Forest type cover data with 10m spatial resolution of China (2018)

Data Documentation

I. Dataset/atlas content features

i. Abstract

This dataset is the forest type cover data with 10m spatial resolution of China (2018). Combining Landsat and sentinel-2 remote sensing images as data sources, the spectral and spatiotemporal feature sets of different forest types have been established. Using Landsat and time series harmonic analysis to establish a time feature set. Based on the spectral-temporal feature set, supported by reference data, the random forest recursive feature elimination algorithm is used to study and establish the main features of different regions. According to the spectral-spatial-temporal feature sets of different regions, four machine learning algorithms are used to establish a forest type classification model. Then, using the determined best-fitting model, a forest type map with a spatial resolution of 10 in Southeast China in 2018 was generated. The data format is TIF, the spatial range is Southeast China, and the time is 2018.

ii. Elements (content fields)

The dataset is named northeast (NE), southwest (SW), south (SO), and south- north transition (SNT) regions.

iii. Temporal cover

2018.

iv. Spatial cover

The spatial range of this dataset including northeast (NE), southwest (SW), south (SO), and south-north transition (SNT) regions.

II. Subject/industry scope of dataset/atlas

i. Subject scope

Geography . forestry

ii. Industry scope

Geography . forestry

iii. Other classifications (optional)

(Other categories can be applied, but should reflect the dataset/atlas characteristics.)

III. Accuracy of dataset/atlas

i. Time frequency

ii. Spatial reference, accuracy, and granularity

Spatial reference: WGS_1984

Accuracy: Overall classification accuracy for south west is 84.02%

IV. Dataset/atlas storage management

i. Data quantity

1 GB

ii. Type format

TIF

iii. Update management

Irregular updating

V. Quality control of the dataset/atlas

i. Production mode

Remote sensing image classification

ii. Data sources (condition selection)

Google Earth Engine platform

iii. Methods of the data acquisition and processing (condition selection)

This data set is about the forest cover data of southeast China in 2018. Combining the characteristics and advantages of Landsat and sentinel-2 remote sensing images, spectral, spatial and temporal feature sets reflecting different forest types were studied and established respectively. The characteristics of Landsat long time series and time series harmonic analysis technique were utilized to establish the time feature set of forest type extraction. Based on the spectral-spatial-temporal feature set, the main features in different regions were studied and established by using the Random Forest-Recursive feature elimination algorithm with the support of reference data.

According to the spectral-spatial-temporal feature set of different regions, using four machine learning algorithms to establish forest type classification model. Then the forest type maps with 10 spatial resolution in 2018 for China were generated using the determined best fit model for different regions.

VI. Sharing and usage method of the dataset/atlas

i. Sharing methods and restrictions

Fully opened sharing

ii. Contact information of the sharing service (condition selection)

Contact Information for Service：

Name: Service group of Disaster Risk Reduction Knowledge Service System of IKCEST

Address：A11 Datun Road, Chaoyang District, Beijing

Zip Code：100101

E-mail: ikcest-drr@lreis.ac.cn

iii. Conditions and methods of usage

The dataset can be read by ArcGIS and ENVI software.

VII. Intellectual property rights of the dataset/atlas

i. Property rights (optional)

The property of the dataset belongs to the Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences.

ii. Reference method of the dataset/atlas

Forest type cover data of southeast China (2018). Disaster Risk Reduction Knowledge Service of International Knowledge Centre for Engineering Sciences and Technology (IKCEST) under the Auspices of UNESCO, 2021.9.28.

iii. Usage contacts of the datasets/atlas

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Address: A11 Datun Road, Chaoyang District, Beijing .

Postcode: 100101

Telephone: 010-64889048-8006

Email: ikcest-drr@lreis.ac.cn

VIII. Others (optional)

In addition to the above, other information must also be explained.

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