

Joint Monitoring of the North Sea

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Joint Monitoring of the North Sea*

* the offshore water body
1-12 miles from the coastline and outwards



Towards joint monitoring
for the North Sea and the
Celtic Sea



Marine Strategy Framework Directive (MSFD) was adopted on 17 June 2008 by the European Parliament and of the Council.



MSFD aims to achieve Good Environmental Status (GES) of the EU's marine waters by 2020.



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Definition of GES

The environmental status of marine waters where these provide ecologically diverse and dynamic oceans and seas which are **clean, healthy and productive.**



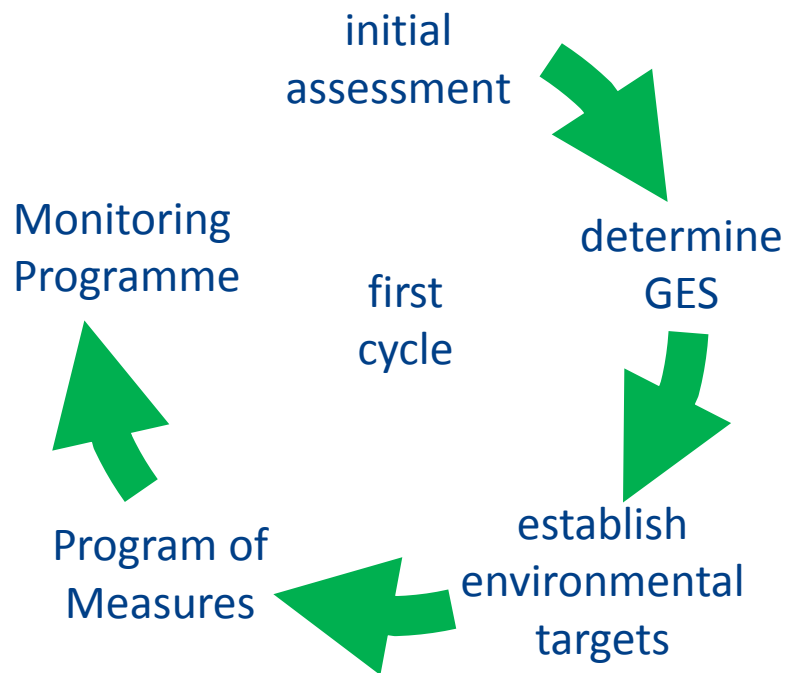
Article 3

Legend

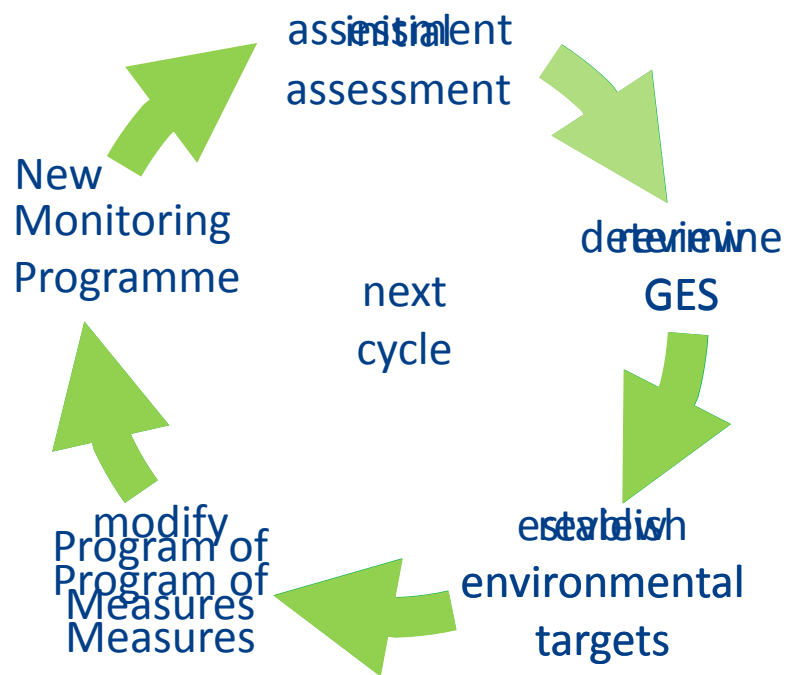


exclusive economic zone (EEZ)

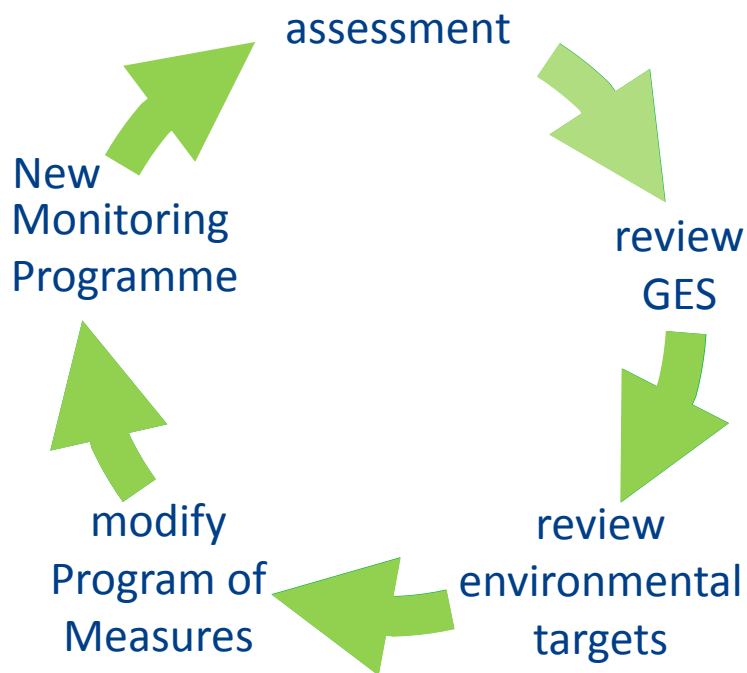
How to achieve Good Environmental Status (GES) of the North Sea ?



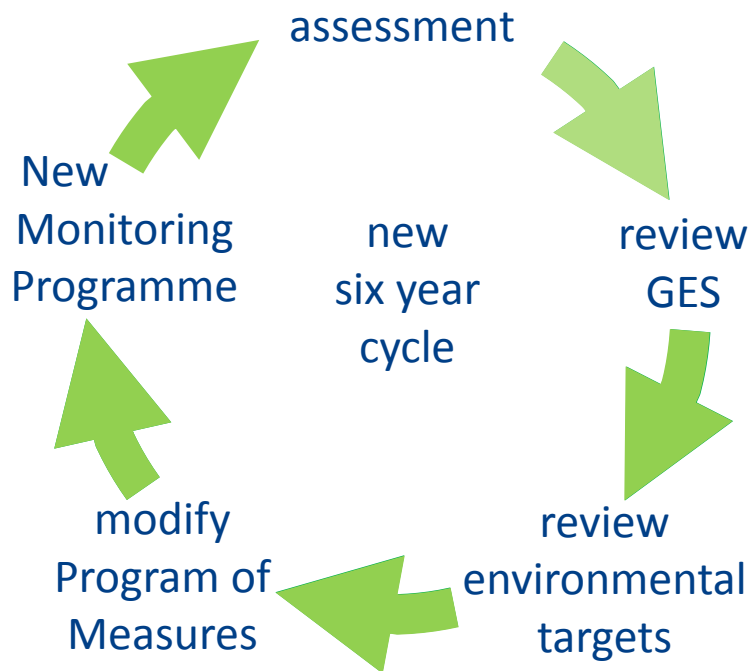
How to achieve Good Environmental Status (GES) of the North Sea ?



