A Big Earth Data Platform for Three Poles

**NCEP reanalysis datasets (1948-2018)**

1、Description

1) The data set is composed of global atmospheric reanalysis data jointly produced by the National Centers for Environmental Prediction (NCEP) and the National Center for Atmospheric Research (NCAR). These grid data are generated by reanalysing the global meteorological data from 1948 to present by applying observation data, forecasting models and assimilation systems. The data variables include surface, near-surface (.995 sigma layer) and multiple meteorological variables in different barospheres, such as precipitation, temperature, relative humidity, sea level pressure, geopotential height, wind field, heat flux, etc.  
2) The coverage time is from 1948 to 2018, and the data from 1948 to 1957 are non-Gaussian grid data. The data cover the whole world. The spatial resolution is a 2.5° latitude by 2.5° longitude grid. The vertical resolution is a 17-layer standard pressure barosphere, with layer boundaries at 1000, 925, 850, 700, 600, 500, 400, 300, 250, 200, 150, 100, 70, 50, 30, 20, and 10 hPa, and 28 sigma levels. Some variables are calculated for 8 layers (omega) or 12 layers (humidity), with temporal resolutions of 6 hours, daily, monthly or a long-term monthly average (from 1981 to 2010). The daily data are obtained by averaging the daily values of 0Z, 6Z, 12Z and 18Z.  
3) Missing values are assigned a value of -9.99691e+36f. The data are stored in the .nc format with the file name var.time.stat.nc, and each file includes data on latitude, longitude, time, and atmospheric variables.  
  
For detailed data specifications, please visit http://www.esrl.noaa.gov/pad/data.

2、Keywords

Theme：Heat flux,Precipitation,Radiation,Temperature,Winds,Precipitation amount,Atmospheric circulation,Skin temperature,Wind direction,Humidity/Dryness,Atmospheric Water Vapor  
Discipline：Atmosphere  
Places：globe  
Time：1948-2018

3、Data details

1.Scale：250000

2.Projection：WGS84

3.Filesize：30310.0MB

4.Data format：nc

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：90.0 | - |
| west：-180.0 | - | east：180.0 |
| - | south：-90.0 | - |

5、Time frame:1948-02-16 08:00:00+00:00--2019-02-15 08:00:00+00:00

6、Reference method

References to data:

National Center for Atmospheric Research, National Oceanic and Atmospheric Administration. NCEP reanalysis datasets (1948-2018). A Big Earth Data Platform for Three Poles, doi:10.11888/Meteoro.tpdc.2709222018

References to articles:

Kalnay,E., Kanamitsu,M., Kistler,R., Collins,W.D., Deaven,D.G., Gandin,L.S., Iredell, M., Saha, S., White, G., Woollen, J., Zhu, Y., Chelliah, M., Ebisuzaki, W., Higgins, W., Janowiak, J., Mo, K.C., Ropelewski, C., Wang, J., Leetmaa, A., Reynolds, R., Jenne, R., & Joseph, D. (1996).The NCEP/NCAR 40-year reanalysis project. Bulletin of the American Meteorological Society, 77(3), 437-470.

7、Supporting project information

CASEarth:Big Earth Data for Three Poles（grant No. XDA19070000）

8、Data resource provider

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