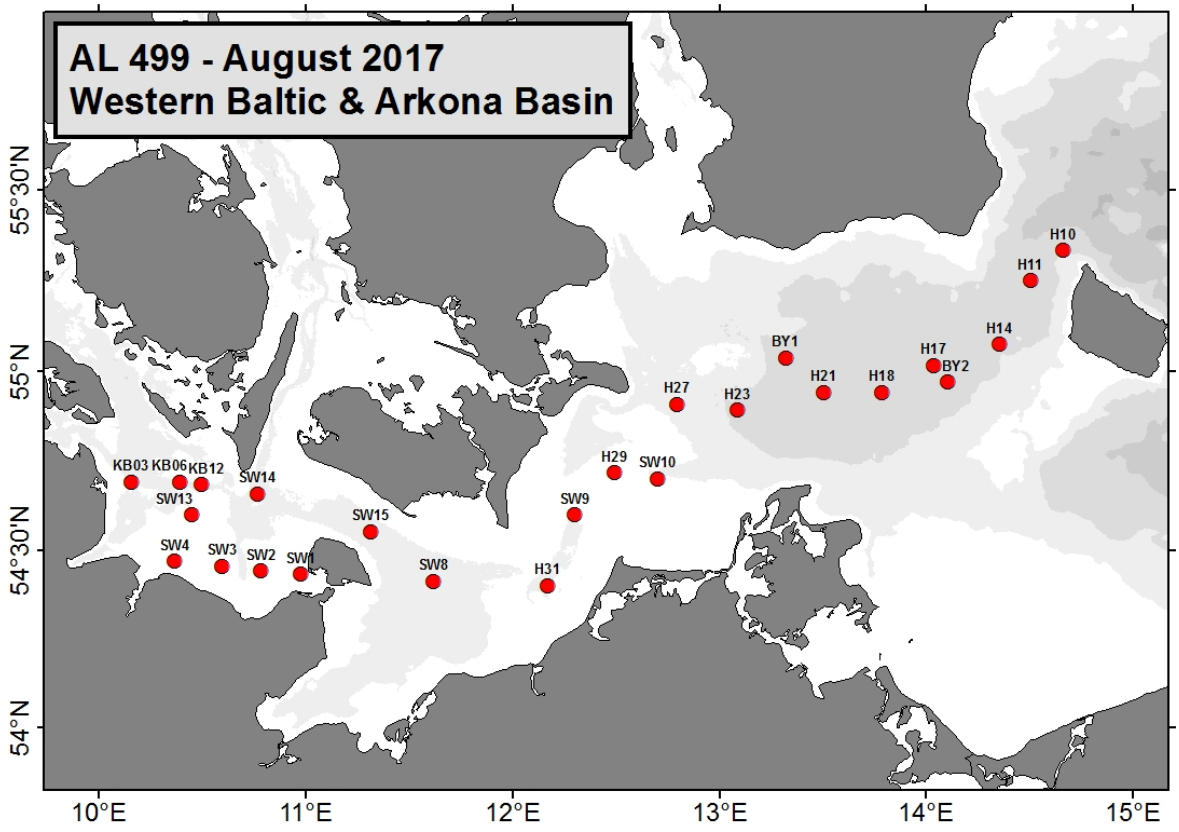
Cruise AL499 Work Program Report – Week 1

Monday 14.8.2017

15:00 Departure Kiel

16:30 Station work on SW4, KB3, KB12, SW14 covering the hydrography and meso, macro and ichthyoplankton community.

Applied methods consisted of a CTD for water column profiling covering salinity, temperature, oxygen, fluorescence and density as well as net sampling using a using a double Bongo net with 150, 330 and 500µm meshed nets.



Tuesday 15.8.2017

9:30 Station work on BY2 and H14 same as before. On station H14 a 330µm mesh sized multiple opening and closing net was additionally deployed to resolve the depth distribution of macrozooplankton (primarily jellyfish).

14:00 Beginning of standard monitoring station work in the Bornholm Basin covering the standard 45 station grid, conducting CTD casts and Bongo hauls on all stations with life sorting for cod and clupeid larvae and gelatinous macrozooplankton.

Tuesday 15.8.2017 to Thursday 17.8.2017

0:00 -24:00 24h station work on the Bornholm –Grid (Fig. 2) using CTD and Bongo.

21:00 Thursday finishing station work on Bornholm Gird.

