Data analysis of overlapping FerryBox Routes – All for one, one for all –

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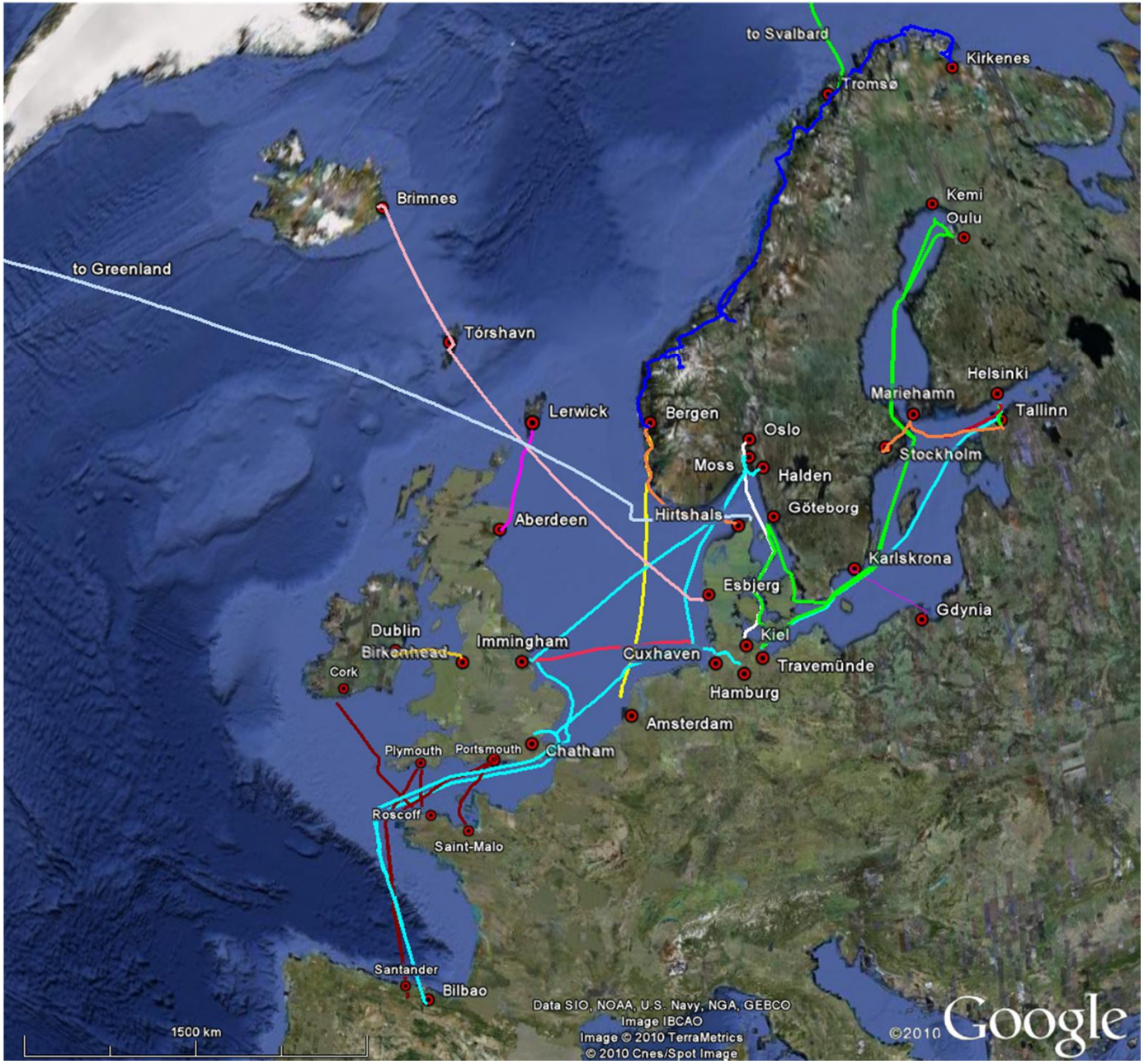
Helmholtz-Zentrum Geesthacht
Centre for Materials and Coastal Research

European FerryBox routes



Institutions:

BCCR/UiB (NO)
NIVA (NO)
SMHI (SE)
SYKE (FI)
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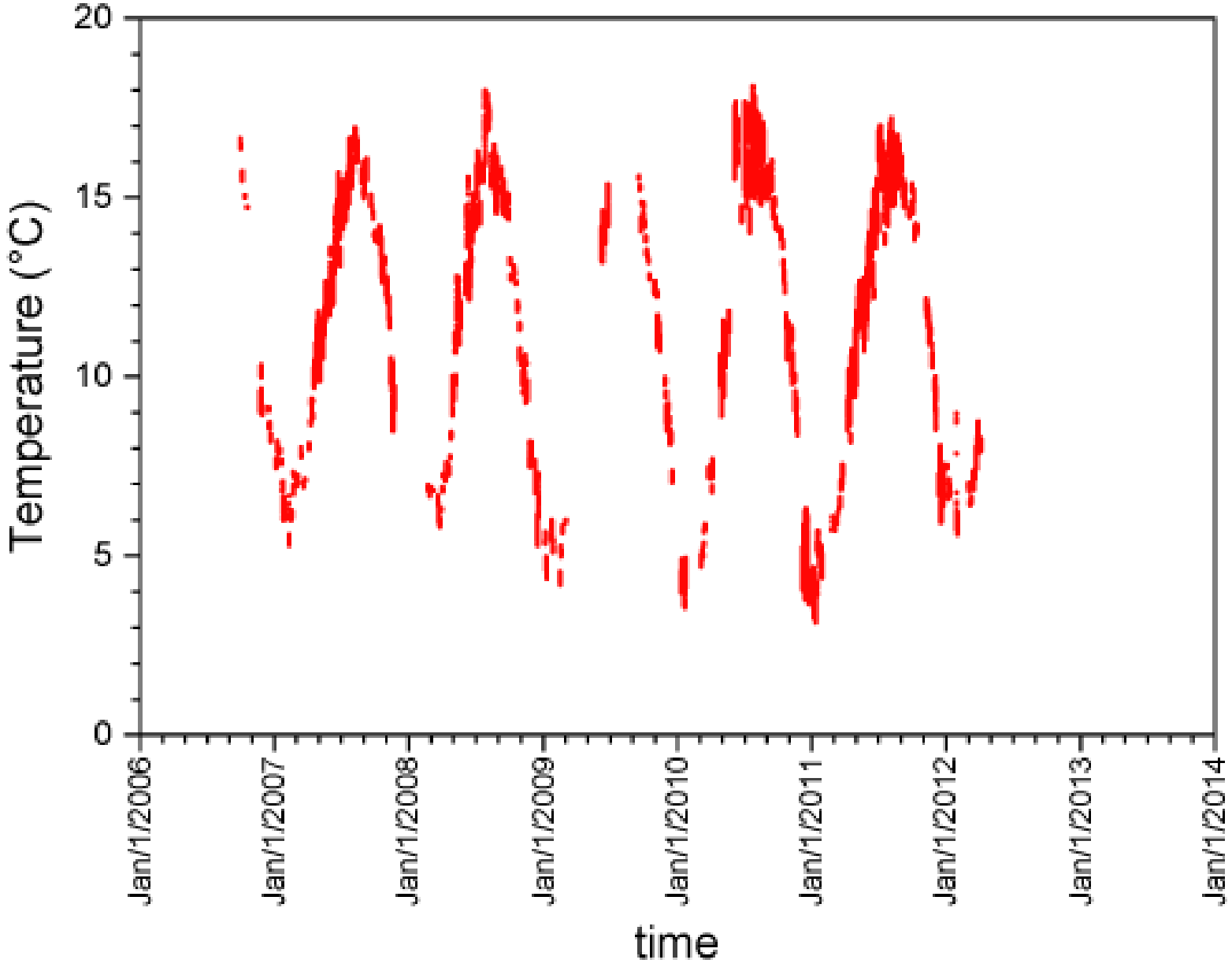
POL (UK)
NIOZ (NL)
RIKZ (NL)
IMWM (PL)
HZG (DE)
CNRS/INSU (FR)
IFREMER (FR)
IEO (ES)

Data example: Cuxhaven (D) – Imminhgham (GB)



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Intersections of different routes

