

# Benthic marine landscapes in the Baltic Sea

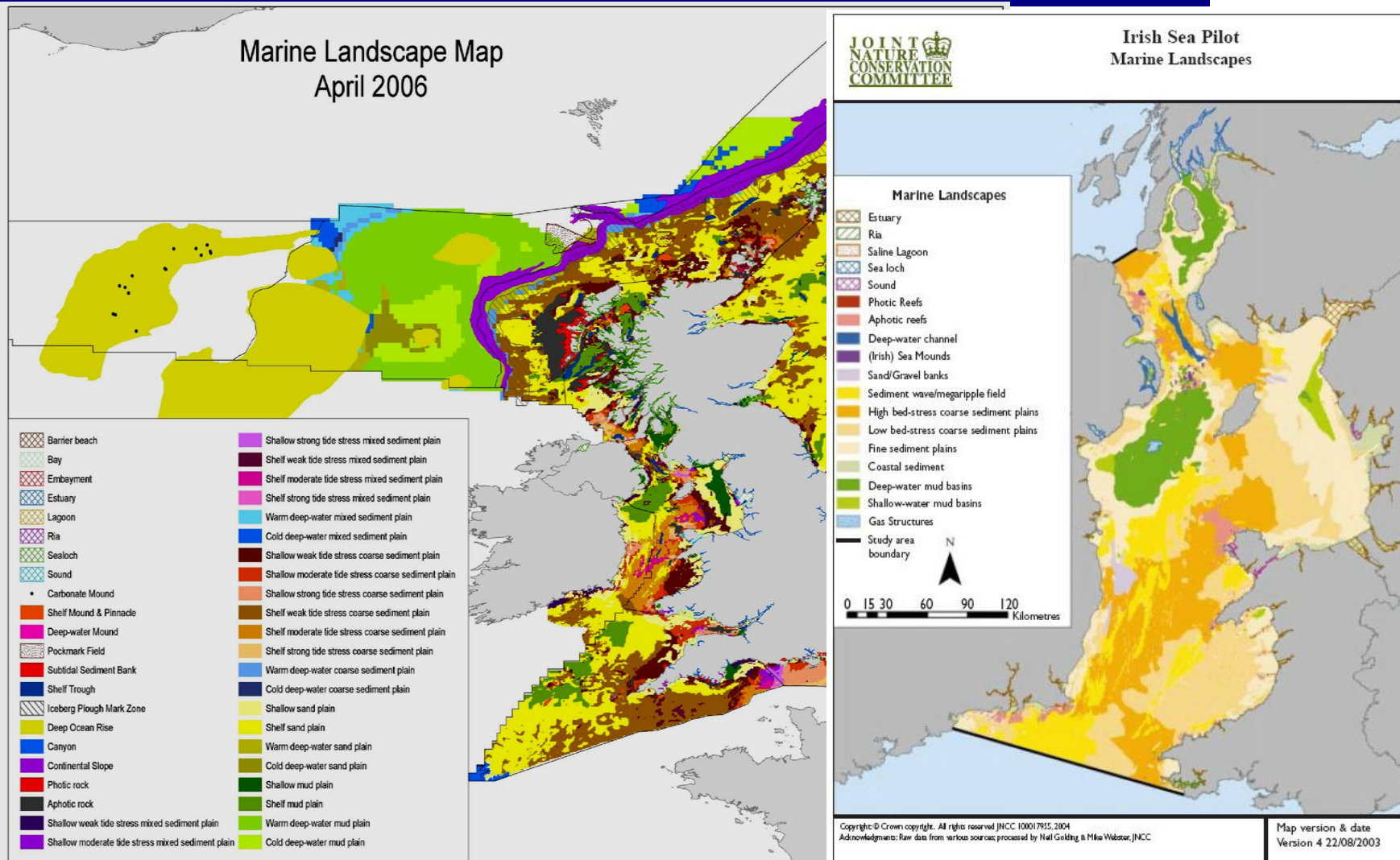
BALANCE Conference  
25th of October 2007  
Copenhagen, Denmark

