Sub-task Number: AR-09-03b
Sub-task Title: Legacy of the International Polar Year 2007-08

Overarching Task*:* Advocating for Sustained Observing Systems
Area: ARCHITECTURE
Related Community of Practice: Cryosphere
Relevant Committee*: ADC*
Related Targets: *(to be included in 2009)*

Sub-task Definition *(as given in the 2009-2011 Work Plan):*

Coordinate with the projects involved in the International Polar Year (IPY) to enhance the production and utilization of Earth observations in the realm of cryosphere. Advocate for an appropriate legacy for IPY projects and the continuation of relevant efforts beyond the duration of the IPY.

Leads *(GEO Member or PO, Entity carrying out the work, Contact: e-mail)*:
WCRP, *Point of Contact:* Vladimir Ryabinin, Joint Planning Staff, vryabinin@wmo.int

Motivation/Background:

As is shown by the IGOS Theme on Cryosphere, the cryosphere is a highly important domain of the Earth System. Cryospheric observations and related information product can directly contribute to all societal benefit areas identified by GEOSS. With scientific input from WCRP and Partners, WMO will make an effort to implement a WMO Global Cryosphere Watch (GCW), which will help to meet most of data and information requirements related to the cryosphere, to a significant extent based on the activities initiated during the IPY.

Outputs: *agreement on the higher priority cryospheric data and information products forming the core of a GCW, commitment of several partners to make observations and synthesise data products, a document outlining the scope and plan of creation of the GCW.*

Planned: Document for the WMO Executive Council 2009 outlining the concept of GCW.

Produced (current status): Scoping document for WMO CGW has been produced and presented to the 61st Session of WMO Executive Council in June 2009. The proposals contained in the report were reviewed and approved by the Council. The Council resolved the next steps for developing the GCW, as follows: the conduct of pilot or demonstration projects to demonstrate the viability of the GCW; the initiation of a network of reference sites in cold climate regions operating a sustained, standard, cryosphere observing programme; the development of a mechanism to implement the Integrated Global Observing Strategy (IGOS) Cryosphere Theme recommendations within the GCW framework; identification of cryospheric observing data sources and systems to be part of GCW; establishment of a trial portal to access data and information, and development of resource requirements to support the ongoing operation of a GCW nationally, regionally and at the WMO Secretariat levels. The Council also requested that GCW engage pilot and demonstration projects in different regions of the world, including tropical regions with glaciers.

Activities *(operations or work processes through which resources are mobilized to produce specific outputs; outlined in the form of milestones including timelines)*

Planned: WMO-GEO-WCRP Workshop on IPY Legacy for GCW and GEOSS, 2nd quarter of 2009.

Progress (current status): The Workshop has been postponed. Resources are sought for implementation of several recommendations in the IGOS Theme on Cryosphere. The workshop scope, location and timing are being reviewed to achieve maximum benefit for the IPY projects that have the potential to contribute to the emerging International Polar Decade.

***Resources** (indication of resources – e.g. financial, human – contributed by GEO Members or Participating Organizations to produce outputs)*

Commitments for financial support for the above mentioned IPY Legacy workshop available from WCRP and are sought form GEO Secretariat and WMO.

Architecture and Data Component

1) Please briefly describe any task-related Earth observation resources (data set, system, website/portal) and any related Web Service interfaces that are contributed to GEOSS. State whether these items are or will be registered with the GEOSS Component and Service Registry for access via the GEO Web Portals, and whether any associated standards or other interoperability arrangements will be registered in the Standards and Interoperability Registry.

2) Please also describe what data and information your activity/system needs that you would request to be accessible through the GEOSS Common Infrastructure.

Capacity Building Component

Many activities contribute to the development of the Capacity Building for GCW. They include national and regional activities, associated with the WCRP Climate and Cryosphere Project (especially in Asia) that contribute to the GCW. Several ESA projects, such as GlobSnow, GlobGlacier, GlobIce provide key input. There are prospects for a study of remote sensing of permafrost. Other partners and agencies are being contacted to seek for their possible commitments and interest.

User Engagement Component

User community associated with the IGOS Theme on Cryosphere will form the core of the community for this Task.

Science and Technology (S&T) Component

1) Please briefly describe the elements of scientific research or technological development contained in this Task.

2) In relation to the S&T component(s) of this task, please describe gaps, priorities, continuity needs, barriers, scientific expertise and additional resource needs (this information will be used for developing a gaps and needs assessment in Task ST-09-01)

Members and POs' Contributions to Outputs and Activities above:

(Input is optional. This section gives the chance to Members and POs to provide more details (3-5 lines) on their individual activities, making a clear connection with the Outputs and Activities outlined above).

Germany

DLR IMF-AP: IPY Coordinator of DLR.

Japan
CEOS/JAXA: JAXA, to maintain to provide the outcomes of IPY activities.
JAMSTEC will implement:

1) Multi-disciplinary observation cruises for the Arctic Ocean, to quantify on-going changes in ocean, atmosphere, and ecosystem;
2) Ice-drifting buoy observations to detect on-going environmental change of the Arctic Ocean and to clarify the important processes among atmosphere, sea ice, and ocean, as a part of the International Arctic Buoy Programme;
3) Maintenance and development hydrological/cryospheric superstations and distributed stations for snow/ice traverse measurements in Northern Eurasia.

Norway
Norwegian contribution to the International Polar Year 2007-08

USA
NOAA: Coordinate with the International Polar Year (IPY) to enhance the utilization of Earth observations in all appropriate realms (including, but not limited to, sea and land ice, permafrost, coastal erosion, physical and chemical polar ocean changes, marine and terrestrial ecosystem change, biodiversity monitoring and impacts of increased resource exploitation and marine transport).

CEOS
CSA: Coordination of SAR Acquisitions to support science beyond IPY.

GCOS
Ensure that IPY legacy meets the needs for climate observations.

EC
EU-project HYPOX: coordinating with the International Polar Year (IPY) for using and supplying data on physical and chemical polar ocean changes and biodiversity monitoring at Hausgarten observatory (Fram Strait)

Participation *(Table to be filled in 2009): TBD*

Type	Member or PO	Representing	Contact Name	EmailAddress
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