

Closing the Water Budget during the Cold Season

Presented by Don Cline



Summary of the Session: Closing the Water Budget during the Cold Season

- Solid precipitation is, arguably, the most uncertain component of the cold season water budget. An important step to better solid precipitation measurement is to add wind measurements (speed and direction) to US gauge stations; better shielding is also essential.
 - An assessment should be made of the existing observational networks in terms of the completeness of measurements and their spatial distribution.
- Snowfall and snow accumulation: Extend the NOAA NOHRSC National Snow Analyses into Canada, to the extent given data limitations permit. Canada should help marshal available snow observations for assimilation.
 - Collaborate to incorporate EC satellite-derived SWE into the NOHRSC snow analysis.
- Joint Field Experiment: Implement a bilateral regional demonstration (e.g. field experiments) of an integration testbed. Focus should be on a robust set of measurements, possibly new types of observations focused on cold season water budgets. Potential areas: upper Great Lakes or the Northern US Rocky Mountains/Southern Canadian Rockies. This should serve as a testbed for model improvement, upscaling, and error characterization of satellite and in situ measurements.
- What we didn't get to: permafrost, sea ice, glaciers and ice caps