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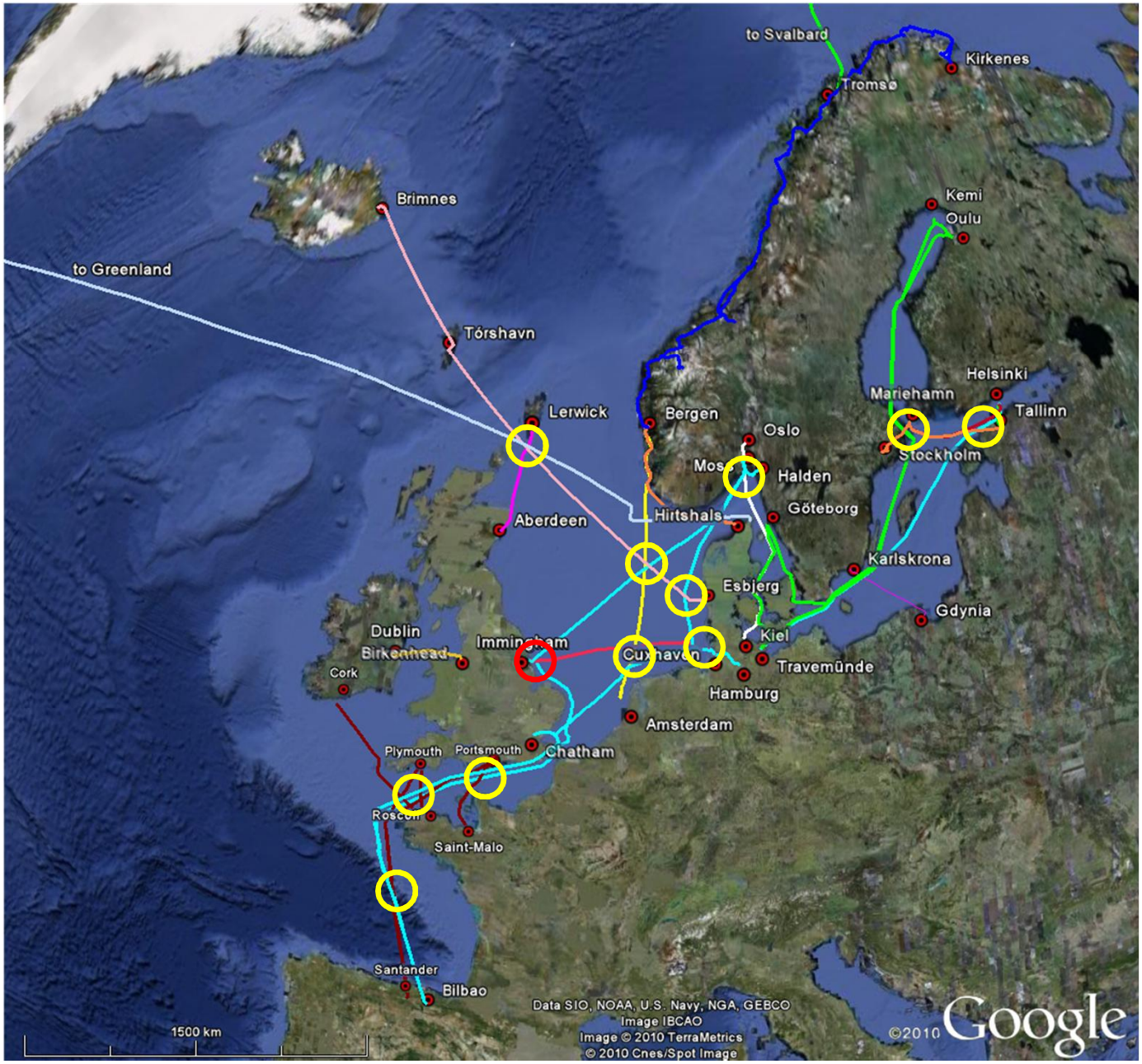
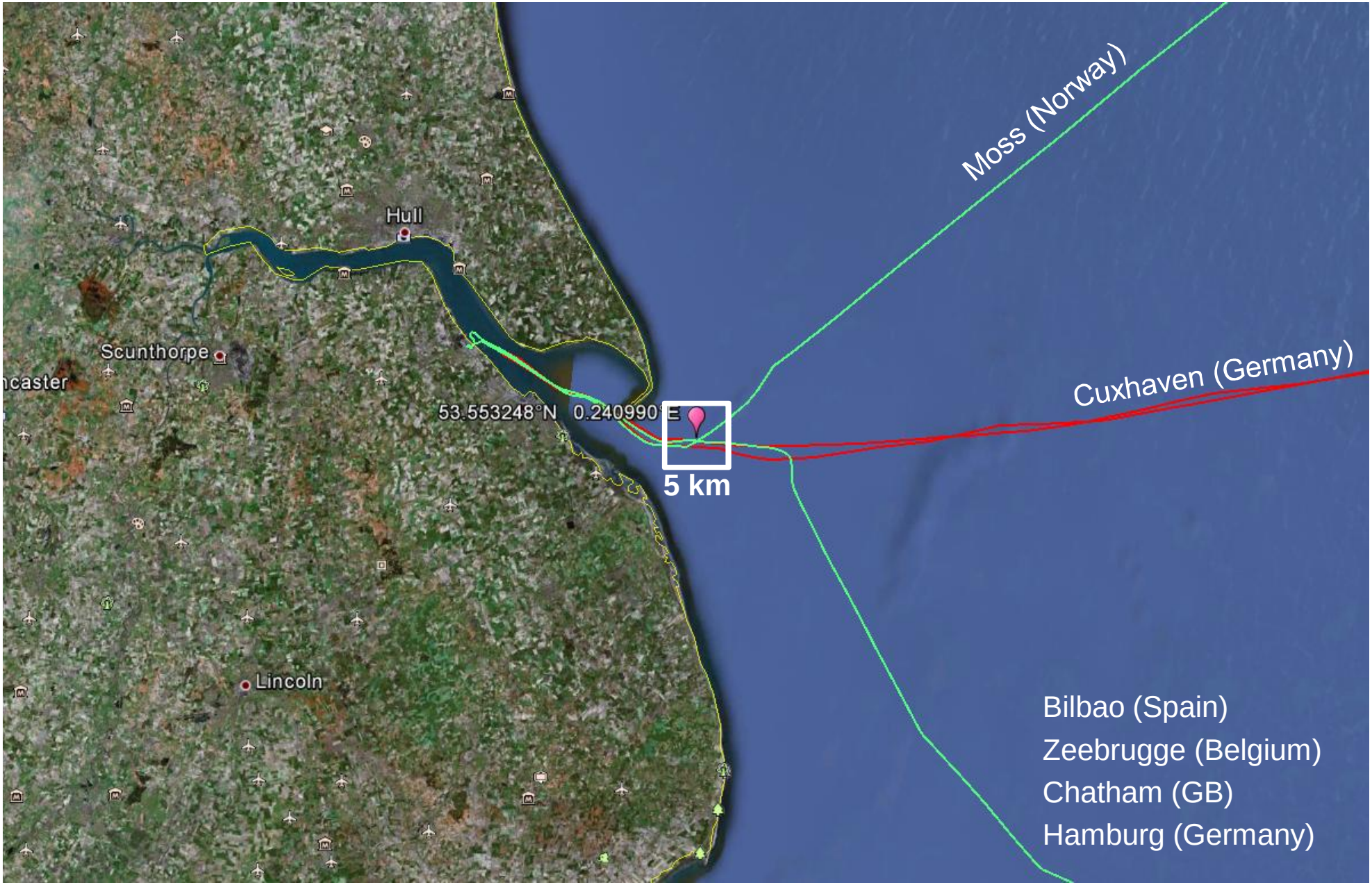
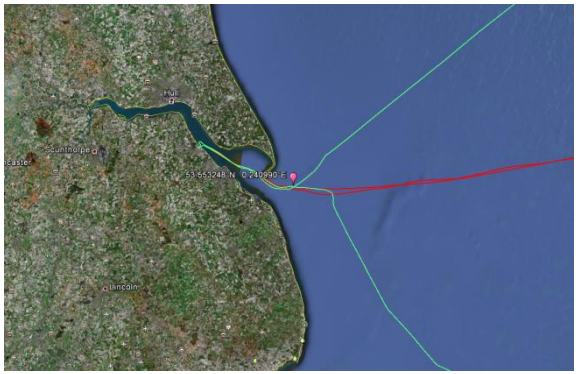