Denmark  
Estonia  
Finland  
Germany  
Latvia  
Lithuania  
Norway  
Poland  
Sweden

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Johnny Reker, The Danish Forest and Nature Agency



# Marine landscapes - background



# Marine landscapes – definitions

## Marine landscapes are defined as:

Seabed features which occur away from the coast, i.e. the seabed of open sea areas. In this group, the marine landscapes comprise the seabed and water at the substrate/water interface;

Coastal (physiographic) marine features such as fiords and estuaries where the seabed and water body are closely interlinked. In this group, both the seabed and the overlying water are included within the marine landscape;

Water column marine landscapes of open sea areas, such as mixed and stratified water bodies and frontal systems. In this group, the marine landscapes comprise the water column above the substrate /water interface.

# The BALANCE process

Collate & analyse available  
geophysical and  
hydrographical information

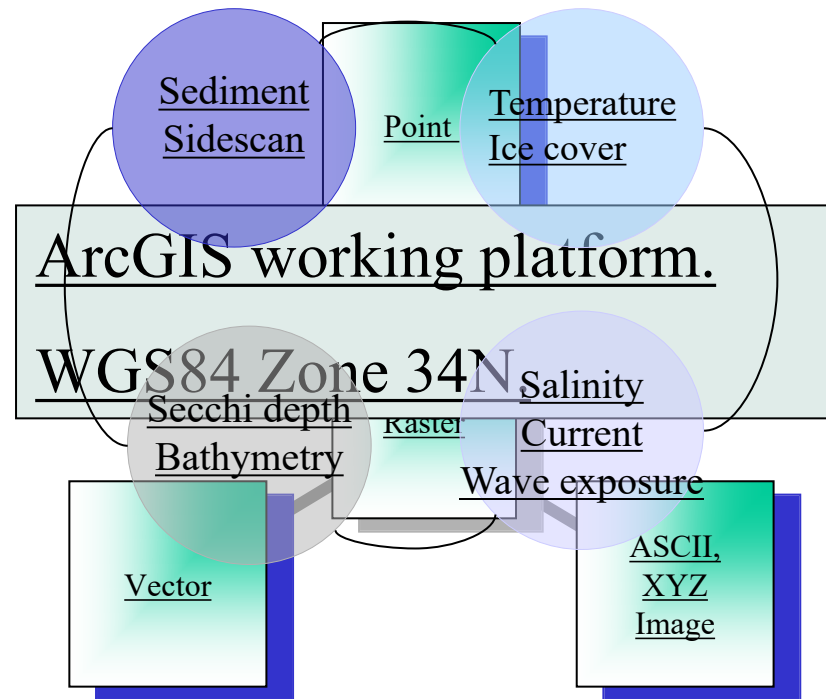
Unified data format

Decide a common platform for  
data handling, processing and  
projection of marine  
landscape map