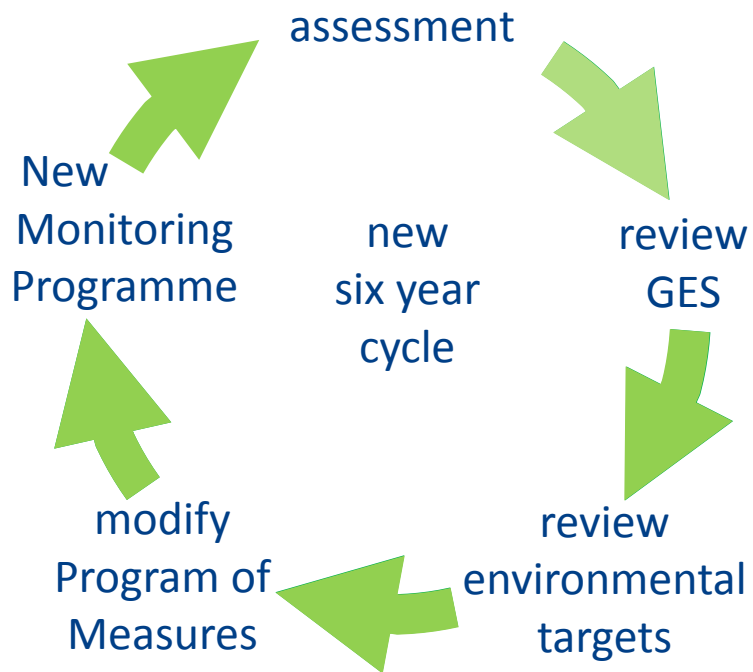
The programme is nationally operated and internationally coordinated through the Regional Sea Conventions



