

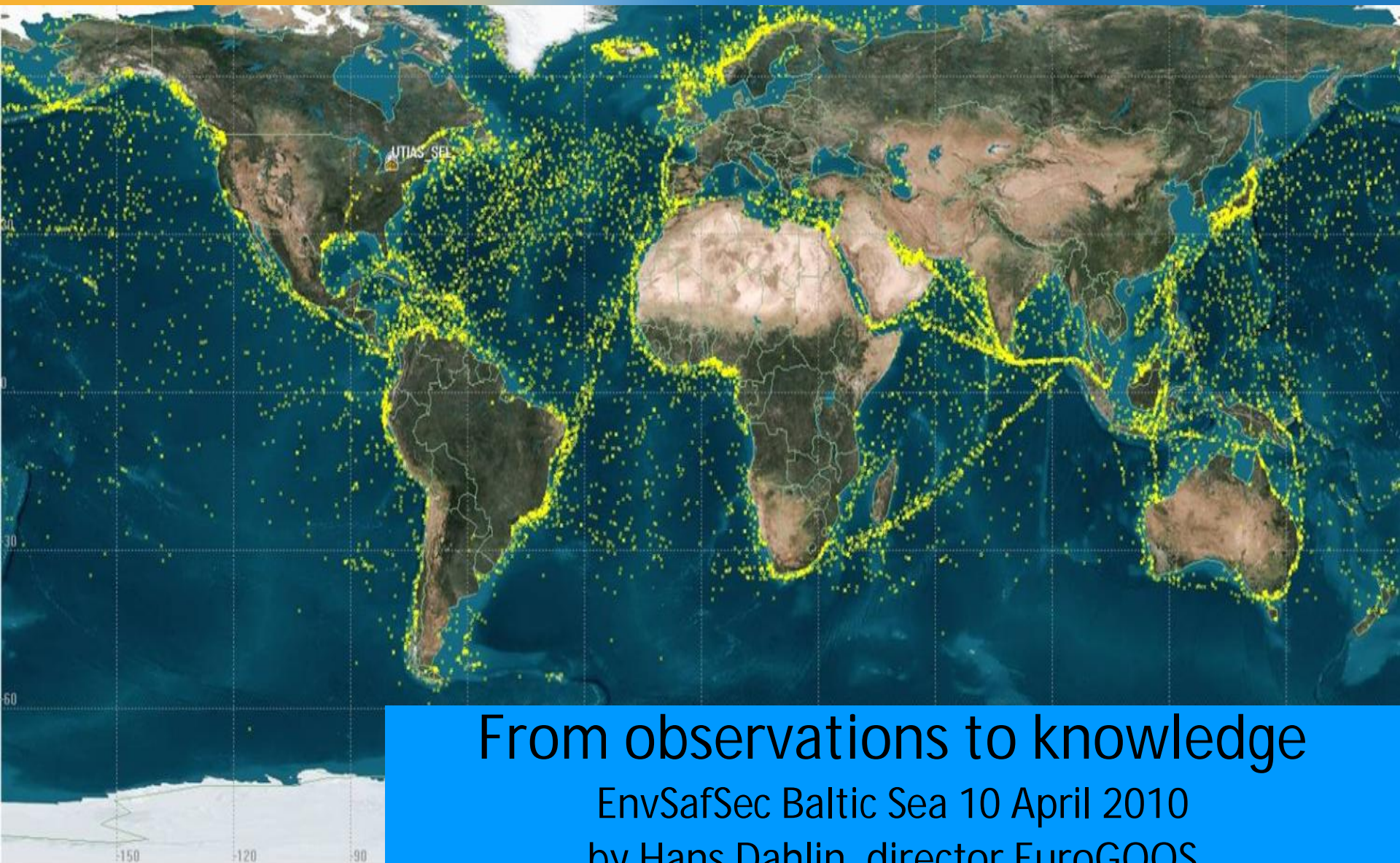


EMODnet



European Marine  
Observation and  
Data Network

# Marine/maritime knowledge



## From observations to knowledge

EnvSafSec Baltic Sea 10 April 2010

by Hans Dahlin, director EuroGOOS





# EMODnet



European Marine  
Observation and  
Data Network



An observation not made today is lost forever  
- but also existing observations are lost if not  
made accessible.

