

OceanX + OceanQuest - Around Africa Expedition 2025

Leg 1, Moroni, KM – Cape Town, ZA

Weekly Report 1 (27-30 January 2025)

This week was all about traveling, settling in, and getting our equipment onboard the *RV OceanXplorer*. The participating science team arrived in Moroni, Grande Comore (Ngazidja), Comoros, in several batches over the last few days. Some arrived Monday afternoon, others Tuesday, and the largest group landed Wednesday afternoon. Grande Comore is the largest of four islands making up the Comoros, an Indian Ocean nation off the coast of East Africa, dominated by Mount Karthala. This active volcano last erupted in January 2007. Our starting port for this expedition, Moroni, is a vibrant city with a rich history and Swahili-Arab influences.

Tuesday morning was dedicated to a visit to the University of the Comoros. There, Nico Augustin (OceanQuest) introduced the Around Africa Expedition, representing OceanQuest, OceanX, and the international science party, to an audience of students and scientists from the Faculty of Science and Technology. The event was well-attended, with an engaged audience showing great interest in the mission. The presentation was followed by a Q&A session, where participants had the opportunity to discuss the expedition in more detail. The visit concluded with a short tour of the marine ecology laboratory, offering insights into local marine research initiatives.



The presentation at the University of the Comoros was well-attended and followed by a lively Q&A session, where students and faculty engaged in discussions about the expedition. Fun fact: navigating a few language barriers added to the experience, with a local colleague stepping in to translate into French.

Since the port of Moroni is too shallow for the *OceanXplorer*, the ship was waiting just outside, anchored offshore. On Thursday afternoon, all arriving scientists and crew were transferred to the vessel via tender boat, and by 4 PM local time, the full team was onboard. From the very beginning, the crew welcomed us warmly, ensuring that we felt at home on board. Everyone has been incredibly friendly and helpful, making the transition smooth.



Approaching RV OceanXplorer via a zodiac. The sea looks calmer in that image than it was. Some of us did not make it to the vessel entirely dry.

The RV OceanXplorer is not just a research vessel - it's an impressive floating laboratory packed with some of the most cutting-edge oceanographic equipment, such as submersibles, ROVs (remotely operated vehicles), advanced DNA laboratories, multibeam sonar, and CTD systems for analyzing the ocean environment. Seeing this technology firsthand is thrilling, and the ship itself is comfortable and well-equipped for life at sea.

Of course, a research vessel is a working platform, and right after arrival, everyone onboard started familiarization sessions. This included safety briefings, introductions to lab spaces and equipment, and learning about ship facilities - such as the crew mess, workspaces, lounge, laundry, and shared cabins. Since this ship will be our home and workplace for the next three weeks, settling in was a priority on the first evening. After long journeys - some over 24 hours of travel - many of us turned in early to rest, though a few stayed up chatting, excited about the mission ahead.

One of the day's highlights was the fantastic news that we received permission to sample and collect data within Madagascar's Exclusive Economic Zone (EEZ)! This is a huge bonus for our transit, as it allows us to conduct daily CTD casts, collecting crucial water column data like temperature, salinity, oxygen levels, and chlorophyll concentrations. Additionally, we'll take water samples from different depths and record multibeam sonar data to map the seafloor. This makes the long journey scientifically valuable and allows us to maximize our research efforts.



A view from RV Ocean Explorer towards the southern part of Grande Comore, Moroni Port and the 2361 m high volcano Mt. Karthala.



Everyone was deeply impressed when standing in the hangar and looking at the huge, 1000-meter-rated 3-person occupancy submersibles equipped with camera systems, manipulator arms, push corer, and sampling systems.



A small but exciting detail we found on OceanXplorer: this little sculpture shows one of the animals we hope to find traces of at Walters Shoal – a Coelacanth, the ancient-looking fish often referred to as a living fossil, which was thought to be extinct since the age of dinosaurs but discovered living off the coast of South Africa in 1938 and the Comoros Islands in 1952.



Thursday morning's meet-and-greet session brought together the OceanX crew and the science team, fostering connections before the expedition begins. We have an incredibly diverse group onboard - 18 scientists from 10 nations: South Africa, Mozambique, Madagascar, Kenya, Tanzania, Comoros, Saudi Arabia, Brazil, Portugal, and Germany. Beyond being international, the team is also well-balanced in gender, with 8 women and 10 men, representing a mix of career stages - from seasoned experts to early-career researchers eager to learn and gain hands-on experience during the expedition.

Before setting sail for our first main working area, 1300 nautical miles south of Comoros, we received the final equipment shipments from South Africa, along with additional ship supplies and food—just as crucial as the lab gear for a long expedition! Thanks to the efficiency of the port agent, everything cleared customs in record time and was swiftly transported to the ship via multiple tender boat runs from the port. Scientists and crew worked together seamlessly, ensuring all equipment and supplies were safely loaded onboard.

With everything in place, we officially set sail toward Walters Shoal at 5:30 PM, ready to begin the next phase of our journey!



It was a huge relief that all our scientific equipment, shipped from South Africa, arrived in Comoros just in time - despite last-minute airline schedule changes and freight handling delays. Once the gear is in transit, it's out of our hands, and any delay could have caused serious challenges. Thankfully, our local freight and port agents - whose services are essential for every seagoing expedition - did an outstanding job, ensuring everything made it onboard at the last minute.

All participants are doing well, and the atmosphere on board is fantastic. We are excited, well-prepared, and in great hands on the RV OceanXplorer. Looking forward to the journey ahead!

Greetings from RV OceanXplorer.

Nico & Lara