A Big Earth Data Platform for Three Poles

**Qilian Mountains integrated observatory network: Dataset of Heihe integrated observatory network (Phenology camera observation data set of Arou superstation-2019**

1、Description

The dataset contains the phenological camera observation data of the Arou Superstation in the midstream of Heihe integrated observatory network from August 28, 2019 to December 31, 2019. The instrument was developed and data processed by Beijing Normal University. The phenomenon camera integrates data acquisition and data transmission functions. The camera captures data by look-downward with a resolution of 1280×720. For the calculation of the greenness index and phenology, the relative greenness index (GCC, Green Chromatic Coordinate, calculated by GCC=G/(R+G+B)) needs to be calculated according to the region of interest, then the invalid value filling and filtering smoothing are performed, and finally the key phenological parameters are determined according to the growth curve fitting, such as the growth season start date, Peak, growth season end, etc. For coverage, first, select images with less intense illumination, then divide the image into vegetation and soil, calculate the proportion of vegetation pixels in each image in the calculation area. After the time series data is extracted, the original coverage data is smoothed and filtered according to the time window specified by the user, and the filtered result is the final time series coverage. This data set includes relative greenness index (Gcc).  
Please refer to Liu et al. (2018) for sites information in the Citation section.

2、Keywords

Theme：Vegetation  
Discipline：Atmosphere,Terrestrial Surface  
Places：Upper reaches of the Heihe River  
Time：2019

3、Data details

1.Scale：None

2.Projection：None

3.Filesize：0.1MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：38.0473 | - |
| west：100.4643 | - | east：100.4643 |
| - | south：38.0473 | - |

5、Time frame:2019-09-05 08:00:00+00:00--2020-01-08 08:00:00+00:00

6、Reference method

References to data:

LIU Shaomin, XU Ziwei, Qu Yonghua. Qilian Mountains integrated observatory network: Dataset of Heihe integrated observatory network (Phenology camera observation data set of Arou superstation-2019. A Big Earth Data Platform for Three Poles, doi:10.11888/Meteoro.tpdc.2707012020

References to articles:

Liu, S.M., Li, X., Xu, Z.W., Che, T., Xiao, Q., Ma, M.G., Liu, Q.H., Jin, R., Guo, J.W., Wang, L.X., Wang, W.Z., Qi, Y., Li, H.Y., Xu, T.R., Ran, Y.H., Hu, X.L., Shi, S.J., Zhu, Z.L., Tan, J.L., Zhang, Y., & Ren, Z.G. (2018). The Heihe Integrated Observatory Network: A Basin-Scale Land Surface Processes Observatory in China. Vadose Zone Journal, 17(1), 180072.

7、Supporting project information

Pan-Third Pole Environment Study for a Green Silk Road-A CAS Strategic Priority A Program  
the National Natural Science Foundation of China “Key Theory and Methods for Validation of Land Surface Remote Sensing Products”

8、Data resource provider

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