

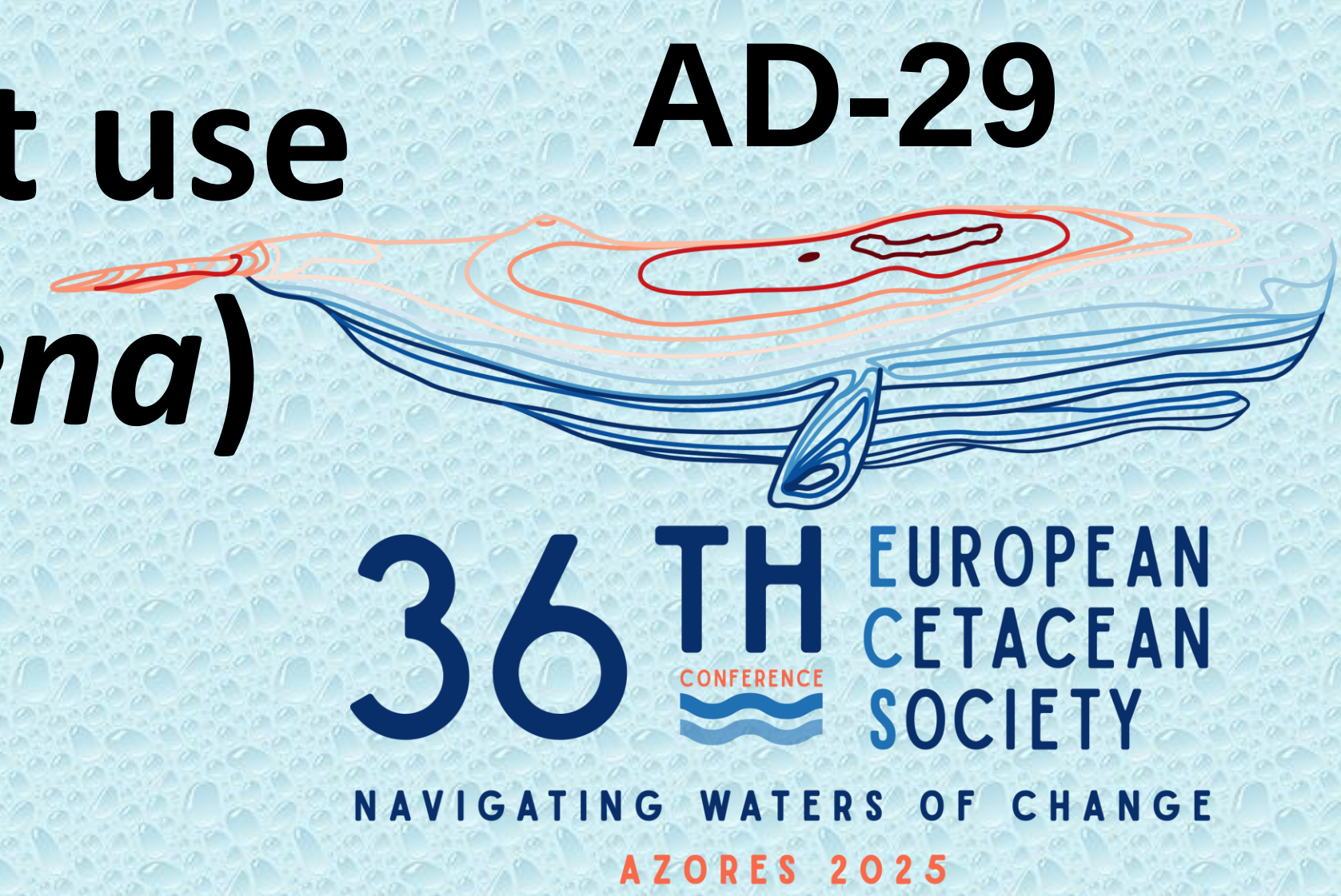


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Spatio-temporal distribution and habitat use of harbour porpoise (*Phocoena phocoena*) in the Inner Danish Waters

Schubert, A.¹, Ham, G.S.¹, Diederichs, A.¹

1) BioConsult SH GmbH & Co. KG, Schobüller Str. 36, D-25813 Husum, Germany



Introduction:

