



ICIMOD

Sudip Pradhan
24 September 2020

Regional Database System

Promoting Regional Data Visualization and Sharing

Regional Database System

provides center wide data management and sharing mechanisms essential for efficient and effective use of data:

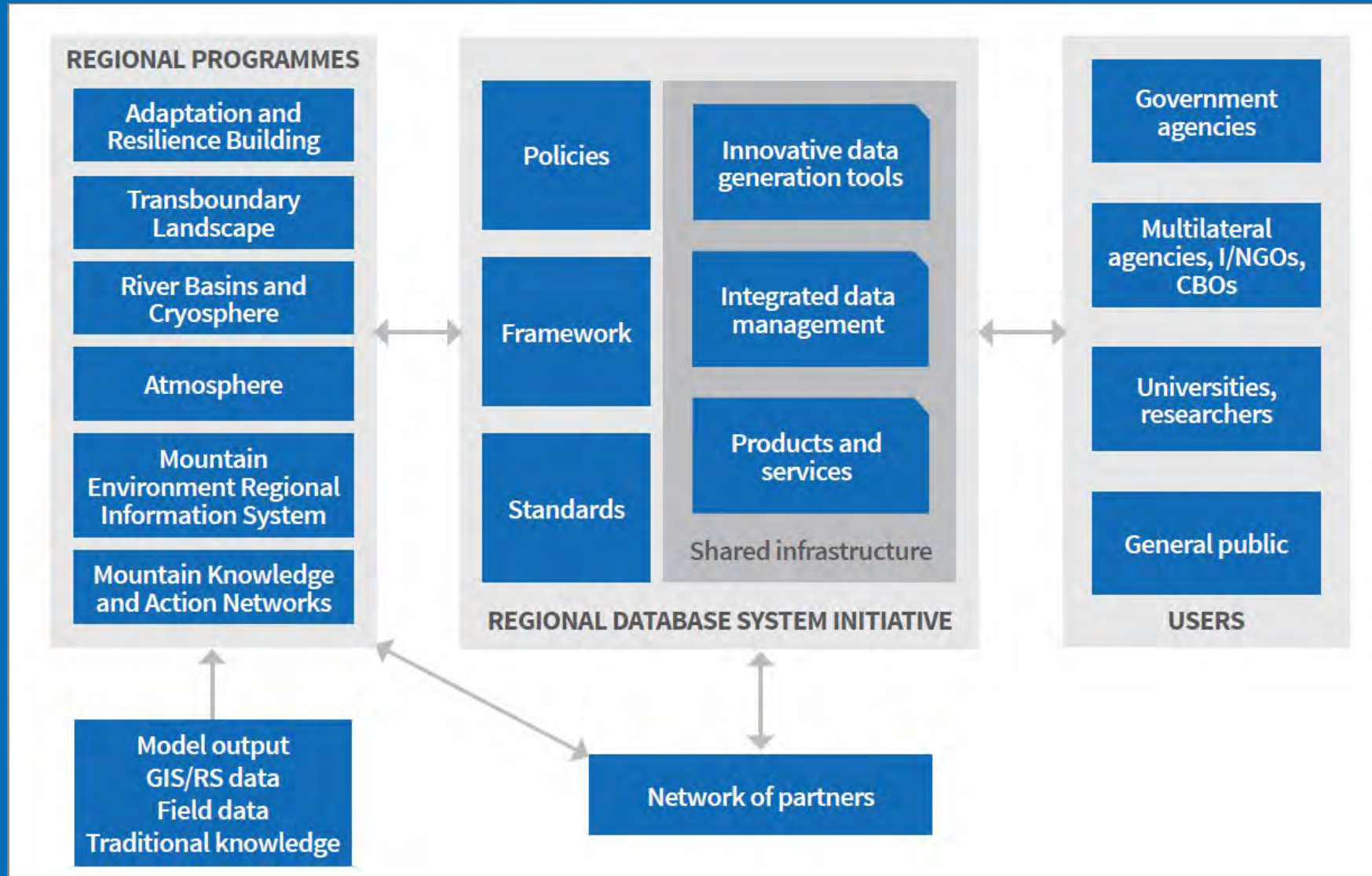
- Infrastructure to facilitate storage and management of data centrally with a proper backup systems (on/off the campus)
- Adoption of standards, interoperable technologies in data management and sharing
- Tools for easy access to data.
- Data sharing policy and operation guidelines



Various thematic data at different geographical (local, national, regional) and temporal scale



