



Meteorologisk
institutt



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 - overview



First site Isfjord radio



Second site Isfjord radio



New site for AWS 2014



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- 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

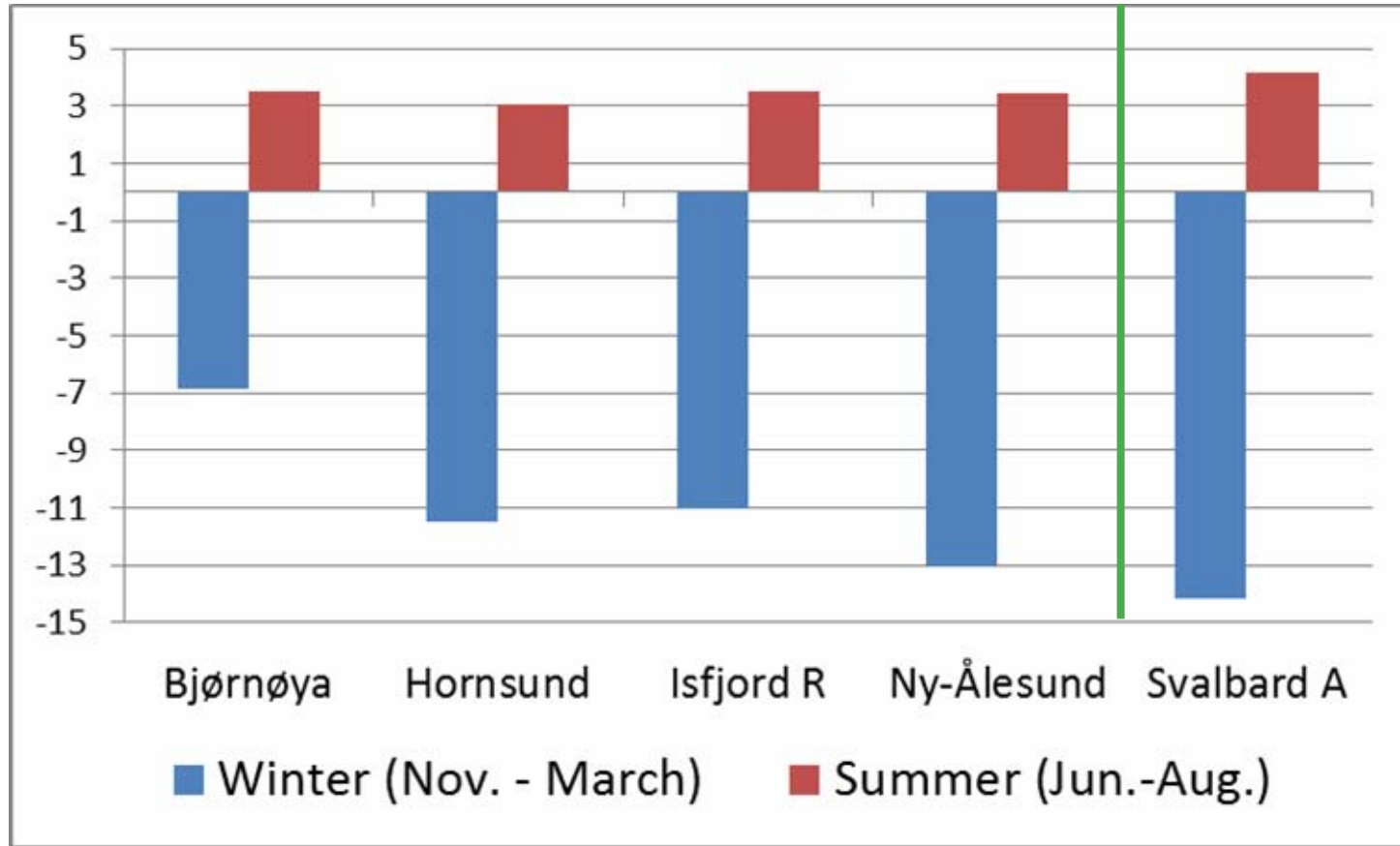
- Erroneous data for the year 1983
 - **Status: Pending - Our data file has to be checked against raw data and corrected**
- T_{\max} and T_{\min} seem to be interchanged for 9 data points, 1997-2012
 - **Status: Already done in a revisited dataset**
- Small errors detected for 21 data points 1989-2011
 - **Status: Pending. What action should be taken? Deleting? Interpolations? No action?**

