

Expedition SO MerMet17-06 – IceAGE3
Emden – Emden
Weekly Report No 3
06.07. - 12.7.2020



From Lónsjúp and Papagrunn to the Reykjanes Ridge

At the beginning of the third week, the most beautiful weather was expected at Lónsjúp, a coral reef, with a spectacular view of Iceland's glacier. The SONNE lived up to its name during the two ROV dives and in addition to the wonderful weather, the ROV Kiel 6000 also brought fantastic samples and videos to the surface. The dives on the neighbouring coral reefs Lónsjúp and Papagrunn were planned and then carried out via DFN conference directly on board the SONNE in cooperation with our Icelandic colleagues from the Institute for Marine Fisheries and Research (MFRI, Reykjavik) and the EU project iAtlantic. Based on the previous expeditions to these reefs in 2009, 2010 and 2012, we were able to answer further questions. How deep do the coral reefs extend? What is the re-settlement of the reefs after the protection in 2011? Where can longlines be found as a secondary hard substrate? All in all, the three dives on Monday, Wednesday and Thursday were a complete success.



Figure 1: On Thursday, calm seas and Iceland in view allowed us to see RV Sonne from the outboard.



Figure 2: Left - *Ascesta excavata*, a > 10 cm shell that permanently filters water and ingests food through its tentacles. Various questions can be answered on the shell of these shells - including answer to acidification of the oceans at different water depths. Right - The close-up view of the seabed opens up magical moments in which hard corals can be seen as the home of small crabs and other animals.

Before that, we had a very successful day with the benthic equipment in work area 5 on Tuesday, so that after the last dive in Lónsdjúp we were able to complete the northern transect and go to the 6th work area. Just in time for the "half time" of this trip, we were in the southern transect and were able to launch the first of a total of three *ARGO* floats on Saturday in work area 6.

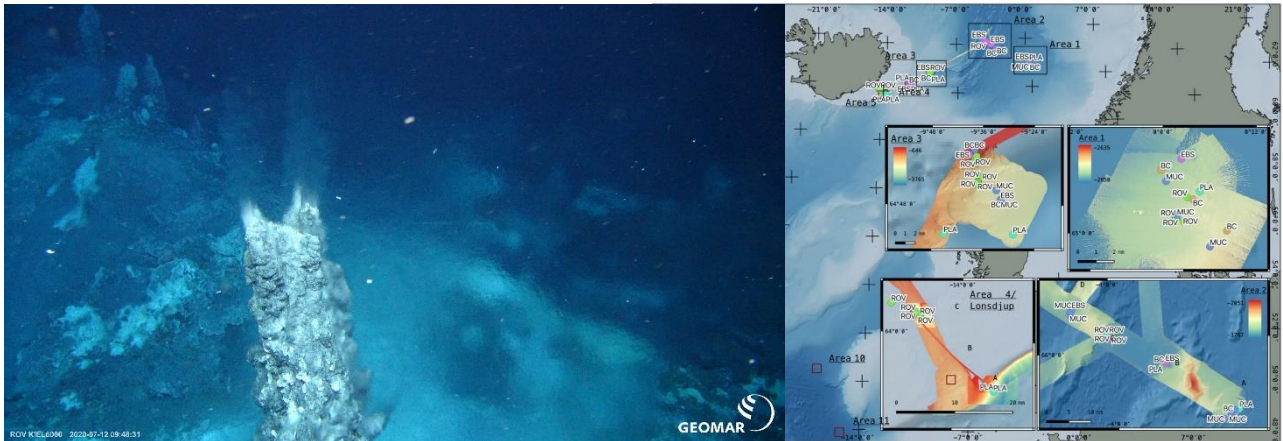


Figure 3: Left - The newly discovered hydrothermal spring, here the main chimney from which it "smokes black" surrounded by bacteria mats; Right - Halftime, sampling on the northern transect is complete. We are now in work area 7. Map created by Mia Schumacher.

In the early Sunday morning we started "hunting for the hydrothermal vents" on the Reykjanes Ridge together with the colleagues on-line via DFN. As a result of the "IceAGE_RR" expedition (MSM75 in 2018) we were able to start a "bubble hunt" with the multibeam and the "fish sonar" from Saturday to Sunday. Building on the precise maps of the ground topography, combined with the data from the nightly bubble hunt and the signals measured by GEOMAR AUV Abyss during MSM75, we started a promising ROV dive on Sunday morning. At 11:40 am the sensation was perfect: we discovered the hydrothermal vent! We are very happy that our assumption has been confirmed. The week started and ended successfully. We are looking forward to another two dives in this area at the beginning of the new week.

We send the very best greetings to everyone "at home" and ashore from RV Sonne,

Sunday, July 12, 2020

Saskia Brix
Senckenberg by the sea