The geographic scope of the Cryosphere Working Group shall be those areas of the Arctic and contiguous areas of the sub-Arctic where one or more element of the cryosphere plays an important role in surface-climate interactions and/or the freshwater budget. It will include the Arctic Ocean and surrounding seas, Alaska, Canada’s Northern Territories, Greenland, Iceland, Svalbard, and the Russian Arctic archipelagos, and parts of Canada, Scandanvia, and Northern Russia that lie polward of the southern limit discontinuous permafrost.

The scientific scope of the Cryosphere Working Group shall include any scientific or engineering research relating to the Arctic and sub-Arctic cryosphere, including its interactions with climate, oceans, and biosphere.
Geographic Scope

- **glaciers and permanent land ice**
- **continuous permafrost (90-100%)**
- **discontinuous permafrost (50-90%)**
- **sporadic permafrost (10-50%)**
- **isolated permafrost (0-10%)**
- **snow extent, February (1967-2005)**
- **land**
- **sea ice extent, February (1979-2007)**

NSIDC Atlas of the Cryosphere
http://nsidc.org/data/atlas/
IASC

CRYOSPHERE WORKING GROUP

Scientific Foci

Sea-ice boundary layer dynamics, particularly as they relate to biogeochemical exchanges and polar amplification.

Permafrost, including support of activities being undertaken by the International Permafrost Association.

Tidewater glacier dynamics and response to climate change, with a focus on methods for studying these issues. This activity is intended to have a large early career scientist and training component.
Activities

Promote an effort to define user requirements for the Global Terrestrial Network on Permafrost (GTN-P)

*In collaboration with the IPA.*

**OUTCOMES** International standardization of permafrost measurement methods.

Second meeting of the CWG

21 Participants
Utrecht, The Netherlands
October 2011

**OUTCOMES** Defined next activities.

Glacier and Ice Cap (GIC) Working Group

**OUTCOMES** Improve the global inventory of glaciers and ice caps, compiling a current assessment of glacier and ice cap loss rates, and improving existing loss rate projection methods.

Workshop
50 Participants
Potsdam, Germany
November 2011

Workshop
25 Participants
Boulder, CO, USA
June 2011
Upcoming

Long-term effort on tidewater glaciers

Teaching and understanding research methods including terrestrial photogrammetry as applied to the dynamics and change of tidewater glaciers.

Meeting January 2012.
Training in Svalbard on Polish research vessel, September 2012.

http://www.iasc.info/index.php/home/groups/working-groups/cryosphere
Collaborations/Cross-Cutting

Ice at the Interface: Atmospheric-Ice-Ocean Boundary Layer Processes and their Role in Polar Change

Planned for 25-27 June 2012, Boulder
Focus on bio-geo-chemical processes

This just in: Support committed from WCRP CliC!

Polar Predictability

Initial workshop, Oct. 2010, Bergen, Norway
Mini workshop, Oct. 2011, Denver, CO, USA
Also interest from WCRP CliC: Sea Ice Workshop, 31 Oct. – 1 Nov., 2011, Boulder, CO
NOAA Sea Ice Forecasting Workshop, 15-17 Sep., 2011, Anchorage, AK
Collaborations/Cross-Cutting

Atmospheric Investigation on a Drifting observatory over the Arctic Ocean (AIDA)

First workshop in Sep. 2011, Potsdam, Germany
Mini-workshop in Oct. 2011, Denver, CO, USA
Also discussed at CliC Sea Ice Workshop, Nov. 2011, Boulder, CO, USA

Global Cryosphere Watch

IASC CWG attendees: Jan Ove Hagen (Norway), Hans Hubberton (Germany), Walt Meier (USA)

• Central portal for data access
• Authoritative source for cryospheric data and services
• Build on existing infrastructure, complement ongoing efforts
• IASC could provide resource for consulting, referral of experts, etc.
Thank You