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**CLIMATIC VARIABILITY DURING THE LAST TWO MILLENNIA IN THE TYRRHENIAN SEA:
EVIDENCES FROM PLANKTONIC FORAMINIFERA AND GEOCHEMICAL DATA**

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Recent studies demonstrated that the Mediterranean continental shelf and, especially, the delta areas provide one of the most complete archive for monitoring the palaeoenvironmental and palaeoclimatic changes occurring in the last millennia.

This work based on marine paleo proxies is aimed at documenting high-resolution time-series (decadal to century scale) for the Mediterranean Sea. It is included in the Italian Strategic Project NEXTDATA "A national system for recovery, storage, accessibility and dissemination of environmental and climatic data from mountain and marine areas" (<http://www.nextdataproject.it>).

In this frame we studied several marine sites from central and south Tyrrhenian Sea, Sicily Channel, Taranto Gulf and Adriatic Sea considered key-areas for Mediterranean climatic reconstruction of the last two millennia. Here we focus on two continental shelf marine sites (Gulf of Gaeta and Gulf of Salerno) recovered at 93 and 103 meters water depth, respectively. High-resolution integrated studies allow us to reconstruct the climatic variability during the last 2000 years.

Planktonic foraminiferal distribution combined with oxygen stable isotope data performed on *Globigerinoides ruber* show six major intervals during the last 2000 years: Roman period, Dark Age, Medieval Climatic Anomaly, Little Ice Age, Industrial period and Modern Warm period.

The Roman period is characterised by two cold/dry intervals (Roman I-Roman II and Roman III) interrupted by a warming event documented by the increase of warm/wet species *Globigerinella siphonifera*, *Globigerinoides ruber* and *Orbulina* spp.. The Dark Age period results as a warm phase with maxima in *G. ruber* abundance followed by a cold one (Roman IV) with *Globorotalia scitula* and *Neogloboquadrina pachyderma* increase values. The coexistence of all the planktonic foraminifera and the $\delta^{18}\text{O}_{G.ruber}$ signature suggest that the Medieval Classic Anomaly is characterized by mild climatic condition. The Little Ice Age period documents cooler condition with a strong increase in deep-dwelling species *Globorotalia truncatulinoides* and *Globorotalia inflata* while the Industrial period is characterized by warm-oligotrophic regime with the presence of *Globigerinoides quadrilobatus*. This environmental setting persists also during the Modern Warm Period when *G. ruber* shows a strong decrease in abundance.