# [***Researchers from Kasetsart University Report on Findings in Marine Science (Greenhouse Gas Emissions From Soil and Water Surface In Different Mangrove Establishments and Management In Ranong Biosphere Reserve, Thailand)***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:67DC-VN51-DY7R-R34X-00000-00&context=1516831)

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**Body**

2023 JAN 26 (NewsRx) -- By a News Reporter-Staff News Editor at Climate Change Daily News -- Research findings on Science - Marine Science are discussed in a new report. According to news reporting originating from Bangkok, Thailand, by NewsRx correspondents, research stated, "***Mangrove*** forest is a ***blue-carbon***-rich ecosystem and source of greenhouse gases (GHG) to the atmosphere. Recent studies of GHG fluxes have been limited for inventory baseline in Thailand."

Financial supporters for this research include Thailand Science Research and Innovation (TSRI), National Research Council of Thailand (NRCT).

Our news editors obtained a quote from the research from Kasetsart University, "Three GHG emissions were investigated for different ***mangrove*** establishment and managements in Ranong province; natural rehabilitation, reforestation, and primary undisturbed forests, due to their differences in carbon and nutrient input as a result of natural and human-induced management. The static closed-chamber technique was used to collected gas sample from soil and water surface interface throughout the year. Total highest GHG emissions were found in the primary undisturbed site (15.40 Mg CO(2)eq ha(-1) yr(-1)), compared to the reforestation and natural rehabilitation sites (12.60 and 8.53 Mg CO(2)eq ha(-1) yr(-1)), respectively. The mean average of GHG fluxes at soil-air interface for three ***mangrove*** sites were 2.59 +/- 0.94 mmol CO2 m(-2) h(-1), 3.86 +/- 2.01 mu mol CH4 m(-2) h(-1), and 2.09 +/- 1.59 mu mol N2O m(-2) h(-1). Whereas at water-air interface, GHG fluxes were 1.66 +/- 0.66 mmol CO2 m(-2) h(-1), 2.47 +/- 1.47 mu mol CH4 m(-2) h(-1), and 2.74 +/- 1.06 mu mol N2O m(-2) h(-1). The undisturbed and reforested sites with good conservation, enriched organic matters and nitrogen nutrients, and large mature trees had significantly higher CO2 emission. CH4 fluxes had significantly higher in the natural rehabilitation site with well growing stage and dominant in low-elevated area with longer inundation periods. Whereas N2O emissions were not statistically different among three ***mangrove*** sites. GHG fluxes were recorded higher in soil surface during wet season and rainfall was significantly correlated to CO2, CH4, and N2O emissions."

According to the news editors, the research concluded: "Additionally, the results would be useful in improving ***mangrove*** conservation and restoration strategy for GHG emission mitigation and developing an inventory baseline and more accurately estimating of GHG emissions from different ***mangroves*** in Thailand."

This research has been peer-reviewed.

For more information on this research see: Greenhouse Gas Emissions From Soil and Water Surface In Different ***Mangrove*** Establishments and Management In Ranong Biosphere Reserve, Thailand. Regional Studies in Marine Science, 2022;56. Regional Studies in Marine Science can be contacted at: Elsevier, Radarweg 29, 1043 Nx Amsterdam, Netherlands.

The news editors report that additional information may be obtained by contacting Patthra Pengthamkeerati, Kasetsart University, Faculty of the Environment, Dept. of Environmental Technology and Management, 50 Ngamwongwan Rd, Bangkok 10900, Thailand. Additional authors for this research include Kittiwan Kitpakornsanti, Pasinee Worachananant, Atsamon Limsakul and Sapit Diloksumpun.

The direct object identifier (DOI) for that additional information is: https://doi.org/10.1016/j.rsma.2022.102690. 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: Bangkok, Thailand, Asia, Marine Science, Science, Climate Change, Global Warming, Greenhouse Gases, Kasetsart University.

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