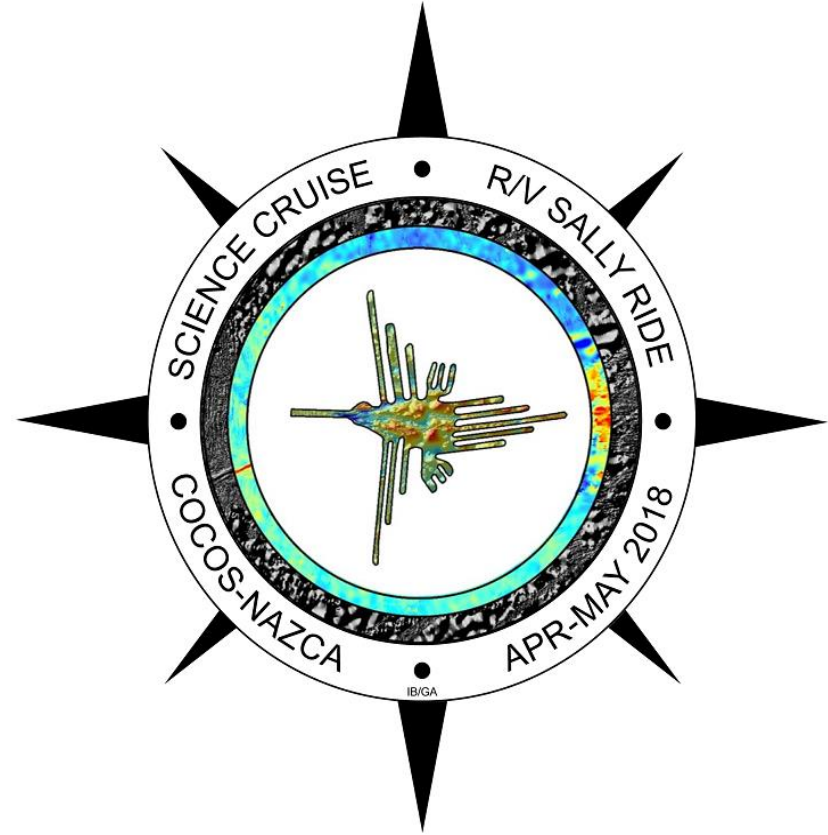




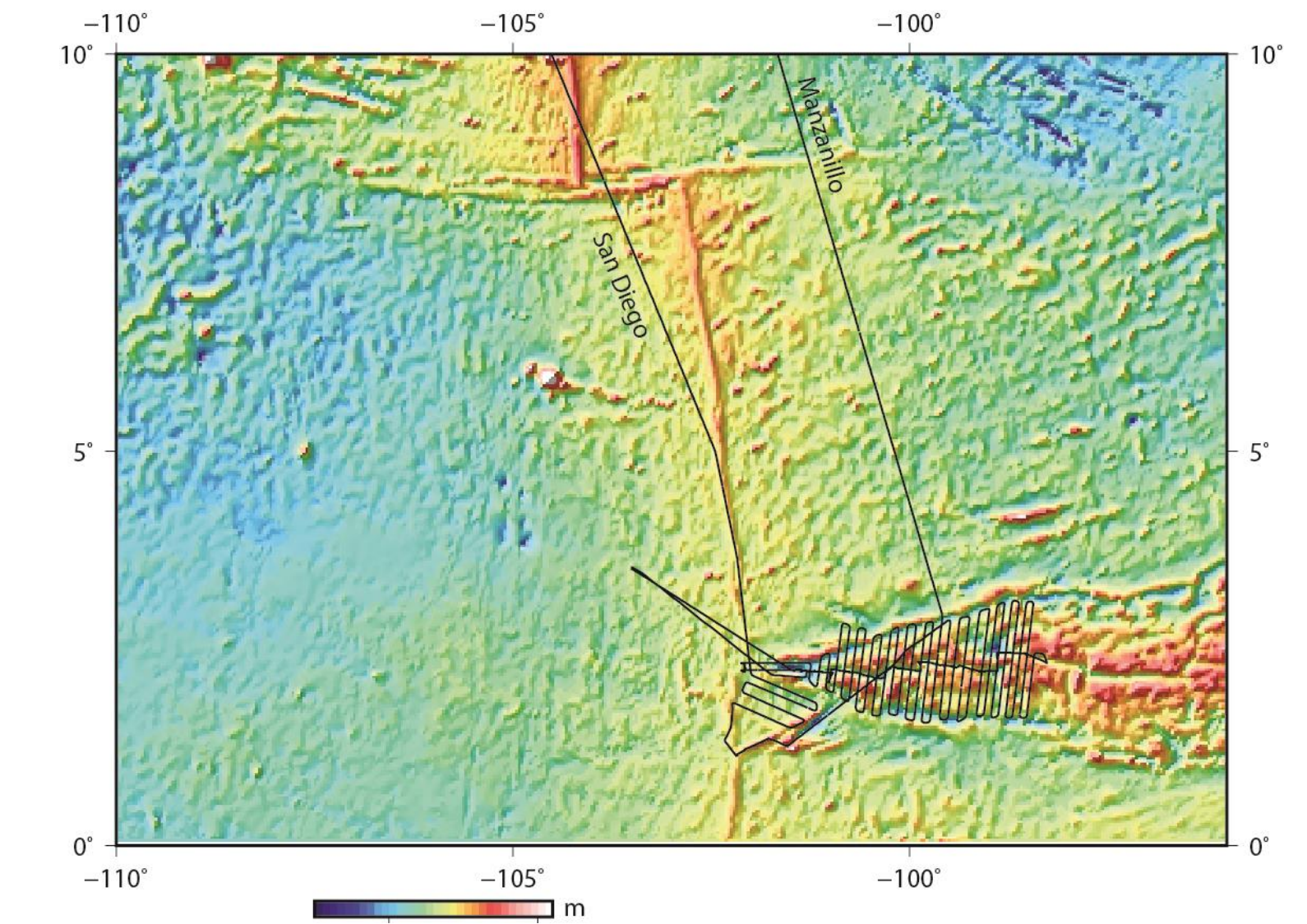
Science party in front of the R/V Sally Ride.



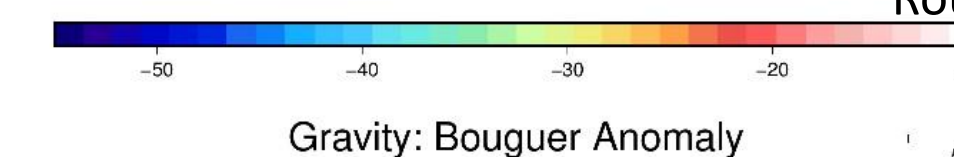
# Cocos Nazca Rift Cruise 20 April – 26 th May 2018 R/V Sally Ride

Elvira Latypova,  
Saint Petersburg State University, Russia  
ehllatypova@yandex.ru

A fundamental question in the study of mid-ocean ridges focuses on how spreading centers initiate and evolve in different settings [e.g., [Bonatti, 1985](#); [Lonsdale, 1989](#); [Manighetti et al., 1997](#); [Taylor et al., 1995](#); [Van Wijk and Blackman, 2005](#)]. A related question is how the dominant style of tectonic segmentation observed along a particular ridge is established, and its relationship to the initial rifting configuration [e.g., [Augustin et al., 2014](#); [Bonatti, 1985](#); [Ligi et al., 2012](#); [Schouten et al., 1985](#); [Taylor et al., 1995](#)]. While most rift-to-drift studies focus on rifting of continental lithosphere, the Galapagos Triple Junction (GTJ) region offers an opportunity to examine these questions in an oceanic setting, which may serve as a complement to studies of continental rifting. Previous studies have explored divergence and initial rifting in continental environments such as the East African Rift. But there are few places along the mid-ocean ridge system where one can explore various stages of divergence from initial rifting through full seafloor spreading. The Cocos-Nazca spreading center offers an opportunity to examine these and related questions.