Regional Database System Framework

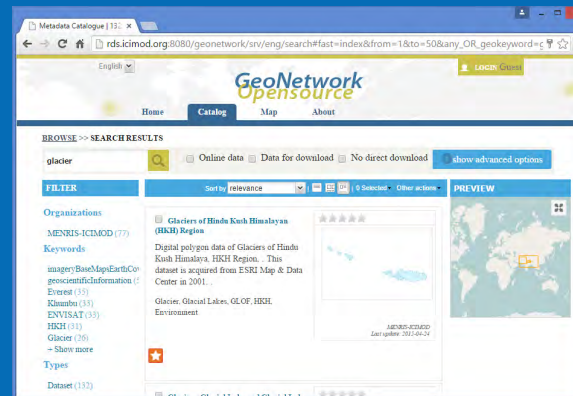


Major RDS Components



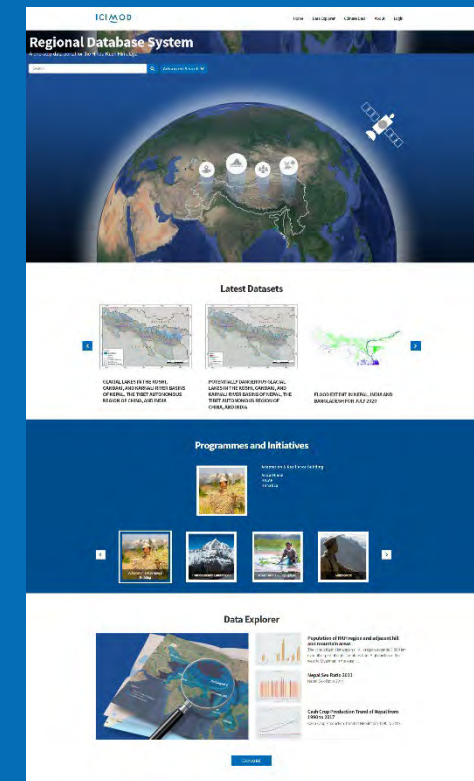
Data

GeoNetwork



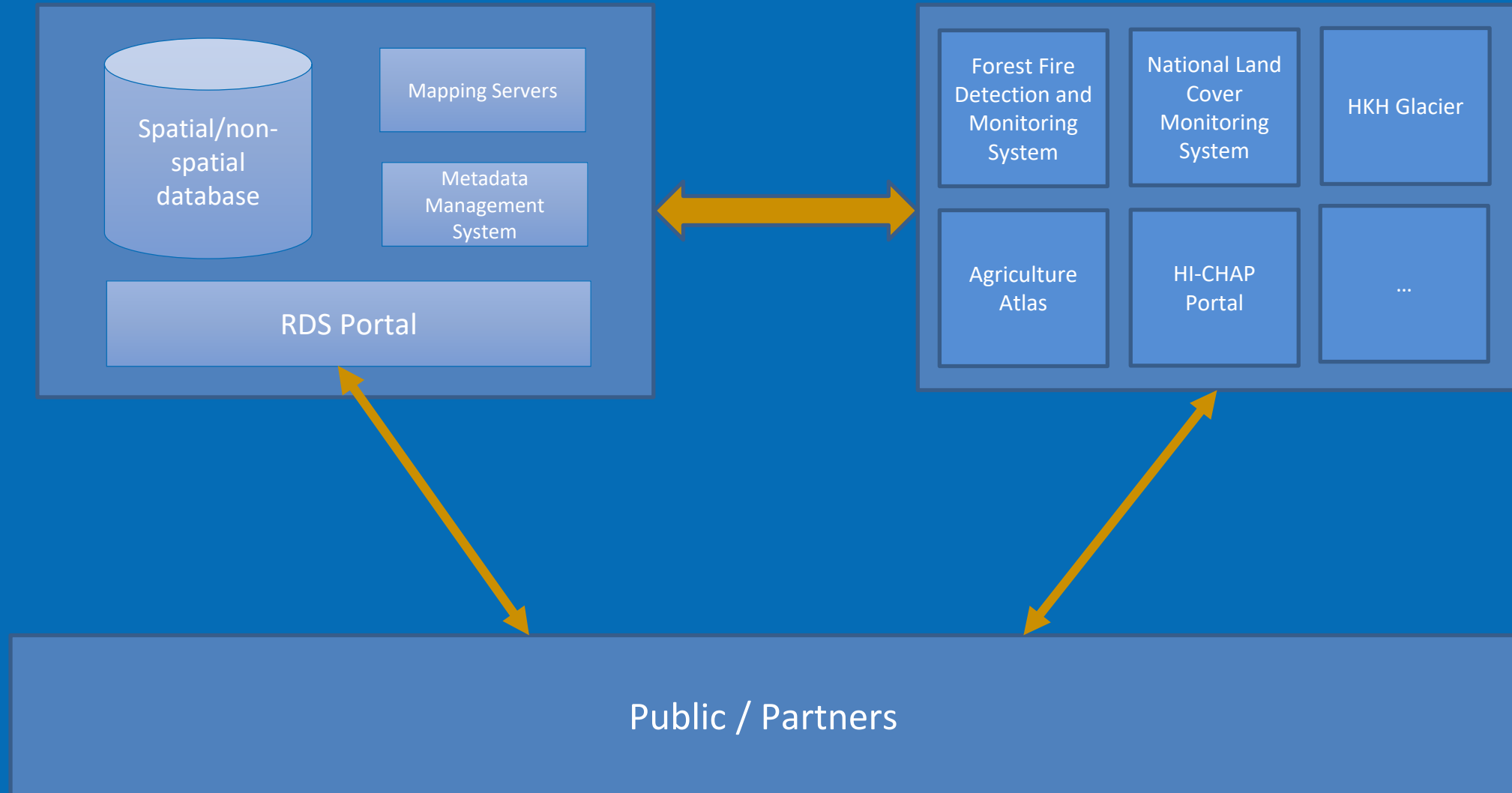
Metadata

RDS Portal



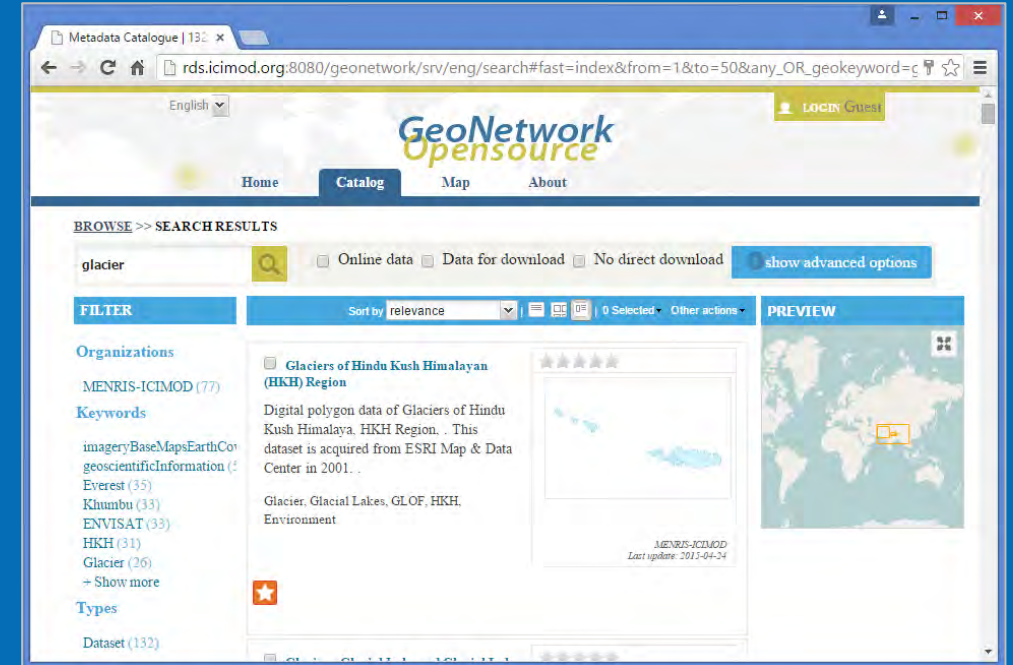
Dissemination

RDS and Information Systems



Metadata Standards

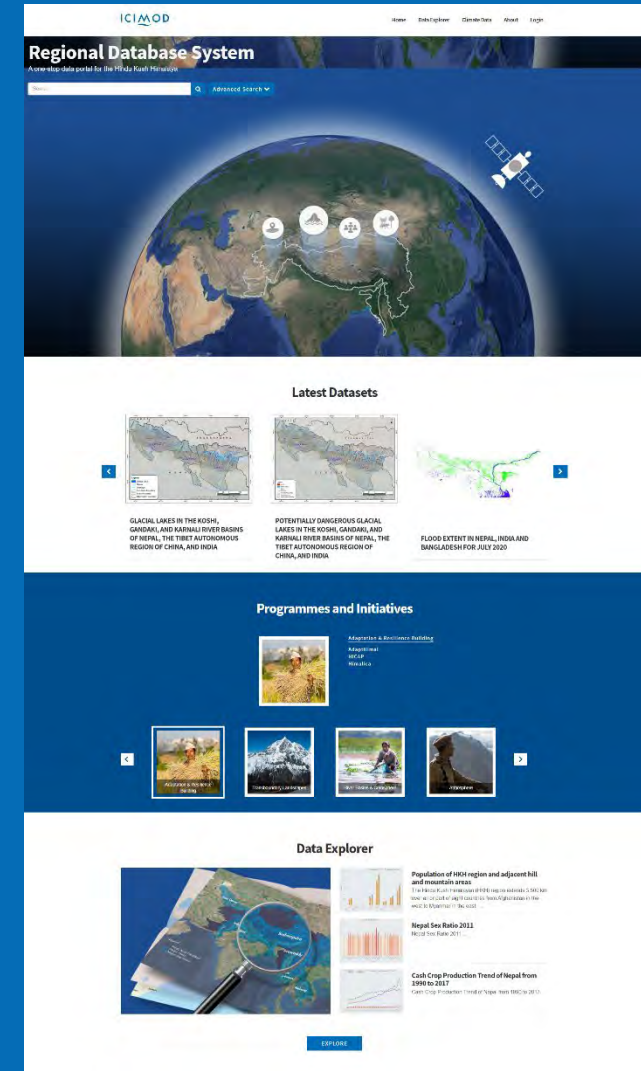
- North American Profile (NAP) of ISO 19115-2
 - GIS/RS data
- GBIF (EML)
 - Biodiversity data
- World Meteorological organization(WMO)
 - Weather station data



Regional Database System Portal

Provides a gateway to data stored in RDS.

- enables finding data by initiatives and programmes or browsing the data by Subject Areas.
- allows searching of data and viewing detailed metadata.
- public datasets downloadable after simple registration.



rds.icimod.org



Regional Database System


[Advanced Search ▾](#)

Filters

Keywords