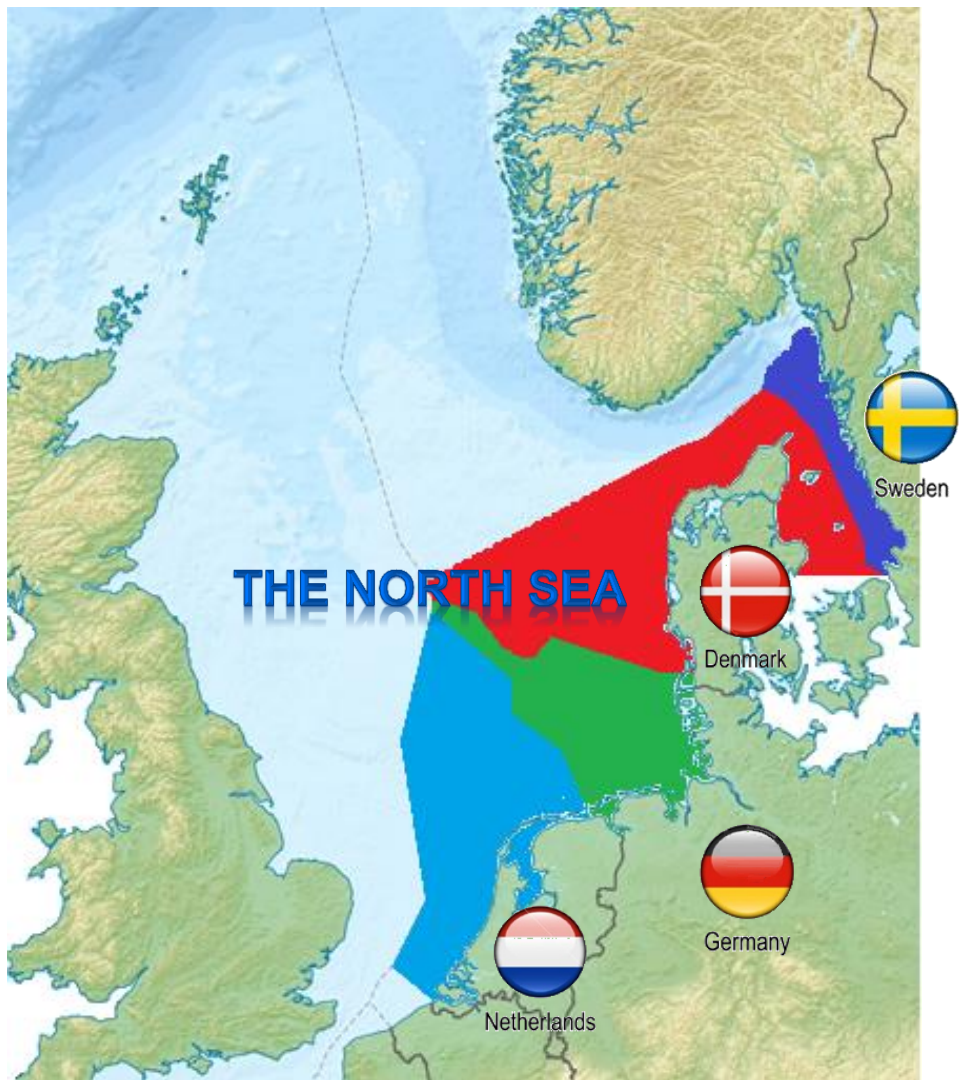
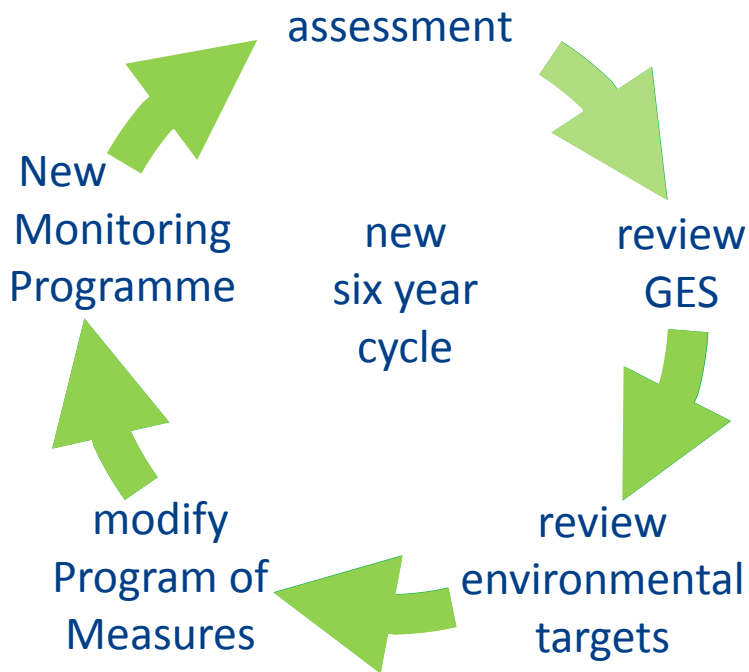
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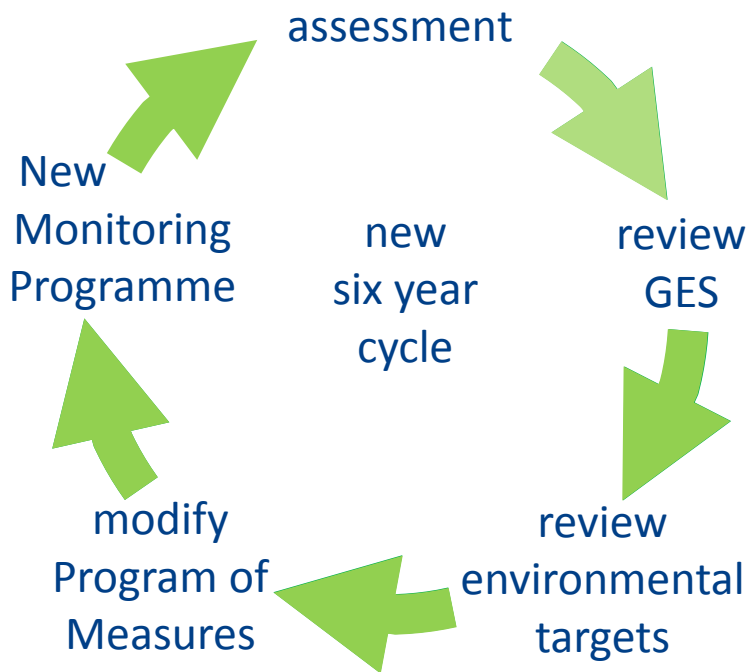
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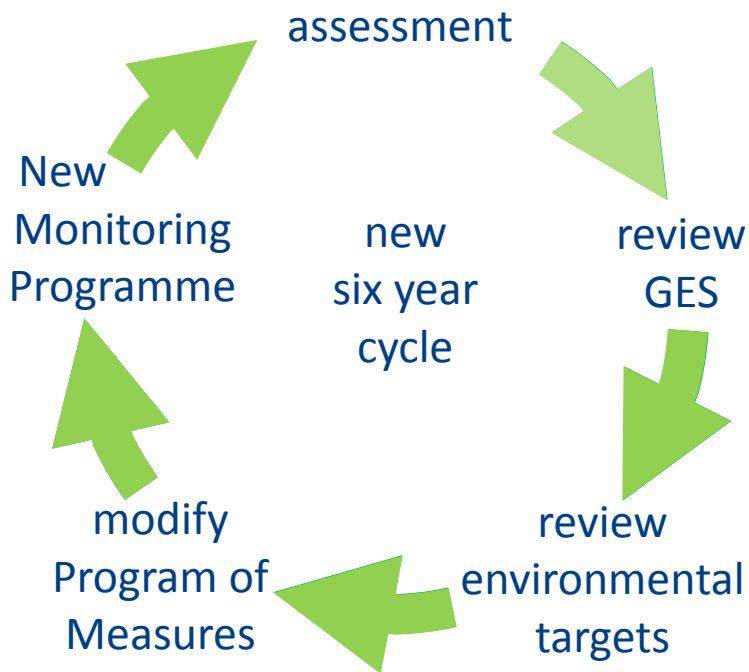
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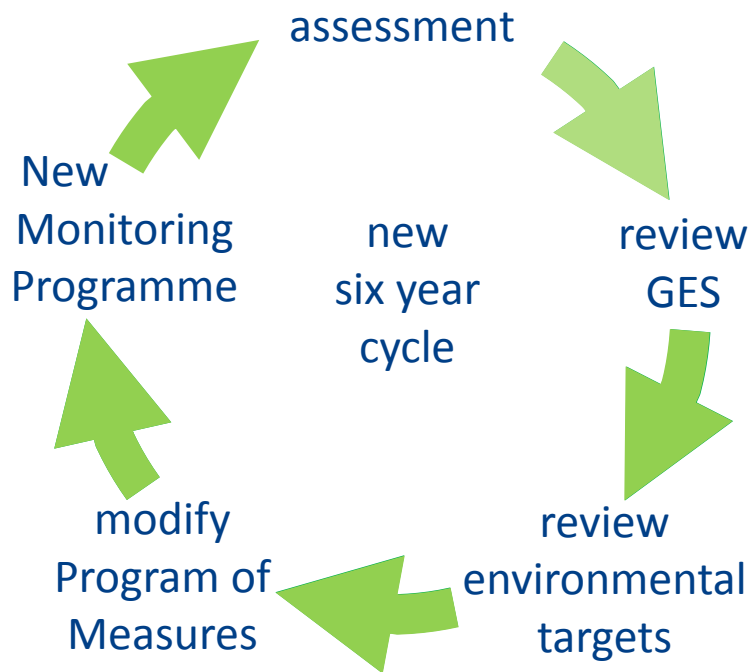
