



High Mountain Asia Landslide Catalog, Version 1

USER GUIDE

How to Cite These Data

As a condition of using these data, you must include a citation:

Kirschbaum, D. B. 2019. *High Mountain Asia Landslide Catalog, Version 1*. [Indicate subset used].
Boulder, Colorado USA. NASA National Snow and Ice Data Center Distributed Active Archive
Center. <https://doi.org/10.5067/5ST0TZCD9RQ3>. [Date Accessed].

FOR QUESTIONS ABOUT THESE DATA, CONTACT NSIDC@NSIDC.ORG

FOR CURRENT INFORMATION, VISIT https://nsidc.org/data/HMA_LS_Cat



National Snow and Ice Data Center

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1 DATA DESCRIPTION

NOTE: The data provided in this data set are not continuously updated. For the most current version of these data, visit [NASA's Global Landslide Catalog website](#).

1.1 Parameters

The parameters found in the data files are described in Table 1. The shapefiles contain point locations and polygons of landslide events and attributes for each event, such as date and time of occurrence, trigger, number of fatalities, country of occurrence, length and area of slide, links to photos and other information.

Table 1. Parameter Descriptions

Parameter	Description
src_name	Name of information source
src_link	Link to information source
ev_id	Event ID number
ev_date	Event date in YYYY-MM-DD format
ev_time	Event time in HH:MM format
ev_title	Event title
ev_desc	Event description
loc_desc	Location description
loc_accu	Location accuracy
ls_cat	Landslide category
ls_trig	Landslide trigger
ls_size	Landslide size
ls_setting	Landslide setting
fatalities	Number of fatalities
injuries	Number of injuries
storm_name	Associated storm name
photo_link	Link to representative photo
comments	Comments
ev_imp_src	Name of inventory in which landslide was recorded
ev_imp_id	Number of this event in original inventory
latitude	Latitude
longitude	Longitude
ctry_name	Country name

Parameter	Description
ctry_code	Country code
div_name	Political division name
gaz_point	Nearest point in gazetteer
gaz_dist	Distance to nearest point in gazetteer
sub_date	Submission date
edit_date	Editing date

1.2 File Information

1.2.1 Format

The data files are provided as ESRI shapefiles (.shp, .shx, .dbf, .prj, .sbn, .sbx, .CPG).

1.2.2 Naming Convention

Example file names:

HMA_LS_Cat_nasa_global_landslide_catalog_point.shp

HMA_LS_Cat_nasa_global_landslide_catalog_poly.shp

The files are named according to the following convention, which is described in detail in Table 2:

HMA_LS_Cat_nasa_global_landslide_catalog_[type].[ext]

Table 2. File Naming Convention

Variable	Description
HMA_LS_Cat	Data set ID
nasa_global_landslide_catalog	NASA global landslide catalog
type	Type: point location or polygon
.ext	File type: .shp, .shx, .dbf, .prj, .sbn, .sbx, .CPG (ESRI shapefiles)

1.3 Spatial Information

1.3.1 Coverage

This data set includes locations within a zonal band defined by the following spatial extents:

Northernmost latitude: 72.7° N

Southernmost latitude 46.8° S

Easternmost longitude: 180.0° E

Westernmost longitude: 180.0° W

1.3.2 Resolution

Varies

1.3.3 Geolocation

Table 3 provides information for geolocating this data set.

Table 3. Geolocation Details

Geographic coordinate system	WGS 84
EPSG code	4326
PROJ4 string	+proj=longlat +datum=WGS84 +no_defs
Reference	https://epsg.io/4326

1.4 Temporal Information

1.4.1 Coverage

10 February 1956 to 18 December 2018

1.4.2 Resolution

Varies

2 DATA ACQUISITION AND PROCESSING

2.1 Background

Landslides cause billions of dollars in infrastructural damage and thousands of deaths every year worldwide. Data on past landslide events guides future disaster prevention, so NASA is building the biggest open global landslide inventory to address this problem, with input from citizen scientists.

2.2 Data Acquisition and Processing

The Cooperative Open Online Landslide Repository (COOLR) project provides an open platform where scientists and citizen scientists around the world can share landslide reports to guide awareness of landslide hazards for improving scientific modeling and emergency response. Data collection methods include crowd-sourced submissions, identification in satellite imagery, and other ground-based reports. Scientists and citizen scientists can submit landslides to the [Landslide Reporter web application](#), or submit landslide inventories directly to [NASA's Global Landslide Catalog](#). All the data submitted are made available on the data portal Landslide Viewer, which shows referenced and imported landslide inventories from all over the world. For more information on COOLR, see Juang et al. (2019).

2.3 Quality, Errors, and Limitations

The location accuracy is listed in the shapefiles as the parameter `loc_accu`. The uncertainty in magnitude of impacts is not addressed.

3 SOFTWARE AND TOOLS

Shapefiles files can be opened using software that recognizes the shapefile format, such as QGIS and ArcMap.

The following software was developed by scientists to produce High Mountain Asia products from satellite data or reanalysis (climate model) data. These software products are not designed for non-specialist users in general, but may be useful to other scientists, and may facilitate learning the details of the algorithms behind some of the High Mountain Asia data products.

[Landslide hazard analysis for situational awareness](#)

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4 RELATED DATA SETS

[High Mountain Asia at NSIDC | Data Sets](#)

5 RELATED WEBSITES

[High Mountain Asia at NSIDC | Overview](#)

[NASA High Mountain Asia Project](#)

[NASA's Global Landslide Catalog website](#)

[NASA Landslides COOLR Data web page](#)

6 CONTACTS AND ACKNOWLEDGMENTS

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7 REFERENCES

Juang, C. S., Stanley, T. A., & Kirschbaum, D. B. (2019). Using citizen science to expand the global map of landslides: Introducing the Cooperative Open Online Landslide Repository (COOLR). PLOS ONE, 14(7), e0218657. <https://doi.org/10.1371/journal.pone.0218657>

8 DOCUMENT INFORMATION

8.1 Publication Date

14 March 2019

8.2 Date Last Updated

23 July 2021