

EGU24-22574, updated on 09 Dec 2024  
<https://doi.org/10.5194/egusphere-egu24-22574>  
EGU General Assembly 2024  
© Author(s) 2024. This work is distributed under the Creative Commons Attribution 4.0 License.



## Gateway to a salt giant: a new record of the Messinian Salinity Crisis from the westernmost part of the Mediterranean

Emmanuelle Ducassou<sup>1</sup>, **Rachel Flecker**<sup>2</sup>, Trevor Williams<sup>3</sup>, and the IODP Expedition 401 participants\*

<sup>1</sup>UMR Environnements Paléoenvironnements Océaniques et Continentaux, Université de Bordeaux, France

<sup>2</sup>School of Geographical Sciences, University of Bristol, UK

<sup>3</sup>International Ocean Discovery Program, Texas A&M University, USA

\*A full list of authors appears at the end of the abstract

Salt giant formation is dependent on the dimensions of the connection linking the marginal basin to the open ocean and the nature of exchange between them. However, records from these connecting straits are rare, making it difficult to test connectivity scenarios. As part of the IMAGE Land-2-Sea project, Integrated Ocean Discovery Program Expedition 401 drilled a new site, U1611, in the Alborán Sea. This basin is thought to have been part of the corridor that linked the Mediterranean with the Atlantic during the formation of the late Miocene salt giant. More than 600 m of sediments were recovered from Site U1611 spanning the early Messinian to early Pliocene. Here we present preliminary results and consider their implications for the origin and evolution of the Messinian Salinity Crisis.

**IODP Expedition 401 participants:** Udara Amarathunga, Barbara Balestra, Melissa Berke, Clara Blättler, Shamar Chin, Moumita Das, Kosuke Egawa, Gemma Ercilla, Ferran Estrada, Natacha Fabregas, Sarah Feakins, Simon George, F. Javier Hernandez Molina, Wout Krijgsman, Zhiyang Li, Jiabo Liu, Johanna Lofi, Danielle Noto, Fadl Raad, Manuel Teixeira, Francisco Javier Rodriguez-Tovar, Francisco Javier Sierro, Patricia Standring, Jonathan Stine, Erika Tanaka, Xunhui Xu, Sophie Warny, Shaoru Yin, Mohamed Zakaria Yousfi