[Geoscientific information \(16\)](#)
[Nepal \(11\)](#)
[Sentinel-1 \(11\)](#)
[River \(9\)](#)
[Flood2017 \(8\)](#)
[Water area \(8\)](#)
[Bangladesh \(7\)](#)
[Flood \(6\)](#)
[Koshi \(6\)](#)
[servircat \(5\)](#)
[icimod-servir \(5\)](#)
[East Rapti \(5\)](#)
[Terai \(4\)](#)
[Jamuna \(4\)](#)
[Padma \(4\)](#)

16 Record(s) found

Digital elevation model (DEM) of East Rapti River (buffer)

DEM was generated from SPOT stereo-pair.


[VIEW MAP](#)
[DOWNLOAD](#)

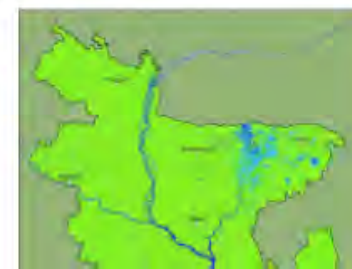
Inundation layers for incremental discharge from 100mm to 420mm and every 100% increase upto 1000%

Inundation layer for incremental discharge.


[VIEW MAP](#)
[DOWNLOAD](#)

Flood data of Bangladesh April, 2017

Bangladesh is one of the most flood-affected countries in the world. In the last few decades, flood frequency, intensity, duration, and devastation have increased in Bangladesh. Identifying flood-dam..



