GMES DOWNSTREAM SERVICES

SIDARUS

Sea Ice Downstream Services for Arctic and Antarctic Users and Stakeholders

EYES ON THE ARTICS

The Arctic regions are more affected by climate change than other parts of the globe. Temperature is increasing, sea ice is retreating during the summer and land ice decreases.

SIDARUS develops new ice services for climate research, marine safety and environmental monitoring.

Growing human activities combined with climate change have significant impact on the vulnerable environment both in the Arctic and Antarctic. To ensure sustainable development in these regions it is necessary to improve the monitoring and forecasting systems for the ice-covered seas. On this background SIDARUS develops new services for climate research, marine safety and environmental monitoring.

The services will focus on improved sea ice and iceberg mapping and forecasting as well as provision of sea ice thickness data. The melting of land ice combined with warming of the oceans lead to increased sea levels, which can have severe long term effects on populations in coastal areas.

Climate change in polar regions can also bring new opportunities such as new sailing sea routes in the Arctic and improved access to natural resources.

Increased ship traffic in polar regions will require higher standards of marine safety. The risk of environmental damage caused by an oil spill from a tanker, platform or pipeline should be minimized.

SIDARUS will also provide a method to monitor how marine mammals - whales and seals - cope with the new environmental challenges, by combining ARGOS satellite tracking with detailed sea ice images from satellites.

Bringing together some of the leading organisations in Europe in this challenging field, SIDARUS proposes an innovative and sustainable ice service which will enhance our understanding of some of the most extreme areas of the world we live in.

STEIN **SANDVEN**
IS PROJECT COORDINATOR

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SIDARUS seeks to establish a set of sea ice services for climate research, marine safety and environmental monitoring in the Arctic and Antarctic regions.

QUESTIONS & ANSWERS

What do you want to achieve with this project?

SIDARUS will implement a set of sea ice downstream services in the area of climate research, marine safety and environmental monitoring. SIDARUS will extend the present GMES services with new satellite-derived sea ice products, ice forecasting from regional models and validation of sea ice products using non-satellite data.

Why is this project important for Europe?

The demand for improved sea ice information in the Arctic and Antarctic by many user groups is growing as a result of climate change and its impact on the environment and human activities. Europe will contribute to the global observing system (GMES, GEO) using European satellites.

How does your work benefit European citizens?

European operational agencies, companies and scientists working with sea ice monitoring and forecasting, sea ice operations and development of Arctic technology will benefit from the services because new, high-resolution data on sea ice and icebergs will be provided.

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LIST OF PARTNERS

- Nansen Environmental and Remote Sensing Center (NERSC), Norway
- Alfred Wegener Institute for Polar and Marine Research (AWI), Germany
- Collecte Localisation Satellites SA (CLS), France
- University of Bremen, Institute of Environmental Physics UB), Germany
- University of Cambridge, Department of Applied Mathematics and Theoretical Physics (UCAM), United Kingdom
- Norwegian Meteorological Institute (met.no), Norway
- Nansen International Environmental and Remote Sensing Center (NIERSC), Russia
- B.I. Stepanov Institute of Physics (IP-NASB), Belarus

COORDINATOR

Nansen Environmental and Remote Sensing Center (NERSC), Norway

CONTACT

Prof. Stein SANDVEN
Tel: +4755205800
E-mail: stein.sandven@nersc.no

PROJECT INFORMATION

Sea Ice Downstream Services for Arctic and Antarctic Users and Stakeholders (SIDARUS)
Starting date: 01/01/2011
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