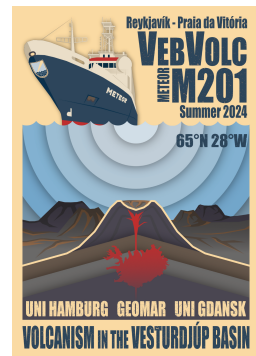


## FS METEOR

### Expedition M201 VebVolc

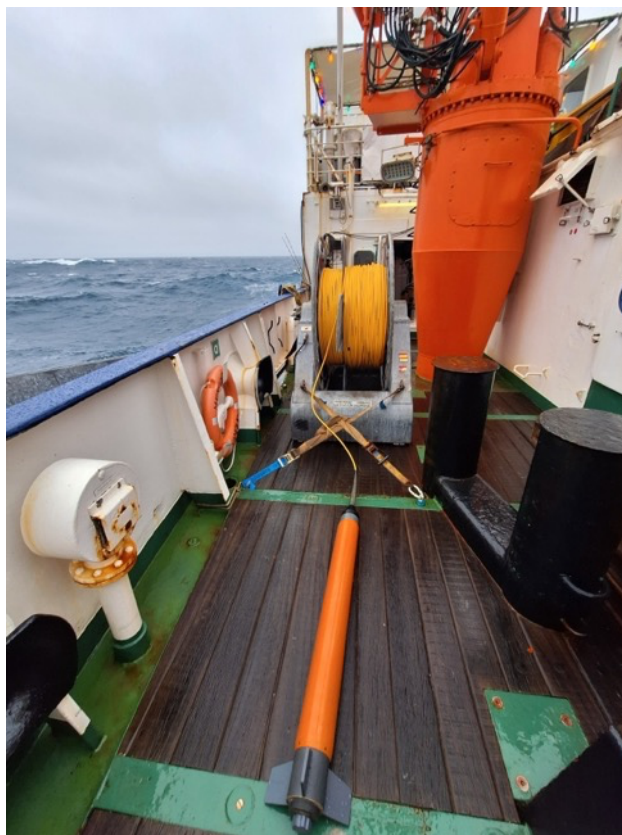
09.06. – 18.07.2024 | Reykjavik – Praia da Vitoria



### 5. Weekly Report (01. - 07. July 2024)

Our fifth week at sea started Monday morning with some last dredges before the fourth seismic profile, designed to densify the seismic and magnetic data in the central area of the Vesturdjup volcanic field, starting after breakfast.

Along with the seismic reflection equipment, containing the air guns and hydrophones, we also tow a magnetometer. The magnetometer measures variations in the local geomagnetic field caused by, for example, magmatic intrusions deep under the seafloor or hydrothermal alteration of the oceanic crust and volcanoes. These magnetic anomalies can, when carefully post-processed after the expedition, help us to interpret the seismic data and gain more information about the subsurface, the age of the oceanic crust, and the magnetic properties of the Vesturdjup seamounts.



*Left: The Magnetometer (orange tube) laying on deck. It is deploys via an own winch and the yellow cable transports energy and data. Right: Processing magnetic data requires thorrow post-processing and includes a good amount of coding. © J. Preine*

The weather was rougher most of the week, and seismic Leg 4 took a bit longer than planned due to minor electronic and mechanical issues. However, nothing critical, though, and we collected data from all the planned profiles. After the seismic team recovered the gear late at night on Thursday, the seafloor sampling and observations were done again. We had four more successful dredge tows and two gravity cores, and luckily, the weather calmed down over the weekend. Thus, we also had four more OFOS dives at the Vesturdjup volcanic cones. This week's sampling was designed to cover the more remote seamounts at the edges of the working area to collect samples that may help us to investigate if and how these volcanoes differ from the central part.



*After some heavy weather with up to 3.5m waves last week, we had a beautiful North-Atlantic Saturday with blue skies and calm seas © N. Augustin*

The last OFOS station of week five ended Sunday late at night, 23:00, when we began to prepare for the last seismic Leg of M201, which is planned to be finished by Wednesday afternoon.

All participants are fine, and the atmosphere on board is still superb.

On behalf of the M201 science party, greetings from aboard the RV METEOR,

*Nico Augustin*

Chief Scientist