



1 Calibration of high-resolution coral records of environmental change (Gulf of Aqaba, northern Red Sea)

S. Al-Rousan (1), T. Felis (2), J. Pätzold (2)

(1) Marine Science Station, University of Jordan & Yarmouk University, 77110 Aqaba, Jordan

(2) DFG-Research Center for Ocean Margins, University of Bremen, 28359 Bremen, Germany

The northernmost Red Sea represents one of the northernmost locations of coral reef growth in the Indo-Pacific region, and is very sensitive to mid-latitude climate variability of the atmosphere. Recent studies have shown that proxy records (stable isotopes, trace elements) derived from annually banded *Porites* corals can be used to reconstruct past changes in the regions' climate as well as large-scale variations of the Arctic Oscillation/North Atlantic Oscillation climate phenomenon over the Northern Hemisphere during the last centuries, the Holocene and the last interglacial period.

An important backbone of our ongoing work on fossil *Porites* corals from submerged and elevated reefs in the northern Gulf of Aqaba is the calibration of modern colonies to high-resolution environmental data. These calibration studies include a set of temperature loggers deployed along the reef slope since 1999 covering the depth range of *Porites*, CTD profiling and measurements of numerous parameters of water column characteristics (e.g. time series of stable isotopes in seawater). Latest work aims at assessing the potential of *Porites* corals as recorders of the pollution history of the northern Gulf of Aqaba, by comparing corals from protected and unprotected coral reef areas.