

„SOLEA" Cruise 659 REPORT

26.07.2012 – 12.08.2012



Personnel

Name	Role	Affiliation
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Objectives

1. To participate in the German Small-scale Bottom Trawl Survey (GSBTS) monitoring the demersal fish fauna in 6 out of the 12 small areas (boxes).
2. To investigate the hydrographical conditions within the boxes (vertical distribution of temperature and salinity).
3. To monitor the zoo- & ichthyoplankton abundance within the boxes.
4. To sample stomach contents of American plaice (*Hippoglossus platessoides*), whiting (*Merlangius merlangus*) and grey gurnard (*Eutrigla gurnardus*).
5. To sample larvae of brown shrimp (*Crangon crangon*) for the analysis of population dynamics.

Narrative (Fig. 1)

Due to a technical problem of the trawl warp winch, the intended departure from 24.07.2012 was postponed to the 26.08.2012. On this date FRV "Solea" left Cuxhaven around midday and started to sample Crangon-larvae along a transect NF. The following day (27.07.2012) fishing began in Box N, continued in Box K (German Bight) until the vessel had to enter the port of Esbjerg, DK on 31.07.2012. Unfortunately, a hardware problem of an engine computer caused an harbour stay of four days (until 03.08.2012). On the 04.08.2012 fishing recommenced in Box P and followed the rest of the cruise track until 12.08.2012, when the "Solea" returned to Cuxhaven. In general, the scientific program comprised three days with 7 hauls a day per box together with three CTD measurements and six plankton samples per day. Figure 1 shows the actual sequences of sampled boxes: Box N (German Bight; 3 days), Box K (Danish EEZ; 1 day), Box P (German EEZ; 1 day), Box H (British EEZ; 3 days), again Box P (German EEZ; 1 days, and Box E (Dutch EEZ; 3 days). Box F (British EEZ) was omitted due the reduced survey time. A summary of the activities within each box is given in Tab. 1.

Tab. 1: Activities (stations) during the cruise

area	KJH hauls	CTD	WP2	Bongo	IOS
Box N	21	10	8	8	-
Box K	7	4	3	3	-
Box H	21	9	9	9	-
Box P	18	6	6	6	-
Box F	-	-	-	-	-
Box E	21	9	9	9	-
Transect NF	-	-	-	-	7
Transect OF					6
Σ	88	38	35	35	13

Results

A total of 88 valid 30-min hauls were conducted using the cod hopper trawl equipped with the standard ground gear (20cm rubber discs in the ground rope) to monitor changes in species compositions of the 5 boxes. In addition to fishing, in each box a maximum of 10 stations were sampled with CTD, WP2 (vertical plankton net) and Bongo net (diagonal hauls).

Fig. 1 shows the area of investigation. The mean species compositions of each box and the variability within the time period are shown in Figure 2-6. Hydrographical parameters in the survey area are shown in Figure 7.

Acknowledgements

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Dr. W. Nikolaus Probst (cruise leader)

