

International Data Exchange and Cooperation Around the Baltic (and North) Sea

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What am I talking about?

- What data?
- Where do they go?
- How are they used?
- Improving value by sharing



What data?

- Eutrophication data
 - Nutrient concentrations
 - Chlorophyll a
 - Oxygen/Hydrogen sulphide
 - Secchi (water clarity)
 - Temperature & salinity from CTD & water bottles
 - Phytoplankton species & abundance
 - Zooplankton species & abundance
 - Delayed mode (hours to weeks)

• Safety data

- Sea level data (from gauges and models)
- Wave data (from buoys and models)
- Currents (from buoys and models)
- Temperature & salinity from buoys, for assimilation into models
- Temperature, salinity and chlorophyll from underway (ferrybox) systems (for assimilation)

Traditional Oceanographic/ Fisheries Laboratory Traditional Meteorological/ Shipping Service





How are these data used?

Data becomes Information

- Basis for eutrophication assessments:
 - Nationally
 - HELCOM
 - OSPAR
 - WFD

SMH

- Validation of ecosystem models
- International cooperation (through ICES) for fisheries
- Research

Baltic Sea Environment Proceedings No. 104

Reports Oceano graphy

Development of tools for assessment of eutrophication in the Baltic Sea



Helsinki Commission Baltic Marine Environment Protection Commission



No. 36, 2007

Swedish National Report on Eutrophication Status in the Kattegat and the Skagerrak

OSPAR ASSESSMENT 2007

How are these data used?

• Data exchanged with neighbouring countries:

- Skagerrak cooperation: Winter nutrient mapping - Denmark, Sweden & Norway
- Iltsvind surveys: Swedish contribution to weekly Danish surveys of oxygen conditions in the Belt Sea & Kattegat
- Direct exchange between data centres after cruises
- Indicator reports





- Directly from originators
- From ICES http://www.ices.dk
- From the EEA(?)



"Safety" data exchange

- CTD observations and underway data sent by GSM for data assimilation
- Sea level, buoy, river runoff and model data (including warnings) made available to neighbouring countries through BOOS ftp-box system – see http://www.boos.org
- Europe's realtime stations browsable online at http://www.seprise.org
- Sea level data from GLOSS Core Network goes to GLOSS "fast delivery" Centre at Univ. Of Hawaii







How much is out there?

SMH



Adding value through sharing

BOOS cooperation

SMH

- Robust, reliable monitoring is expensive & timeconsuming
- Products/successes include storm surge warning for St. Petersburg
- Open model validation
- <u>European Marine ECosystem Observatory</u> http://www.emecogroup.org
 - automatic OSPAR assessments
 - UK, DE, NL, BE, DK, NO, SE



Adding value through sharing:

Southern Baltic Observatory

What is the aim?

- To validate models?
- To facilitate assessments?
- To evaluate equipment?
- Data & information for coastal zone stakeholders
- What infrastructure already exists?
 - Ferrybox observations (Karlskrona Gdynia; Helsinki Travemünde; Göteborg - Kalix)
 - German buoys in Arkona & East of Gotland(?)
 - Swedish wave buoy: South Baltic
 - Sea level from DK, DE, PL, RU, LA, SE
 - Russian radar (CODAR?) Kaliningrad
 - Monthly nutrient/biology cruises (SE,PL, DK?, DE?)
 - Satellite observations (e.g. JRC, SMHI etc)
 - Model data: T, S, Currents, Waves, Biogeochemistry
- Needs an umbrella! (HELCOM, EuroGOOS?)
- Needs to be sustainable