

Research vessel SONNE

SO318: 22.02. – 26.03.2026

San Diego – Ensenada – San Diego

Fifth and last weekly report: 23. – 26.03.2026



During our fifth week—specifically on Monday, March 23—we were able to conduct one final dive, the 17th of our expedition. Our target area consisted of north-south-oriented faults on the seafloor; these faults deviate in orientation from the main San Clemente Fault and are associated with the uplift of the region caused by local compression along the strike-slip boundary. Here, too, the AUV maps revealed morphological elevations indicative of barite deposits. The dive proved fascinating, as towering before us were complex rock formations—several meters high—composed entirely of monomineralic barite. Once again, we observed fresh barite precipitates covered in bacterial mats, providing clear evidence that the area is characterized by active fluid seepage. A CTD station marked the conclusion of our fieldwork, as Tuesday and Wednesday were dedicated to packing up scientific equipment and clearing out and cleaning the laboratories. Today—Thursday, March 26—we arrived in San Diego, where the first scientists are already disembarking. Others remain busy packing the shipping containers, which are also being offloaded today.

Expedition SO318 has thus come to an end. We look back on the tremendous scientific successes achieved during the expedition in the California/Mexico Borderland, successes that will lead to a new understanding of the significance of barite seeps. However, the fact that these successes were attainable is also thanks to the research vessel SONNE, its Captain Tilo Birnbaum, and his outstanding crew. Great praise is also due to the operations center in Hamburg and the embassies in Washington and Mexico City, which provided us with invaluable support throughout the expedition. As Chief Scientist, I was delighted to have the opportunity to carry out this expedition—conceived long ago—and to do so alongside a truly wonderful team (Fig. 1) on board. It was a source of great joy for me, and I am confident that new future collaborations have been forged among the scientists involved.



Fig. 1: The participants of the second leg of Expedition SO318. (© Niklas Moennich)

All expedition participants (crew and scientists) are safe and sound!
Greetings on behalf of everyone, Gerhard Bohrmann

FS SONNE in the Port of San Diego, Thursday, March 26, 2026