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# **Icelandic coastal zones in relation to EU Water Framework Directive (WFD) and Marine Strategy Framework Directive (MSFD)**

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# WFD and MSD

- Coastal Zone is included in both WFD and MSD
- Both directives require definition of the status of the environment (good ecological status (WFD) and good environmental status (MSFD))
- Both directives include assessment, monitoring and, if needed, actions in the coastal zone





# What is needed to do

- Classification of coastal zones into water bodies
- Description of the status of the coastal zone
- Define the what is good ecological status and mark the coastal zones according to that
- Describe what is creating pressure on the water body



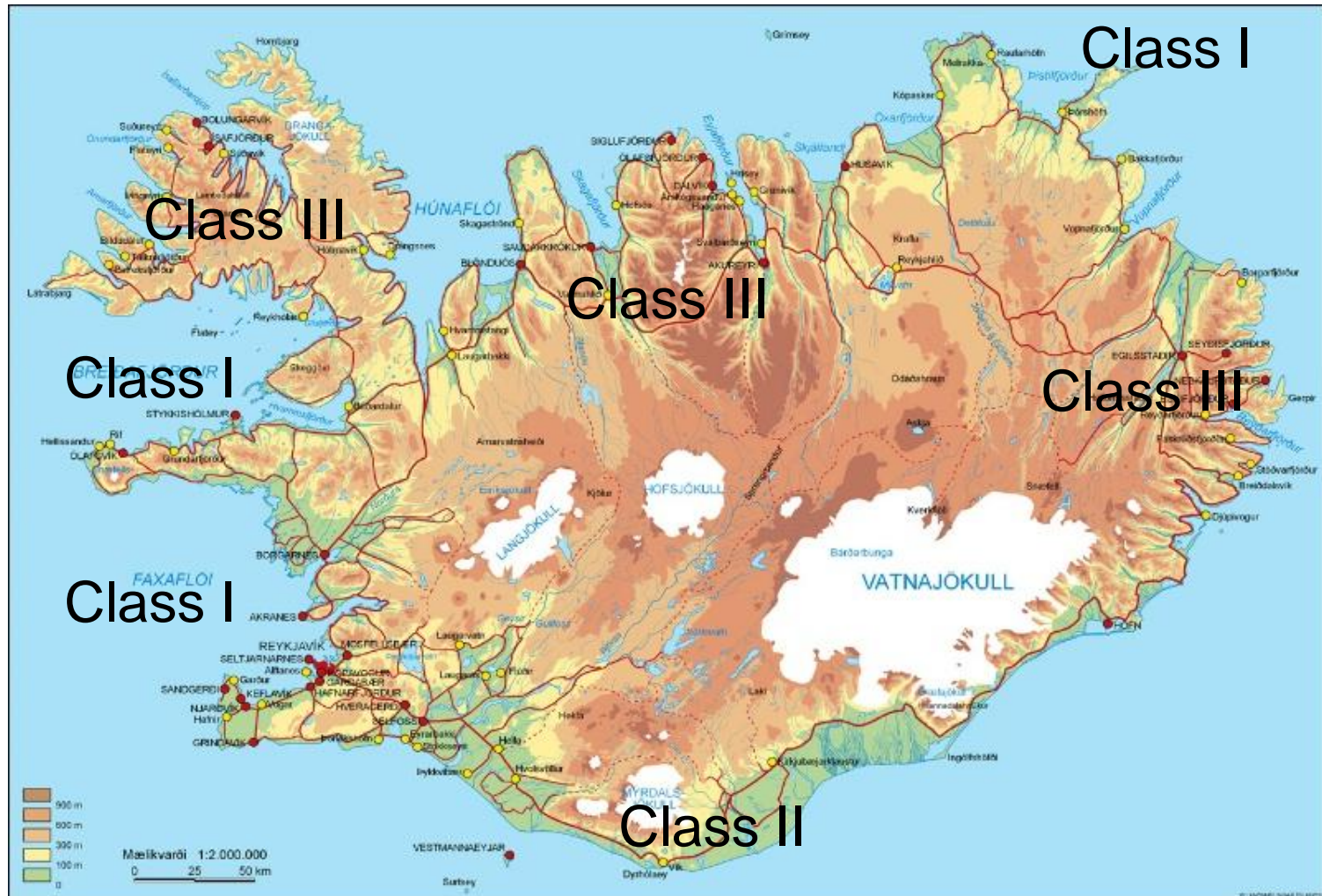


# Possible classification of coastal water bodies

- Class I: open ocean, sheltered
  - Bays and open ocean in North-east, Breiðajfjörður, Faxaflói
- Class II: open ocean, exposed
  - The south-coast, and some outer peninsula
- Class III: Sheltered ocean, narrow fjords
  - West fjords, East fjords



