



UFZ-Seminar



Research Unit

Water Resources and Environment



10 January 2023, 3 p.m.
Seminar Room 1, Brückstr. 3a, Magdeburg

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will give a talk on:

Tracing Holocene climate changes and anthropogenic impacts along the coasts of South Africa

Recent global climate change extensively affects all facets of human life, as well as all natural ecosystems on our globe. For instance, coastal aquatic systems in southern Africa are under anthropogenic pressure and are very sensitive to climatic and environmental dynamics, while they are also of great importance as ecosystems with many services for the human population around. Knowledge of both, historical changes and past natural reference conditions of these ecosystems are prerequisites for a successful coastal management. Moreover, the detailed reconstruction of past dynamics is one of the keys for a better understanding of the climatic past as well as for a more robust modelling of future climatic and hydrologic development. The deposits accumulating in lagoons and other coastal water bodies in southern Africa have been shown to serve as excellent archives to reconstruct of paleoenvironmental changes in high spatio-temporal resolution.

Here we present methods and results from studies of a broad variety of natural and anthropogenically altered aquatic systems along the south African coast, i.e., coastal lakes, wetlands and estuaries, representing excellent geoarchives not only for past climate dynamics, but also for the impact of human activities. Our projects are based on a wide spectrum of analytical methods, such as basic sedimentology and inorganic geochemistry, state-of-the-art stable isotopic data and paleontological datasets. For the most recent human impact on the aquatic ecosystems, micro-plastic analyses (O-PTIR and RAMAN-spectroscopy) were applied as well.