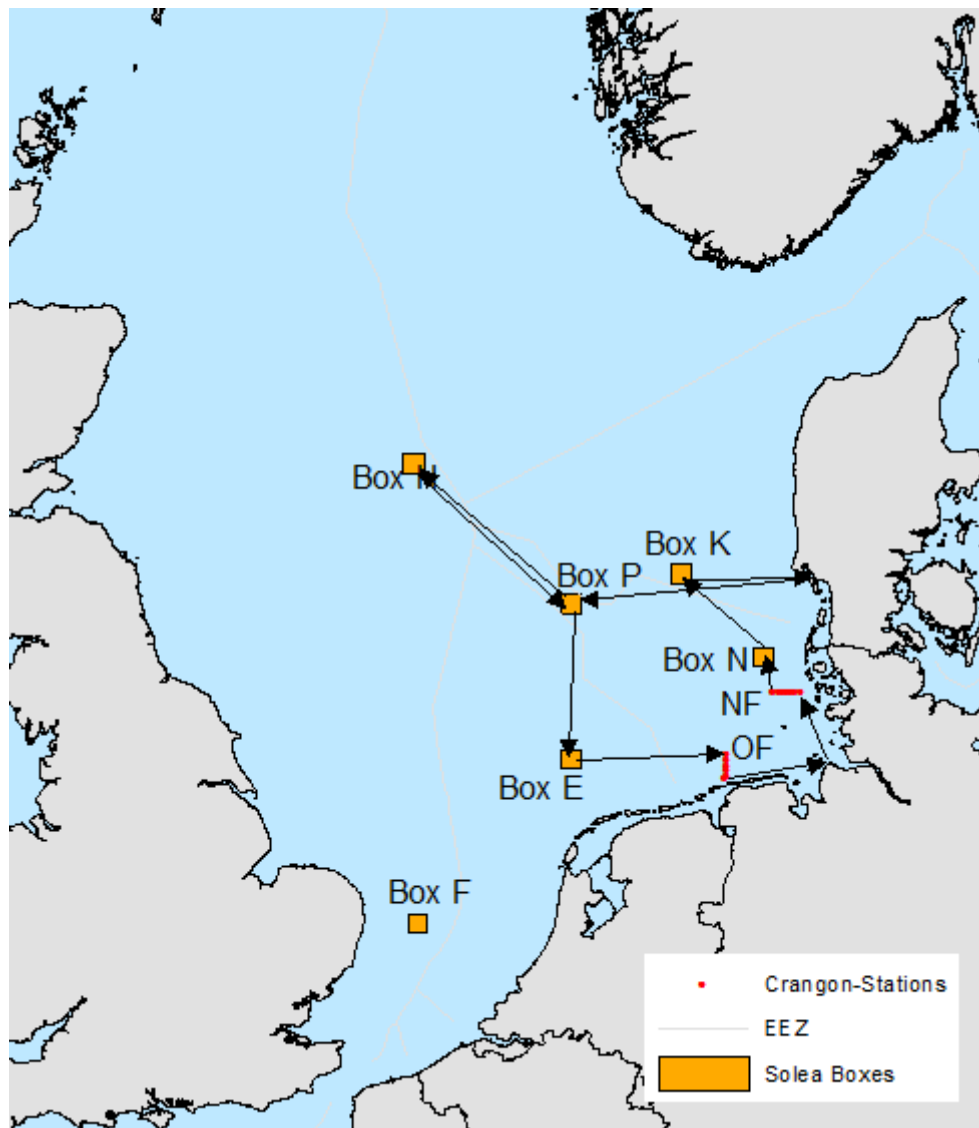


Fig. 1: Cruise track and box positions of SB659.