2) Study the north-south air temperature gradient on the western Svalbard

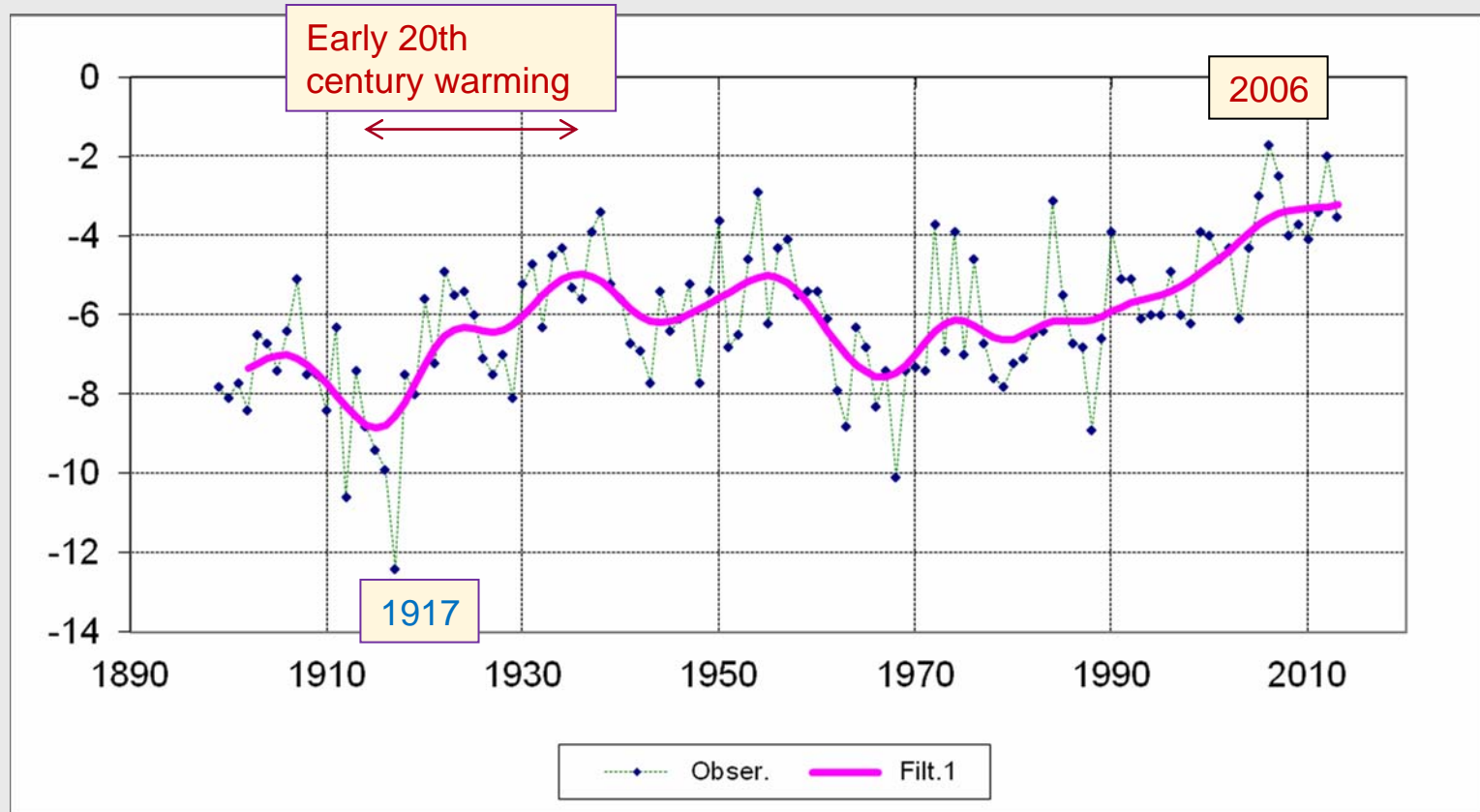
- Both spatial and temporal air temperature gradients along western Svalbard.
- Seasonal-, inter annual- and long-term variability.
- Key stations Bjørnøya, Sørkappøya, Hornsund, Isfjord Radio, Ny-Ålesund
 - **Status: Started**