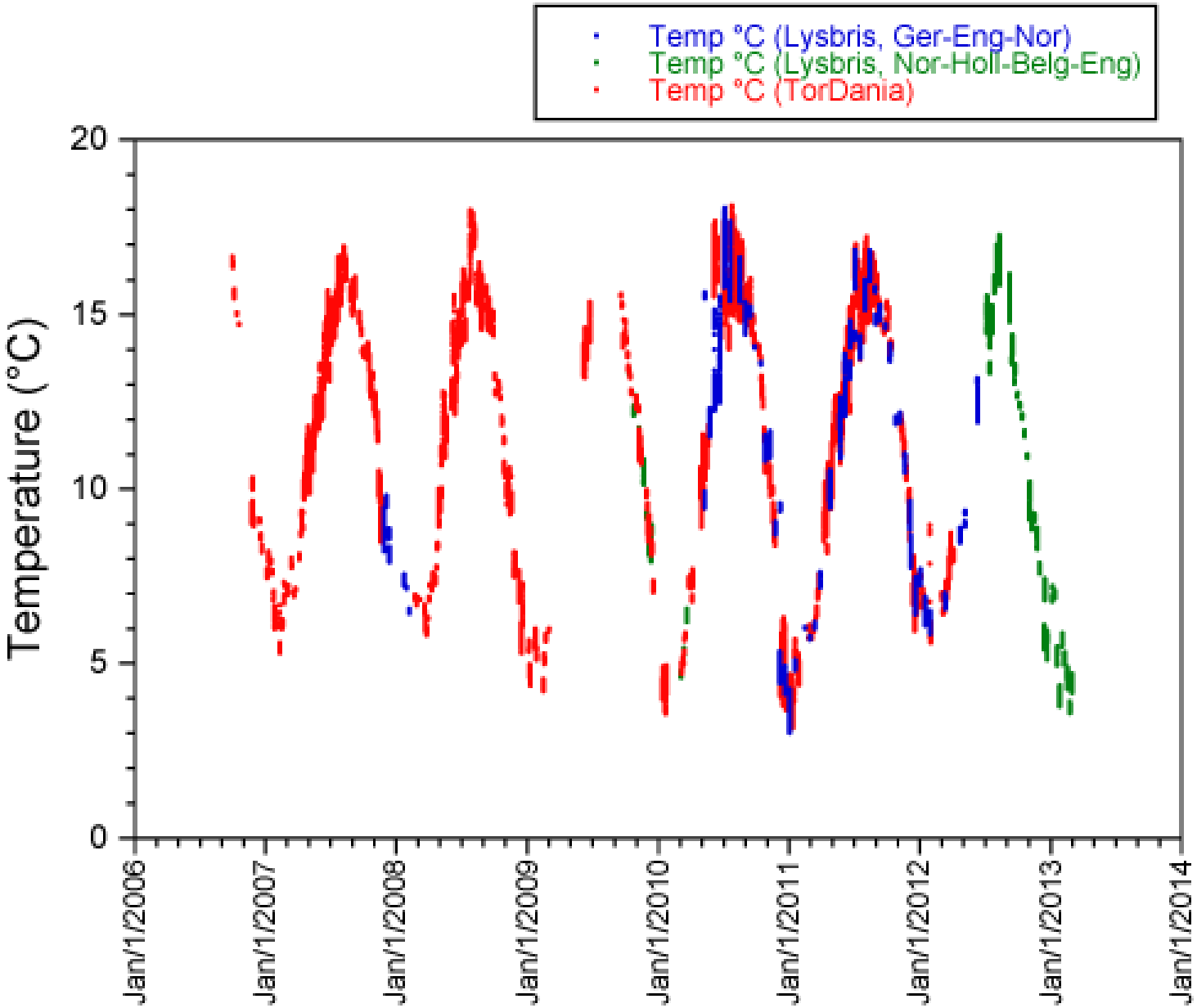
Intersection at 53.553248°N, 0.240990°E



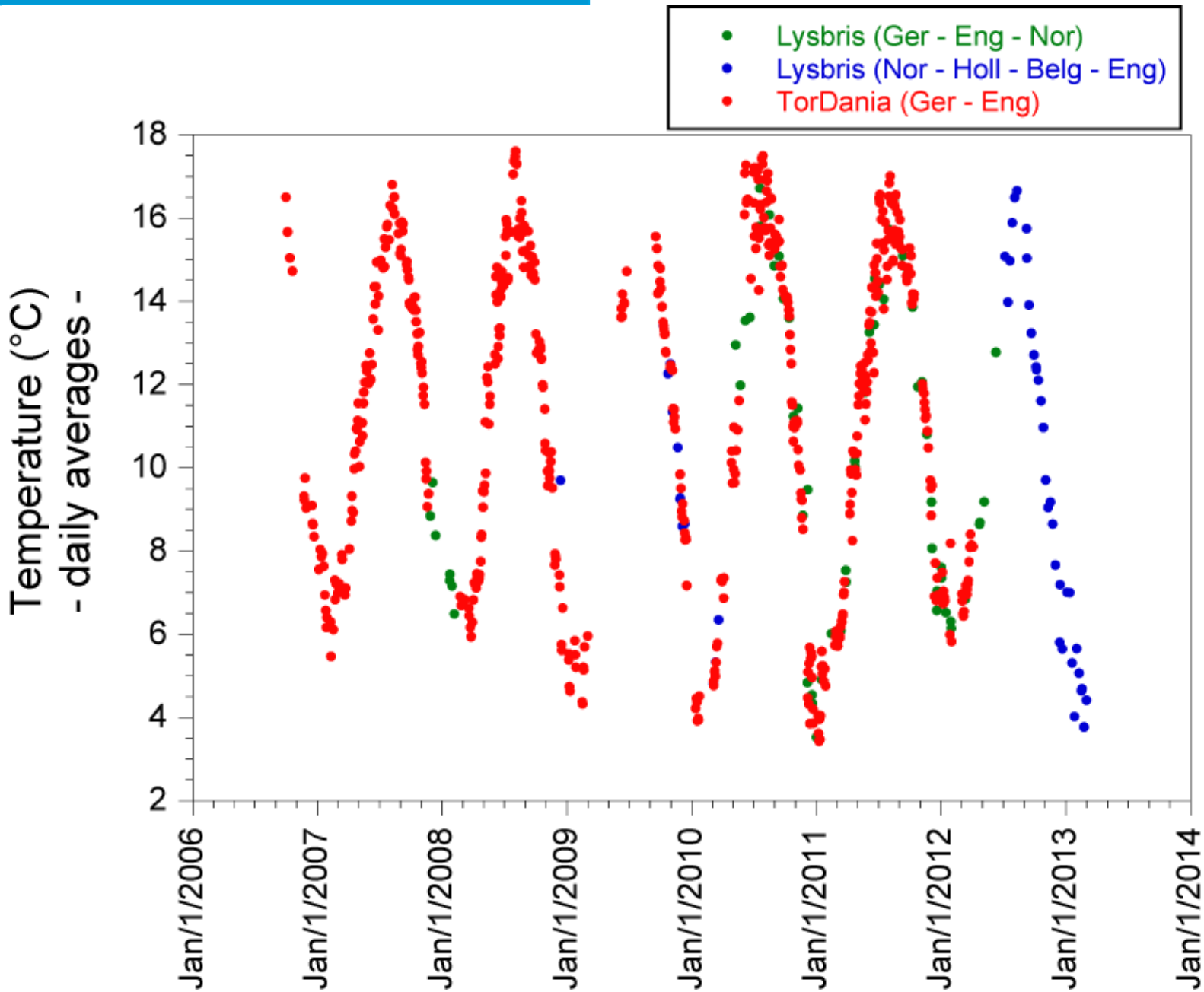
Complementary data off the Humber Estuary

Position: 53.553248°N
0.240990°E
Radius: 5 km





Comparing data on a daily averaged basis



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Comparing data on a daily averaged basis

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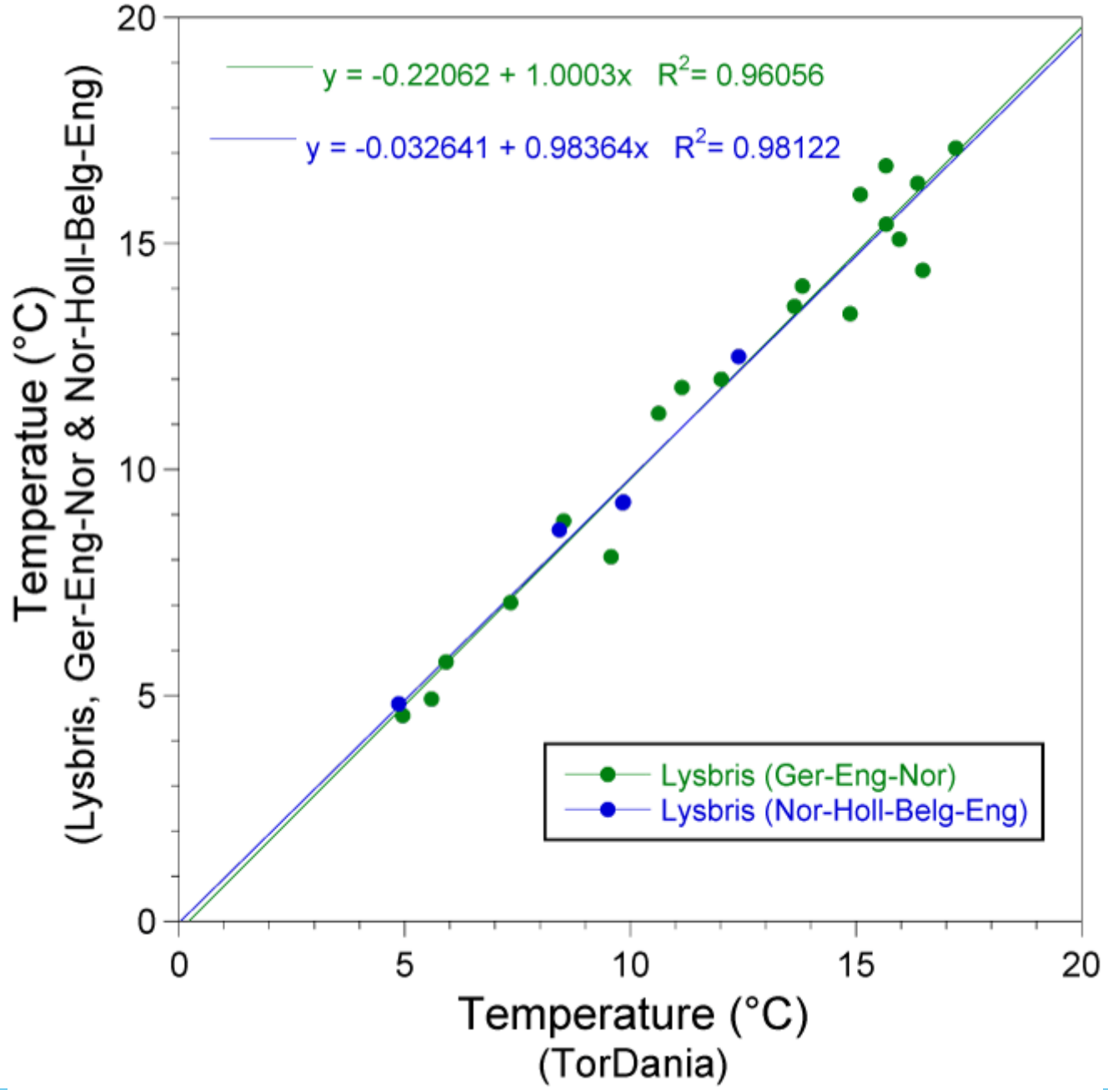