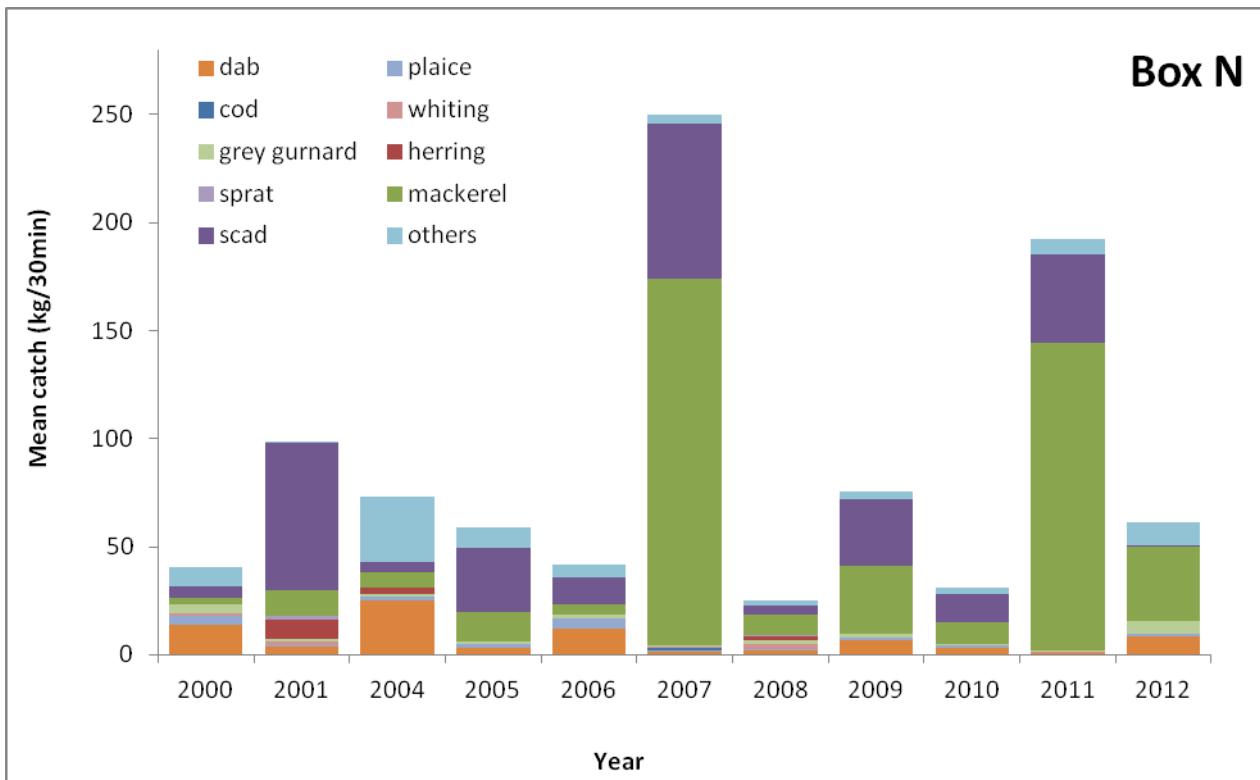


Figure 2: Box N, German Bight: Main species composition (kg/30min) from 2000 to 2012 (summer).