# Divition into classes





# Ecological/environmental status

- Good ecological/environmental status is based on biological, hydrological, chemical and physical-chemical status, and specific pollutants
- Ecological status has to be defined for both natural and heavy modified areas
- Identify areas under pressure





# Ecological/environmental status

- ‘good ecological status’ means (WFD)
- Biological:
  - The composition and abundance of phytoplankton show slight signs of disturbance clean, healthy and productive oceans and seas
  - Most disturbance sensitive microalgae and angiosperm associated with undisturbed conditions are present
  - The level of diversity and abundance of invertebrates is slightly outside the range associated with the type specific conditions





# Ecological/environmental status

- ‘good ecological status’ means (WFD)
- Hydrological:
  - Conditions consistent with the achievement of the values specified above for the biological quality elements
- Physical-chemical
  - Nutrient concentrations do not exceed the levels established so as to ensure the functioning of the ecosystem and the achievement of the values specified above for the biological quality elements
  - Concentrations of chemicals is not in excess of the standards/backgrounds values







# Ecological/environmental status

- ‘good environmental status’ means (MSFD)
  - ecological diversity
  - clean, healthy and productive oceans and seas
  - the use of the marine environment is sustainable
  - marine species and habitats are protected and human-induced decline of biodiversity is prevented
  - anthropogenic inputs of substances and energy, including noise, into the marine environment do not cause pollution effect





# What is creating pressure

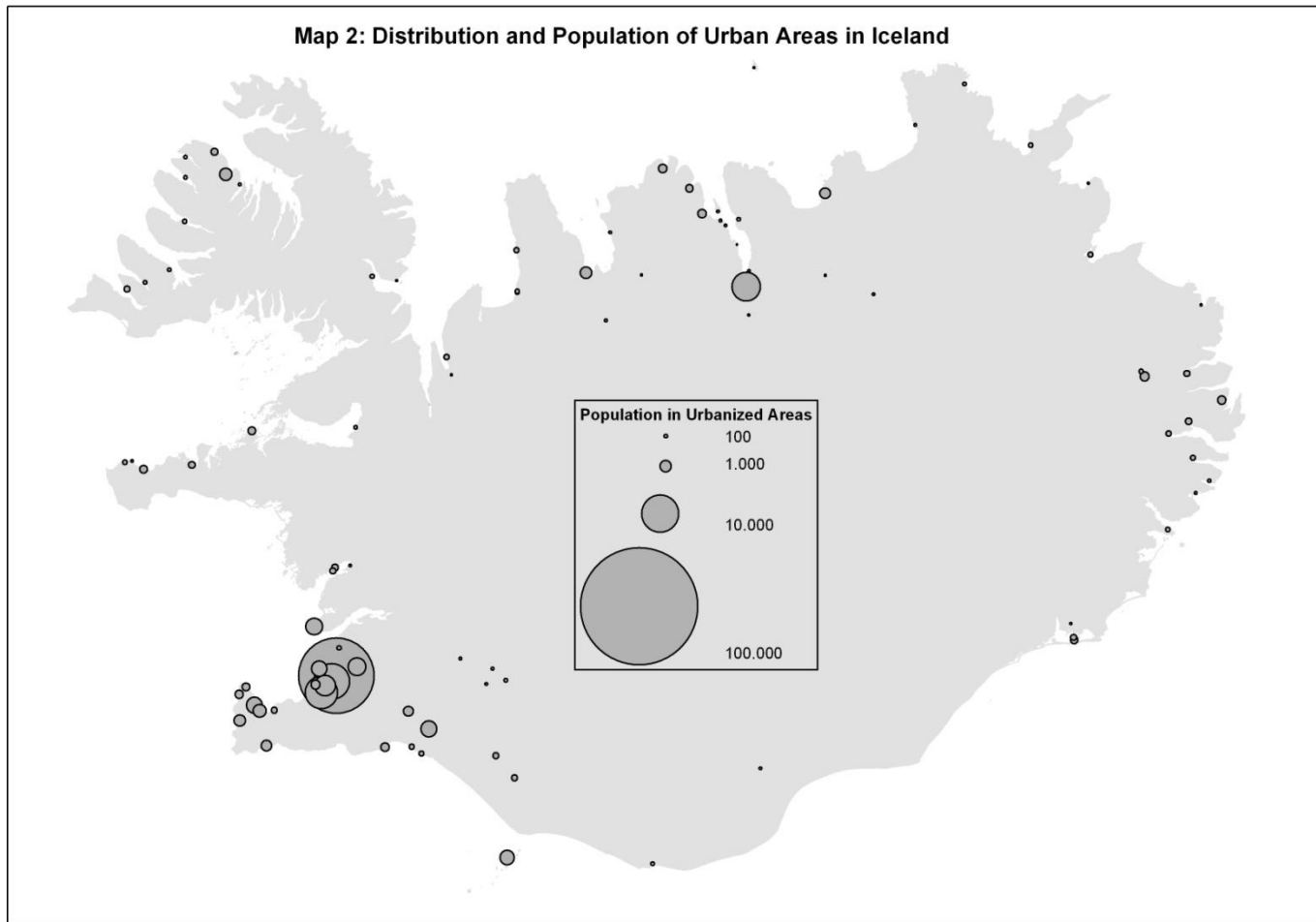
- The population
  - Sewage, nutrient load
  - Constructions and disturbances of the coastline
- Road constructions
  - Bridges over fjords, roads at the sea shore
- Sand and gravel extraction in the coastal area
- Aqua culture and fisheries
  - Nutrients, chemical use, fishing gears, fishing intensity



