



Experience and results with a 4H Jena FerryBox system on board the Ferry Galaxy

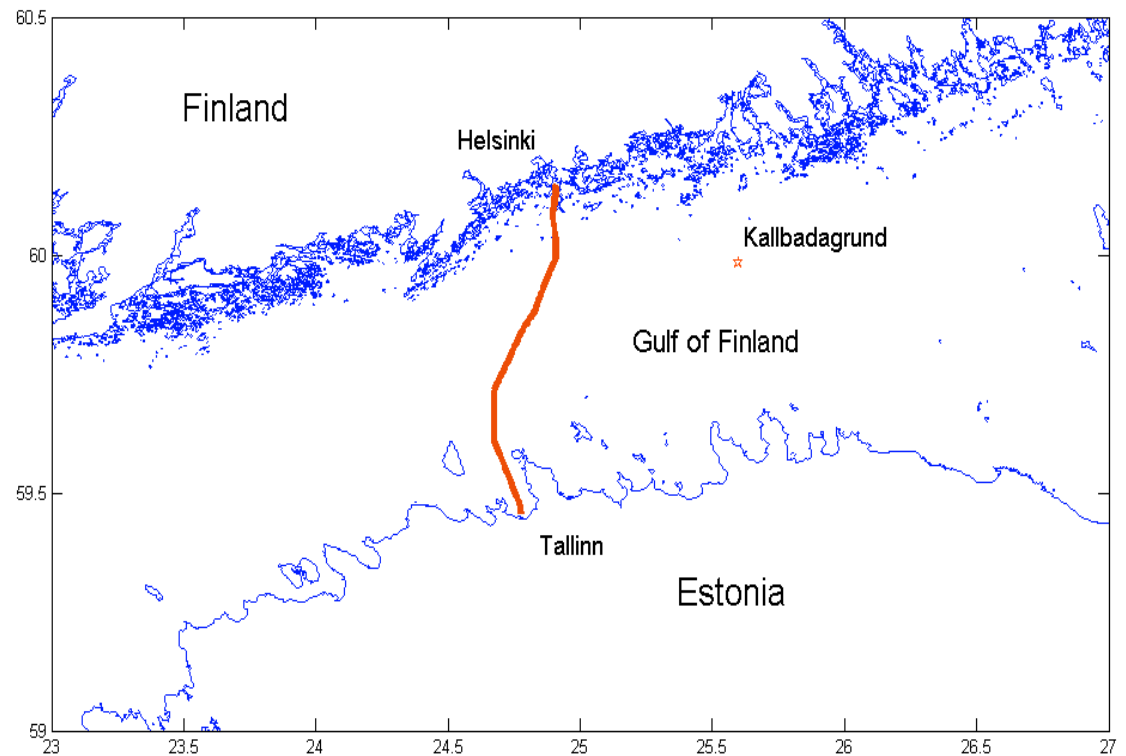
Villu Kikas

Topics

- Introduction
- System location
- Experience with the FerryBox system:
 - ▣ Temperature difference
 - ▣ FSI and salinity comparison
 - ▣ SCUFA
- Results
- Conclusions