Define standards for  
classifying Baltic marine  
landscapes

Validation & confidence  
scheme

Applying an ecosystem-based  
approach



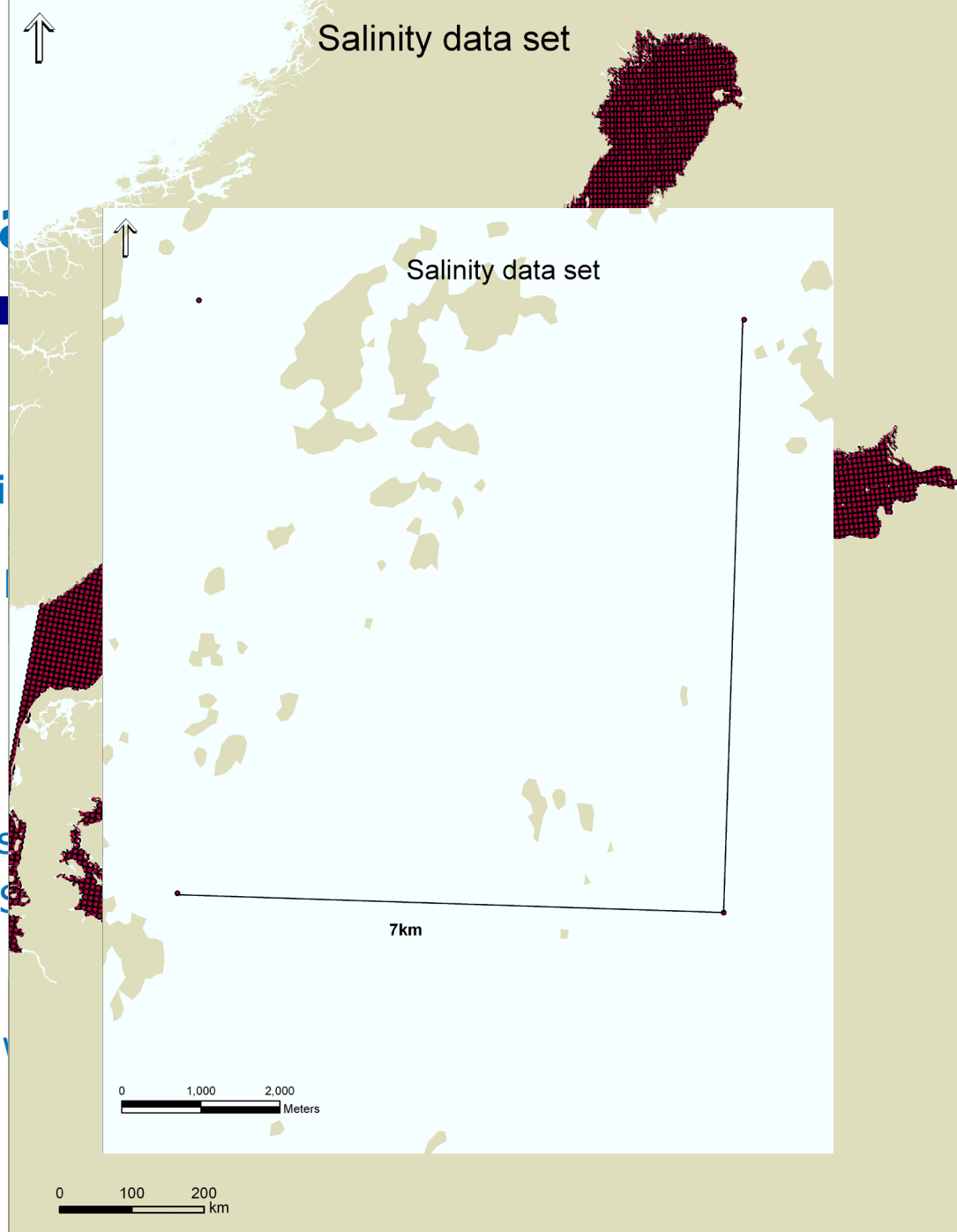


# Benthic marine landscape

## Basic layers:

These are the layers chosen for marine landscape production

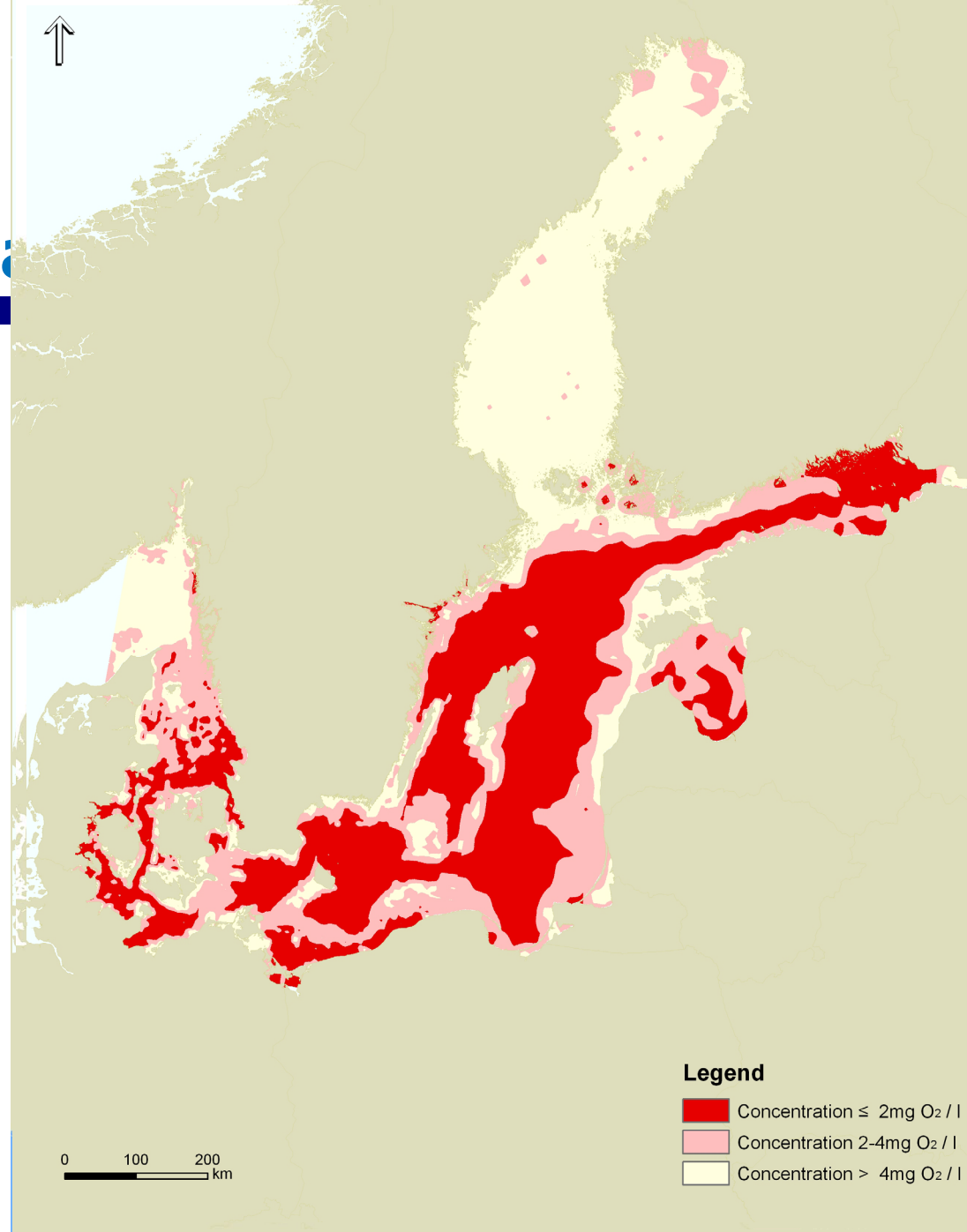
- Seabed sediments. The map was produced by harmonising different sediment maps from all partners.
- Photic depth. Model data was acquired from DHI, based on ICES as a grid of ~600m.
- Bottom salinity. Model data was provided by NERI as a grid of ~7km.



# Benthic marine la

## Secondary layers:

- Bottom temperature
- Ice cover
- Current velocity
- Halocline depth
- Oxygen depletion





# Product

The basic landscape ecological risk

The seabed classes.