Identification Info

Title	Flood data of Bangladesh on July 29, 2017
Date	2017-07-29
Date Type	publication
Abstract	Bangladesh is one of the most flood affected country in the world. The frequency, intensity and duration of floods has been increased during last few decades. Due to increased population settlements in floodplains and irregular development damage of infrastructure, crop and property has increased creating severe impact on lives and livelihood. Understanding the severity and identification of extent and types of flood damage is highly important to plan effective response. The aim of this study was to develop appropriate methodology to determine extent of flood and damaged areas in near real time basis to support operational response. We have used Sentinel-1 synthetic aperture radar (SAR) images to generate flood extend data for the year 2017.
Purpose	Understanding the flood severity and identification of flood inundation areas.
Status	completed
Charset	Utf8
Topic Category	geoscientificInformation
Spatial Representation Type	
Spatial Resolution	30

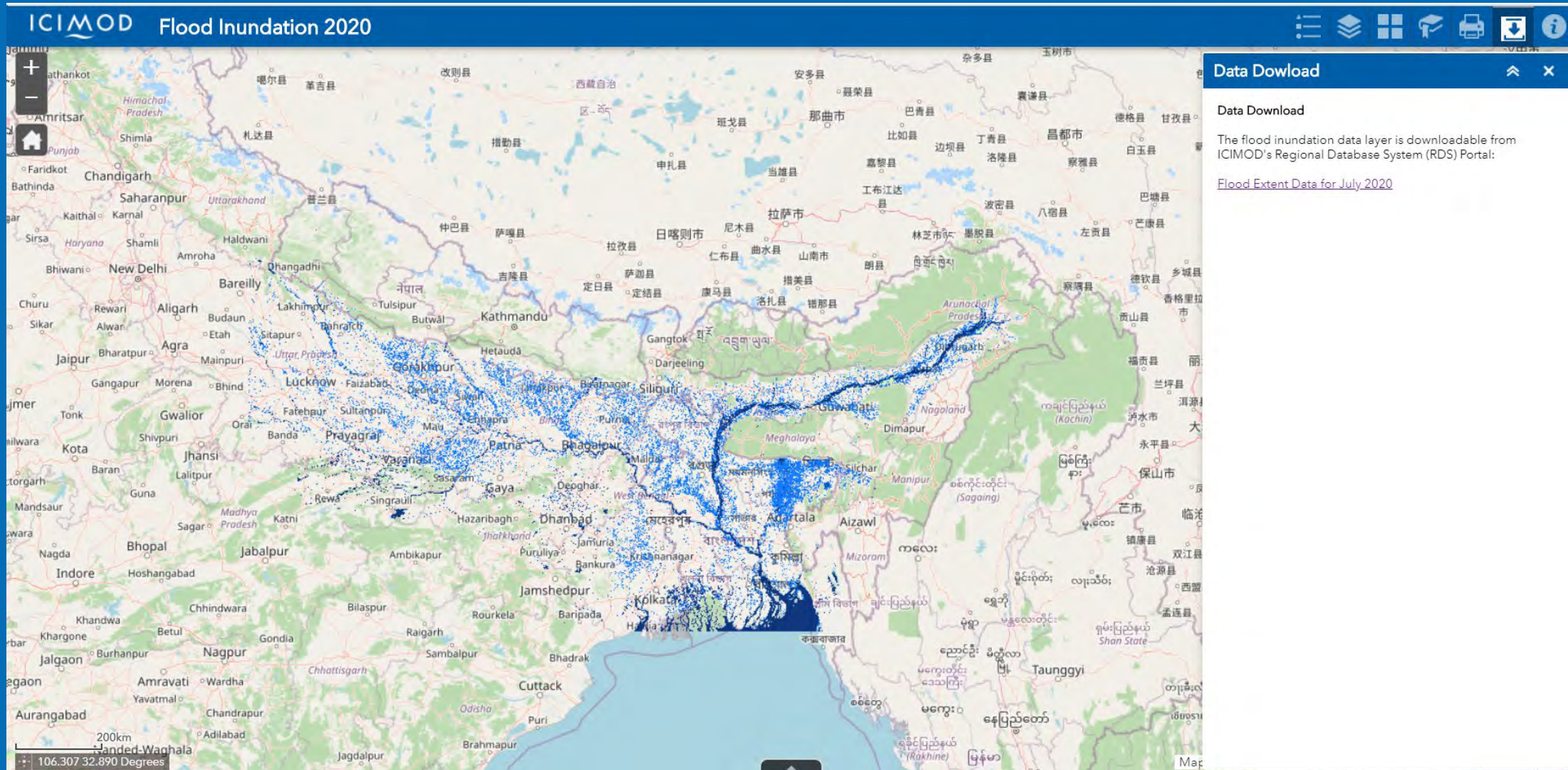
Cited Responsible Parties

Name	Mr. Kabir Uddin	Email	Kabir.Uddin@icimod.org
Organization Name	ICIMOD	Voice	977-1-5275222
Position name	GIS and Remote Sensing Specialist	Address	Nepal
Role	author		

Geographic Extent

Geographic Extent East	91.906	Geographic Extent West	88.7907
------------------------	--------	------------------------	---------

