taken:	02-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	30° 20' 08.10"	Longitude:	-87° 07' 04.64"		
Nearest Town:	PENSACOLA BEACH, F	County:	ESCAMBIA		
USGS 7.5 minute Quad Sheet:		ORIOLE BEACH, FL			
Address of HWM: 714 ARIOLA DR AND AVENIDA 16 ST.					
Remarks: TBM - SAME AS GEOBFL04 HWM - IS A GOOD WASHLINE 100FT. EAST OF GEOBFL04.					



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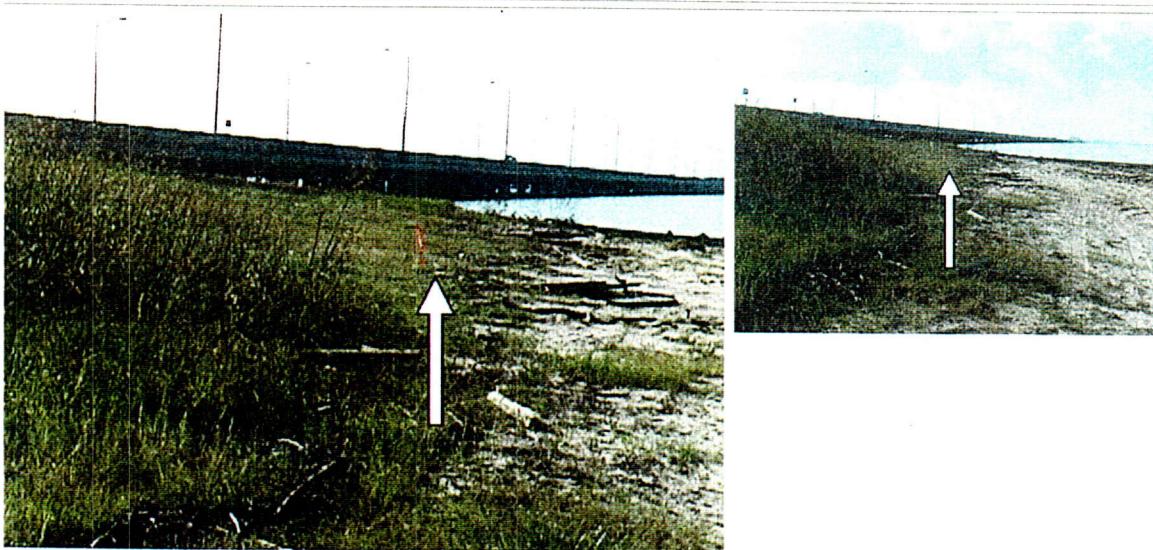


HWM Name:	GEPEFL01	Taken by:	LLOYD / HRABOVSKY		
HWM Elev. (ft, NGVD)	9.14	Agency:	COE		
HWM Type :	Outside	Date Taken:	04-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	30° 24' 53.06"	Longitude:	-87° 11' 31.96"		
Nearest Town:	PENSACOLA, FL.	County:	ESCAMBIA		
USGS 7.5 minute Quad Sheet:		PENSACOLA, FL			
Address of HWM: N. END OF OLD PENSACOLA/GULF BREEZE BRIDGE					
Remarks: U.S COAST AND GEODEDIC SURVEY BM (S25 - 1942). ELEV. 14.95FT. N.G.V.D HWM - GOOD TRASHLINE NE, 100FT. FROM NW BRIDGE ABUTTMENT AND BM. 20FT EAST OF SE CORNER OF BAIT SHOP BUILDING.					



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HWM Name:	GEPEFL02	Taken by:	LLOYD / HRABOVSKY		
HWM Elev. (ft, NGVD)	6.38	Agency:	COE		
HWM Type :	Outside	Date Taken:	04-Oct-98		
HWM Quality:	Excellent	State:	Florida		
Latitude:	30° 24' 53.30"	Longitude:	-87° 11' 34.24"		
Nearest Town:	PENSACOLA, FL.	County:	ESCAMBIA		
USGS 7.5 minute Quad Sheet:		PENSACOLA, FL			
Address of HWM: NW END OF THE PENSACOLA/GULF BREEZE BRIDGE					
Remarks: BM - NOAA MON. (ESC. 4110). ELEV. HWM - EXCELLENT TRASH LINE 100FT. NW OF NW BRIDGE ABUTMENT AND 60FT. EAST OF CEMENT AND POLE BULKHEAD.					



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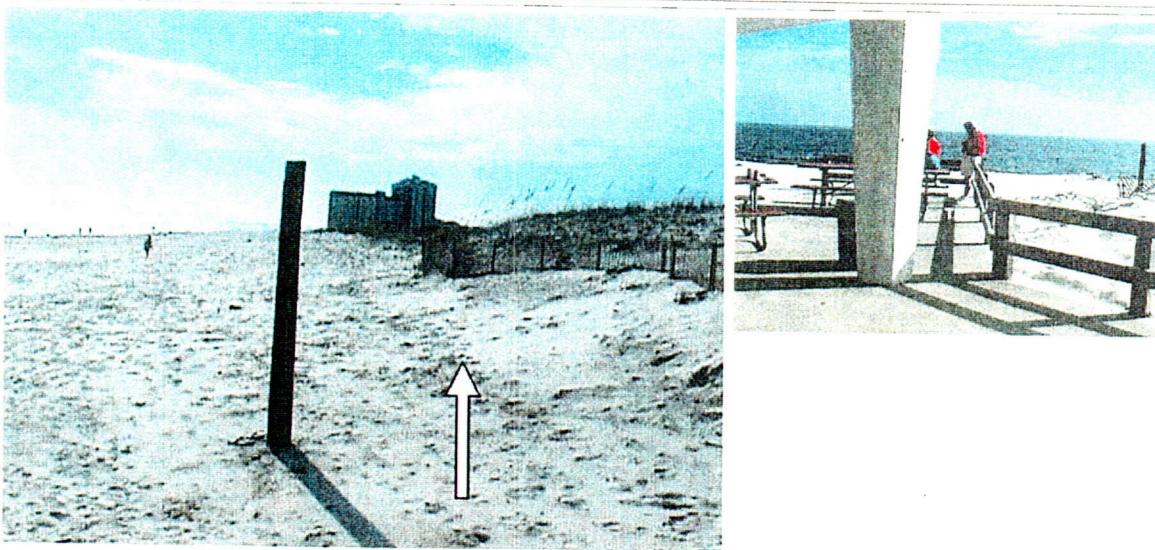


HWM Name:	GEPEFL03	Taken by:	LLOYD / HRABOVSKY		
HWM Elev. (ft, NGVD)	5.43	Agency:	COE		
HWM Type :	Outside	Date Taken:	04-Oct-98		
HWM Quality:	Excellent	State:	Florida		
Latitude:	30° 23' 59.80"	Longitude:	-87° 14' 32.00"		
Nearest Town:	PENSACOLA, FL.	County:	ESCAMBIA		
USGS 7.5 minute Quad Sheet:		PENSACOLA, FL			
Address of HWM: BARRANCAS AVE. AT N. SIDE OF BAYOU CHICO BRIDGE					
Remarks: TBM NAIL - POWER POLE 40FT. N. OF THE END OF ROAD (BARRANCAS AVE.). POLE SUPPLIES POWER TO THE BRIDGE ATTENDANT BUILDING. HWM - EXCELLENT TRASH LINE 40FT. SOUTH OF STEPS ON WEST SIDE OF BRIDGE AND INLINE W/FIRST CEMENT SUPPORT PILING LOOKING SOUTH.					



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HWM Name:	GEPBFL01	Taken by:	LLOYD / HRABOVSKY		
HWM Elev. (ft, NGVD)	11.35	Agency:	COE		
HWM Type :	W.H.R.U.	Date Taken:	04-Oct-98		
HWM Quality:	Fair	State:	Florida		
Latitude:	30° 17' 54.00"	Longitude:	-87° 24' 51.00"		
Nearest Town:	GULF BEACH, FL.	County:	ESCAMBIA		
USGS 7.5 minute Quad Sheet:		PERDIDO BAY, FL/AL			
Address of HWM: JOHNSON BEACH STATE PARK					
Remarks: TBM - CHISELED SQUARE ON SW CORNER OF CONCRETE SLAB AT JOHNSON BCH. PICNIC PAVILLION. ELEV. 13.71 N.G.V.D. HWM - FAIR WHRU AT BASE OF DUNE 100FT. WSW OF PICNIC PAVILLION AT JOHNSON BEACH.					



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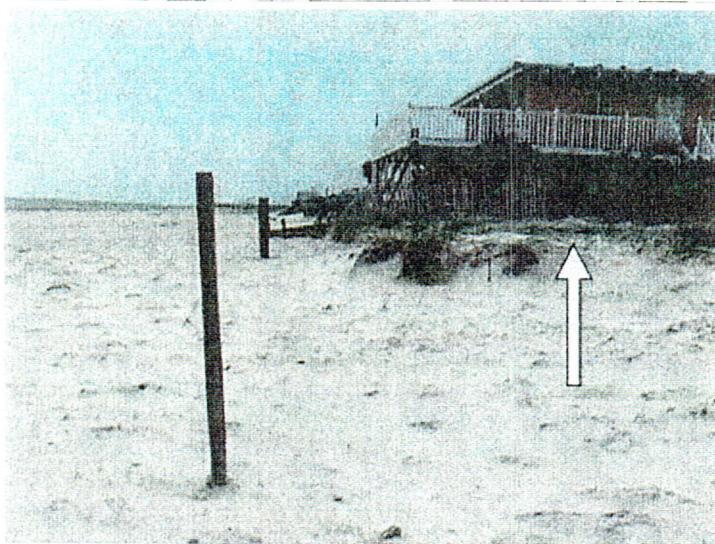


HWM Name:	GEPBFL02	Taken by:	LLOYD / HRABOVSKY		
HWM Elev. (ft, NGVD)	13.64	Agency:	COE		
HWM Type :	Outside	Date Taken:	04-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	30° 17' 45.96"	Longitude:	-87° 26' 09.24"		
Nearest Town:	PERDIDO,FL.	County:	ESCAMBIA		
USGS 7.5 minute Quad Sheet:		PERDIDO BAY, FL/AL			
Address of HWM: 14007 STATE RD. 292, PERDIDO, FL.					
Remarks: FL. DNR BM - R -27- 1973. ELEV. 12.50 FT. N.G.V.D. HWM - GOOD TRASHLINE IN DUNES 50FT. E. OF RESIDENCE AT 14007 ST. RD.292 PERDIDO,FL.					



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HWM Name:	GEPBFL03	Taken by:	LLOYD / HRABOVSKY
HWM Elev. (ft, NGVD)	9.93	Agency:	COE
HWM Type :	Outside	Date Taken:	04-Oct-98
HWM Quality:	Good	State:	Florida
Latitude:	30° 17' 45.96"	Longitude:	-87° 26' 09.24"
Nearest Town:	PERDIDO, FL.	County:	ESCAMBIA
USGS 7.5 minute Quad Sheet: PERDIDO BAY, FL/AL			
Address of HWM: SAME AS GEPBFL01			
Remarks: FL. DNR MON. = SAME AS GEPBFL02 HWM - GOOD WASHLINE 25FT. SW OF GEPBFL02 AND 35FT. E. OF RESIDENCE.			



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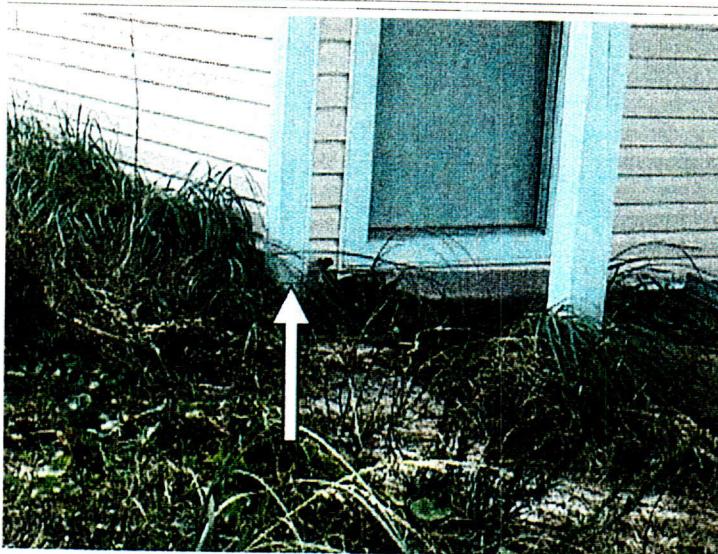


HWM Name:	GEPBFL04	Taken by:	LLOYD / HRABOVSKY
HWM Elev. (ft, NGVD)	10.05	Agency:	COE
HWM Type :	Outside	Date Taken:	05-Oct-98
HWM Quality:	Excellent	State:	Florida
Latitude:	30° 16' 58.91"	Longitude:	-87° 30' 39.24"
Nearest Town:	PERDIDO, FL.	County:	ESCAMBIA
USGS 7.5 minute Quad Sheet: PERDIDO BAY, FL/AL			
Address of HWM: 17075 ST. RD. 292, PERDIDO, FL.			
Remarks: FL. DNR BM. - (R - 3 -ESCM - RESET - 1981). ELEV. 10.10FT. N.G.V.D. HWM - EXCELLENT TRASHLINE 50FT. N. OF RESIDENCE AND 120FT. S. OF C/L OF RD.			