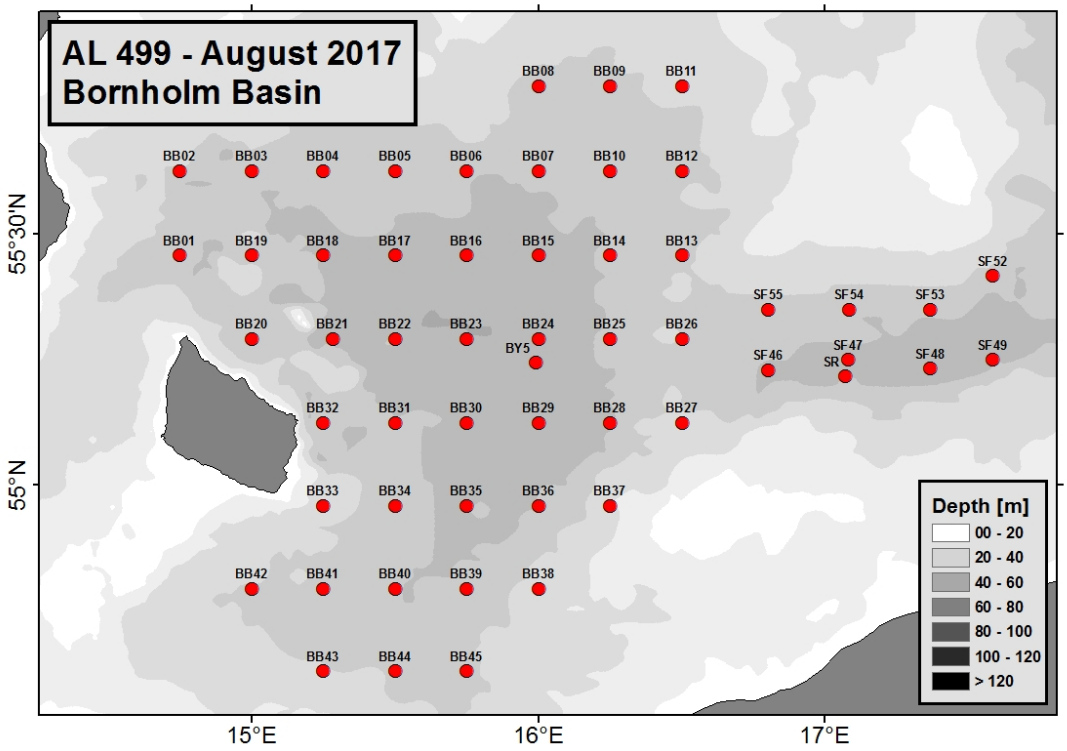


Fig. 2 Station-Grid Bornholm Basin with standard 45 Stations, SF stations not covered.

Thursday 17.8.2017 – Friday 18.8.2017

21:00 to 18:00 24h station investigating dial vertical migration pattern of plankton organisms using a 300µm towed multiple opening and closing net as well as a 45µm vertical multiple opening and closing net. Additionally we used an obliquely towed camera system to resolve fine scale vertical migration pattern and patchiness of zooplankton. Due to upcoming bad weather conditions the captain suggested that we should stop our 24h investigation after 18 hours and drop the stations SF in the Slups Furrow. I followed his advice and we steamed directly from the Bornholm Basin to the Gdynia Deep to continue station work there.

Saturday 19.8.2017

6:00 – 15:00 Station work in the Gdynia Deep area at the stations (xxx to fill in) see Fig. 3.

Station work consisted of CTD and Bongo with an in depth investigation conducted at Station GD60a consisting of water chemistry, microbiota sampling, zooplankton, ichthyoplankton and gelatinous macrozooplankton sampling in up to 18 discrete depth strata. Equipment deployed consisted of Multinet Maxi, Bongo, small CTD, water rosette sampler.