Flood Inundation Mapping



Regional Database System

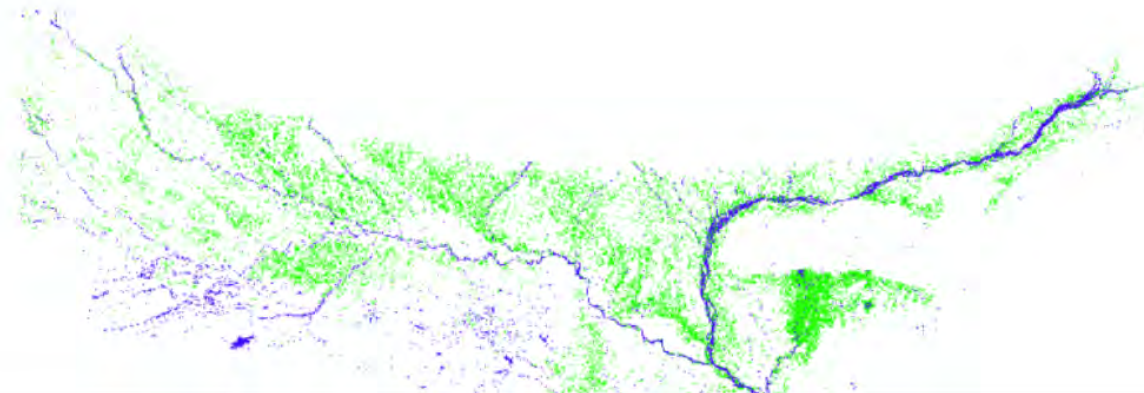
[Advanced Search](#) ▼

Flood Extent in Nepal, India and Bangladesh for July 2020

UPDATED DATE: 9/8/2020 2:49:25 PM

[DOWNLOAD](#)

The data provides flood extent in July 2020 covering areas of Nepal, India and Bangladesh. The data has been developed as part of rapid flood inundation mapping activity to support quick and effective response. The Sentinel-1 synthetic aperture radar (SAR) images for July 2020 have been used to generate the flood extent data.



HKH Climate and Hydrology Visualization and Access Portal (HI-CHAP)

ICIMOD

Climate Change Hydrology Compare Map Chart

Parameters

Geographic Area

Major Basin

All

Data Source

HICAP

Map Option

Map of Average

Measurement

Precipitation

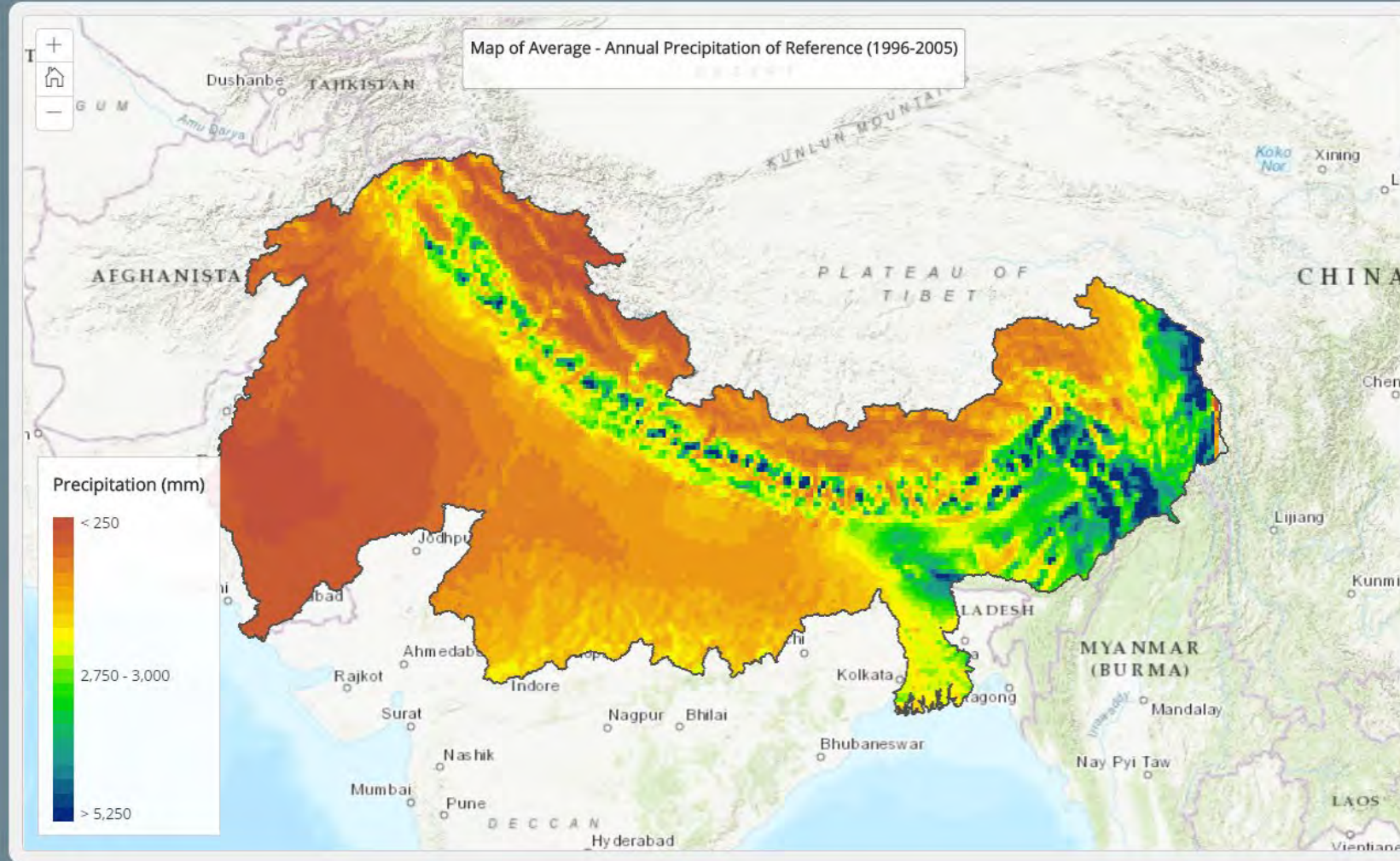
Time Option

Annual

Time Period

Reference (1996-2005)

Data Download Tool



Base Layers Legend

☒ Outline

☐ Basin

☐ Sub Basin

Metadata Useful Links

- Climate Scenario data from BCCR Norway (NorESM)
- Average Delta change of temperature and precipitation from CIMP5 database

Climate Data Download Tool

ICIMOD

HomeData ExplorerClimate DataAboutLogoffWelcome sudip!

