A Big Earth Data Platform for Three Poles

**HiWATER: Land cover map of the Heihe River Basin**

1、Description

The datasets of “Land Cover Map of Heihe River Basin” provide monthly land cover classification data in 2012-2013. The HJ-1/CCD data with both high spatial resolution (30 m) and high temporal (2 days) frequency was used to construct the time series data. The NDVI curves from the time series HJ-1/CCD data can depict the variation of typical land surface. Different land use type has different NDVI curve. Rules were set to extract every land use type information. The datasets of “Land Cover Map of Heihe River Basin” hold the traditional land use types including water bodies, urban and built-up, croplands, evergreen coniferous forests, deciduous broadleaf forests and so on. Crop type classification (including maize, spring wheat, highland barely, rape and so on), snow and ice and glaciers information updates, make the datasets more detailed. Compared with previous land cover map and other products, the classification result of the datasets is visually bette. Especially in middle stream, the accuracy of crop classification is quite high compared with the data from the ground campaign. The accuracy of land cover map of the datasets in 2012 was evaluated using very high spatial resolution remote sensing data within Google Earth and data from campaign, and the overall accuracy can be as high as 92.19%. In a word, the datasets of “Land Cover Map of Heihe River Basin” is not only high in overall accuracy, but also more detailed in crop fine classification. Furthermore, it updated some new classes like glaciers and snow. The datasets of “Land Cover Map of Heihe River Basin” are consequently the classification datasets with the highest accuracy and most detailed information up to now.

2、Keywords

Theme：Ecological remote sensing products,Land-use and land-cover change(LUCC),Terrestrial Surface Remote Sensing  
Discipline：Terrestrial Surface  
Places：Heihe River Basin  
Time：2014, 2011, 2015, 2012, 2013,

3、Data details

1.Scale：None

2.Projection：UTM Zone47N WSG-84

3.Filesize：255.0MB

4.Data format：ENVI标准格式

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：42.1 | - |
| west：97.8 | - | east：101.8 |
| - | south：37.3 | - |

5、Time frame:2011-01-16 08:00:00+00:00--2016-01-16 07:00:00+00:00

6、Reference method

References to data:

YANG Aixia. HiWATER: Land cover map of the Heihe River Basin. A Big Earth Data Platform for Three Poles, doi:10.3972/hiwater.155.2014.db2016

References to articles:

Zhong B, Ma P, Nie AH, Yang AX, Yao YJ, Lv WB, Zhang H, Liu QH. Land Cover Mapping Using Time Series HJ-1/CCD Data. SCIENCE CHINA Earth Sciences, 2014, 57(8):1790-1799.  
  
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Li, X., Liu, S.M., Xiao, Q., Ma, M.G., Jin, R., Che, T., Wang, W.Z., Hu, X.L., Xu, Z.W., Wen, J.G., Wang, L.X. (2017). A multiscale dataset for understanding complex eco-hydrological processes in a heterogeneous oasis system. Scientific Data, 4, 170083. doi:10.1038/sdata.2017.83.

7、Supporting project information

The CAS (Chinese Academy of Sciences) Action Plan for West Development Project  
National High-tech R&D Program of China (863 Program)  
National High-tech R&D Program of China (863 Program)

8、Data resource provider

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