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SEESCHIFFFAHRT
UND
HYDROGRAPHIE

DBCP National Report Germany

28th DBCP

Fremantle, 6st of October 2012

Kai Herklotz (BSH)



- BSH and its relation to the DBCP
- ARGO-Program
- Other activities
- MARNET
- Perspectives



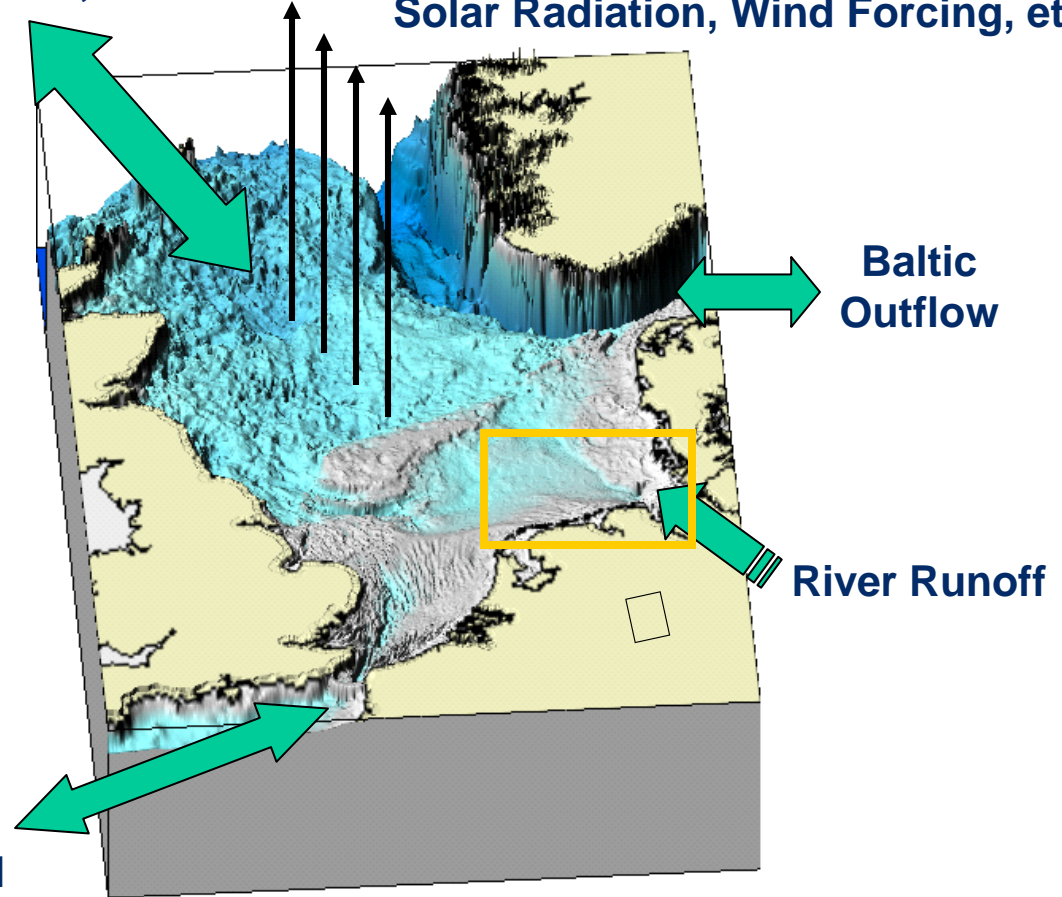
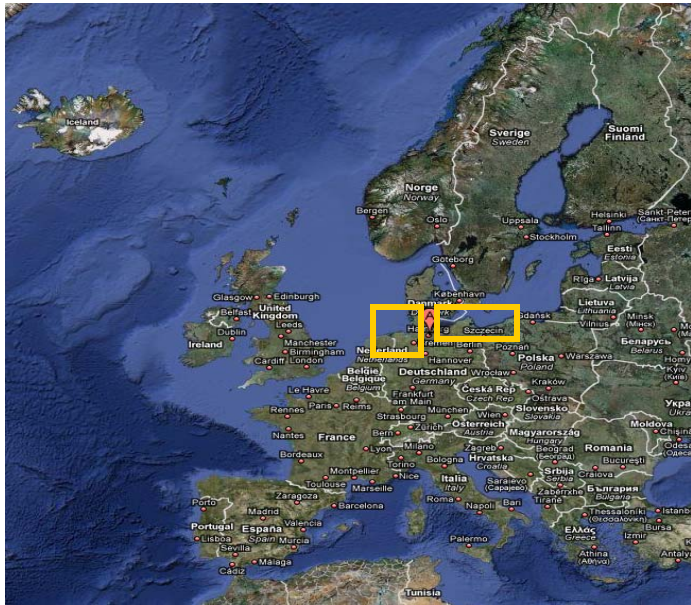
Federal Maritime and Hydrographic Agency (former DHI)

Our tasks as a provider of maritime services in Germany include:

- Maritime security
 - Hydrographic surveying, wreck search
 - Nautical information systems
 - Warning services (water level forecasts and tide predictions, storm surge warning service, ice service)
 - Monitoring of the sea (with regard to climate changes and environmental status)
 - Maritime geospatial data center
 - Maritime spatial planning in the German Exclusive Economic Zone (EEZ)
 - Planning approval procedures for offshore wind farms and pipelines
- ➔ provide competent information about the status of the North Sea and the Baltic Sea and ensure the continuity of measurements.

