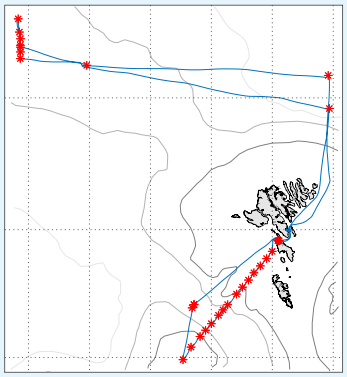
Standard hydrography

Mooring deployments

Jákup Sverri, cruise nr. 2126
Period: 9-16/6 2021
Responsible PI: Karin Margretha H. Larsen



Objectives: *The objectives of the cruise are to deploy current moorings and to monitor hydrographic changes in the ocean around the Faroe Islands. The cruise is part of the regular investigations along standard hydrographic sections. The cruise is also part of the "FARMON 2020" project and a joint project between the Danish Meteorological Institute and Havstovan.*

Summary

Four ADCP buoys and one ADCP in a trawl-proof frame were deployed on the cruise: one mooring was deployed north of the Faroes, one ADCP buoy and an ADCP in a frame were deployed on the Iceland-Faroe Ridge (IFR) and two ADCP buoys were deployed in the Faroe Bank Channel. Two hydrographic sections were occupied with a total of 23 CTD stations; these were standard section V across the Faroe Bank Channel and a shorter section on the IFR. On standard section V, 10 WP2 planton hauls were also performed. At the end of the cruise, a CTD station was also occupied in order to adjust the wire guide on the CTD winch. Finally, three WP2 plankton hauls were also performed in Skopunarfjord for comparison with similar contemporary sampling at the nearby aquaculture station in Skopun. On most CTD-stations, water samples were collected for salinity analysis and on standard station V06, additional water samples were collected for nutrient and CO_2 analysis. The Underway thermosalinograph was running during the whole cruise and samples for salinity analysis were collected twice daily. Likewise, the Ocean Surveyor ADCP was running during the whole cruise. At all stations, the CTD measured vetical profiles of temperature, salinity, oxygen and fluoresence. Due to technical maintenance work on the vessel, the cruise was delayed and did not commence until Saturday 12. June.

Figure 1. Work on deck prior to deployment of the first ADCP buoy in the Faroe Bank Channel.

About the cruise

We left Tórshavn harbour on Saturday 12/6 at 1400. The Thermosalinograph was turned on in order to measure underway temperature and salinity. The course was set to Skopunarfjord, where we did three WP2 plankton hauls at the same time as similar samples were collected at the aquaculture station in Skopun. Then we set course for the Faroe Bank Channel. At the location for site NWFB, we first occupied a CTD station with the aim to intercalibrate the self-recording temperature sensors (SBE39, SBE56) that were to be attached to the moorings. A SBE37 MicroCat was also attached to the CTD. Thereafter we succesfully deployed the NWFB mooring and the nearby NWFC mooring.

The course was then set for the outermost station on section V on the central Faroe Bank. We were on the location on Sunday 13/6 0120 and started occupying standard section V towards the Faroes. This work was completed on Sunday at 1600. Hereafter, we set course for the location of site NWNB north of Faroes. We were on the location on Monday 14/6 just after midnight and succesfully deployed the mooring at the site.

Then course was set westwards to the IFR where we were to deploy a mooring in Faroese waters and the trawlproof ADCP frame in Icelandic waters. We were on the location in Faroese waters around noon on Monday 14/6, but the sea was too rough for mooring work. We therefore decided to enter Icelandic waters in order to occupy a CTD section in the area where the trawlproof frame was planned to be deployed. When the section was done we returned along the same track to find the best location for deployment of the frame. The weather was now much better and the sea was calm and it was therefore decided to deploy the frame. It was deployed at the site termed IFRF, which is at 425 m depth at 63°22.49'N 011°07.37'W, just southeast of the Rosengarten Bank. When this work was done, we left Icelandic waters and set course for the site of the last mooring in Faroese waters. This mooring was succesfully deployed on Tuesday 15/6 0430.

Due to the exptra time spent on the IFR awaiting good weather conditions, we did not have time to occupy more standard sections. Instead we set course to standard station N06 north of the Faroes. Here we occpupied this deep (~2000m) CTD station inorder to adjust the wire guide (see comments). When this was done, we set course for Tórshavn. We were in harbour Wednesday morning 16/6 at 0600.

Samples

Table 1. Measurements and samples during the cruise.

Samples / Data	Overview
Underway Thermosalinograph	Seasurface (6 m) from 12/6 until 16/6
CTD-stations	23 stations (Section V, on the IFR, and two additional stations)
CO_2, Nutrients and algae	Station V06
Salinity samples	At most CTD stations (in stable water)
WP2 200 µm (50m)	10 stations on section V
WP2 100 µm (50m)	3 stations in Skopunarfjord

Equipment

Sea-Bird 911+ CTD, WP2-net (100 and 200 µm), equipment for deployment of ADCP buoys and trawlproof frame, equipment for water samples (bottles, chemicals, etc).

Comments

The wire guide on the CTD winch had to be adjusted a few times during the cruise. At the end of the cruise, a deep station was occupied in order to do a better adjustment. Before the station, we adjusted the wirediameter in the system and while occupying the station, we adjusted the spooling diameter. The CTD was deployed to 1500 m and on the up cast, we were careful in laying the wire on the wire drum.

The plan was also to adjust the settings on the front CTD winch, but it was soon clear that technicians from RAPP had to be involved. This was therefore not performed.

Various alarms occurred on the winch computer. Some times these could only be reset by booting the computer.

Staff from Havstovan

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