# Pressure population



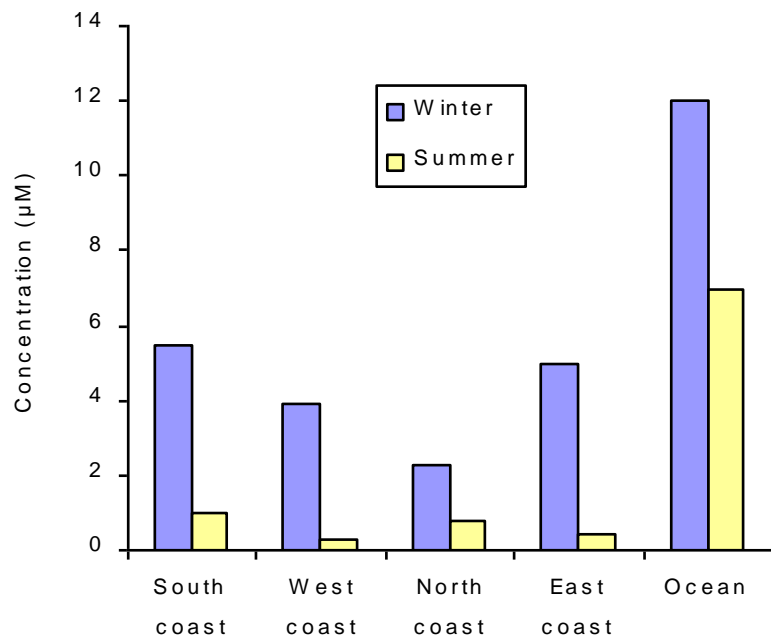
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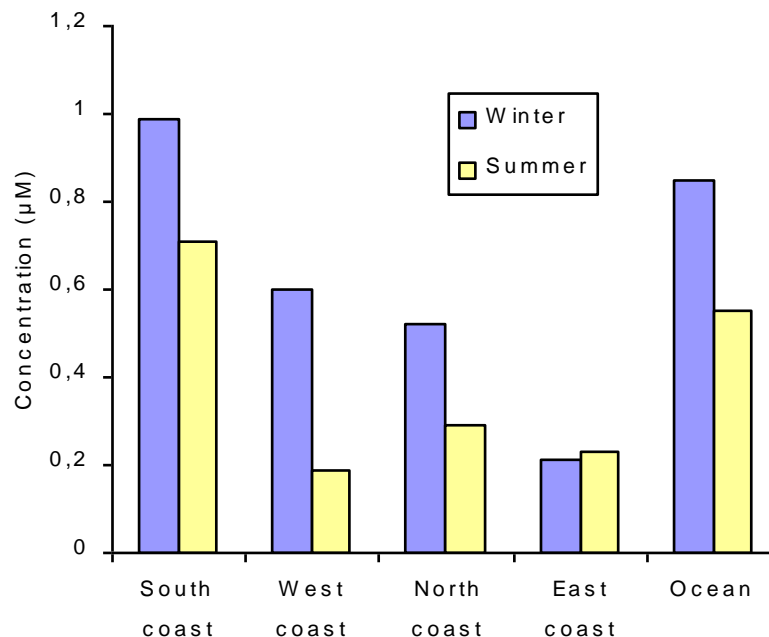


