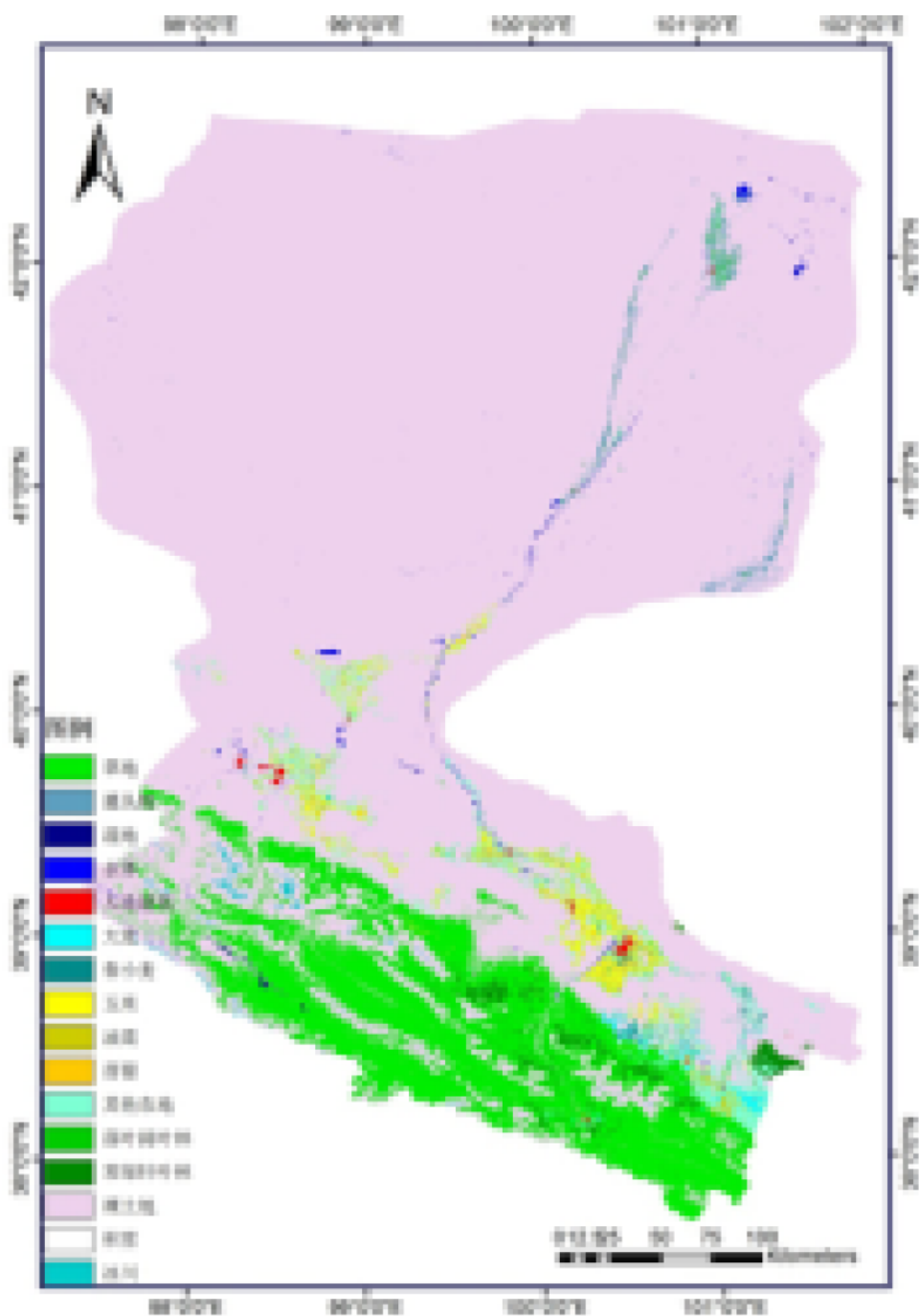




Cold and Arid Regions Science Data Center

HiWATER: Land cover map of Heihe River Basin

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HiWATER: Land cover map of Heihe River Basin

Abstract

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 better. 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.