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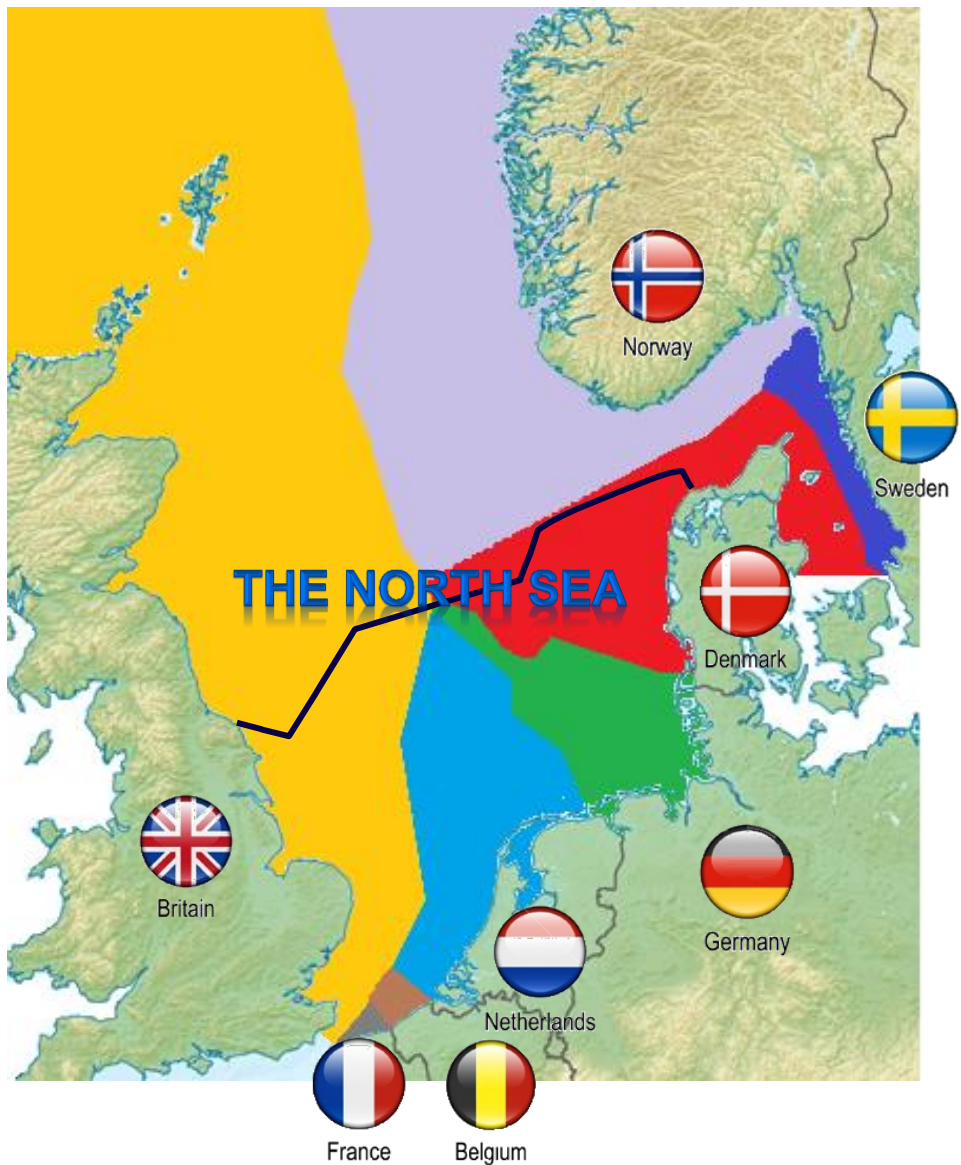
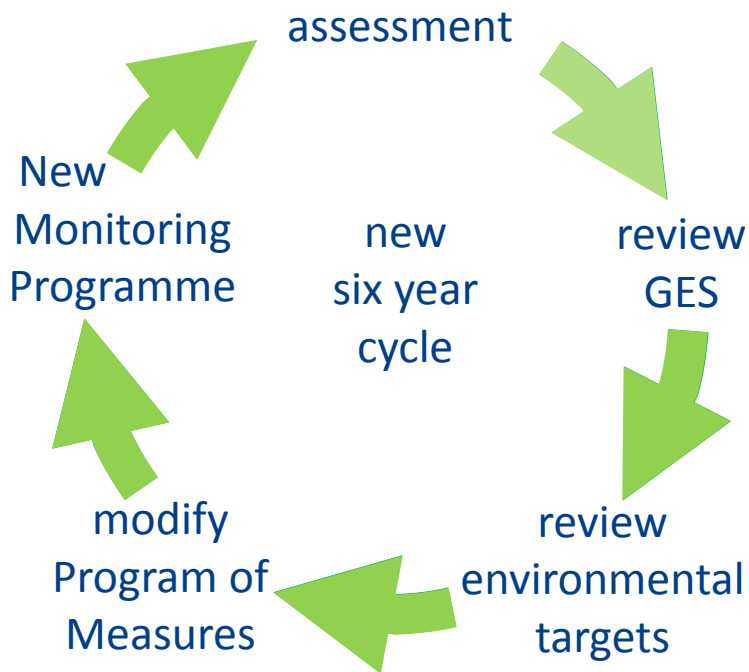
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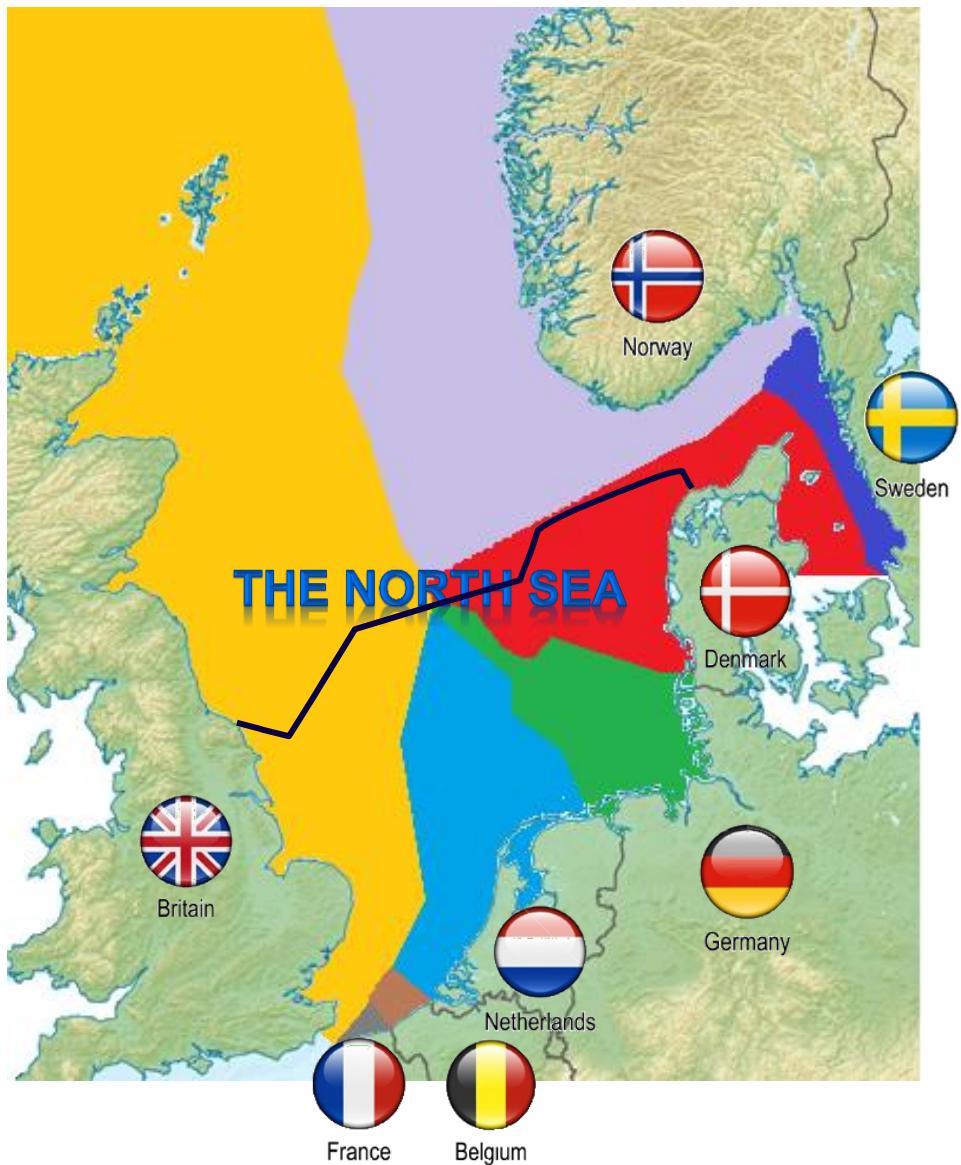
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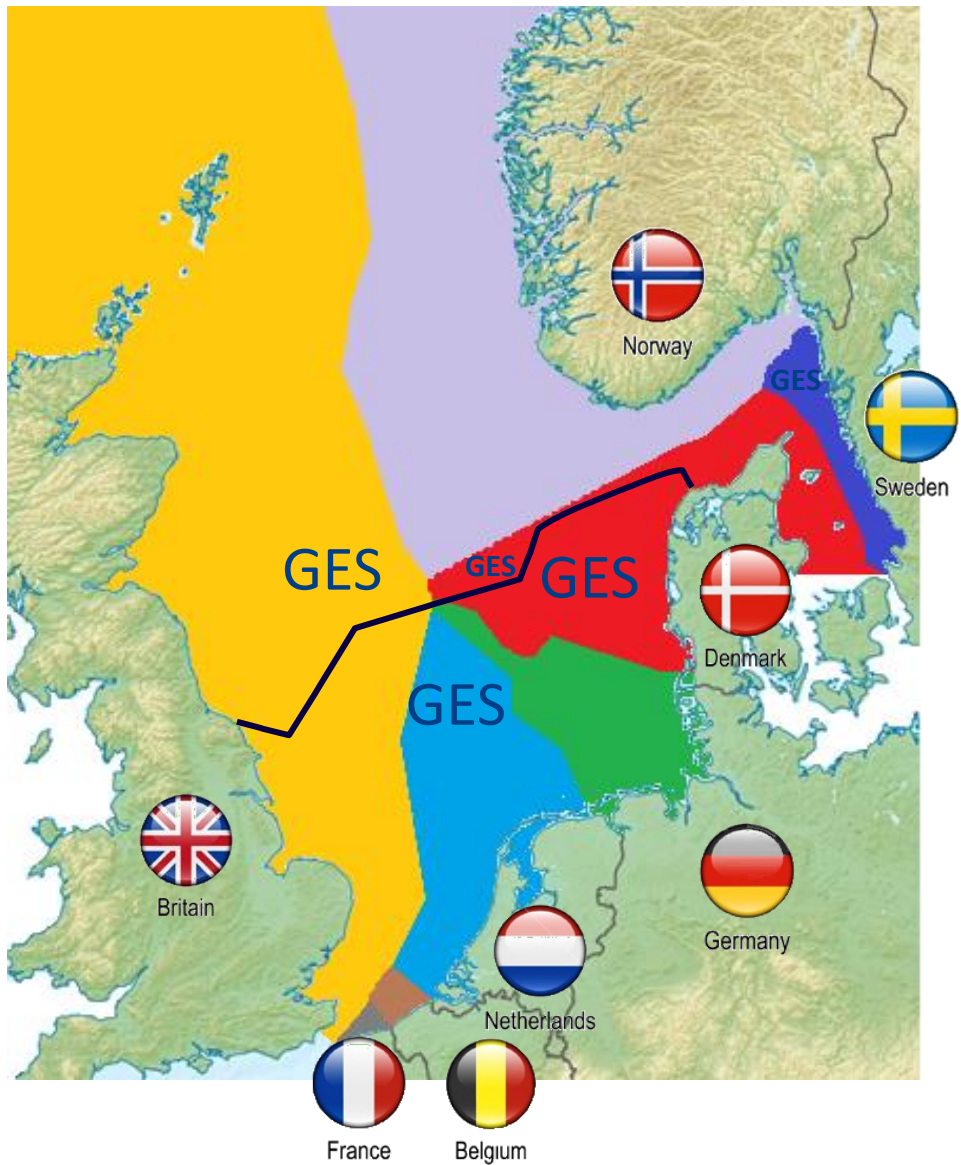
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MSFD-assessment reports