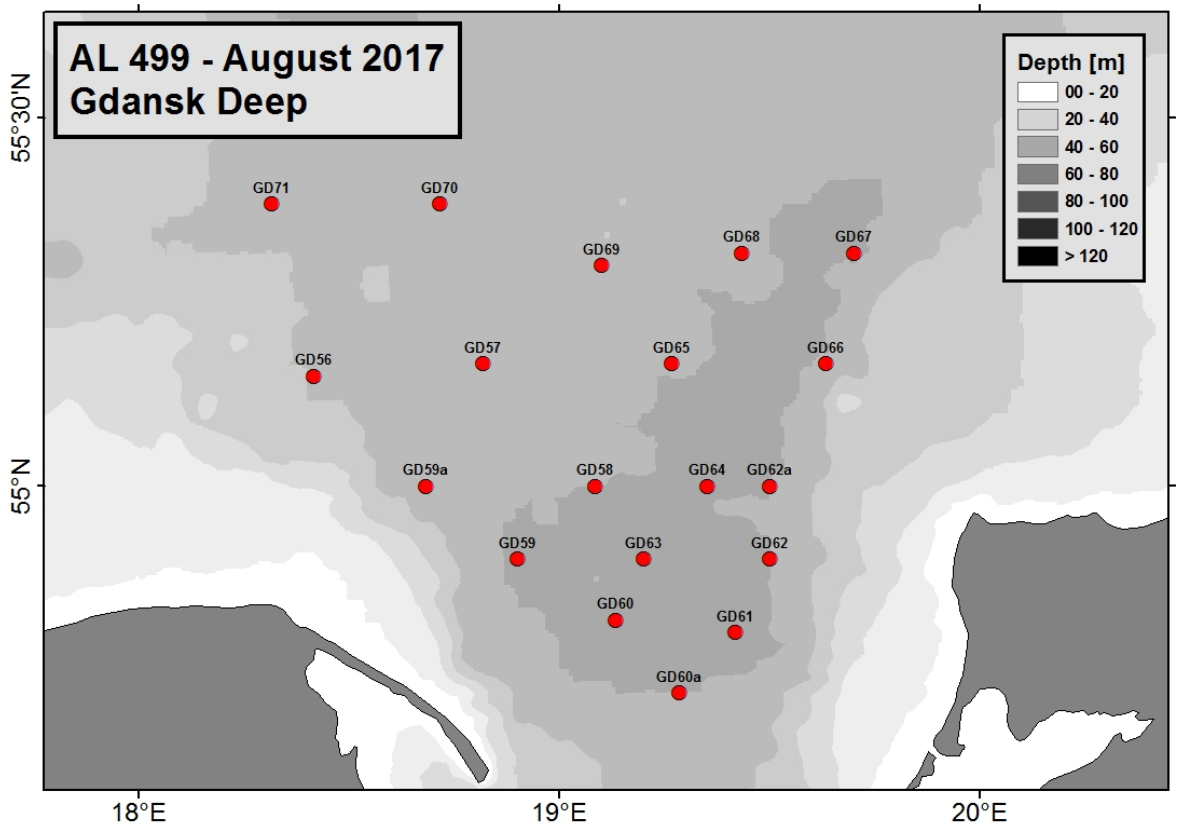


Fig. 3 Station list in Gdynia Deep and Southern Gotland Basin area (GD56, GD57, GD59a, GD58, GD59, GD63, GD60, GD60a).

15:30 Entry Gdynia harbor to exchange to disembarqe the Polish observer and our Danish o-worker Bastian Huwer. We were awaiting the arrival of Sirin Schulz from the GEOMAR PR Department, arrival time airport Gdynia Sunday 15:05.

Sunday 20.8.2017

10:00 Official back stage visit of the Marine Research Institute (MRI) Poland with tour through the laboratory facilities, culture rooms and public aquarium by Dr. Piotr Margonski (Vice President ICES, MRI employed).

16:10 Arrival Sirin Schulz

16:30 Departure Gdynia and steaming to station GB96 for in depth horizontal zooplankton work in the Gotland Basin – old monitoring station for which background data from August 1998 are available.

Work program results:

In total we have quantified 1000 gelatinous macrozooplankton organisms, collected ca. 450 cod larvae plus several clupeids and covered more than 60 Stations which were resolved in up to 18 depth strata. Those samples are essential for continuation of ongoing monitoring activities and will contribute to several EU and DFG projects with data and results such as BIOC3, SFB1182, Future Ocean, Marie Curie (CJ).

List of major scientific equipment used:

- BONGO/BABYBONGO: 500, 300 and 150µm meshed nets with flowmeters.
- Multiple opening and closing net (Multinet Hydrobios, Kiel, Germany) Multinetz MIDI with mesh sizes 55µm, 150µm, 335µm
- Multiple opening and closing net (Multinet Hydrobios, Kiel, Germany) Multinetz MAXI with mesh sizes 335µm and 2mm
- Multiple standard plankton nets such as Apstein, WP2, WP3 with differing mesh sizes
- AMD-CTD, mit AMT-Oxygenmeasuring device and light sensor
- Hydro-Bios-Sonde CTD with water bottle collector and Multifluorescencesonde
- Video Plankton Recorder (VPR)
- Thermosalinograph: Data collection via Datadis-System.
- Microbiota sampling rack with -80C freezer
- Chl a extraction unit and flurometer
- 5 Stereomicroscopes with up to 40x magnification and 2 camera systems
- 1 Inverted microscope for Phytoplankton analyses