

RV SONNE - SO 293 "AleutBio"

Aleutian Trench Biodiversity Studies

24. July – 06. September 2022

Dutch Harbor (Alaska, USA) – Vancouver (Canada)

7th Weekly report

29. August – 04. September 2022



On 29th August we finished the easternmost transect (stations 12-14) and reached our additional station 15 after about 5 hours of travel time. As reported in the last cruise report, we were not able to complete all stations with all equipment due to a storm and thus saved ship time, which we used for the deployment of the box core, multicorer, epibenthic sledge and the Agassiz trawl at station 15. After a successful last deployment of the MUC, we finished the station work around noon on 30 August and departed for Vancouver.

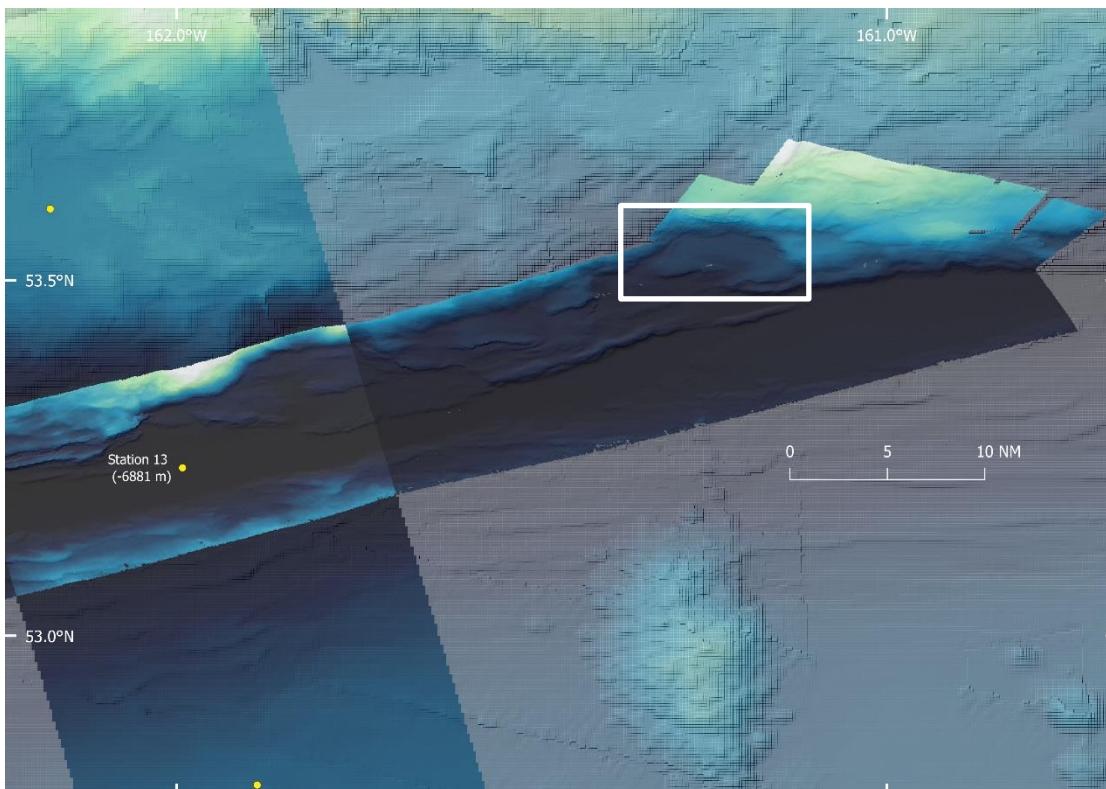


Figure 1: Bathymetric map of the additional station area 15 (white frame).

The following map shows all 15 station regions sampled during the AleutBio expedition.

