



COSYNA

Coastal Observatory in the North Sea

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COSYNA

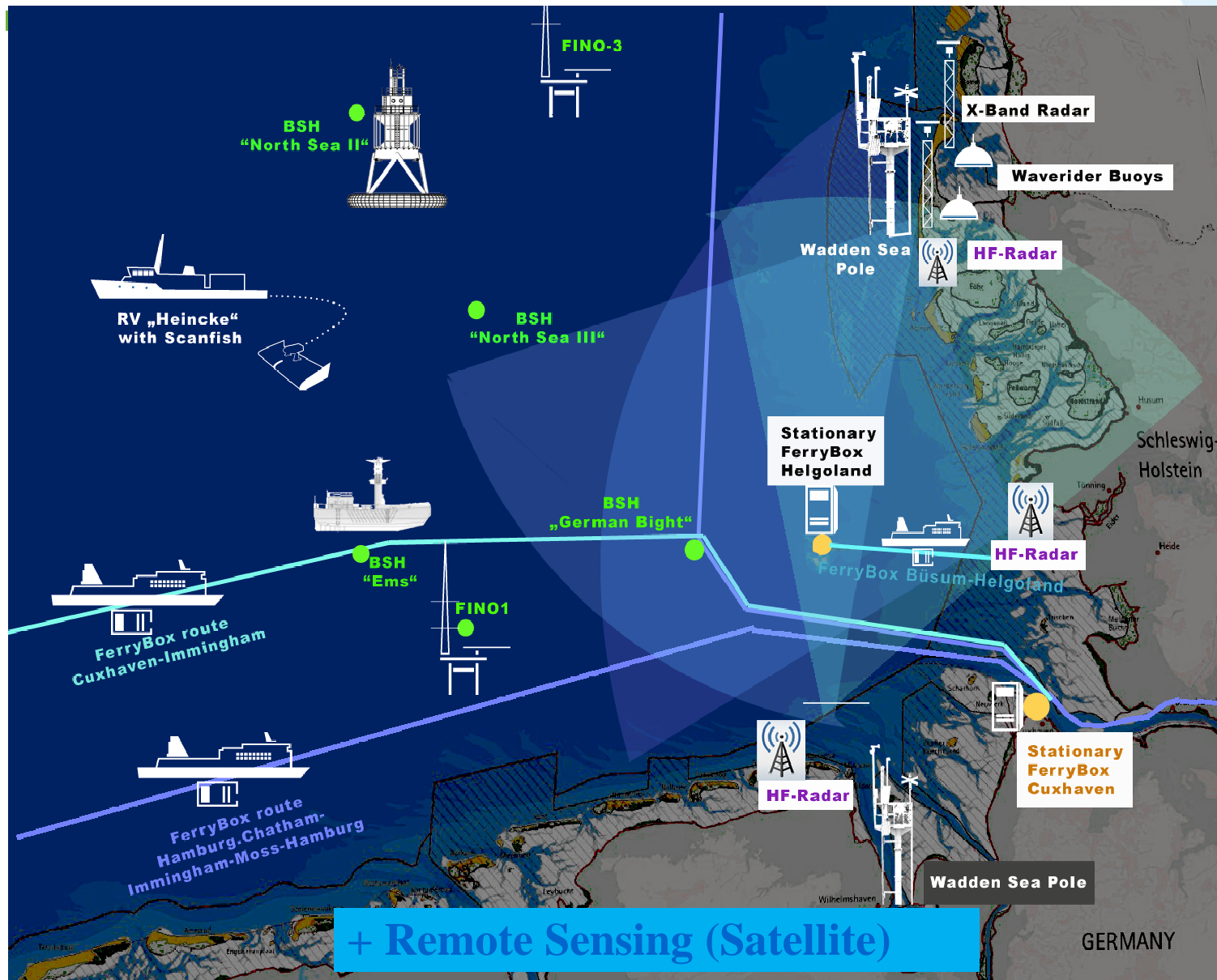
COASTAL OBSERVATION SYSTEM FOR NORTHERN AND ARCTIC SEAS



