Press release 6 April 2006

New DAMOCLES web site launched

DAMOCLES (Developing Arctic Modelling and Observing Capabilities for Longterm Environmental Studies) is one of the largest EU projects ever, aiming at reducing the uncertainties in our understanding of climate change in the Arctic and its impacts.

The new DAMOCLES web site is available at http://www.damocles-eu.org

DAMOCLES is specifically concerned with the potential for a significantly reduced sea ice cover, and the impacts this might have on the environment and on human activities, both regionally and globally.

Over the last 2-3 decades the Arctic has warmed more than other regions of the world, and the sea-ice cover has decreased significantly in the same period. A first-order scientific and societal question is whether the Arctic perennial sea-ice will disappear in a few decades (or even faster, as predicted by some state-of-art climate models). DAMOCLES is specifically concerned with the potential for a significantly reduced sea ice cover, and the impacts this might have on the environment and on human activities, both regionally and globally. The changing Arctic climate is having and will have a wide range of impacts, also on human activities, such as fisheries, shipping, offshore oil and gas production at regional, national and local levels. The Arctic Climate Impact Assessment (ACIA) has recommended three priority areas for future studies in the Arctic: regional impacts, socioeconomic impacts and vulnerabilities to the consequences of changes in climate and sea ice conditions. DAMOCLES aims to analyse the impacts on, adaptation to, and vulnerability of, human activities in the context of physical changes in for instance sea ice and ocean and air temperature. Through its regional, multidisciplinary

approach, DAMOCLES will provide a broad perspective for decision-makers and stakeholders to consider future policies for adaptation.

Adaptation and mitigation requires information, preferably early information. The coordinated analysis of observations and model simulations obtained in DAMOCLES aims to facilitate the design of a future cost-effective and sustainable Arctic Observing and Forecasting System.

DAMOCLES will provide the largest ever effort to assemble simultaneous observations of the full Arctic atmosphere-ice-ocean system. The observational time period coincides with the International Polar Year, providing yet additional information about the system at that time. At the same time, DAMOCLES will be a monumental contribution, from the European community, to the International Polar Year. The dataset will be used to increase our understanding of the processes and mechanisms underpinning the Arctic climate system. The dataset will also be used to validate and improve the suite of numerical models used in DAMOCLES; to merge (assimilate) in numerical models for quantitative estimates of circulation; and to initialize ensemble forecasts of the future state of the Arctic. The Arctic is a harsh environment, and the ice cover prohibits the use of many conventional instruments, data transfer methods and calibration schemes. DAMOCLES will develop new technology to obtain observations of key variables in the atmosphere, the sea ice and in the ocean.

DAMOCLES brings together most European experts on polar research and a broad range of environmental modellers through an integrated research effort. The effort complements other major research programmes on climate variability and predictability and is linked to these. At a time when the International Polar Year (IPY) will focus on the science of the polar regions and on the human dimension of polar change, DAMOCLES will provide a contribution to reflect both the skills of European Sciences and the importance to European interests. DAMOCLES represents the integrated efforts of 45 European research institutions including 8 SMEs distributed among 12 European countries including Russia, and coordinated with the USA, Canada and Japan.

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