Exchange with NE-Atlantic,
Norwegian Coastal Current,
Fair Isle Current, etc

Precipitation, Evaporation
Heat Exchange with Atmosphere
Solar Radiation, Wind Forcing, etc

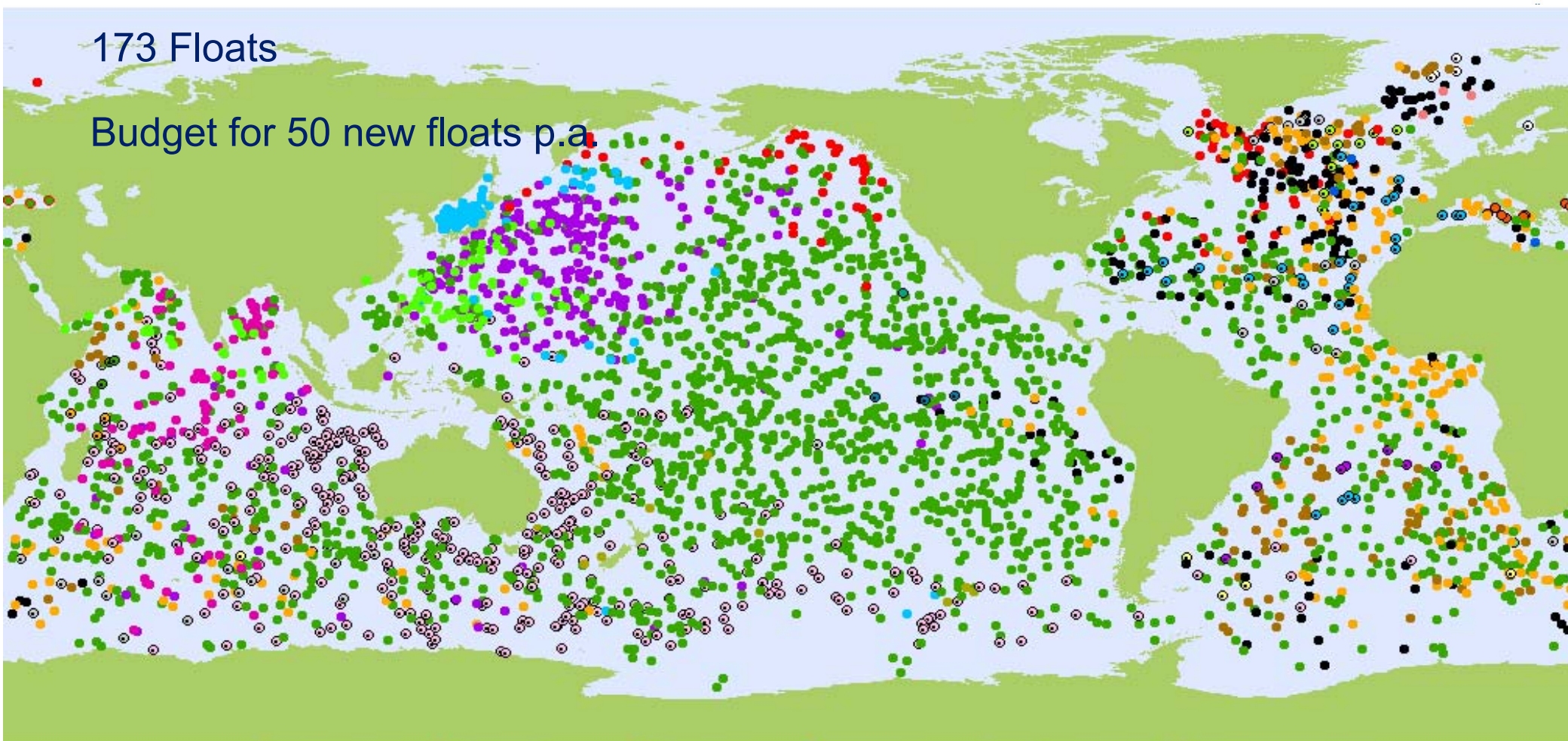


ARGO Floats



173 Floats

Budget for 50 new floats p.a.



3561 Active Floats

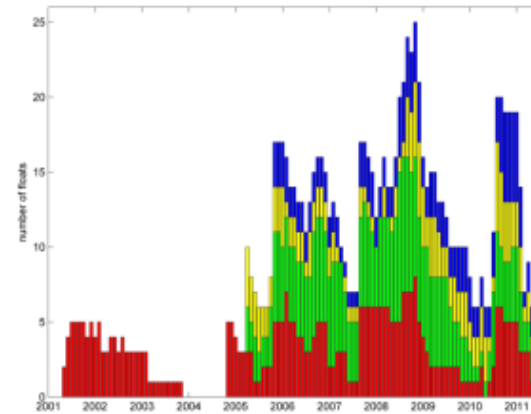
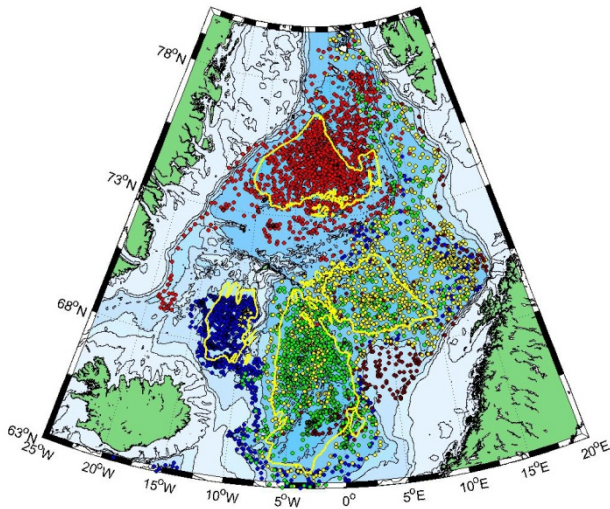
○ ARGENTINA (6)	● CHINA (87)	● GABON (1)	● JAPAN (261)	○ NETHERLANDS (34)	● UNITED KINGDOM (128)
○ AUSTRALIA (384)	● ECUADOR (3)	● GERMANY (173)	● KENYA (3)	● NEW ZEALAND (10)	● UNITED STATES (1891)
● BRAZIL (8)	● EUROPEAN UNION (3)	● INDIA (94)	● SOUTH KOREA (90)	● NORWAY (3)	
● BULGARIA (3)	○ FINLAND (5)	● IRELAND (11)	● MAURITIUS (4)	● SOUTH AFRICA (1)	
● CANADA (85)	● FRANCE (234)	● ITALY (10)	● MEXICO (1)	● SPAIN (28)	