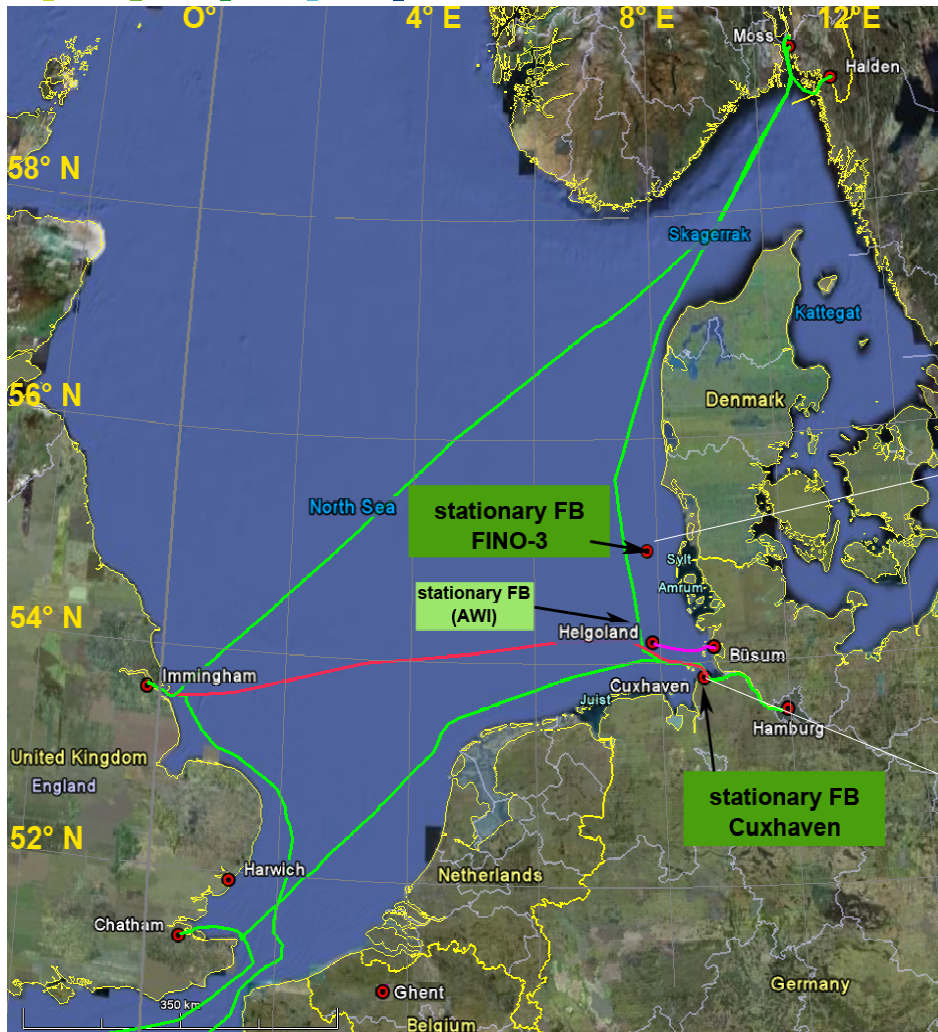
AIMS:

- *Building an automated observing system as a „Community System“*
- *Development of an operational „Integrated System“ for*
 - Operational observation of the state, trends and processes in the North Sea,*
 - Operational modelling and prognoses of essential environmental parameters and*
 - Creation of scenarios as support for coastal management tasks*
- *Development of observation & modelling modules, together with German institutions (universities, monitoring authorities etc.)*
- *Integration into European structures (EuroGOOS, EMODNET, JERICO, MyOcean2,, ...)*

COSYNA OBSERVATIONS



STATIONARY FERRYBOXES WITHIN COSYNA

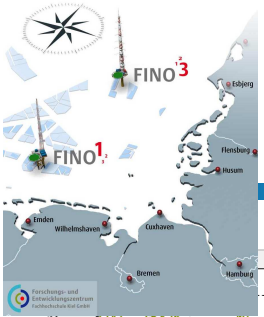


FB-Station
at FINO 3
Installation:
July 2011



FB-Station
Cuxhaven
since Okt'10:

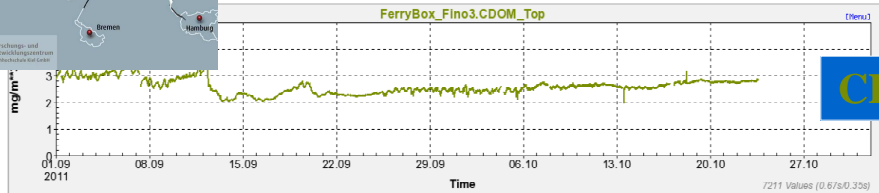




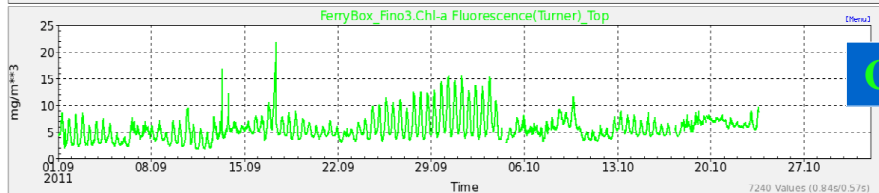
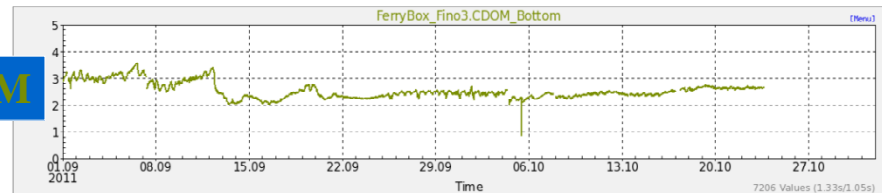
FINO3 DATA FROM SEPT TO OCT 2011

