# [***U.S. Geological Survey (USGS) Researchers Describe Advances in Ecology (Mangroves provide blue carbon ecological value at a low freshwater cost)***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:66TS-3X01-JBSP-14SG-00000-00&context=1516831)

Ecology Daily News

November 9, 2022 Wednesday

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**Section:** ECOLOGY

**Length:** 463 words

**Body**

2022 NOV 09 (NewsRx) -- By a News Reporter-Staff News Editor at Ecology Daily News -- Current study results on ecology have been published. According to news reporting from the U.S. Geological Survey (USGS) by NewsRx journalists, research stated, "'***Blue carbon***' wetland vegetation has a limited freshwater requirement."

Financial supporters for this research include U.S. Geological Survey, Climate R&D Program; Australian Research Council; National Natural Science Foundation of China; Volkswagenstiftung; Uk's Natural Environment Research Council.

Our news correspondents obtained a quote from the research from U.S. Geological Survey (USGS): "One type, ***mangroves***, utilizes less freshwater during transpiration than adjacent terrestrial ecoregions, equating to only 43% (average) to 57% (potential) of evapotranspiration ( $$ET$$ ET ). Here, we demonstrate that comparative consumptive water use by ***mangrove*** vegetation is as much as 2905 kL H2O ha-1 year-1 less than adjacent ecoregions with $${E}\_{c}$$ E c -to- $$ET$$ ET ratios of 47-70%. Lower porewater salinity would, however, increase ***mangrove*** $${E}\_{c}$$ E c -to- $$ET$$ ET ratios by affecting leaf-, tree-, and stand-level eco-physiological controls on transpiration. Restricted water use is also additive to other ecosystem services provided by ***mangroves***, such as high carbon sequestration, coastal protection and support of biodiversity within estuarine and marine environments. Low freshwater demand enables ***mangroves*** to sustain ecological values of connected estuarine ecosystems with future reductions in freshwater while not competing with the freshwater needs of humans."

According to the news reporters, the research concluded: "Conservative water use may also be a characteristic of other emergent ***blue carbon*** wetlands."

For more information on this research see: ***Mangroves*** provide ***blue carbon*** ecological value at a low freshwater cost. Scientific Reports, 2022,12(1):1-12. (Scientific Reports - http://www.nature.com/srep/index.html). The publisher for Scientific Reports is Nature Portfolio.

A free version of this journal article is available at https://doi.org/10.1038/s41598-022-21514-8.

Our news editors report that more information may be obtained by contacting Ken W. Krauss, U.S. Geological Survey (USGS), Wetland and Aquatic Research Center. Additional authors for this research include Catherine E. Lovelock, Luzhen Chen, Uta Berger, Marilyn C. Ball, Ruth Reef, Ronny Peters, Hannah Bowen, Alejandra G. Vovides, Eric J. Ward, Marie-Christin Wimmler, Joel Carr, Pete Bunting, Jamie A. Duberstein.

Keywords for this news article include: U.S. Geological Survey (USGS), Ecology.

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**Classification**

**Language:** ENGLISH

**Document-Type:** Expanded Reporting

**Publication-Type:** Newsletter

**Subject:** GEOLOGY & GEOPHYSICS (93%); ECOLOGY & ENVIRONMENTAL SCIENCE (90%); JOURNALISM (90%); NEWS REPORTING (90%); BLUE ECONOMY (89%); FRESHWATER ECOSYSTEMS (89%); RESEARCH REPORTS (89%); SALTWATER ECOSYSTEMS (89%); SCIENCE & TECHNOLOGY (89%); WETLANDS (89%); COASTAL AREAS (88%); BIODIVERSITY (79%); CONSERVATION (79%); ENVIRONMENTAL RESEARCH (79%); RESEARCH INSTITUTES (78%); WRITERS (78%); MARINE RESOURCES MANAGEMENT (76%); WATER CONSERVATION (76%); COASTAL CONSERVATION (69%); Ecology (%)

**Organization:** UNITED STATES GEOLOGICAL SURVEY (94%); NATURAL ENVIRONMENT RESEARCH COUNCIL (57%)

**Industry:** NEWS REPORTING (90%); BLUE ECONOMY (89%); PUBLISHING (78%); WRITERS (78%); MARINE RESOURCES MANAGEMENT (76%)

**Geographic:** CHINA (79%); UNITED STATES (79%)

**Load-Date:** November 9, 2022

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