



A high-resolution, 2700-year long $\delta^{18}\text{O}$ record measured in a shallow-water Ionian Sea core

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In a recent paper (Taricco et al., *Clim. Past*, 2009), we analyzed and discussed a high-resolution $\delta^{18}\text{O}$ profile, which covers the last two millennia. This profile was measured in the accurately dated GT90-3 sediment core drilled in the Gallipoli Terrace of the Gulf of Taranto (Ionian Sea). Such records provide a long and homogeneous basis for studying past climate variations on decadal-to-millennial time scales.

We present here the extension of this record back to 700 B.C. Spectral analyses of the extended record — performed by using both classical and advanced methods (Ghil et al., *Rev. Geophys.*, 2002) — confirm the presence of the highly significant oscillatory components found in the earlier work. The oscillatory modes in both the original and extended record include periods of roughly 600, 350, 200, 125, and 11 years. Detailed reconstruction of each mode in the original and extended record shows that edge effects in the modes that were detected in the previously published $\delta^{18}\text{O}$ profile are actually negligible.

The extended record is discussed in comparison with temperature series deduced from other proxy indicators and other locations.