Bottom

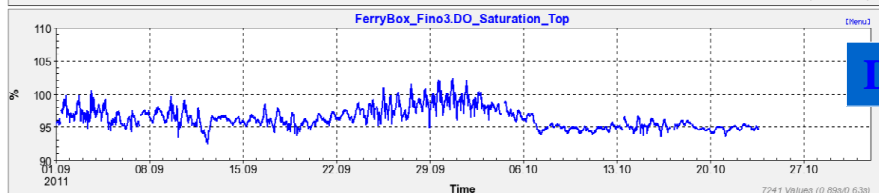
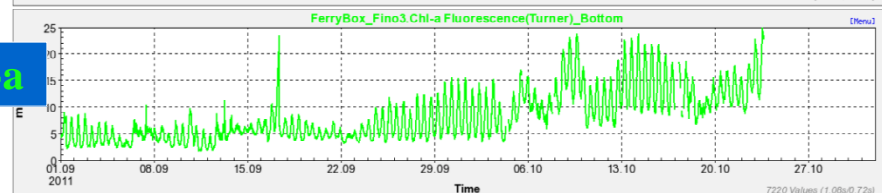
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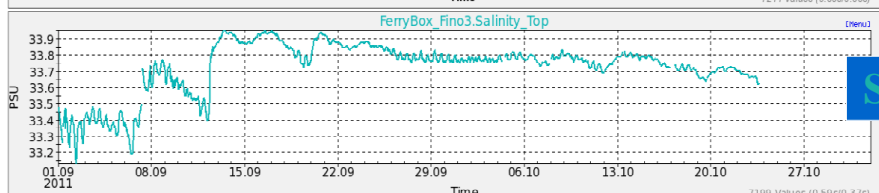
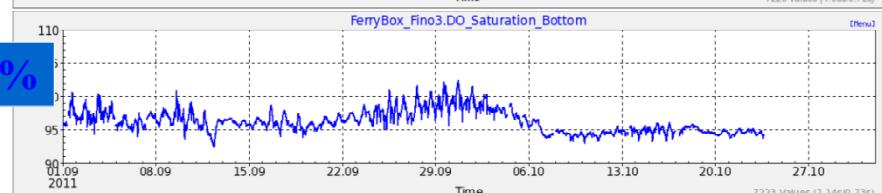
CDOM



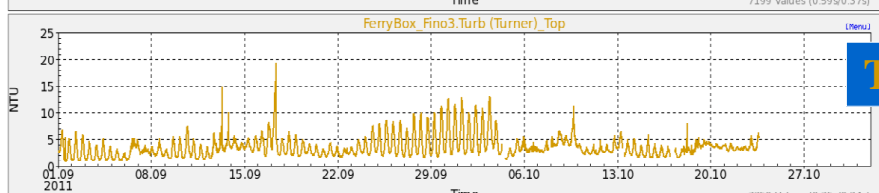
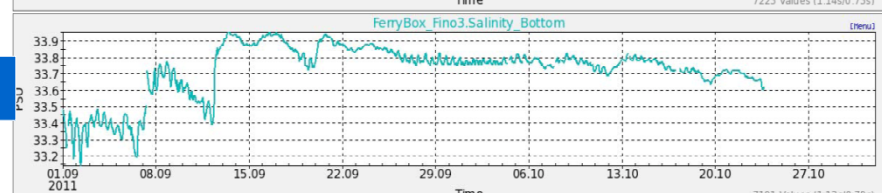
Chl-a



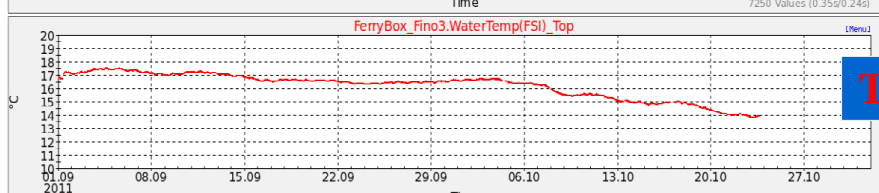
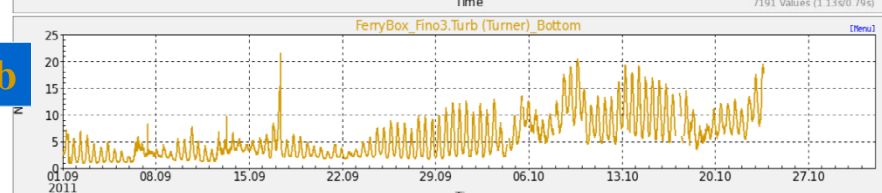
DO %