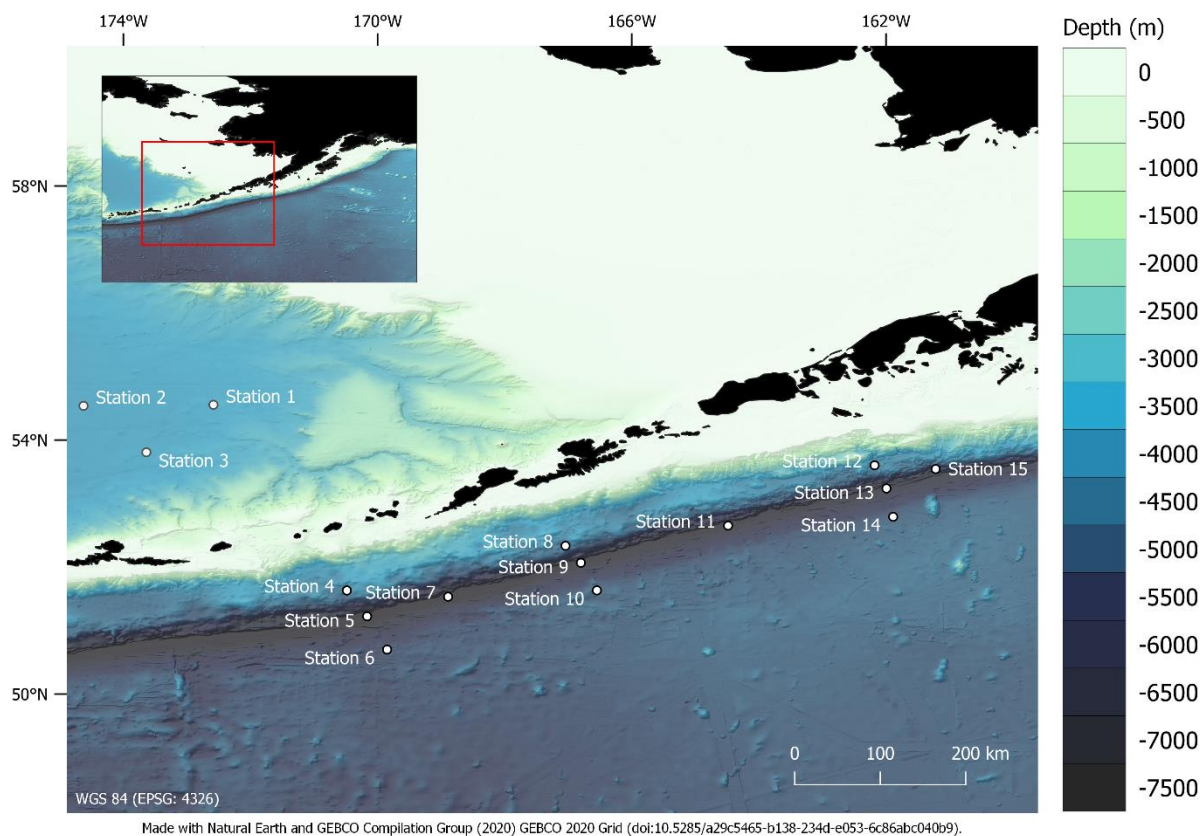


Figure 2: Bathymetric map of all 15 station regions of the AleutBio expedition (SO293).

In the very last Agassiz trawl we caught the Dumbo Octopus, a species we had already seen at the beginning of August by means of the OFOS at station 5. It is most likely *Grimpot euthis imperator* Ziegler & Sagorny, 2021, also known as Emperor Dumbo Octopus, a deep-sea octopus species from the family Opisthoteuthidae. The species is known from a single male specimen found in 2016 in the Emperor Seamounts in the North Pacific between 3900-4400 m depth.

The last days since leaving station region 15 on Monday were used to sort more samples.



Figure 3: *Grimpot euthis imperator* from the AGT of St.15 (left) and from St.5, OFOS (right).



Figure 4: Sorting work in the laboratory on ice as well as preparations for later genetic studies.

As of yesterday (3 September), all samples have been stowed, and we have started to pack our expedition equipment in all labs, to stow everything from the AleutBio expedition including sampling gear in the shipping containers on board.



Figure 5: Packing.

In total on SO293, AleutBio, we were on board RV SONNE for 44 days, 2 hours and 34 minutes, travelling over a distance of 3631 nautical miles. We sampled 15 station areas and 952 stations using standardised deployment of our equipment. Over the course of the last six weeks, we have deployed 108,000 m of single-wire cable and 643,000 m of deep-water cable, the approximate distance from Frankfurt to Monaco.

In our Access database we have recorded 1765 numbers for Kautex jars containing bulk-fixed samples and 4972 inventory numbers for sorted samples. We carry very extensive animal material and PCR products back home to our laboratories. In addition, we have informed the public about AleutBio via 40 daily blogs in two languages (German and English) via the Senckenberg Museum blog site (<https://aleutbio.sgn.one/de/>).

Now we will soon be leaving the RV SONNE. As much as we are looking forward to seeing our families, we will miss the sea and our time on board. Many thanks from the scientific team to Oliver Meyer and his outstanding crew from the bridge to the engine room, to the technical staff, the crew on deck, as well as the kitchen and the service area. Thank you all for your helpfulness and hospitality during AleutBio.

Dear scientists, colleagues and friends here on board. Without you, your constant and tireless commitment at all times of the day and night, your help and support with my work on the yellow deck and your indulgence of me, this expedition could not have taken place! Despite the very adverse circumstances with some last-minute rescheduling due to war as well as logistic problems, we already look back on a very successful expedition.

This was excellent teamwork - thank you all very much!

On behalf of all the scientists, I would like to thank the Federal Ministry of Education and Research and the Leitstelle Deutsche Forschungsschiffe for providing the RV SONNE for this expedition as well as the necessary consumables (03G0250A) and the shipping company Briesse for logistics.



All are well and send their last greetings home before returning.

Angelika Brandt (on behalf of all scientists of the AleutBio expedition).

Senckenberg Research Institute and Natural History Museum Frankfurt