A Big Earth Data Platform for Three Poles

**Monthly dataset of ERA-Interim based on pressure levels from 1979 to 2018 released from ECMWF**

1、Description

This dataset is derived from the global atmospheric reanalysis dataset, ERA-Interim, based on the 4-dimensional variational analysis (4D-Var) released by the European Centre for Medium-Range Weather Forecasts (ECMWF).  
ERA-Interim represents a major undertaking by ECMWF (European Centre for Medium-Range Weather Forecasts) to produce a reanalysis with an improved atmospheric model and assimilation system which replaces those used in ERA-40, particularly for the data-rich 1990s and 2000s, and to be continued as an ECMWF Climate Data Assimilation System (ECDAS) until superseded by a new reanalysis.   
Through systematic increases in computing power, 4-dimensional variational assimilation (4D-Var) became feasible and part of ECMWF operations since 1997. Enhanced computing power also allowed horizontal resolution to be increased from T159 to T255, and the latest Integrated Forecasting System(IFS CY31r1 and CY31r2) to be used, taking advantage of improved model physics.   
ERA-interim retains the same 60 model levels used for ERA-40 with the highest level being 0.1 hPa. Besides, data assimilation of ERA-Interim also benefits from quality control that draws on experience from ERA-40 and JRA-25, variational bias correction of satellite radiance data, and more extensive use of radiances with an improved fast radiative transfer model.  
In addition, ERA-Interim uses the new ERS (European Remote Sensing Satellite) altimeter wave heights, EUMETSAT (European Organisation for the Exploitation of Meteorological Satellites) reprocessed winds and clear-sky radiances, GOME (Global Ozone Monitoring Experiment) ozone data from the Rutherford Appleton Laboratory, and CHAMP (CHAllenging Minisatellite Payload), GRACE (Gravity Recovery and Climate Experiment), and COSMIC (Constellation Observing System for Meteorology, Ionosphere and Climate) GPS radio occultation measurements processed and archived by UCAR (University Corporation for Atmospheric Research).

2、Keywords

Theme：Temperature,Humidity/Dryness,Pressure  
Discipline：Atmosphere  
Places：European centre  
Time：1979 to 2018

3、Data details

1.Scale：None

2.Projection：

3.Filesize：54289.07MB

4.Data format：None

4、Space scope

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

5、Time frame:1979-01-10 08:00:00+00:00--2018-07-10 19:59:59+00:00

6、Reference method

References to data:

DENG Chuangwu. Monthly dataset of ERA-Interim based on pressure levels from 1979 to 2018 released from ECMWF. A Big Earth Data Platform for Three Poles, 2019

References to articles:

7、Supporting project information

Pan-Third Pole Environment Study for a Green Silk Road-A CAS Strategic Priority A Program

8、Data resource provider

name: DENG Chuangwu  
unit: Guangdong Ocean University  
email: dengchuangwu@gmail.com