

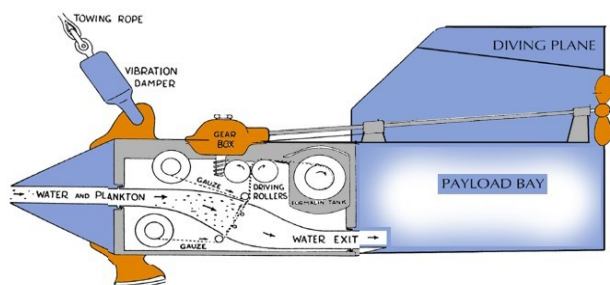
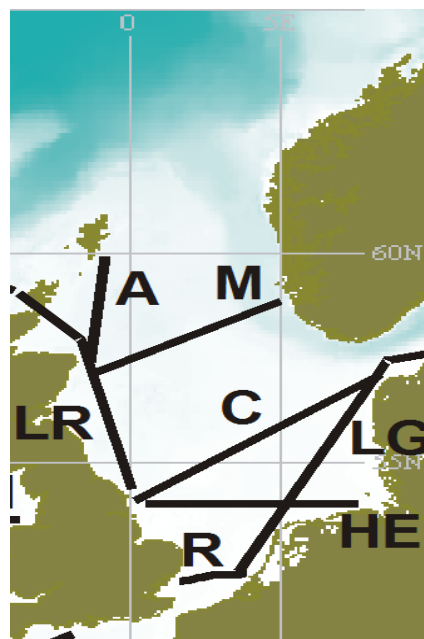
North Sea Observatory

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SAHFOS currently:

- tows CPRs about 2000 miles/month in North Sea
- analyses about 200 samples (10 nm)
- records up to 500 plankton taxa
- Phytoplankton Colour Index
- Phytoplankton
- Micro zooplankton (<2mm)
- Meso zooplankton (>2mm)



What can SAHFOS bring to a North Sea Observatory?

- 75 years of plankton distribution
- Extensive, economical sampling network
- Conductivity, temperature, depth, chlorophyll fluorescence, underwater light field?
- Water samples for HAB species or nutrient analysis

What can't SAHFOS bring?

- Vertical profiles
- Real time observations



The CPR and policy: examples from the EU Marine Strategy Directive

Objective: To achieve good environmental status (GES) of Europe's seas by 2020

GES target	MSD indicator	CPR time-series
Maintain biodiversity	Phytoplankton, zooplankton, fish (including shellfish)	Phytoplankton, zooplankton, fish larvae, meroplankton
Minimal effects of non-indigenous species	Phytoplankton, zooplankton, fish (including shellfish)	Phytoplankton, zooplankton, fish larvae, meroplankton
Healthy stocks of commercial fish and shellfish	Fish (including shellfish)	Fish larvae, meroplankton
Healthy marine food webs	Phytoplankton, zooplankton, fish (including shellfish)	Phytoplankton, zooplankton, PCI, fish larvae, meroplankton, jellyfish
Minimised eutrophication	Biodiversity indicators, HABs, spatial and temporal distribution of nutrients	PCI, HAB species, phytoplankton community composition, nutrients*
Healthy benthic ecosystems	Benthic invertebrates	Meroplankton
Minimal effects of marine litter	Marine litter (plastic)	Microplastic
'Safe' concentrations of contaminants	Synthetic compounds, non-synthetic substances and compounds, radio-nuclides	Pesticides*, antifoulants*, pharmaceuticals*, heavy metals*, hydrocarbons*, radio-nuclides*
Permanent alterations to hydrological conditions do not adversely affect marine ecosystems	Spatial and temporal distributions of temperature, salinity, oxygen, pH (pCO ₂)	Temperature*, salinity*, oxygen*, pCO ₂ *

Good environmental status (GES) targets listed in the MSD, with examples of relevant indicators whose monitoring can provide information towards achieving GES in European seas. Entries marked with * require fitting of CPR with passive water sampling device and will result in the establishment of new time-series.