Keywords

Theme: land use, land cover, CCD time series data, crop fine classification, satellite remote sensing data products, HJ-1, vegetation type,
Place: Heihe River Basin,
Temporal: 2012-01 to 2012-12, 2013-01 to 2013-12, 2012, 2013,
Discipline: satellite remote sensing,
Statrum:

ISO 19115 Category

Category: geoscientificInformation

Detail

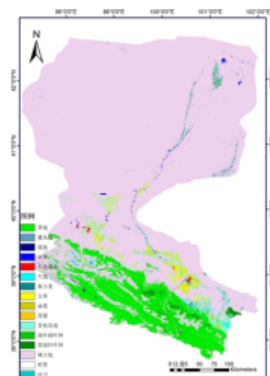
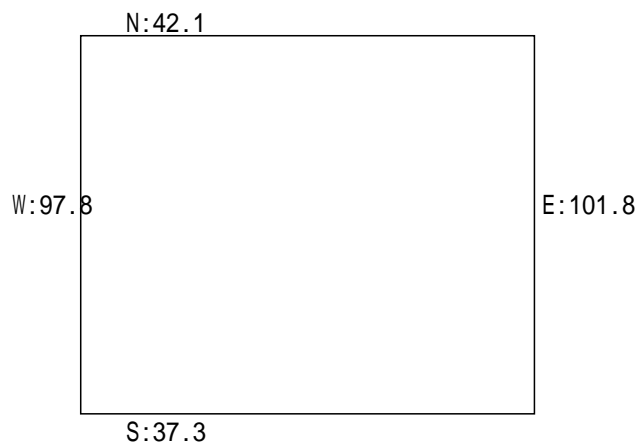
Scale: 30

Project: UTM Zone47N WSG-84

Data Volume(MB): 11439

Data Format: *.tif

Position and Thumbnail



Temporal Range

Start: 2012-01-01

End: 2013-12-31

Citation

1. 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.
2. Zhong B, Yang A, Nie A, Yao Y, Zhang H, Wu S, Liu Q. Finer resolution land-cover mapping using multiple classifiers and multisource remotely sensed data in the Heihe river basin. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2015, 8(10): 4973-4992.
3. 仲波, 马鹏, 聂爱华, 杨爱霞, 姚延娟, 吕文博, 张航, 柳钦火. 基于时间序列HJ-1/CCD数据的土地覆盖分类方法. 中国科学: 地球科学, 2014, 44(5): 967-977
4. Li X, Liu SM, Xiao Q, Ma MG, Jin R, Che T, Wang WZ, Hu XL, Xu ZW, Wen JG, Wang LX. A multiscale dataset for understanding complex eco-hydrological processes in a heterogeneous oasis system. Scientific Data, 2017, 4: 170083. doi:10.1038/sdata.2017.83.

Recommended Publications

1. Bartholomé E, Belward AS. GLC2000: a new approach to global land cover mapping from Earth observation data. International Journal of Remote Sensing, 2005, 26(9): 1959-1977.
2. Ran YH, Li X, Lu L, Li ZY. Large-scale land cover mapping with the integration of multi-source information based on the Dempster-Shafer theory. International Journal of Geographical Information Science, 2012, 26(1): 169-191.
3. Gong P, Wang J, Yu L, Zhao Y, Zhao Y, Liang L, et al. Finer resolution observation and monitoring of global land cover: First mapping results with Landsat TM and ETM+ data. International Journal of Remote Sensing, 2013, 34(7): 2607-2654.
4. Giri C, Zhu Z, Reed B. A comparative analysis of the Global Land Cover 2000 and MODIS land cover data sets. Remote sensing of environment, 2005, 94(1): 123-132.

DOI

10.3972/hiwater.155.2014.db

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3. National High-tech R&D Program of China (863 Program) : (No: 2013AA12A301)

Limitation

1. The dataset is generated from the "Heihe Watershed Allied Telemetry Experimental Research (HiWATER)". User must have a clear statement in the article of the original data source and cite the dataset and papers in the Citation section.

Online Resources

1. <ftp://ftp2.westgis.ac.cn/>
2. <http://card.westgis.ac.cn>

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