Salinty

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Comparing salinity data

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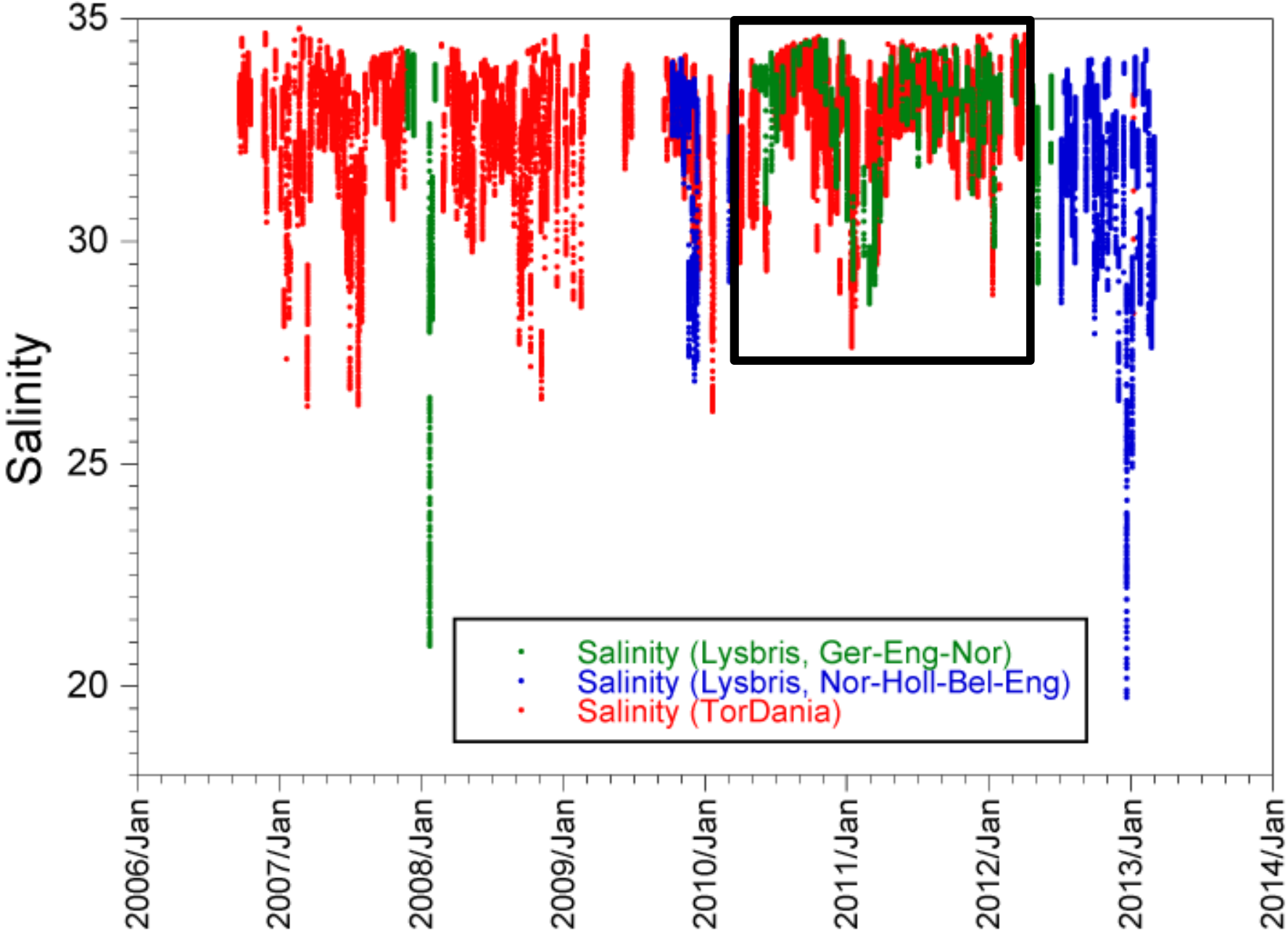
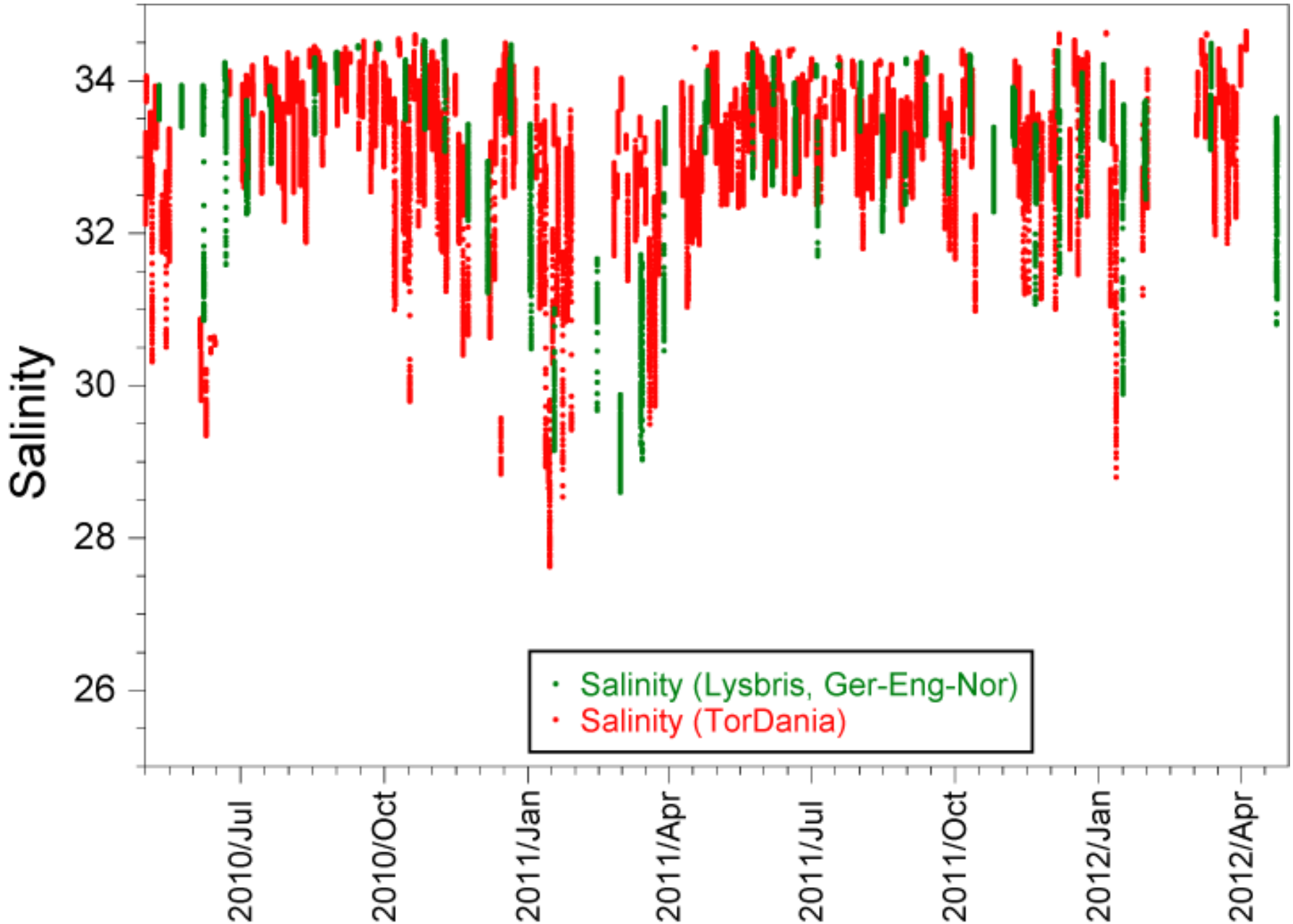
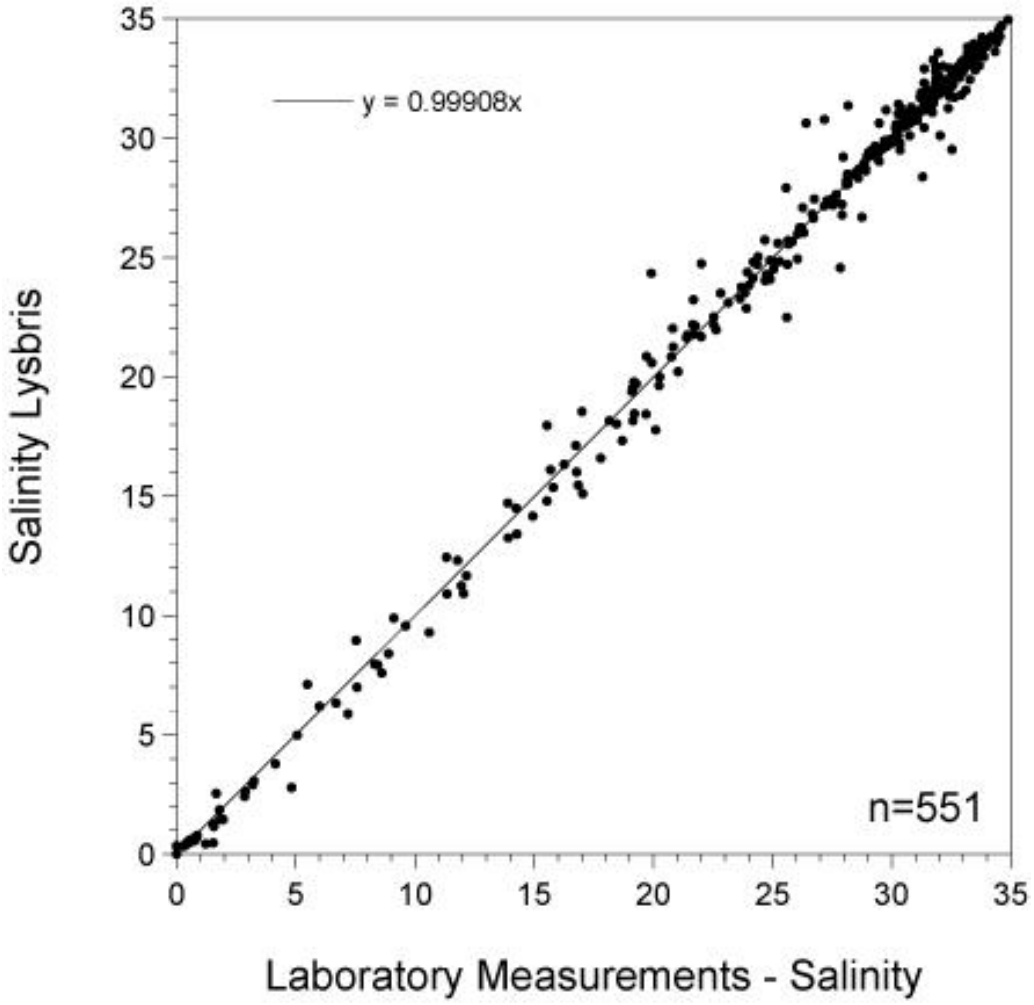
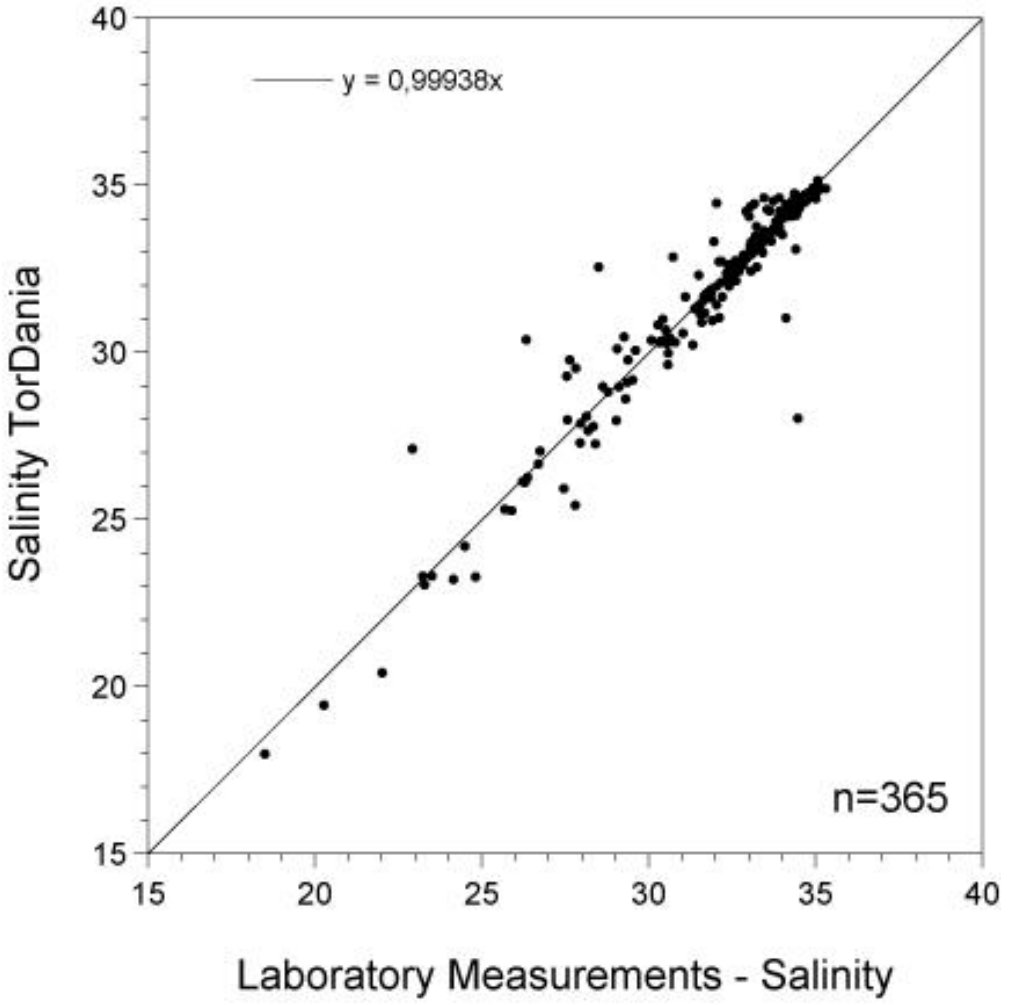