Introduction

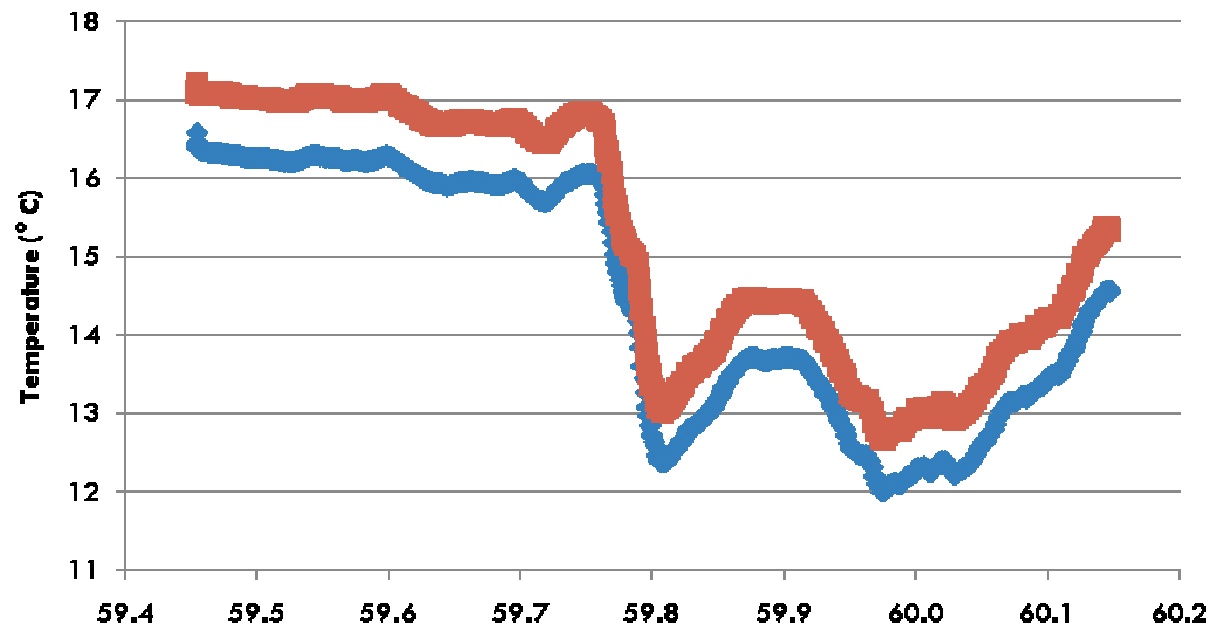
- 1993 – Alg@line project.
- 2006 – 4H Jena FerryBox installed on board Galaxy.
- 2007 – properly working system with quality data.



FerryBox system and sampler onboard the passenger ferry Galaxy.