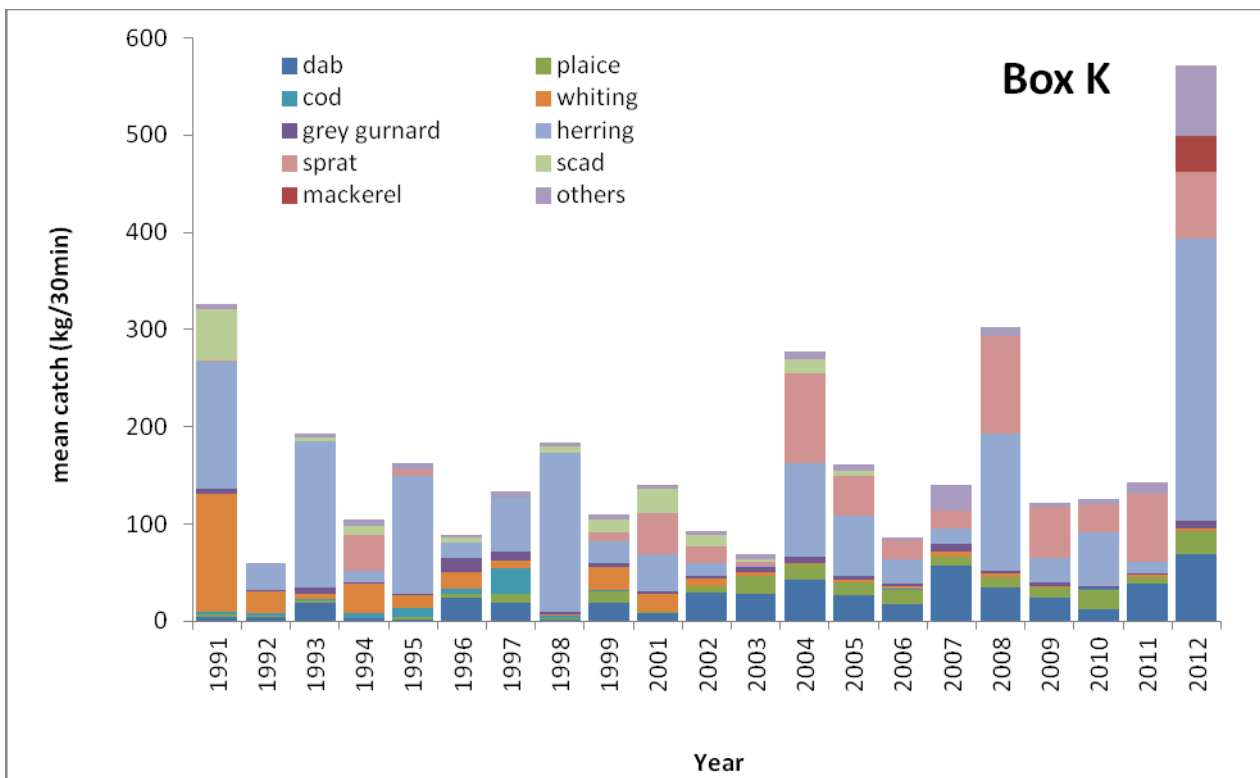


Figure 3: Box K: Danish EEZ: Main species composition (kg/30min) from 1991 to 2012 (summer).