July 2012



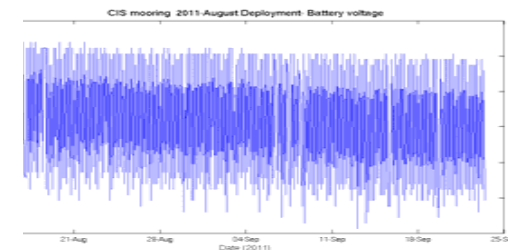
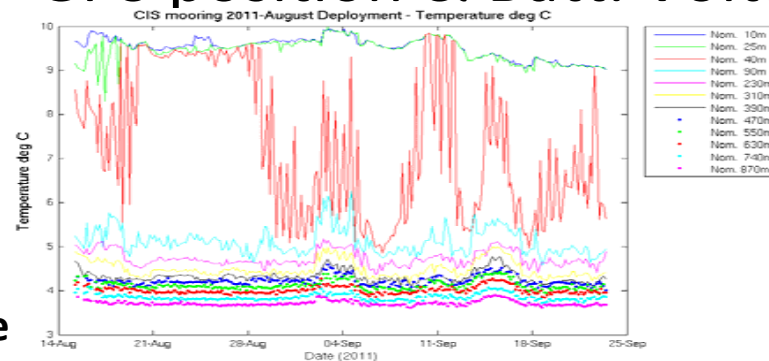
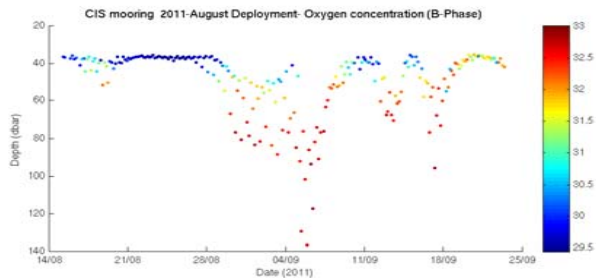
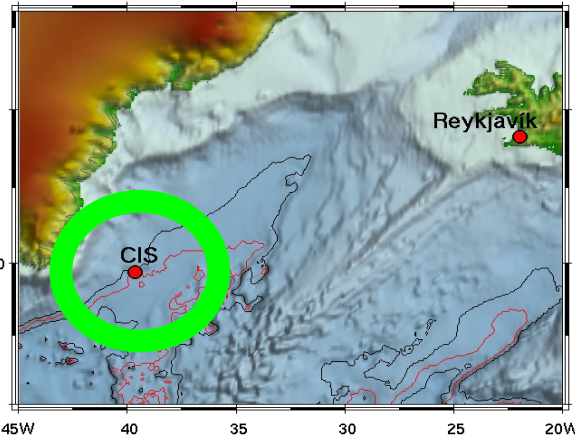
AWI (Alfred-Wegener-Institut for Polar Research)
Studies about variability and long-term changes in warm deep water
in the Weddell Gyre. Monitors of convection events.

ZMAW (University of Hamburg)
Water masses in the Nordic Seas
(Greenland Sea , Norwegian Sea, Iceland Sea, Lofoten Basin)



Iridium data based telemetry in the Central Irminger Sea

- Small surface element
- Installed in Aug. 2011
- Transfer Iridium SMS messaging (Provider: CLS, France)
- T, C, P (10 depth), Oxygen data (1 depth): every 4h
- GPS position & Batt. Voltage: every 2h



Contact: jkarstensen@ifm-geomar.de

Leibniz-Institut für Meeresforschung
Kiel, GEOMAR
(former IFM GEOMAR)

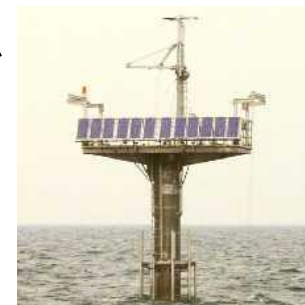
HZG
Helmholtz-Zentrum für
Küstenforschung Geesthacht
(former GKSS)



