# [***Southern Cross University Reports Findings in Science (Land use change increases contaminant sequestration in blue carbon sediments)***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:67NV-TP41-DY7R-R27K-00000-00&context=1516831)

Chemicals & Chemistry Daily

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**Section:** SCIENCE

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**Body**

2023 MAR 02 (NewsRx) -- By a News Reporter-Staff News Editor at Chemicals & Chemistry Daily Daily -- New research on Science is the subject of a report. According to news reporting originating in Coffs Harbour, Australia, by NewsRx journalists, research stated, "Coastal ***blue carbon*** habitats perform many important environmental functions, including long-term carbon and anthropogenic contaminant storage. Here, we analysed twenty-five Pb-dated ***mangrove***, saltmarsh, and seagrass sediment cores from six estuaries across a land-use gradient to determine metal, metalloid, and phosphorous sedimentary fluxes."

The news reporters obtained a quote from the research from Southern Cross University, "Cadmium, arsenic, iron, and manganese had linear to exponential positive correlations between concentrations, sediment flux, geoaccumulation index, and catchment development. Increases in anthropogenic development (agricultural or urban land uses) from >30 % of the total catchment area enhanced mean concentrations of arsenic, copper, iron, manganese, and zinc between 1.5 and 4.3-fold. A ~ 30 % anthropogenic land-use was the threshold in which ***blue carbon*** sediment quality begins to be detrimentally impacted on an entire estuary scale. Fluxes of phosphorous, cadmium, lead, and aluminium responded similarly, increasing 1.2 to 2.5-fold when anthropogenic land-use increased by at least 5 %. Exponential increases in phosphorus flux to estuary sediments seem to precede eutrophication as observed in more developed estuaries."

According to the news reporters, the research concluded: "Overall, multiple lines of evidence revealed how catchment development drives ***blue carbon*** sediment quality across a regional scale."

This research has been peer-reviewed.

For more information on this research see: Land use change increases contaminant sequestration in ***blue carbon*** sediments. Science of The Total Environment, 2023:162175. Science of The Total Environment can be contacted at: Elsevier, Radarweg 29, 1043 Nx Amsterdam, Netherlands. (Elsevier - www.elsevier.com; Science of The Total Environment - www.journals.elsevier.com/science-of-the-total-environment/)

Our news correspondents report that additional information may be obtained by contacting Isaac R. Santos, National Marine Science Centre, School of Environment, Science and Engineering, Southern Cross University, P.O. Box 157, Coffs Harbour, NSW 2540, Australia. Additional authors for this research include Stephen R. Conrad, Shane A. White, Ceylena J. Holloway, Dylan R. Brown, Praktan D. Wadnerkar, Rogger E. Correa, Rebecca L. Woodrow and Christian J. Sanders.

The direct object identifier (DOI) for that additional information is: https://doi.org/10.1016/j.scitotenv.2023.162175. 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.

The publisher of the journal Science of The Total Environment can be contacted at: Elsevier, Radarweg 29, 1043 Nx Amsterdam, Netherlands.

Keywords for this news article include: Coffs Harbour, Australia, Australia and New Zealand, Science.

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