# [***Findings from Texas A&M University Broaden Understanding of Global Warming and Climate Change (Tidal Control and Mangrove Dieback Impact On Methane Emissions From a Subtropical Mangrove Estuary)***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:67R4-N921-JBSP-12T4-00000-00&context=1516831)

Climate Change Daily News

March 8, 2023 Wednesday

Copyright 2023 NewsRx, LLC All Rights Reserved



**Section:** GLOBAL WARMING AND CLIMATE CHANGE

**Length:** 565 words

**Body**

2023 MAR 08 (NewsRx) -- By a News Reporter-Staff News Editor at Climate Change Daily News -- Research findings on Global Warming and Climate Change are discussed in a new report. According to news reporting from Corpus Christi, Texas, by NewsRx journalists, research stated, "***Mangrove*** ecosystems with high sediment deposition and active carbon cycling are a source of methane (CH4) to the coastal atmosphere. We investigated diurnal and seasonal variations in CH4 emissions from a subtropical ***mangrove*** estuary in southern Texas, northwest Gulf of Mexico."

Financial supporters for this research include National Oceanic Atmospheric Admin (NOAA) - USA, Texas A&M University-Corpus Christi Student Research Competition, Geological Society of America Graduate Student Grants.

The news correspondents obtained a quote from the research from Texas A&M University, "Tidal processes, amplitude (spring vs. neap tides) and topographic characteristics are crucial factors controlling CH4 cycling in ***mangrove*** creeks. Higher CH4 concentrations were observed during the ebb in spring tides due to the combination of processive export of CH4 along the creeks during ebb tides and the addition of porewater CH4 in upper intertidal sediment under water inundation in spring tides. The annual CH4 emissions offset approximately 0.15% of the carbon stock in normal years, indicating that these ***mangrove*** creeks are a weak CH4 source. However, significantly elevated CH4 emissions were observed from ***mangrove*** dieback after the extreme cold-freezing event in February 2021. The average CH4 flux from the ***mangrove*** creeks (126.1 +/- 128.3 mu mol [m(2)center dot d](-1)) increased 45% in 3 months after ***mangrove*** die-off in comparison with the overall average in normal years (87.0 +/- 64.4 mu mol [m(2)center dot d](-1)). It is obvious that the previous small CH4 offset of the healthy ***mangrove*** forest was enlarged by the dieback event."

According to the news reporters, the research concluded: "Because the ***mangrove*** forests in this study live close to the limit of their survival range, our study highlights the important management considerations for ***blue carbon*** projects in vulnerable areas."

This research has been peer-reviewed.

For more information on this research see: Tidal Control and ***Mangrove*** Dieback Impact On Methane Emissions From a Subtropical ***Mangrove*** Estuary. Limnology and Oceanography, 2023. Limnology and Oceanography can be contacted at: Wiley, 111 River St, Hoboken 07030-5774, NJ, USA.

Our news journalists report that additional information may be obtained by contacting Hao Yu, Texas A&M University, Dept. of Physical and Environmental Sciences, Corpus Christi, TX 78412, United States. Additional authors for this research include Hannah Organ, Derry Xu and Richard Coffin.

The direct object identifier (DOI) for that additional information is: https://doi.org/10.1002/lno.12307. This DOI is a link to an online electronic document that is either free or for purchase, and can be your direct source for a journal article and its citation.

Keywords for this news article include: Corpus Christi, Texas, United States, North and Central America, Global Warming and Climate Change, Alkanes, Climate Change, Global Warming, Methane, Methane Emission, Texas A&M University.

Our reports deliver fact-based news of research and discoveries from around the world. Copyright 2023, NewsRx LLC

**Classification**

**Language:** ENGLISH

**Document-Type:** Expanded Reporting

**Publication-Type:** Newsletter

**Subject:** GLOBAL WARMING (91%); CLIMATE CHANGE (90%); CLIMATOLOGY (90%); EMISSIONS (90%); GREENHOUSE GASES (90%); INVESTIGATIONS (90%); JOURNALISM (90%); EARTH & ATMOSPHERIC SCIENCE (89%); EXPERIMENTATION & RESEARCH (89%); OCEANOGRAPHY (89%); RESEARCH REPORTS (89%); SCIENCE & TECHNOLOGY (89%); WRITERS (89%); ECOLOGY & ENVIRONMENTAL SCIENCE (79%); EXTREME TEMPERATURES (79%); FRESHWATER ECOSYSTEMS (79%); OCEANOGRAPHIC & ATMOSPHERIC SERVICES (79%); SALTWATER ECOSYSTEMS (79%); CARBON OFFSETS (78%); GEOLOGY & GEOPHYSICS (78%); NEWS REPORTING (78%); BLUE ECONOMY (77%); FORESTS & WOODLANDS (65%); Corpus Christi;State:Texas;United States;North and Central America;Global Warming and Climate Change;Alkanes;Climate Change;Global Warming;Methane;Methane Emission (%)

**Organization:** TEXAS A & M UNIVERSITY (93%); GEOLOGICAL SOCIETY OF AMERICA (56%)

**Industry:** GLOBAL WARMING (91%); EMISSIONS (90%); METHANE (90%); WRITERS (89%); CARBON OFFSETS (78%); NEWS REPORTING (78%); BLUE ECONOMY (77%)

**Geographic:** CORPUS CHRISTI, TX, USA (92%); TEXAS, USA (96%); ATLANTIC OCEAN (79%); CENTRAL AMERICA (79%)

**Load-Date:** March 8, 2023

**End of Document**