Comparing salinity data



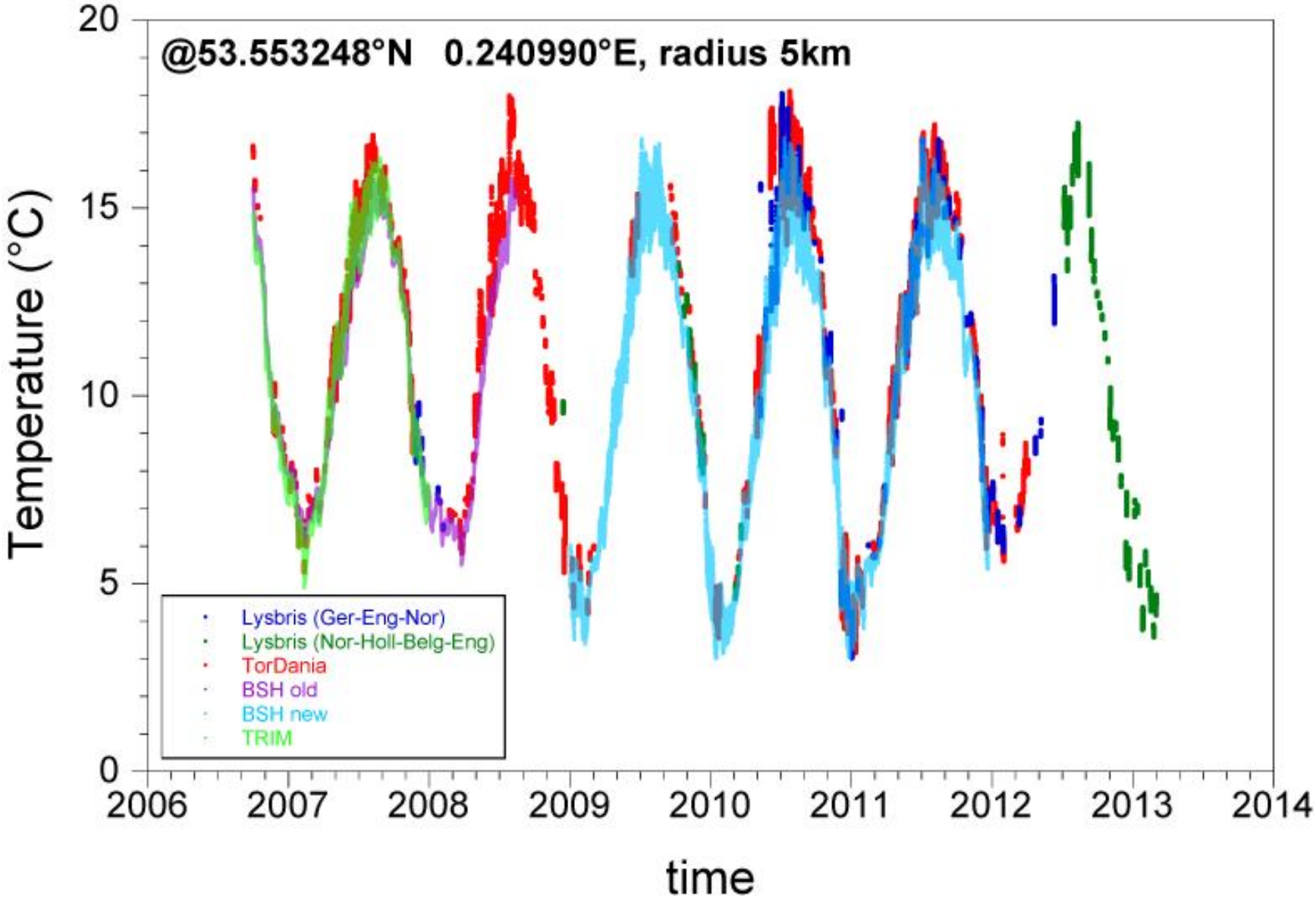
Salinity lab check





Measurements and mathematical model results

FerryBox data and different model versions



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FerryBox data and different model versions

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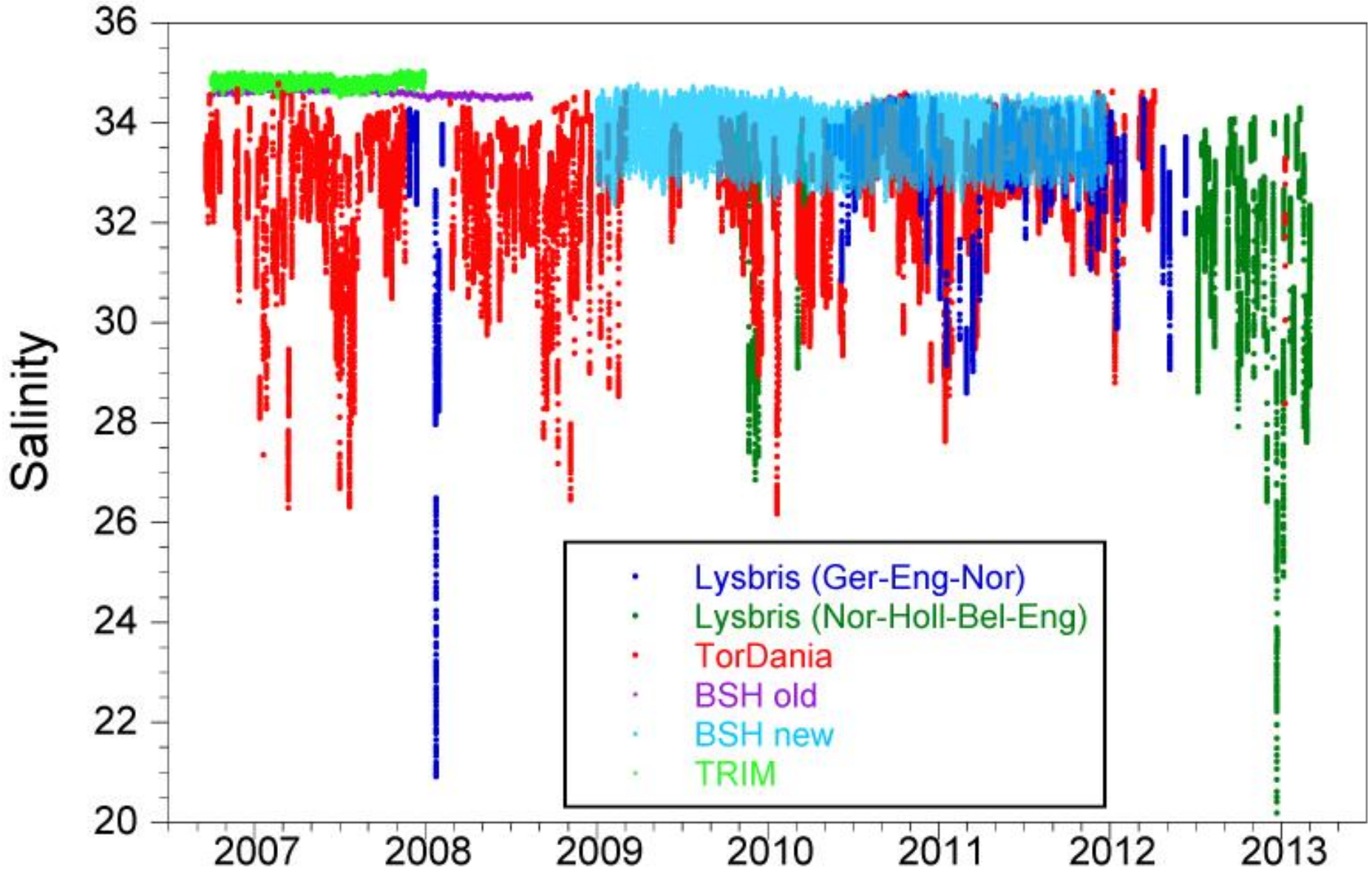
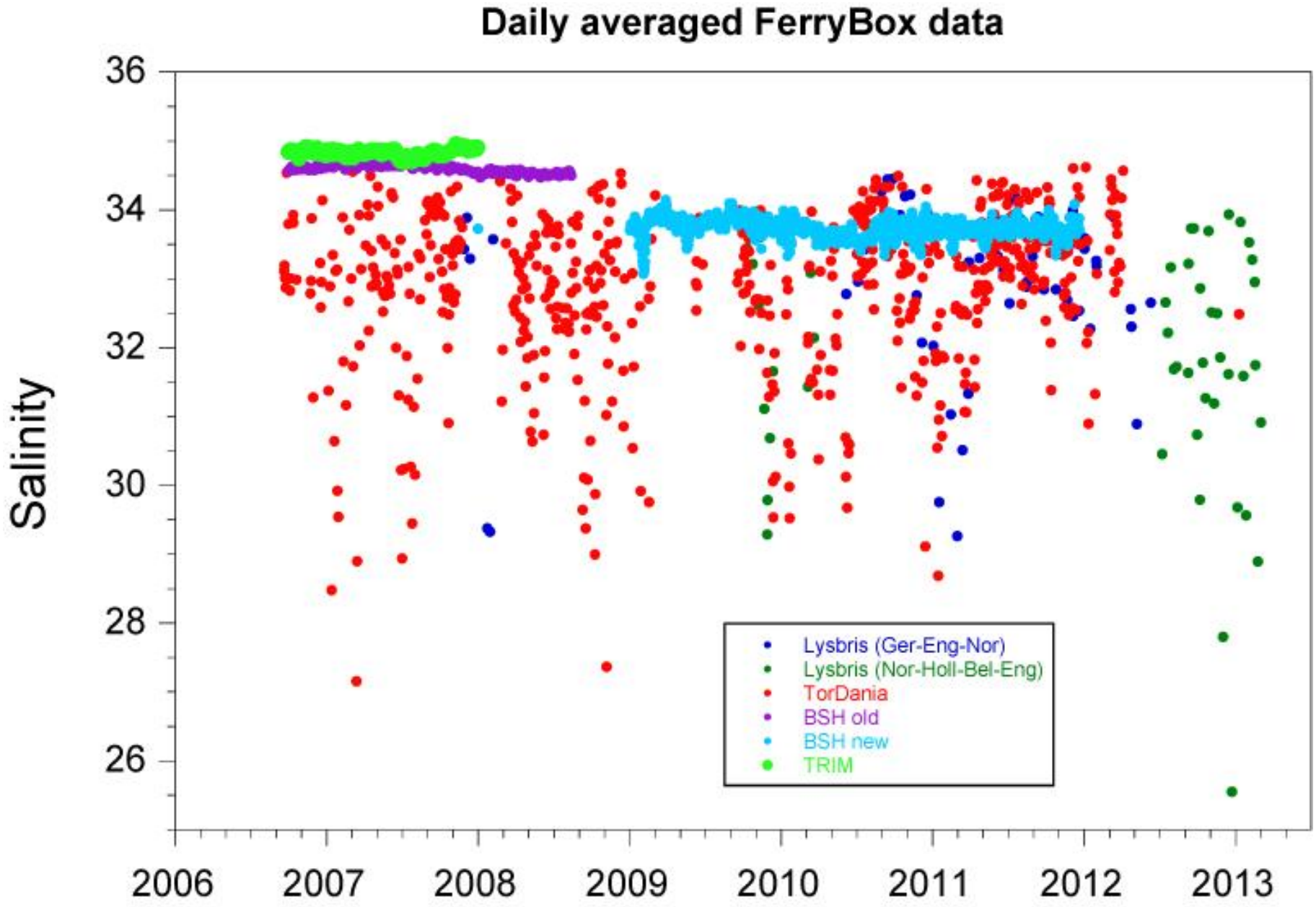