MSFD-assessment reports

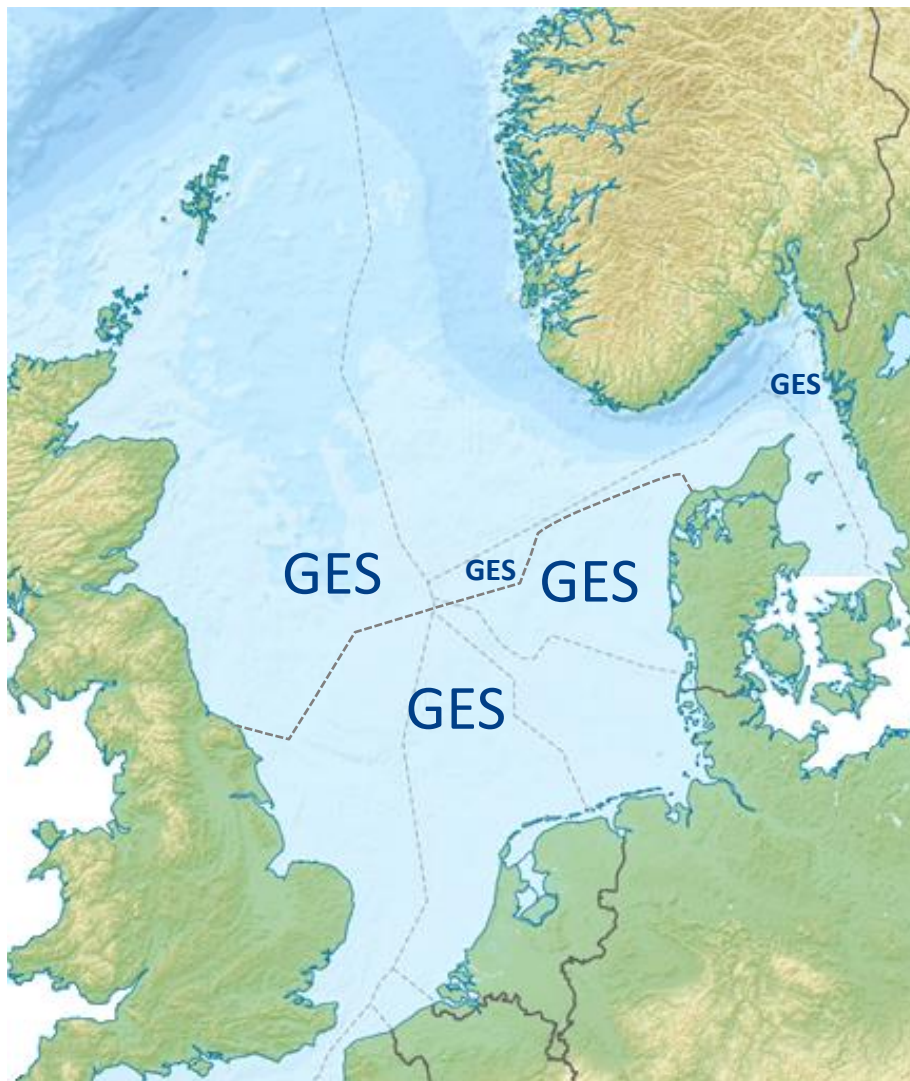


Diverging assessment of the environmental status of the North Sea

i.a. caused by

- different sampling
 - methodologies
 - strategies
- analytical methods
- data analyses
- choice of indicators
- diverging baseline

