

# Consistency of recently observed trends over the Baltic Sea basin with regional climate change projections

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Future climate change in general is an issue of broad interest- satisfying a general intellectual curiosity but also having much to do with practical managerial decisions about how to plan, design and shape our future on global to local scales.

In this study, we examine to what extent the observed climate trends over the Baltic Sea basin are already an indication of the conditions described by the climate change scenario (A1B) at the end of this century. With this purpose, we investigate whether the ensemble of projections, derived from 12 regional climate models, encompass the observed trends - if this is the case, we conclude that the observed change can be interpreted as a harbinger of future change.

This approach, which has earlier been applied over the Mediterranean region (Barkhordarian et al. 2012a, 2012b and 2013) is being applied to near-surface temperature, precipitation, surface relative and specific humidity, cloud cover and solar irradiance changes over the Baltic Sea basin.

## References

- Barkhordarian A, Bhend J and von Storch H (2012a) Consistency of observed near surface temperature trends with climate change projections over the Mediterranean region. *Climate Dynamics*, **38**, 1695--1702.
- Barkhordarian A, von Storch H and Zorita E (2012b) Anthropogenic forcing is a plausible explanation for the observed surface specific humidity trends over the Mediterranean area. *Geophys. Res. Lett.*, **39**. L19706, doi: 10.1029/2012GL053026.
- Barkhordarian A, von Storch H and Bhend J (2013) The expectation of future precipitation change over the Mediterranean region is different from what we observe. *Climate Dynamics*, **40**, 225--244.