

[Related articles](#)[Volume 6, issue 3](#) | [Copyright](#) ▾Special issue: [The Norwegian Earth System Model: NorESM; basic development,...](#)**Model evaluation paper** | 24 May 2013

The Norwegian Earth System Model, NorESM1-M – Part 1: Description and basic evaluation of the physical climate

M. Bentsen et al. ▾

Received: 30 Jul 2012 – Discussion started: 14 Sep 2012 – Revised: 23 Apr 2013 – Accepted: 23 Apr 2013 – Published: 24 May 2013

Abstract. The core version of the Norwegian Climate Center's Earth System Model, named NorESM1-M, is presented. The NorESM family of models are based on the Community Climate System Model version 4 (CCSM4) of the University Corporation for Atmospheric Research, but differs from the latter by, in particular, an isopycnic coordinate ocean model and advanced chemistry–aerosol–cloud–radiation interaction schemes. NorESM1-M has a horizontal resolution of approximately 2° for the atmosphere and land components and 1° for the ocean and ice components. NorESM is also available in a lower resolution version (NorESM1-L) and a version that includes prognostic biogeochemical cycling (NorESM1-ME). The latter two model configurations are not part of this paper. Here, a first-order assessment of the model stability, the mean model state and the internal variability based on the model experiments made available to CMIP5 are presented. Further analysis of the model performance is provided in an accompanying paper (Iversen et al., 2013), presenting the corresponding climate response and scenario projections made with NorESM1-M.

Download & links

- [Article \(PDF, 14354 KB\)](#)

How to cite: Bentsen, M., Bethke, I., Debernard, J. B., Iversen, T., Kirkevåg, A., Seland, Ø., Drange, H., Roelandt, C., Seierstad, I. A., Hoose, C., and Kristjánsson, J. E.: The Norwegian Earth System Model, NorESM1-M – Part 1: Description and basic evaluation of the physical climate, *Geosci. Model Dev.*, 6, 687–720, <https://doi.org/10.5194/gmd-6-687-2013>, 2013.