Intercalibration

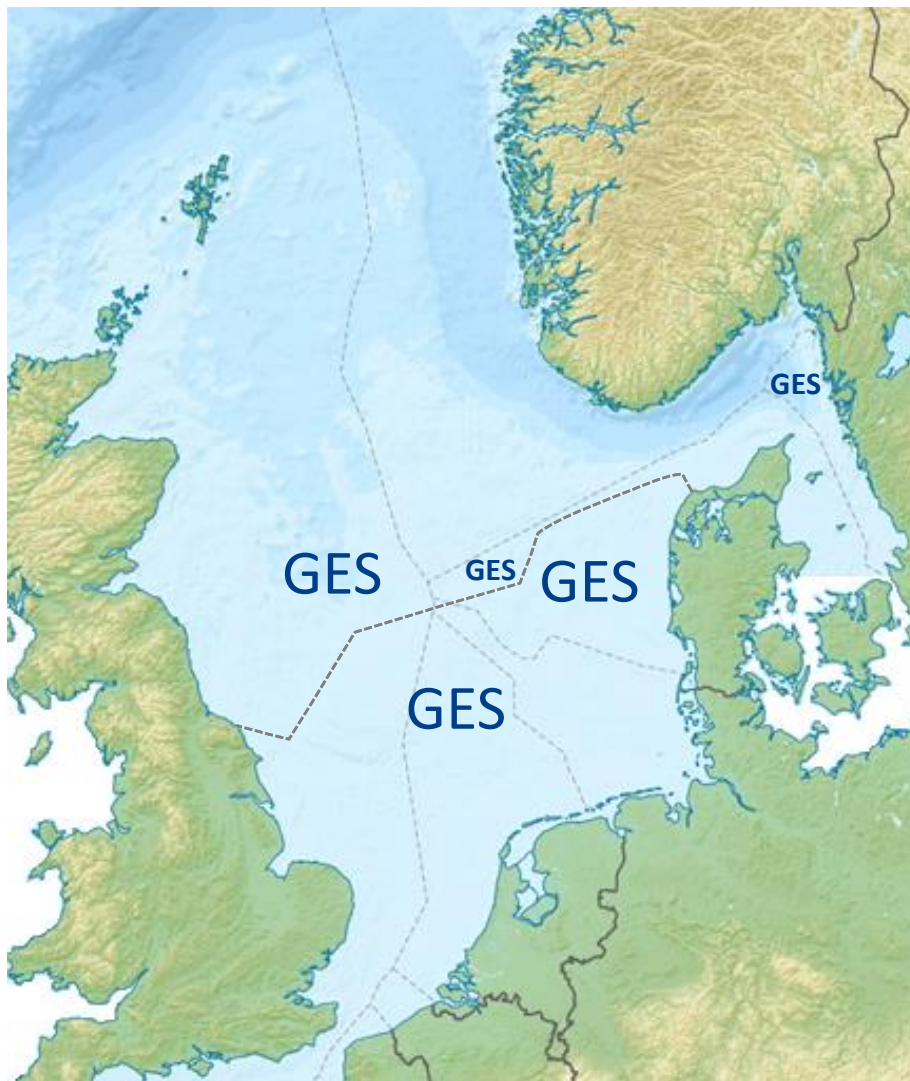


Diverging assessment of the environmental status of the North Sea

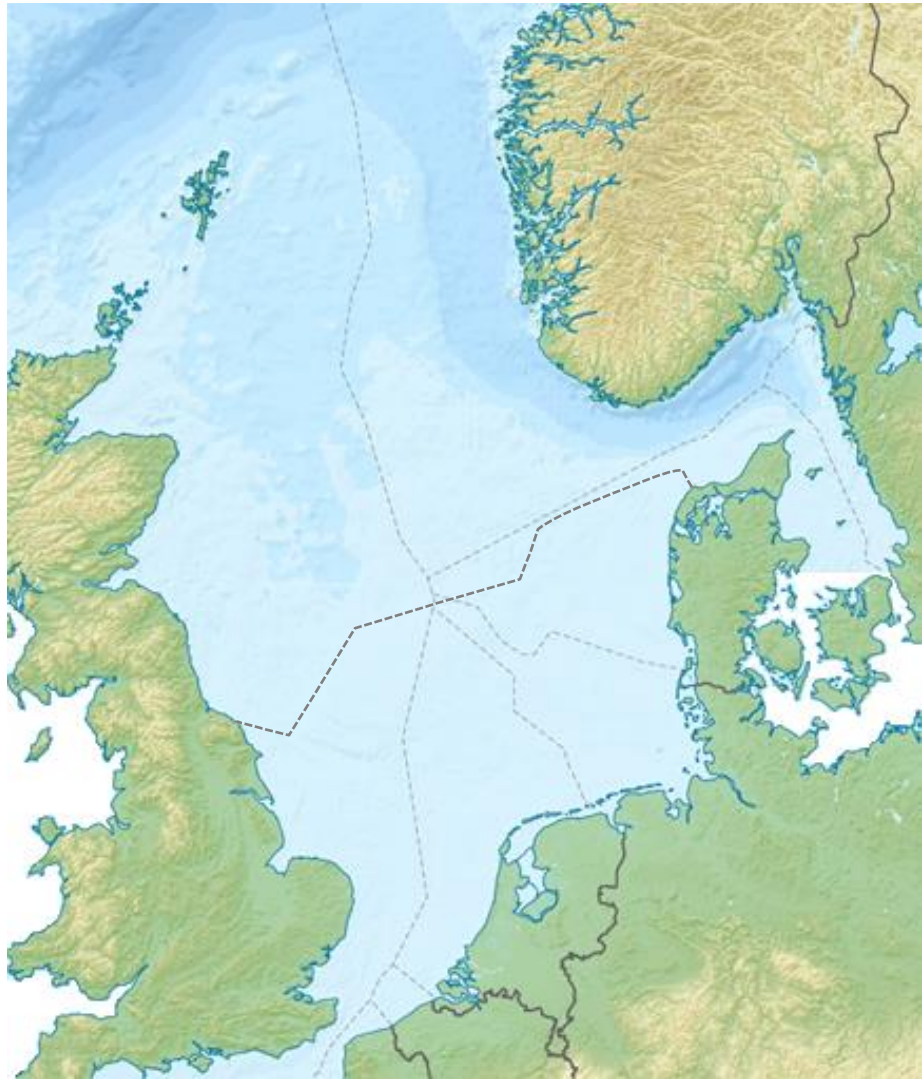
should be diminished by

- ~~different sampling~~
 - methodologies
 - strategies
- ~~analytical methods~~
- ~~statistical analyses~~
- ~~agreement on indicators~~
- ~~divergent baseline~~