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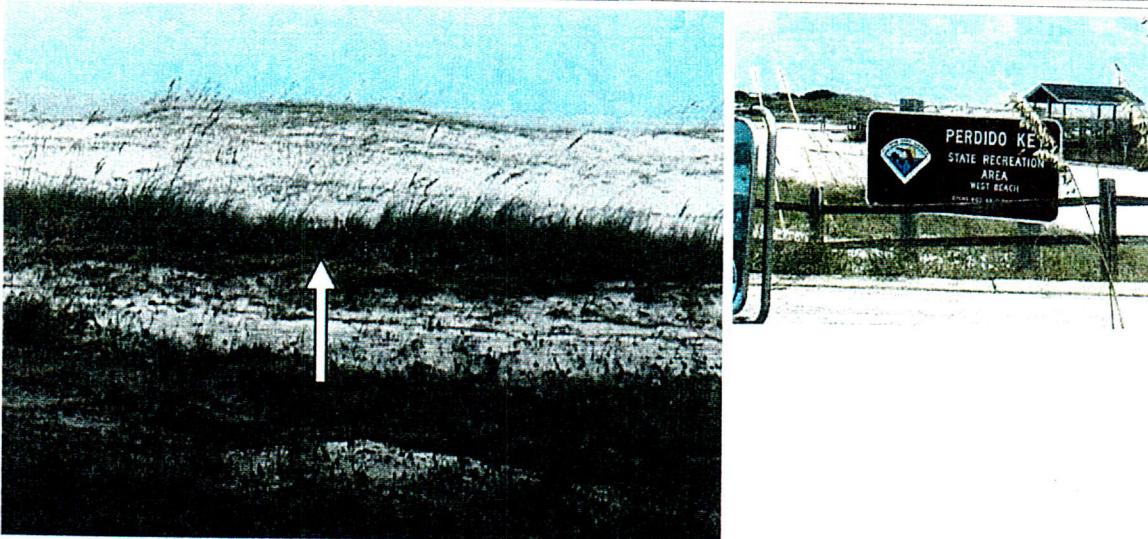


HWM Name:	GEPBFL05	Taken by:	LLOYD / HRABOVSKY
HWM Elev. (ft, NGVD)	10.11	Agency:	COE
HWM Type :	Outside	Date Taken:	05-Oct-98
HWM Quality:	Excellent	State:	Florida
Latitude:	30° 16' 58.91"	Longitude:	-87° 30' 39.24"
Nearest Town:	PERDIDO,FL.	County:	ESCAMBIA
USGS 7.5 minute Quad Sheet: PERDIDO BAY, FL/AL			
Address of HWM: SAME AS GEPBFL04			
Remarks:	BM - SAME AS GEPBFL04 HWM - EXCELLENT SEEDLINE ON N. WALL (FRONT WALL OF HOUSE). A BLACK TIC MARK ON NE CORNER OF HOUSE AND 6" ABOVE GROUND MARKS HWM.		



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HWM Name:	GEPBFL06	Taken by:	LLOYD / HRABOVSKY
HWM Elev. (ft, NGVD)	9.21	Agency:	COE
HWM Type :	Outside	Date Taken:	05-Oct-98
HWM Quality:	Excellent	State:	Florida
Latitude:	30° 17' 22.16"	Longitude:	-87° 28' 42.96"
Nearest Town:	PERDIDO, FL.	County:	ESCAMBIA
USGS 7.5 minute Quad Sheet: PERDIDO BAY, FL/AL			
Address of HWM: PERDIDO KEY STATE RECREATION AREA - WEST BEACH			
Remarks: FL. DNR. BM. - (R - 13 - RESET - 1981 - ESCM). ELEV. 6.70FT. N.G.V.D. HWM - EXCELLENT TRASH AND WATER LINE ON SMALL DUNE 70FT. W. OF ST. REC. AREA PARKING LOT 80FT. S. OF C/L OF ST. RD. 292.			



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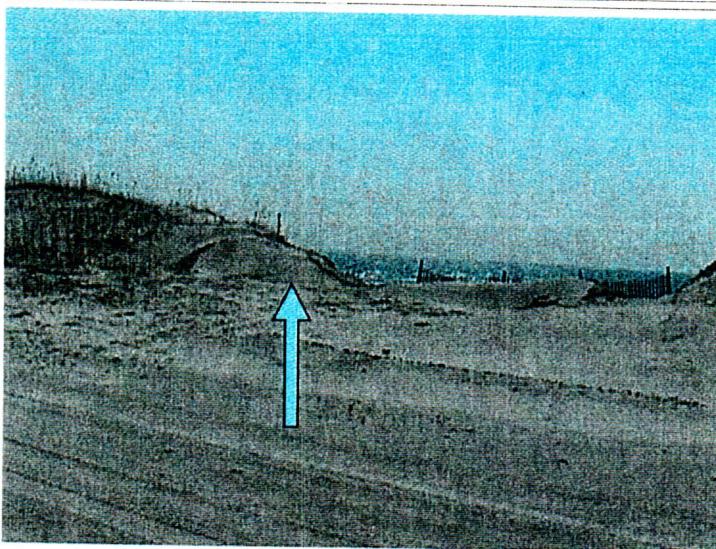


HWM Name:	GEPBFL07	Taken by:	LLOYD / HRABOVSKY		
HWM Elev. (ft, NGVD)	10.83	Agency:	COE		
HWM Type :	Outside	Date Taken:	05-Oct-98		
HWM Quality:	Excellent	State:	Florida		
Latitude:	30° 17' 38.33"	Longitude:	-87° 27' 05.40"		
Nearest Town:	PERDIDO, FL.	County:	ESCAMBIA		
USGS 7.5 minute Quad Sheet:		PERDIDO BAY, FL/AL			
Address of HWM: WEST OF 14799 PERDIDO SHORES WEST CONDO'S.					
Remarks: FL. DNR. BM. - (R- 22- ESCM - RESET - 1981). ELEV. 12.80FT. N.G.V.D. HWM - EXCELLENT TRASH AND WATER LINES IN DUNES, 35FT. S. OF C/L OF ST. RD. 292 AND 120FT. W. OF PERDIDO SHORES WEST CONDO'S.					



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HWM Name:	GESHFL01	Taken by:	LLOYD / HRABOVSKY		
HWM Elev. (ft, NGVD)	7.99	Agency:	COE		
HWM Type :	W.H.R.U.	Date Taken:	02-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	30° 22' 08.00"	Longitude:	-86° 55' 57.00"		
Nearest Town:	NAVARRE BEACH, FL.	County:	ESCAMBIA		
USGS 7.5 minute Quad Sheet:		South of Holley, FL			
Address of HWM: APPROX. 1 MILE FROM THE WEST END OF NAVARRE BEACH					
Remarks: BM IS A FL.DNR. BM (R - 188 ESCM - 1973). ELEV. 12.46 N.G.V.D. HWM - IS A GOOD WASHLINE 15FT. WEST OF DNR BM AND 30FT. SOUTH OF C/L OF RD.					

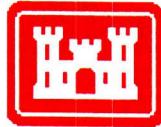


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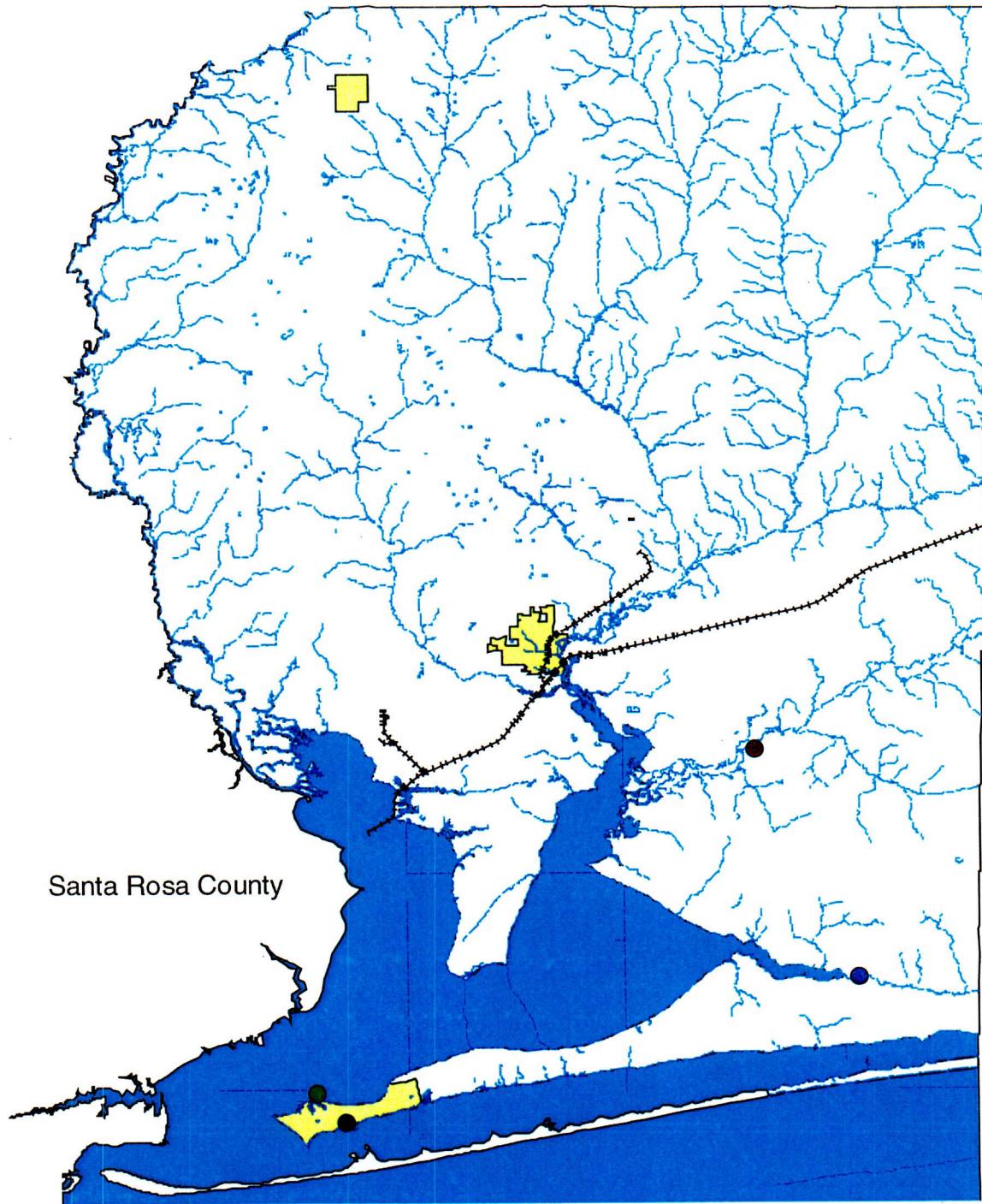
HWM Name:	GESHFL02	Taken by:	LLOYD / HRABOVSKY
HWM Elev. (ft, NGVD)	7.53	Agency:	COE
HWM Type :	W.H.R.U.	Date Taken:	02-Oct-98
HWM Quality:	Good	State:	Florida
Latitude:	30° 22' 08.00"	Longitude:	-86° 55' 57.00"
Nearest Town:	NAVARRE BEACH, FL.	County:	ESCAMBIA
USGS 7.5 minute Quad Sheet: South of Holley, FL			
Address of HWM: WEST OF NAVARRE BEACH, FL. APPROX. 7 MILES.			
Remarks: BM IS A FL. DNR BM (R - 188 ESCM - 1973) ELEV. 12.46 N.G.V.D. HWM - 25FT. WEST OF GESHFL1 AND 30FT. SOUTH OF C/L OF ST. RD. 399 (TOLL ROAD.)			



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Appendix G

Santa Rosa County, FL High Water Marks



Hurricane Georges, September 1998



HWM Name:	GEGBFL07	Taken by:	LLOYD / HRABOVSKY
HWM Elev. (ft, NGVD)	3.99	Agency:	COE
HWM Type :	Outside	Date Taken:	03-Oct-98
HWM Quality:	Good	State:	Florida
Latitude:	30° 21' 25.00"	Longitude:	-87° 09' 39.00"
Nearest Town:	GULF BREEZE, FL.	County:	SANTA ROSA
USGS 7.5 minute Quad Sheet: GULF BREEZE, FL			
Address of HWM: 1409 SOUND VIEW TRAIL, GULF BREEZE, FL.			
Remarks: TBM FIRE PLUG - BOLT ON N. SIDE OF HYDRANT PAINTED ORANGE. ELEV. 6.24 N.G.V.D. LOCATED AT HEAD OF DRIVEWAY. 1409 SOUND VIEW TRAIL. HWM - GOOD SEEDLINE ON BLACK SCREEN FENCING 4FT. E. OF DRIVEWAY AND 25FT. S. OF C/L OF RD.			



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HWM Name:	GEGBFL08	Taken by:	LLOYD / HRABOVSKY
HWM Elev. (ft, NGVD)	7.72	Agency:	COE
HWM Type :	Outside	Date Taken:	03-Oct-98
HWM Quality:	Excellent	State:	Florida
Latitude:	30° 22' 25.00"	Longitude:	-87° 10' 37.00"
Nearest Town:	GULF BREEZE, FL.	County:	SANTA ROSA
USGS 7.5 minute Quad Sheet: GULF BREEZE, FL			
Address of HWM: SE END OF OLD PENSACOLA/GULF BREEZE BRIDGE			
Remarks: U.S COAST AND GEODEDIC SURVEY BM (T25 - 1942). ELEV. 14.63 FT. N.G.V.D HWM - EXCELLENT TRASHLINE 100FT. SE OF NW BRIDGE RAIL AND 15FT. EAST OF THE NORTHERN MOST PICNIC STRUCTURE.			



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HWM Name:	GENAFL04	Taken by:	LLOYD / HRABOVSKY		
HWM Elev. (ft, NGVD)	5.06	Agency:	COE		
HWM Type :	Outside	Date Taken:	01-Oct-98		
HWM Quality:	Excellent	State:	Florida		
Latitude:	30° 26' 23.00"	Longitude:	-86° 52' 00.00"		
Nearest Town:	NAVARRE, FL.	County:	SANTA ROSA		
USGS 7.5 minute Quad Sheet:		NAVARRE, FL			
Address of HWM: 2939 HWY 87, NAVARRE, FL. 32566					
Remarks: TAPE DOWN FROM 1995 HWM TO GET 1998 HWM. HWM - EXCELLENT SEEDLINE ON SOUTH SIDE OF TRAILER. -2.02FT. BELOW 1995 HWM.					