Regional Database System

Tool

Data Source:

HI-AWARE

Select or draw AOI

☒ Major Basin:

--Select--

☐ Sub Basin:

--Select--

Draw:

REC

POLY

KML

RESET

Measurement

Parameter:

Precipitation (5km)

Future Climate Model

Scenarios:

Reference (1981-2010)

Time Period

From Year:

1981


To Year:

1985

DOWNLOAD



Temporal Data Download Tool



Regional Database System

HomeData ExplorerAboutLogoffWelcome! bishakya

Temporal Data Download Tool

Data Source: Snow Cover

Select or draw AOI

☒ Major Basin: --Select--

☐ Sub Basin: --Select--

Draw:

REC

POLY

KML

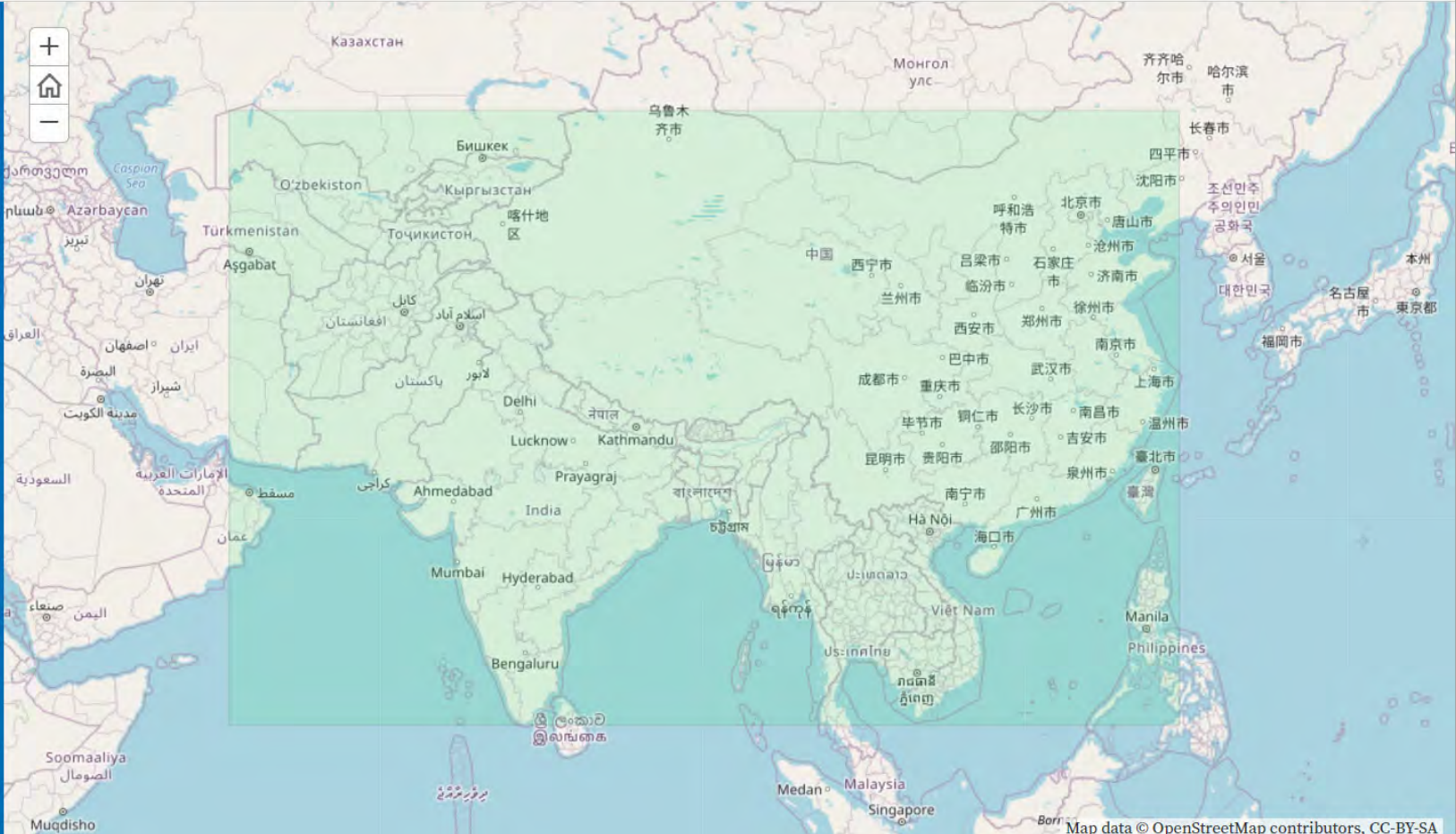
RESET

Time Period

From Year: 2003

To Year: 2003

DOWNLOAD



Map data © OpenStreetMap contributors, CC-BY-SA



RDS datasets discoverable through GEOSS GeoPortal

The screenshot displays the GEOSS GeoPortal interface. At the top, there are logos for the Group on Earth Observations, GEOSS Portal, and ESA. The main search bar contains the term 'glacier'. Below the search bar, a green banner indicates 'Search Results' with 'Number of results: 74'. A 'Filters' section includes dropdown menus for 'KEYWORD', 'ICIMOD Regiona...', 'PROTOCOL', and 'ORGANISATION'. The search results list two datasets: 'Glaciers of Bhutan 2010' and 'Glaciers of Bhutan 1990', both from the 'ICIMOD Regional Database System'. Each entry includes a description of the dataset, a 'Start date', and a 'Resource preview not available' status. A map of Asia is visible on the right side of the screen, with a yellow box highlighting the region of Bhutan. The bottom of the screen shows a pagination bar indicating 'Visible 11-20 of 74' and navigation buttons for 'prev' and 'next'.