Experience with FerryBox system: difference in temperature



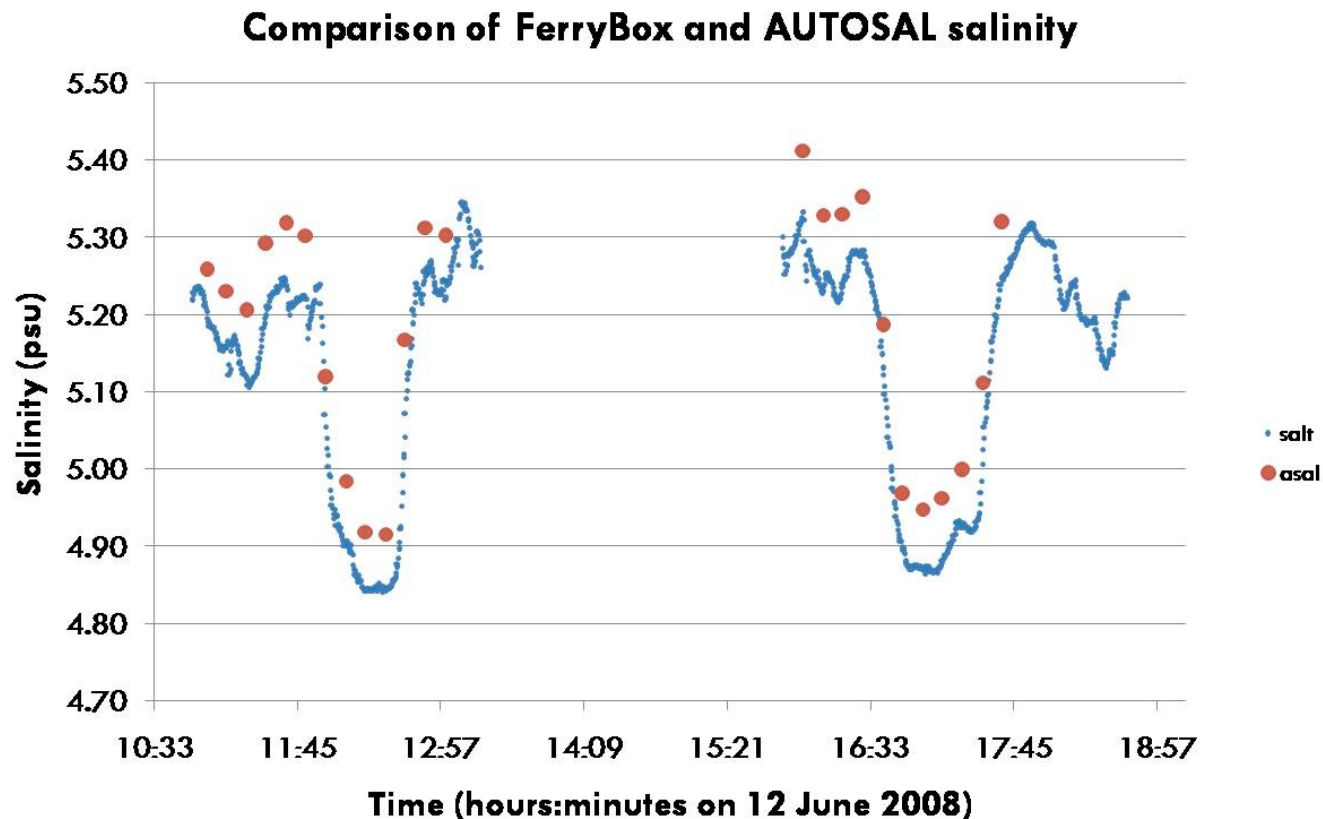
FSI – red line

PT100 – blue line

04.08.2007

- Temperature sensors 0.6 °C difference.

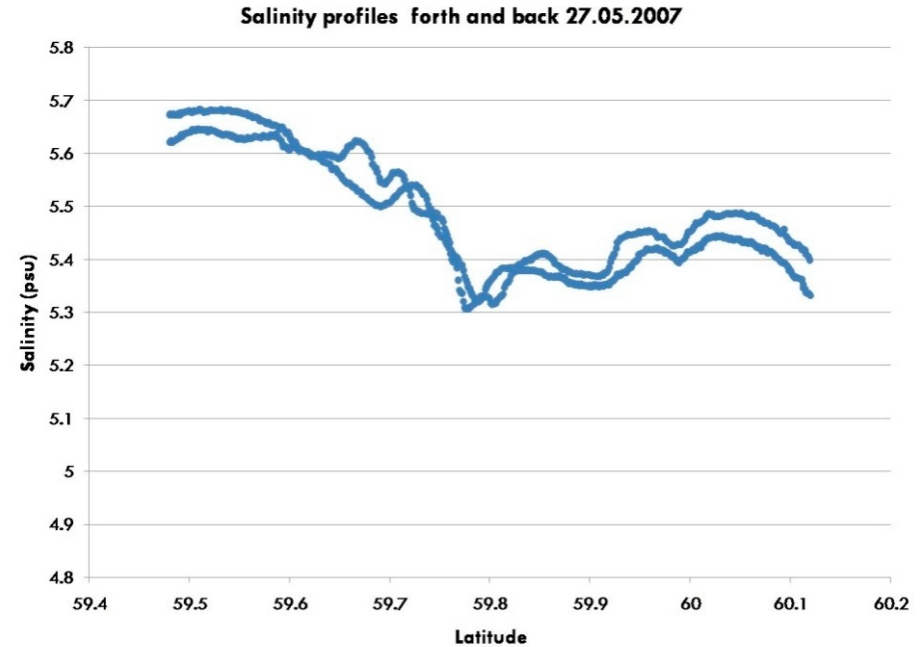
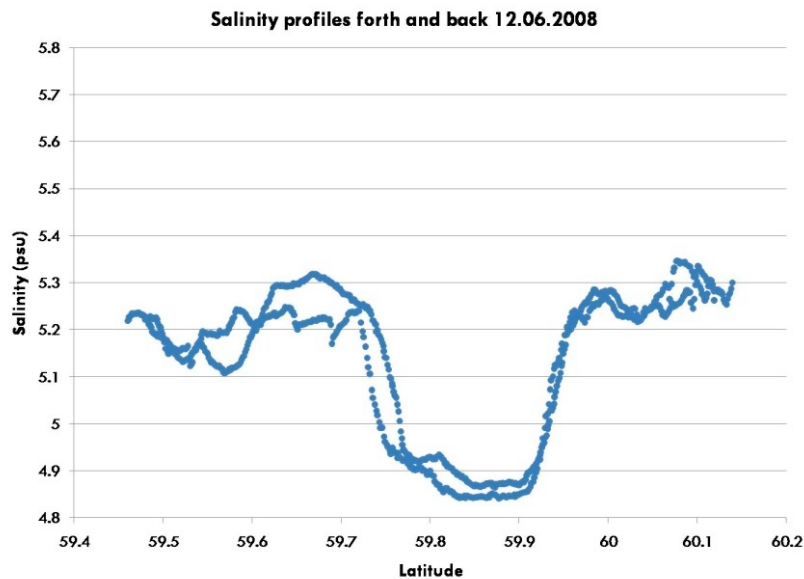
Experience with FerryBox system: salinity comparison