## Commission will



- take steps in 2008 towards a European Marine Observation and Data Network,
- and promote the multi-dimensional mapping of Member States' waters

*in order to improve access to high quality data.*

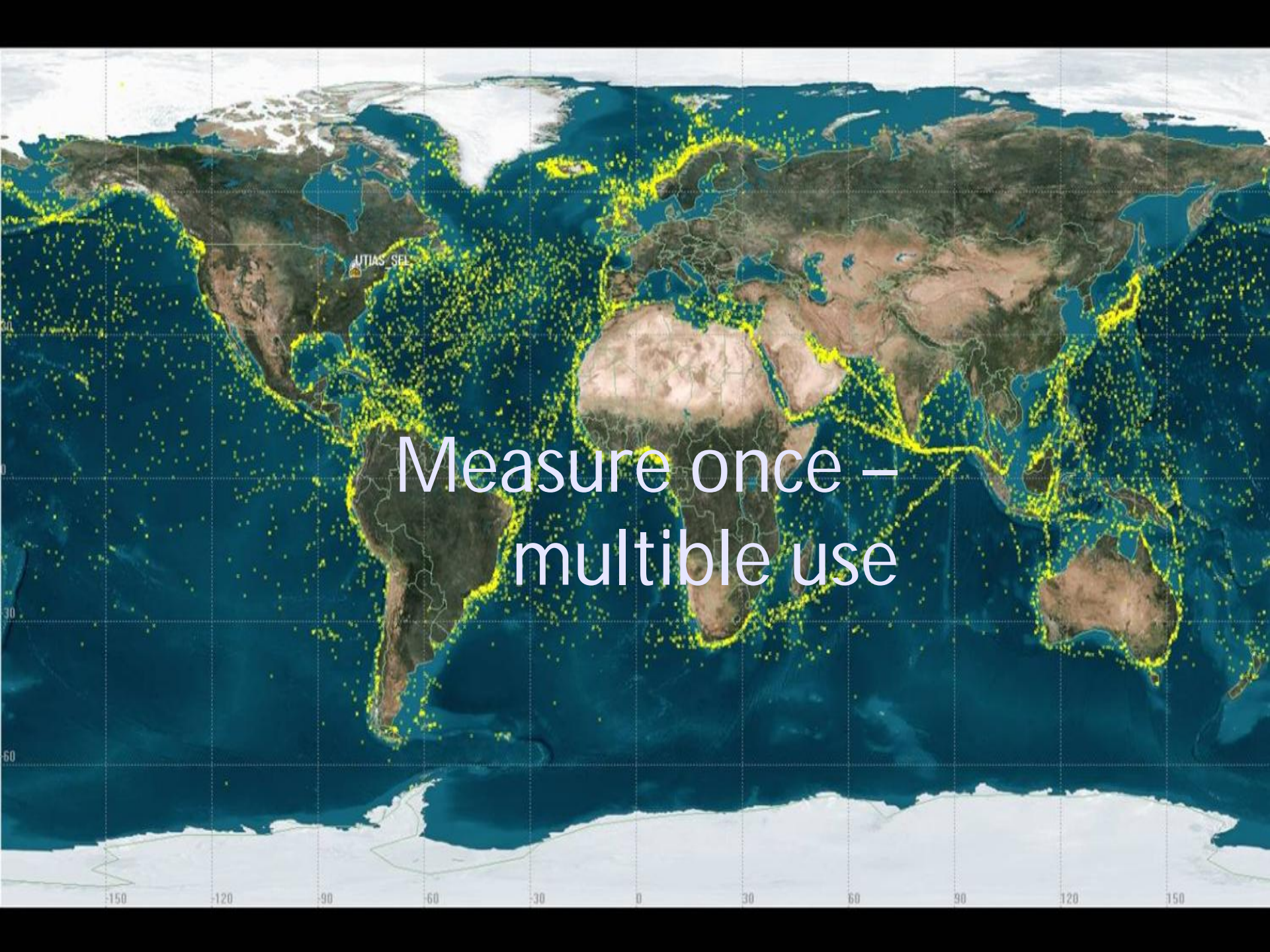


# Current spending in EU



Space data	€400 million per year
------------	-----------------------

In-situ data	> €1 billion per year
--------------	-----------------------



Measure once –  
multiple use

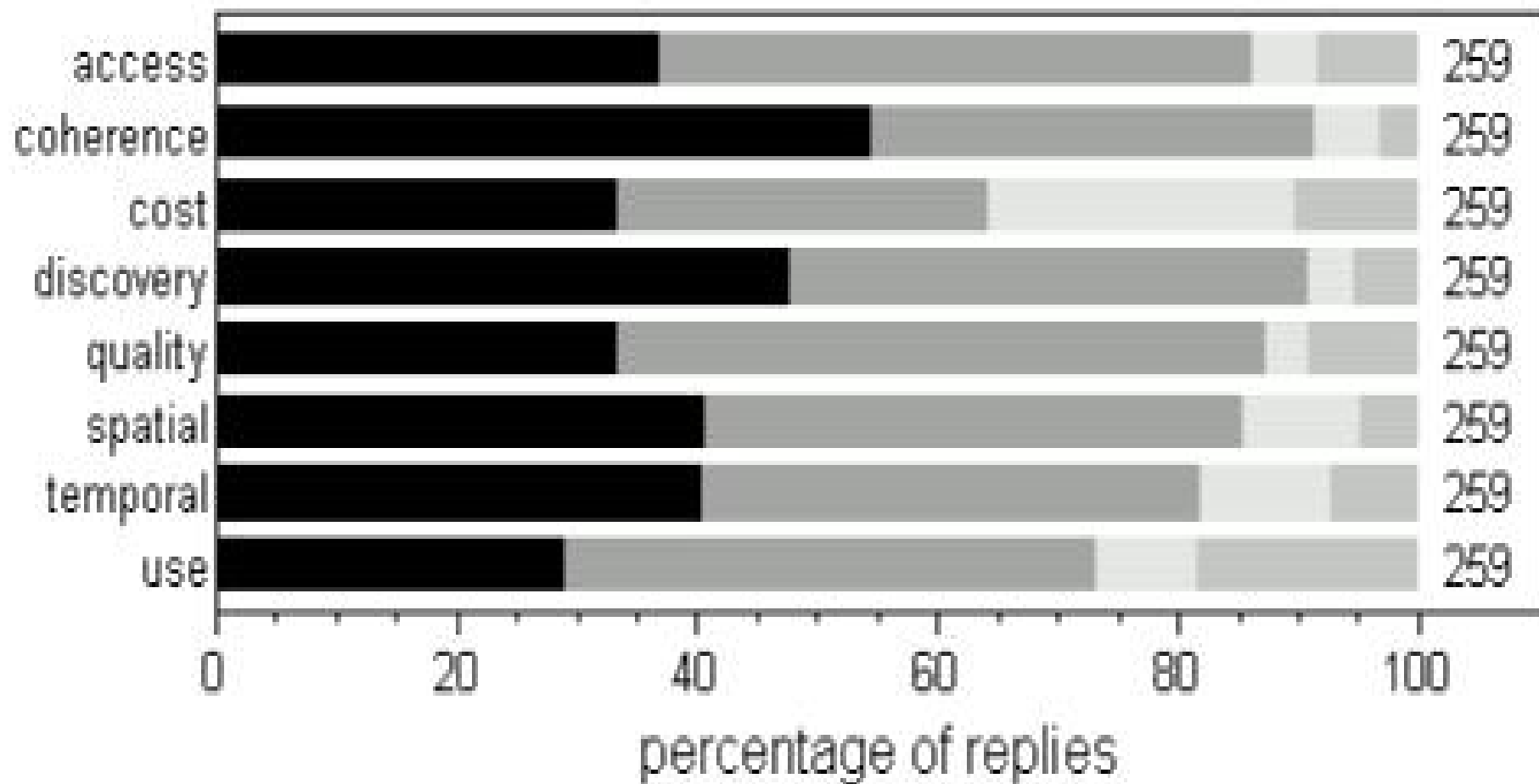


- Discovery of Data.
  - Especially difficult outside your own community
- Access to data.
  - Confidentiality
  - Desire of owners to exploit added-value themselves
- Use of data.
  - Often restricted to “research”
- Cost of data.
  - Landsat fiasco
- Coherence of Data.
  - Especially cross-disciplinary and cross-border
- Quality of Data.
  - Data unaccompanied by precision estimates is useless
- Quantity of Data.
  - Are we undersampling?!!



barrier

(Extract from EMODNET questioner)



opinion

- 0 there are significant barriers
- 1 there could be some improvemen
- 2 not applicable
- 3 I am satisfied with the status

Parameter	collection	assembling	application
Bathymetry		ur-EMODnet	WISE marine
Geology		ur-EMODnet	
Physics	GMES (space)	GMES (except near coast) ur-EMODNET (not space)	GMES
Fisheries (including fisheries economy)	Data Collection Framework	Joint Research Centre (and other users)	ICES, STECF, GFCM
Chemistry		ur-EMODnet	WISE-Marine
Biology		ur-EMODnet GMES (chlorophyll)	WISE Marine





- optimising operational costs and reducing delays:
  - helping private industry
  - improving the quality of public decision-making
  - strengthening marine scientific research
- increasing competition amongst users of marine data
- reducing uncertainty in knowledge of the oceans



IMPACT	Cost or benefit	Option 1 support data processing and assembly (annual)	Option 2 support data collection (additional to option 1)
Reduced operational costs	benefit	€300 million	
Increased competition	benefit	€60 million - €200 million	
Reduced uncertainty	benefit		€220 million
Increased implementation costs	Cost	€20 million	€10million- €90million