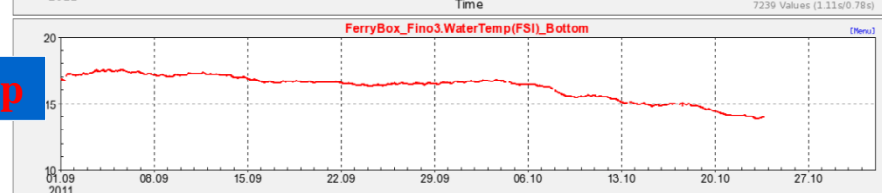
Sali



Turb

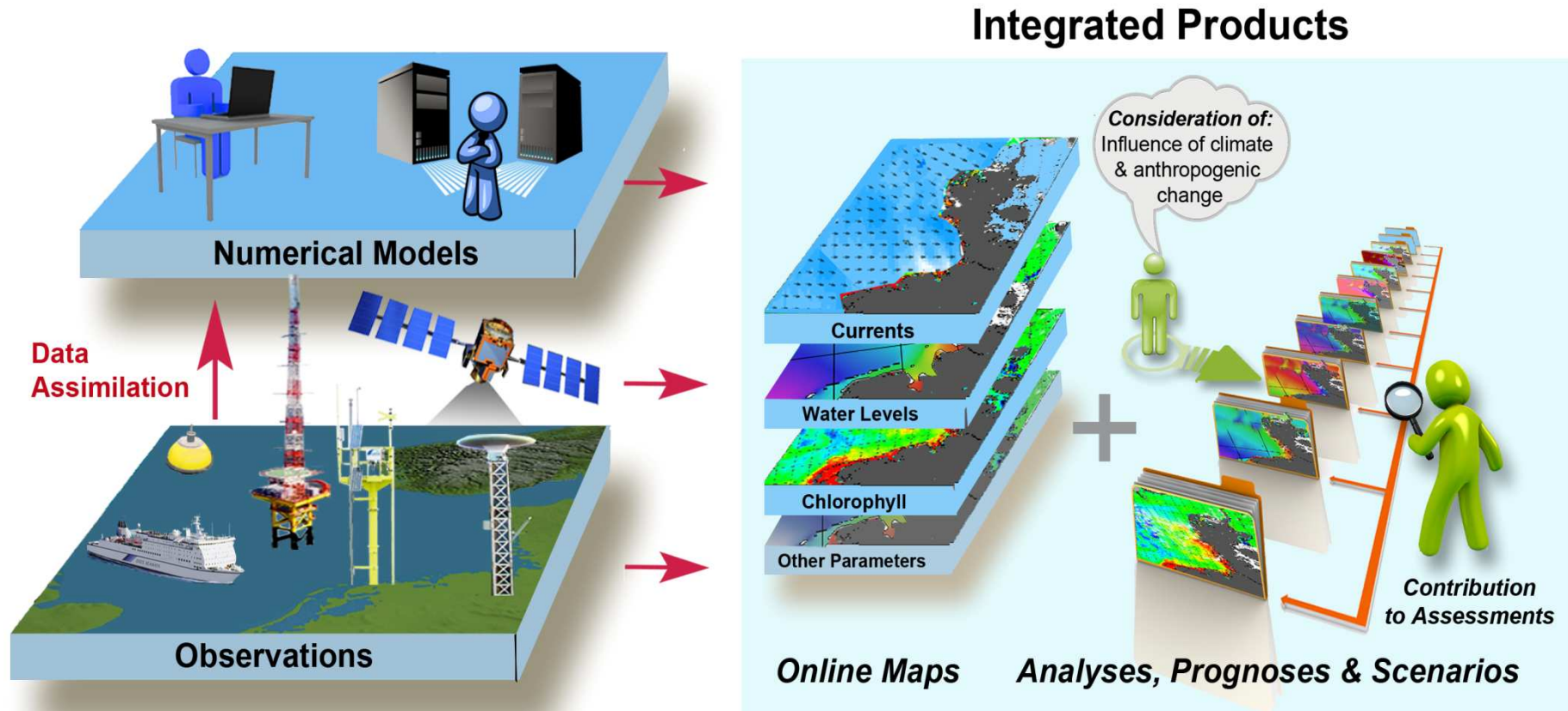


Temp

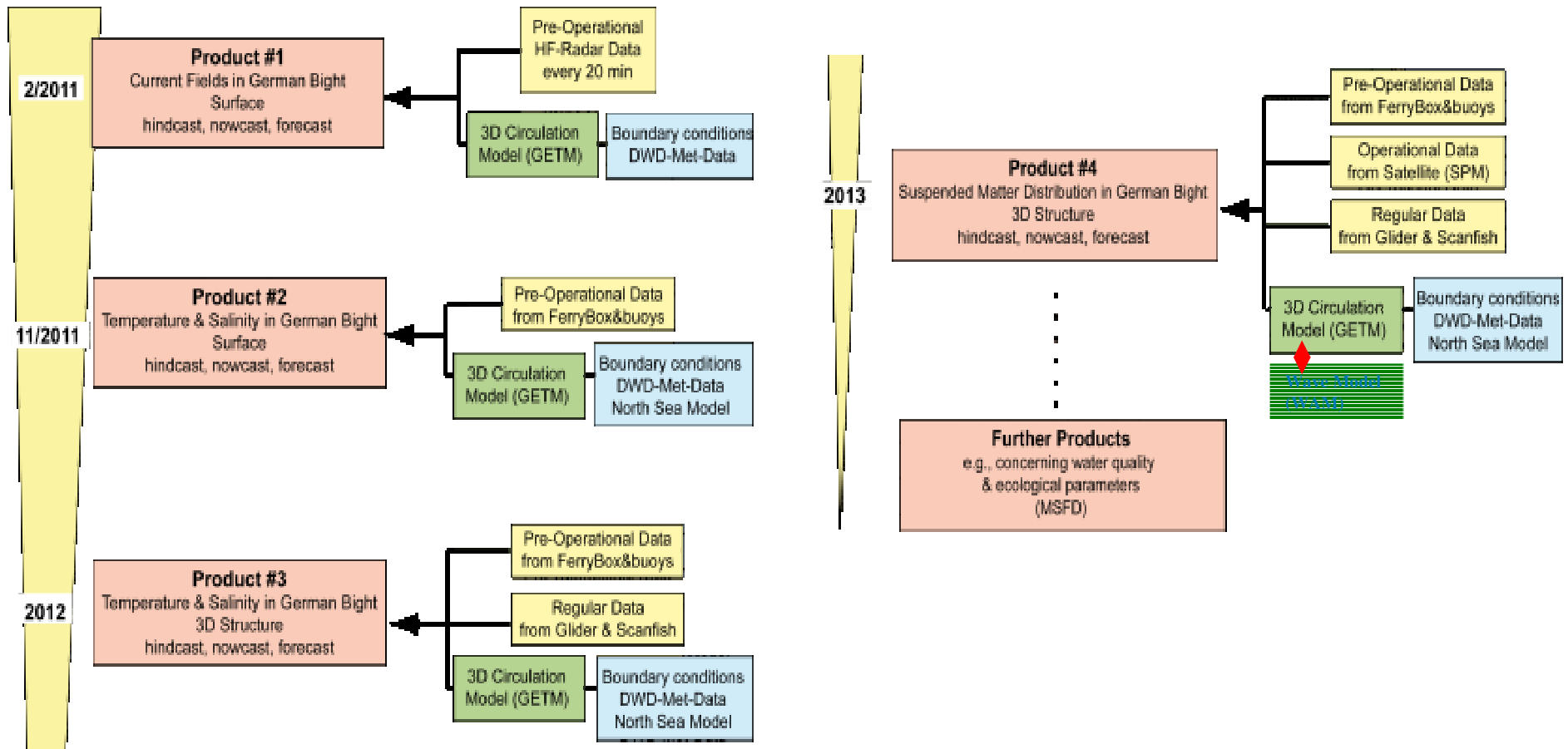