Search Results Number of results: 74

Filters

KEYWORD ▼ ICIMOD Regiona... ▼ PROTOCOL ▼ ORGANISATION ▼

☐ Resource preview not available

Glaciers of Bhutan 2010
(Organization: ICIMOD Regional Database System)
Digital polygon data of Glaciers of Bhutan in 2010. This dataset is created using Landsat TM and ETM+, imageries of 2010. The glacier outlines was derived semi-automatically using object-based image classification (OBIC) method separately for clean ice and debris cover and further editing and valid ...

Start date: 1986-11-10

☐ Resource preview not available

Glaciers of Bhutan 1990
(Organization: ICIMOD Regional Database System)
Digital polygon data of Glaciers of Bhutan in 1990. This dataset is created using Landsat MSS, imageries of 1990. The glacier outlines was derived semi-automatically using object-based image classification (OBIC) method separately for clean ice and debris cover and further editing and validation wa ...

Visible 11-20 of 74 ◀ prev next ▶

Google Data Search

(<https://datasetsearch.research.google.com>)

The screenshot shows the Google Data Search interface. At the top, the Google logo is on the left, and a search bar contains the text 'HKH glacier'. To the right of the search bar are icons for clearing the search, information, and a notification. Below the search bar, there are filter buttons: 'Last updated', 'Download format', 'Usage rights', 'Topic', and 'Free'. On the far right, there is a 'Saved data sets' button. The main content area displays '48 data sets found'. Three results are visible in the left sidebar, each with the ICIMOD logo, a title, the source 'rds.icimod.org', a file format icon (zip), and an update date. The first result is highlighted. The main panel shows the details for the first result, including the ICIMOD logo, title, a blue button to 'Explore at rds.icimod.org', file format icon, update date, provider information, license information (Attribution 4.0), and a detailed description of the dataset.

Google

HKH glacier

▼ Last updated ▼ Download format ▼ Usage rights ▼ Topic Free

Saved data sets

48 data sets found

ICIMOD Clean Ice and Debris covered glaciers of HKH Region
rds.icimod.org
zip
Updated Jul 9, 2014

ICIMOD Glaciers of Hindu Kush Himalayan (HKH) Region
rds.icimod.org
Updated Aug 3, 2008

ICIMOD Status of Glaciers in Hindu Kush Himalayan (HKH) Region
rds.icimod.org
zip
Updated Nov 10, 2014

ICIMOD

Clean Ice and Debris covered glaciers of HKH Region

Explore at rds.icimod.org

zip

Data set updated Jul 9, 2014

Data set provided by
ICIMOD

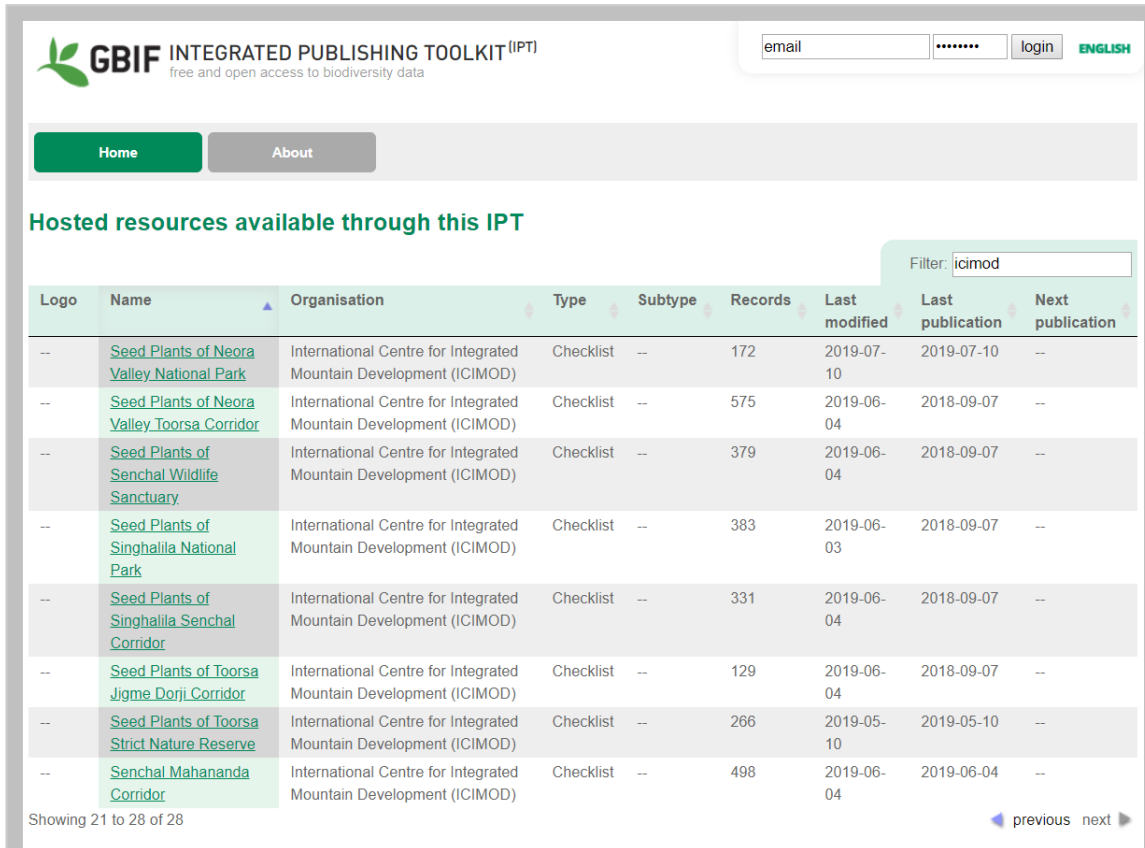
Licence
Attribution 4.0 (CC BY 4.0)
Licence information was derived automatically