Observation Infrastructure	<ul style="list-style-type: none"><li>• Evaluation once ur-EMODNET results become available</li></ul>
Accredited data centres	<ul style="list-style-type: none"><li>• the secure, long term, curation of key marine data sets</li><li>• make available clear, searchable information on their data holdings.</li></ul>
Thematic Assembly Centres	<ul style="list-style-type: none"><li>• access to all raw observations held at data centres within that discipline</li><li>• data layers indicating density of observation, quality of data,</li><li>• seamless (gridded or polygon) data layers over whole sea basins.</li></ul>
Sea-Basin Checkpoints	<ul style="list-style-type: none"><li>• check these data layers,</li><li>• ensure that the data from each disciplinary group are mutually compatible</li><li>• define priorities for further observations based on interaction with local</li></ul>
Governance	assemble the sea-basin priorities to draw up a set of overall priorities for further action
Secretariat	<ul style="list-style-type: none"><li>• prepare meetings,</li><li>• manage contracts with the disciplinary groups and sea-basin checkpoints,</li></ul>



## GMES marine core service thematic assembly centres

Sea Level

Ocean Color

Sea Surface Temperature

Sea Ice & Wind

In Situ

## Ur-EMODNET thematic assembly centres

bathymetry

geology

physics

chemistry

biology

## Complementary between EMODnet and GMES marine core service

## Monitoring and Forecasting Centres

Global Ocean

Arctic Ocean

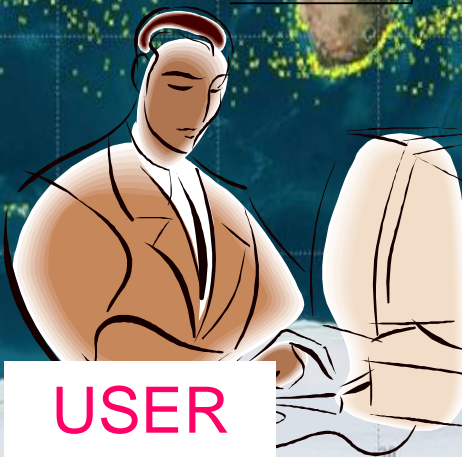
Baltic Sea

Atlantic NWS

Atlantic IBI

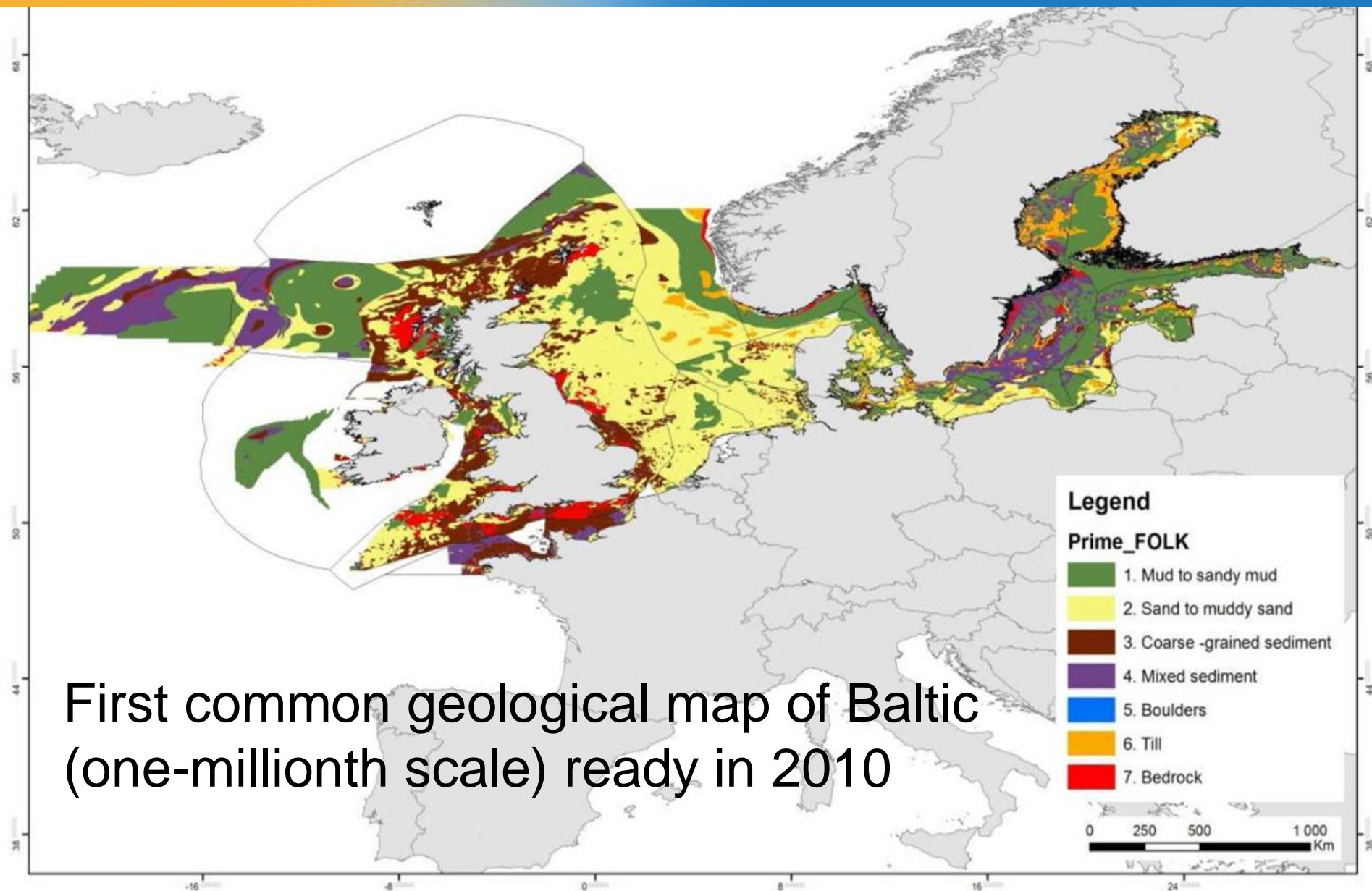
Mediterranean Sea

Black Sea



USER







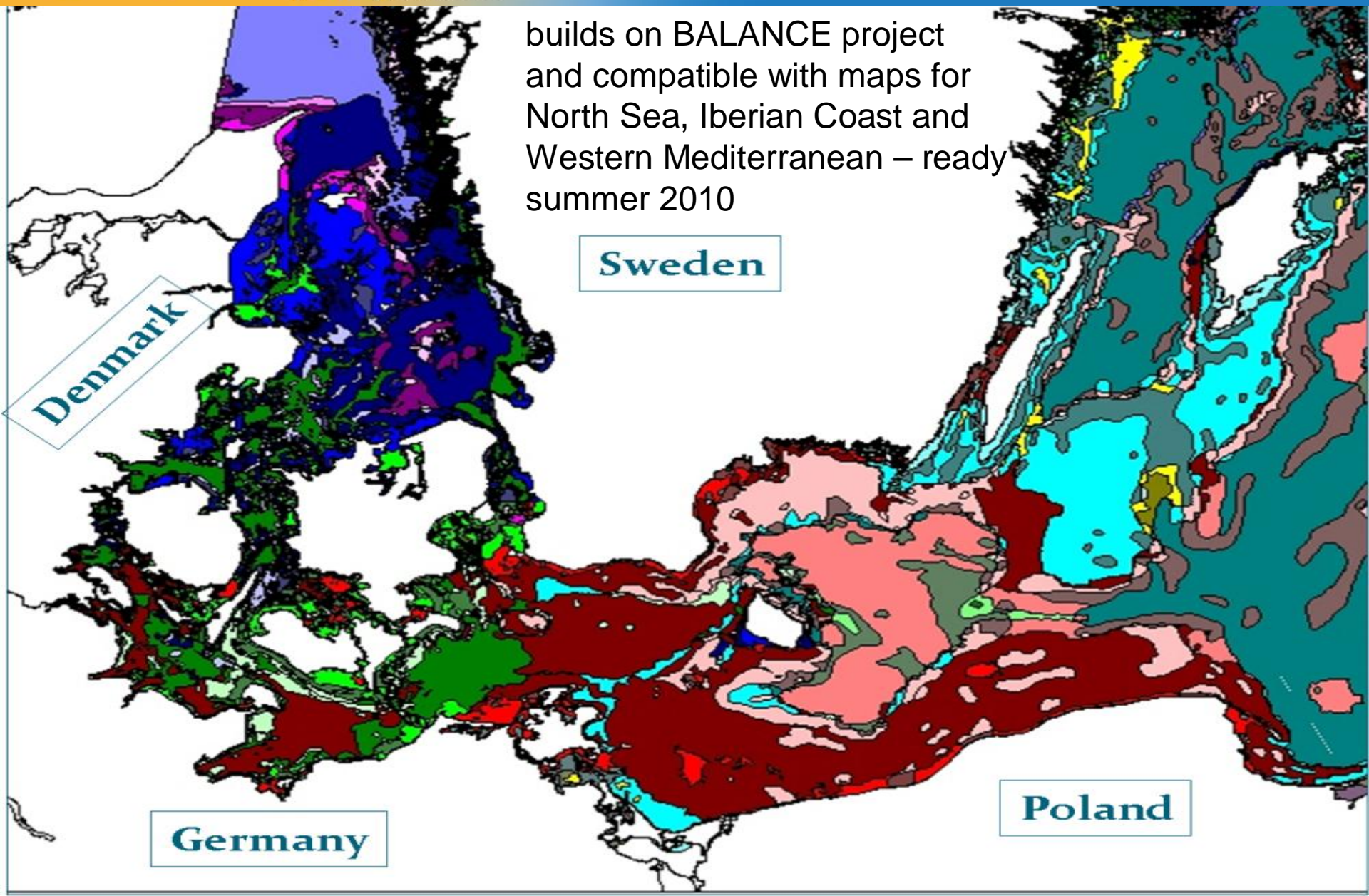
# EMODnet



European Marine  
Observation and  
Data Network