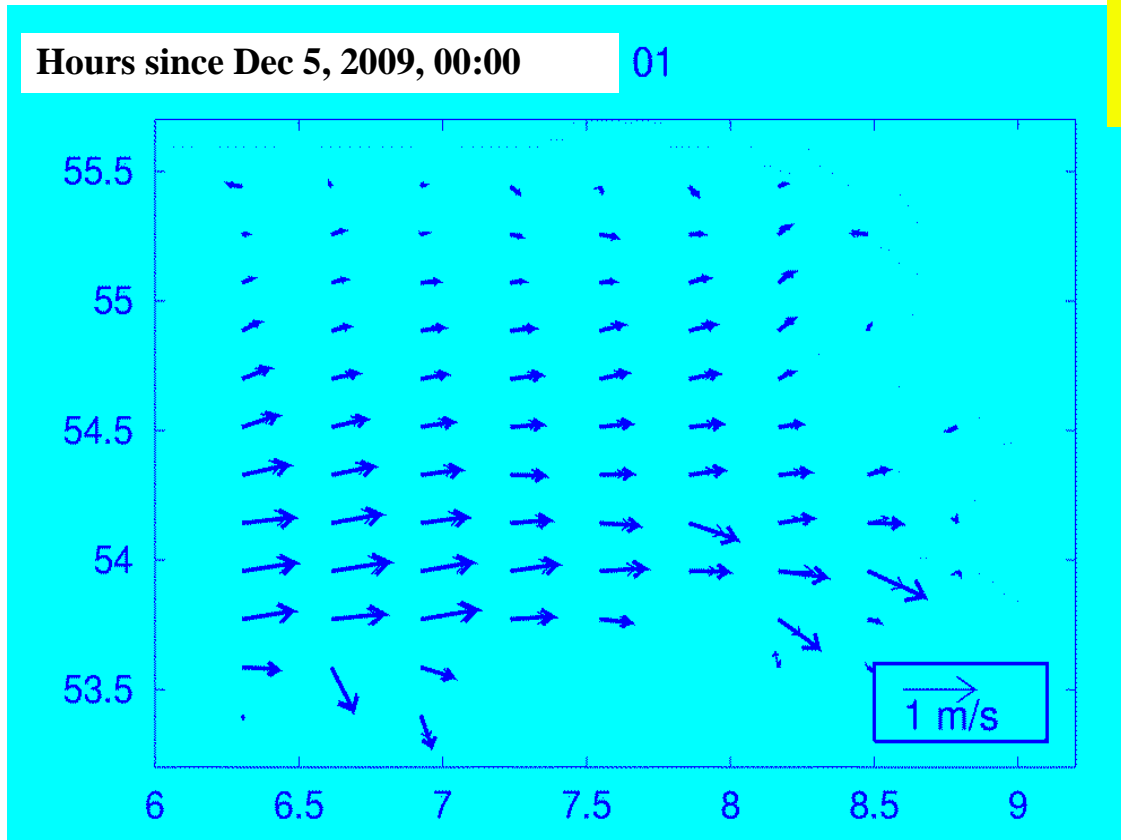
The principal goal of the COSYNA-Project:
to create a centrally managed, operational, large-scale
monitoring and modelling system