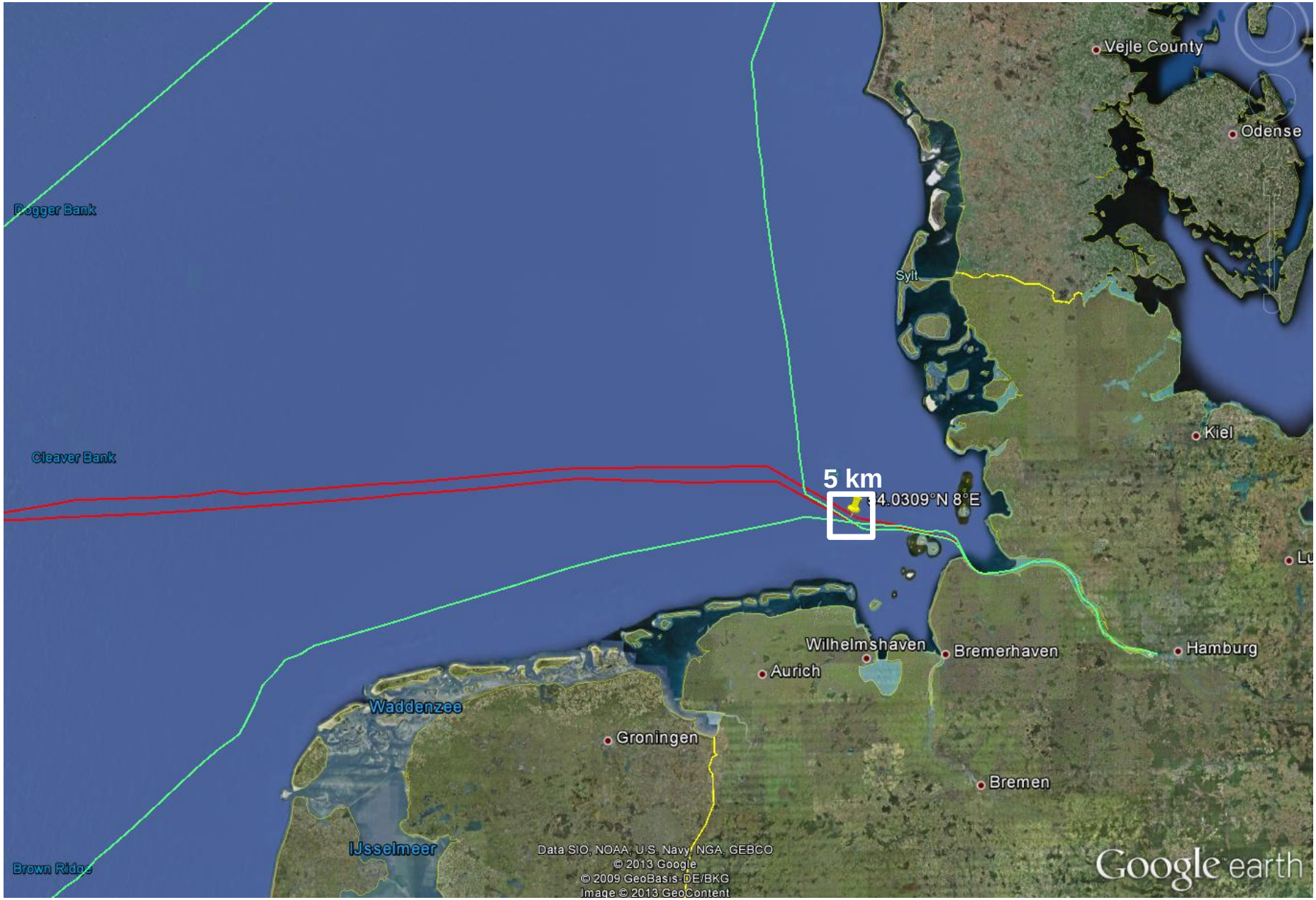
FerryBox data and different model versions



Measurements and mathematical model results

More offshore

Crossing point @ 54.0309°N 8°E



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Temperature comparison more offshore

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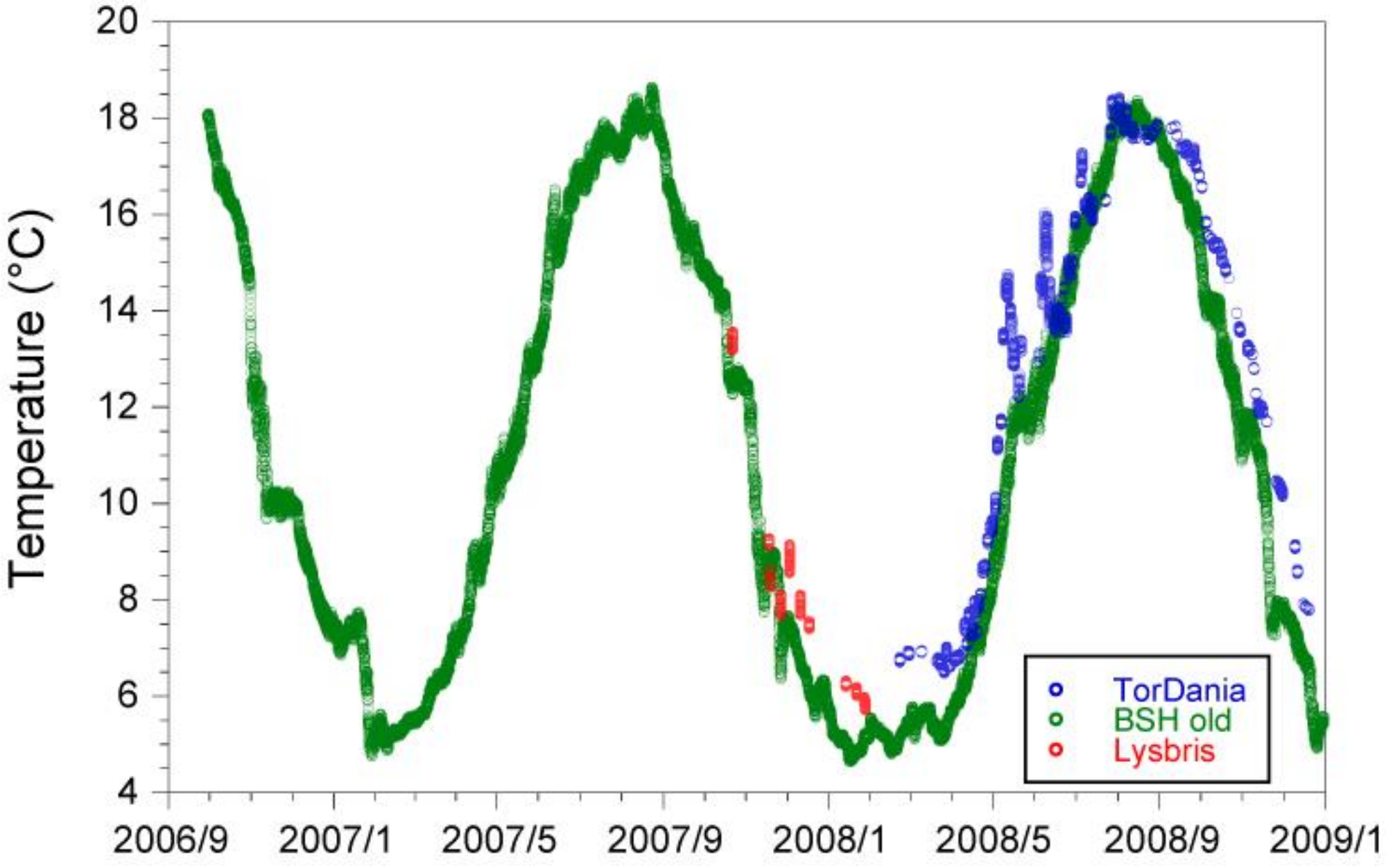