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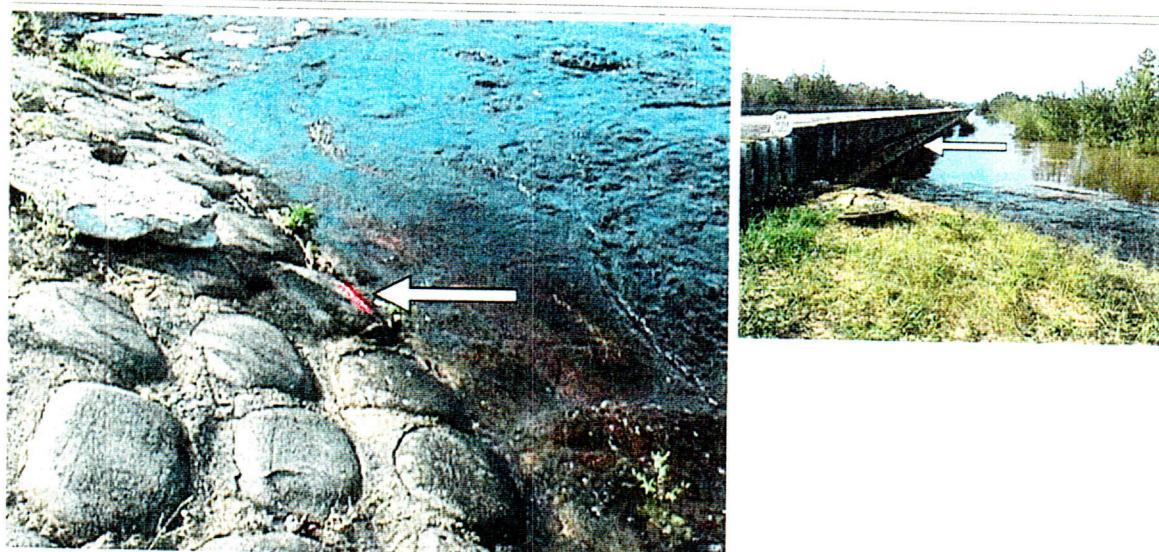


HWM Name:	GENAFL05	Taken by:	LLOYD / HRABOVSKY		
HWM Elev. (ft, NGVD)	5.53	Agency:	COE		
HWM Type :	Outside	Date Taken:	01-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	30° 26' 23.00"	Longitude:	-86° 52' 00.00"		
Nearest Town:	NAVARRE, FL.	County:	SANTA ROSA		
USGS 7.5 minute Quad Sheet:		NAVARRE, FL			
Address of HWM: HWY 87 BRIDGE THAT CROSSES EAST RIVER.					
Remarks: BM IS BRASS DISK ON SE BRIDGE ABUTMENT. (ELEV. 15.28FT. N.G.V.D) HWM - GOOD SEEDLINE ON 3" PINE TREE 40FT. U.S AND SE OF U.S BRIDGE ABUTMENT, MARKED WITH A 20d NAIL, APPROX. 1.5FT. ABOVE GROUND.					



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HWM Name:	GEWBFL01	Taken by:	LLOYD / HRABOVSKY		
HWM Elev. (ft, NGVD)	16.74	Agency:	COE		
HWM Type :	Outside	Date Taken:	01-Oct-98		
HWM Quality:	Excellent	State:	Florida		
Latitude:	30° 34' 16.00"	Longitude:	-86° 55' 27.00"		
Nearest Town:	NAVARRE, FL.	County:	SANTA ROSA		
USGS 7.5 minute Quad Sheet:		WARD BASIN, FL			
Address of HWM: HWY 87 BRIDGE OVER YELLOW RIVER.					
Remarks: BM IS A FL. DOT BRASS DISK ON SE BRIDGE ABUTTMENT.(ELEV. 24.43 FT.N.G.V.D.) HWM1 - IS 30FT. U.S OF SE BRIDGE ABUTTMENT ON THE SE BRIDGE APRON.					



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HWM Name:	GEWBFL02	Taken by:	LLOYD / HRABOVSKY		
HWM Elev. (ft, NGVD)	16.63	Agency:	COE		
HWM Type :	Outside	Date Taken:	01-Oct-98		
HWM Quality:	Excellent	State:	Florida		
Latitude:	30° 34' 16.00"	Longitude:	-86° 55' 27.00"		
Nearest Town:	NAVARRE, FL.	County:	SANTA ROSA		
USGS 7.5 minute Quad Sheet:		WARD BASIN, FL			
Address of HWM: HWY 87 BRIDGE ACROSS YELLOW RIVER.					
Remarks: BM IS A FL. DOT BRASS DISK ON SE BRIDGE ABUTTMENT. (ELEV. 24.43FT.N.G.V.D) HWM2 - IS 35FT. D.S OF SW BRIDGE ABUTTMENT ON SW BRIDGE APRON.					



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HWM Name:	GEWBFL03	Taken by:	LLOYD / HRABOVSKY		
HWM Elev. (ft, NGVD)	18.50	Agency:	COE		
HWM Type :	Outside	Date Taken:	03-Oct-98		
HWM Quality:	Excellent	State:	Florida		
Latitude:	30° 34' 16.00"	Longitude:	-86° 55' 27.00"		
Nearest Town:	NAVARRE, FL.	County:	SANTA ROSA		
USGS 7.5 minute Quad Sheet:		WARD BASIN, FL			
Address of HWM: HWY 87 BRIDGE OVER YELLOW RIVER					
Remarks: BM IS A FL. DOT BRASS DISK ON SE BRIDGE ABUTTMENT. (ELEV. 24.43 FT. N.G.V.D) HWM - EXCELLENT TRASHLINE 65FT. SSE OF U.S SE BRIDGE ABUTTMENT AND 40FT. U.S OF C/L OF ST. HWY 87. (no photo)					



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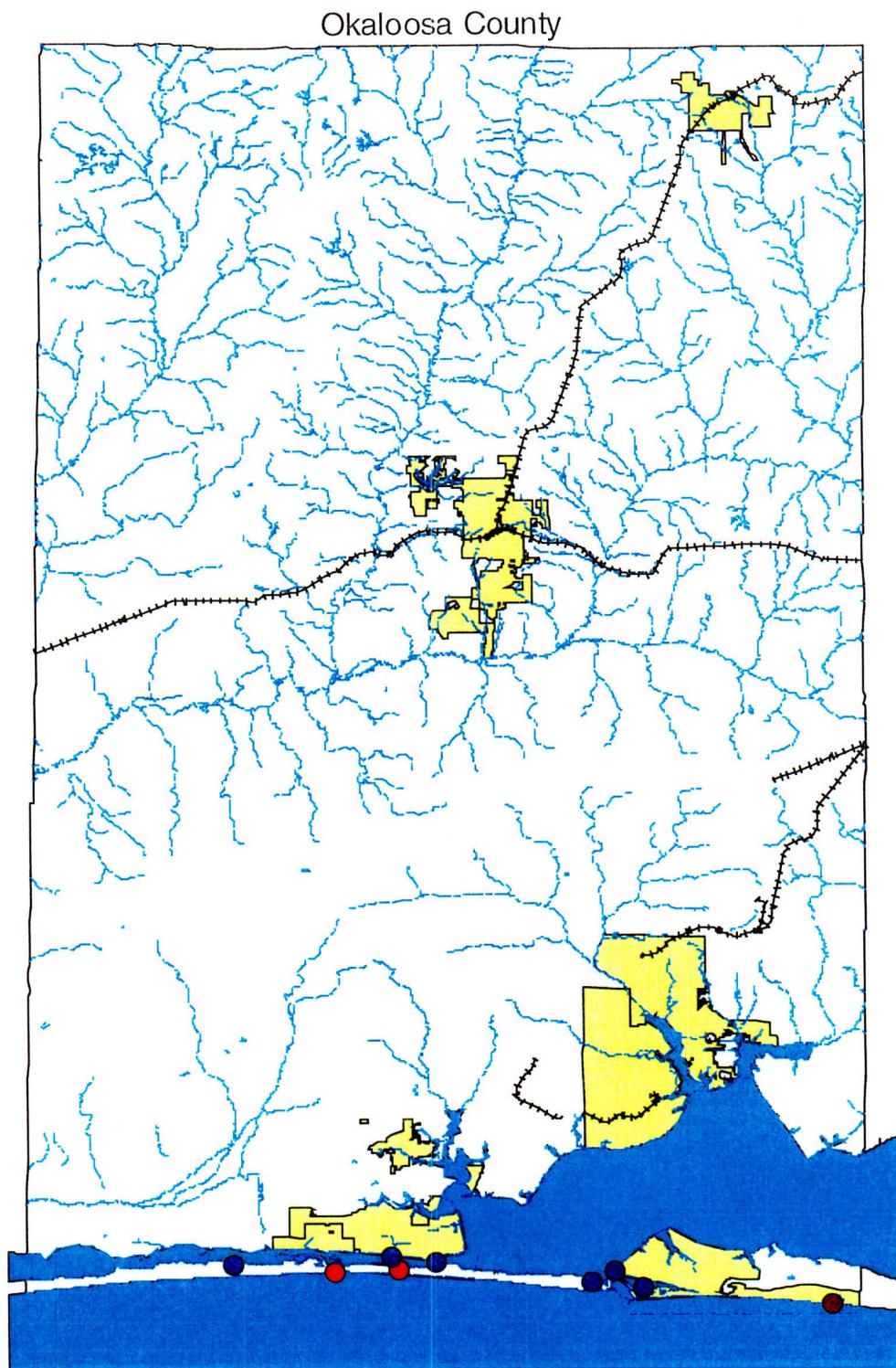
HWM Name:	GEWBFL04	Taken by:	LLOYD / HRABOVSKY		
HWM Elev. (ft, NGVD)	18.05	Agency:	COE		
HWM Type :	Outside	Date Taken:	03-Oct-98		
HWM Quality:	Excellent	State:	Florida		
Latitude:	30° 34' 16.00"	Longitude:	-86° 55' 27.00"		
Nearest Town:	NAVARRE, FL.	County:	SANTA ROSA		
USGS 7.5 minute Quad Sheet:		WARD BASIN, FL			
Address of HWM: HWY 87 BRIDGE OVER YELLOW RIVER.					
Remarks: BM SAME AS GEWBFL03 HWM - IS A EXCELLENT TRASHLINE 20FT. SW OF SW BRIDGE ABUTTMENT AND 30FT. D.S OF C/L OF HWY 87.					



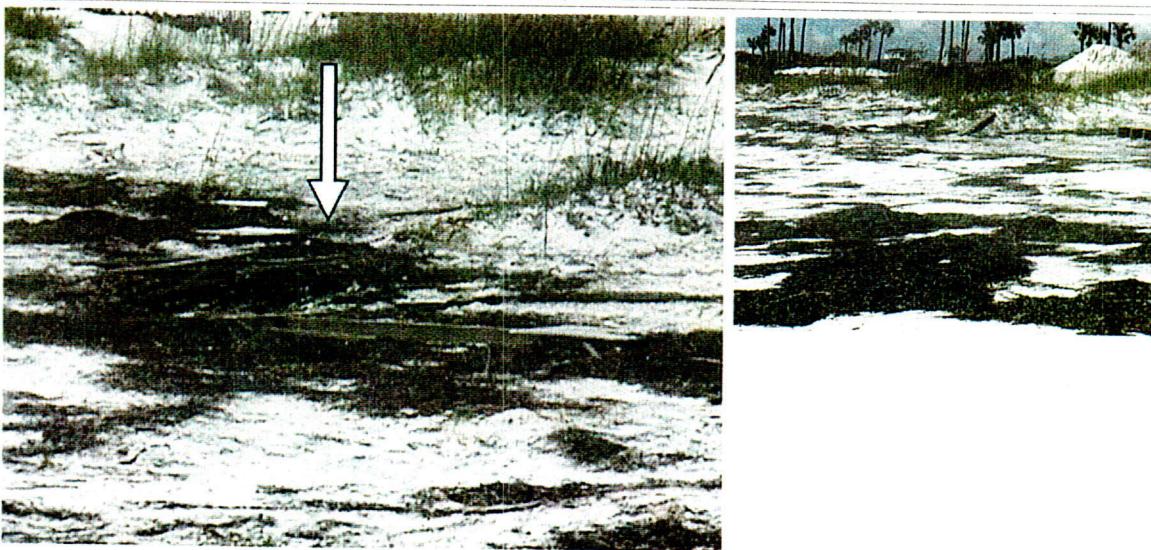
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Appendix H

Okaloosa County, FL High Water Marks



Hurricane Georges, September 1998



HWM Name:	GEDEFLO1	Taken by:	DAVIS / GROCE
HWM Elev. (ft, NGVD)	10.75	Agency:	COE
HWM Type :	Wave Height	Date Taken:	03-Oct-98
HWM Quality:	Good	State:	Florida
Latitude:	30° 22' 51.00"	Longitude:	-86° 24' 37.00"
Nearest Town:	DESTIN, FL.	County:	OKALOOSA
USGS 7.5 minute Quad Sheet: DESTIN, FL			
Address of HWM: S. OF INTERSECTION AT SCENIC HWY 98 & GRAND PALMS			
Remarks: CHISELED SQUARE ON NW. CURB OF OLD HWY 98 AND GRAND PALMS BLVD. ACROSS FROM REST AREA . ELEV. 13.59FT. N.G.V.D. WHRU1- GOOD TRASH LINE ON BEACH 300FT. SW. OF R.P SQUARE. WHRU2 - GOOD TRASH LINE ON BEACH 100FT. WEST OF WHRU1.			



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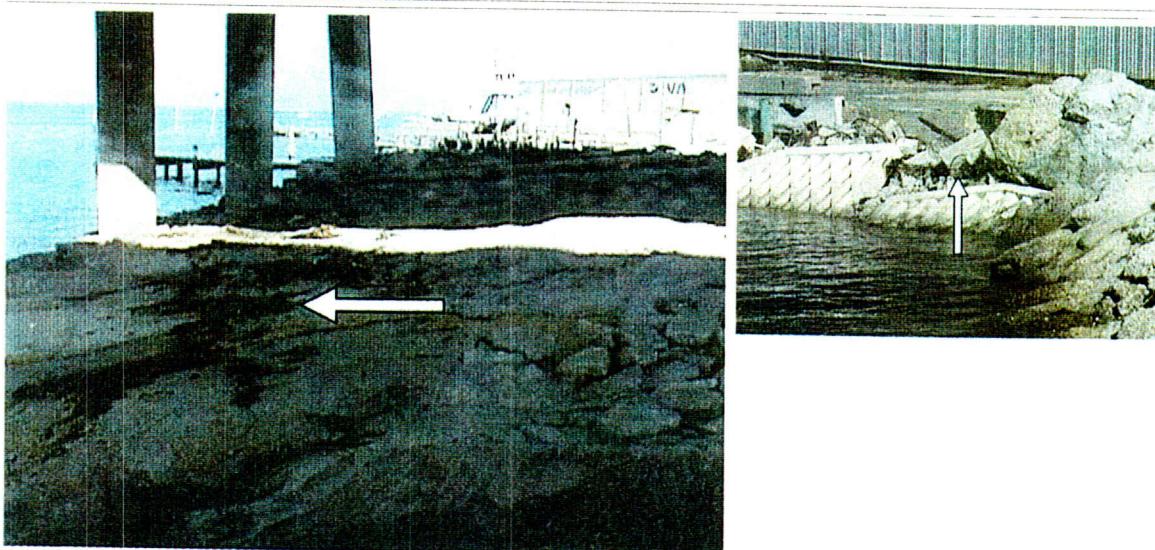


HWM Name:	GEFWFL01	Taken by:	DAVIS / GROCE		
HWM Elev. (ft, NGVD)	4.25	Agency:	COE		
HWM Type :	Outside	Date Taken:	03-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	30° 23' 20.00"	Longitude:	-86° 30' 04.00"		
Nearest Town:	DESTIN, FL.	County:	OKALOOSA		
USGS 7.5 minute Quad Sheet:		FT. WALTON BEACH, FL			
Address of HWM: SUN KING TOWERS - DESTIN HARBOR					
Remarks: TBM- FIRE PLUG - TOP OF FIRE HYDRANT 40FT. SE. OF SE. CORNER OF SUN KING TOWERS CLUB HOUSE. HWM1- G/TRASHLINE ON DOCK WALKWAY 15FT. NE. OF CLUB HOUSE. HWM2 - G/TRASHLINE ON DOCK WALKWAY, 5FT E. OF HWM1. HWM3 - G/TRASHLINE ON LITTLE FENCE N. OF POOL.					



