

[Sign in](#)

AMERICAN METEOROLOGICAL SOCIETY
AMS Journals Online

[AMS Home](#) [Journals Home](#) [Journal Archive](#) [Subscribe For Authors](#) [Help](#) [Advanced Search](#)

AMS Online Journals Access Control

[Volume 47, Issue 6 \(June 2008\)](#)



The article you have requested is available via Journal Subscription or Single Article Purchase:

[[Free Abstract](#)] [[Subscriber Login](#)] [[Purchase Article](#)]

Journal of Applied Meteorology and Climatology

Article: pp. 1819–1833 | [Abstract](#) | [PDF \(2.59M\)](#)

Snow Cover Characteristics over the Main Russian River Basins as Represented by Reanalyses and Measured Data

V. Khan

Hydrometeorological Research Centre of the Russian Federation, Moscow, Russia

L. Holko

Institute of Hydrology, Slovak Academy of Sciences, Liptovsky Mikulas, Slovakia

K. Rubinstein

Hydrometeorological Research Centre of the Russian Federation, Moscow, Russia

M. Breiling

Technical University Vienna, Vienna, Austria

(Manuscript received 26 October 2006, in final form 3 October 2007)

DOI: 10.1175/2007JAMC1626.1

ABSTRACT

Snow water equivalents (SWE) produced by the National Centers for Environmental Prediction–U.S. Department of Energy (NCEP–DOE) and 40-yr European Centre for Medium-Range Weather Forecasts (ERA-40) reanalyses and snow depths (SD) produced by the 25-yr Japanese “JRA-25” reanalysis over the main Russian river basins for 1979–2000 were examined against measured data. The analysis included comparisons of mean basin values and correlation of anomalies, as well as seasonal and interannual variabilities and trends. ERA-40 generally provided better estimates of mean SWE values for river basins than did the NCEP–DOE reanalysis. Mean SD values from the JRA-25 reanalysis were systematically underestimated. The best correlations among the anomalies were given by ERA-40, followed by JRA-25. All reanalyses reproduced seasonal variability well, although the differences in absolute values varied substantially. The highest differences were typically connected with the snowmelt period (April and May). Interannual variability confirmed the errors of ERA-

Options:

- [Create Reference](#)
- [Email this Article](#)
- [Add to MyArchive](#)
- [Search AMS Glossary](#)

Search CrossRef for:

- [Articles Citing This Article](#)

Search Google Scholar for:

- [V. Khan](#)
- [L. Holko](#)
- [K. Rubinstein](#)

40 and JRA-25 in 1992–94 and 1979–83, respectively. Otherwise, the reproduction of the interannual variability of SWE and SD was reasonable. Strong biases in SD data from JRA-25 that decrease with time induce artificial positive trends. Significant underestimations of SWE data by ERA-40 for 1991–94 influenced the values of the trends. NCEP–DOE reasonably represented the trend found in measured data. In general, the highest discrepancies between measured and reanalysis data were found for the northern European and eastern Asian rivers (Pechora, Lena, and Amur). The assessment of the quality of SWE and SD reanalysis data can help potential users in the selection of a particular reanalysis as being appropriate to the purpose of their studies.

- [M. Breiling](#)

Journal Subscription

If you are a journal subscriber, please click [here](#) to login and retrieve the article.

To remain logged in, your browser must allow cookies. Use this link to [check](#).

Need a Subscription?
[Subscribe Now!](#)

CHANGES HAVE BEEN MADE TO JOL LOGIN PROCEDURE

In an effort to improve services to members, the AMS has modified its Web site so that each member has to maintain just one login to access ALL AMS password protected pages. **All AMS members who subscribe to the AMS Journals Online (JOL) will need to enter the email address and password as identified in their online profile** --- not their current JOL login --- to gain access to the PDF and full-text version of the articles for which they've paid. If you have not yet created your online profile, or if you've forgotten your login id or password, please [click here](#) for assistance. Nonmember subscribers should continue to use the login that they have been issued.

Subscribers that access JOL using a software-based proxy system please [click here](#) for important configuration information.

Purchase Single Article

To purchase access to this individual article, select "Purchase Article".

Single Article Access

[Purchase Article](#)

top ▲



© 2009 American Meteorological Society [Privacy Policy and Disclaimer](#)

Headquarters: 45 Beacon Street Boston, MA 02108-3693

DC Office: 1120 G Street, NW, Suite 800 Washington DC, 20005-3826

amsinfo@ametsoc.org Phone: 617-227-2425 Fax: 617-742-8718

[Allen Press, Inc.](#) assists in the online publication of *AMS* journals.