

THOR End-User Workshop 2010

North Atlantic Thermohaline Ocean Circulation and its Impact on the Climate of Europe

EU Project:	THOR, GA212643
Date and Time:	2010-10-01, 09:00-16:00
Organizer:	Institut für Meereskunde, University of Hamburg
Location:	Hamburg, Germany
Conveners:	Prof. Dr. Detlef Quadfasel (project coordinator, beneficiary 1) Prof. Dr. Martin Visbeck (project partner, beneficiary 8)
Participants:	35 (s. attached list of participants, appendix II)
Workshop language:	English

I. Purpose

The European Commission requires the results of research projects funded within the Framework Program 7 to be communicated. For THOR this has been described in the Description of Work. To fulfill this requirement the first of two End-User-Workshops was held on October 1st, 2010, in Hamburg.

The workshop focused on an interactive exchange between the THOR group, the scientific community in the field of climate and marine research, boundary organizations such as European and Federal Environmental Agencies, instrumental manufacturers, other small and medium size enterprises and the general publics. Thor informed about the development and the risk of a breakdown of the Thermohaline Circulation (THC) and its impact on climate changes, particularly in Europe. The goal of the workshop was to define communication routes and to identify such possible cooperation.

II. Agenda

During the **MORNING SESSION**, 9 presentations were given covering the science of THOR, the role of boundary organizations and the view of industrial partners on a possible collaboration (see appendix 1).

Presentation 1: KlimaCampus Hamburg - Center for Climate Research in Hamburg

Kick-off of the workshop by Professor Detlef Stammer with a short presentation on the mission of the Climate Campus in Hamburg, the role and contribution of the institution in THOR. Professor Stammer is the director of Institute of Oceanography at the University of Hamburg.

Presentation 2: Thermohaline Circulation – at Risk? (Detlef Quadfasel)

Professor Quadfasel, the coordinator of THOR at University of Hamburg, gave an introduction to the project and presented the scientific work done during the first two years. Dissemination of the scientific results are so far done via the project's WEB page (www.EU-THOR.eu), but also through the reports of the Intergovernmental Panel of Climate Change, to which most of the THOR principal investigators are contribution. Also direct links to government institutions are maintained by several THOR partners, the meteorological and oceanographic offices.

Presentation 3: Is the North Atlantic THC already weakening? The observational evidence (Bogi Hansen)

Professor Hansen described the observational network of THOR, which consists of a number of autonomous measuring stations deployed at key locations in the North Atlantic. Results from THOR and earlier programs indicate a remarkable stability of the strength of the overturning circulation during the past decades, whereas both, the heat and freshwater contents of the northern water columns have undergone substantial variability.

Presentation 4: Variability of the Thermohaline Circulation and Decadal Climate Predictions (Johann Jungclaus)

Dr. Jungclaus of Max- Planck- Institute gave an overview over the modeling approaches in the project. These include the analysis of millennium time scale coupled atmosphere-ocean simulations to understand variability and feedbacks of the system and studies of the sensitivity of the overturning circulations to external forcing such as increased melting of the Greenland ice cap. He also reviewed the progress in decadal scale forecasting techniques.

Presentation 5: EEA's role at the boundary between climate change science and policy (Hans-Martin Füssel)

Dr. Füssel reported on the role, tasks and the policy of the European Environmental Agency in climate and marine research. Marine topics only cover a small part of the EEA's activities. The EEA does not conduct its own research, nor does it have an open input platform to receive information. It rather invites experts from particular fields to provide them with the necessary information, on which policy recommendation are based.

Presentation 6: Report from Climate Service Center Germany (Irene Fischer-Bruns)

Dr. Fischer-Bruns gave a short introduction about the newly founded Climate Service Center in Germany. The CSC considers itself as an interface between the science community, politics and society with the operational tasks to support partnerships and to promote the integration of climate research and application needs. CSC is planning to establish a web-portal to link the "information providers" with the "end-users".

Presentation 7: Observation and measurement technology, contribution from the industry to climate research (Oliver Zenk)

Mr. Zenk from the instrumental manufactory – Optimare Sensorsystem AG – introduced the industrial contribution and cooperation with marine research institutions. This cooperation ranges from mutual instrument design and building to services on data acquisition and evaluation for the institutions.

Presentation 8: Between Science and Industry - Developing sustainable long term observatories in cooperation with the industry (Svein Østerhus)

THOR scientist Dr. Østerhus from the University of Bergen reported on the development of real-time data transmission techniques from autonomous stations moored in the ocean to shore.

Presentation 9: The global perspective and FOO (Martin Visbeck)

The convener of the morning session, Professor Visbeck of IFM-GEOMAR wrapped up the session with an informative presentation about the perspectives and the vision of the upcoming FOO: the Framework for Ocean Observing. FOO stands for the provision of routine and sustained global information on the marine environment sufficient to meet society's needs for describing, understanding and forecasting marine variability (including physical, biogeochemical, ecosystems and living marine resources), weather, seasonal to decadal climate variability, climate change, sustainable management of living marine resources, and assessment of longer term trends. The system of FOO builds upon a very simple system consisting of: Input (requirements) --> Process (observations) --> Output (data and products).

Most presentations can be downloaded as PDF-files from the THOR homepage.