- Harbour porpoises occur regularly in moderate to high numbers in the Inner Danish Waters
- Recent studies suggest a population decline in the Belt Sea (Gilles et al. 2023)
- A combination of DAS (digital aerial surveys) and PAM (CPODs) gives an insight into 4 sub-areas

Methods:

- Data from 30 CPOD moorings (see figure 1)
- Deployed over a period of 12 months (2023)
- 6 digital aerial survey per area (Hesselø/Kattegat and Kriegers Flak N/S)
- Both areas cover approximately 7,900 km²

Results:

Hesselø

- Broadest spatial distribution (figure 1)
- Highest abundance/activity throughout the year (figure 1 & figure 2)
 - Spring/summer and autumn peaks (figure 2)
 - Substantial variability in phenology between stations
 - Phenology is primarily driven by one station
- Daytime activity predominates

Kriegers Flak N

- Most pronounced phenology (figure 2)
 - Spring/summer and autumn peaks
 - Area with the highest activity during autumn
 - High consistency of spring/summer and autumn peaks at all moorings
 - Hardly any activity in winter
- Higher activity at night (figure 3)

Kattegat

- No clear phenological pattern
 - Summer and winter peaks (figure 2)
 - Substantial variability in phenology between stations
- No significant difference between day and night activity

Kriegers Flak S

- Pronounced phenology (figure 2)
 - Area with the highest activity in late autumn/early winter and early spring
 - High consistency at all moorings
 - Spring/summer and autumn/early winter peaks
 - Hardly any activity in winter
- Daytime activity predominates