## Habitat map of Baltic

builds on BALANCE project  
and compatible with maps for  
North Sea, Iberian Coast and  
Western Mediterranean – ready  
summer 2010





- COMMUNICATION FROM THE COMMISSION TO THE COUNCIL AND THE EUROPEAN PARLIAMENT: Marine Knowledge 2020
  - Covers EMODnet, GMES, Data Collection Regulation etc
- Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the establishment of a Programme to support the Integrated Maritime Policy
  - Proposes a financing for period 2011-2013

Impact assessment 2013 to define next step

# What is the challenge for us?

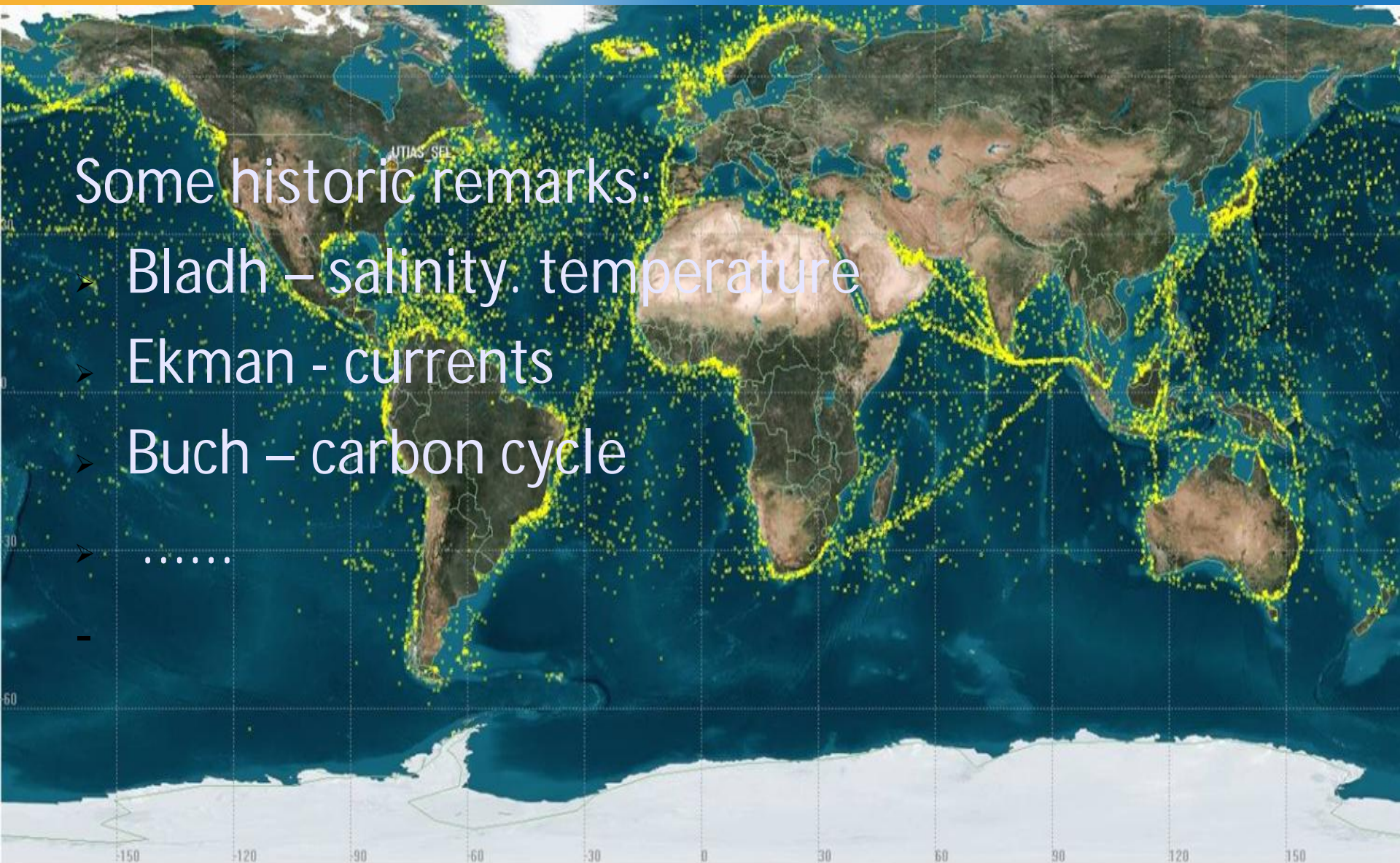
- to publish existing data sets in standard format
- to make data freely accessible (with or without conditions)
- to produce required data !!!
- to develop the technology for cost efficient production of required data
- Data management is not the big challenge !





