

Home

Online Library ACP

- ▣ Recent Final Revised Papers
- ▣ [Volumes and Issues](#)
- ▣ Special Issues
- ▣ Library Search
- ▣ Title and Author Search

Online Library ACPD

Alerts & RSS Feeds

General Information

Submission

Review

Production

Subscription

Comment on a Paper

Impact
Factor
4.865

ISI
indexed



▣ [Volumes and Issues](#) ▣ [Contents of Issue 5](#)

Atmos. Chem. Phys., 3, 1759-1768, 2003
www.atmos-chem-phys.net/3/1759/2003/

© Author(s) 2003. This work is licensed under a Creative Commons License.

On the accuracy of analysed low temperatures in the stratosphere

B. M. Knudsen

Danish Meteorological Institute, Lyngbyvej 100, 2100 Copenhagen, Denmark

Abstract. The accuracy of ECMWF (European Centre for Medium-Range Weather Forecasts) temperatures has been investigated by comparison to radiosonde temperatures. Particularly, the extent of temperatures below which Polar Stratospheric Clouds (PSCs) consisting of nitric acid trihydrate can exist (T_{NAT}) has been studied. In the 1999/2000 winter analyses and in the 40 year reanalyses (ERA40) from the winter 1996/1997 the analysed extent agrees quite well with the radiosondes extent, whereas the 2002/2003 winter analyses considerably overestimate the extent from 40-11 hPa due to a general cold bias. Close to the frost point small-scale temperature variations, which ECMWF does not catch, substantially increase the extent of these low temperatures. Some of these small-scale variations are caused by lee-waves.

▣ [Final Revised Paper](#) (PDF, 263 KB) ▣ [Discussion Paper](#) (ACPD)

Citation: Knudsen, B. M.: On the accuracy of analysed low temperatures in the stratosphere, Atmos. Chem. Phys., 3, 1759-1768, 2003. ▣ [Bibtex](#) ▣ [EndNote](#) ▣ [Reference Manager](#)



Search ACP

Library Search

Author Search

News

- ▣ [Sister Journals AMT & GMD](#)
- ▣ [Financial Support for Authors](#)
- ▣ [Journal Impact Factor](#)
- ▣ [Public Relations & Background Information](#)

Recent Papers

01 | ACP, 11 Mar 2009: Measurements of Pollution In The Troposphere (MOPITT) validation through 2006

02 | ACP, 11 Mar 2009: Air-sea fluxes of biogenic bromine from the tropical and North Atlantic Ocean

03 | ACPD, 10 Mar 2009: Characterization of organic ambient aerosol during MIRAGE 2006 on three platforms

04 | ACPD, 10 Mar 2009: Regional differences in