



Factsheet Chlorophyll

As seas are warming as a consequence of climate change, the distribution of nutrients in the oceans such as chlorophyll, is changing. Sea Rangers have been contracted by a Dutch governmental agency to sample chlorophyll in the North Sea.

CHLOROPHYLL RESEARCH

Sea Rangers have periodically and systematically sampled chlorophyll across 13 different sampling areas in the North Sea. Samples are taken to match with satellite data tracking chlorophyll concentrations from space. During the assignment, the Sea Ranger Service vessel SV Fantastiko is tasked with positioning itself in one of the sampling areas. Within a 20 minute time window of one the ESA Sentinel 3 satellites passing over, under no cloud conditions, take a water sample.

The collected seawater is filtered and then conserved onboard in a special laboratory freezer, which stores the chlorophyll at -80°C . Samples are subsequently transported in a container with dry ice to a government-run laboratory for further analysis. The chlorophyll assignments were carried out over 2020-2022 under contract for the Dutch government agency Rijkswaterstaat.

EQUIPMENT

For sampling, Sea Rangers deploys a special filter, which can collect samples of chlorophyll at just below sea surface level. Samples can be collected and preserved onboard through the use of a lab freezer, which can deep freeze at -80°C .

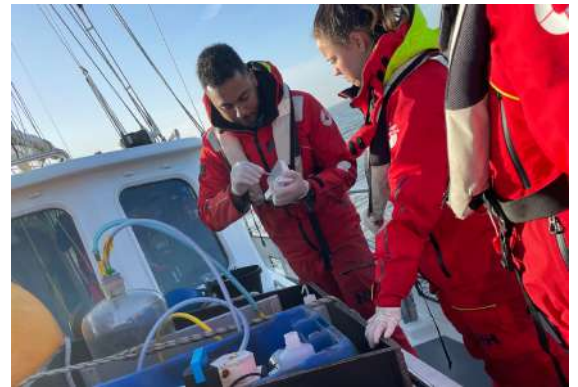
Technical specifications:

- Filter for collecting microplastics in upper water column
- Lab freezer: onboard with deep freezing capacity
- Range: ability to work offshore out at sea 12 days unlimited
- Longer periods at sea possible in consultation
- Periodic sampling optional to combine with other assignments

Partners



Rijkswaterstaat
Ministerie van Infrastructuur en Waterstaat



Samples are collected by Sea Rangers with from the deck and filtered immediately.



Sea Rangers then preserve the samples for deep freezing onboard at -80°C in a special lab freezer.

Contact



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