# Pressure nutrients

**NO<sub>3</sub>-N**



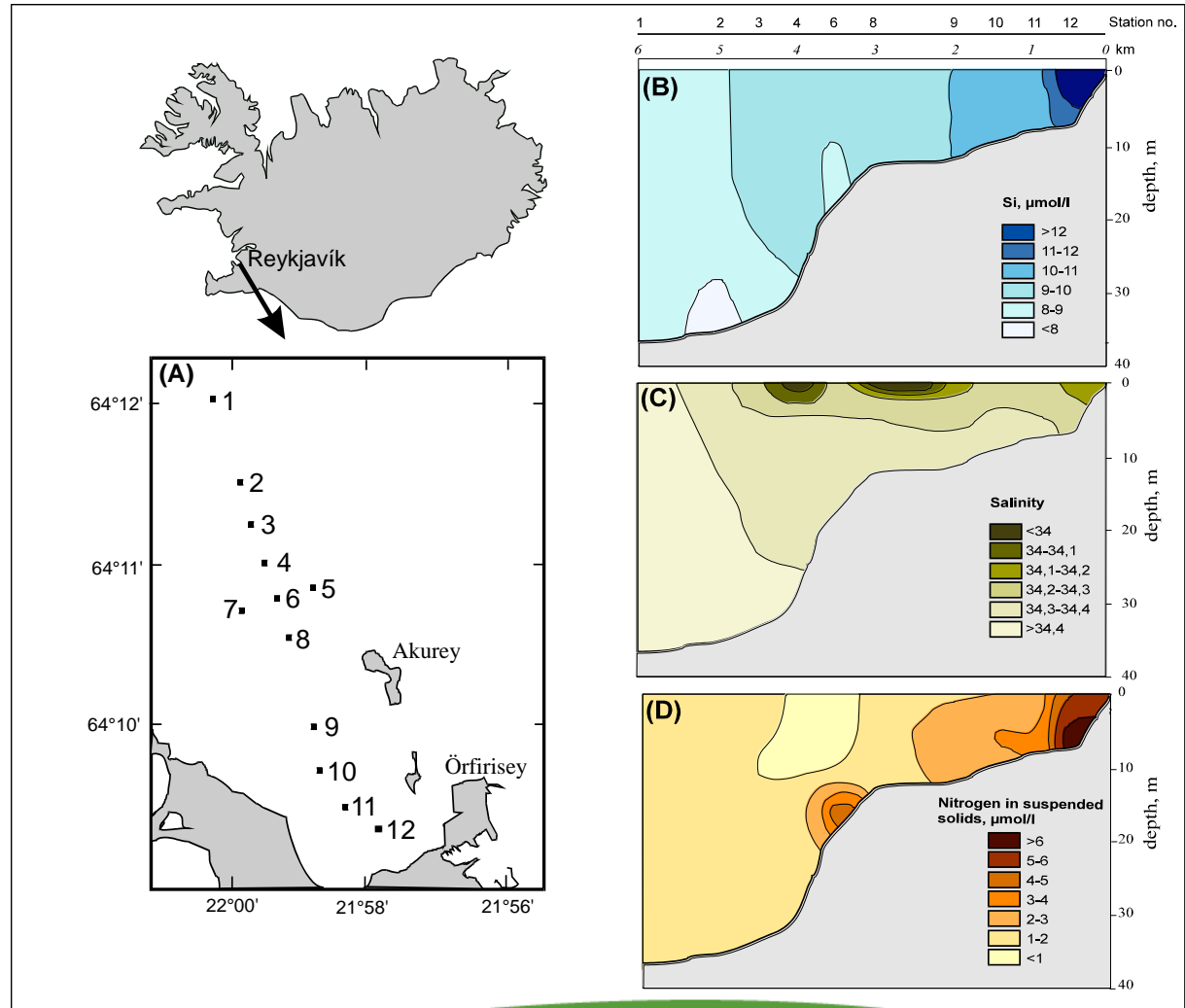
**PO<sub>4</sub>-P**



# Pressures nutrients

**Measurements of  
some parameters in  
the seawater at  
Ánanaust 1995.**

- A) Stations,
- B) Concentrations of Si,
- C) Salinity
- D) Concentrations of N  
in suspended matter





# The tasks ahead

- Classify the water bodies
- Describe the ecological/environmental status in coastal areas
  - the biological status, species composition and biodiversity
  - Physical-chemical status (pollution)
  - Hydrological status, currents (constructions)
- Define what is good ecological/environmental status
- Decide up on monitoring plan and actions





# The tasks ahead

- The time plan
  - The start was September 2007
  - The classification needs to start as soon as possible
  - The description of the status can start when classification is in place
  - Definition of good ecological status has to be ready within 4 years (2011)
  - Monitoring plan in place within 6 years (2013)
  - Action plan, if and where needed, within 9 years (2016)