- comparison between FSI termosalinograph and values from water samples measured by AUTOSAL
- difference of 0.08 is observed

Experience with FerryBox system: FSI

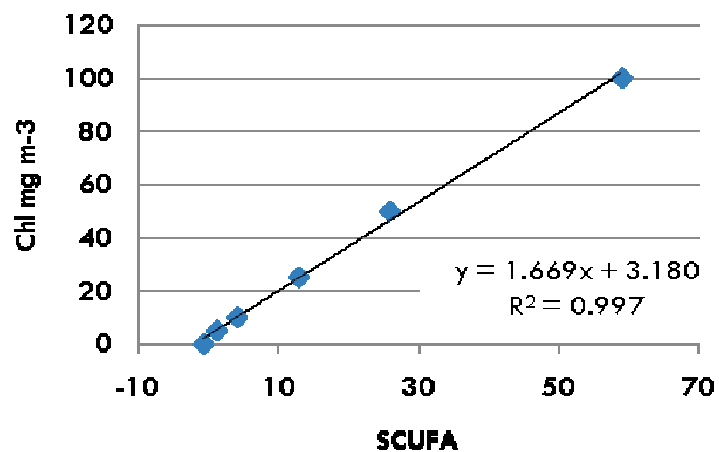
- FSI**
- regular salinity difference observed between profiles forth and back.



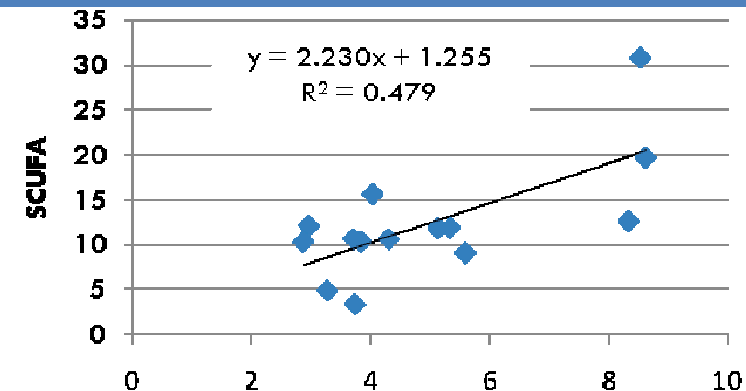
- values after turning FSI termosalinograph 180°.



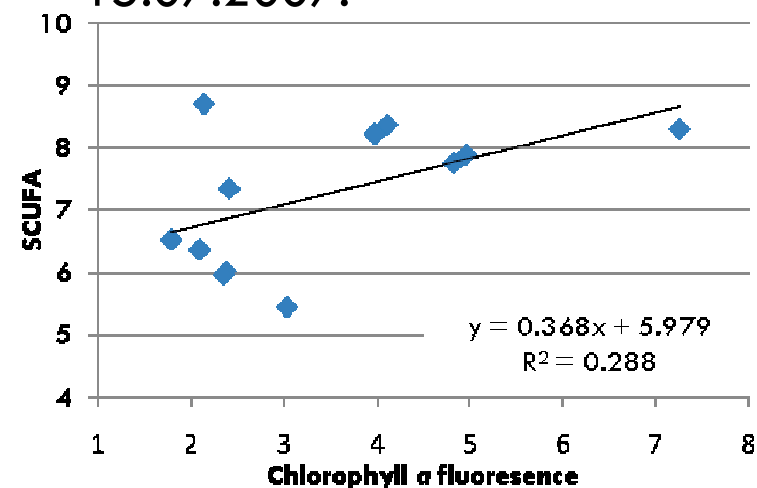
Experience with FerryBox system: SCUFA



- SCUFA calibrating results from 07.02.2008 at FIMR.