Distribution and abundance

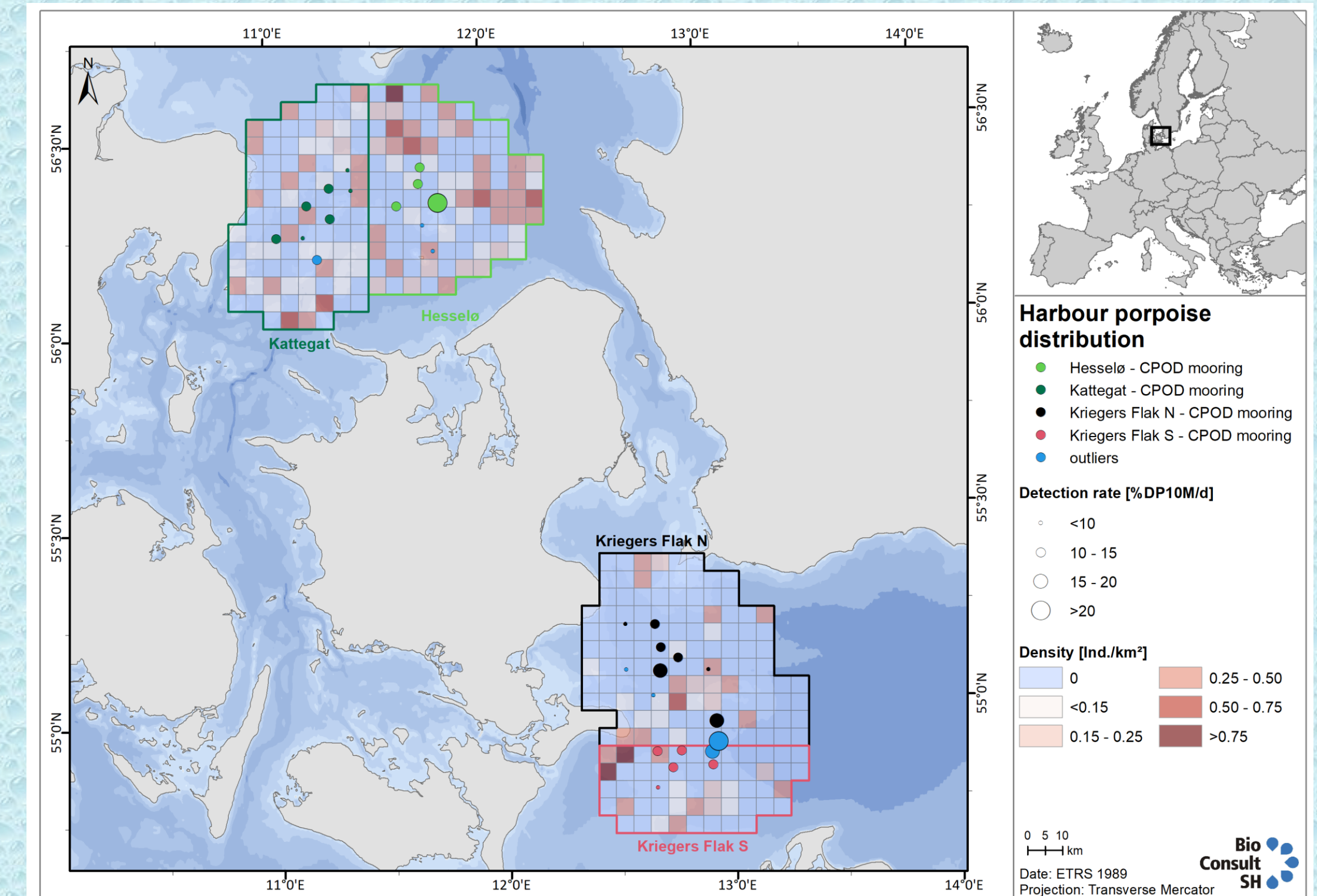


Figure 1: Density map (DAS; 6 surveys/area) showing the study area of Kattegat and Kriegers Flak in the German Baltic Sea and detection rate of all 30 CPOD moorings (12 months of data).

Phenology

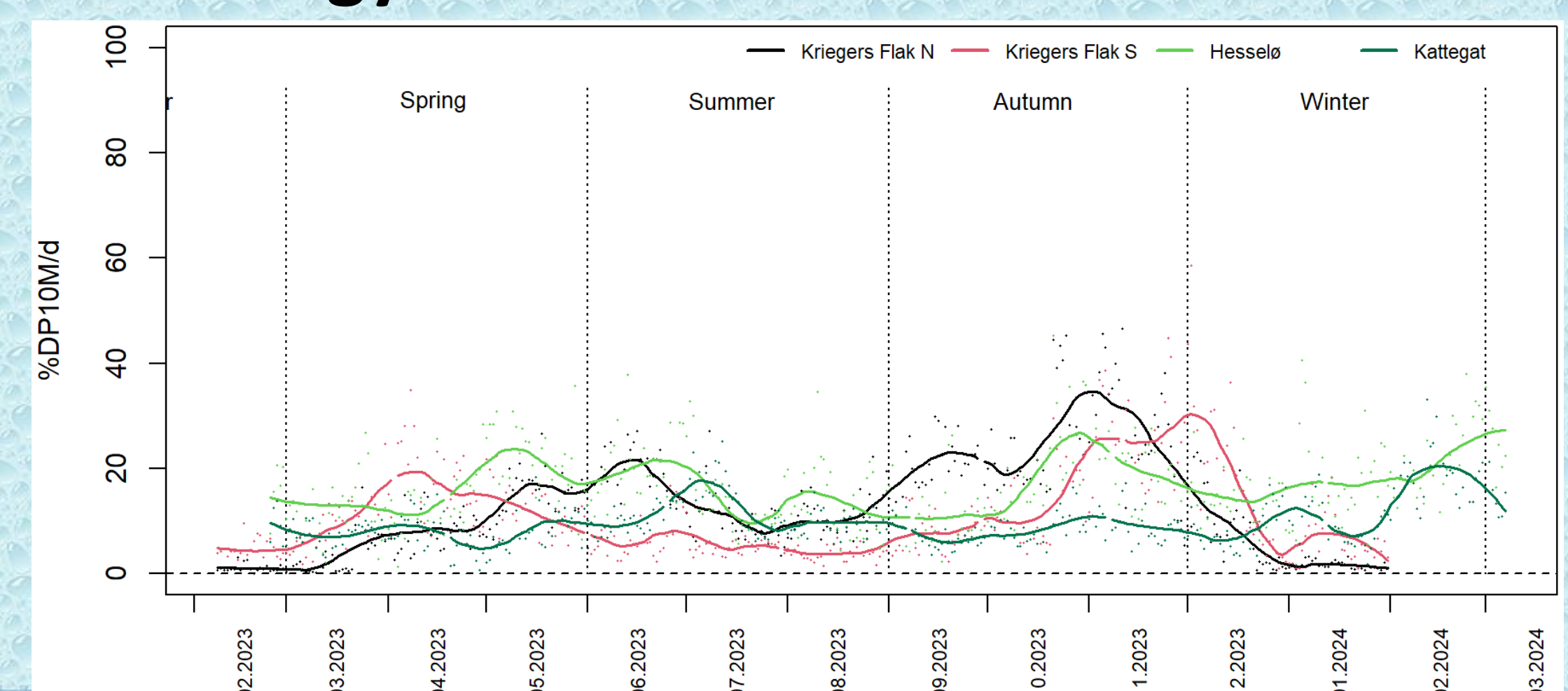


Figure 2: Phenology of the 4 clusters reveals a pronounced phenology in Kriegers Flak N (black) and high variability between moorings in Hesselø/Kattegat and (light green and dark green).