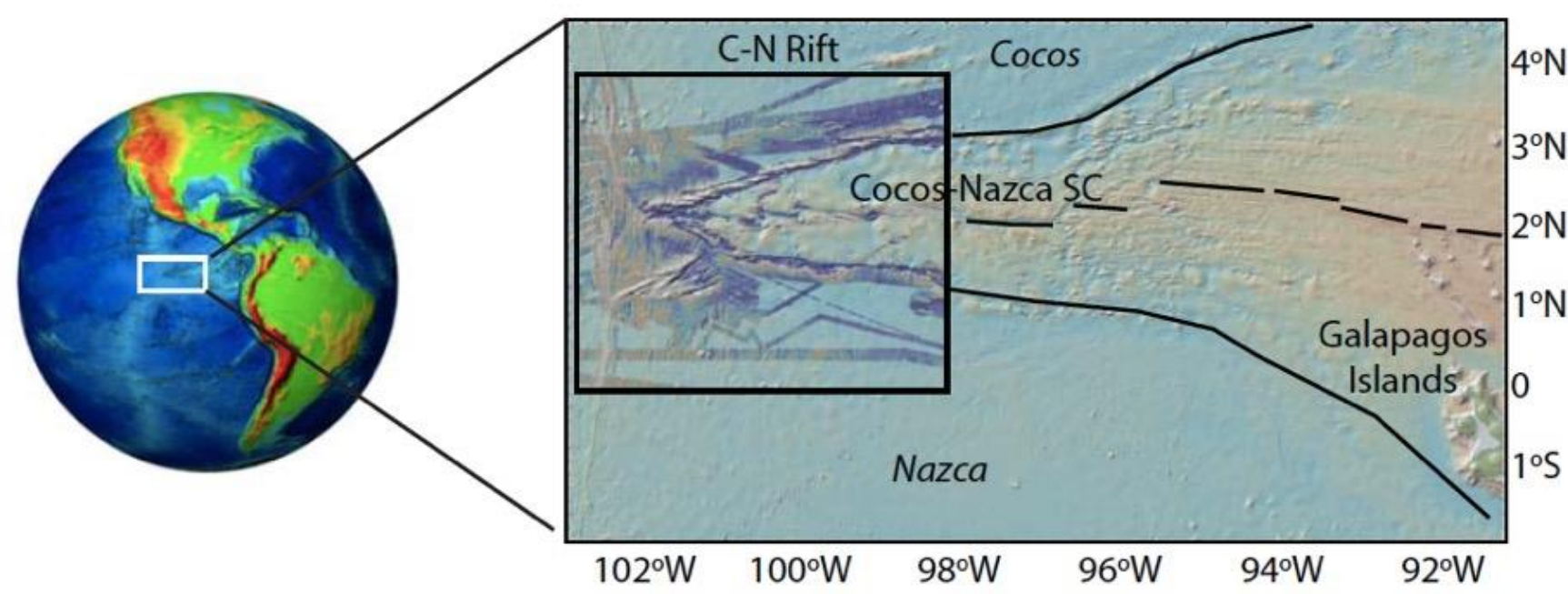
Route map of the ship with bathymetry



Gravity and magnetic anomaly data



The Cocos Nazca Rift Cruise changed my life. Science brings nations together!  
Friendship and Science! ☺