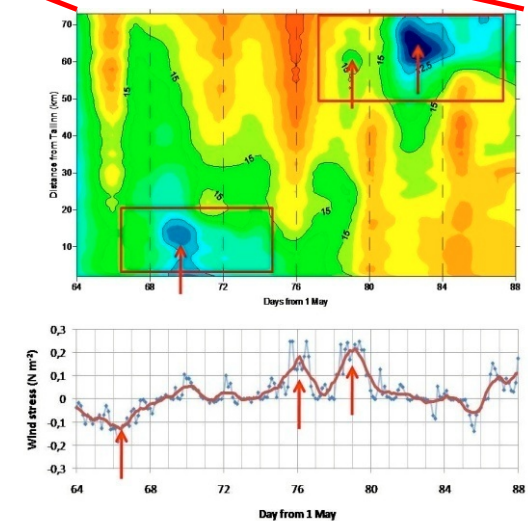
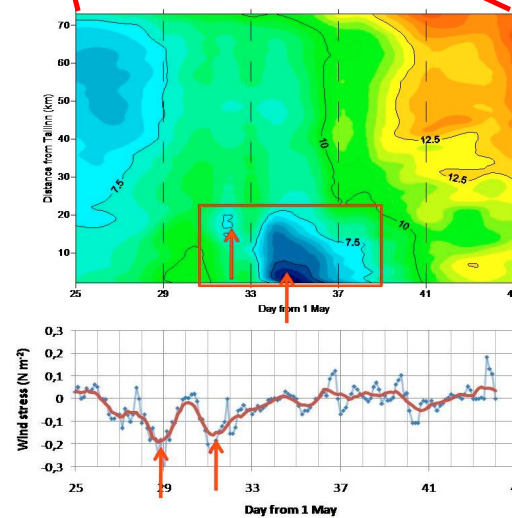
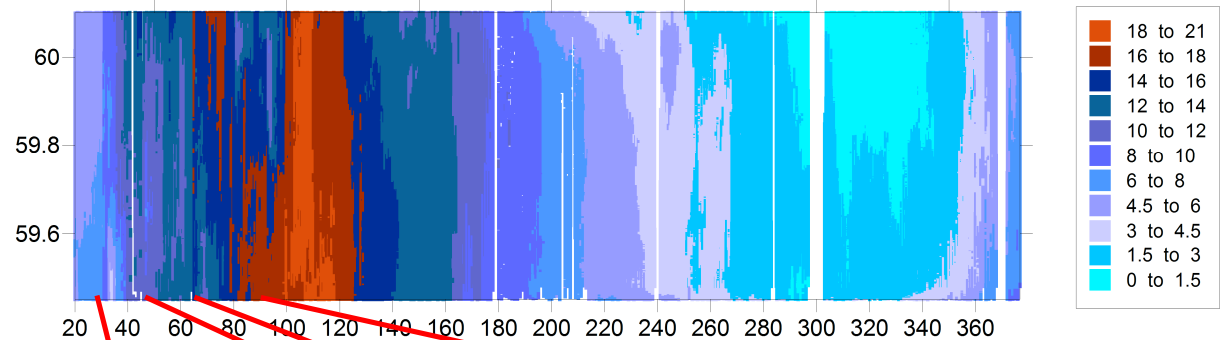
- Chlorophyll a fluorescence data from 08.07.2007 and 15.07.2007.