Diurnality

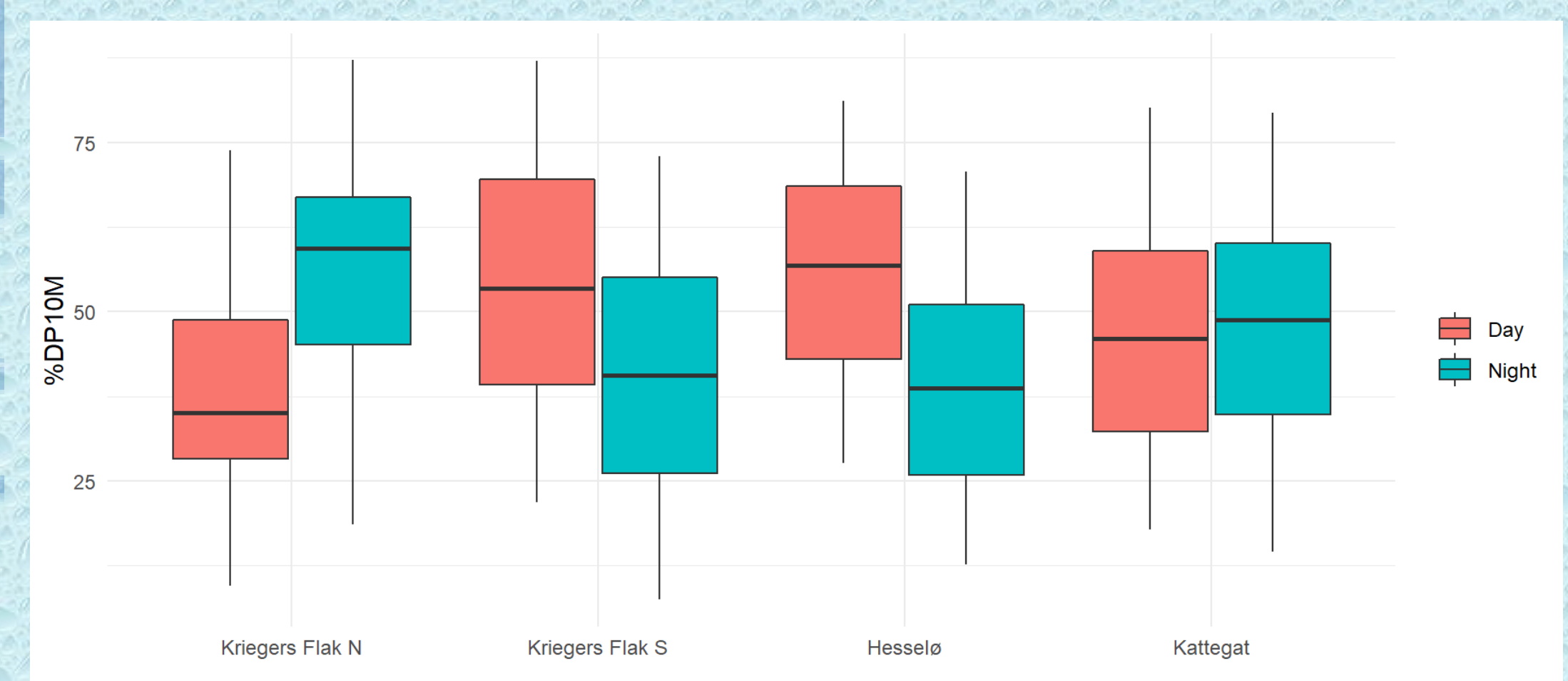


Figure 3: Detection rate in %DP10M/d as activity with a higher activity at night in Kriegers Flak N and predominate daytime activity and high variability between moorings in Hesselø and Kattegat.