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Hurricane Georges, September 1998

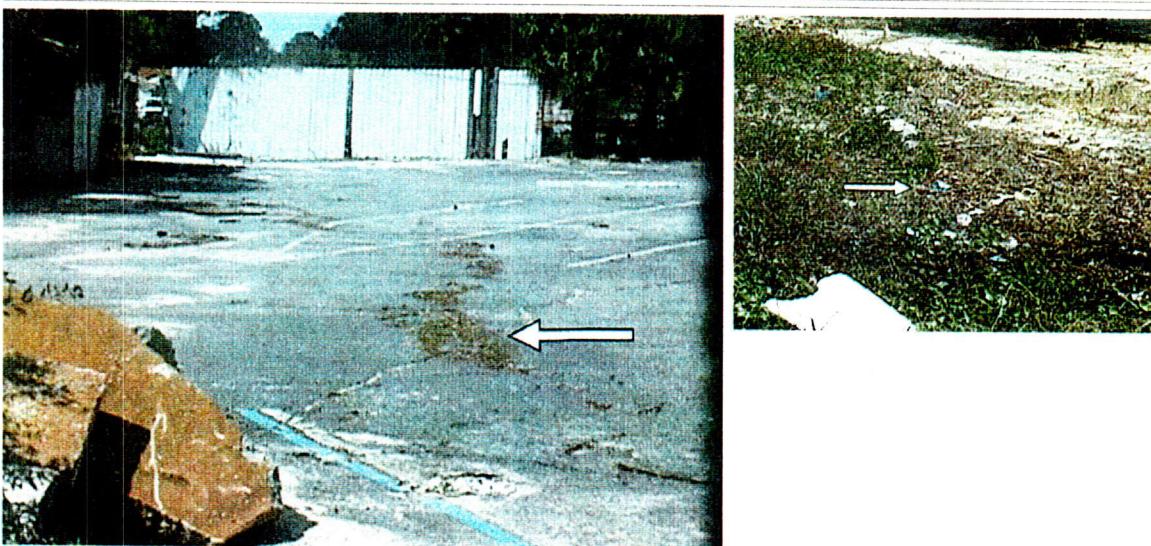


HWM Name:	GEFWFL02	Taken by:	DAVIS / GROCE
HWM Elev. (ft, NGVD)	5.20	Agency:	COE
HWM Type :	Outside	Date Taken:	04-Oct-98
HWM Quality:	Good	State:	Florida
Latitude:	30° 23' 50.00"	Longitude:	-86° 30' 56.00"
Nearest Town:	DESTIN, FL.	County:	OKALOOSA
USGS 7.5 minute Quad Sheet: FT. WALTON BEACH, FL			
Address of HWM: DESTIN SIDE OF EAST PASS BRIDGE			
Remarks:	FL. DOT MON.- (28 - 498). NE. CORNER OF BRIDGE. ELEV. 28.5FT. N.G.V.D. HWM4 - GOOD TRASH&DEBRIS LINE UN/BRIDGE, 100FT. S. OF N. SIDE OF BRIDGE. HWM5 - GOOD TRASH&DEBRIS LINE 50FT. N. OF HWM4. HWM6 - GOOD TRASH&DEBRIS LINE AT DESTIN MARINE BOAT STORAGE.		



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HWM Name:	GEFWFL03	Taken by:	DAVIS / GROCE
HWM Elev. (ft, NGVD)	4.83	Agency:	COE
HWM Type :	Outside	Date Taken:	04-Oct-98
HWM Quality:	Good	State:	Florida
Latitude:	30° 20' 55.00"	Longitude:	-86° 36' 06.00"
Nearest Town:	Ft. Walton Beach F	County:	OKALOOSA
USGS 7.5 minute Quad Sheet: FT. WALTON BEACH, FL			
Address of HWM: GRORGIOS RESTURANT AND BROOKS STREET LANDING.			
Remarks: TBM NAIL- NAIL IN POWER POLE #33742-51577 NR. SW. END OF BROOKS BRIDGE. HWM7 - GOOD TRASH LINE IN PARKING LOT. HWM8&9 - GOOD TRASH & DEBRIS LINE N. OF PARKING LOT IN SAND AND GRASS.			



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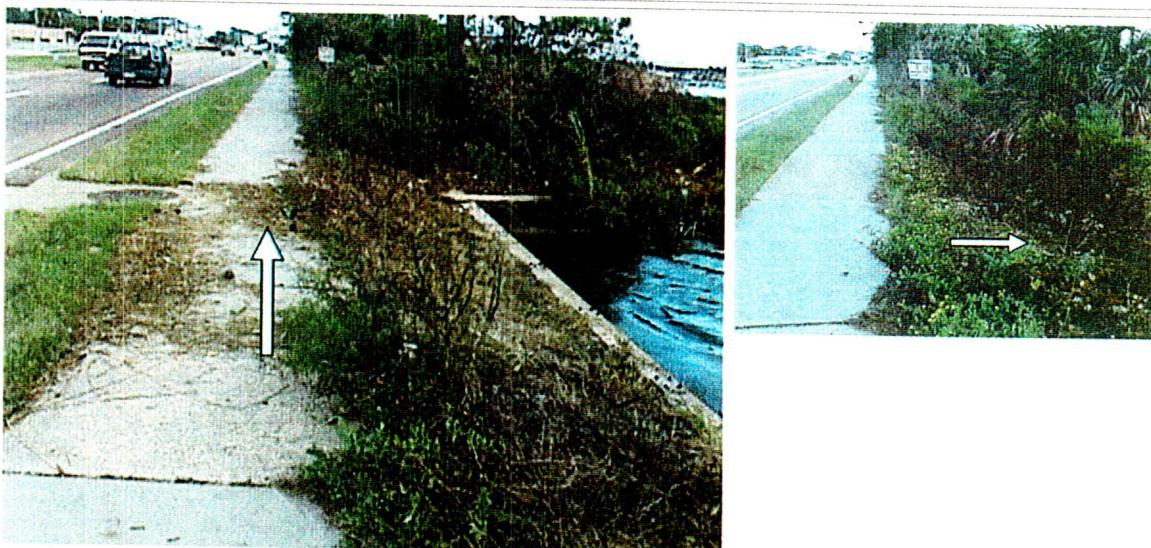


HWM Name:	GEFWFL04	Taken by:	DAVIS / GROCE
HWM Elev. (ft, NGVD)	8.75	Agency:	COE
HWM Type :	Outside	Date Taken:	04-Oct-98
HWM Quality:	Good	State:	Florida
Latitude:	30° 23' 51.00"	Longitude:	-86° 37' 11.00"
Nearest Town:	Ft. Walton Beach F	County:	OKALOOSA
USGS 7.5 minute Quad Sheet: FT. WALTON BEACH, FL			
Address of HWM: ON BEACH AT EMERALD ISLE CONDO'S			
Remarks: FL. DNR MON. (R - 4 - OKLU - 95). ELEV. 8.00FT. N.G.V.D. EM/ISLE PARKING LOT. WHRU10 - 250FT.SW. OF MON. GOOD TRASH AND DEBRIS LINE. WHRU11 - 200FT. EAST OF WHRU10, GOOD TRASH AND DEBRIS LINE.			



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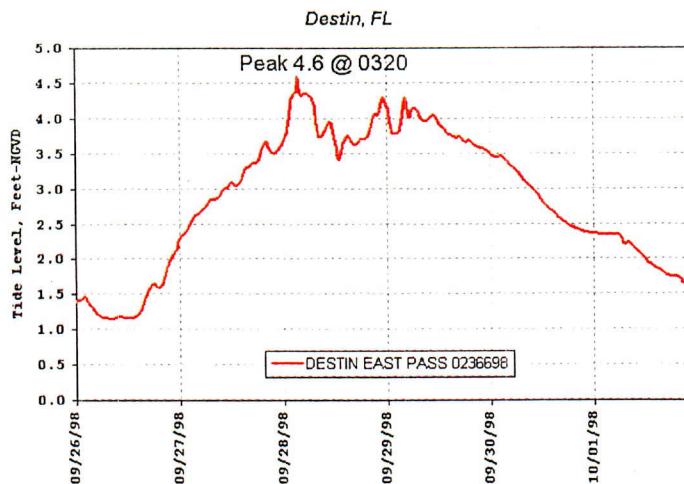


HWM Name:	GEFWFL05	Taken by:	DAVIS / GROCE		
HWM Elev. (ft, NGVD)	4.96	Agency:	COE		
HWM Type :	Outside	Date Taken:	04-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	30° 24' 16.00"	Longitude:	-86° 37' 23.00"		
Nearest Town:	Ft. Walton Beach F	County:	OKALOOSA		
USGS 7.5 minute Quad Sheet:		FT. WALTON BEACH, FL			
Address of HWM: HWY 98 AT BAYVIEW 98 CENTER (SOUTH SIDE)					
Remarks: COAST AND GEODEDIC SURVEY BM.(J - 297 - 1967). ELEV. 4.06FT. N.G.V.D. HWM12 - GOOD TRASH LINE 150FT. DUE S. OF MON. HWM13 - GOOD TRASH LINE 75FT. EAST OF HWM12. HWM14 - GOOD TRASH LINE 75FT. WEST OF HWM12.					



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HWM Name:	GEFWFL06	Taken by:	TIDE GAGE		
HWM Elev. (ft, NGVD)	4.60	Agency:	COE		
HWM Type :	Inside	Date Taken:	30-Sep-98		
HWM Quality:	Excellent	State:	Florida		
Latitude:	30° 23' 31.22"	Longitude:	-86° 31' 33.26"		
Nearest Town:	Destin	County:	Okaloosa		
USGS 7.5 minute Quad Sheet:		FT. WALTON BEACH, FL			
Address of HWM: East Pass at Destin, FL					
Remarks: Peak occurred 28 Sep 98 at 0320.					



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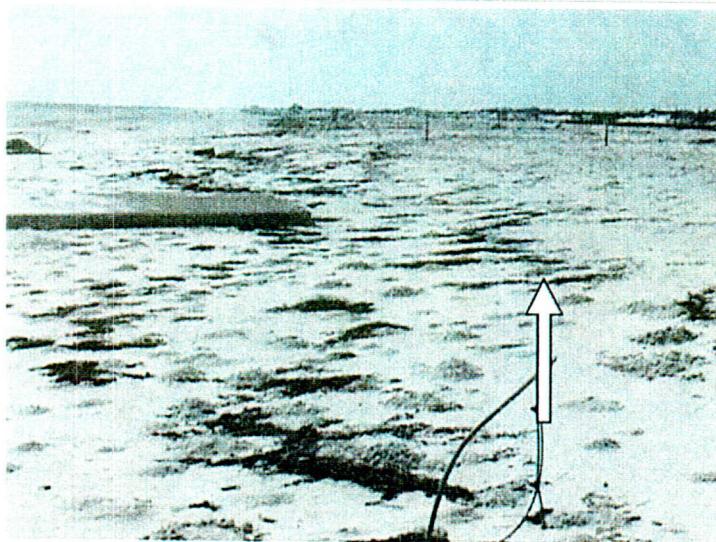


HWM Name:	GEMEFL01	Taken by:	DAVIS / GROCE		
HWM Elev. (ft, NGVD)	4.68	Agency:	COE		
HWM Type :	Outside	Date Taken:	04-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	30° 24' 01.01"	Longitude:	-86° 41' 59.00"		
Nearest Town:	Ft. Walton Beach F	County:	Okaloosa		
USGS 7.5 minute Quad Sheet:		Mary Esther, FL			
Address of HWM: Ferry Boat Landing on Santa Rosa Island.					
Remarks: TBM SQUARE - A CHISELED SQUARE, SW CORNER OF CONCRETE CURB, W. SIDE OF BLD. #9207. HWM01- GOOD TRASH LINE 200FT. DUE N. OF TBM. HWM02- GOOD TRASH LINE 300FT. NW. OF TBM, BEHIND BLD. #9201.					



