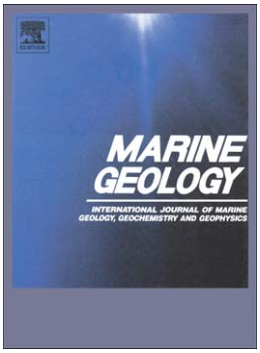

Sedimentological and paleoenvironmental scenario before, during, and after the Messinian Salinity Crisis: The San Miguel de Salinas composite section (western Mediterranean)

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Highlights

1) The sedimentary record is divided into three synthems: Messinian I (pre-evaporitic), Messinian II (syn-evaporitic), and Pliocene (post-evaporitic).

2) Marls associated with gypsum beds (syn-evaporitic phase) record dwarf planktonic foraminifera.

3) The syn-evaporitic phase (chron 3Cr) records major changes in water salinity in a stressed marine environment.

4) Two erosional surfaces correspond to the intra- and end-Messinian unconformities.

5) The end-Messinian unconformity is represented by an incised paleovalley.

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Abstract

A composite stratigraphic section ranging from the Messinian to the Pliocene, recording the most important phases of the Messinian Salinity Crisis, is represented in the San Miguel de Salinas area (Bajo Segura basin, SE Spain). Detailed magnetostratigraphic and facies analyses and foraminifer and nannoplankton assemblage studies were carried out. Integration of the