

Indicators of environmental state – recent sediments of the Gulf of Gdańsk and the Oslofjord

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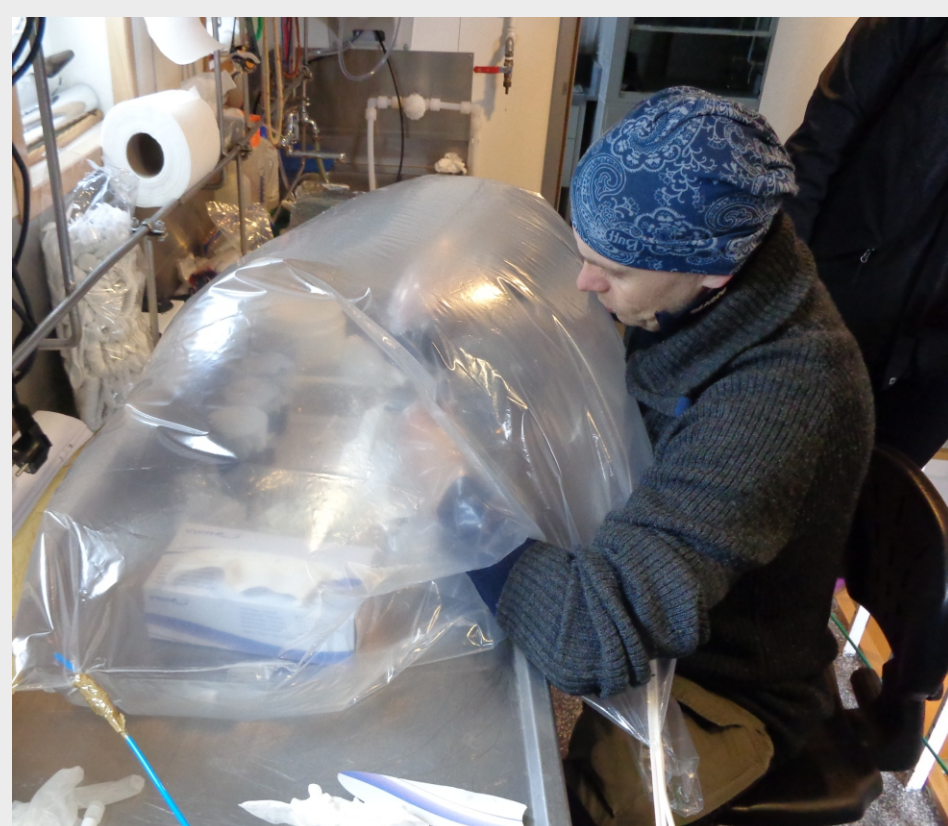
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Abstract

Recent sediments of coastal locations of different climate, hydrology and contaminant burial history are analysed and compared. These locations are: the Gulf of Gdańsk (southern Baltic, Poland) and Oslo/Drammensfjord (Norway). The natural and anthropogenic sediment indicators of ecotoxicity are studied. These studies are carried out in the framework of the CLISED project, involving two Polish (IO PAN, UG) and two Norwegian Institutes (NGI, NTNU).

Sample collection, analyses & physico-chemical parameters

- ➔ 96 sediment cores (at each station 8 cores):
 - 80 cores cut into 0-1,1-5,5-10,10-15,15-20 cm thick layers to analyse Corg, grain-size, phytoplankton pigments, black carbon, 69 chemical elements, organic contaminants (PAHs, OTs, Nps), biotoxins, genotoxicity, mutagenicity, endocrine-disrupting activity;
 - 16 cores cut into 1÷2 cm thick layers to analyse Pb-210;
- ➔ physico-chemical parameters of water column: temperature, salinity, oxygen.



Sampling sites

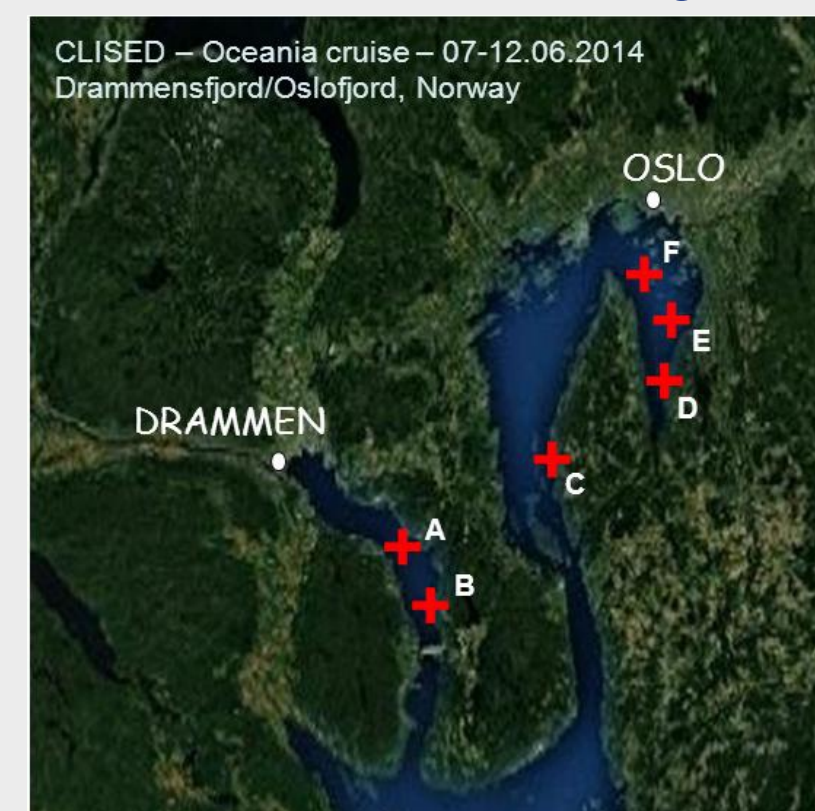
r/v Oceania cruises



Gulf of Gdańsk cruise (11-17 April 2014)



Oslo/Drammensfjord cruise (7-12 June 2014)



Aims

- ➔ Current status of recent sediments concerning pollution, eutrophication and primary production,
- ➔ Determination of biotoxins and toxin-producing phytoplankton organisms,
- ➔ Determination of mutagenic, genotoxic and endocrine-disrupting activity,
- ➔ Evaluation of elemental distribution in order to use the elemental composition as a tracer of the crucial biogeochemical processes at sediment-water interface.