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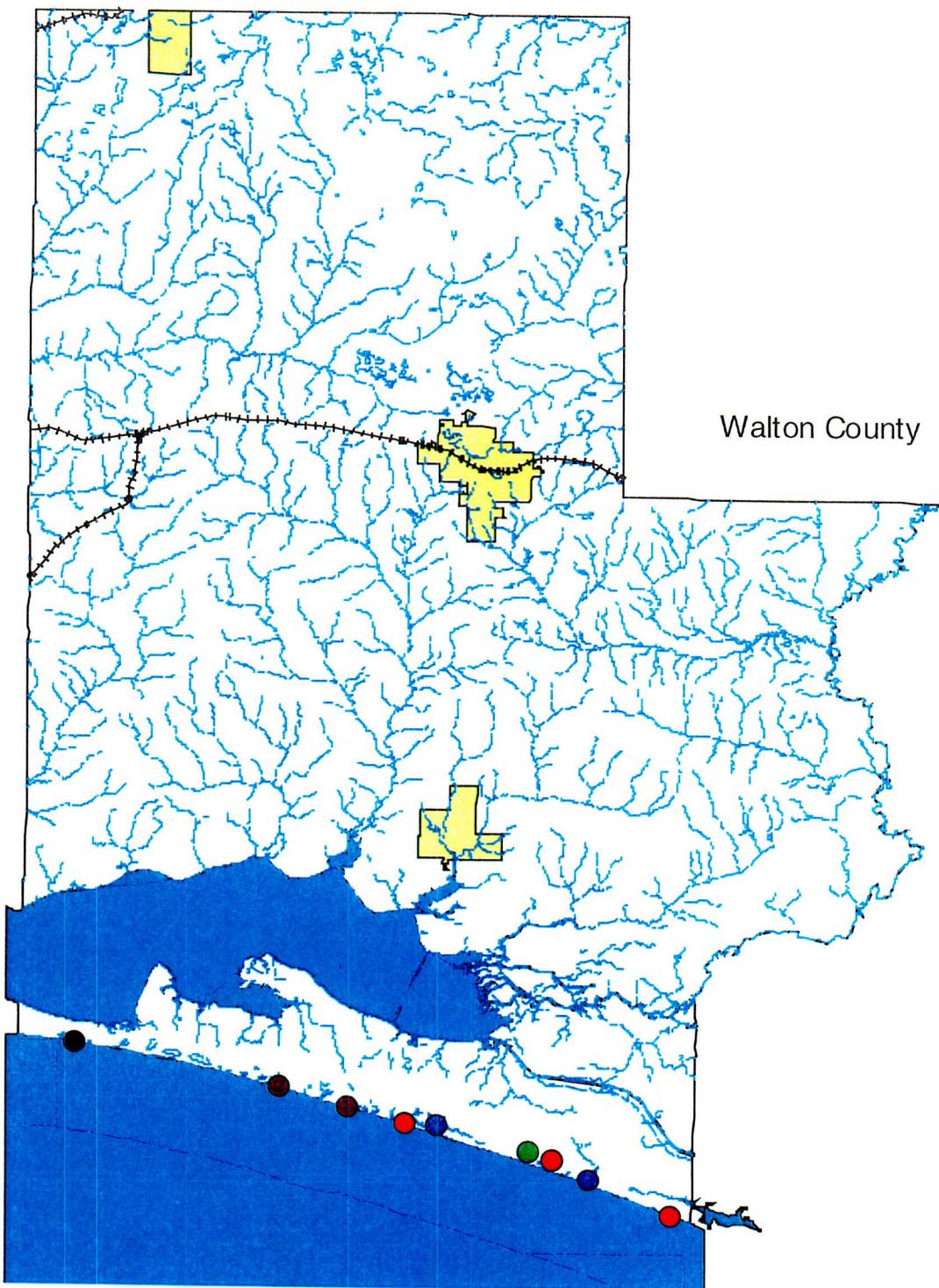
HWM Name:	GEMEFL02	Taken by:	DAVIS / GROCE
HWM Elev. (ft, NGVD)	8.47	Agency:	COE
HWM Type :	Wave Height	Date Taken:	04-Oct-98
HWM Quality:	Good	State:	Florida
Latitude:	30° 23' 50.00"	Longitude:	-86° 39' 02.00"
Nearest Town:	Ft. Walton Beach F	County:	Okaloosa
USGS 7.5 minute Quad Sheet: Mary Esther, FL			
Address of HWM: Vitro Sub Station on Santa Rosa Island.			
Remarks:	Average of 3 WHRU03-Good trash & seaweed line 100' Ft. S.W. of TBM. WHRU04-Good trash & seaweed line 100' Ft. west of WHRU03. WHRU05- Good trash & seaweed line 100' Ft. west of WHRU04.		



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Appendix I

Walton County, FL High Water Marks



Hurricane Georges, September 1998



HWM Name:	GECBFL01	Taken by:	DAVIS / GROCE		
HWM Elev. (ft, NGVD)	3.62	Agency:	COE		
HWM Type :	Outside	Date Taken:	03-Oct-98		
HWM Quality:		State:	Florida		
Latitude:	30° 22' 31.00"	Longitude:	-86° 21' 50.00"		
Nearest Town:	SAND DESTIN, FL.	County:	WALTON		
USGS 7.5 minute Quad Sheet:		CHOCTAW BEACH, FL			
Address of HWM: SAND DRIFT CONDIMINIUMS, U.S HWY 98					
Remarks: U.S.G.S BM - S-178 - 1957 . 75FT. N. OF C/L OF HWY 98, N. OF SAND DRIFT CONDO'S. ELEV. 23.06FT. N.G.V.D.					



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Hurricane Georges, September 1998

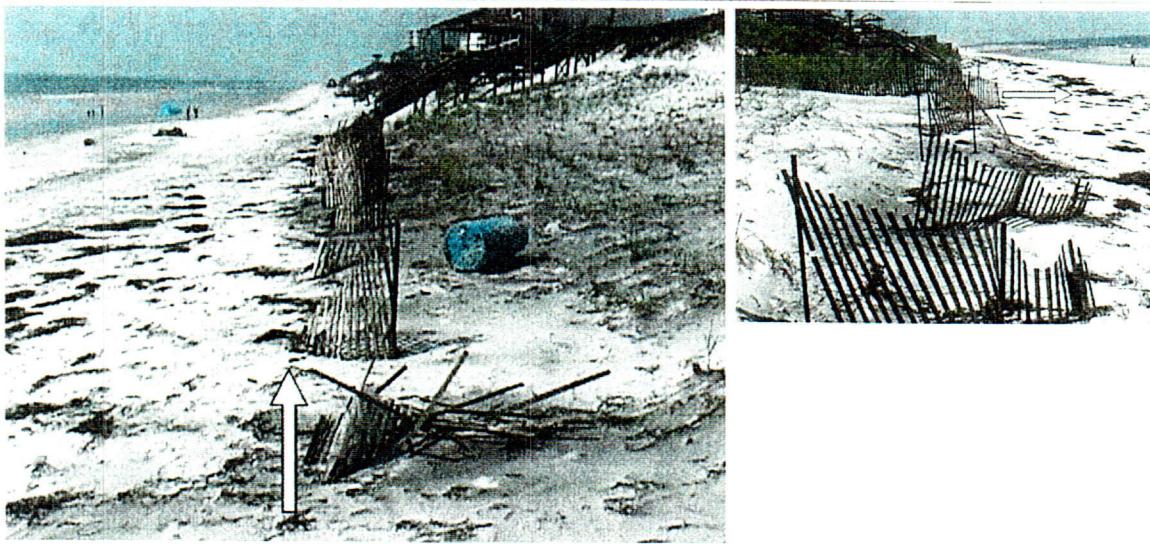


HWM Name:	GEGEFL01	Taken by:	DAVIS / GROCE
HWM Elev. (ft, NGVD)	10.38	Agency:	COE
HWM Type :	W.H.R.U.	Date Taken:	02-Oct-98
HWM Quality:	Good	State:	Florida
Latitude:	30° 21' 01.00"	Longitude:	-86° 14' 32.00"
Nearest Town:	DESTIN, FL	County:	WALTON
USGS 7.5 minute Quad Sheet: GRAYTON BEACH, FL			
Address of HWM: HWY 30-A AND OYSTER LAKE			
Remarks: TBM FIRE PLUG - 60FT. S. OF DUNE ALLEN REALITY CO. AND 25FT. N. OF C/L OF HWY 30-A. ELEV. 11.36 N.G.V.D. WHRU1 - TRASH LINE ON BCH. 300FT. SW. OF FIRE PLUG. WHRU2 - TRASH LINE 75FT. W. OF WHRU1.			



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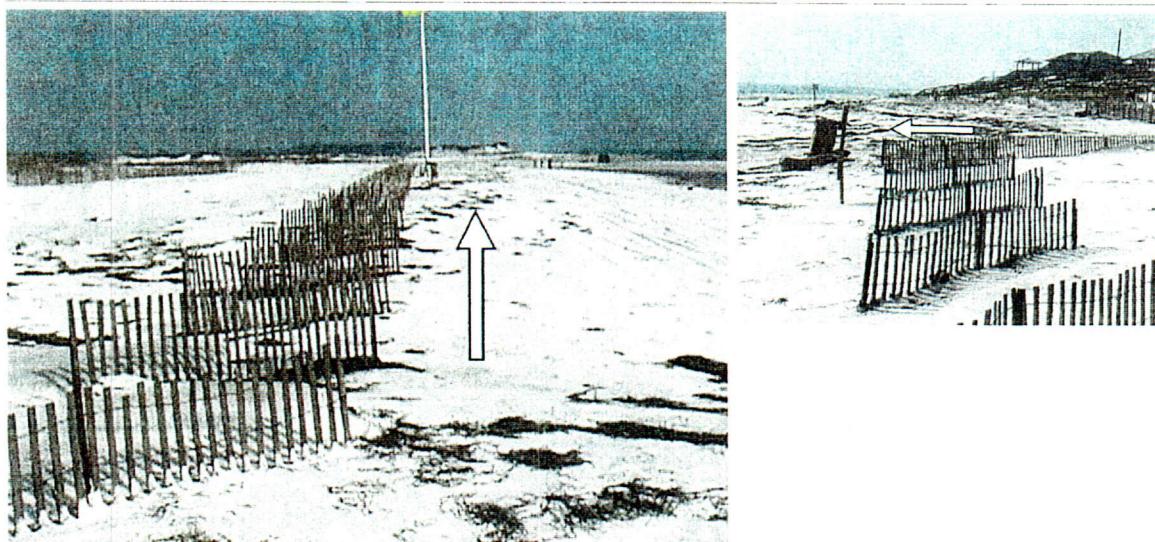


HWM Name:	GEGEFL02	Taken by:	DAVIS / GROCE		
HWM Elev. (ft, NGVD)	10.00	Agency:	COE		
HWM Type :	W.H.R.U.	Date Taken:	02-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	30° 20' 19.00"	Longitude:	-86° 12' 03.00"		
Nearest Town:	DESTIN, FL.	County:	WALTON		
USGS 7.5 minute Quad Sheet:		GRAYTON BEACH, FL			
Address of HWM: BLUE MT. BEACH - HWY 83 DEAD ENDS WITH BEACH.					
Remarks:	U.S. C&G MON. T-178 (1957) - ELEV. 23.06FT. N.G.V.D. - HWY 83 & SENIC RT. 30-A., 6FT. NW. OF POWER POLE ON SW. SIDE OF INTERSECTION. WHRU3 - TRASH LINE APPROX. 200FT. SE. OF BM. WHRU4 - TRASH LINE 100FT. WEST OF WHRU3.				



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HWM Name:	GEGEFL03	Taken by:	DAVIS / GROCE		
HWM Elev. (ft, NGVD)	8.67	Agency:	COE		
HWM Type :	W.H.R.U.	Date Taken:	02-Oct-98		
HWM Quality:	Fair	State:	Florida		
Latitude:	30° 19' 44.00"	Longitude:	-86° 09' 59.00"		
Nearest Town:	DESTIN, FL.	County:	WALTON		
USGS 7.5 minute Quad Sheet:		GRAYTON BEACH, FL			
Address of HWM: GRAYTON BEACH, WHERE CO. RD. 283 DEAD ENDS AT BCH.					
Remarks: RP NAIL - 60d NAIL ON E. SIDE OF A UTILITY POLE - ACROSS RD. FROM THREE STORY HOUSE ON 30FT. PILINGS. ELEV. 10.35FT. N.G.V.D. WHRU5 - DID NOT USE. WHRU6 - FAIR WEED LINE 400FT. SW. OF RP NAIL. WHRU7 - FAIR WEED LINE 400FT. SE. OF RP NAIL.					



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HWM Name:	GEGEFL04	Taken by:	DAVIS / GROCE		
HWM Elev. (ft, NGVD)	4.61	Agency:	COE		
HWM Type :	Outside	Date Taken:	02-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	30° 19' 39.00"	Longitude:	-86° 08' 52.00"		
Nearest Town:	DESTIN, FL.	County:	WALTON		
USGS 7.5 minute Quad Sheet:		GRAYTON BEACH, FL			
Address of HWM: HWY 30-A AT WESTERN LAKE					
Remarks:	FL. (SRD) BM - 1969., ELEV. 5.416FT. N.G.V.D.- SW. CORNER OF BRIDGE, 25FT. FROM C/L OF CO.RD. 30-A. HWM8 - GOOD TRASH LINE 75FT. W. OF BM., ON R/RAP. HWM9 - GOOD TRASH LINE 120FT. E. OF BM., ON R/RAP. HWM10 - POOR MUD LINE ON R/RAP, 120FT. NE. OF BM.				



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HWM Name:	GEPWFL01	Taken by:	DAVIS / GROCE		
HWM Elev. (ft, NGVD)	6.27	Agency:	COE		
HWM Type :	Outside	Date Taken:	01-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	30° 18' 45.00"	Longitude:	-86° 05' 34.00"		
Nearest Town:	SEA GROVE BEACH, FL	County:	WALTON		
USGS 7.5 minute Quad Sheet:		POINT WASHINGTON, FL			
Address of HWM: AT EASTERN LAKE					
Remarks:	RP NAIL - A 20d NAIL IN NE. POWER POLE, 75FT. FROM E. END OF BRIDGE. ELEV. 12.71FT. N.G.V.D. HWM1- GOOD TRASHLINE E. SIDE OF BRIDGE. 100FT. S. OF C/L OF RD. HWM2- GOOD TRASHLINE. HWM3- GOOD TRASHLINE.				



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HWM Name:	GEPWFL02	Taken by:	DAVIS / GROCE		
HWM Elev. (ft, NGVD)	9.57	Agency:	COE		
HWM Type :	Outside	Date Taken:	01-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	30° 18' 26.00"	Longitude:	-86° 04' 42.00"		
Nearest Town:	INLET BEACH, FL.	County:	WALTON		
USGS 7.5 minute Quad Sheet:		POINT WASHINGTON, FL			
Address of HWM: HWY 30-A AT DEER LAKE					
Remarks: RP SQUARE- CHISELED SQ. ON SE. CORNER OF CONCRETE BULKHEAD. ELEV. 10.96FT. N.G.V.D. HWM4- GOOD TRASH LINE, R.B, S.SIDE OF HWY 30A, 75FT. W. OF HWM5. HWM5- GOOD TRASH LINE R.B, S.SIDE OF HWY 30A. 30FT. W. OF BRIDGE.					



