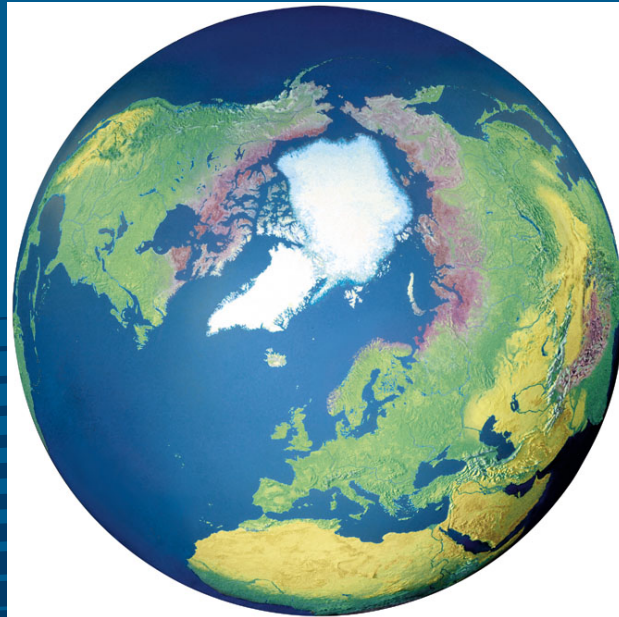


Questions on the future of the Arctic: Learning together



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Is the EU new in the Arctic ?

No, long-time engagement in:

- **Northern Dimension Policy** (now shared policy between the EU with Russia, Iceland, and Norway)
- **Barents Euro-Arctic Council (BEAC)** is framework for cross-border cooperation in the High North
- full member of **OSPAR** and **UNCLOS**
- **Significant research spending**
- **Bilateral relations with all Arctic countries**



Key EU documents on the Arctic:

Commission, Council, Parliament

October 2007

EU's Integrated Maritime Policy

to ensure coherence of individual sectoral policies on specific regions
will adopt Communication on Arctic in 2008

March 2008

**High Representative and the
European Commission**

changes in the Arctic region are altering the geo-strategic dynamics of the Arctic

October 2008

EP resolution

Environmental considerations
Energy and security policy, Arctic Treaty

20 November 2008

**Communication from the Commission
(COM (2008) 763)**

First layer on an EU Arctic Policy

Key EU documents on the Arctic:

Commission, Council, Parliament

December 2008
Council Conclusions

- Welcoming the Arctic Communication

December 2009
Council Conclusions

- Specific conclusions on the Arctic Communications welcoming gradual formulation of an EU Arctic policy

January 2011
European Parliament

- Report on sustainable EU policy for the High North

June 2011
Commission

- Progress report



FP6 project: **DAMOCLES**. Developing Arctic Modeling and Observing Capabilities for Long-term Environmental Studies

<http://www.damocles-eu.org>

- 45 institutions from 13 countries
- Cooperation agreements with USA, Canada and Russia and Belarus
- One of the largest IPY projects
- ~17 millions € (E.C. contribution)
- 2 scientific bases on ships wintering in the Arctic sea ice (Tara and Vagabond)
- major innovations in instrumentation adapted to a remote and harsh environment such as the Arctic Ocean

IPY project



<http://www.europolar.org>

EUROPOLAR ERA-NET: a consortium of 25 Ministries, Funding Agencies and National Polar RTD Authorities from 19 European countries with a combined critical mass of Polar Programmes and Infrastructures of over 500 Million Euros per annum. It has been the most significant initiative to coordinate and network European Polar RTD programmes.



European
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The landscape of European Polar Research
VOLUME 1: An assessment of current strategic management, polar programme definition and processes



Assessment of European Polar research Programme management



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The landscape of European Polar Research
VOLUME 2: European polar capacity - an overview of research infrastructures in the Arctic and Antarctic



Assessment of European Polar Capacities And Infrastructures



FP7 projects: ATP. Arctic Tipping Points



- **EC funding: €4.9 million, CP-IP, 13 partners**
- **Duration: 36 months (started 01/02/2009)**
- **Co-ordinator: University of Tromsø, Norway**
- **Major aims of of ATP are:**
 - identify elements of Arctic marine ecosystem likely to show abrupt changes in response to climate change
 - examine climate drivers inducing the regime shift for these tipping elements
 - analyse impacts of abrupt changes in Arctic ecosystems for activities of strategic importance for the European Arctic
 - examine possible alternative, post-Kyoto policies and stabilization targets to avoid tipping points.
- **International partners from Russia and Greenland**



FP7 projects: **ice2sea**.

