

**International Conference on Research Infrastructures
(ICRI 2012)
Session « Climate Change »**

Towards coordinated “Research Infrastructures”
to investigate the deep sea

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Investigation of the deep sea and sub-seafloor is essential to understand climate change

ODP Leg 208



ocean acidification related to a warming event attributed to the sudden release of CO₂ in the atmosphere – PETM event, ~56 Ma ago

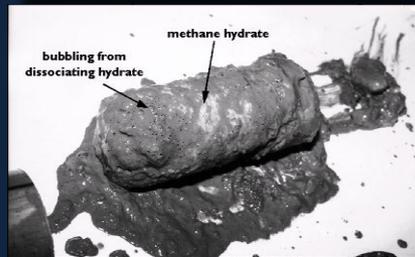
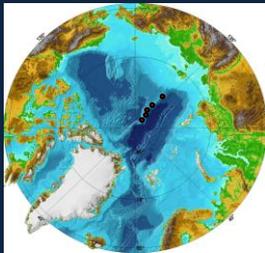
Archives of past climate changes are embedded in deep sea deposits



IODP exp 310

Drowned coral reefs record the history of sealevel rise that may be correlated with the past evolution of ice sheets

The Arctic challenge



Gas hydrates trapped in the subseafloor may be released by global warming and contribute to the green house effect

Understanding past and/or current events is essential to inform the future....

Access to the deep sea and subseafloor requires sophisticated technologies: R/V and associated tools, ice-breakers, scientific ocean drilling, long term monitoring, etc.

Coordinated “Research Infrastructure” are required to provide this access

Some initiatives have been launched with the support of the EC during the last decade



These initiatives represent a first successful step – *however remain fragmented, do not cover all the needs, funding still insufficient*

The development of coordinated « RIs » should build on existing expertise and knowledge

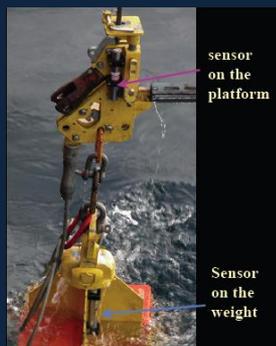
The European Commission has a role to play

- by helping the member nations to get organized and structured
- by facilitating transnational access

A constant dialogue between the Research Infrastructure unit and the more scientific units is also necessary.

Obviously, it will be easier for a R.I. organized at the European level to contribute to an international network.

In the field of sub-seafloor sampling and instrumentation, we have a lot of expertise in Europe



a “Distributed European Drilling Infrastructure” should build on this expertise and knowledge distributed across Europe in universities, institutes, SMEs

It will help

- develop stronger links between research and operational groups
- share experience and capabilities
- remain at the forefront of innovation
- promote dialogue and coordination with other relevant infrastructures – R/V, EMSO, ice cores, continental drilling (ICDP), GEOSS
- provide capabilities for sustainable use of samples and data
- provide training for younger generations
- speak with one voice at the international level

Science results must be made available to decision makers

- Open access data bases and core/sample repositories

Need to provide capabilities for sustainable use of samples and data

- Distributed facilities - Use of common standards

- Resource for training the new generations

- Data accessible to diverse communities

- Scientific discoveries translated into useful information for stakeholders and decision makers



ECORD Summer school at the Bremen Core Repository

Infrastructure ↔ Research capacity
Science results
Decisions and actions