

Supplement of *Clim. Past*, 14, 473–514, 2018  
<https://doi.org/10.5194/cp-14-473-2018-supplement>  
© Author(s) 2018. This work is distributed under  
the Creative Commons Attribution 3.0 License.



*Supplement of*

## **Arctic hydroclimate variability during the last 2000 years: current understanding and research challenges**

**Hans W. Linderholm et al.**

*Correspondence to:* Hans W. Linderholm ([hans.linderholm@gvc.gu.se](mailto:hans.linderholm@gvc.gu.se))

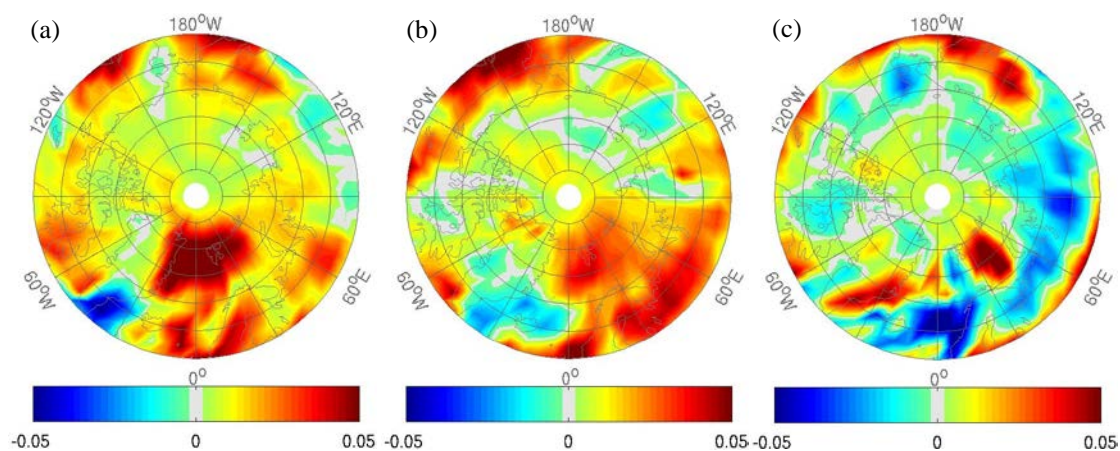
The copyright of individual parts of the supplement might differ from the CC BY 3.0 License.

## Supplementary material

**Table S1** Information of 12 CMIP5 climate models used in this study. The spatial resolution of atmosphere is expressed by the number of longitudinal grid cells  $\times$  the number of latitudinal grid cells.