MARNET - Marine Environmental Network



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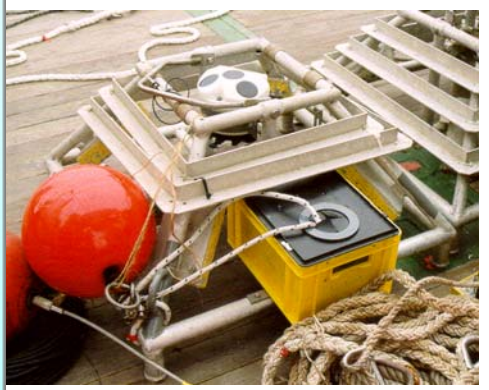
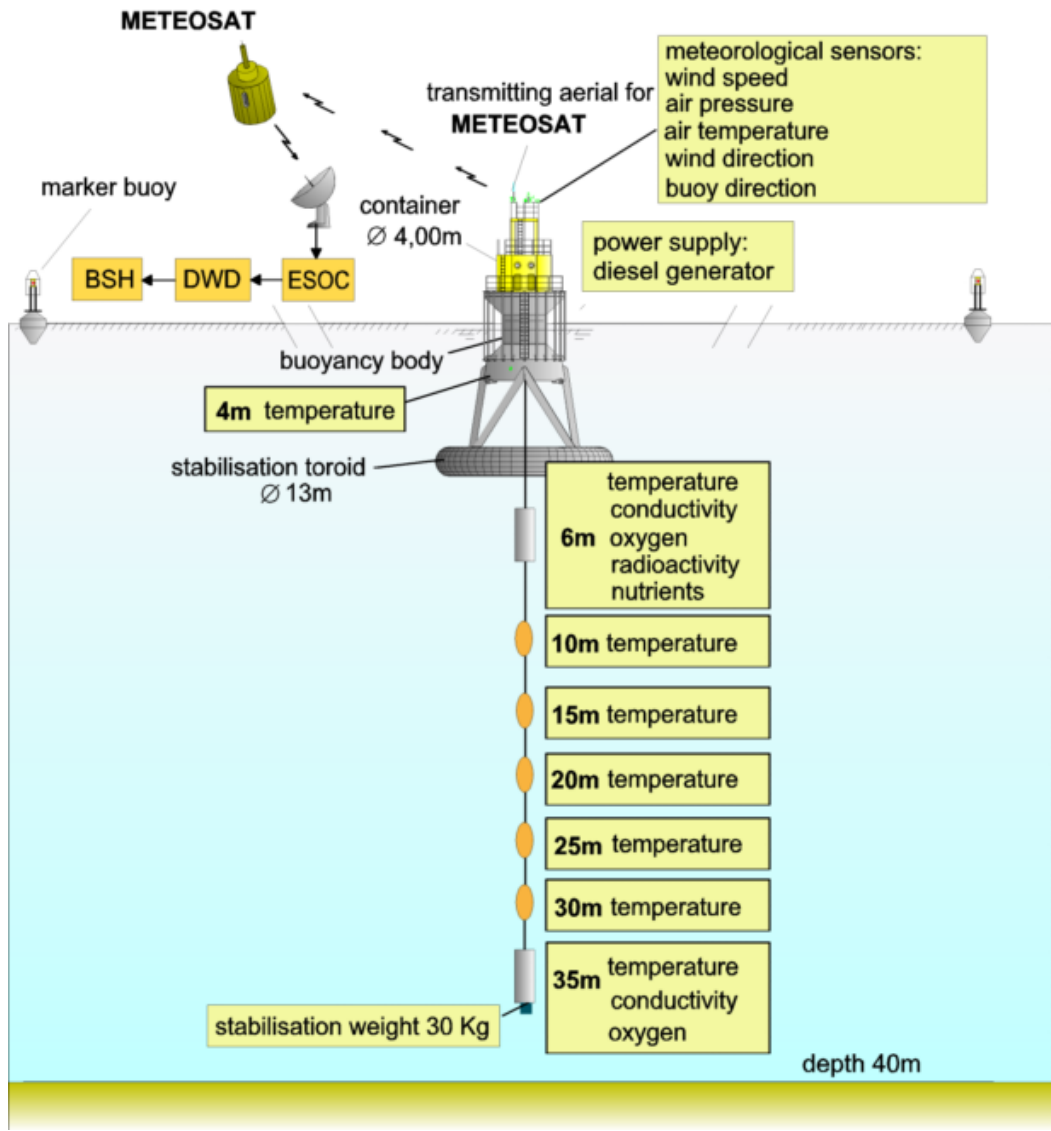


- Basic information about local met-ocean conditions
- Long-term observation of main met-ocean parameters
- Monitoring of changes of marine climate
- Support of marine services (i.e. sea ice service, water level and storm surge forecast service)
- Support of operational models
- Calibration of remote sensing data
- Basics for the Offshore-Industry

Station concept / measurement concept



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Meteorological System



central unit (MILOS)

sensors (wind, temperature, humidity, pressure)

add.sensors (sunshine, view)

NMEA Source (position, motion)

DCP (satellite communication)