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Salinity comparison more offshore

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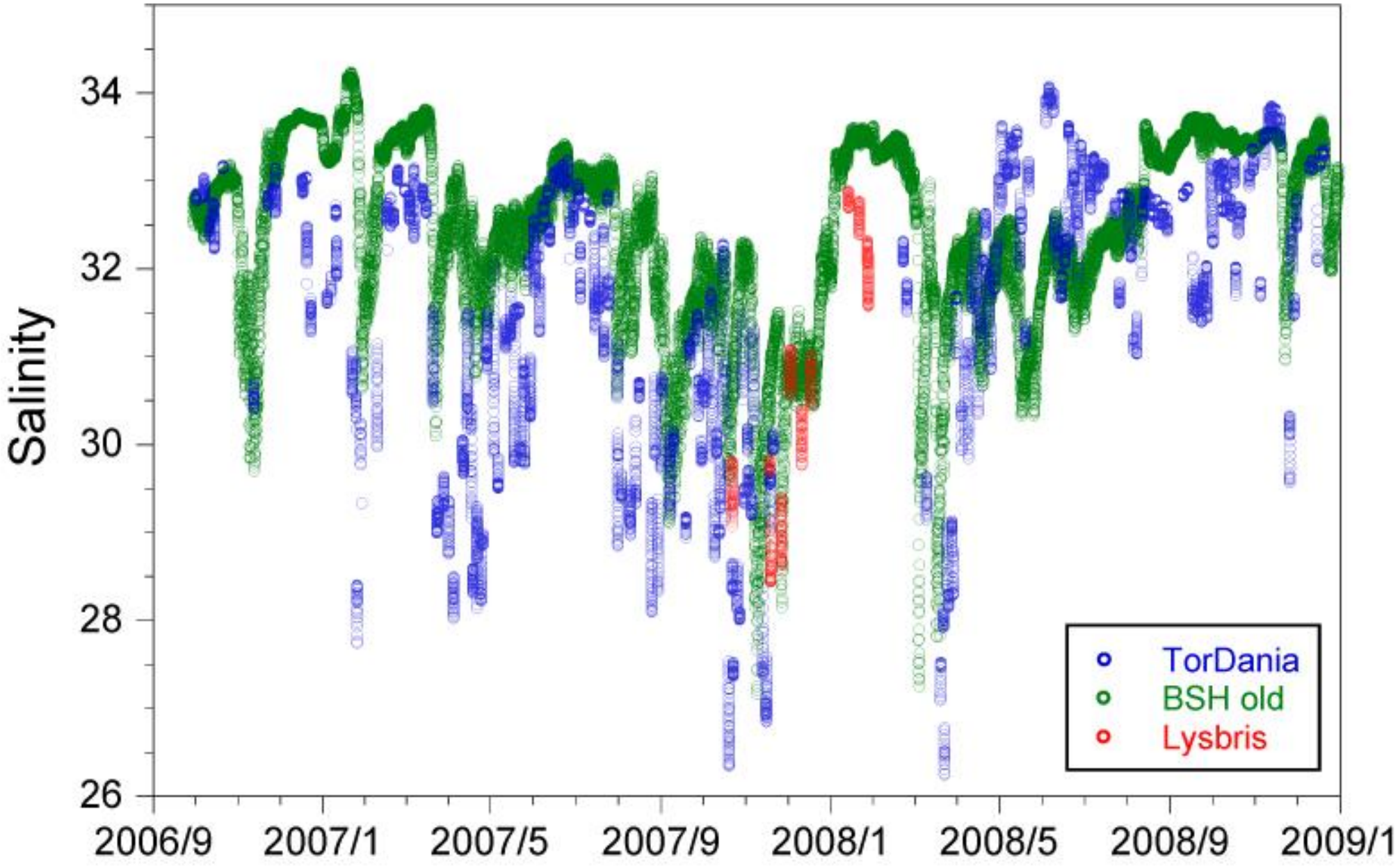

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Crossing point @ 54.04°N 5°E

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Temperature comparison more offshore

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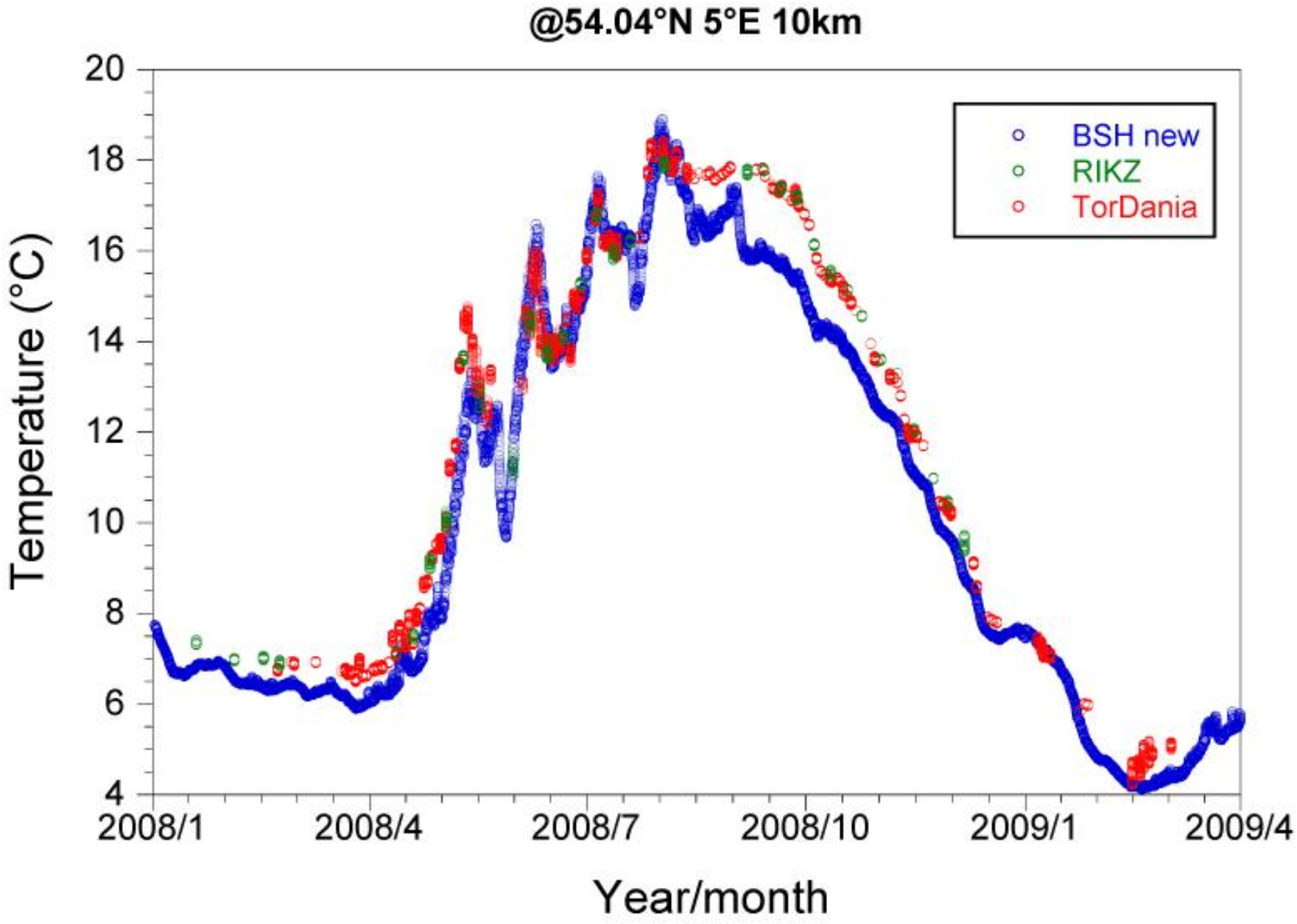
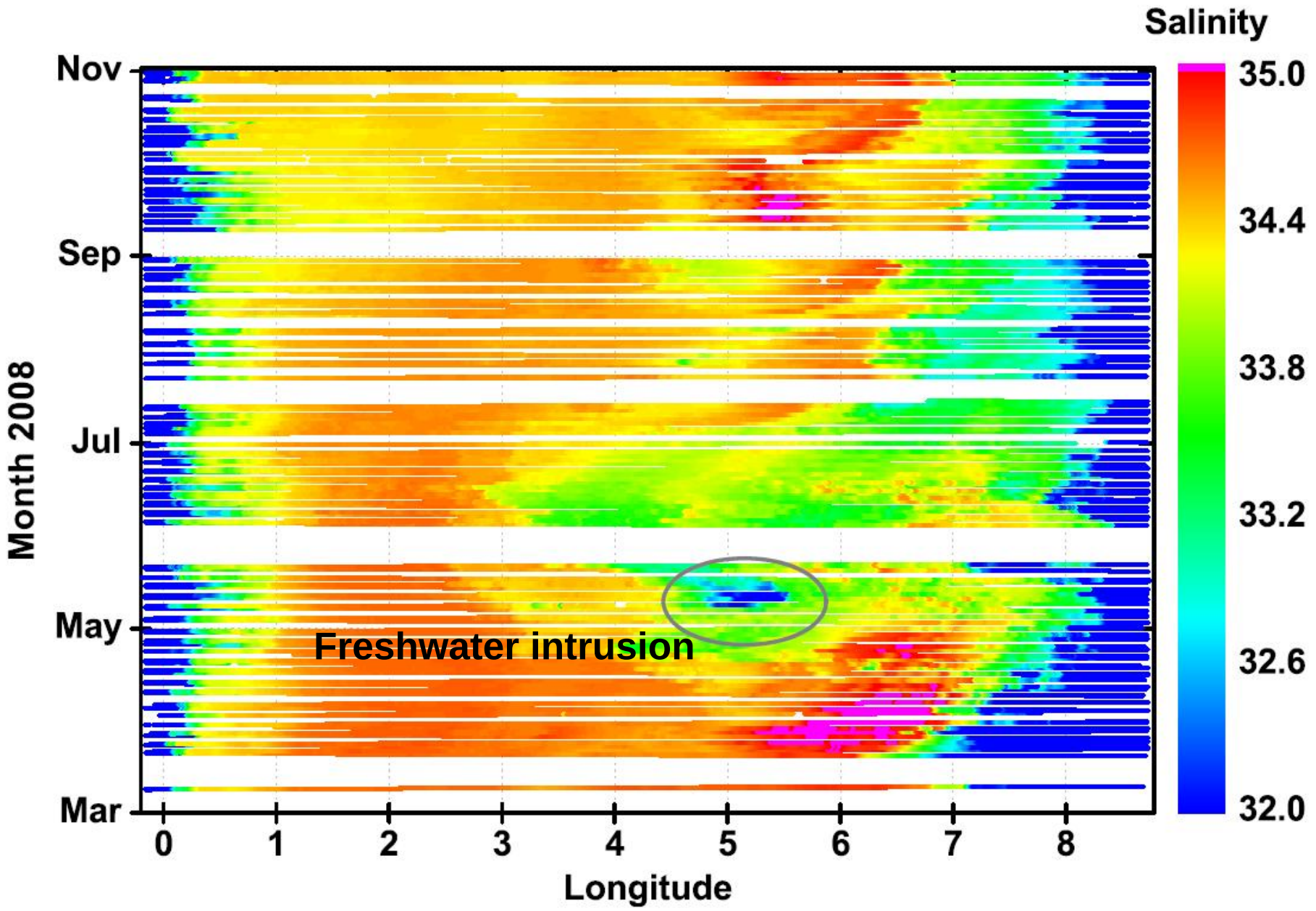
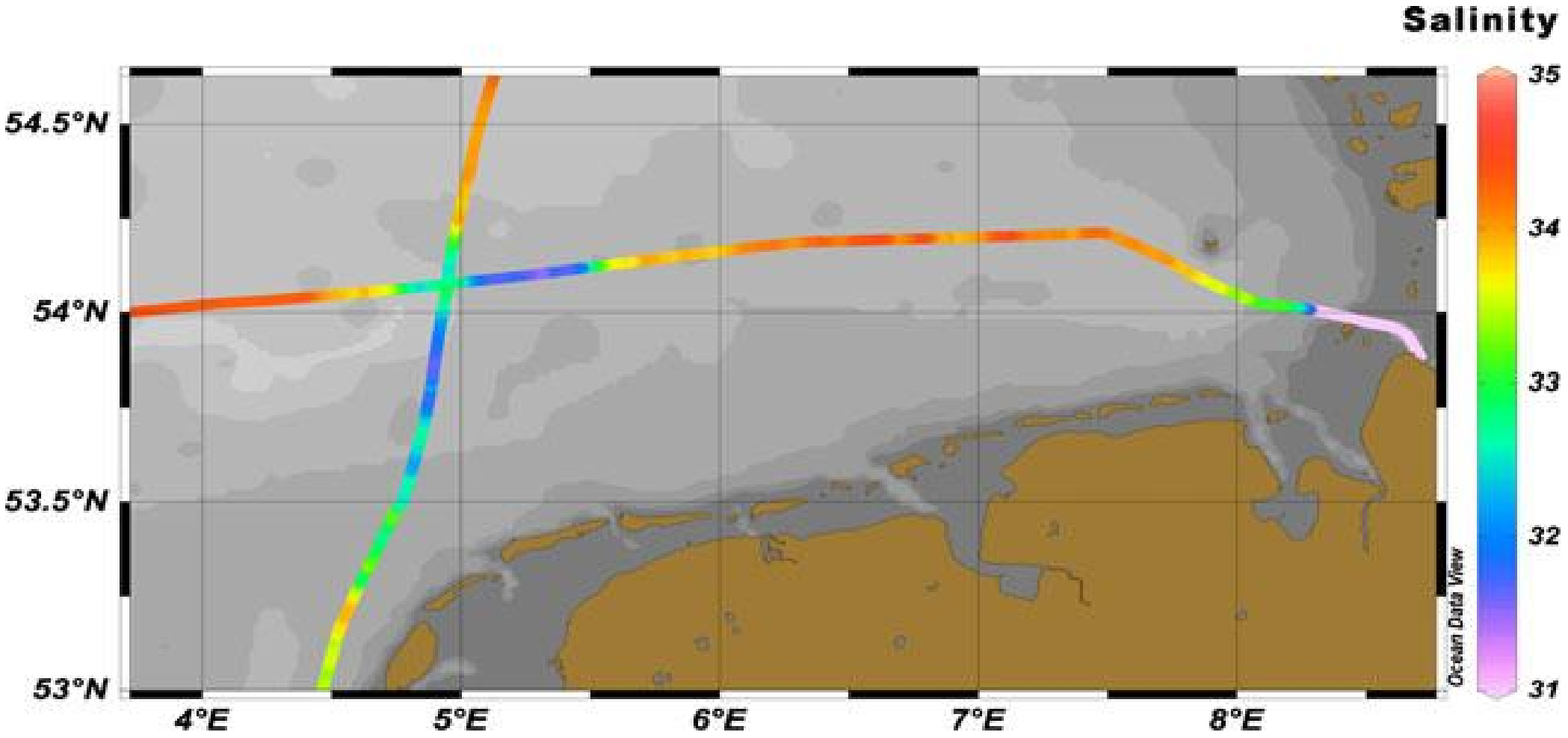


