



During the sixth week of the cruise, we carried out our last sampling profile across the Kermadec Arc and Havre Trough, including sampling of the Kermadec and Colville Ridges. After completing the sampling of the Hangaroa Volcano in the volcanic front early Monday morning, we spent the next two days traversing the Havre Trough along a NW-SE sampling profile. We sampled the margin of a 4000 m deep basin, several NE-SW trending ridge-like structures and some small cones. Wednesday was spent sampling the deeper portions of a rifted scarp of the Colville Ridge. Then we crossed the Havre Trough again sampling more basin margins, ridges and small, sometimes perfectly conical, cones, ending at the Kuiwai volcanic front stratovolcano, which we sampled at three different sites on Thursday. The next day we dredged several volcanic cones south of Kuiwai. On Saturday we carried out three dredges at different locations on the Ngatoroirangi stratovolcano and then successfully dredged the deepest margin of a nearby 4000 m deep basin. Saturday night, we recovered a nice array of mafic samples from two cones on the Kermadec Ridge, as well as a nearly full dredge of fresh lavas from deeper on the Kermadec Ridge itself. Our final dredge of the cruise was carried out Sunday at noon on the Sonne stratovolcano, named after the old R/V Sonne, which unfortunately was empty. Nevertheless, 83% of all dredges conducted on the cruise recovered hard rocks and thus the overall sampling was very successful. The three major goals of the cruise were to sample the Havre Trough, Colville and Kermadec Ridges (former Vitiaz Arc) and the Kermadec forearc. We were very successful at sampling the full variety of structures in the Havre Trough between 28-35°S, recovering a wide array of fresh lavas and pumice ranging from mafic basalts to rhyolites. Sampling of the Kermadec and Colville Ridges between the aforementioned latitudes was also successful, bringing up a large variety of lavas and volcanoclastic rocks. We had the least success at recovering volcanic rocks from the forearc, where most dredges contained mud or sediments despite dredging on very steep slopes, suggesting that the southern Kermadec forearc is largely accretionary. All in all, we recovered more than enough material for the three doctoral students on board (two German and one Japanese) to successfully carry out their doctoral studies.

The zooplankton sampling goals were achieved through the collection of three vertical net hauls and four oblique net tows. Over 6900 specimens of planktonic gastropods from 37 species were collected, providing abundant material for future morphological and molecular analysis. Atlantids were also successfully maintained under laboratory conditions and pilot ocean acidification experiments were carried out, providing a foundation for future studies.

The microbiological experiments and underway samplings were finished successfully. Huge amounts of sample vials are now packed and prepared for shipping to Kiel.

Sunday evening we celebrated the successful end of our work program, several birthdays and the retirement of one of the ship's crew by grilling on the deck and a small party. The cruise will end three days early, so that the winch holding the deep-sea cable can be fixed before the next cruise. All on board are doing well and are looking forward to reaching Auckland.

Kaj Hoernle and the SO255 scientific crew



Emptying one of the last dredges of the cruise also required a bit of footwork.



Scientists on the night shift loading the samples into boxes for sawing and describing in the lab.



Grilling on deck to celebrate the end of a successful cruise, several birthdays and one of the crew's last voyages before retiring.



Our five star cook enjoying the party after making sure that everyone got more than enough to eat.



SO255 scientific crew: Can you guess who missed the photo shoot and had to photoshop herself into the picture?