COSYNA PRODUCTS



PRODUCT I: ASSIMILATION OF CURRENT DATA (HF RADAR)



— Free run

— Analysis

Forecast current fields and HF radar observations over period of 12 hrs

Information on background statistics and observation errors

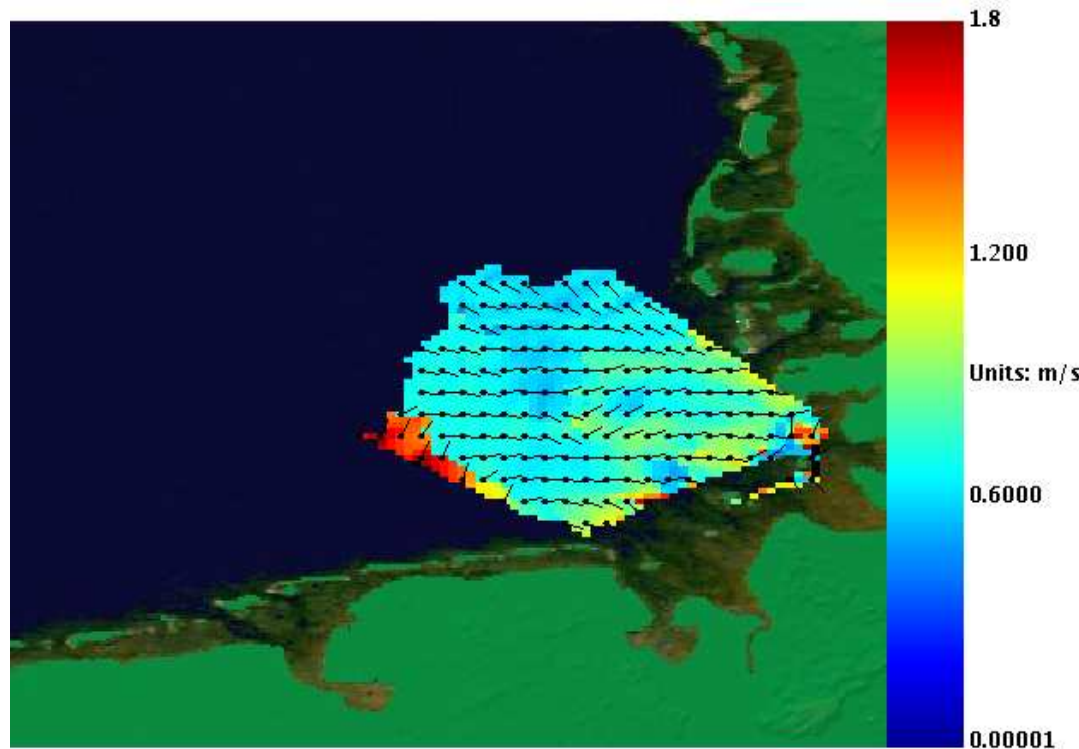
Kalman filter analysis

Modified current fields over period of 12 hrs