Salinity comparison more offshore



from: Petersen et al., 2011, Ocean Dynamics

Salinity comparison more offshore



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Salinity comparison more offshore

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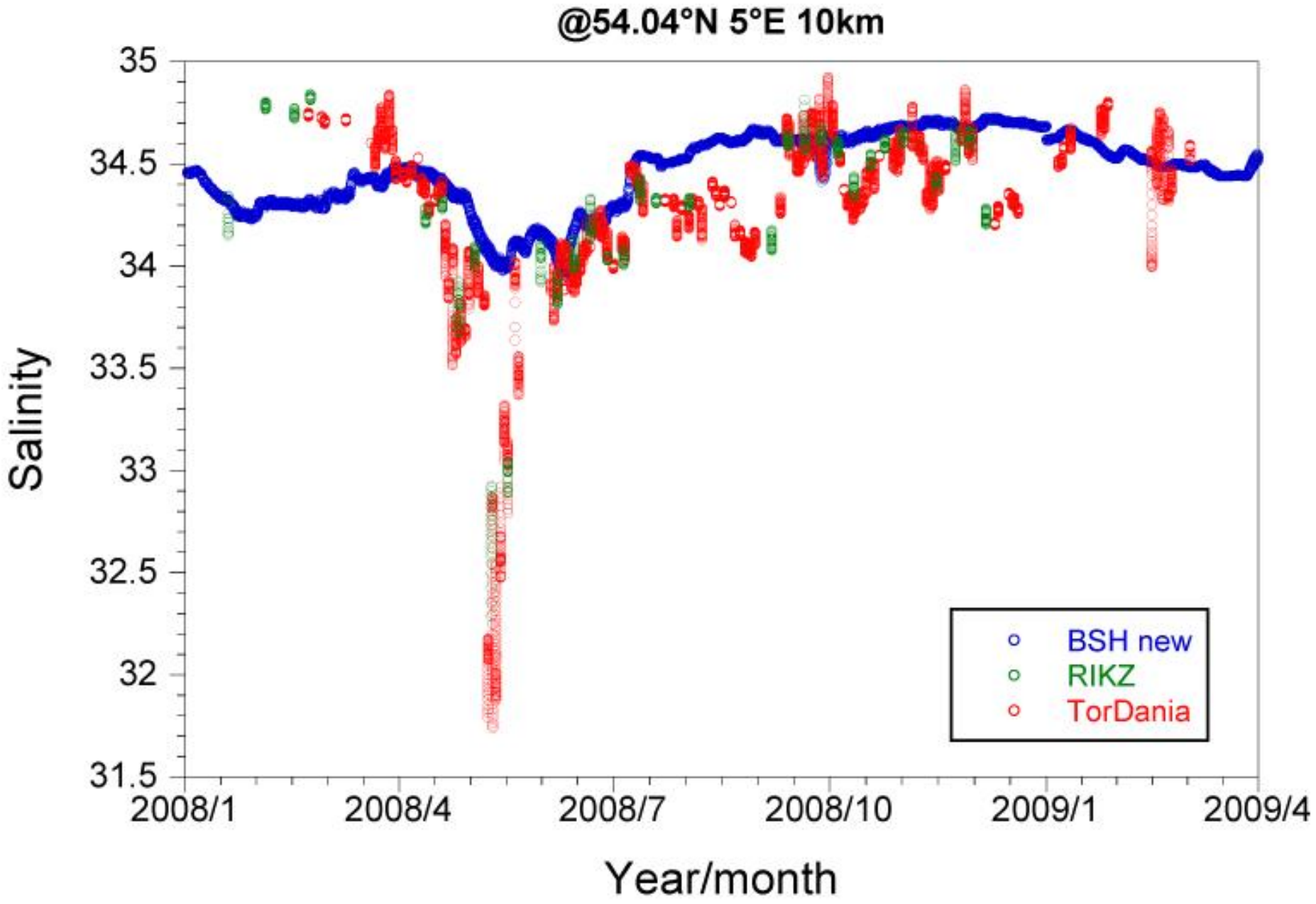

Conclusions

- Data for temperature are more balanced in space and time than tidal influenced parameters like salinity, especially in coastal areas
- Data must be verified by lab analyzed samples before intercomparison and/or merging with other routes/ships
- Gaps in FerryBox data can be supplemented by other routes after verification, and in some cases by mathematical models
- The FerryBox community should act as a real community by using data on a mutual basis → use them, not just collect and store them
- Projects like FERRYBOX facilitate harmonizing data from miscellaneous institutes for a consolidated data set
- Consolidated information of different parameters may help mathematical modellers to enhance their model output by e.g. data assimilation and/or better information about pelagic boundary conditions

FerryBox data are versatile and valuable when handled in the right way

Thank you!