

Agenda  
IASOS Radiation Working Group  
February 10, 2016, 8:30-10:00 MST

Attendees: Crepinsek, Cox, de Boer, Key, Haiden, McComiskey, Starkweather, Stone, Uttal

Agenda/Notes

0) IASOA Working Group changes & outlook in 2016 (Starkweather)

Update – Sandy will detail at NOAA HQ 2/2016-2017. During this time, she will still run the IASOA working group meetings. This is one reason for standardizing our schedule, etc. The group will meet every 6 weeks on Wednesdays at this time.

IASOA is advancing its working group concept in 2016 to be both more open to new comers and more responsive to questions from sponsors about our progress. For this reason, we will be developing a few research objectives for each group for 2016-2017 that will be posted to the web. We will focus on these activities and report back on them on a regular basis.

A question was posed about who “should” join these groups. Sandy explained that they are open to collaborators who have relevant data or science contributions to make. These can include cal/val applications or hypothesis testing with datasets. Our current group includes a mix.

1) AGU debrief: presentation, feedback, bringing in satellite-derived CRF for spatial context (Cox)

Two IASOA Radiation WG pieces were presented at AGU:

- Stanitski et al. poster on the BRW snow melt anomaly and related long-term trends in nearby ice and ecosystems.
- Cox et al. presentation on the RadFlux Analysis and CRF. Chris reviewed some of the key findings and how they are feeding in to the interpretation of the BRW paper listed in agenda item 2. He met some folks there who provided insight into how we might begin to develop improved spatial context for the long-term sites (agenda item 3).

2) Update on Barrow paper. (Cox)

Chris provided some highlights from a paper he is leading on the relationship between springtime CRF anomalies at BRW and September sea ice minimum concentration anomalies. While this paper was initially organized as a multi-site analysis, there were reasons for pairing back to focus on the strength of the BRW anomaly, particularly given that the area of highest correlation is also the area of greatest variability in sea ice.

Taneil reminded the group that NOAA will have a high interest in focusing this and subsequent work on sea ice forecasting. It was noted that there are several approaches for prediction that can be leveraged in this work, including the consideration of large scale

dynamic and other preconditioning concepts, such as those explored by Bitz et al. related to sea ice “memory” of past seasonal conditions.

This paper will be submitted to Journal of Climate shortly and can be viewed as a first step towards looking at a paper on broader spatial context.

- 3) Begin discussion for next paper. Build on Barrow using other stations, AGU pres. findings, spatial context problem (All)

Jeff Key of NOAA/NEIDIS offered two papers for consideration on this topic from his research group, where the influence of winter pre-conditioning of the sea ice on next year ice concentrations (i.e. the role of sea ice winter growth) is examined using reanalysis and satellite data sets. One, published, is linked below. For the second paper, please contact [jeff.key@noaa.gov](mailto:jeff.key@noaa.gov)

[http://stratus.ssec.wisc.edu/papers/liu\\_winter\\_cloud\\_summer\\_ice\\_2013\\_ERL.pdf](http://stratus.ssec.wisc.edu/papers/liu_winter_cloud_summer_ice_2013_ERL.pdf)

Thomas Haiden of ECMWF is also pursuing work of high relevance for improved understanding of the spatial autocorrelation around the IASOA sites. He’s planning to build on the work he started last year to look at spatial autocorrelation of different parameters around IASOA sites, partitioned by different dynamical regimes (synoptic scale). Sandy mentioned that some of this work would provide a good input to IASOA’s new “Transports” group.

(From Haiden) Attached a small modification, since my main focus will be the synoptic scale. I am also planning to lead a paper on this. The preliminary title is 'Flow-dependent representativeness of downward longwave radiation at Arctic surface stations'. For that I will use IASOA data to correlate not just within the analysis but also with observations. I'll describe this at the next meeting. Would be great to have others from the WG who are interested as co-authors.

He’s also investigating an error bias observed in the forecasting model that is related to extreme low surface temperatures and a low cloudiness bias. The overall question being how well forecast & reanalysis models do at representing cloudiness (with the acknowledgement that reanalysis are likely to be a key tool for developing spatial context for IASOA sites).

Gijs de Boer raised the idea that a BRW-OLI comparison would provide one regional picture of variability, even given the short length of the OLI data sets. It provides another way to tie reanalysis in over regional variability.

Stone agrees that regional approaches are going to be a valuable way forward towards understanding sea ice & snow cover variability. He and Diane plan to move forward with some index work (ALBSA) that he started a few years back.

Gijs reminded the group that BRW-OLI saw similar melt correlations with offset, another example of the multiple scales to consider in taking a more comprehensive view of radiation on e.g. sea ice and snow melt.

4) EGU plans (Cox)

The IASOA session (a first) at EGU will be a PICO interactive session. These are new format based on mini-speed talks, followed by lengthier poster sessions with digital posters.

5) Update on Stanitski/Stone snow cover work

Diane and Bob are moving forward with Chris on a paper about the 201 BRW snowmelt anomaly, also considering the longer term context of the melt, the lagoon melt and the guillemot eggs. They will also be looking at methane and chlorophyll anomalies.

Our next meeting is March 23 at which Jeff Key will provide a synopsis of the papers mentioned above and Thomas Haiden will provide an update on his spatial autocorrelation in advance of his EGU presentation.