Bursary recipient: Dominik Zawadzki, Faculty of Geosciences, University of Szczecin Poland

Host Scientist: Emily M. Klein, PhD, Chief Scientist, *R/V Sally Ride Lea 1806*

Cruise location and date: East Equatorial Pacific, April-May 2018

The cruise was funded by the US National Science Foundation and organized by Duke University and Woods Hole Oceanographic Institution. Participation of Dominik Zawadzki was made possible through support provided by InterRidge.

Aboard *R/V Sally Ride* (Leg 1806), from April 20 to May 26, 2018 (23 science days), we performed geophysical surveying and rock sampling along the western portion of the Cocos-Nazca (C-N) spreading center (Figure 1). Our overall goal was to elucidate the development of magmatic seafloor spreading in the vicinity of the Galapagos Triple Junction, where the western tip of the C-N Rift is rifting ~0.5 Ma crust accreted on the east flank of the East Pacific Rise (EPR) near 2˚15'N. We collected bathymetric, magnetic, and gravity data over a total of ~10 days of geophysical surveying, covering a V-shaped area extending eastward from the Hess Deep Rift to ~98.5°W and including on- and off-axis terrane not previously surveyed. The survey also included collecting magnetic and gravity data across the Galapagos microplate to understand its initiation and evolution. We also performed a total of 66 dredges (3 empty) over a total of ~13 days, including 60 dredges along the C-N rift and adjacent EPR, three dredges on the Dietz Volcanic Ridge, one southeast of the Dietz Volcanic Ridge, and one at the southern triple junction with the EPR at 1° 10'N (Figure 2). Our final dredge was conducted on the EPR at 3° 38'N as we left the study area to transit to San Diego. On shore, the geophysical data and samples will be analyzed to shed light on the initiation and evolution of seafloor spreading.

Our science party comprised a diverse international group of undergraduate and graduate students and research scientists from Poland, Spain, Russia, and the UK, as well as the US. During our cruise, we posted regular updates on our cruise blog and social media, which was followed by people around the world. For more details check: https://blogs.nicholas.duke.edu/cocosnazca/

The participation in the cruise created opportunity to exchange the knowledge, gaining experience on board and learning more about tectonic and magmatic processes along this intermediate-spreading ridge. Since some samples of the manganese crust dredged during the cruise were shipped to University of Szczecin they will be further analyzed.