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HWM Name:	GEPWFL03	Taken by:	DAVIS / GROCE		
HWM Elev. (ft, NGVD)	4.27	Agency:	COE		
HWM Type :	Outside	Date Taken:	01-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	30° 17' 43.00"	Longitude:	-86° 03' 26.00"		
Nearest Town:	INLET BEACH, FL.	County:	WALTON		
USGS 7.5 minute Quad Sheet:		POINT WASHINGTON, FL			
Address of HWM: HWY 30-A AT CAMP CREEK LAKE					
Remarks:	RP CHISELED SQUARE- AT EAST END OF CULVERT HEADWALL AT CAMP CK. LAKE. ELEV. 12.32 N.G.V.D. HWM6,7,8, and 9- GOOD TRASH LINES ON BOTH SIDES OF BRIDGE, N. AND S. OF HWY 30-A, ALL MARKS ARE WITHIN 100FT. TO 50FT. OF BRIDGE.				



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Hurricane Georges, September 1998



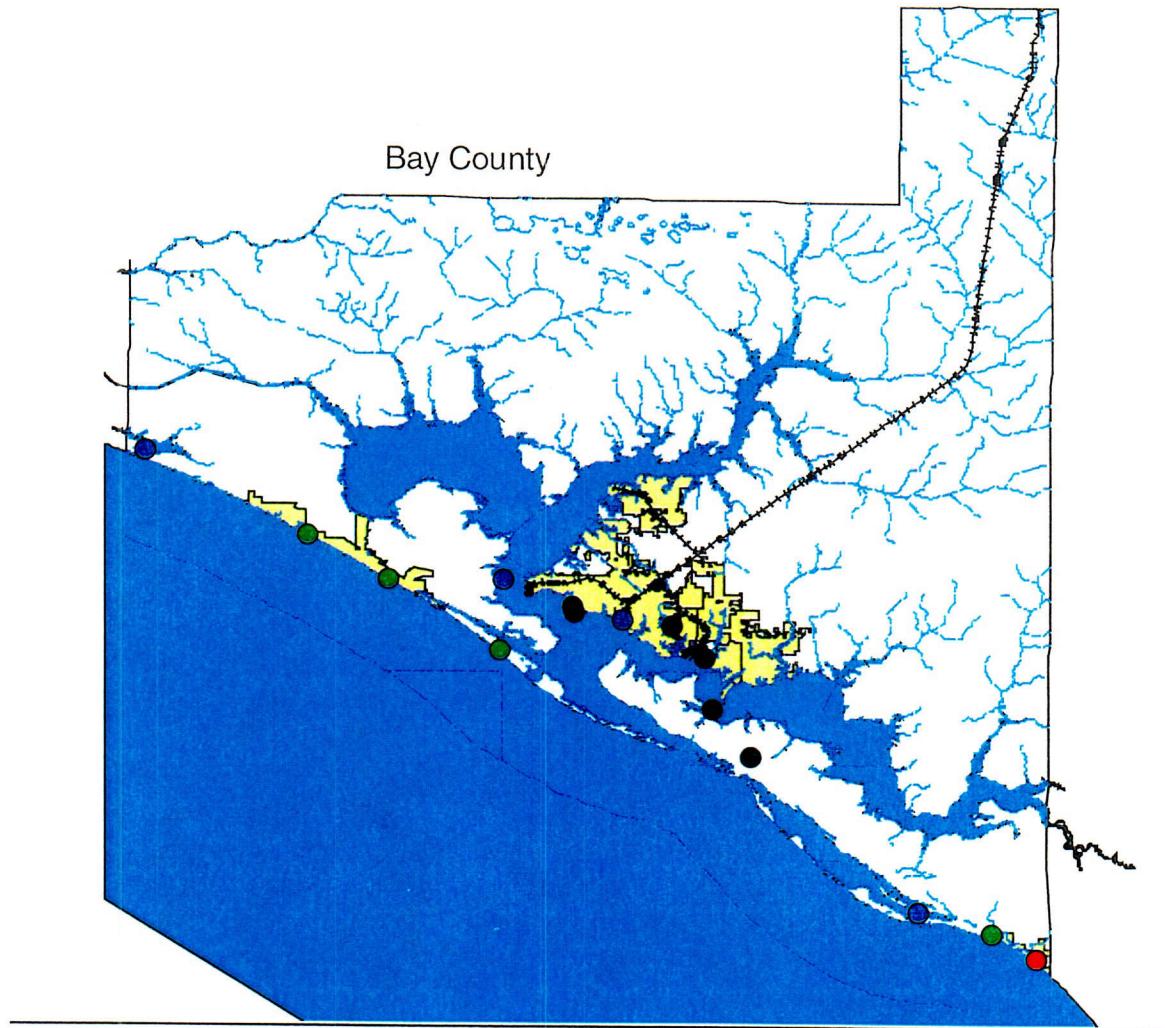
HWM Name:	GEPWFL04	Taken by:	DAVIS / GROCE		
HWM Elev. (ft, NGVD)	9.27	Agency:	COE		
HWM Type :	W.H.R.U.	Date Taken:	01-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	30° 16' 26.50"	Longitude:	-86° 00' 30.00"		
Nearest Town:	INLET BEACH, FL.	County:	WALTON		
USGS 7.5 minute Quad Sheet:		POINT WASHINGTON, FL			
Address of HWM: 260 SWALL ST., INLET BEACH, FL.					
Remarks: FL.,DOT. BM - 60 - 76 - A - 37., - BM IN CONCRETE POST ON W. SIDE OF SWALL ST. AT DEAD END. ELEV. 18.05 N.G.V.D. WHRU10- GOOD TRASHLINE 200FT. SE. OF BM. WHRU11- GOOD TRASH LINE 75FT. E. OF #10.					



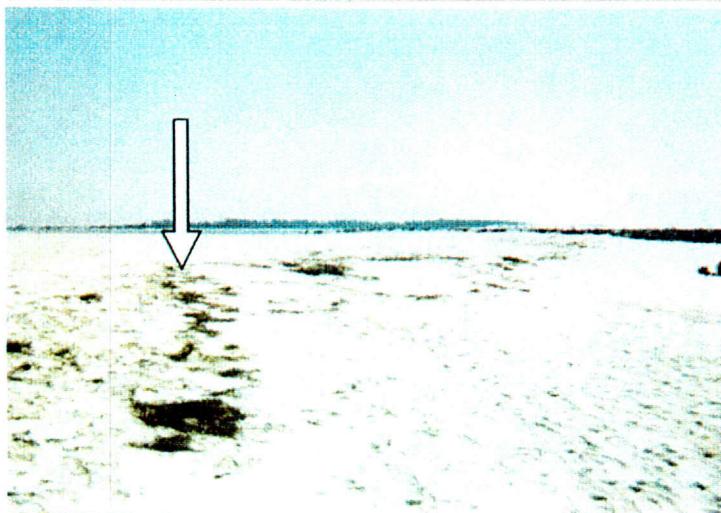
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Appendix J

Bay County, FL High Water Marks



Hurricane Georges, September 1998



HWM Name:	GEBBFL01	Taken by:	PITTMAN / LEWIS		
HWM Elev. (ft, NGVD)		Agency:	USGS		
HWM Type :	Outside	Date Taken:	02-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	30° 07' 25.11"	Longitude:	-85° 44' 01.08"		
Nearest Town:	Panama City	County:	Bay		
USGS 7.5 minute Quad Sheet:		Beacon Beach, FL			
Address of HWM: St. Andrews State Park					
Remarks: HWM1- Good debris line along beach S.E. of old gun turret @ St. Andrews Park					



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HWM Name:	GEBHFL01	Taken by:	DALE / DUFFY		
HWM Elev. (ft, NGVD)	4.46	Agency:	USGS		
HWM Type :	W.H.R.U.	Date Taken:	02-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	29° 58' 02.70"	Longitude:	-85° 28' 28.60"		
Nearest Town:	Mexico Beach	County:	Bay		
USGS 7.5 minute Quad Sheet:		Beacon Hill, FL			
Address of HWM: Off HWY 98 near boat ramp at Research Road					
Remarks: HWM1- Good trash line near boat ramp					



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HWM Name:	GEBHFL02	Taken by:	DALE / DUFFY		
HWM Elev. (ft, NGVD)	6.76	Agency:	USGS		
HWM Type :	Outside	Date Taken:	02-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	29° 57' 11.00"	Longitude:	-85° 25' 37.00"		
Nearest Town:	Mexico Beach	County:	Bay		
USGS 7.5 minute Quad Sheet:		Beacon Hill, FL			
Address of HWM: On HWY 89, at boat ramp behind Blue Water Inn					
Remarks: HWM2- Good seed line on top of dock behind Blue Water Inn					

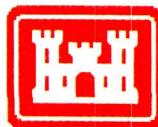


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HWM Name:	GEBHFL03	Taken by:	DALE / DUFFY
HWM Elev. (ft, NGVD)	9.30	Agency:	USGS
HWM Type :	W.H.R.U.	Date Taken:	02-Oct-98
HWM Quality:	Good	State:	Florida
Latitude:	29° 56' 09.90"	Longitude:	-85° 23' 52.50"
Nearest Town:	Mexico Beach	County:	Bay
USGS 7.5 minute Quad Sheet: Beacon Hill, FL			
Address of HWM: Along beach at HWY 98, just West of State Road 386			
Remarks: HWM3- Good trash line along beach			



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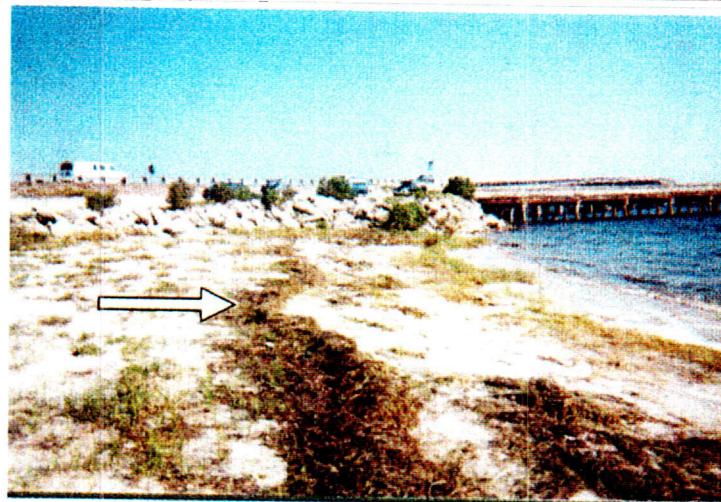
Hurricane Georges, September 1998

HWM Name:	GELBFL01	Taken by:	PITTMAN / LEWIS		
HWM Elev. (ft, NGVD)	7.77	Agency:	USGS		
HWM Type :	Outside	Date Taken:	01-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	30° 12' 55.85"	Longitude:	-85° 52' 35.26"		
Nearest Town:	Panama City Beach	County:	Bay		
USGS 7.5 minute Quad Sheet:		Laguna Beach, FL			
Address of HWM: Between City Pier & first house West of City Pier					
Remarks:	Average of 3 HWM1- Good trash line along beach between City Pier & Beach House HWM2- Good trash line along beach between City Pier & Beach House HWM3- Good trash line along beach between City Pier & Beach House				



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HWM Name:	GELPFL01	Taken by:	DALE / DUFFY		
HWM Elev. (ft, NGVD)	3.23	Agency:	USGS		
HWM Type :	W.H.R.U.	Date Taken:	01-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	30° 06' 05.00"	Longitude:	-85° 36' 37.30"		
Nearest Town:	Panama City	County:	Bay		
USGS 7.5 minute Quad Sheet:		Long Point, FL			
Address of HWM: 100 feet East of C/L Hwy 98					
Remarks: HWM1- Good trash line 300 feet South of end of bridge					



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HWM Name:	GELPFL02	Taken by:	DALE / DUFFY		
HWM Elev. (ft, NGVD)	3.06	Agency:	USGS		
HWM Type :	W.H.R.U.	Date Taken:	02-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	30° 04' 09.70"	Longitude:	-85° 35' 04.40"		
Nearest Town:	Panama City	County:	Bay		
USGS 7.5 minute Quad Sheet:		Long Point, FL			
Address of HWM: At Minnesota Street & Louisiana Street					
Remarks: HWM2- Good trash line 28 ft. West of Minnesota St. & 42 ft. North of Louisiana St.					



