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Messinian benthic foraminifera from the Mediterranean

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The Messinian salinity crisis (MSC), affecting the Mediterranean area around 6 Ma may be considered a critical boundary on a regional scale, although evidence exists that its effects were more far-reaching. Integrated stratigraphy allows us to place the event within a well-constrained time frame. The sequence of events preceding this late Messinian evaporative phase, however, is still not fully resolved. It has proven problematic to derive reliable paleoenvironmental information from Messinian Mediterranean sediments. A generally accepted scenario is that severance of the Betic and Rif Corridors (SE Spain and NW Morocco, respectively) isolated the Mediterranean more or less completely from the Atlantic. Different stages in the Messinian restriction of the Mediterranean are tentatively correlated with uplift in different areas of the Corridors. It is still not clear what the precise effects were of this restriction, for instance, whether surface- and/or deep-water salinity rose long before the actual MSC, and if so, when, and to what extent.

We will present data derived from benthic foraminiferal faunas, covering the Messinian up to the start of the evaporative phase. Paleoenvironmental reconstructions were made at several locations and at different paleowater depths, aiming at development of a more accurate scenario of the pre-MSC events.