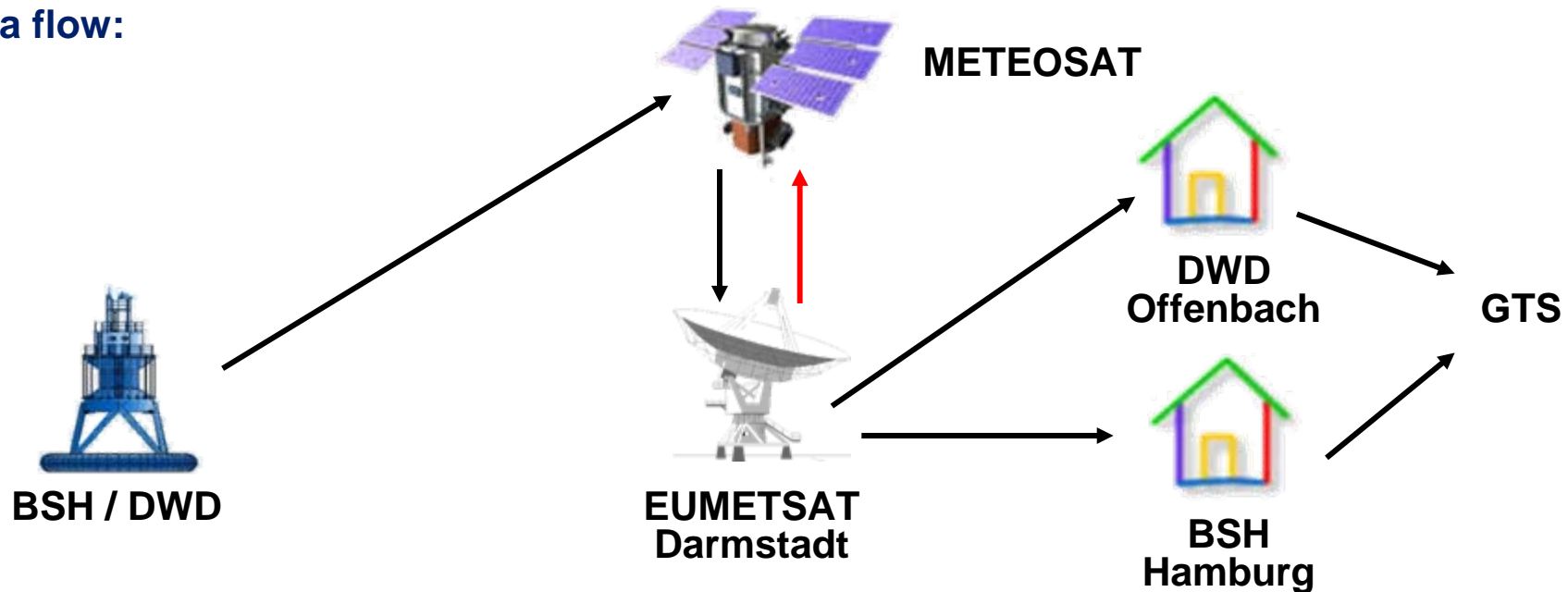
Data Transmission

Two transmissions per hour (1 x Meteo, 1 x Ozeano., optional . + 6 x Storm)

No transmission costs

Quality: 91,7% i.D. (Jan 11)

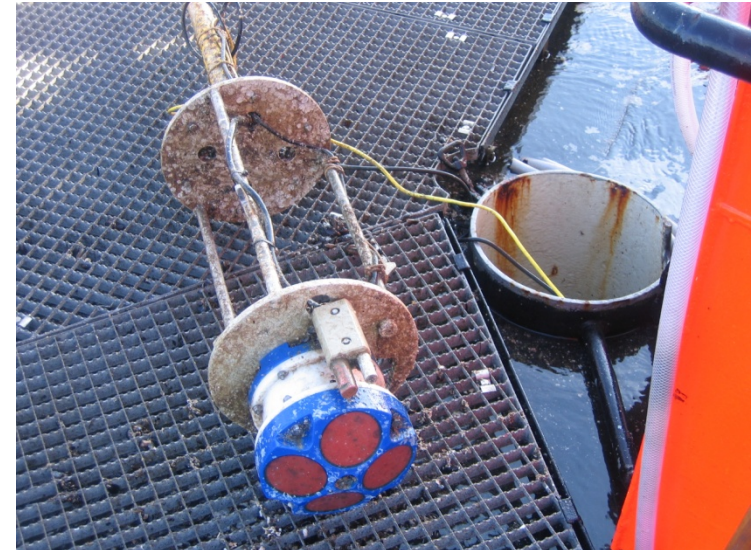
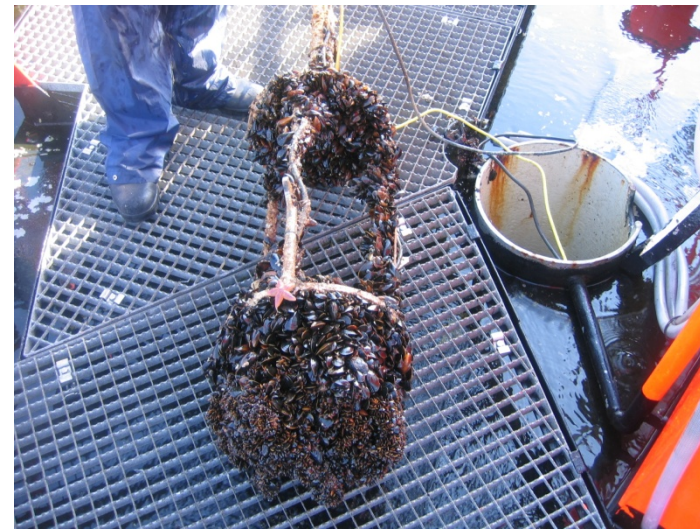
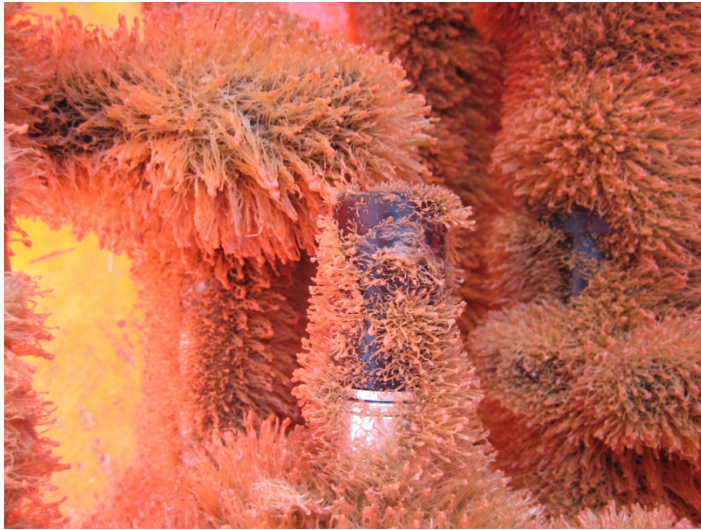
Data flow:



MARNET - Boundary Conditions



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North Sea Buoys (NSB)