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HWM Name:	GEPHFL01	Taken by:	PITTMAN / LEWIS		
HWM Elev. (ft, NGVD)	7.42	Agency:	USGS		
HWM Type :	Outside	Date Taken:	01-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	30° 11' 10.90"	Longitude:	-85° 49' 25.07"		
Nearest Town:	Panama City Beach	County:	Bay		
USGS 7.5 minute Quad Sheet:		Panama City Beach, FL			
Address of HWM: 11767 Front Beach, HWY 98					
Remarks: HWM1- Debris line along beach between Edgewater Resort & the Americana Hotel					



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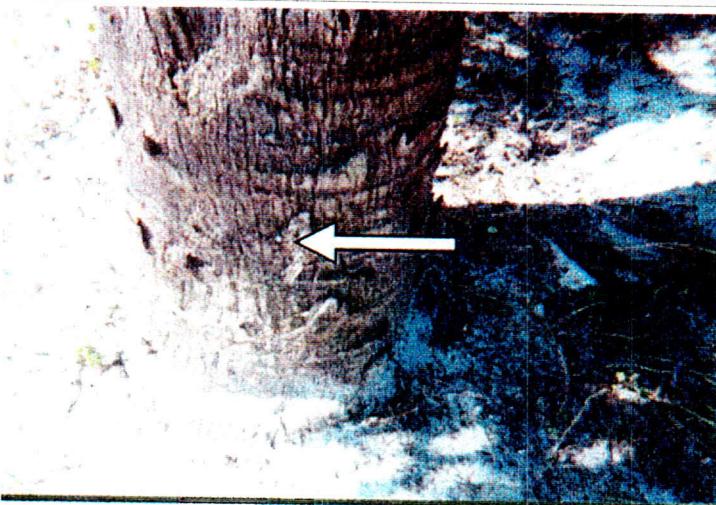
Hurricane Georges, September 1998

HWM Name:	GEPHFL02	Taken by:	PITTMAN / LEWIS		
HWM Elev. (ft, NGVD)	7.91	Agency:	USGS		
HWM Type :	Outside	Date Taken:	01-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	30° 08' 22.70"	Longitude:	-85° 45' 02.40"		
Nearest Town:	Panama City Beach	County:	Bay		
USGS 7.5 minute Quad Sheet:		Panama City Beach, FL			
Address of HWM: Spyglass Road, Panama City Beach					
Remarks: HWM2- Debris line along beach @ intersection of Spyglass & Bristol Street					



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HWM Name:	GEPCFL01	Taken by:	DALE / DUFFY		
HWM Elev. (ft, NGVD)	1.03	Agency:	USGS		
HWM Type :	Outside	Date Taken:	01-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	30° 11' 12.56"	Longitude:	-85° 43' 45.60"		
Nearest Town:	Panama City	County:	Bay		
USGS 7.5 minute Quad Sheet:		Panama City, FL			
Address of HWM: At Gray Park 400 feet North of radio tower on HWY					
Remarks: HWM1- Good seed line on tree 10 feet West of boat ramp					



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Hurricane Georges, September 1998

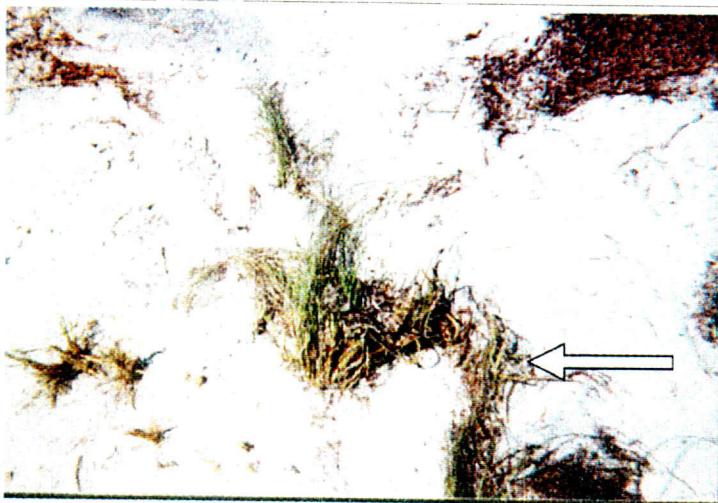


HWM Name:	GEPCFL02	Taken by:	DALE / DUFFY		
HWM Elev. (ft, NGVD)	3.21	Agency:	USGS		
HWM Type :	Outside	Date Taken:	01-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	30° 10' 08.57"	Longitude:	-85° 42' 09.49"		
Nearest Town:	Panama City	County:	Bay		
USGS 7.5 minute Quad Sheet:		Panama City, FL			
Address of HWM: At 11th Street & Bay View					
Remarks: HWM2- Good trash line along shore 100 feet North of intersection					



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Hurricane Georges, September 1998

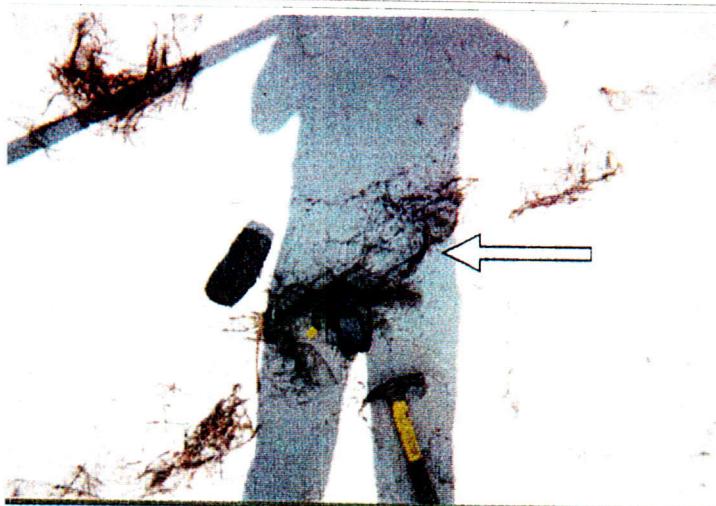


HWM Name:	GEPCFL03	Taken by:	DALE / DUFFY		
HWM Elev. (ft, NGVD)	2.99	Agency:	USGS		
HWM Type :	W.H.R.U.	Date Taken:	01-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	30° 09' 55.44"	Longitude:	-85° 42' 04.56"		
Nearest Town:	Panama City	County:	Bay		
USGS 7.5 minute Quad Sheet:		Panama City, FL			
Address of HWM: Bay Park 450 feet South of 9th St. & Chestnut Ave.					
Remarks: HWM3- Good trash line alone shore at Bay Park					



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Hurricane Georges, September 1998

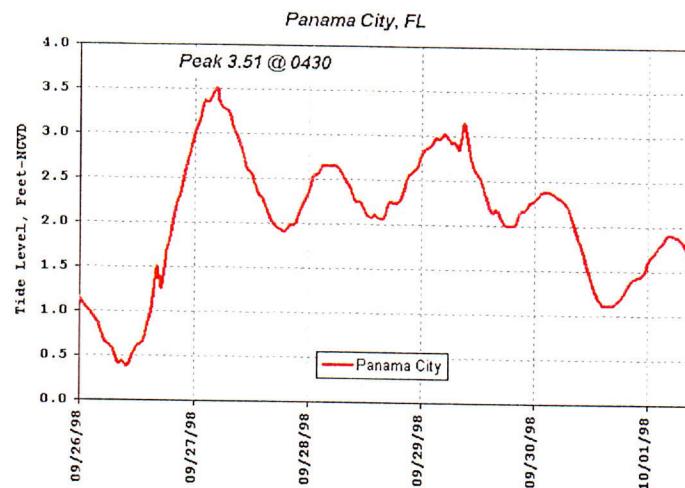


HWM Name:	GEPCFL04	Taken by:	DALE / DUFFY		
HWM Elev. (ft, NGVD)	4.37	Agency:	USGS		
HWM Type :	W.H.R.U.	Date Taken:	01-Oct-98		
HWM Quality:	Poor	State:	Florida		
Latitude:	30° 09' 35.30"	Longitude:	-85° 40' 12.53"		
Nearest Town:	Panama City	County:	Bay		
USGS 7.5 minute Quad Sheet:		Panama City, FL			
Address of HWM: Business HWY 98 at Johnson Bayou					
Remarks: HWM4- Poor trash line along shore at the Bay side of Johnson Bayou					



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HWM Name:	GEPCFL05	Taken by:	TIDE GAGE		
HWM Elev. (ft, NGVD)	3.51	Agency:	COE		
HWM Type :	Inside	Date Taken:	30-Sep-98		
HWM Quality:	Excellent	State:	Florida		
Latitude:	30° 09' 22.00"	Longitude:	-85° 38' 12.00"		
Nearest Town:	Panama City	County:	Bay		
USGS 7.5 minute Quad Sheet:		Panama City, FL			
Address of HWM: Watson Bayou at Panama City, FL					
Remarks: Peak occurred 27 Sep 98 at 0430.					



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HWM Name:	GEPCFL06	Taken by:	PITTMAN / LEWIS		
HWM Elev. (ft, NGVD)	5.22	Agency:	USGS		
HWM Type :	Outside	Date Taken:	02-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	30° 11' 14.44"	Longitude:	-85° 44' 50.86"		
Nearest Town:	Panama City	County:	Bay		
USGS 7.5 minute Quad Sheet:		Panama City, FL			
Address of HWM: Hathaway bridge, HWY 98, Panama City Beach					
Remarks: HWM3- Good debris line on S.W. side of Hathaway Bridge, near parking area					



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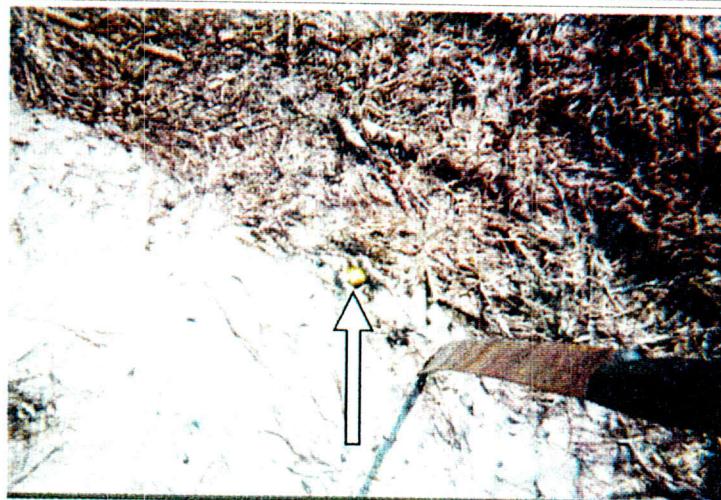
Hurricane Georges, September 1998

HWM Name:	GESIFL01	Taken by:	PITTMAN / LEWIS		
HWM Elev. (ft, NGVD)	5.09	Agency:	USGS		
HWM Type :	Outside	Date Taken:	01-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	30° 16' 19.00"	Longitude:	-85° 58' 59.00"		
Nearest Town:	Panama City Beach	County:	Bay		
USGS 7.5 minute Quad Sheet:		Seminole Hills, FL			
Address of HWM: Phillips Inlet Bridge, Hwy 98					
Remarks:	Average of 2 HMW1- Good debris line near bridge piers on North side of bridge HWM2- Good debris line near bridge piers on North side of bridge (no photo)				



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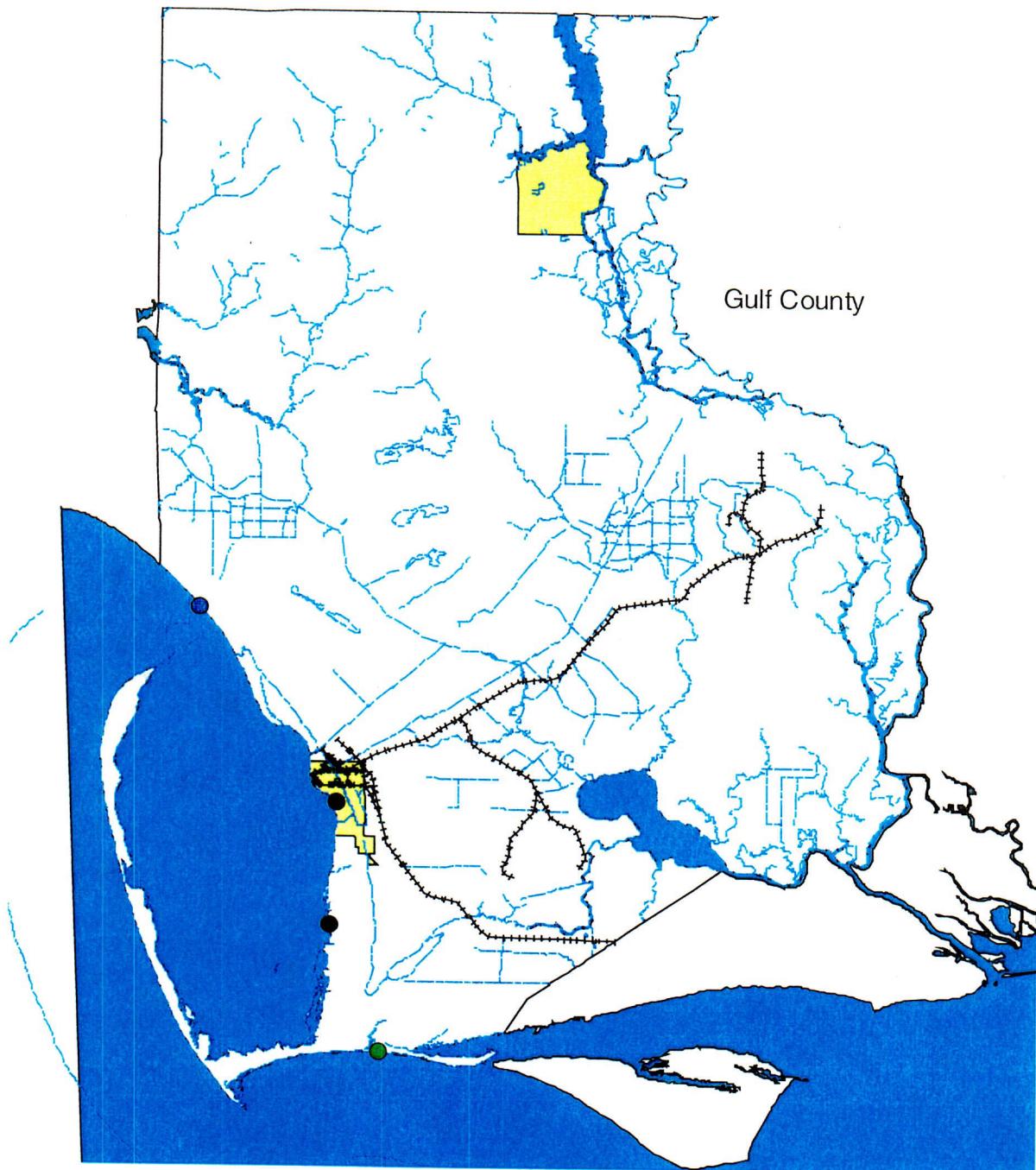
HWM Name:	GESFFL01	Taken by:	DALE / DUFFY		
HWM Elev. (ft, NGVD)	2.56	Agency:	USGS		
HWM Type :	W.H.R.U.	Date Taken:	01-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	30° 08' 06.00"	Longitude:	-85° 36' 55.00"		
Nearest Town:	Springfield	County:	Bay		
USGS 7.5 minute Quad Sheet:		Springfield, FL			
Address of HWM: Off HWY 98 at Martin Bayou					
Remarks: HWM1- Good trash line along shore 250 feet North of culvert to Martin Bayou					



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Appendix K

Gulf County, FL High Water Marks



Hurricane Georges, September 1998



HWM Name:	GECSFL01	Taken by:	PITTMAN / LEWIS		
HWM Elev. (ft, NGVDI)	6.71	Agency:	USGS		
HWM Type :	W.H.R.U.	Date Taken:	02-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	29° 41' 03.30"	Longitude:	-85° 16' 48.20"		
Nearest Town:	Port St. Joe	County:	Gulf		
USGS 7.5 minute Quad Sheet:		Cape San Blas, FL			
Address of HWM Near the intersection of Hall St. & Grifin Ave.					
Remarks: HWM1- Good debris line on beach west of brown beach house					