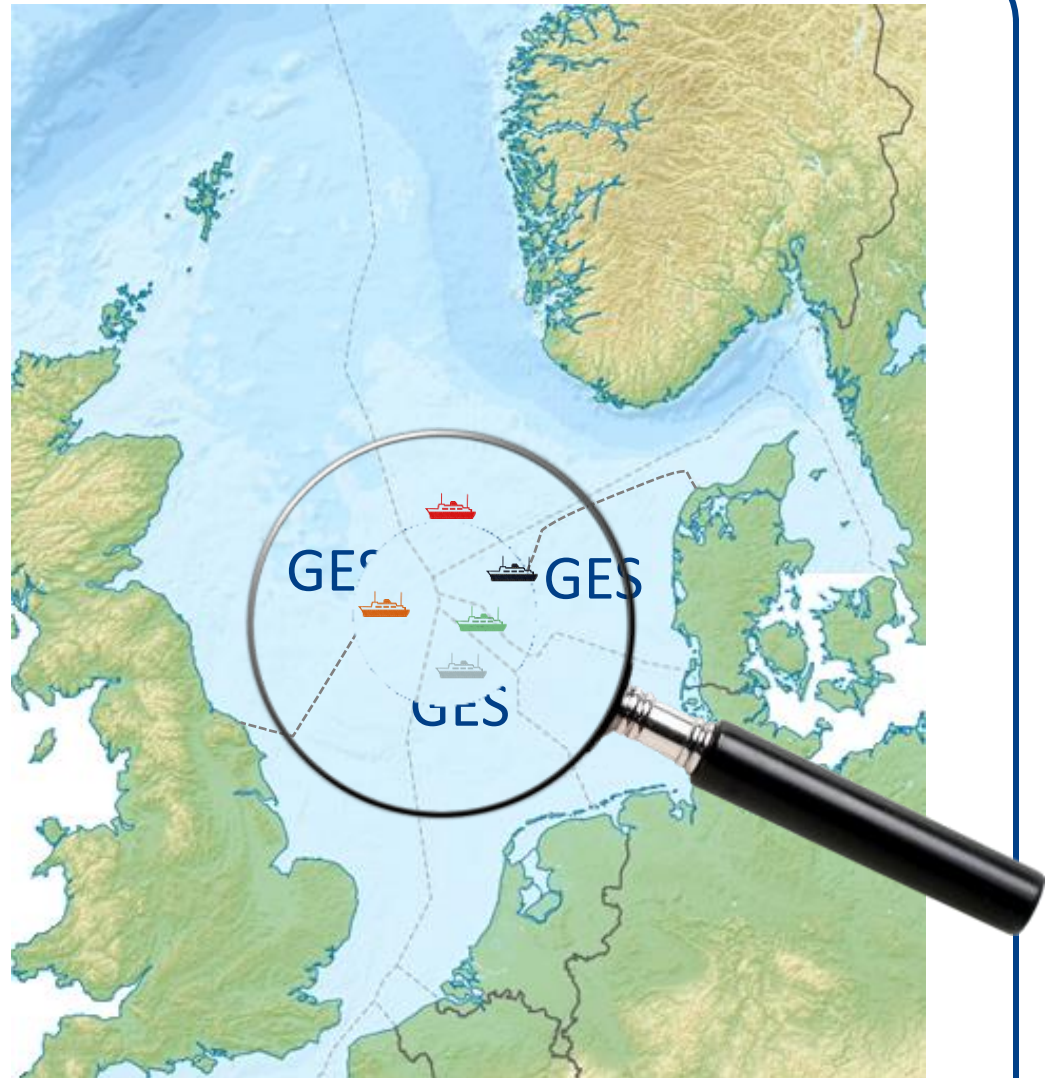
Intercalibration



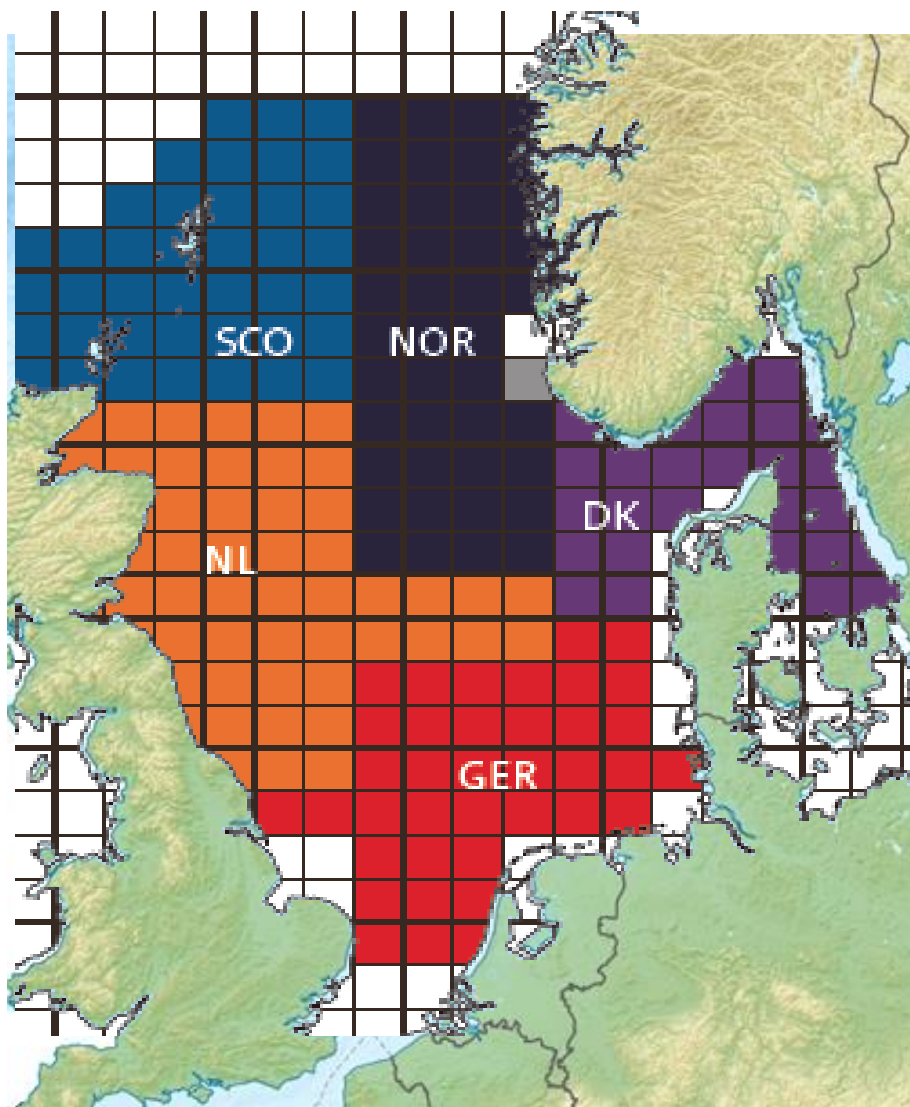
- coordinated sampling



- coordinated sampling

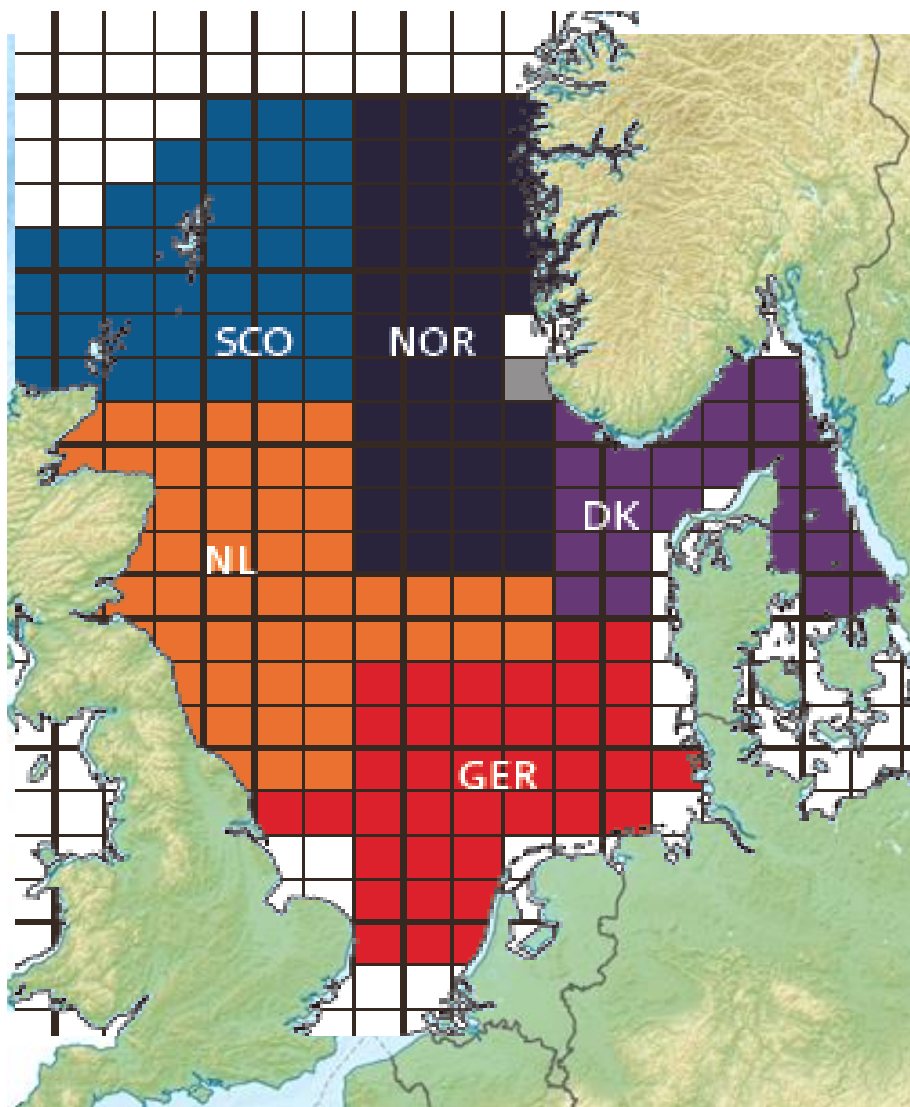


Fisheries survey by vessels from 5 countries and internationally coordinated through the International Council for Exploration of the Sea (ICES).



A better assessment of the environmental status of the North Sea is obtained through

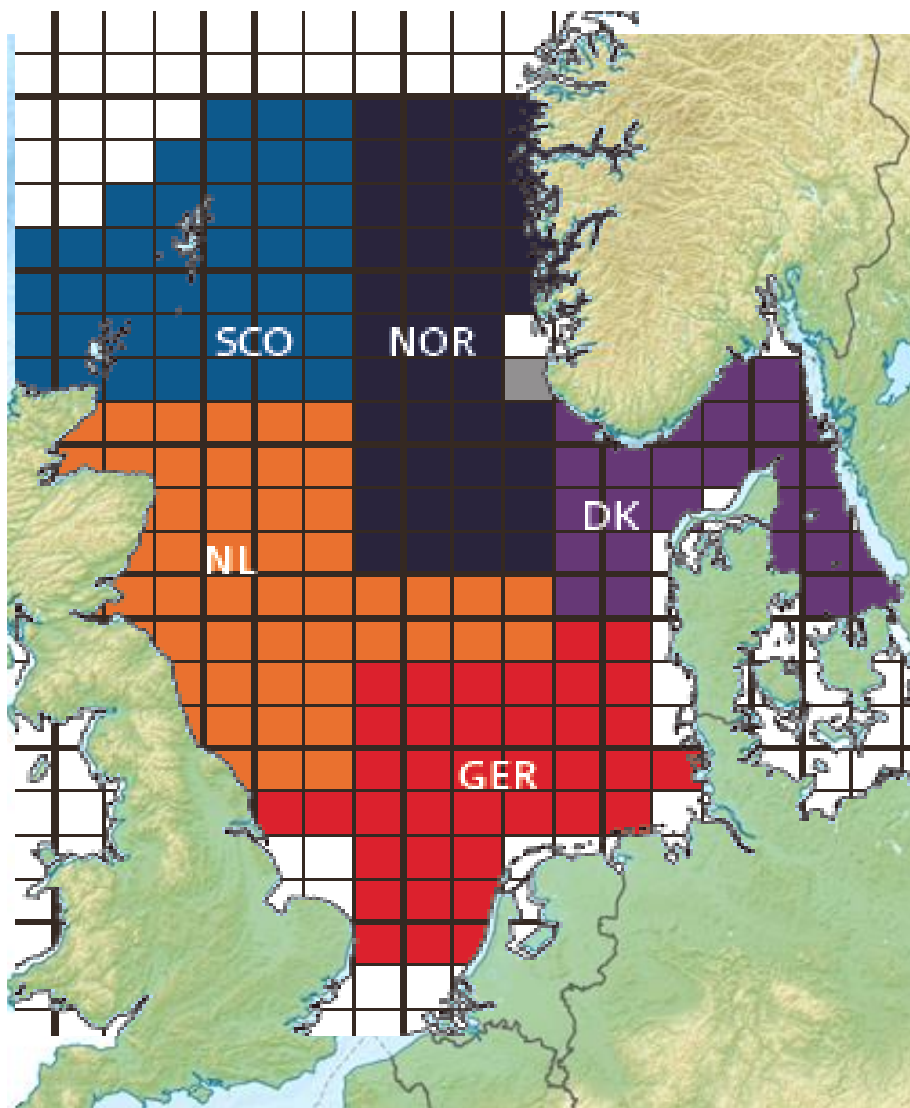
- coordinated sampling
 - methodologies
 - strategies
- same analytical methods
- shared data analyses
- agreement on indicators