NSB-3



NSB-2





Unmanned Lightship „German Bight“ and „GW Ems“



Lighthouse „Kiel“

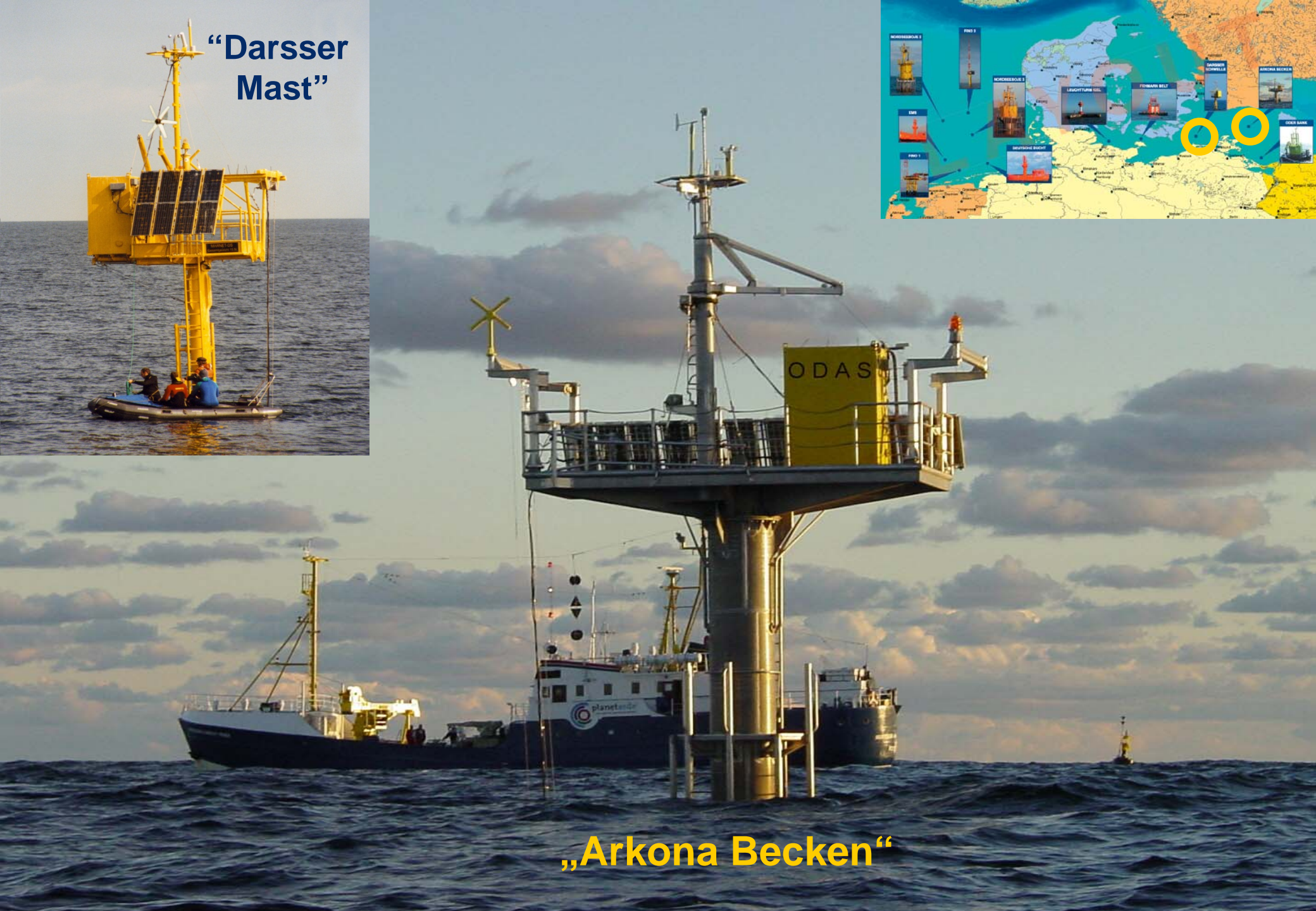


„FEHMARN BELT“ Buoy



“Oder Bank” Buoy

“Darsser Mast”