24/07/2008

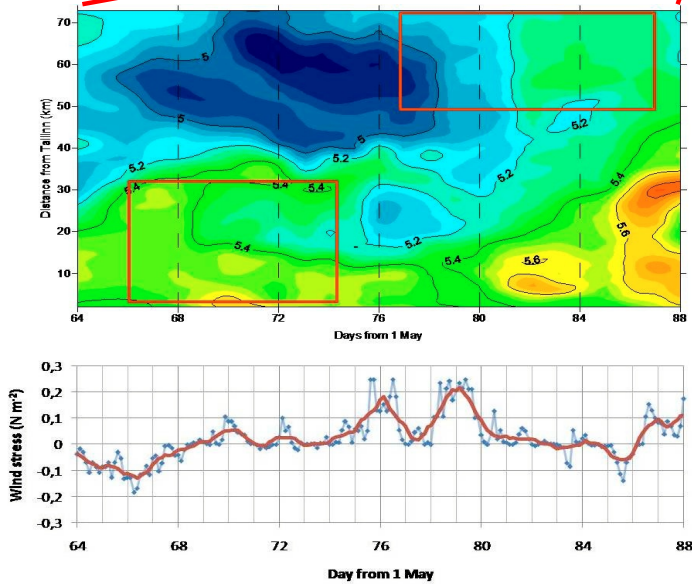
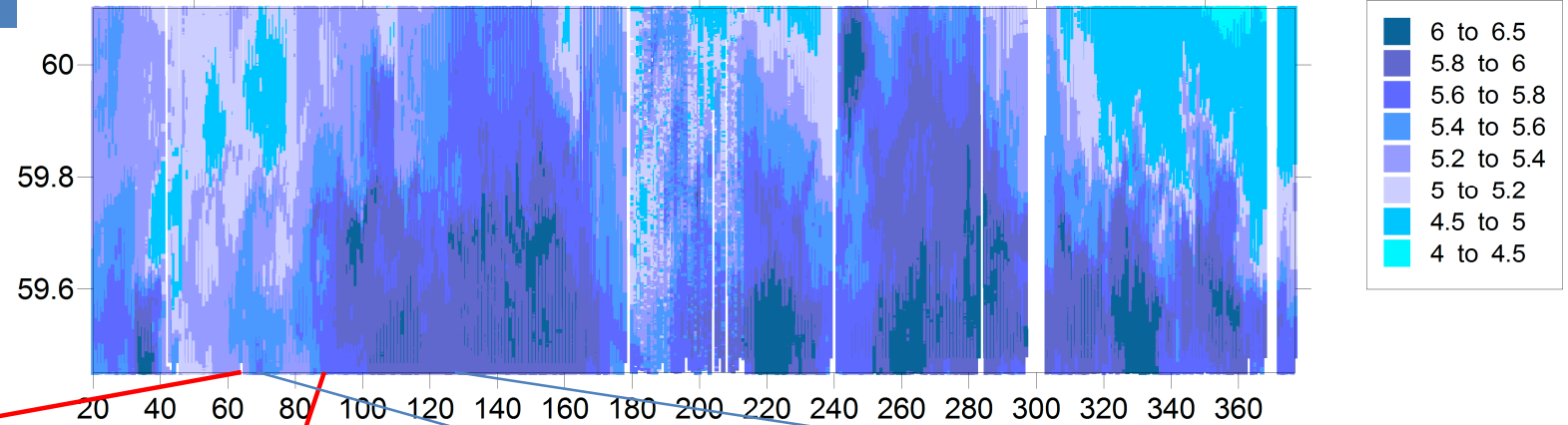
Results: temperature

- temperature data
20.05.2007 - 11.05.2008
- a variety of meso-scale processes have been observed in the Gulf of Finland (fronts, eddies, upwelling and downwelling)

