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Late Holocene climate variability in the northern Red Sea

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Late Holocene laminated sediments from the Shaban Deep, a brine-filled basin in the northern Red Sea, were investigated to reconstruct changes in the regional climate for the last ∼1800 years. Stable oxygen isotopes as well as grain sizes of the terrigenous sediment fraction were used for defining a pattern of alternating negative (lighter δ^{18}O, smaller grain sizes) and positive (heavier δ^{18}O, coarser grain sizes) phases. The last ∼1800 years can be divided into five negative phases (∼200-430 AD, ∼750-950 AD, ∼1180-1430 AD, ∼1550-1750 AD, ∼1850 till today) that relate to warmer or less arid conditions as well as weaker winds in the northern Red Sea. The four intermediate positive phases correspond to colder or more arid conditions with increased wind strengths. Comparison with published palaeoclimate records reveals possible teleconnections to North Atlantic climate variability as well as to the climate regime of eastern tropical Africa.