

CliC Progress and Plans

Update to WCRP JSC 34

Jenny Baeseman, Director
Greg Flato, Chair



Organizational Status

- New Director and Office Assistant
 - Institutional memory and community challenges
- 5 year agreement with NPI for hosting
- Agreements / Sponsorship Changes
- New Chair (Greg Flato, Canada) and SSG members
- New Website / Resources / Mailing List / Newsletter
- New Foci and Direction
 - ... New Energy ?!?



CliC Sea Ice Working Groups

- Antarctic Sea Ice Processes & Climate Group (ASPeCt), co-sponsored by SCAR
 - Standardized observation collection data procedure and archive
 - Glossary & Image Library
 - Arctic Group planning similar process
- Short note: Observational needs for sea ice models
- Sea Ice Researcher Survey
- Project catalog and data collection information

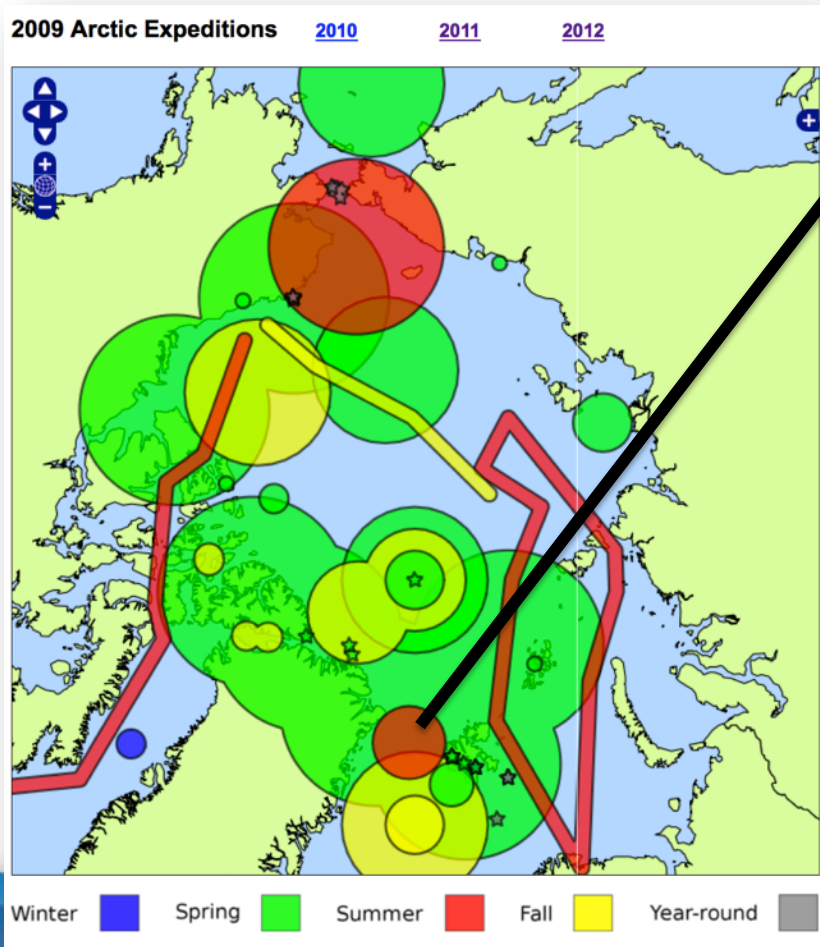


www.climate-cryosphere.org/index.php/meetings/seaice2013



Iceplan.org

Arctic sea-ice measurement campaign coordination



Project Title	Season
Pan-Arctic Measurements and Arctic Regional climate model simulations (PAM-ARCMIP)	Spring
Characterization of Arctic Sea Ice Experiment 2009/ CASIE09	Summer

WGS84: 80.036150°, -1.114182°
UPS North: 1978437.371094m, 891301.388281m

- Title
- Dates/Season
- Contact Person
- Website
- Platform
- Measurements
- Collaborators
- Status
- Description





