

Title:

Daily Bias-corrected NNR Surface Air Temperatures for the pan-Arctic basin and Alaska

Description:

This data set provides daily surface air minimum (T_{\min}), maximum (T_{\max}) and average (T_{avg}) temperatures at the 25km spatial resolution for the pan-Arctic basin and Alaska. These data were originally derived from the National Centers for Environmental Prediction-National Center for Atmospheric Research (NCEP-NCAR) Reanalysis (NNR) Surface Flux product (Kalnay et al., 2001) with approximately $1.9^{\circ} \times 1.875^{\circ}$ spatial resolution and corrected for biases through a local sample area correction method using the WMO station observations (Zhang et al., 2008). Finally, these data were spatially interpolated into the 25km spatial resolution.

Projection:

The region is defined in terms of nodes of the National Snow and Ice Data Center (NSIDC) north polar Equal-Area Scalable Earth (EASE) grid.

Spatial Resolution: 25km \times 25km

Number of Nodes: 39926

Temporal Extent: 1981 to 2007

Format of Files:

Each file includes daily values of one variable (T_{\min} , T_{\max} or T_{avg}) for all 39926 pixels for the given year. Each file has 39926 rows. Each row of a file has 365 columns and represents the daily values of a year. For the leap years, the values of Day 366 were omitted.

References:

Kalnay, E., et al. (1996). The NMC/NCAR 40-year reanalysis project, *Bull. Am. Meteorol. Soc.*, 77, 437-471.

Zhang K, JS Kimball, EH Hogg, M Zhao, WC Oechel, J Cassano, & SW Running (2008). Satellite-based model detection of recent climate-driven changes in northern high-latitude vegetation productivity, *J. Geophys. Res.*, 113, G03033, doi:10.1029/2007JG000621.

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