



# Summary of Ice and Snow Breakout Sessions

Jeff Key, Walt Meier, Leah Braithwaite, Anne Walker  
and the greatest cryosphere minds in North America

# Participants

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# Current Collaborative Activities

## Sea ice

- North American Ice Service - harmonized sea ice charting and databases, coordinated support for vessels, SAR data sharing. A common production system is planned
- International Arctic Buoy Program (IABP)
- International Ice Charting Working Group (IICWG)

## Snow Cover

- ...

## Glaciers

- ...

# Recommendations

## Sea ice

- ICESat-1 may not last through 2011. ICESat-2 won't launch until 2015. Don't let this gap get bigger!
- Collaborate on a non-commercial, RADARSAT Constellation. A data sharing agreement for RADARSAT-2 is critical.
- Satellite product needs: Snow depth on ice, thickness, melt onset and duration, albedo, melt ponds
- Need to integrate the NWS Alaska ice desk into the NAIS
- Ice forecasting: need to forecast faster, better (more sophisticated statistical and modeling techniques)
- Encourage industry to contribute to the data network (oil platforms, docs, ships)
- Key gaps: multiple, inconsistent products (e.g., sea ice concentration); error estimates; data formats and projections; metadata standards; integration of disparate data sets (time and space scales); recovery of historical data for tracking long-term change; long-term archive (AON, CADIS, IPYDIS)

## Recommendations, cont.

### Snow Cover

- There is no central point of contact for snow as there is for ice services.
- US and Canada can work together on the Integrated Water Resources Science and Services initiative for operational water forecasting, CoRe-H2O, and the Cold Land Processes Experiment (CLPX).
- Conduct joint field experiments to support testing, development, and validation of new satellite capabilities.
- Extend NOHRSC National Snow Analyses into Canada?

### Solid Precipitation

- Bias corrections for Canadian and US measurements (and other countries) should be explored.
- Consider including snow depth measurements at more sites.

### Glaciers

- ...

## Recommendations, cont.

### Other

- A coordinated, cross-border, cross-disciplinary, program for the marine and terrestrial cryosphere is needed.
- Canada needs a snow data assimilation system.
- The operational community needs to be involved in establishing requirements along with the science community. Need to improve the transition of science to operational observations.
- WMO Global Cryosphere Watch (GCW): Establish cryosphere reference sites/supersites, “contribute” in situ and satellite measurement networks, involve ice service/center; establish observation standards
- US should be involved in the further development of the Polar Communication and Weather (PCW) satellite mission, e.g., international science team, ground segment.
- High Arctic Research Station –
- Need better weather observations and forecasting
- Improve ocean observations