

EuroCryoCli- A European contribution to a global cryospheric climate monitoring system

Description

This project is bringing current Earth observation methodology and technology for remote sensing of the cryosphere from algorithms and prototype systems into operational services in mandated organisations for a very valuable contribution to long-term systematic climate monitoring of the cryosphere. The system and services proposed will be designed to be integrated into the planned international system of systems for global monitoring – the part of the system aimed for climate monitoring.

Based on scientific and technological results from several past and current projects, it is proposed to develop a network-based system building on standards and communication languages identified by GMES and GEO for the global system of systems. The network of processing chains and databases (the nodes) will be hosted by mandated organisations in order to ensure long-term and stable operation. The development of this system will draw on the pool of institutions that has developed the current knowledge and technology base for remote sensing of the cryosphere and data processing and management.

This work leading to the Norwegian part of the proposed European network includes nodes for:

1. Global sea ice monitoring, hosted by The Norwegian Meteorological Institute and EUMETSAT Ocean and Sea Ice SAF, providing products on sea ice concentration and sea ice edge.
2. Global snow monitoring, hosted by The Norwegian Meteorological Institute, providing snow cover area, snow depth and snow water equivalent.
3. Regional glacier monitoring for mainland Norway, hosted by The Norwegian Water Resources and Energy Directorate (NVE), for glacier zones and glacier time-lapse photography.
4. Regional glacier monitoring for Svalbard, hosted by The Norwegian Polar Institute (NPI), for glacier surface type and glacier balance area (leading to an estimate of the mass balance).

Added value

This contribution to global climate monitoring needs to follow GCOS' principles as well as the standards and system architecture currently being developed and specified by GEO.

The project will make thematic cryosphere information available in a GEO context, thus making it much simpler for users to access this type of information.

Relevance to GEO

Climate monitoring is currently being developed and coordinated within initiatives like GCOS, GMES, GEO and CEOS. This project was initiated as part of the CEOS response to the GCOS report on *Systematic observation requirements for satellite-based products for climate*.

In order to make the project results becoming a contribution to the system of systems for global climate monitoring being developed, it is crucial to coordinate this project with these initiatives. Special links will therefore be established to GCOS, GMES, GEO, CEOS and other relevant initiatives and organisations. This task will also cover coordination and possible contributions from other projects where the project partners are not already involved.

The project will definitely contribute to the SBA on Climate but will also have an impact on Water and Energy as well.

Participants

The project is a cooperation between Norway and European Space Agency. It will be implemented by the Norwegian Meteorological Institute, the Norwegian Water Resources and Energy Directorate, the Norwegian Polar Institute and the Norwegian Computing Center.

Current Status and Next Steps

The project is approved and will start in September 2007. It is planned for a four years duration with the sea ice products being stipulated to be operational after two years.