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HWM Name:	GECNFL02	Taken by:	PITTMAN / DUFFY		
HWM Elev. (ft, NGVDI)	2.29	Agency:	USGS		
HWM Type :	W.H.R.U.	Date Taken:	02-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	29° 44' 51.70"	Longitude:	-85° 18' 15.90"		
Nearest Town:	Port St. Joe	County:	Gulf		
USGS 7.5 minute Quad Sheet:		Cape San Blas, FL			
Address of HWM HWY 30C, Simmons Bayou outlet to Port St. Joe Bay					
Remarks: HWM2- Good debris line on South side of Simmons Bayou (photo too dark)					



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Hurricane Georges, September 1998

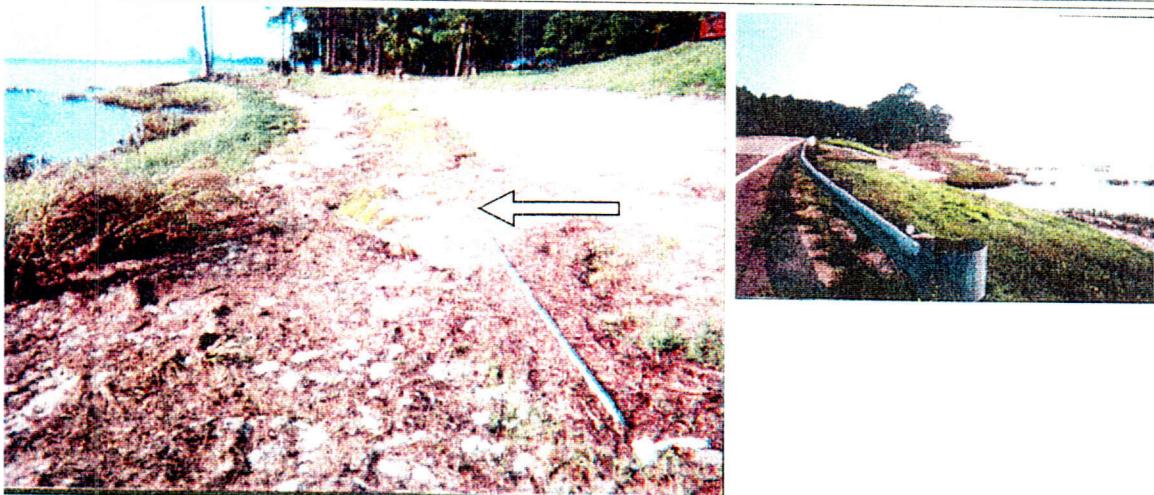


HWM Name:	GEOVFL01	Taken by:	DALE / DUFFY		
HWM Elev. (ft, NGVDI)	4.64	Agency:	USGS		
HWM Type :	W.H.R.U.	Date Taken:	02-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	29° 54' 18.40"	Longitude:	-85° 22' 09.50"		
Nearest Town:	Saint Joe Beach	County:	Gulf		
USGS 7.5 minute Quad Sheet:		Overstreet, FL			
Address of HWM 30 Ft. West of culvert at HWY 98					
Remarks:	Average of 2 marks HWM1- Good trash line along beach HWM2- Good trash line along beach				



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Hurricane Georges, September 1998



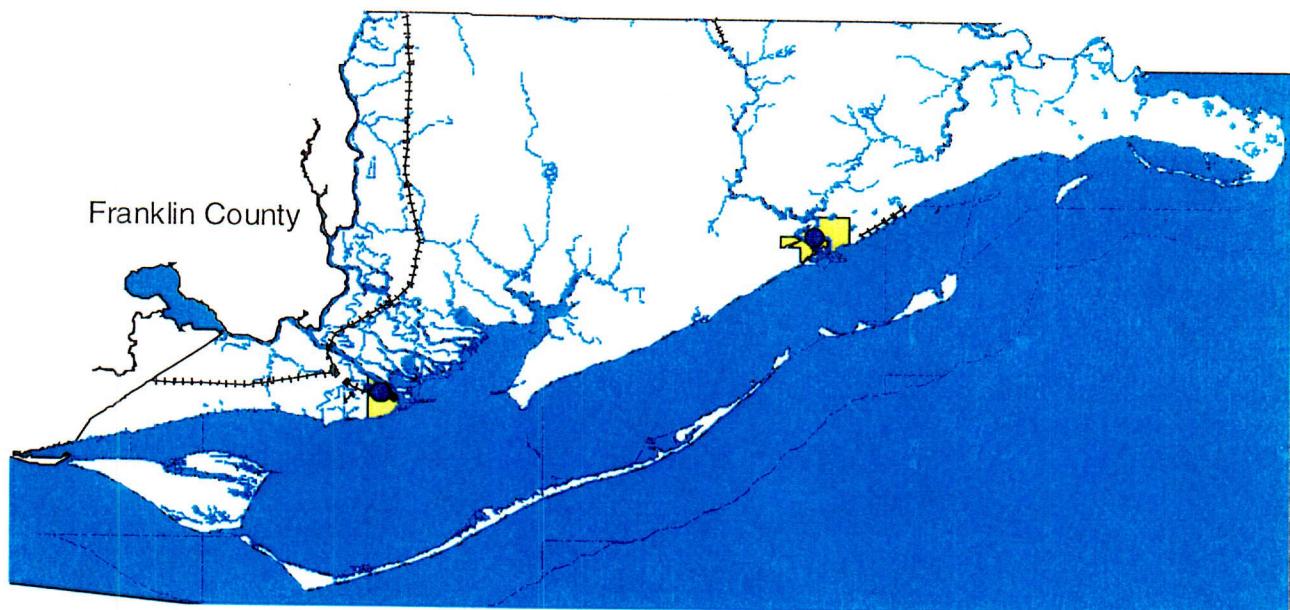
HWM Name:	GEPJFL01	Taken by:	DALE / DUFFY		
HWM Elev. (ft, NGVDI)	2.87	Agency:	USGS		
HWM Type :	W.H.R.U.	Date Taken:	02-Oct-98		
HWM Quality:	Good	State:	Florida		
Latitude:	29° 48' 31.60"	Longitude:	-85° 18' 05.30"		
Nearest Town:	Port St. Joe	County:	Gulf		
USGS 7.5 minute Quad Sheet:		Port St. Joe, FL			
Address of HWM On HWY 98, approx. 0.9 of a mile S.W. of SR 71					
Remarks: HWM1- Good trash line near bridge abutment 40 ft. West of CL of HWY 98					



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Appendix L

Franklin County, FL High Water Marks



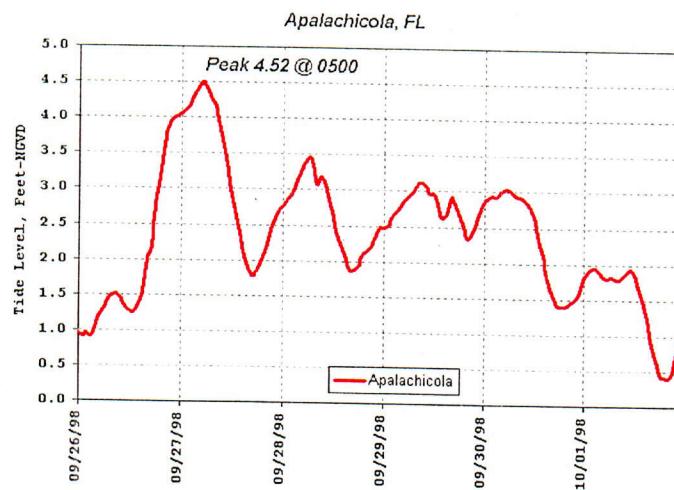
Hurricane Georges, September 1998

HWM Name:	GEAPFL01	Taken by:	DALE / DUFFY
HWM Elev. (ft, NGVD)	3.35	Agency:	USGS
HWM Type :	Outside	Date Taken:	03-Oct-98
HWM Quality:	Good	State:	Florida
Latitude:	29° 44' 03.00"	Longitude:	-84° 59' 37.00"
Nearest Town:	Apalachicola	County:	Franklin
USGS 7.5 minute Quad Sheet: Apalachicola, FL			
Address of HWM: 60 ft. NW Fish & Wildlife Building			
Remarks: HWM1- Good trash line along Scipio Creek (no photo)			



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Hurricane Georges, September 1998

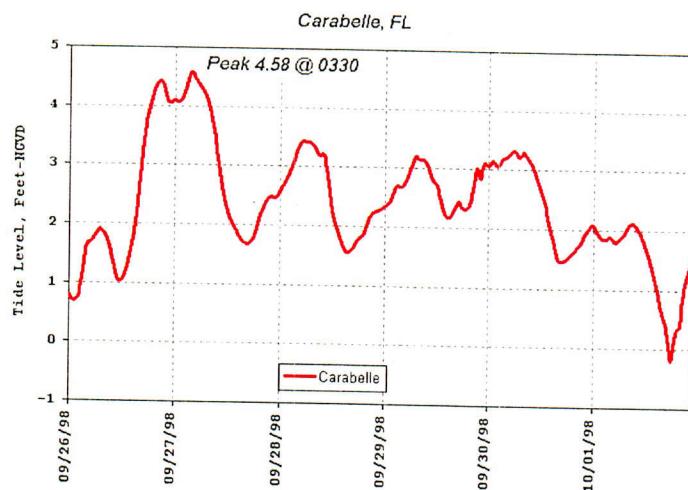


HWM Name:	GEAPFL02	Taken by:	TIDE GAGE		
HWM Elev. (ft, NGVD)	4.52	Agency:	COE		
HWM Type :	Inside	Date Taken:	30-Sep-98		
HWM Quality:	Excellent	State:	Florida		
Latitude:	29° 43' 59.00"	Longitude:	-84° 59' 43.00"		
Nearest Town:	Apalachicola	County:	Franklin		
USGS 7.5 minute Quad Sheet:		Apalachicola, FL			
Address of HWM: Apalachicola River at Apalchicola, FL					
Remarks: Peak occurred 27 Sep 98 at 0500.					



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Hurricane Georges, September 1998



HWM Name:	GECAFL01	Taken by:	TIDE GAGE		
HWM Elev. (ft, NGVD)	4.58	Agency:	COE		
HWM Type :	Inside	Date Taken:	30-Sep-98		
HWM Quality:	Excellent	State:	Florida		
Latitude:	29° 51' 06.00"	Longitude:	-84° 40' 33.00"		
Nearest Town:	Carrabelle	County:	Franklin		
USGS 7.5 minute Quad Sheet:		Carrabelle, FL			
Address of HWM: Carrabelle River at Carrabelle, FL					
Remarks: Peak occurred 27 Sep 98 at 0330.					



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Appendix M

Hurricane Georges HWM Teams

Team #	Names	Agency	County
1	George.S. Lloyd Steve Hrabovsky	COE	Escambia & Santa Rosa, FL
2	Mark.S. Davis Tom. Groce	COE	Okaloosa & Walton, FL
3	John. Lee James. Hathorn	COE	Mobile, AL
4	Glenn. Duval K. "Butch" Guidry	COE	Mobile, AL
5	Robert E.. Kidd Mark R.. Dickman	USGS-AL	Baldwin, AL
6	T. Scott Hedgecock, Vic.E. Stricklin	USGS-AL	Baldwin, AL
7	K. Van Wilson, Jr. John K. Joiner	USGS-MS	Harrison, Jackson, MS
8	W. Trent Baldwin Shane J. Stocks	USGS-MS	Hancock, Jackson, MS
9	Karl E.Winters J. Scott Wallace	USGS-MS	Hancock, Harrison, & Jackson, MS
10	David Dale Edward Duffy John Pittman Lori Lewis	USGS-FL	Bay & Gulf, FL

Appendix N

Hurricane Georges GIS Work

A Geographic Information System (GIS) is a link between data and maps. Mobile District develop a GIS comprised of Hurricane Georges HWM's and county topographic data. Each HWM has the required mapping system geographic coordinates. In the GIS the HWM are plotted as points in a geographic coordinate system and then linked to the pertinent data as listed below:

HWM Name	Nearest Town
Date Recovered	Address
Team Names	State
Agency	Remarks
Elevation in Feet	Latitude
HWM_TYPE	Longitude
Quality	Photograph
USGS_QUAD	Single Page Report
County	

Environmental Systems Research Institute (ESRI) ArcView© GIS version 3.0a was selected as the GIS software. The project (GIS) file contains thirteen views, one of each county and the combined gulf coastal counties. Each county view is composed of eleven themes:

Theme	Description
Reports	Single page summary including photographs
Pictures	Photograph of HWM
County HWM	HWM within the county boundary
All HWM	All 255 HWMs
Tide Gages	Mobile District Tide gages with peaks during hurricane
Streams	Rivers, creeks, branchs, bays, bayous, and lakes
Railroad	Railroad
Road	Major and secondary roads
Open Water	Open
Cities	Major cities
County Boundary	Boundary of county
*SLOUSH	Grid of SLOUSH model result using hurricane Georges meteorological data

* Only Mobile and Baldwin Counties

The Reports and Pictures themes contain hotlinks to Adobe Acrobat® and GIF image files respectively. The report hotlink only works if the user has installed the Adobe Acrobat Reader version 3.0 and selected the default subdirectory during installation.

The Gulf Coastal Counties view is made up of the following themes:

Theme Description
Representative Storm Surge
Maximum HWM Elevation by Quad, inside marks only
Maximum HWM Elevation by Quad, inside and outside marks only
Inside HWM's greater than or equal to 10 feet.
Inside HWM's greater than or equal to 9 feet.
Inside and outside HWM's greater than or equal to 9 feet.
Inside HWM's greater than or equal to 8 feet.
Inside and outside HWM's greater than or equal to 8 feet.
All HWM's
Mobile District Tide Gages with peaks during hurricane
Twelve Gulf Coast counties within study area

The GIS provides a tool to view, verify, and analyze HWM's. For example, simple queries generated the HWM themes in Gulf Coastal Counties view, which group the HWM by elevation thresholds.

The accompanying CD-ROM contains the GIS project file; **GEORGES.APR** located in the root directory, and this report in Adobe Acrobat format, **GEORGES.PDF** in subdirectory \REPORT. The Acrobat Reader version 3.0 install program is also included in the subdirectory \Acrobat3. To view the latest information on Acrobat, please go to:

<http://www.adobe.com/acrobat/>

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