Some historic remarks:

- Bladh – salinity, temperature
- Ekman - currents
- Buch – carbon cycle
- .....







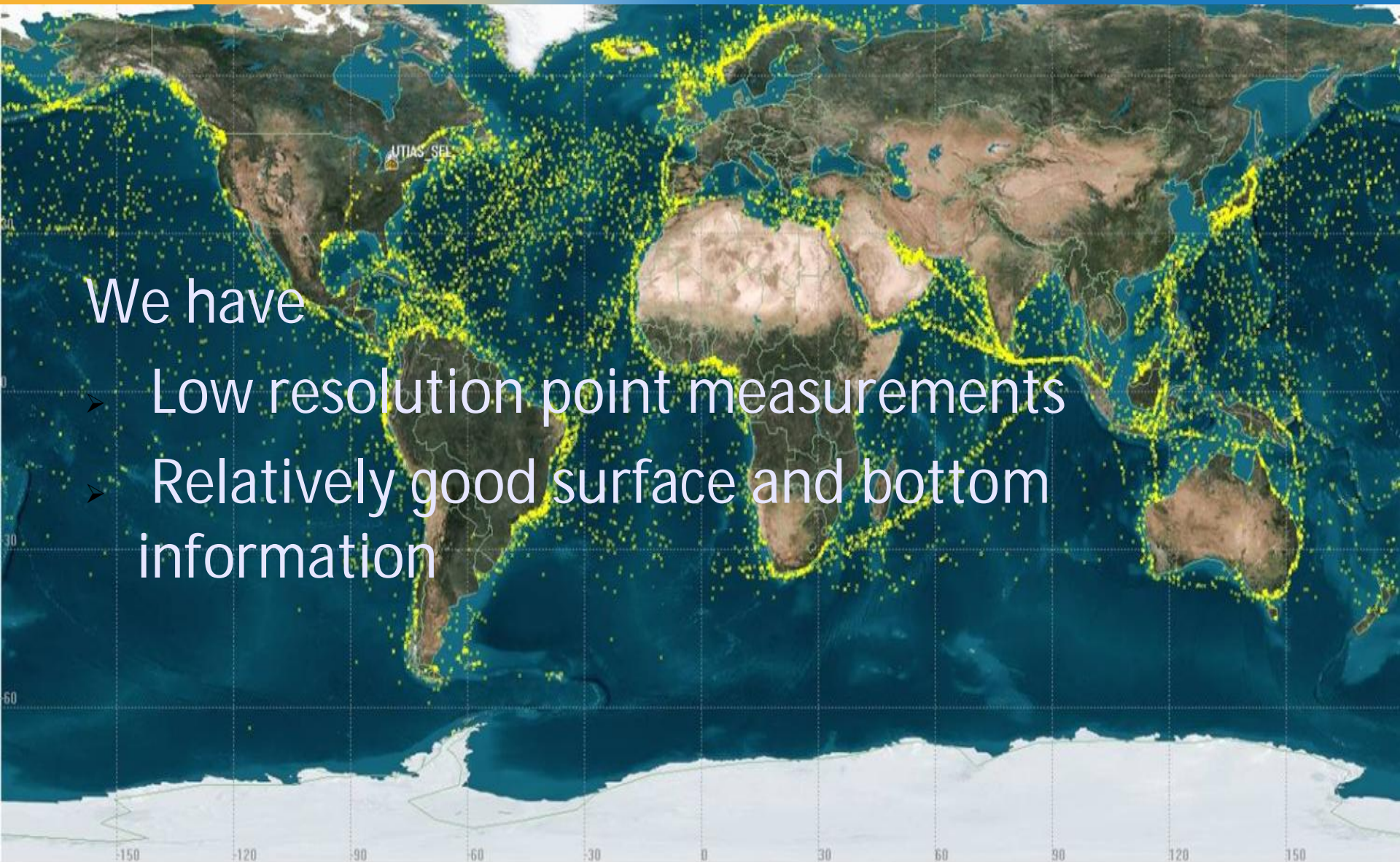
# EMODnet



European Marine  
Observation and  
Data Network

We have

- Low resolution point measurements
- Relatively good surface and bottom information