PRODUCT I: CURRENT FIELDS IN THE GERMAN BIGHT

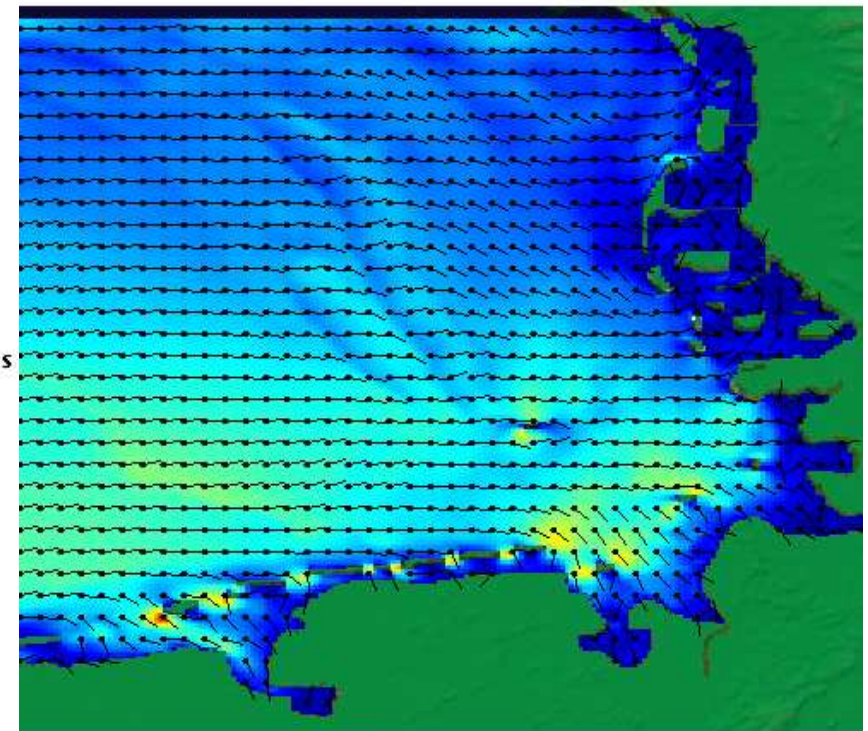


COSYNA ncWMS Server > HF Radar Current > velocity
Time: 2011-09-27T20:04:26.000Z



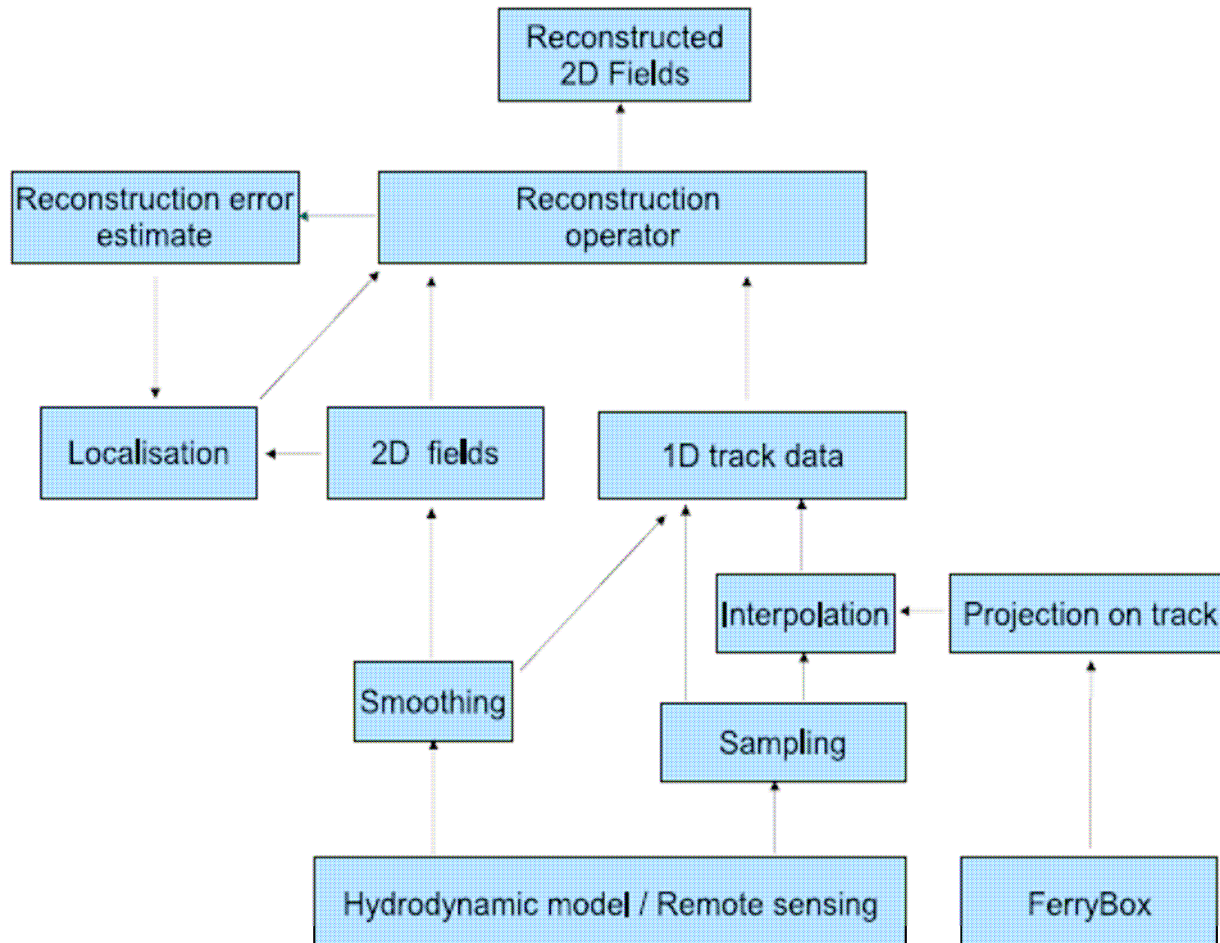
HF radar measurements

COSYNA ncWMS Server > Getm 2d reanalysed > surface_sea_water_velocity
Time: 2011-09-27T20:00:00.000Z