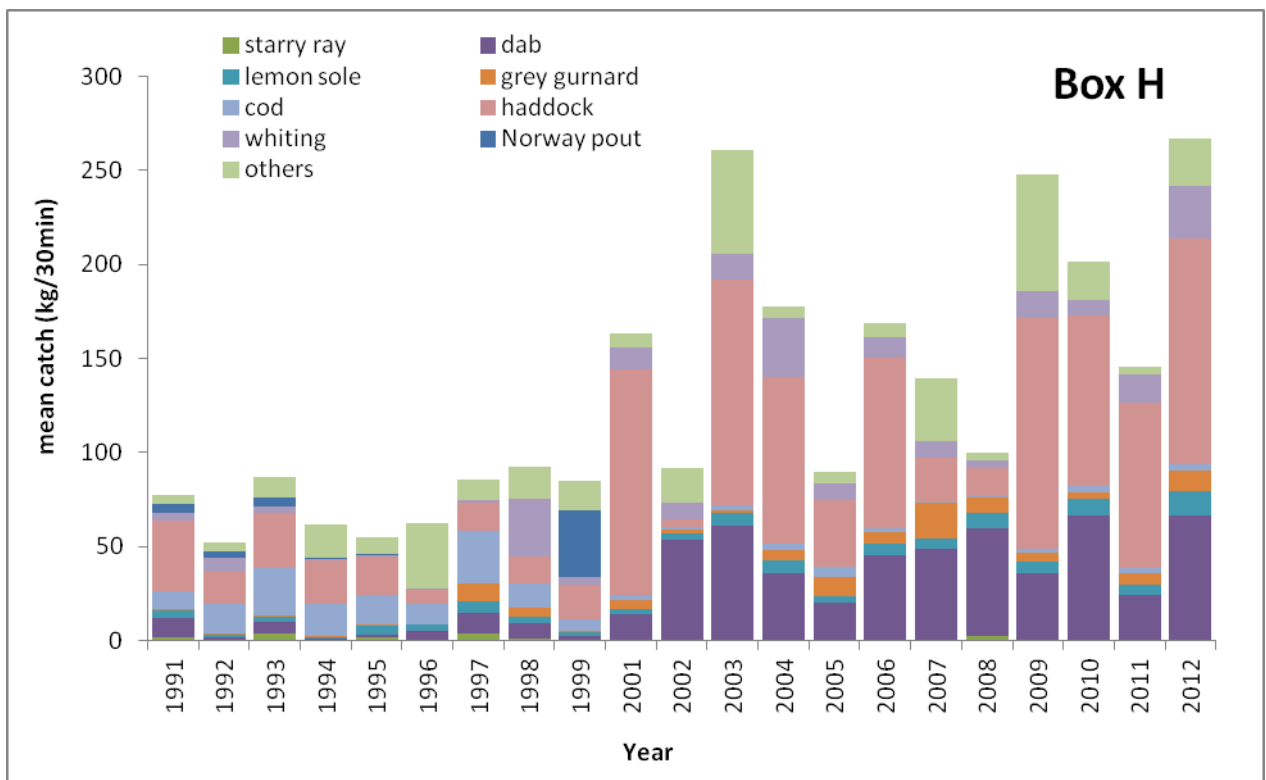


Figure 4: Box H: British EEZ: Main species composition (kg/30min) from 1991 to 2012(summer).

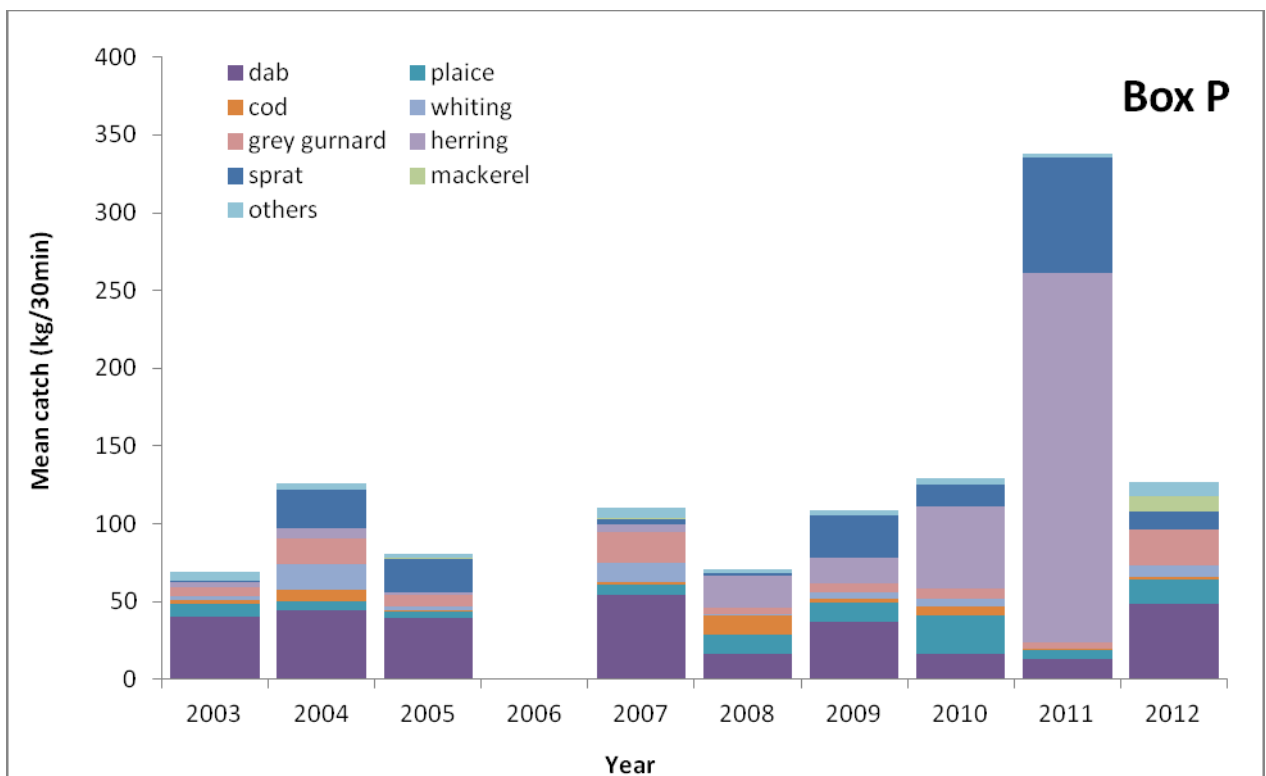


Figure 5: Box P: German EEZ: Main species composition (kg/30min) from 2003 to 2012 (summer).