Normal mean temperatures for key stations along Western Svalbard

- compared to continental station at Svalbard Airport

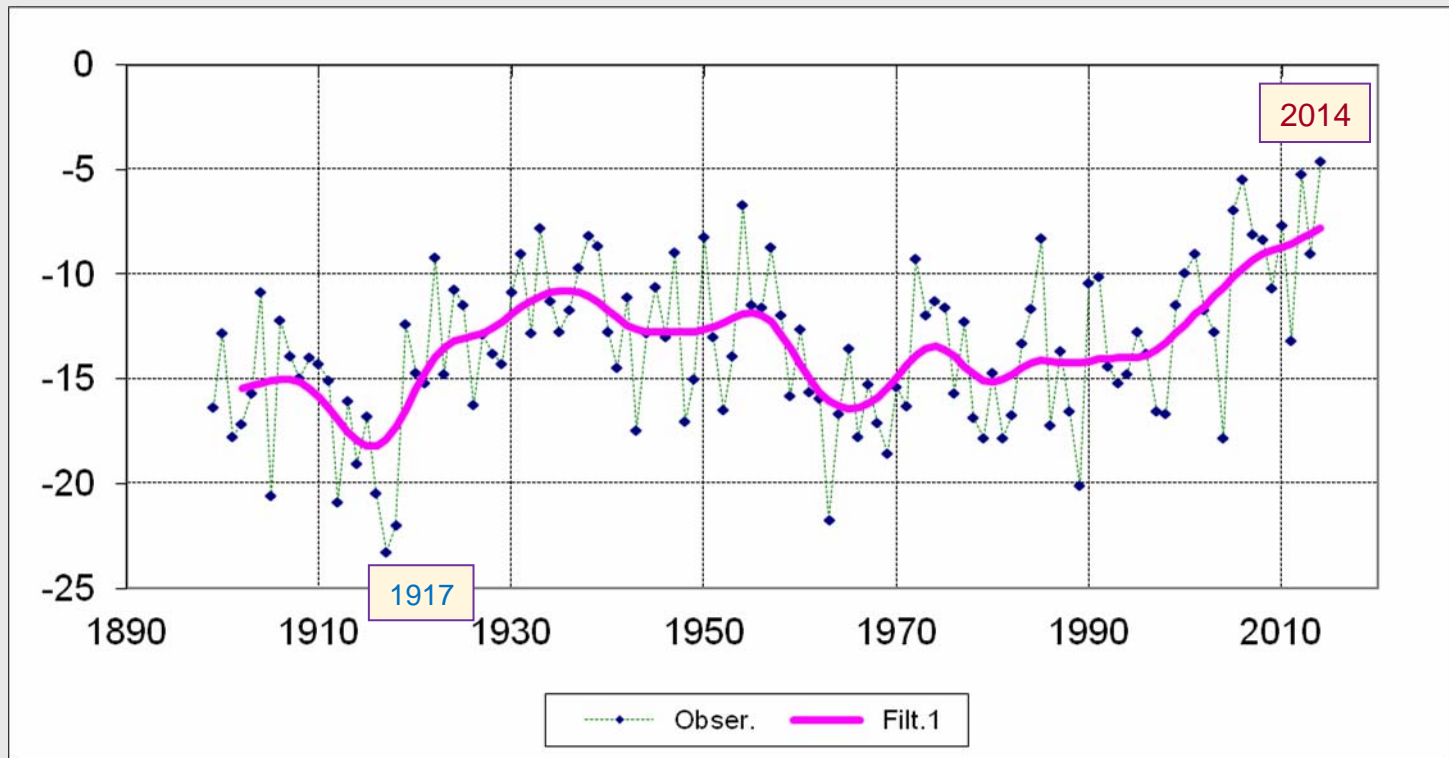


Svalbard series – Annual 1899-2013



Nordli, Ø, R. Przybylak, A.E.J. Ogilvie and K. Isaksen. 2014
(*Polar Research*: doi 10.3402/polar.v33.21349)

Svalbard Airport series – Winter 1899-2013 (Dec. - Feb.)



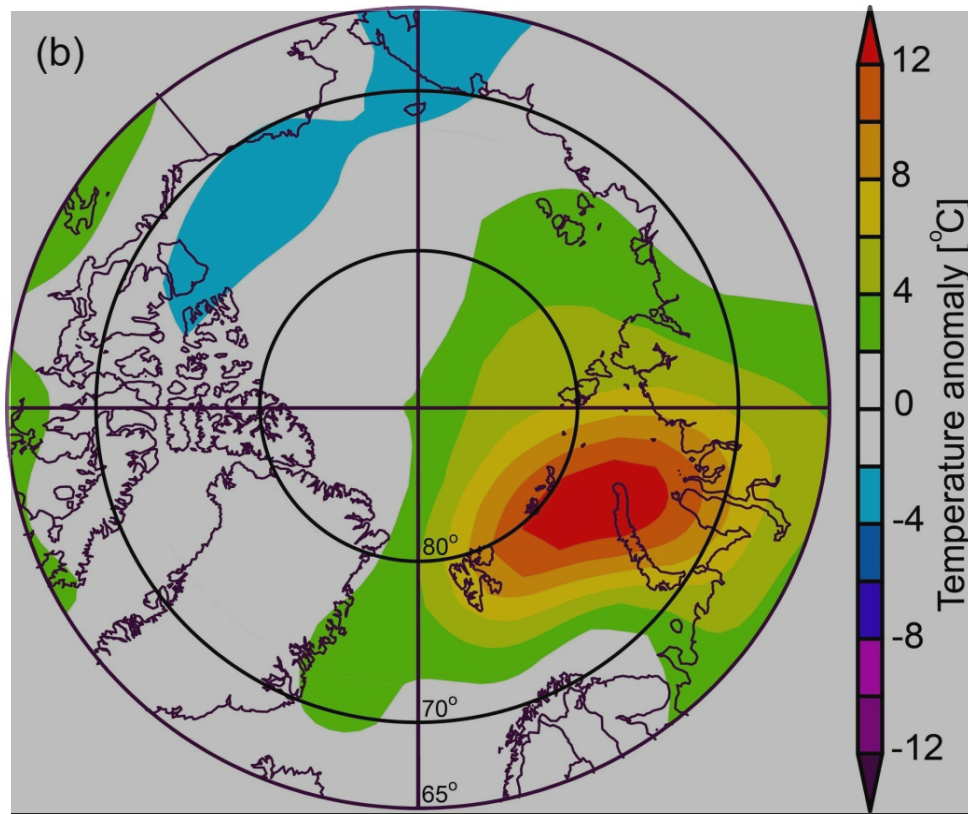
Nordli, Ø, R. Przybylak, A.E.J. Ogilvie and K. Isaksen. 2014
(*Polar Research*: doi 10.3402/polar.v33.21349)

