

Interactive comment on “Climatology and time series of surface meteorology in Ny-Ålesund, Svalbard” by M. Maturilli et al.

Anonymous Referee #2

Received and published: 13 January 2013

This paper describes an 18-year dataset of temperature, humidity, surface pressure, and wind at an Arctic site. It is well written with the data characteristics and timeline of events clearly described. Selected composite features of the data are presented and illustrate potential applicability to study trends over climate time-scales. As the authors note, a good quality, high-temporal-resolution, long-term surface dataset at high-latitudes is uncommon and can be valuable for climate research. The on-line dataset appears to be well organized and complete. The reference list contains some excellent sources for additional information.

Specific comments:

1. It could be helpful to those using the data if key events were flagged within the data files. For example the paper notes that the ventilator for the surface thermometer was

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replaced on 23 November 1998. Is it possible for metadata such as this to be included within the data file for all significant events, also with an indication of the time period of suspect data?

2. Radiation is an important measurement in climate. Since it is available from the Ny-Alesund BSRN dataset, it would be useful to have references to trends or other analysis of that dataset (if any).

3. It would also be quite useful to have an observation of surface condition and precipitation at this site, and some way to measure the latent and sensible heat fluxes over time. I wonder if this is a possible future addition (I don't see this in the BSRN dataset either)?

4. Linking these results to those from the nearby Norwegian Meteorological Institute station data from 1935 onward is very valuable for investigation of trends in earlier years. Unfortunately I can't access the Forland (2011) paper, but it would be good to use this dataset to thoroughly evaluate the suitability of the NMI time series for trend analysis.

5. The value of this dataset will only increase over time. It would be very helpful for the article to discuss the transition to the new tower in August 2011, including any implications for continuity or abrupt changes in the data because of this move.

6. The dataset provides good but indirect evidence for changes in cyclone frequency or intensity. An analysis of precipitation, perhaps from NMI stations, or even an analysis of synoptic (reanalysis?) data, could greatly strengthen this inference.

7. One of many potentially fascinating aspects of this high latitude dataset is to investigate the characteristics of the sea breeze when forcing is not diurnal as at mid-latitudes (a comment only).

8. page 1059, line 24: "but surely indicated" is quite strong. Perhaps "provides evidence for" is more appropriate?

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9. Fig 3: I assume changes are absolute value. It would be good to indicate this.

Interactive comment on Earth Syst. Sci. Data Discuss., 5, 1057, 2012.

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