

Climate Change; New Climate Change Study Findings Recently Were Reported by Researchers at University of Texas Austin (Assessing historical climatic impacts on wetland change using satellite imagery: a transferable framework demonstrated on the Texas coast)

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2026 SEP 28 (VerticalNews) -- By a News Reporter-Staff News Editor at Global Warming Focus -- Data detailed on climate change have been presented. According to news reporting from Austin, Texas, by VerticalNews journalists, research stated, "Coastal wetlands provide critical ecosystem services worldwide but are increasingly threatened by climate-driven stressors, including sea-level rise, coastal flooding, drought, wave erosion, and extreme temperature events. Long-term, spatially consistent monitoring is needed to quantify wetland transformation and identify ecosystems most vulnerable to these stressors."

The news editors obtained a quote from the research from University of Texas Austin: "The objective of the study was to develop tools that harmonize historical Landsat (5, 7, 8, 9) and Sentinel (1, 2) satellite datasets to map wetlands and identify wetland areas most vulnerable to climate-driven stress, while being readily transferable to other coastal regions. The Texas Coastal Bend Region is presented as a case study to demonstrate the utility of these tools in evaluating wetland change. To do this, the Multi-Decadal Wetland Extent Tool (WET-MUD) was developed in Google Earth Engine, along with the Wetland Health Analysis: Multi-Source (WHAMS). WET-MUD is a semi-automated wetland classification tool that produces annual maps with pixels classified as wetland, upland, or water from 1984 to 2024. WHAMS is a Google Earth Engine tool and framework that evaluates changes to wetland plant health (using Normalized Difference Vegetation Index (NDVI) as a proxy) at a monthly level for the 41-year period of record. Total classification accuracy for the Coastal Bend Region of Texas averaged 93% for the 40-year study period, and wetland pixel classification averaged 82%. Annual wetland extent maps show that since 1984, the region has experienced approximately 193 km² of net wetland loss, representing 17% of the initial wetland extent, with most of these losses (95%) occurring between 2008 and 2016."

According to the news editors, the research concluded: "Analyses of NDVI for wetland areas show that 43 km² of coastal palustrine (low-lying, freshwater) wetlands were especially sensitive to repeated drought events (2008-2010, 2011-2015), representing 22% of the total coastal wetland losses. The publicly available tools developed in this study provide insight into wetland resilience by rapidly measuring both wetland extents and health at a regional, multi-decadal scale in a way that can be reproduced for areas beyond the Coastal Bend of Texas."

For more information on this research see: Assessing historical climatic impacts on wetland change using satellite imagery: a transferable framework demonstrated on the Texas coast. *Frontiers in Marine Science*, 2026,13. (*Frontiers in Marine Science* - http://www.frontiersin.org/Marine_Science). The publisher for *Frontiers in Marine Science* is Frontiers Media S.A.

A free version of this journal article is available at <https://doi.org/10.3389/fmars.2026.1911273>.

Our news journalists report that additional information may be obtained by contacting John Malito, **Bureau of Economic Geology**, University of Texas Austin, Austin, TX, United States. Additional authors for this research include Vanessa Valenti, Katie Swanson.

Keywords for this news article include: University of Texas Austin, Austin, Texas, United States, North and Central America, Climate Change, Global Warming, Climatic Impact.

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