Joint EUSTACE and GlobTemperature User Workshop

Lisbon, Portugal, 27 – 29 November 2017

Session: EarthTemp session on relationships (sea, land, ice, lake, air) at margins

Questions for Jacob Høyer: questions raised focused on skin temperature developments, calibration with satellite data and 2-m temperature in-situ data, and whether the skin temperature versus the 2 m air temperature regression training takes into account seasonal variations and the impact of wind.

- Is wind taken into account in the model for estimating the air temperature over ice?
    Wind is not used in the model, since it did not result in improvements.
- What model was used for the Antarctic?
    Since too few observations are available for the Antarctic, it was decided to use the model for ice in the Northern hemisphere also for the Antarctic.

Questions for Chris Merchant:
- Are lakes more sensitive to climate change?
    Some lakes are more sensitive to climate change. Deeper lakes amplify the warming. There is a difference between brackish lakes and fresh water lakes.
- Only clear sky data are used. Does this influence the observed trend?
- What is the influence of melting on temperature?

General Discussion
- Measurement of sea ice melting in the Arctic and Antarctic: are different retrieval algorithms needed?
- Climate records are mostly of near-surface temperature. Thoughts on the possibility of having skin temperature climate records, namely over ice.
- More data available:
    Currently, there are several developments exploring different surfaces, which will lead to more data.
    More and more consistent and lengthy datasets become available: the time is right to make use of them.
- Limitations of clear-sky only (issue on long term analysis). What is the impact on using clear-sky only data on the work presented by Chris Merchant? Small.
    Anomalies and trends of clear-sky data are not the same as all-weather data.
    Microwave products can provide differences between clear-sky and all-weather data.
    Cloud cover will also change with climate change.
    In cloudy conditions, air temperature is equivalent to skin temperature.
- Issue: changes in temperature have positive feedback on albedo and may have influence on the relationships.