A Big Earth Data Platform for Three Poles

**North american multi-model ensemble forecast (1982-2010)**

1、Description

The North American Multi-Model Ensemble (NMME) Forecast is a multi-modal ensemble seasonal forecasting system jointly published by the US Model Center (including NOAA/NCEP, NOAA/GFDL, IRI, NCAR, and NASA) and the Canadian Meteorological Centre. The data include retrieval data from 1982 to 2010 and real-time weather forecast data from 2011 to the present. The forecasting system covers the whole world with a temporal resolution of one month and a horizontal spatial resolution of 1°. NMME has nine climate forecasting models, and each contains 6-28 ensemble members, with a forecasting period of 9-12 months. The name, source, ensemble members, and forecasting period of the climate models are as follows:
1) CMC1-CanCM3, Environment Canada, 10 models, 12 months
2) CMC2-CanCM4, Environment Canada, 10 models, 12 months
3) COLA-RSMAS-CCSM3, National Center for Atmospheric Research, 6 models, 12 months
4) COLA-RSMAS-CCSM34, National Center for Atmospheric Research, 10 models, 12 months
5) GFDL-CM2p1-aer04, NOAA Geophysical Fluid Dynamics Laboratory, 10 models, 12 months
6) GFDL-CM2p5-FLOR-A06, NOAA Geophysical Fluid Dynamics Laboratory, 12 models, 12 months
7) GFDL-CM2p5-FLOR-B01, NOAA Geophysical Fluid Dynamics Laboratory, 12 models, 12 months
8) NASA-GMAO-062012, NASA Global Modeling and Assimilation Office, 12 models, 9 months
9) NCEP-CFSv2, NOAA National Centers for Environmental Prediction, 24/28 models, 10 months
With the exception of the CFSv2 model (which includes only precipitation and average temperature), the variables of other models include precipitation, average temperature, maximum temperature, and minimum temperature. Each model ensemble member stores one NC file every month for each variable. The meteorological elements, variable names, units, and physical meanings of each variable are as follows:
1) Average temperature, tref, K, monthly average near-surface (2-m) average air temperature
2) Maximum temperature, tmax, K, monthly average near-surface (2-m) maximum air temperature
3) Minimum temperature, tmin, K, monthly average near-surface (2-m) minimum air temperature
4) Precipitation, prec, mm/day, monthly average precipitation.
The dataset has been widely applied in climate forecasting, hydrological forecasting, and quantitatively estimating model forecasting uncertainty.

2、Keywords

Theme：Maximum/Minimum temperature,Precipitation,Temperature,Precipitation amount,Humidity/Dryness
Discipline：Atmosphere
Places：globe
Time：1982-2010

3、Data details

1.Scale：250000

2.Projection：

3.Filesize：250000.0MB

4.Data format：PDF

4、Space scope

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

5、Time frame:2018-11-19 03:08:45+00:00--2018-11-19 03:08:45+00:00

6、Reference method

References to data:

North american multi-model ensemble forecast (1982-2010). A Big Earth Data Platform for Three Poles, 2018

References to articles:

7、Supporting project information

National Important Project on Science Research：Study on the Instability of Polar Ice Sheet and Its Influence on Global Sea Level（No.2012CB957702)
CASEarth:Big Earth Data for Three Poles（grant No. XDA19070000）

8、Data resource provider