ICE WATCH

Home of the Arctic Shipborne Sea Ice Standardization Tool (ASSIST) Data Network

- *Developed by Jenny Hutchings and Alice Orlich – CliC Arctic Sea Ice Working Group*
- Observer name
- Observer notes
- Photos
- Vessel name
- Date/Time (GMT)
- Latitude and longitude
- Total concentration of ice
- Weather conditions
- Primary, secondary, and tertiary ice values for:
 - Concentration type, Floe size, Ice thickness, Melt pond concentration, depth, freeboard, pattern, surface type, Presence of algae and sediment, Snow depth and type, Surface topography



<http://www.iarc.uaf.edu/en/icewatch/>



CLIC SSG 9



New Targeted Activities

- West Antarctic glacier/ocean modeling
- Understanding linkages between cryosphere elements
- Coordination of cryosphere observations for model evaluation and prediction initialization
- Arctic freshwater system synthesis
- Ice Sheet Model Intercomparisons
- Arctic climate scenarios information archive and delivery
- Permafrost retrospective simulation, merged with remote sensing
- Water availability from mountain glaciers; response to climate change
- New Fora:
 - Ice Sheet Modeling, Sea Ice and Climate, Permafrost Modeling
- WCRP Cryosphere in a Changing Climate Grand Challenge



West Antarctic Glacier-Ocean Modelling

- David Holland, NYU (Lead)

- This group aims to create state-of-the-art **regional-scale simulations and physically-based estimates of sea-level change coming from WAIS** over the present century and beyond
- Produce a **climatological, annually-repeating simulation, forced by a 'common-year' forcing data** set with atmospheric, oceanic, glaciological, and bathymetric inputs for initial and boundary conditions
- Followed by **model intercomparisons** to address what is the response of WAIS to IPCC scenario climate forcing
- ~5-year project, resulting in multiple papers and a contribution to the next IPCC and a CliC contribution to the Regional Sea Level Grand Challenge



Arctic Freshwater Synthesis

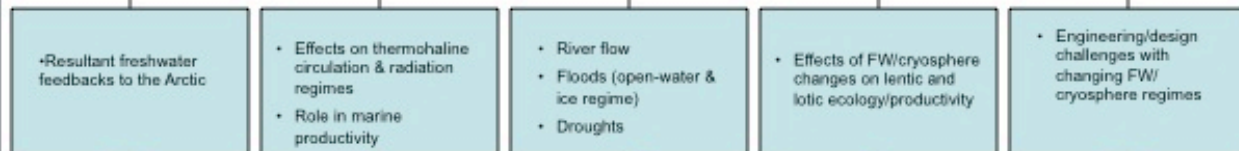
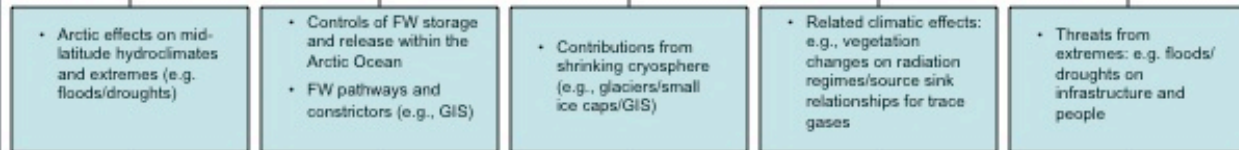
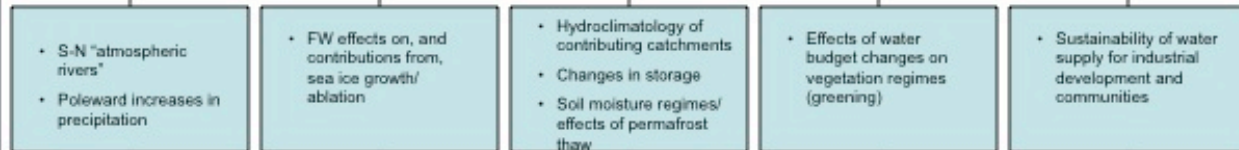
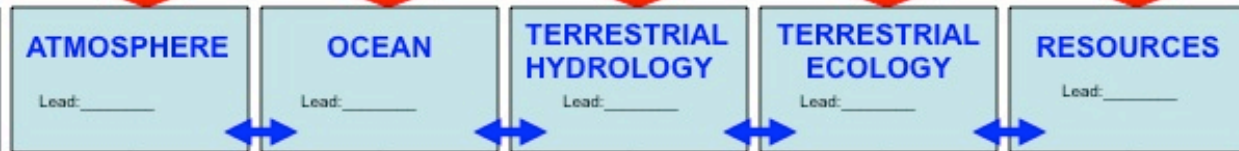
- Terry Prowse, Arvid Bring, Johanna Mård Karlsson