Estimating the future contribution of continental ice to sea-level rise

- EC funding: € 9.9 million, CP-IP, 24 partners
- Duration: 51 months (started 01/03/2009)
- Co-ordinator: British Antarctic Survey Cambridge, UK
- Major activities of ice2sea are:
 - Improved understanding of key processes that control glacial systems (ice sheets and mountain glaciers)
 - New methodologies to predict global sea-level rise based on improved models
 - Updated assessments of likely contribution of the cryosphere to sea-level rise over the next 200 years
 - **A collective view of the likelihood of catastrophic sea-level rise, due collapse of either Greenland or Antarctic ice sheets**
 - A clearer view of uncertainties
- International partner from Chile



FP7 projects: **CLEAR**. Climate change, environmental contaminants and reproductive health



- **EC funding: € 2.37 million, CP, 8 partners**
- **Duration: 48 months (started 01/05/2009)**
- **Co-ordinator: Aarhus University Hospital, Denmark**
- **Major activities of CLEAR are:**
 - investigate how climate change may affect human exposure to widespread environmental contaminants and how these contaminants may in turn affect the occurrence of human reproductive disorders
 - Focus on Greenland, comparisons with Poland and Ukraine (works with mother-child cohorts established in these countries).
- **International partners from Canada, Ukraine and Greenland**



FP7 projects: ArcRisk. Arctic Health Risks: Impacts on health in the Arctic and Europe owing to climate-induced changes in contaminant cycling



- **EC funding: € 3.49 million, CP, 21 partners**
- **Duration: 48 months (started 01/06/2009)**
- **Co-ordinator: Arctic Monitoring and Assessment Programme (AMAP)**
- **International partners from Canada, Russia**
- **Major activities of ArcRisk are:**
 - How changing pathways and climatic conditions will impact on contaminant uptake and transfer within foodwebs, leading to foods consumed by humans
 - Effects of climate change on transport and distribution of environmental contaminants; how these changes may alter human exposure to contaminants; impacts on human health.



FP7 projects: THOR. Thermohaline Overturning circulation at risk?

- **EC funding: € 9.27 million, CP, 21 partners**
- **Duration: 48 months (started 01/12/2008)**
- **Co-ordinator: University of Hamburg, Germany**
- **Major activities of THOR are:**
 - **establish an operational system that monitors and forecasts development of the North Atlantic THC on decadal time scales and assess its stability and risk of a breakdown in a changing climate.**
 - **to forecast the development of the Atlantic THC with emphasis on the European/North Atlantic region and its variability until 2025**



FP7 Capacities projects: ERICON-AB – The European Polar Research Icebreaker Consortium Aurora Borealis - Preparatory Phase

AURORA BOREALIS is technically unique. It is designed as a combination of a heavy icebreaker, a deep-sea drilling ship and a multi-purpose research vessel. The operational portfolio comprises the polar regions during all seasons of the year as well as the open oceans. To date, no comparable vessel for year-round polar expeditions is available worldwide, neither in commercial shipping and the offshore industry, nor for scientific operations.

International partner from Russia

EC funding: € 9.27 million



FP7 Capacities projects: SIOS-PP. Svalbard Integrated Arctic Earth Observing System – Preparatory Phase



International partners from Russia, Korea, Japan and China

FP7 Capacities projects: INTERACT. International Network for Terrestrial Research and Monitoring in the Arctic



INTERACT aim at integrating the key research infrastructures for polar research, interdisciplinary observation and monitoring stations for atmospheric, terrestrial and/or marine studies.