„Arkona Becken“

FINO: Research Platforms in the North- and Baltic Sea



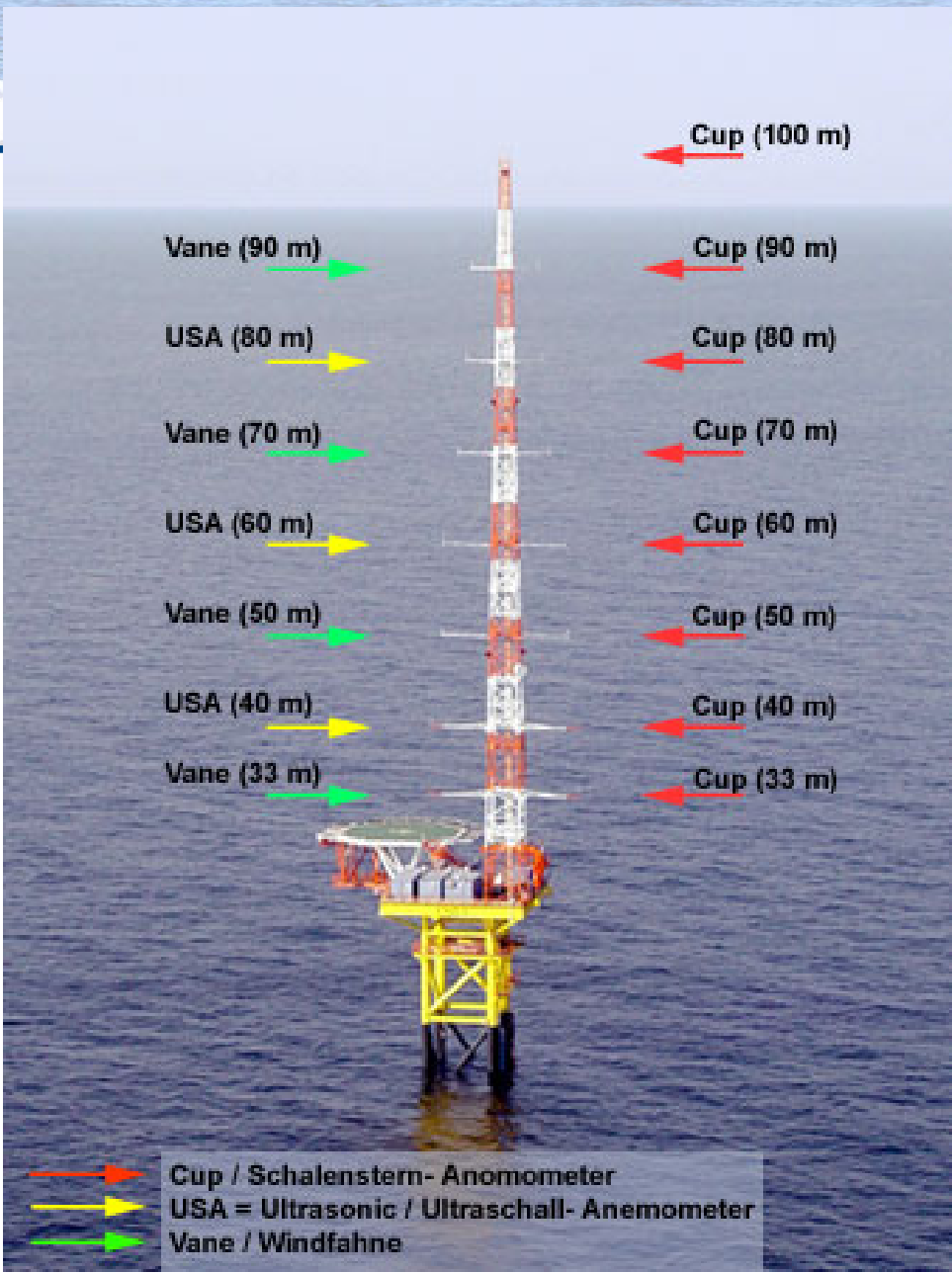
FINO 1



FINO 3



FINO 2



Offshore-Platform FINO 1

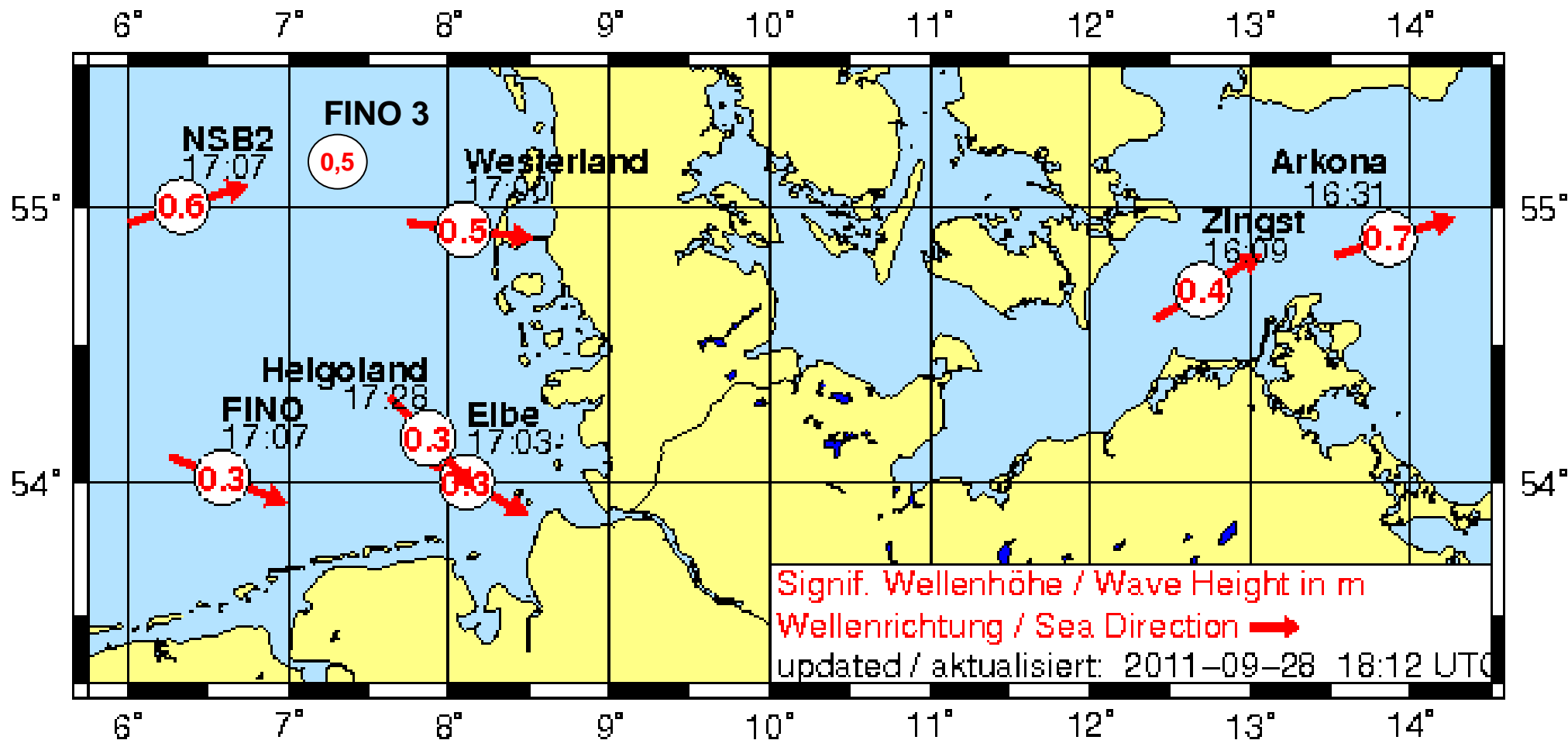
general information:
www.fino-offshore.de