ARCTIC FRESHWATER SYNTHESIS

Components & Key Issues

INFORMATION FROM HISTORICAL TRENDS AND LITERATURE



Lead: _____ INFORMATION FROM CLIMATE MODELS (Historical & Future)

Scientific Steering Group Members

• WCRP-CIIC

• IASC

• AMAP

• Arctic-Hydra



Ice Sheet Mass Balance and Sea Level Rise (ISMASS)



- Francisco Navarro, Edward Hanna, Frank Pattyn

- interactions between Ice Sheets and the Climate System: process studies, sustained and targeted campaign-based observations, and model experiments.
- evaluation and promotion of scientific understanding of ice sheet models: contributions to global sea level rise

<http://www.climate-cryosphere.org/en/events/2012/ISMASS/Results.html>





Cryosphere in a Changing Climate

16 - 18 October 2013, Tromsø, Norway



- Predictions and Projections of Polar Climate
 - Polar Climate Predictability Initiative (SPARC)
- Cryosphere Model Biases and Shortcoming
- Ice Sheet Models, dynamics and sea level rise
- Permafrost and Carbon for Earth System Models

<http://www.climate-cryosphere.org/index.php/meetings/wcrp-cryo-gc-2013>



www.climate-cryosphere.org



The Research Council
of Norway

2012-2013 Meetings and Events

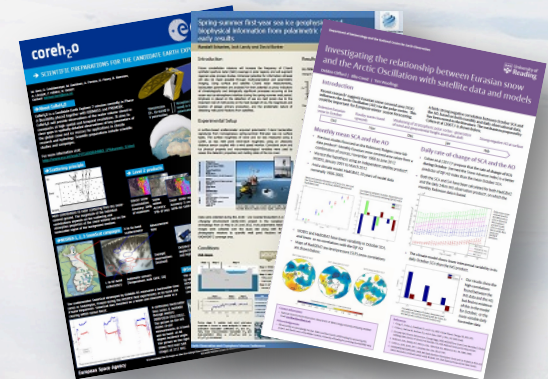
- Ice at the Interface: Atmosphere-Ice-Ocean Boundary Layer Processes and Their Role in Polar Change – June 2012
- Ice Sheet Mass Balance Workshop – July 2012
- Tidewater Glacier Workshop – August 2012
- ESA-CliC-EGU Earth Observations and Cryosphere Science – Nov 2012
- Norway–China: Research collaboration in sea ice, snow and climate science – Jan 2013
- 9th Session of the CliC Scientific Steering Group – Feb 2013
- Norwegian Sea-Ice Networking Workshop – Feb 2013
- 2nd International Workshop on Passive Microwave Sea Ice Concentration – Feb 2013
- 8th Session of the CLIVAR/CliC/SCAR Southern Ocean Panel – Feb 2013
- Education Meets Science: Bringing Polar Research into Classrooms – Mar 2013
- Radiosonde Observations for Arctic Data Assimilation Study Workshop – Apr 2013
- Arctic Freshwater System Synthesis Meeting (Apr) and Workshop (~Oct/Nov 2013)
- Vulnerability of Permafrost Carbon Network Meeting – May 2013