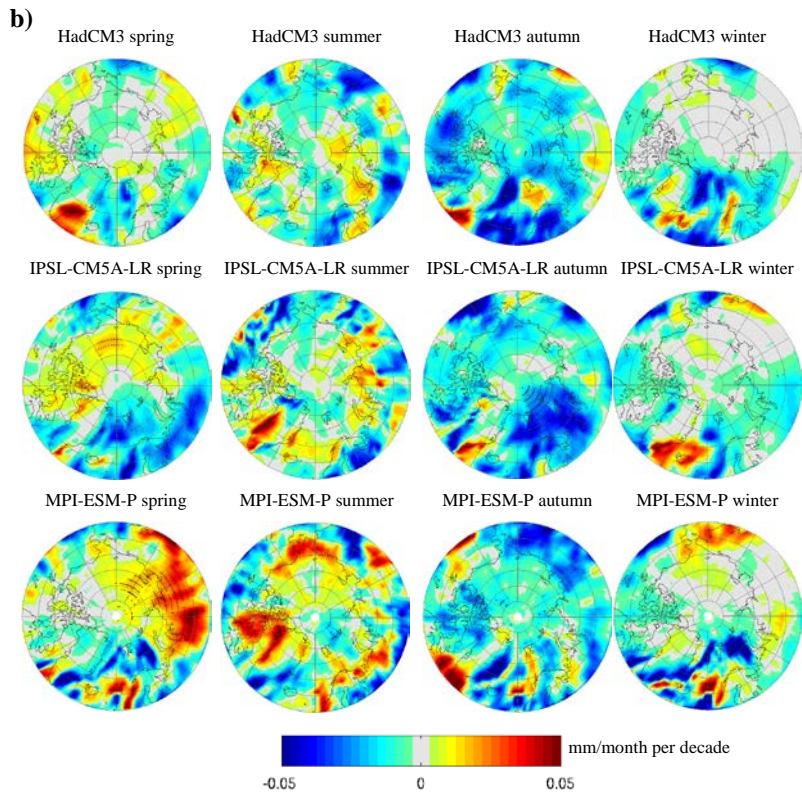
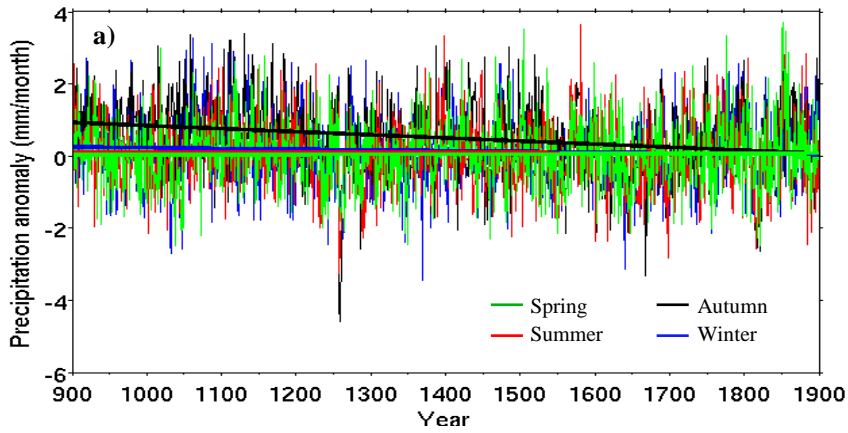
| Model          | Institute/Country | Spatial resolution of atmosphere |
|----------------|-------------------|----------------------------------|
| GFDL-CM3       | NOAA GFDL/USA     | 144 $\times$ 90                  |
| GFDL-ESM2G     | NOAA GFDL/USA     | 144 $\times$ 90                  |
| GFDL-ESM2M     | NOAA GFDL/USA     | 144 $\times$ 90                  |
| GISS-E2-H      | NASA GISS/USA     | 144 $\times$ 90                  |
| GISS-E2-R      | NASA GISS/USA     | 144 $\times$ 90                  |
| HadGEM2-AO     | MOHC/UK           | 192 $\times$ 145                 |
| HadGEM2-ES     | MOHC/UK           | 192 $\times$ 145                 |
| MIROC5         | MIROC/Japan       | 256 $\times$ 128                 |
| MIROC-ESM      | MIROC/Japan       | 128 $\times$ 64                  |
| MIROC-ESM-CHEM | MIROC/Japan       | 128 $\times$ 64                  |
| MRI-CGCM3      | MRI/Japan         | 320 $\times$ 160                 |
| NorESM1-ME     | NCC/Norway        | 144 $\times$ 96                  |

5



**Figure S1.** Spatial pattern of differences in annual hydroclimate between MCA (950-1250) and LIA (1450-1850) based on (a) HadCM3, (b) IPSL-CM5A-LR and (c) MPI-ESM-P last-millennium simulations. The values are the standardized annual total precipitation.

20



**Figure S2.** a) Variability and linear trends of the Arctic spring, summer, autumn and winter total precipitation anomalies (900-1900 CE) from 3-model (HadCM3, IPSL-CM5A-LR and MPI-ESM-P) ensemble mean. b) Spatial patterns of linear trends in seasonal total precipitation anomalies over (900-1850 CE) from 3 climate models. Dots mark grids where the trend is significant ( $p < 0.01$ ).