Diverging assessment of the environmental status of the North Sea is diminished by



standardisation
harmonisation



From a scientific perspective...

- harmonization is especially useful

indicator selection

indicator development

monitoring programme design

- intercalibrations seem to have reached their limits

major progress by agreement on methodologies

However...

learned skills, expertise, developed technology, long tradition etc.

 scientific reluctance & “business as usual”

Chlorophyll – an example...

In the North Sea different countries use different methodologies for estimation of chlorophyll.

- analytical methods vary between countries – some measure one pigment (chlorophyll a), others measure a complex of pigments.
- chlorophyll is analyzed after acetone or ethanol extraction and measured by HPLC or by spectroscopy
- ship-borne sampling is performed up to several times a month in the algal growing season by some countries – others only samples once or twice during the season.
- some countries want to move from *in situ* to satellite (remote) sensing in order to measure more frequently

From a scientific perspective...

Standardizations across institutional and state boundaries is a key scientific challenge.



From a political perspective ...

- When developing national marine strategies, MFSD requires **coordination** with other countries in the region
➔ bring **consistence** into the monitoring programmes

However...

- MFSD does not define '**coordination**' and '**consistence**'

Nevertheless...

- The European Commission in 2014 concluded implementation of the MSFD was not sufficiently coordinated
insufficient MS must significantly improve this situation
inefficient **piecemeal** **unnecessarily costly**

From a political perspective there are several challenges...

...when the Commission requires consistency brought into the monitoring programmes by each MS

Because...

- Monitoring priorities often vary with time and political landscape makes integration and agreement of joint monitoring between countries difficult.
 - MS differs significantly in their environmental interests
 - priorities in marine monitoring
 - funding size
 - Missing translation of national monitoring programmes
-  information not easily accessible

From a scientific and policy perspective...

- it's a challenge to get agreement on the appropriate common monitoring methods to use.
- organizations may be unwilling to change their methods to accommodate the needs of another country
- scientists may be unwilling to adapt their existing methods which might disrupt long time-series of data



Benefits of developing joint monitoring ...



shared platforms

ships and planes are expensive. Use them as efficiently as possible.



shared equipment

why same equipment on all ships?



shared expertise

coherence in methods and improved comparability of assessments.



shared data

reduction or removal of redundant data between institutes/ countries.



common indicators

facilitates assessments between neighboring North Sea water bodies



integrated assessment joint reporting assesses the North

Sea as one water body.



saving money

Joint Monitoring of the North Sea

should ideally use same proportional resource allocation (relative to survey area) among JMP members to

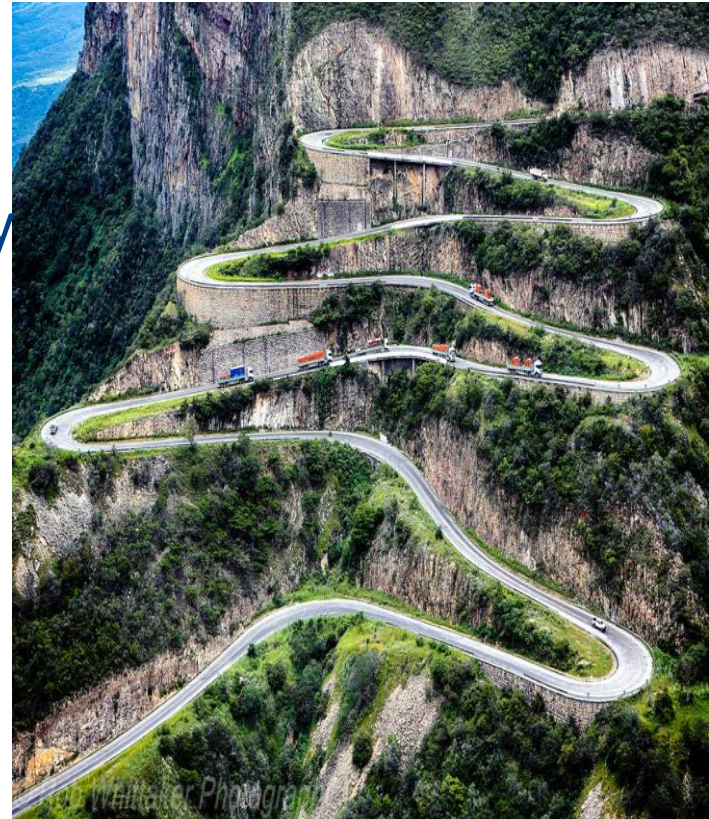
- extend the spatial or temporal extent of measurements.
- increase the number and precision of indicators measured.
- obtain long term solutions through central funding source across EU Member States



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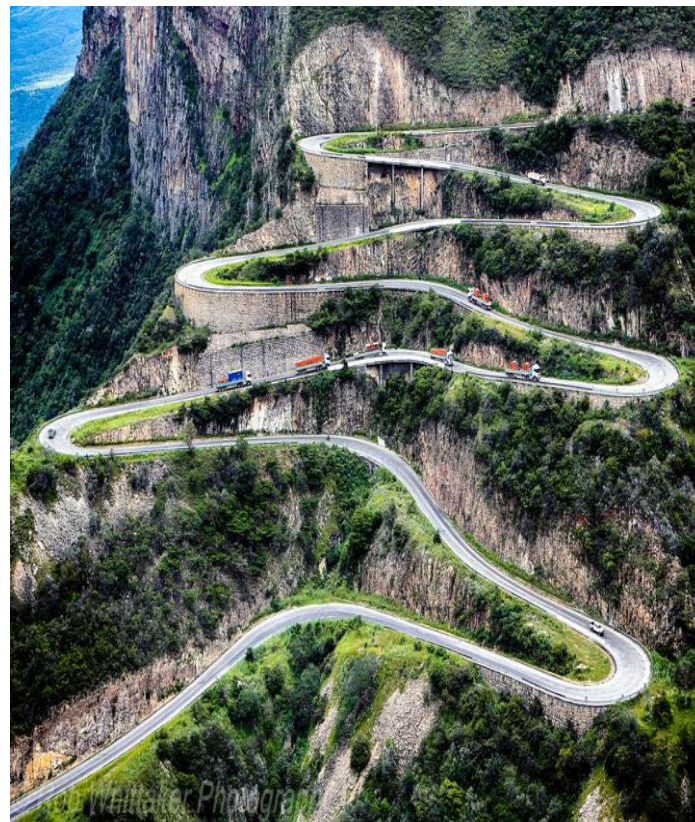
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It's probably going to be a long and winding hill - uphill

Joint Monitoring of the North Sea



**Thank you for your
attention!**