

Domain ESSEM
Earth System Science and Environmental Management
Actions with potential links to the Marine Board activities

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Action 638: Investigating and managing the impacts of marine sand and gravel extraction and use

Background:

Increasing need for sand and gravel in Europe: For industrial needs, for maintenance of coast line by beach nourishment, for in-fill of low lying areas and coastal extensions
=> Rising need for marine extraction

Main objective of the Action:

To create a unified, clear position to feed into European marine policy on sustainable extraction of marine aggregates, based on a combined environmental, economical and social approach of the activity.

4 Working Groups:

WG 1 - Environmental effects (e.g. turbidity)

WG 2 - Markets, materials and exploitation

WG 3 - Resource exploration and development

WG 4 - Technology and data management



Closely Connected to SOLAS (Surface Ocean Lower Atmosphere Study)

Action 735: Tools for Assessing Global Air–Sea Fluxes of Climate and Air Pollution Relevant Gases

Main objective:

- To coordinate air-sea research through development of interfacial gas and particle fluxes from existing experimental data sets

Secondary objectives:

- Develop collaborations / networks
- Compile data into common framework
- Produce fluxes
- Compare fluxes and concentrations to models / satellite
- Assess the role of the oceans in regulating climate in a changing environment

Working Groups:

- WG1: Short-lived trace gas production and biological feedbacks
- WG2: The physical processes controlling air–sea exchange
- WG3: The air–sea flux of long-lived climate active gases



Action ES0604: Atmospheric Water Vapour in the Climate System (WaVaCS)

Main objective:

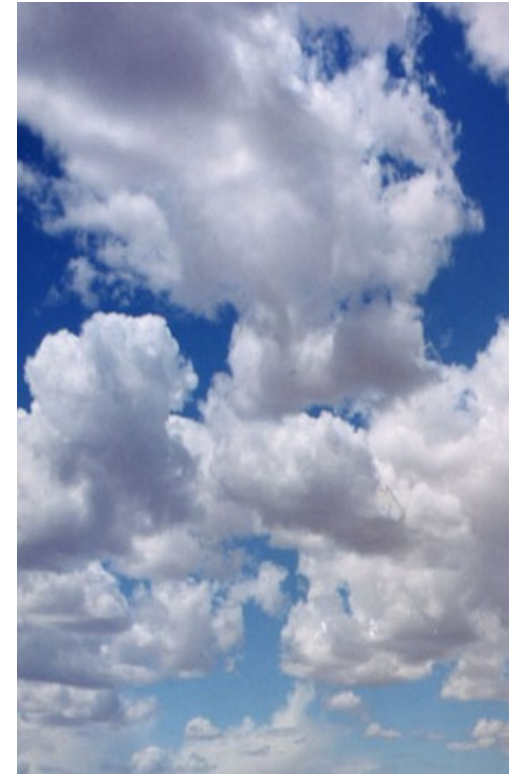
Tackle the issues of atmospheric water vapour and its impact on climate through integrate research carried out in different areas, including: atmospheric monitoring, data analysis and modelling. It brings together expertise that is both unique and timely.

Main aim:

Propose an integrative approach to understanding the processes controlling the atmospheric water vapour distribution, in particular those elements linking water vapour and climate.

Working Groups:

- WG1: Improving water vapour observations
- WG2: Understanding processes
- WG3: Merging observations and modelling
- WG4: Data assimilation techniques



Action ES0801: The ocean chemistry of bioactive trace elements and paleoclimate proxies (New Action)

Main focus:

The cycling of key trace elements in the ocean, critical to the functioning of ocean ecosystems, to the carbon cycle, to contamination of the ocean, and to assessment of past climate change.

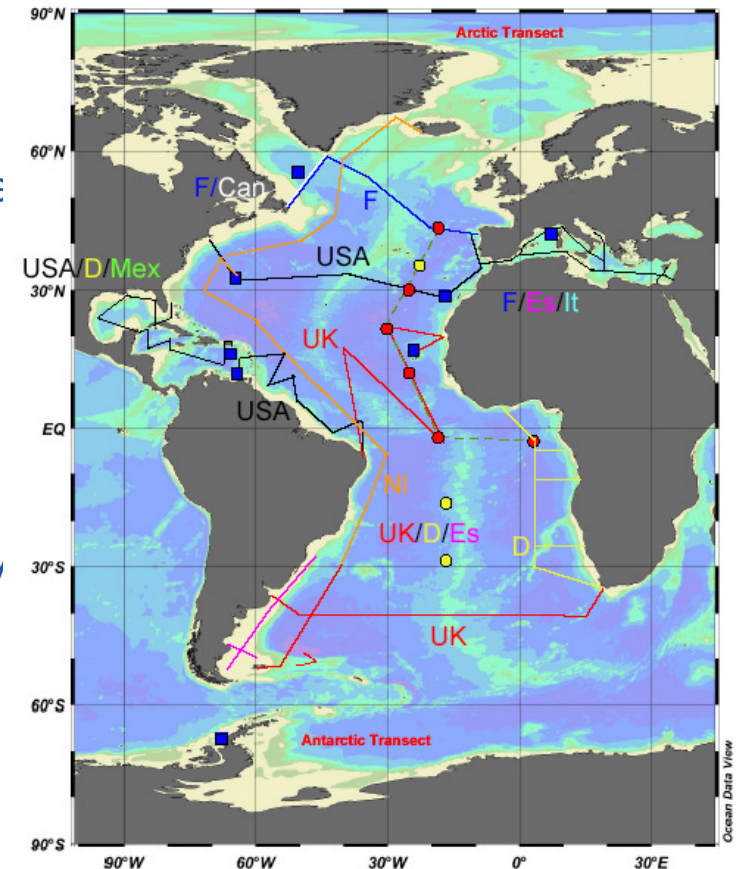
Main objective:

To maximize the benefit from research on the marine chemistry of trace elements carried out at national level

Working Groups:

- WG1: Research Cruise Planning – coordination of nationally funded activities
- WG2: Intercalibration and standardisation of analytical measurements across the European research area;
- WG3: Data management and the production of global data products for a wide range of end-users.
- WG4: Training and outreach activities

Close links with **GEOTRACES, IMBER, SOLAS, PAGES,**



Planned Strategic Activities

- COST/ESF High Level Conference on Marine Biotechnology (e.g. impacts on marine resources and on pharmaceutical developments)
- Planned for 2010 (exact date to be confirmed)
- ESF Lead: Niamh Connelly/ Jean-Bart Calewaert/ Aurélien Carbonnière, EMB
with COST Science Officer: Carine Petit.