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**

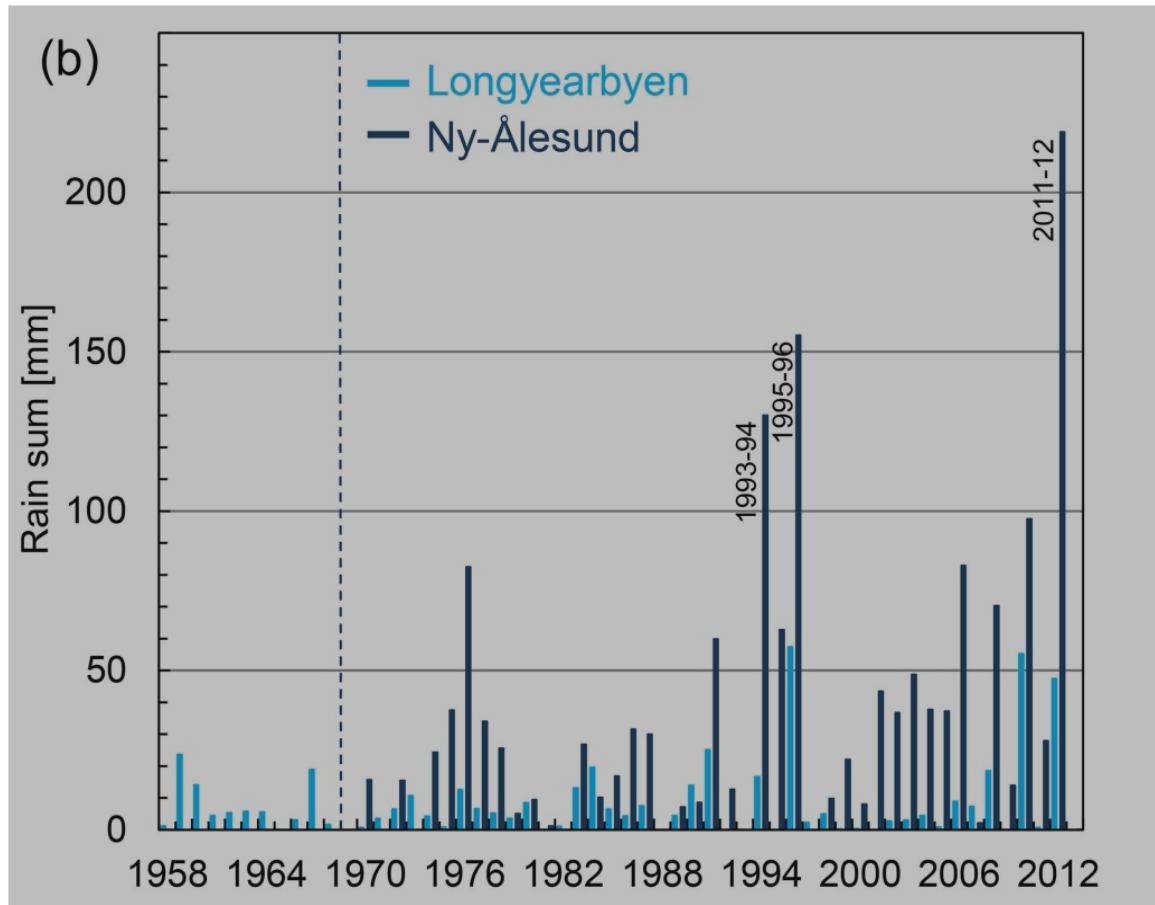
The most extreme recent events – mid-winter 2011-12

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.
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Establishing new precipitation gauge (Geonor) summer 2013

