

August Questions for the High Latitude Surface Fluxes Working Group

Focus: Radiative Fluxes

1) What (if anything) makes radiative fluxes at high latitudes different from radiative fluxes in the tropics or mid latitudes?

- A) From an observational perspective
 - i) Lack of sufficient ground truth
 - ii) Quality of ground observations
 - iii) Cloud detection over bright surfaces
 - iv) Low sun angles
 - v) Limitation of observations from geostationary satellites that represent diurnal cycle
 - vi) Less accurate auxiliary information
- B) From a modeling perspective

2) Are all flux parameterization similar in their estimates of fluxes? (No)

- A) Why not?
 - i) Basic methodology
 - ii) Radiative transfer scheme
 - iii) Cloud parameterization
 - iv) Other issues
- B) What additional physical processes do we need to consider (over ice and over water)?
 - i) Glint over water: is there snow over ice?; melting ice?
 - ii) How much would it change the absorbed heat if albedo wrong?
 - a) Do leads have a different albedo?
 - iii) Other
- D) What accuracy are we likely to be able to achieve with current algorithms? Are there issues in addition to those mentioned in (2)
 - i) Need more ground truth to have a good error estimate over large areas
 - ii) The spatial/temporal sampling.
 - iii) Can we separate these issues?

3) What do people think it will take to do better?

- i) From an observational perspective
- ii) From a modeling perspective

Sarah and I request that information to be posted on the FTP or websites be sent at least a day before the meeting. That will us organize our thoughts, and allow for a smoother start to the discussion.

Cheers,
Mark