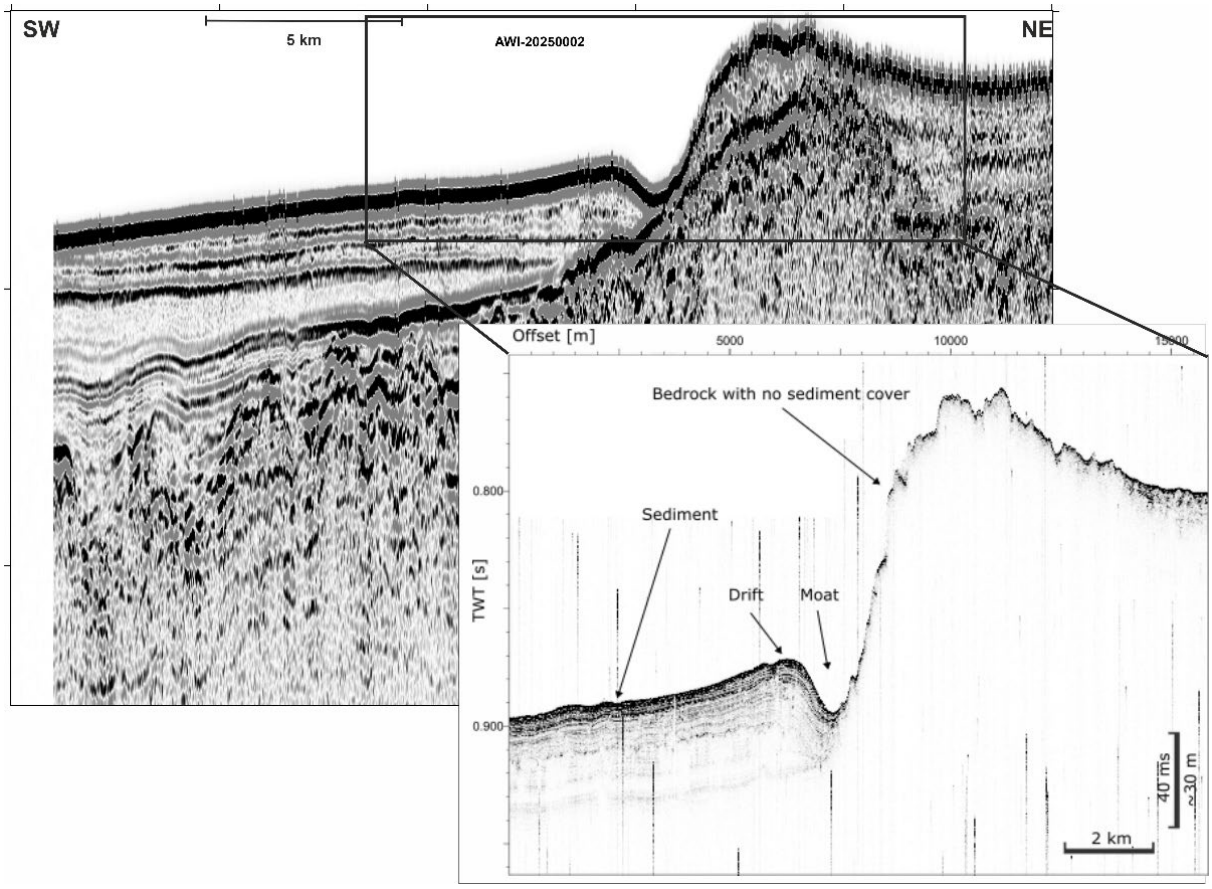
Expedition MSM 138
Reykjavik - Reykjavik

Weekly report No 3
June 30 – July 6 2025

This third week has also been very busy gathering data across the Iceland Faroe Ridge. Three different methods are employed: seismic reflection profiling to image the deeper structures, the sub-bottom profiler Parasound to resolve the near-surface structures, and a multibeam system to collect an image of the seafloor topography.



Part of seismic profile AWI-20250002 with the corresponding Parasound profile, which shows moat and a sediment drift in high resolution

We are using a sub-bottom profiler for imaging the internal sedimentary architecture in the upper 10s of meters below the seafloor in very high resolution. This technology allows us to identify

sedimentary structures that were shaped by ocean currents. Based on the data, we pinpointed areas where sediment has been eroded and relocated, as well as zones with different rates of sediment accumulation.

Preliminary results show huge differences between the northern and southern flank of the Iceland Faroe Ridge. On the northern flank, we see sediment accumulating but no specific features. In contrast, we find very fascinating sedimentary structures on the southern flank. These structures include plastered drifts, separated mounded drifts as well as moats and erosional surfaces. By analysing the development of these features in detail, we can reconstruct the history of ocean current dynamics.

This past week the weather gods were very kind to us and sent a few days with sunshine and calm seas. Half of the expedition has already past. Time flies by quickly! Now we have to plan very carefully to ensure a meaninful coverage of the ridge with our profiles.

Lots of greetings from all of us.

Nordatlantik, 6. Juli 2025, 63° 35.678 N / 8° 43.743’ W

Henriette Wilckens
Gabriele Uenzelmann-Neben

Alfred-Wegener-Institut, Helmholtz-Zentrum für Polar- und Meeresforschung (AWI)

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