2D assimilated data
(COSYNA Product #1, operational))

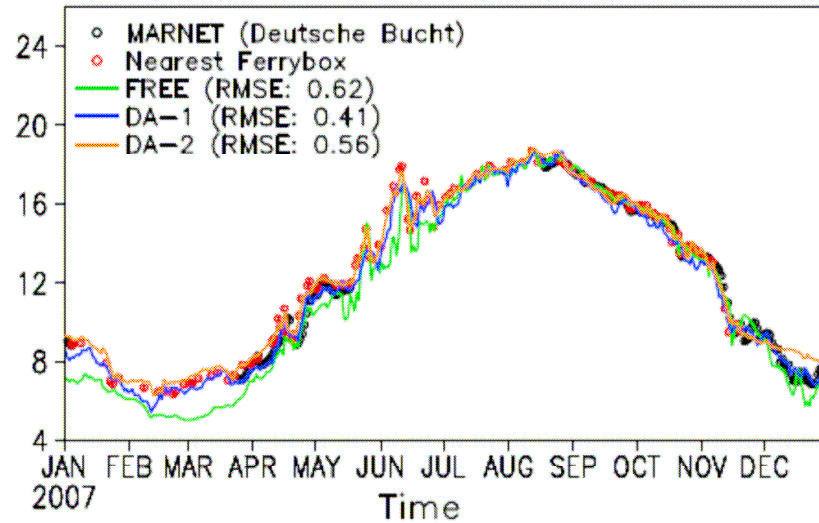
PRODUCT II: ASSIMILATION OF FERRYBOX DATA



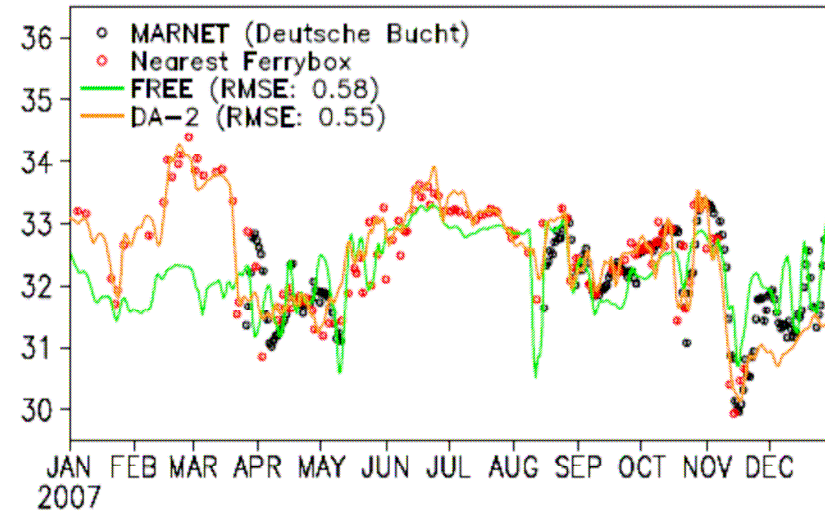
VALIDATION OF SST AND SSS



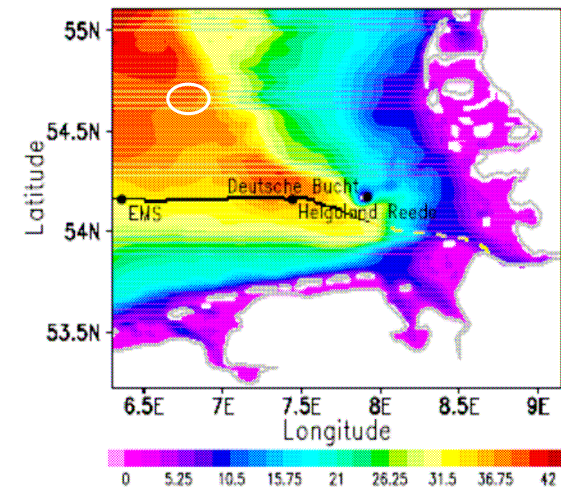
a) Deutsche Bucht Station – 54.17N 7.45E
SST [deg C]



b) Deutsche Bucht Station – 54.17N 7.45E
Salinity at 6m



Validation of simulated SST and SSS against MARNET observations.



DISSEMINATION: COSYNA SHOWROOM





Thanks for your attention!

Further information:

- www.cosyna.de
- www.coastlab.org
- www.coastdat.org
and links therein...