Global monthly burned area from 1997 to 2016

Data Documentation

I. Dataset/atlas content features

i. Abstract

This dataset provides global estimates of monthly burned area at 0.25-degree x 0.25-degree for 1997 to 2016 in HDF (.hdf) format (GFED4). It is using the Albers projection and WGS-1984 geographic coordinate system. Emissions data are available for carbon (C), dry matter (DM), carbon dioxide (CO2), carbon monoxide (CO), methane (CH4), hydrogen (H2), nitrous oxide (N2O), nitrogen oxides (NOx), non-methane hydrocarbons (NMHC), organic carbon (OC), black carbon (BC), particulate matter less than 2.5 microns (PM2.5), total particulate matter (TPM), and sulfur dioxide (SO2) among others. These data are yearly totals by region, globally, and by fire source for each region. Every monthly data has 44 subdatasets and totally 10560 records

ii. Elements (content fields)

There are 44 subdataset for every monthly data:

The meanings of each subdatset is as follows:

Table 1 Description of each number

Subdataset0	BurnedArea	Subdataset22	TreeCoverDist
Subdataset1	BurnedAreaUncertainty	Subdataset23	TreeCoverDist
Subdataset2	Source	Subdataset24	LandCoverDist
Subdataset3	TreeCoverDist	Subdataset25	LandCoverDist
Subdataset4	TreeCoverDist	Subdataset26	LandCoverDist
Subdataset5	TreeCoverDist	Subdataset27	LandCoverDist
Subdataset6	TreeCoverDist	Subdataset28	LandCoverDist
Subdataset7	TreeCoverDist	Subdataset29	LandCoverDist
Subdataset8	TreeCoverDist	Subdataset30	LandCoverDist
Subdataset9	TreeCoverDist	Subdataset31	LandCoverDist
Subdataset10	TreeCoverDist	Subdataset32	LandCoverDist
Subdataset11	TreeCoverDist	Subdataset33	LandCoverDist
Subdataset12	TreeCoverDist	Subdataset34	LandCoverDist
Subdataset13	TreeCoverDist	Subdataset35	LandCoverDist
Subdataset14	TreeCoverDist	Subdataset36	LandCoverDist
Subdataset15	TreeCoverDist	Subdataset37	LandCoverDist
Subdataset16	TreeCoverDist	Subdataset38	LandCoverDist
Subdataset17	TreeCoverDist	Subdataset39	LandCoverDist
Subdataset18	TreeCoverDist	Subdataset40	LandCoverDist
Subdataset19	TreeCoverDist	Subdataset41	LandCoverDist
Subdataset20	TreeCoverDist	Subdataset42	FirePersistence
Subdataset21	TreeCoverDist	Subdataset43	PeatFraction

iii. Temporal cover

Monthly data for the period 1997-01 to 2016-12.

iv. Spatial cover

The spatial covers the following 14 regions: Boreal, Temperate, and Central America, Northern and Southern Hemisphere South America, Europe, Middle East, Northern and Southern Hemisphere Africa, Boreal, Central, Southeast, and Equatorial Asia, Australia and New Zealand. The upper left corner of each file is centered at 179.875 W, 89.875 N and the lower right corner at 179.875 E, 89.875 S.

II. Subject/industry scope of dataset/atlas

i. Subject scope

Technology of photogrammetry and remote sensing (Remote Sensing Information Engineering other technologies), Cartography, Geography (Physical geography, Human geography, Regional geography, Urban geography, Tourism Geography) et al.

ii. Industry scope

Natural science research and experimental development, Engineering and technical research and experimental development, natural resource scientific research and experimental development, Environmental monitoring, Natural conservation et al.

iii. Other classifications (optional)

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

III. Accuracy of dataset/atlas

i. Time frequency

The time of this data covers 1997 to 2016 at month scale

ii. Spatial reference, accuracy, and granularity

The geographical coordinator is WGS-84 and the projection is Albers. The spatial resolution is 3 0.25-degree x 0.25-degree.

IV. Dataset/atlas storage management

i. Data quantity

73.3 MB

ii. Type format

The dataset is stored in the hard disk and it is raster data. It can be opened by ArcGIS software under Windows operator system.

iii. Update management

Aperiodic updating

V. Quality control of the dataset/atlas

i. Production mode

The dataset were downloaded from the Distributed Active Archive Center for Biogeochemical Dynamic website (https://daac.ornl.gov/VEGETATION/guides/fire_emissions_v4_R1.html). The data were derived by combining 500-m MODIS burned area maps with active fire data from the Tropical Rainfall Measuring Mission (TRMM) Visible and Infrared Scanner (VIRS) and the Along-Track Scanning Radiometer (ATSR) family of sensors. For additional information, refer to Giglio et al., 2013 (https://doi.org/10.1002/jgrg.20042).

ii. Data sources (condition selection)

The source of this dataset is 500-m MODIS data and active fire data from the Tropical Rainfall Measuring Mission (TRMM) Visible and Infrared Scanner (VIRS) and the Along-Track Scanning Radiometer (ATSR) family of sensors.

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

Acquisition method: derived by combining 500-m MODIS burned area maps with active fire data from the Tropical Rainfall Measuring Mission (TRMM) Visible and Infrared Scanner (VIRS) and the Along-Track Scanning Radiometer (ATSR) family of sensors.

Processing method: referring to Giglio et al., 2013 (https://doi.org/10.1002/jgrg.20042).

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 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

Global monthly burned area from 1997 to 2016. Disaster Risk Reduction Knowledge Service of International Knowledge Centre for Engineering Sciences and Technology (IKCEST) under the Auspices of UNESCO, 2014.9.13, http://drr.ikcest.org/info/9de30.

Randerson, J.T., G.R. van der Werf, L. Giglio, G.J. Collatz, and P.S. Kasibhatla. 2018. Global Fire Emissions Database, Version 4.1 (GFEDv4). ORNL DAAC, Oak Ridge, Tennessee, USA. https://doi.org/10.3334/ORNLDAAC/1293.

iii.   Usage contacts of the datasets/atlas

(The contact persons or agencies, who curate the data and provide a data sharing service, should be listed, including their name, address, postcode, telephone, and e-mail).

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VIII.   Others (optional)

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

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