Results of a multi-proxy study of sediment core DIPAL1-K47 collected in the western slope of La Paz Basin, southern Gulf of California provide a record of climate variability on centennial time scales for the past 2000 years. Sequence is finely laminated and has been dated with 210-Pb, with average sedimentation rates of 0.77 mm/yr. Magnetic mineral parameters and silica microorganisms (radiolarian and silicoflagellates) are used as proxies.

Major global climatic intervals are identified. Medieval Warm Period (MWP, 1000 to 1250 A.D) characterized by two peaks of magnetic susceptibility at ~1200 and ~1000 A.D, reflecting higher concentration of magnetic minerals and increase of terrigenous input (mostly controlled by precipitation and runoff) inside La Paz Basin, suggesting reduced productivity, warmer SST and incursion of tropical waters into the gulf. The Little Ice Age (LIA, between 1300 and 1800 A.D.), during these period lowest values of magnetic susceptibility correlate with radiocarbon production (sunspot minima), suggesting arid and cold conditions. Modern Maximum (MOD last 200 years), with magnetic susceptibility showing highest values towards the core top over this interval. Proxies indicate warm conditions and dominance of Tropical Surface Water in the southern gulf, suggesting intensification of El Niño-ENSO cycles, since 1800 A.D. This is supported by general increases in SST of 1 to 2°C over the last 300 years, in association with the end of LIA.