Bangladesh Dhaka flood risk assessment on 30 meters

Data Documentation

I. Dataset/atlas content features

i. Abstract

This 10-meter fine-scale flood hazard, sensitivity, vulnerability, and risk assessment dataset for Dhaka, Bangladesh, uses river network density, elevation, slope, and vegetation cover to assess the sensitivity of the environment that harbors the hazard; and mean annual rainfall, number of consecutive days of rainfall, and historical peak rainfall as indicators of hazard for assessing hazard-causing factors; The vulnerability of hazard-bearing agents is evaluated using data on population density, road network density, land use type, and lighting; a thorough risk assessment is conducted by combining hazard, sensitivity, and vulnerability and creating a dataset product of hazard, sensitivity, vulnerability, and risk. With a spatial resolution of 30 meters, the dataset's spatial area is the city of Dhaka, Bangladesh.

ii. Elements (content fields)

Table 1 Description of data element content

Data name	Item (field)	Field name in Chinese	Field measure unit	Field code description	Remarks
Bangladesh Dhaka Flood risk assessment on a ten-meter scale	Value	Bangladesh Dhaka Flood risk assessment on a ten-meter scale			

iii. Temporal cover

2020.

iv. Spatial cover

Bangladesh Dhaka city.

II. Subject/industry scope of dataset/atlas

i. Subject scope

Earth science

ii. Industry scope

Disaster prevention and mitigation, ecological environment, climate change, tourism, social development

iii. Other classifications (optional)

III. Accuracy of dataset/atlas

i. Time frequency

ii. Spatial reference, accuracy, and granularity

Spatial reference: GCS_WGS_1984

Accuracy: 1 time

Spatial resolution: 30m×30m

Granularity: pixel

IV. Dataset/atlas storage management

i. Data quantity

2.04 MB

ii. Type format

The data set is stored on hard disk, and the data structure type is raster data.

iii. Update management

Updated from time to time.

V. Quality control of the dataset/atlas

i. Production mode

It is calculated by the analysis model of meteorological data, basic geographic data, remote sensing data.

ii. Data sources (condition selection)

The daily weather station data comes from the National Oceanic and Atmospheric Administration (NOAA), the DEM data comes from the Copernicus GLO-30mDEM data set, the road and river distribution data comes from OpenStreet, the population density data comes from the WorldPop website, and the land use data comes from the GlobelLand 30-meter data. Set, the night lights come from "Luojia No. 1".

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

After statistical processing of daily meteorological station data, the research team then used Kriging interpolation to obtain the average annual rainfall, number of consecutive rainfall days and historical peak rainfall in the entire study area. Download the DEM data from the European Space Agency, and use Arcgis tools to calculate the slope and terrain relief respectively; the river network density and road network density are calculated using the Arcgis density analysis tool; after the lighting data is downloaded from the website, the DN value is converted to light index data.

VI. Sharing and usage method of the dataset/atlas

i. Sharing methods and restrictions

Fully shared

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

The service is as follows:

Name: Yang fei

Mailing address: A11 Datun Road, Chaoyang District, Beijing

Zip code: 100101

E-mail：yangfei@lreis.ac.cn

iii. Conditions and methods of usage

Use ArcGIS, ENVI and other software to open.

VII. Intellectual property rights of the dataset/atlas

i. Property rights (optional)

“Bangladesh Dhaka flood risk assessment on 30 meters dataset” owned by institute of

geographic sciences and natural resources research, CAS.

ii. Reference method of the dataset/atlas

Bangladesh Dhaka flood risk assessment on 30 meters dataset. Disaster Risk Reduction Knowledge Service of International Knowledge Centre for Engineering Sciences and Technology (IKCEST) under the Auspices of UNESCO,2021.05.28. ……

iii. Usage contacts of the datasets/atlas

Contact person

Name: Yang fei

Mailing address: A11 Datun Road, Chaoyang District, Beijing

Zip code: 100101

E-mail：yangfei@lreis.ac.cn

VIII. Others (optional)

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

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