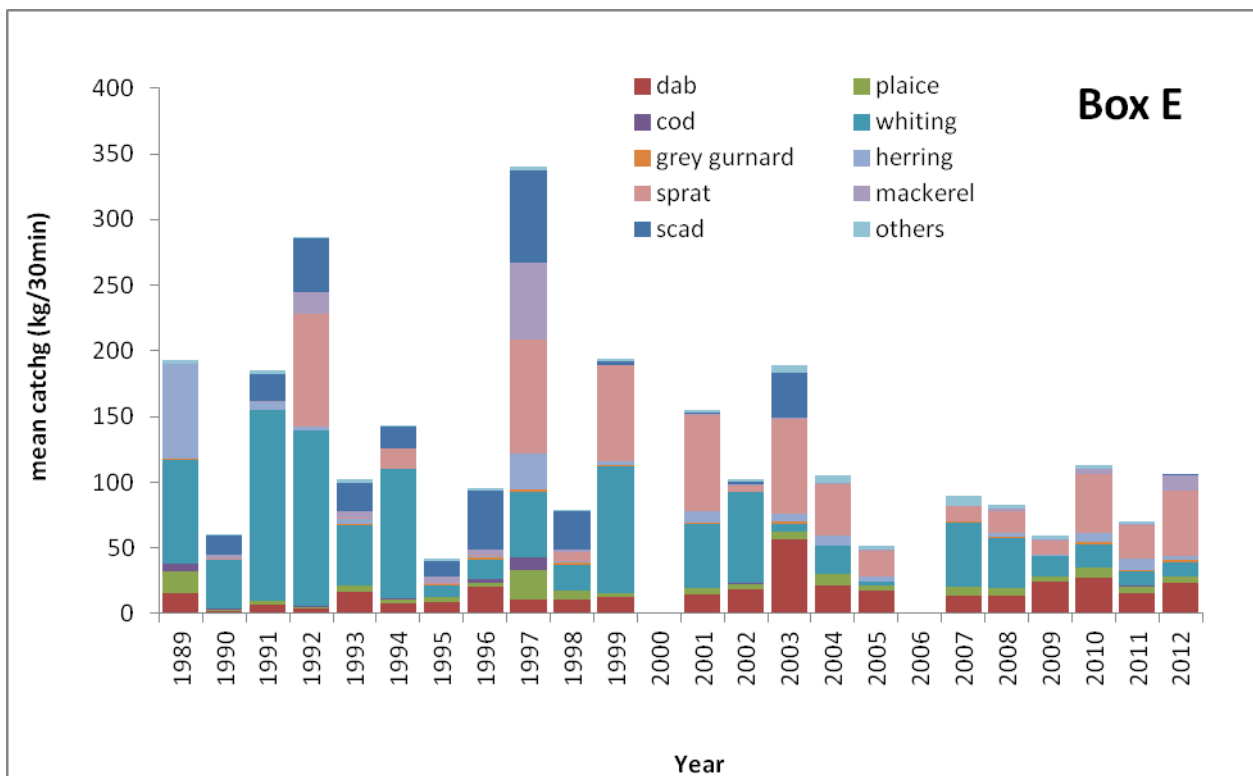


Figure 6: Box E: Dutch EEZ: Main species composition (kg/30min) from 1989 to 2011 (summer).