The **AFTERNOON SESSION** was a round-table discussion focusing on collecting feedbacks from the participants of the workshop. What are the expectations concerning communication and cooperation among the different groups? What information and by which means should the results from a major project like THOR be made available to the societal groups outside the scientific community?

Dr. Nadia Bergamino from the Commission gave a brief statement on the current funding scheme FP7, emphasized that the project funding is mainly benefiting the scientific community. The funding scheme, however, also provides opportunities for industrial partners – especially SMEs – into the system. Calls for tenders are available for SMEs.

Questions to the Commission addressed by the participants include the following:

- 1) How does the Commission judge if the project's output is useful? What are the criteria, methods and the evaluating procedures?
- 2) How and to whom should the project provide its output or the information? Are the end-users to be addressed individually or via some large interfaces, such as the EEA or the SCS?
- 3) Continuity of the project funding: observational activities as well as the other research on climate change are by definition long-term operations. In contrast EC funding is normally only available for 3-4 years, not adequate to serve this goal. Can the European Commission set up a sustainable system of climate research and monitoring, or will that be left to the individual nations or even worse to the individual scientific institutions? Here the EC should think about the competitiveness of European Science and SMEs with respect to Asian competitors.
- 4) The EC should not just ask for but provide coordinating and communication platforms, including activities for general networking among the partners from science, governmental organizations and the industry. On the project level the participating institutions can only do one-to-one communication, which is not efficient at all. This includes educational tasks, such as relaying information to schools.

On the last topic Mr. Carl Bautsch, a school teacher involved in the international science and education project "The Globe Program", reported intention and the significance for school and society to be involved in the scientific activities. The globe program stands for the "Global learning and observations to benefit the environment program" which is a worldwide hands-on, primary and secondary school-based science and education project. The program supports students, teachers and scientists to collaborate on inquiry-based investigations of the environment and the Earth system working in close partnership with NASA, NOAA and NSF Earth System Science Projects (ESSP's) in study and research about the dynamics of Earth's environment. The program supports cooperation with scientific institutions and industry, for instance by having scientists lecture directly to school students and by facilitating students to take part in experiments in research projects.

III. Conclusion

The result of the workshop has largely met the expectation of THOR. It was not the first time that the project and its purposes were communicated with the external audience, but it was the first time gaining feedback from different target groups and the general public.

The results from the discussion may be summarized as follows:

A direct communication of the research scientists with end-users is - on a large scale - very inefficient. Scientists are educated and paid for doing science. Information should rather be relayed through organizations or institutions like the IPCC, the EEA or the CSC, to name a few. This, of course, should not exclude direct communication between individual researchers and end-users, once a problem narrows down to a particular topic. Also the European Commission is encouraged to develop and **provide** additional communication links staffed by professional communicators who are able to translate scientific language into that of the respective end-user.

THOR will be maintaining the communication and the interactive exchange with the “end-users” and the general public for the rest of the project life time. The project will also repeat the end-user workshop after the 36th project month, probably at the end of 2011 or beginning of 2012.

Appendix I: Agenda of meeting

Appendix II: List of participants

North Atlantic Thermohaline Circulation and its Impact on Climate Change in Europe



Agenda

round-table workshop on [2010-10-01](#)

09:00 – 09:10 Welcome address

Prof. Dr. Detlef Stammer, University of Hamburg

09:10 – 09:30 THOR* briefing

Prof. Dr. Detlef Quadfasel, University of Hamburg

* THOR = ThermoHaline Overturning – at Risk?

09:30 – 12:00 The connection between science, boundary organizations and industry

Convener: Prof. Dr. Martin Visbeck, IFM-GEOMAR University of Kiel

- Science: Is the North Atlantic THC already weakening? The observational evidence (Prof. Dr. Bogi Hansen, Faroe Marine Research Institute, Faroe Islands)
- Science: Variability and Prediction of the Thermohaline Circulation and the impact on climate (Dr. Johann H. Jungclaus, Max- Planck- Institute)
- Organization: EEA's role at the boundary between climate change science and policy (Dr. Hans-Martin Füssel, European Environment Agency Denmark)

10:45 Coffee break

- Organization: Report from Climate Service Center Germany (Dr. Irene Fischer-Bruns, Climate Service Center Germany)
- Industry: Observation and measurement technology, contribution from the industry to climate research (Oliver Zenk, OPTIMARE Sensorsystem AG)
- Science and Industry: Developing sustainable long term observatories in cooperation with the industry (Prof. Dr. Svein Østerhus, Bjerknes Centre for Climate Research, University of Bergen)

12:00–12:30 Wrap up and discussion: Our Mission in North Atlantic

Convener: Prof. Dr. Martin Visbeck, IFM-GEOMAR University of Kiel

12:30–14:00 Lunch

14:00–15:30 Interactive group discussion:

Convener: Prof. Dr. Detlef Quadfasel, University of Hamburg

How shall we start an

- Effective cooperation with
- Effective communication between industry, boundary organizations and science

15:30–15:45 Coffee break

15:45–16:30 Wrap-up session (end)

WORKSHOP LOCATION

University of Hamburg
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THOR End-user Workshop 2010-10-01 | List of Confirmed Attendees

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