

# Sea level controls carbon accumulation in the Everglades

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How much carbon is stored in the organic soils of tropical wetlands is becoming an important question as erosion, agriculture, and global climate change slowly set into motion a series of processes that could potentially release carbon locked up in these wetlands. In a recent study, Glaser et al. reconstructed a complete, carbon-14 dated 4,000-year history of both organic and inorganic matter accumulation in the Everglades of south Florida.

The authors find that despite the fact that erosion, fires, and similar processes may have removed as much as 2 meters (6.56 feet) of soil from the Everglades, there is a remarkable consistency in the accumulation rates of both organic and inorganic matter in the Everglades over the past 4,000 years. They speculate that processes such as [sea level rise](#) that operate on time scales of centuries or even millennia may be ultimately controlling the rates of formation and accumulation of organic matter in the Everglades.

They further show that the rate of organic matter accumulation in the southern Everglades is two to four times lower than its counterparts in colder and high-latitude environments. The authors attribute the low accumulation rates mostly to the slow rise in sea level since the mid-Holocene, but also to low supply of nutrients and [high temperatures](#); all of these factors favor low rates of organic matter production but faster rates of [decomposition](#). They note that compared to the northern peatlands, tropical wetlands store relatively small amounts of carbon.

**More information:** Carbon and sediment accumulation in the Everglades (USA) during the past 4000 years: Rates, drivers, and sources of error, *Journal of Geophysical Research-Biogeosciences*, [doi:10.1029/2011JG001821](https://doi.org/10.1029/2011JG001821)

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