database:
fino.bsh.de

MARNET - wave measurements



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Instrumentation

Buoy



AWAC



X-Band marine radar



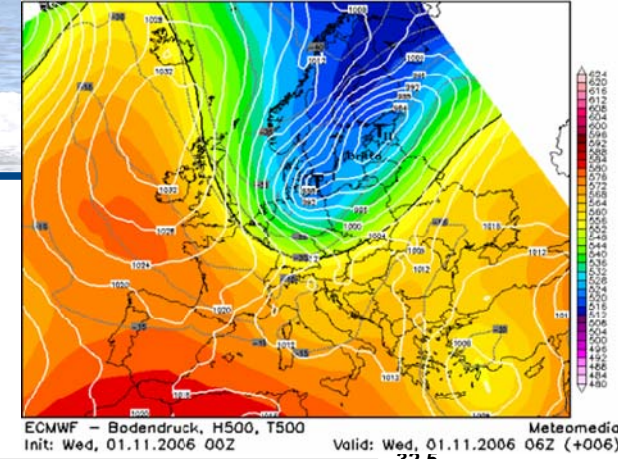
Radar gauges



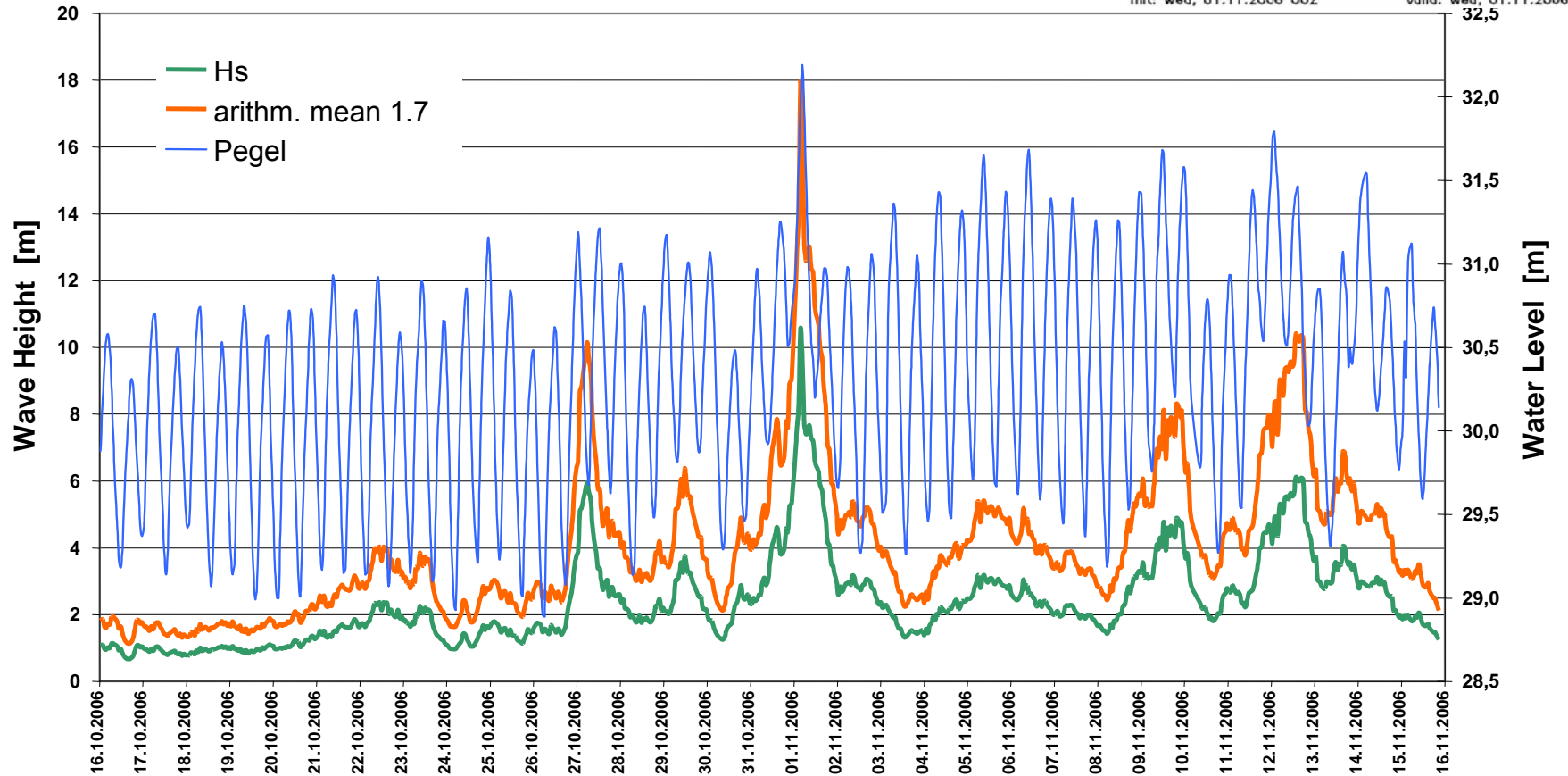
Wave camera



MARNET - wave measurements



FINO 1
Storm Event 01. Nov. 2006



- Priority on reduction of budget and staff
- Development of a new monitoring concept
- Optimisation of the measurement system
- Intensification of sea state analyses
- Intensification of current analyses
- Implementation of other parameters (e.g. PH)

Thanks for your attention !



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