

Icelandic report to the Arctic Ocean Sciences Board.

29. meeting, Nuuk, April 2010

Activity: Standard CTD sections

PI: Héðinn Valdimarsson (hv@hafro.is)

Organization: Marine Research Institute (MRI)

Date initiated: A monitoring project that has been ongoing since 1970 and will continue.

Ending date:

Work accomplished: CTD measurements were made at standard sections around Iceland during the four seasons, in February, May, August and November/December.

Planned work: This will be continued during next year.

Data: The data are stored in a database at MRI and can be obtained from there.

Activity: THOR

PIs: Héðinn Valdimarsson (hv@hafro.is) and Steingrímur Jónsson (steing@unak.is)

Organization: Marine Research Institute (MRI), European Union (EU)

Date initiated: Work started in December 2008

Ending date: 2012

Work accomplished: THOR is a European project under FP7. This is a continuation and extension of previous work aiming at measuring the fluxes of water, heat and salt over the Greenland-Scotland Ridge. MRI operates 3 current meter moorings north of Iceland with the aim of estimating the flux of Atlantic Water to the Nordic Seas through Denmark Strait. For measuring the flux of Denmark Strait Overflow Water an array of ADCPs is maintained in the Denmark Strait in cooperation between MRI and the University of Hamburg. The moorings were recovered and redeployed with new ADCP's in summer 2009. CTD measurements were also made at selected sections several times during the year.

Planned work: The moorings will be recovered and redeployed in summer 2010. Also CTD measurements will be carried out.

Data: The data are stored at MRI and can be obtained from there. See also the THOR website <http://www.eu-thor.eu/>.

Activity: Ecosystem of the Iceland Sea

PIs: Ólafur Karvel Pálsson (okp@hafro.is)

Organization: Marine Research Institute (MRI)

Date initiated: 2006

Ending date: 2011

Work accomplished: In 2009 further analysis of the collected data was carried out and some results were presented at international meetings. In March 2010 one day science meeting was held in Reykjavík where first overall results were outlined in nine presentations, following a key lecture presentation by Ken Drinkwater.

Planned work: A scientific report, containing the main results of the project, is to be published in the report series of the Marine Research Institute in 2010. Further presentation of results is planned in August/September 2010 at an annual ESSAS science meeting in Reykjavík. Some results are also to be presented at the IPY conference in Oslo in May 2010.

Data: The data are stored at MRI and can be obtained from there.

Activity: Iceland Sea chemistry time series study

PIs: Jón Ólafsson (jon@hafro.is)

Organization: Marine Research Institute (MRI)

Date initiated: 1983

Ending date:

Work accomplished: Observations have been continued. The time series data are described in (Olafsson et al., 2010). Evaluation of observations, most recently in (Olafsson et al., 2009).

Olafsson, J. et al., 2009. Rate of Iceland Sea acidification from time series measurements. *Biogeosciences*, 6: 2661-2668.

Olafsson, J., Olafsdottir, S.R., Benoit-Cattin, A. and Takahashi, T., 2010. The Irminger Sea and the Iceland Sea time series measurements of sea water carbon and nutrient chemistry 1983-2008. *Earth Syst. Sci. Data*, 2: 99-104.

Planned work: Continued quarterly observations. Further inventory assessment of anthropogenic carbon.

Data: Data are in the CARINA data collection available on the Carbon Dioxide Information Analysis Center (CDIAC).

Activity: Sea-ice monitoring and research

PIs: Ingibjörg Jónsdóttir (ij@hi.is)

Organization: Faculty of Earth Sciences, University of Iceland.

Date initiated: Ongoing work since 2002

Ending date:

Work accomplished: Sea-ice monitoring and ice charting using MODIS, ENVISAT and other satellite images. Ground truth comparison and product/data development in cooperation with the Icelandic Coast Guard. Initial development of sea-ice model in cooperation with the Icelandic Maritime Administration. Further research of sea-ice drift using all available satellite images.

Planned work: This will be continued during the next year.

Data: The data are stored in FES/UI