# [***Study Results from Xiamen University Broaden Understanding of Global Warming and Climate Change (Carbon Dynamics and Greenhouse Gas Outgassing In an Estuarine Mangrove Wetland With High Input of Riverine Nitrogen)***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:6790-GYG1-DY7R-R28D-00000-00&context=1516831)

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**Body**

2023 JAN 10 (NewsRx) -- By a News Reporter-Staff News Editor at Climate Change Daily News -- Investigators publish new report on Global Warming and Climate Change. According to news reporting out of Xiamen, People's Republic of China, by NewsRx editors, research stated, "The large amounts of organic carbon buried in ***mangrove*** wetlands are well recognized, but the lateral dissolved carbon export and greenhouse gas (GHGs) outgassing are often overlooked. In this study, we carried out seasonal observations of dissolved carbon and GHGs in an estuarine ***mangrove*** wetland with high input of riverine nitrogen in southeast China in 2019-2020."

Financial support for this research came from National Natural Science Foundation of China (NSFC).

Our news journalists obtained a quote from the research from Xiamen University, "The results showed that the tidal range and season were the two main factors controlling the lateral dissolved carbon export including total alkalinity (TA), dissolved inorganic carbon (DIC) and dissolved organic carbon (DOC). The positive correlations between the average offsets of DIC, TA, DOC and tidal range confirmed the hydrological controls on the exchange of dissolved carbon between the ***mangrove*** creek and the estuary. The seasonal variability in temperature, groundwater export and freshwater input resulted in a larger carbon offset during low tidal range in spring and a smaller offset during high tidal range in fall. The ***mangrove*** creek acted as a net source of DIC, DOC, TA and GHGs. When the emissions of GHGs were calculated as CO2-equivalents, the average emission of CO2 was four times higher than that of N2O and the average emission of N2O was six times higher than that of CH4. In contrast with pristine ***mangroves***, denitrification in ***mangrove*** wetlands with high input of riverine nitrogen played a crucial role in mineralization processes, leading to the production of DIC, TA and N2O. These biogeochemical processes may not be conducive to the ***blue carbon*** sequestration in ***mangrove*** soils."

According to the news editors, the research concluded: "These findings suggested that there are mutual benefits between the reduced loss of ***blue carbon*** and the mitigation of eutrophication when restoring ***mangrove*** wetlands and reducing nitrogen pollution."

This research has been peer-reviewed.

For more information on this research see: Carbon Dynamics and Greenhouse Gas Outgassing In an Estuarine ***Mangrove*** Wetland With High Input of Riverine Nitrogen. Biogeochemistry, 2022. Biogeochemistry can be contacted at: Springer, Van Godewijckstraat 30, 3311 Gz Dordrecht, Netherlands. (Springer - www.springer.com; Biogeochemistry - www.springerlink.com/content/0168-2563/)

Our news journalists report that additional information may be obtained by contacting Nengwang Chen, Xiamen University, College of the Environment and Ecology, Key Lab Coastal & Wetland Ecosyst, Xiamen, People's Republic of China. Additional authors for this research include Zeyang Lu, Fenfang Wang, Yao Wang, Qibiao Yu, Peng Cheng and Kai Xiao.

The direct object identifier (DOI) for that additional information is: https://doi.org/10.1007/s10533-022-00999-5. 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: Xiamen, People's Republic of China, Asia, Global Warming and Climate Change, Climate Change, Global Warming, Greenhouse Gases, Nitrogen, Xiamen University.

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