

IODP Expedition 390: South Atlantic Transect 1

Week 8 Report (29 May–4 June 2022)

In the eighth week of International Ocean Discovery Program (IODP) Expedition 390, South Atlantic Transect 1, we completed our transit back to Cape Town, South Africa, and began port call activities. The failed drawworks brake was removed from the vessel and the replacement was installed.

Operations

At the beginning of Week 8, the vessel was in transit back to Cape Town from Site U1559, after the failure of the forward electromagnetic drawworks brake ended operations for Expedition 390. The vessel completed the final 68 nmi of the 1724 nmi transit on 31 May 2022, arriving at the pilot station at 0800 h. The pilot boarded at 0811 h, and the first line was ashore by 0924 h. The failed drawworks brake was positioned on the rig floor for removal from the vessel. On 2 June, the replacement brake arrived in Cape Town and was transported to the repair facility. The hub was installed on the replacement brake on 3 June, and the brake was reinstalled on the vessel in the following days.

Additional port call activities included receiving freight for Expedition 393, testing the Magnetic Susceptibility Sonde on the triple combo logging tool string, and loading bulk barite and sepiolite.

One member of the science party departed the vessel on 3 June, and 19 more left on 4 June.

All shipboard personnel are following COVID mitigation protocols, including daily antigen testing.

Science Results

During transit, the science party completed writing and editing shipboard reports. Additionally, we held a series of research talks addressing broader science concepts, such as microbial contamination tracers, the spreading history of the South Atlantic, environmental magnetics, and isotopic redox proxies. On 4 June, the Expedition 390 science party conducted virtual laboratory group crossover meetings with their Expedition 393 counterparts, who are currently in the hotel in Cape Town for their seven-day quarantine period.

Education and Outreach

The following outreach activities took place during Week 8.

- Posted two new “Expedition Log” (blog) posts, including one with video and a guest post by Co-Chief Scientist Roz Coggon.
- [Facebook](#): Reached 6,711 people and added 89 new followers.
- [Twitter](#): 511 engagements and 89 new followers.
- [Instagram](#): Five new posts, including three videos, reaching 1,582 accounts; gained one new follower.
- Completed three ship-to-shore broadcasts, reaching audiences in three countries (USA, China, and Germany).

Technical Support and HSE Activities

The following technical support activities took place during Week 8.

Laboratory Activities

- General
 - Offgoing shipments were prepared.
 - Items for Expedition 390 that arrived in South Africa after departure were received.
 - Air shipments for Expedition 393 were received.
 - Laboratory cleaning and other end-of-expedition activities occurred.
- Core Laboratory
 - An experiment with the moisture and density system was conducted to determine what is the minimum volume sample that can be accurately run.
 - The superconducting rock magnetometer was cooled back down and the field retrapped so that background noise issues could be tested.
 - The Section Half Imaging Logger was recalibrated after reorganizing the light power cables.
 - Documentation for the shatterbox grinding vessels was generated.
- Fo’c’s’le Deck Laboratories
 - The Carver presses were inspected and the oil was topped off.

Application Support Activities

- Worked on the new Sample and Data Request Manager.
- SampleMaster bugs were addressed.
- An uploading issue with the modularized MegaUploaderTron (MUT) system on the KappaBridge instrument was resolved.

- Investigations into the IMS modularization project continued.
- End-of-expedition activities are underway.

IT Support Activities

- EIVA issued a temporary second license as a workaround to troubleshoot an issue with installing an instance of Helmsman, the replacement for JRGoogleEarth, on the ship information computer.
- An issue with delayed emails (onshore forwarding and caching service) was resolved by TAMU IT.
- Accounts and distribution lists were established for Expedition 393.
- Firmware updates were installed on several printers.
- A Confluence vulnerability was addressed by installing version 7.18.1 on shore.
- The new portable X-ray fluorescence device was tested.

HSE Activities

- Emergency shower and eye wash stations were tested.
- COVID mitigation protocols were implemented after the pilot came onboard.
- Daily antigen testing for all onboard personnel started on 3 June.