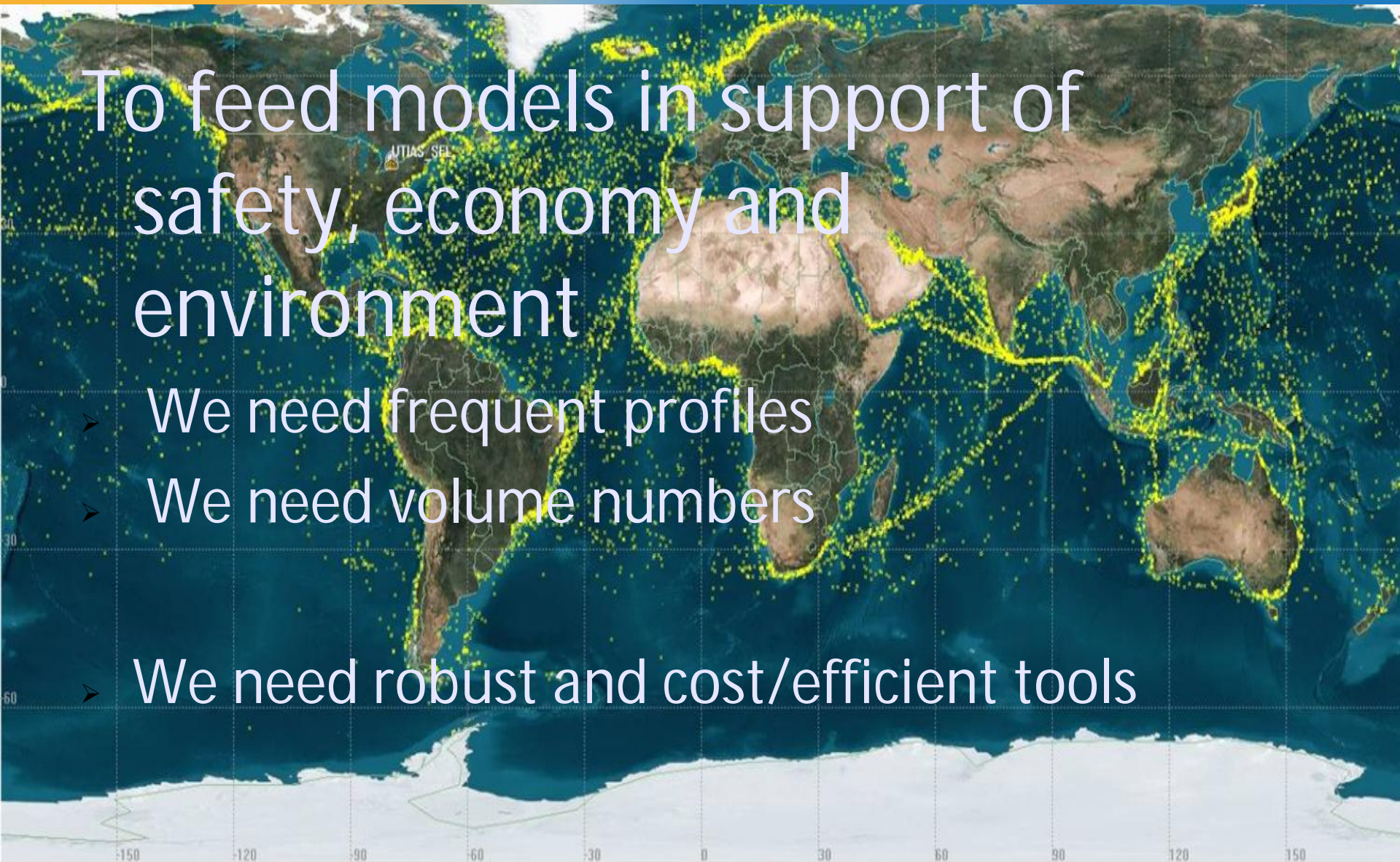






# To feed models in support of safety, economy and environment

- We need frequent profiles
- We need volume numbers
- We need robust and cost/efficient tools







# EMODnet



European Marine  
Observation and  
Data Network

For climate forecasts and environment protection

- We need well resolved time series
- And more variables







## Ocean observations is a technological challenge

- Accurate
- Cost/efficient (means cheap)
- Robust





# ESF/Marine Board and EuroOGOOS vision of a coastal observing system







# EMODnet



European Marine  
Observation and  
Data Network



# Thanks for your attention



-150 -120 -90 -60 -30 0 30 60 90 120 150