- Lakes, rivers, hydrology and permafrost
- Snow, snow albedo and snow water equivalent
- Reducing uncertainties in mass balance estimates
- Ice Sheet Dynamics
- Ice Shelves
- Ice-Ocean-Atmosphere Interactions
- Glaciers and Ice Caps
- Sea Ice

- ~200 scientists from 30 countries
- Report to ESA on scientific needs
- Special Issue of The Cryosphere
- Poster Archive



2013 Upcoming Meetings

- Antarctic Ice Rises Workshop
- WCRP Cryosphere in a Changing Climate Grand Challenge Workshop
- Arctic Freshwater Assessment Workshop
- Estimating rates and sources of sea-level change during past warm periods (a PALSEA2 workshop)
- Northern Hemisphere Polar Jet Stream and Links with Arctic Climate Change
- Arctic CORDEX Workshop
- ESA DUE Permafrost Workshop
- Revision/update of CliC Implementation Plan Meeting

Antarctic Ice Rises 2013



2014 Potential Meetings

- Inter-comparison project of Thermo-Hydraulic codes for cold regions hydrology
- THAW 2014: Freshwater ecosystems in changing permafrost landscapes
- IGS Sea ice in a Changing Environment
- Permafrost Young Researches Workshop
- Ice Sheet System Model Training Workshop / Intercomparison Workshop
- Coordination of cryosphere observations for model evaluation and prediction initialization
- Antarctic ice-shelf and ocean coupled modeling
- Arctic climate scenarios information archive and delivery
- Permafrost retrospective simulation, merged with remote sensing data
- SSG 10 - Svalbard?



Early Career Researcher Support

- Travel funding
- Workshop planning
- Co-leading initiatives and activities
- Databases and catalogs
- FrostBytes and videos



New CliC Resources

- Cryosphere in the Media/News
- Recent Cryosphere Literature Publications
- Community Calendar and Planning Resource
- Cryosphere Community News
- Polar and Cryosphere Job Opportunities
- Videos, Photos, Reports and Other Useful Stuff
- Cryosphere Specialist Directory
- *Lead WCRP Communications improvements*
- *WCRP Travel funding procedure*



Coming up...

- Project organizational development plans
 - Develop operating procedures and branding
 - Review current working groups / panels
 - Better connections to WCRP Core Projects
 - Cryosphere Thesis Database
 - Journal Abstract Podcast Series
 - Webinars for Science Communicators
 - Outreach and Capacity Development Committee
 - Cryosphere Projects Catalogue
 - 'Revision' of CliC Implementation Plan
- ... hopefully increase staff / institutional memory



www.climate-cryosphere.org

Climate and Cryosphere

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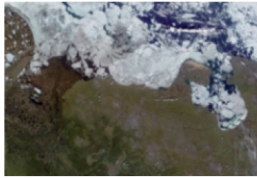
cliC **Climate and Cryosphere**
Understanding the changing cryosphere and its climate connections


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What is the Cryosphere?


What is CliC?


What can CliC do for You? NEW


Get Involved!


Latest CliC News

- [Antarctic Ice Rises Workshop Registration Open](#)
- [Sea Ice Researcher Input needed](#)
- [CliC's Ice and Climate Newsletter No. 17 Available](#)
- [CliC, IASC and SCAR continue cooperation for the next 5 years](#)
- [CliC Participation in CLIVAR Steering Committee Meeting](#)
- [Update from the WCRP Data Advisory Council meeting](#)
- [Call for Feedback for SOOS Ice Shelf Theme Workplan](#)

Upcoming CliC Events

- 5** [CliC Sea Ice Modeling and Observation Workshop](#)
- 26** [International Workshop on Antarctic Ice Rises](#)
- 16** [WCRP Cryosphere in a Changing Climate](#)
- 21** [PALSEA2 2013 Workshop: Estimating rates and sources of sea-level change during past warm periods](#)
- 4** [INTERNATIONAL CONFERENCE ON REGIONAL CLIMATE](#)