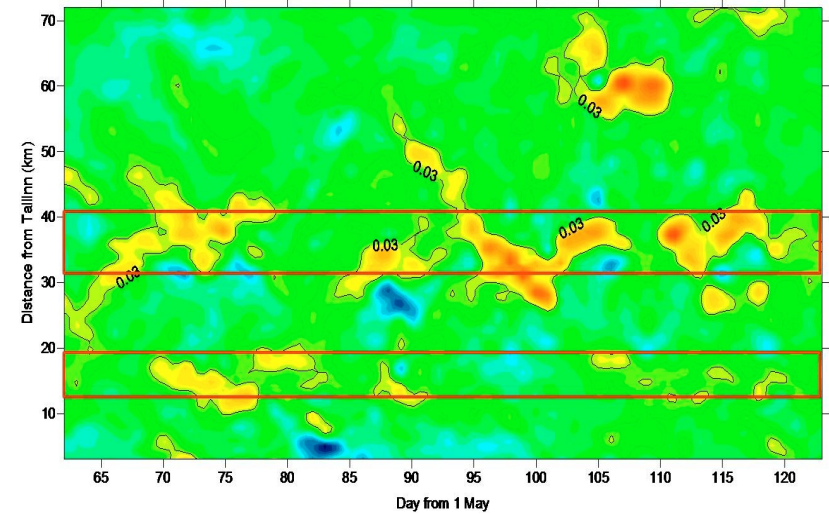


Results: salinity

Salinity data
20.05.2007 -
11.05.2008

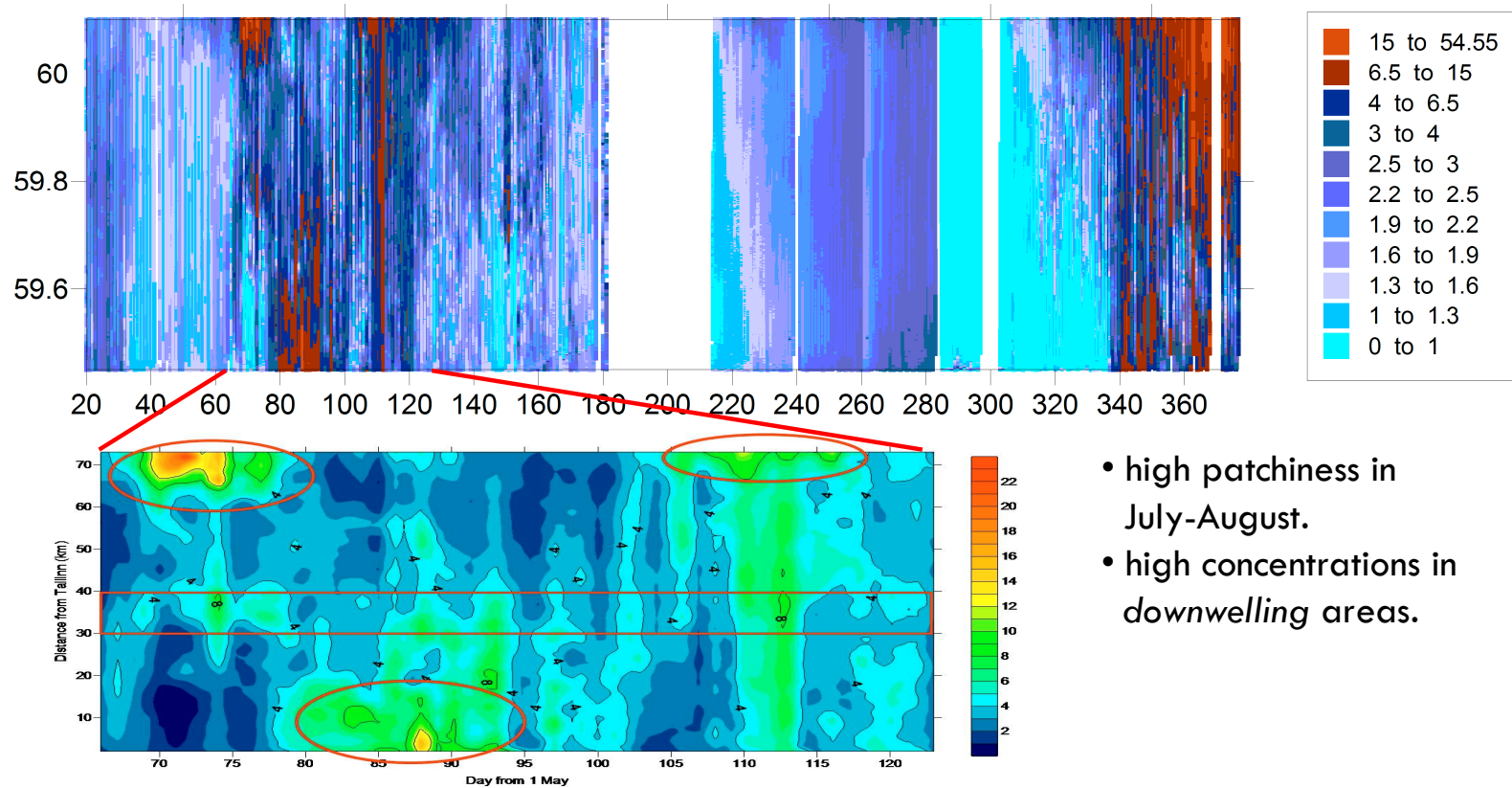


- salinity front and observed higher values in the southern part of the gulf.



Results: fluorescence

- fluorescence data 20.05.2007 - 11.05.2008



- high patchiness in July-August.
- high concentrations in *downwelling* areas.

Conclusions

- It took quite a long time to get the system working without problems
- Data quality now known and data stored in database
- Temperature, salinity and chlorophyll-*a* fluorescence data used for scientific analysis and comparisons with modelling results
- It is shown that FerryBox measurements can be used as a tool to study meso-scale processes



Thank you for your attention!

