



3. Weekly Report (24.07- 30.07. 2023)

The alternation of multibeam/magnetometer surveys and dredging continued during this week. The focus of our efforts now lay on the southern half of the working area, near the little volcanic island of Linosa (Fig. 1) and the Linosa Graben (see Fig. 1 map in first weekly report). Although the selection of suitable dredge locations was severely limited by the presence of underwater cables (to which we must keep sufficient safety distance) and the environmental protections zone around the island, we managed to retrieve excellent volcanic rock samples from a volcanic cone field located NW of the island (Fig. 2).



Fig. 1: Starting dredging operations within sight of Linosa (upper left corner), an Italian island of just 5.5 square kilometers in size, dominated by the 195 m high Monte Vulcano. When the photo was taken, a small low-pressure system passed through the working area which made the sea transiently more agitated. Photo: J.G.

North of the Linosa Graben, four previously unknown cones were discovered during an extensive mapping survey (Fig. 3) and volcanic rocks were recovered by dredging. At the end of this week, the vessel returned to the northern part of the Sicilian Channel, where we have recognized several potential volcanic structures during our surveys in the previous week.



Fig.2: Moderately vesicular mafic lava with fresh olivine phenocrysts, suitable for all kinds of geochemical analyzes. The absence of secondary vesicle fillings greatly facilitates rock preparation at the home institutions. Photo: M. Felgendreher



Fig. 3: Busy times in the Hydroacoustics/Magnetometer office while analyzing the incoming data in search for a promising location for dredging. Expert knowledge regarding backscatter, magnetic field, bathymetry and volcanology/geology are factored into the decision making. Photo: J.G.

Everyone on board is doing well and enjoying the nice weather conditions. One can learn more about the expedition participants and follow our activities also on oceanblogs: <https://www.oceanblogs.org/expedition-m191-suave/> or on Twitter with the handle: @GrechLicari

On behalf of the entire M191 science team,

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