International partners from USA, Canada and Greenland

EC funding: € 4 million



EU Arctic Footprint and Policy Assessment Study

results at <http://arctic-footprint.eu>



Call FP7-OCEAN-2010

OCEAN.2010-1 Quantification of climate change impacts on economic sectors in the Arctic

Large scale integrating project

Budget: 11 M€

Project under negotiation: **ACCESS** Arctic Climate Change, Economy and Society

Expected Impacts:

- Providing a foundation for the sustainable development of human activities, with a minimal impact on the sensitive Arctic environment
- Quantifying climate change impacts at macro and meso-economic levels and in key economic sectors in the Arctic, (maritime transport, fisheries, tourism and resource extraction)
- Understanding the economic and social impact of climate changes in the Arctic region, and assess the risks and opportunities in relation to climate change



ENV.2011.1.1.3-1 Vulnerability of Arctic permafrost to climate change and implications for global GHG emissions and future climate

Funding scheme: Collaborative Project (large scale integrating project)

Expected Impact: Strengthen monitoring and modelling efforts, reduction of uncertainties associated to the permafrost dynamics, improvement of future climate projections and assessment of stabilisation scenarios



Fisheries and aquaculture in the Arctic



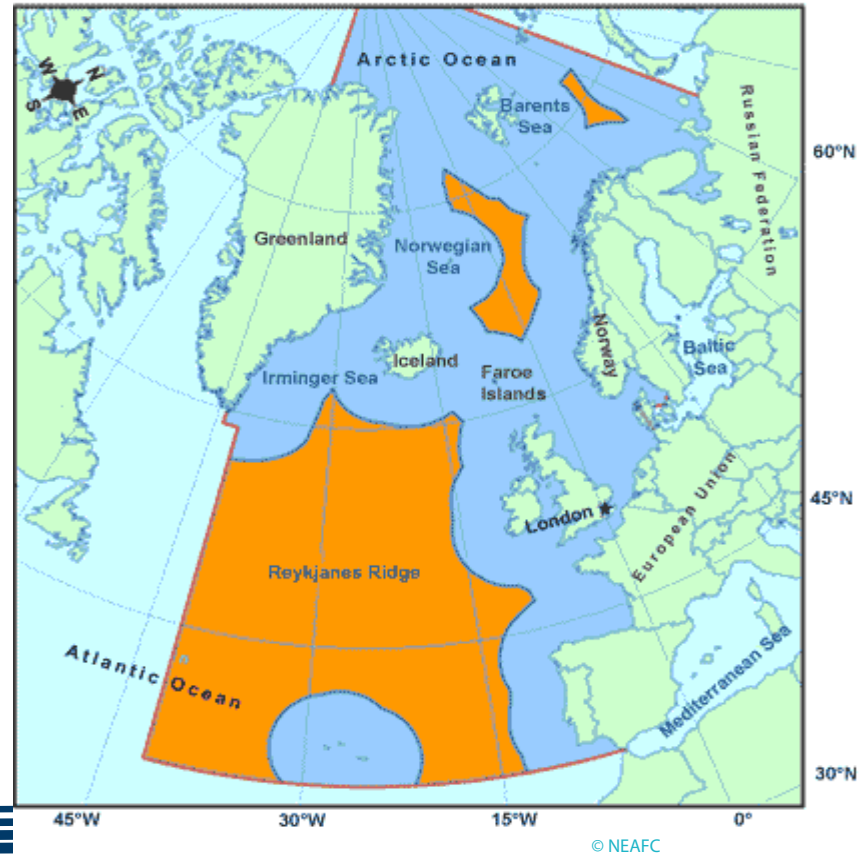
- With warming water fish stocks are moving north
- Changed migration routes
- Increased access of fishing fleets with reduced sea ice cover
- Sound scientific data on changing patterns is needed





Options for Arctic fisheries management need to be assessed

- Extension of existing Regional Fisheries Organizations (NEAFC, NAFO)
- new Arctic RFMO
- in any case: actions against IUU



not all parts and species of the Arctic are covered by regional fisheries management organization (RFMO)





http://ec.europa.eu/maritimeaffairs/arctic_overview_en.html



<http://ec.europa.eu/maritimeaffairs>