The photic

The Bottom

And using

We end up with the Baltic Sea landscape

Scored Grid from seabed

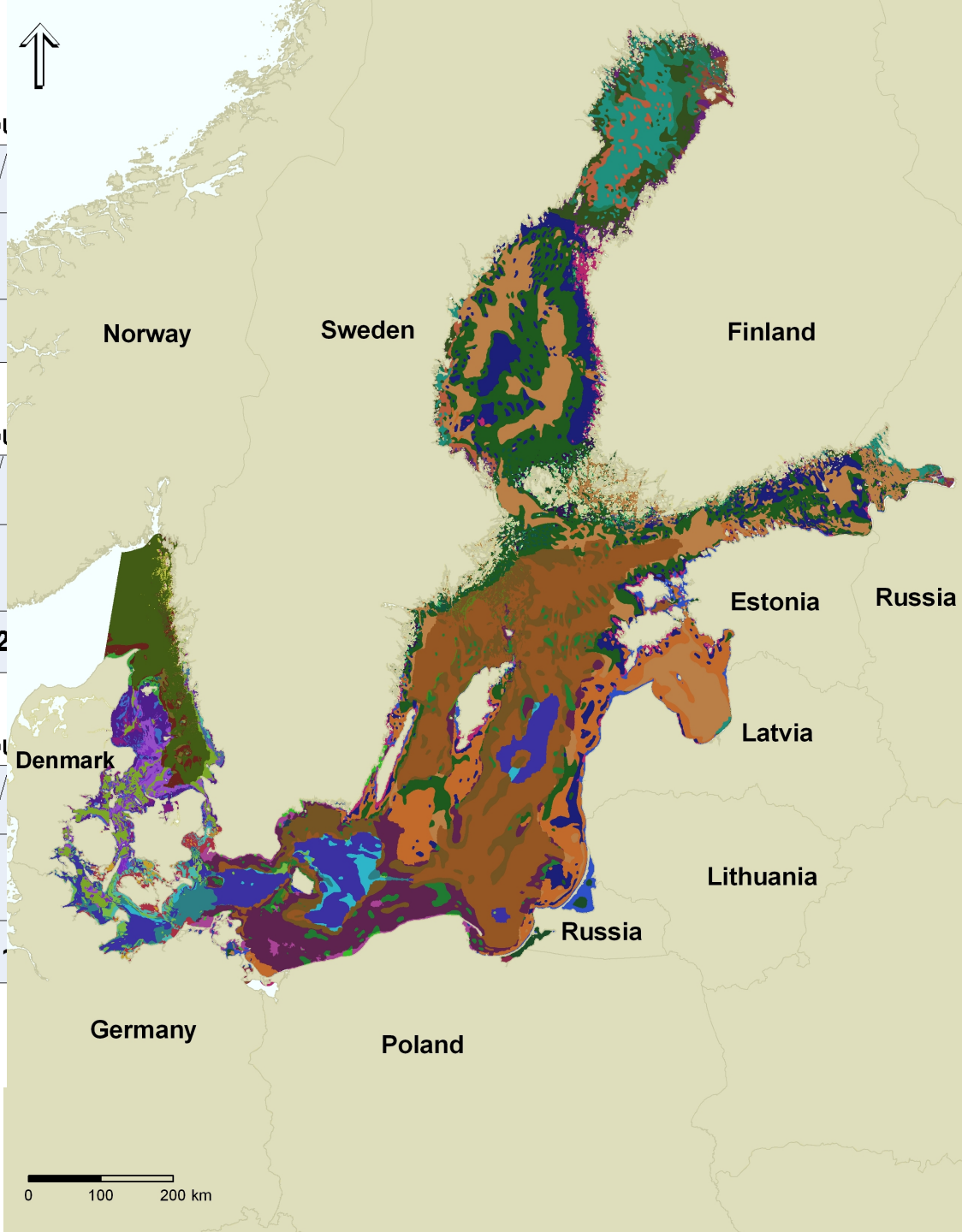
1	2
1	2
3	2

Scored Grid from seabed

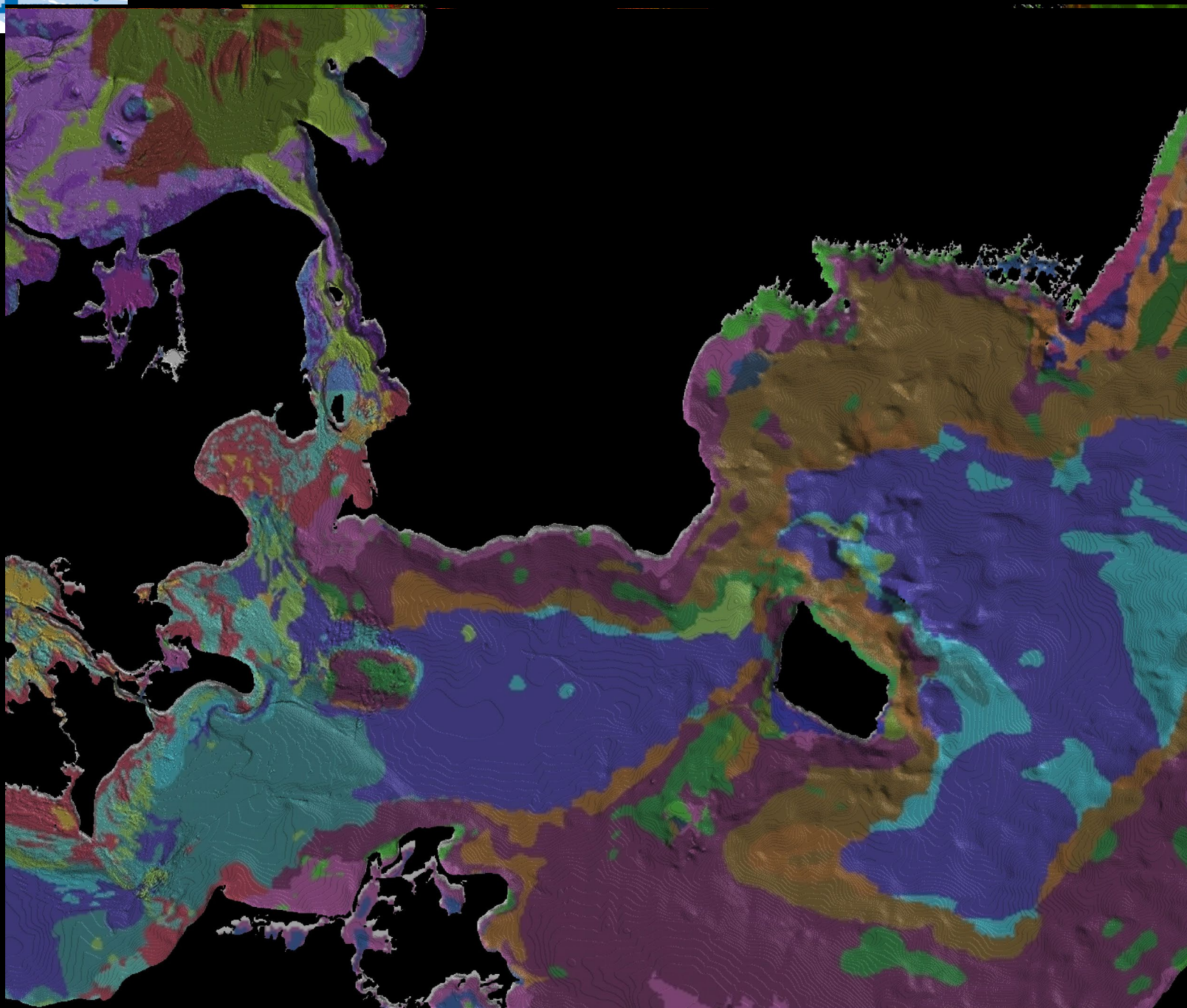
3	3
3	3
1	2

Scored Grid from seabed

1	2
2	3
1	1







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Estonia  
Finland  
Germany  
Latvia  
Lithuania  
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Poland  
Sweden



# Some final remarks

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- The marine landscape map can be designed according to the user need. In some regions, like the Bothnian Bay, research work may requires the introduction of the Ice cover dataset. Other regions requires the oxygen depletion data set to be included for a different type of application.
- The “quality” of the final marine landscape map depends on the quality of its constituent layers.
- An important measure is still to be calculate, and that is the confidence level of the final map. Why it is not done?
- Validation.

# Thanks for listening

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Latvia  
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Poland  
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