AWAKE2 status MET Norway
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1) Establish a homogenized West Spitsbergen (Hornsund and Isfjord Radio) air temperature time series 1934-present (MET Norway, NCU)

· Re-establishing of meteorological observations (AWS) at Isfjord Radio (in kind from MET Norway)
  - **Status: Finished. Data operational in October.**
Re-establishing of meteorological observations (AWS) at Isfjord Radio

Isfjord Radio – oversikt over stasjonen

First site (1934-1941, 1946-1958)
Second site (1958-1976)
New AWS
First site Isfjord radio
Second site Isfjord radio
New site for AWS 2014

First site (1934-1941, 1946-1958)
Second site (1958-1976)
New site AWS
1) Establish a homogenized West Spitsbergen (Hornsund and Isfjord Radio) air temperature time series 1934-present (MET Norway, NCU)

- Re-establishing of meteorological observations (AWS) at Isfjord Radio (in kind from MET Norway)
  - **Status:** Finished. Data operational in October.

- Digitising subdaily data for the period 1934-55 (in kind MET Norway)
  - **Status:** Almost finished. Some data control remain

- Establish composite temperature time series for Hornsund and Isfjord Radio (western Spitsbergen, 1934-present)
  - **Status:** In good progress, but some points pending
Hornsund: Daily data quality control

- Erroneous data for the year 1983
  - Status: Pending - Our data file has to be checked against raw data and corrected

- $T_{\text{max}}$ and $T_{\text{min}}$ seem to be interchanged for 9 data points, 1997-2012
  - Status: Already done in a revisited dataset

- Small errors detected for 21 data points 1989-2011
  - Status: Pending. What action should be taken? Deleting? Interpolations? No action?
2) Study the north-south air temperature gradient on the western Svalbard

- Both spatial and temporal air temperature gradients along western Svalbard.
- Seasonal-, inter annual- and long-term variability.
- Key stations Bjørnøya, Sørkappøya, Hornsund, Isfjord Radio, Ny-Ålesund
  - **Status: Started**
Normal mean temperatures for key stations along Western Svalbard - compared to continental station at Svalbard Airport
Svalbard series – Annual 1899-2013

Early 20th century warming

(Polar Research: doi 10.3402/polar.v33.21349)
Svalbard Airport series – Winter 1899-2013 (Dec. - Feb.)

(Polar Research: doi 10.3402/polar.v33.21349)
3) Study the recent temperature anomalies on western Spitsbergen (MET Norway)

- Changes in key factors controlling recent large temperature anomalies, e.g.:
  - general atmospheric circulation
  - ocean heat transport
  - frequency and intensity of lows
  - sea ice
  - sea temperatures

- Analyse this also in respect to historical records

- Status: Started
The most extreme recent events – mid-winter 2011-12

Mean temperature anomalies across the Arctic during mid-winter (Dec.-Feb.) 2011-12 with respect to the 1981-2000 mean (NCEP reanalysis)

BB Hansen, K Isaksen, RE Benestad, J Kohler, ÅØ Pedersen, LE Loe, SJ Coulson, JO Larsen, Ø Varpe. 2014. (In review, Environmental Research Letters)
Total amount of rain during winter
1957-2012 (Nov.-Apr.) in Longyearbyen and Ny-Ålesund

BB Hansen, K Isaksen, RE Benestad, J Kohler, ÅØ Pedersen, LE Loe, SJ Coulson, JO Larsen, Ø Varpe. 2014.
(In review, Environmental Research Letters)
Establishing new precipitation gauge (Geonor) summer 2013