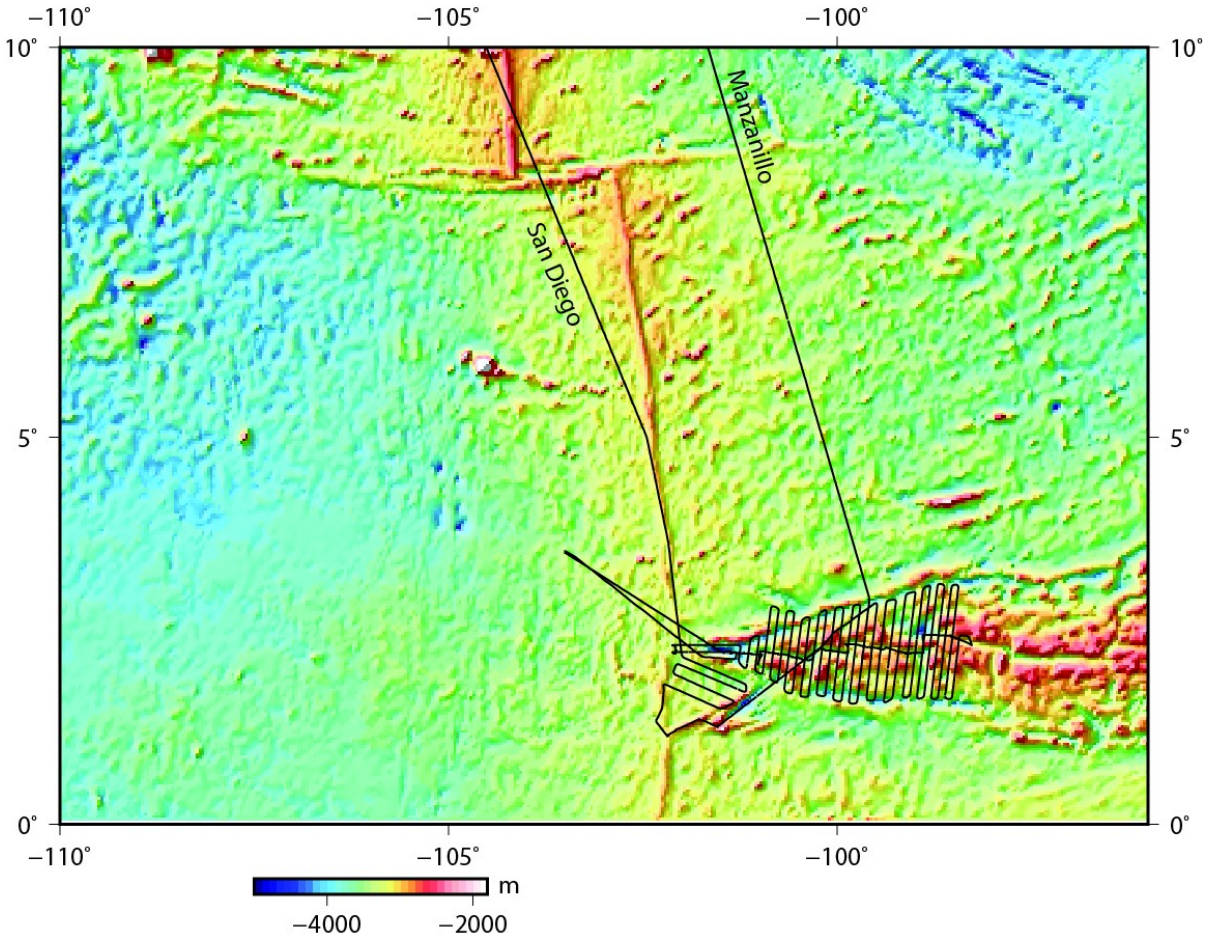

Fig. 1. Cruise track.

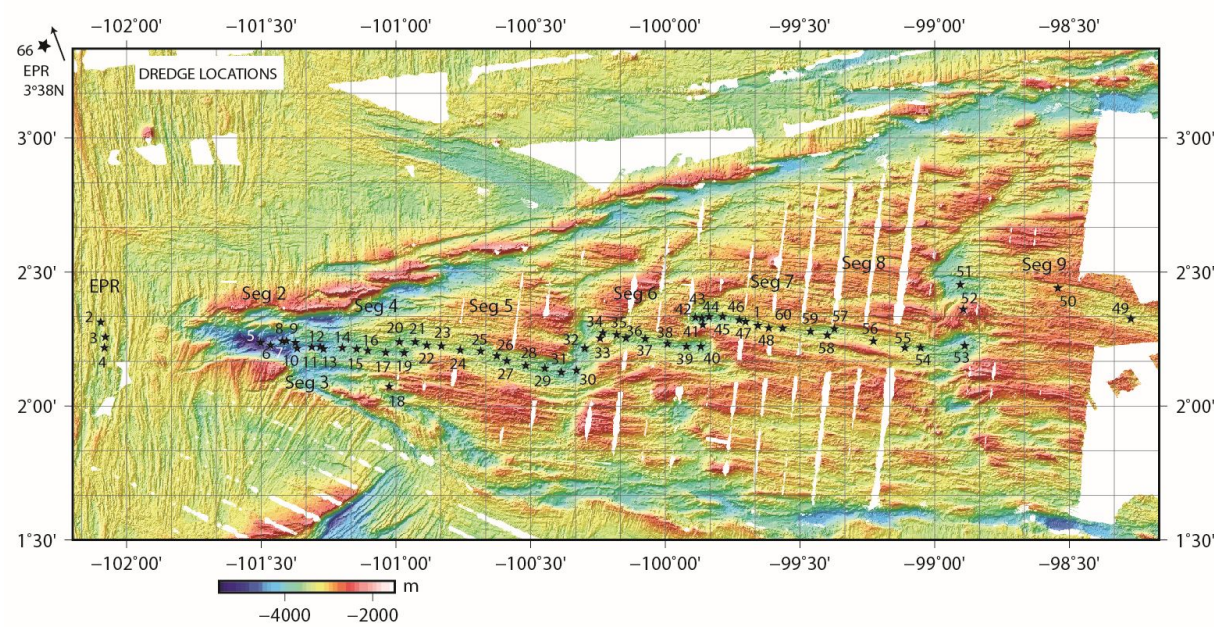

Fig. 2 Bathymetric map and dredge locations along the Cocos-Nazca Rift and East Pacific Rise.


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