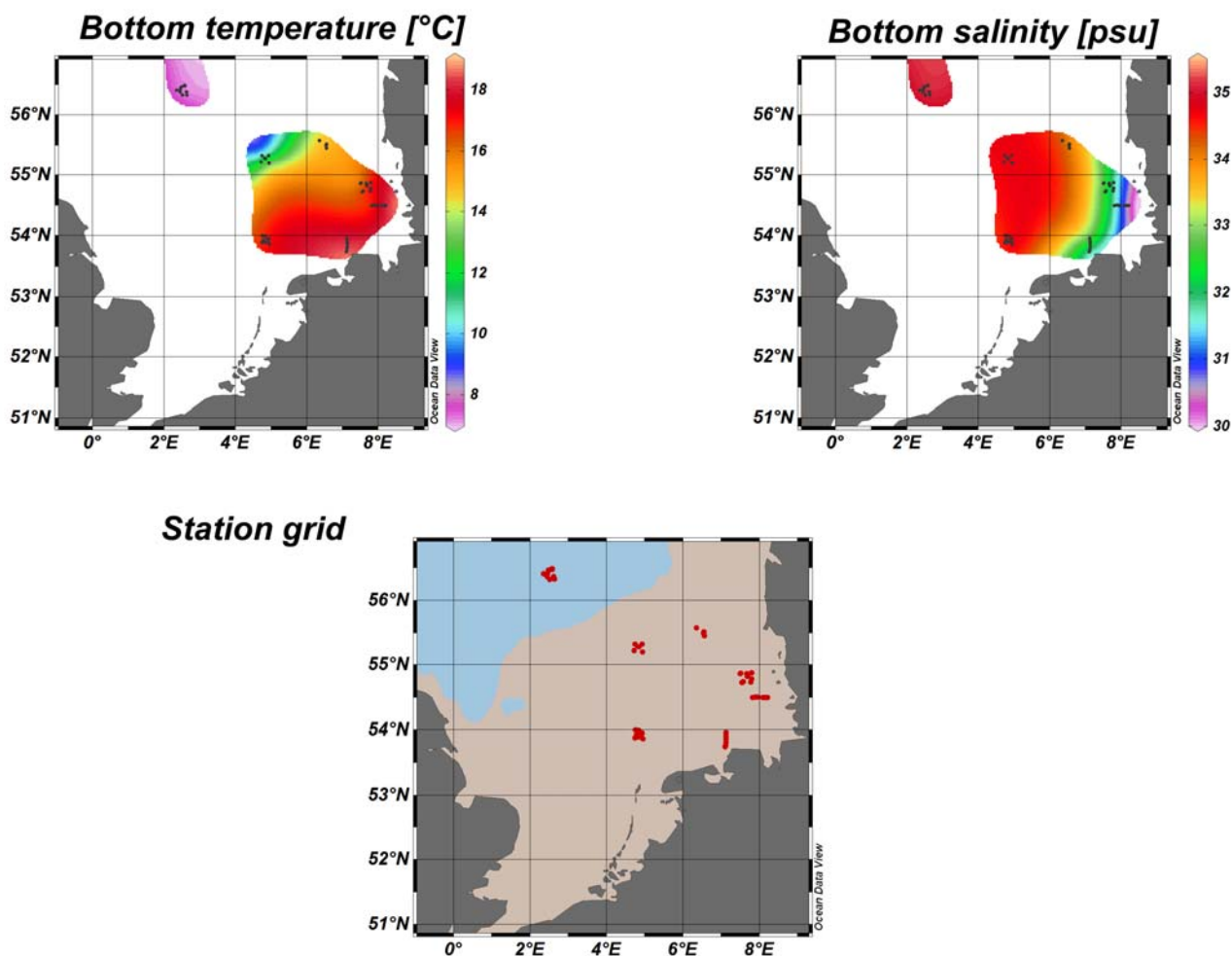


Fig. 7: Distribution of bottom temperature, bottom salinity and sampling stations of SB659.