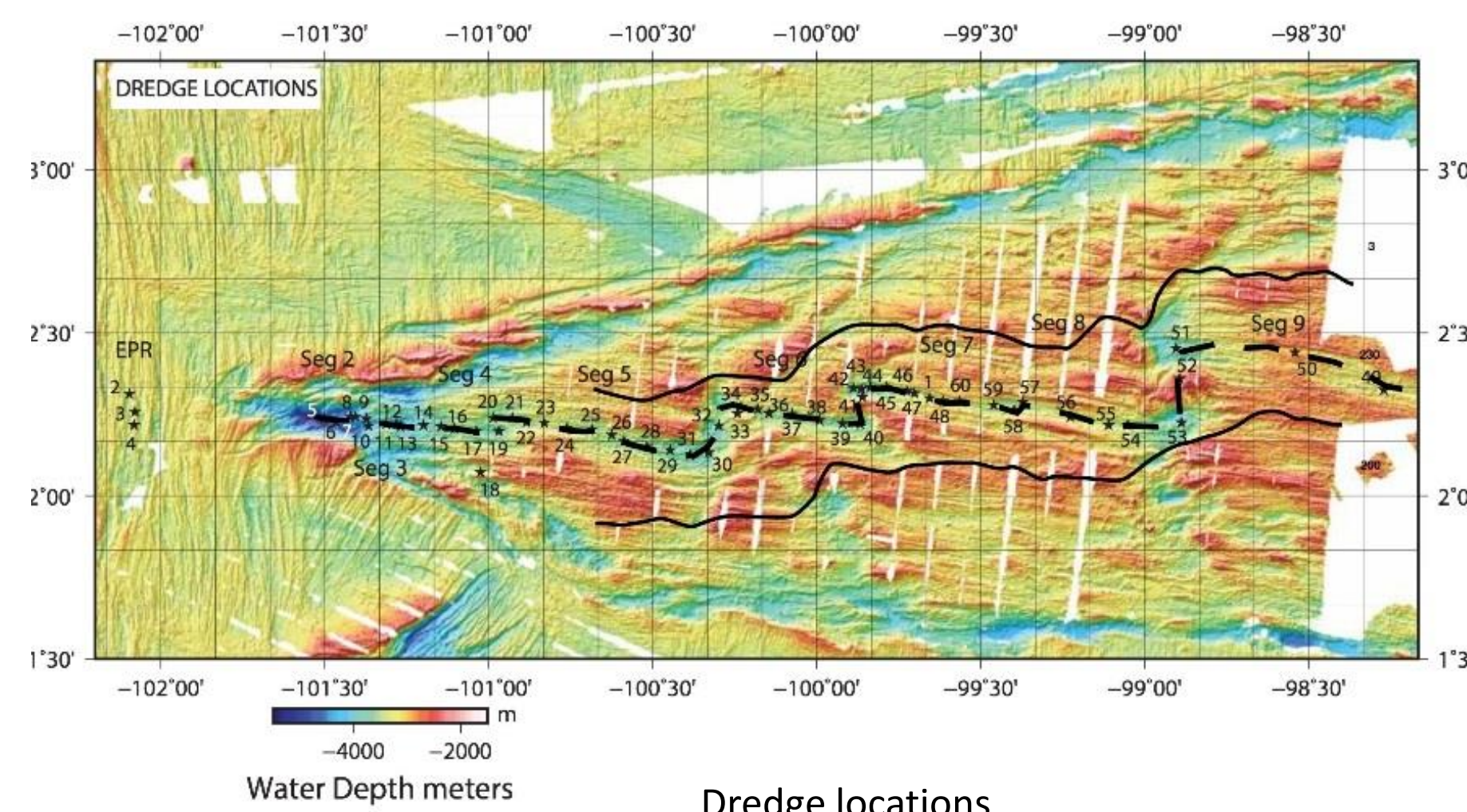


Map of the Galapagos Triple Junction (GTJ) region

During the 37 days of cruise were collected bathymetry, magnetic anomaly and gravity data. A total of 66 dredges were performed, of which 63 recovered rock samples. Bathymetry data were acquired using a Kongsberg EM122 multibeam echosounder.

The magnetic field was measured with a Marine Magnetics SeaSPY manufactured by Marine Magnetics.

Gravity was measured with a Bell Aerospace BGM-3 gravimeter housed on the First Platform Level in the forward, starboard section of the deck.



Dredge locations



Contents of our second dredge of the expedition and our first dredge of the East Pacific Rise

To say that the Cocos Nazca Rift Cruise expedition has changed my life means to say nothing. And after 2 months I try to understand what happened with me. Probably I can compare the Cruise with expeditions into open space.

I am grateful to InterRidge for providing this opportunity to participate on the Cocos Nazca Rift Cruise. I also want to say many thanks to Emily Klein, Debbie Smith, Joe Cann, Kamil Szafranski, Ross Parnell-Turner, Alexei Zheleznov, Captain Dave, crew and science party aboard R/V Sally Ride. Thanks to all of you for the incredible adventure at the equator.