A Big Earth Data Platform for Three Poles

**AVHRR\_Path Finder vegetation index dataset of long time series in China (1981-2001)**

1、Description

The data used in this research was provided by the Pathfinder database of the EROS (Earth Resource Observation System) data center. The vegetation index NDVI was prepared by using the NOAA-AVHRR data source after radiation correction and geometric rough correction. Every day, each track image is processed with geometric fine correction, removal of bad lines, and removal of clouds, etc., and then NDVI calculation and synthesis. The daily NDVI calculation formula is: 1000 × (b2-b1) / (b2 + b1), where b1 and b2 are the first and second channels of AVHRR.
         Parameter table of Pathfinder AVHRR
Parameter / Variable Definition Unit Range
NDVI Normalized Vegetation Index None (-1,1)
CLAVR identification Cloudiness index from CLAVR algorithm None (0,30)
QC identification Data quality identification None (0,16)
Scanning angle Sensor angle Radian (-1.05, 1.05)
Solar zenith angle Solar zenith angle per pixel Radian (0, 1.04)
Relative zenith angle Relative zenith angle of the sensor Radian (-1.05, 1.05)
Ch1 reflectance Reflectance of the first channel (0.58-0.68um) Percent (0,100)
Ch2 reflectance Reflectivity of the second channel (0.72--1.10um) Percentage (0, 100)
Ch3 brightness temperature Bright temperature value of the third channel (3.55-3.95um) Kelvin temperature scale (160, 340)
Ch4 brightness temperature Brightness value of the fourth channel (10.3-11.3um) Kelvin temperature scale (160, 340)
Ch5 brightness temperature Bright temperature value of the fifth channel (11.5-12.5um) Kelvin temperature scale (160, 340)
    The data set includes data on NDVI in China's sub-regions from 1981 to June-September 2001, and data on tens of months in each of the years 1982, 1986, 1991, and 1996 (a total of 343 in 84 months, of which 1981 in June 1981). Data are missing in January and July 1st, and September 3rd 1994)
Dataset attributes and format:
This data set is stored in a year folder, which contains .HDR header files, .IMG files, and .JPG image files under the same file name. The data in the IMG is stored as integers. The naming rules are as follows:
avhrrpf. \*. Intfgl.yymmdd\_geo where \* represents ch1 or ch2 or ch4 or ch5 or ndvi, please refer to Table 1 for its specific meaning and range; yy represents the last two digits of the year; mm represents the month; dd represents the specific date.
Data projection:
Size is 963, 688
Coordinate System is:
GEOGCS ["WGS 84",
    DATUM ["WGS\_1984",
        SPHEROID ["WGS 84", 6378137,298.257223563,
            AUTHORITY ["EPSG", "7030"]],
        TOWGS84 [0,0,0,0,0,0,0],
        AUTHORITY ["EPSG", "6326"]],
    PRIMEM ["Greenwich", 0,
        AUTHORITY ["EPSG", "8901"]],
    UNIT ["degree", 0.0174532925199433,
        AUTHORITY ["EPSG", "9108"]],
    AUTHORITY ["EPSG", "4326"]]
Origin = (70.035426000000001, 54.945585999999999)
Pixel Size = (0.072727000000000, -0.072727000000000)
Corner Coordinates:
Upper Left (70.0354260, 54.9455860) (70d 2'7.53 "E, 54d56'44.11" N)
Lower Left (70.0354260, 4.9094100) (70d 2'7.53 "E, 4d54'33.88" N)
Upper Right (140.0715270, 54.9455860) (140d 4'17.50 "E, 54d56'44.11" N)
Lower Right (140.0715270, 4.9094100) (140d 4'17.50 "E, 4d54'33.88" N)
Center (105.0534765, 29.9274980) (105d 3'12.52 "E, 29d55'38.99" N)
Band 1 Block = 963x1 Type = UInt16, ColorInterp = Undefined
    Computed Min / Max = 1.000,55480.000

2、Keywords

Theme：NDVI,Terrestrial Surface Remote Sensing
Discipline：Terrestrial Surface
Places：China
Time：1981-2001

3、Data details

1.Scale：None

2.Projection：None

3.Filesize：5039.93MB

4.Data format：栅格

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：53.6 | - |
| west：73.4 | - | east：135.0 |
| - | south：18.2 | - |

5、Time frame:1981-06-07 15:00:00+00:00--2001-10-07 15:00:00+00:00

6、Reference method

References to data:

Tucker, C.J., J.E.Pinzon, M.E.Brown. AVHRR\_Path Finder vegetation index dataset of long time series in China (1981-2001). A Big Earth Data Platform for Three Poles, 2013

References to articles:

Tucker,C.J,J.E.Pinzon,and M.E.Brown(2004),Global Inventory Modeling and Mapping Studies,NA94apr15b.n11-VIg,2.0,Global Land Cover Facility,University of Maryland,College Park,Maryland,04/15/1994.

7、Supporting project information

8、Data resource provider

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