Description

The comprehensive baseline information on the glaciers of the HKH region was generated semi-automatically using more than 200 Landsat 7 ETM+ images of 2005 ± 3 years with minimum cloud and snow coverage. The glacier outlines were derived by using object-based image classification method separately for clean-ice and debris-covered glaciers with some manual intervention. The attribute data were assigned to each glacier using 90m resolution SRTM DEM. This data does not cover the China part.



GBIF Integrating Publishing Toolkit



Logo	Name	Organisation	Type	Subtype	Records	Last modified	Last publication	Next publication
--	Seed Plants of Neora Valley National Park	International Centre for Integrated Mountain Development (ICIMOD)	Checklist	--	172	2019-07-10	2019-07-10	--
--	Seed Plants of Neora Valley Toorsa Corridor	International Centre for Integrated Mountain Development (ICIMOD)	Checklist	--	575	2019-06-04	2018-09-07	--
--	Seed Plants of Sanchal Wildlife Sanctuary	International Centre for Integrated Mountain Development (ICIMOD)	Checklist	--	379	2019-06-04	2018-09-07	--
--	Seed Plants of Singhalila National Park	International Centre for Integrated Mountain Development (ICIMOD)	Checklist	--	383	2019-06-03	2018-09-07	--
--	Seed Plants of Singhalila Sanchal Corridor	International Centre for Integrated Mountain Development (ICIMOD)	Checklist	--	331	2019-06-04	2018-09-07	--
--	Seed Plants of Toorsa Jigme Dorji Corridor	International Centre for Integrated Mountain Development (ICIMOD)	Checklist	--	129	2019-06-04	2018-09-07	--
--	Seed Plants of Toorsa Strict Nature Reserve	International Centre for Integrated Mountain Development (ICIMOD)	Checklist	--	266	2019-05-10	2019-05-10	--
--	Sanchal Mahananda Corridor	International Centre for Integrated Mountain Development (ICIMOD)	Checklist	--	498	2019-06-04	2019-06-04	--

Showing 21 to 28 of 28

GBIF Integrated Publishing Toolkit (IPT) operationalized at ICIMOD and linked to GBIF.ORG

- ICIMOD's biodiversity data populated to GBIF platform.

ICIMOD Data Policy aligns with
philosophy of open and free access to
scientific information and knowledge

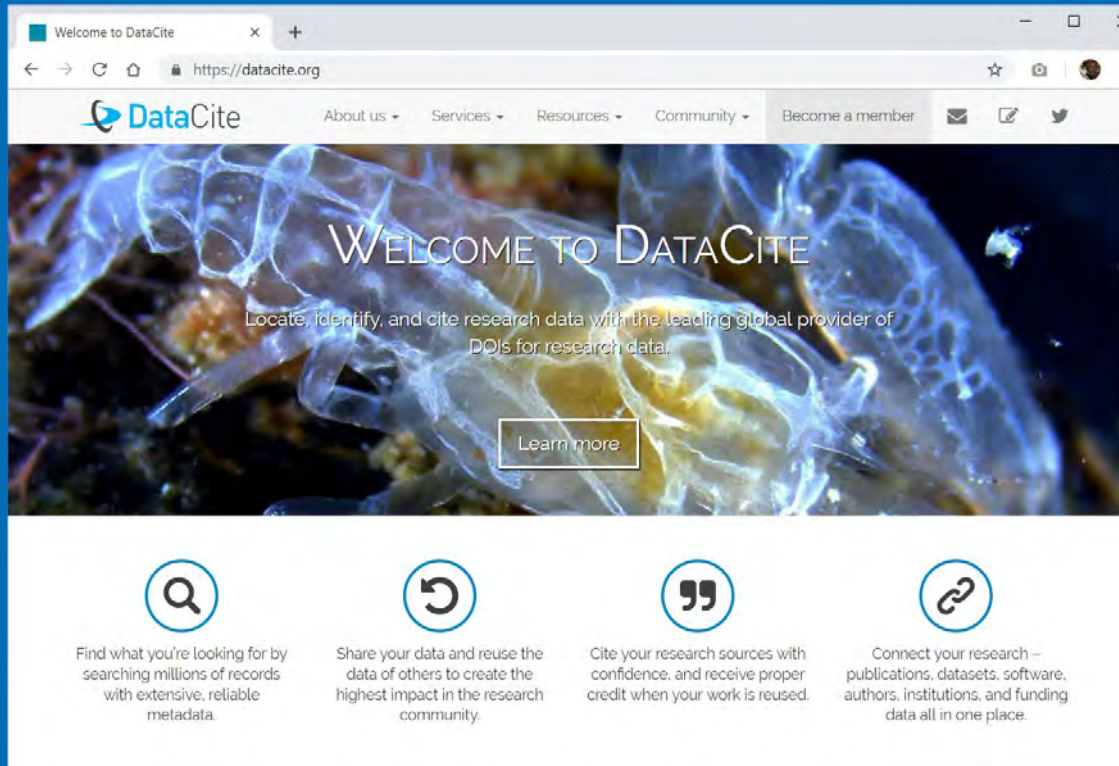


ICIMOD data are licensed under
Creative Commons Attribution (CC-BY)
that allows users to share and adapt
the data as long as the creator is
appropriately credited.

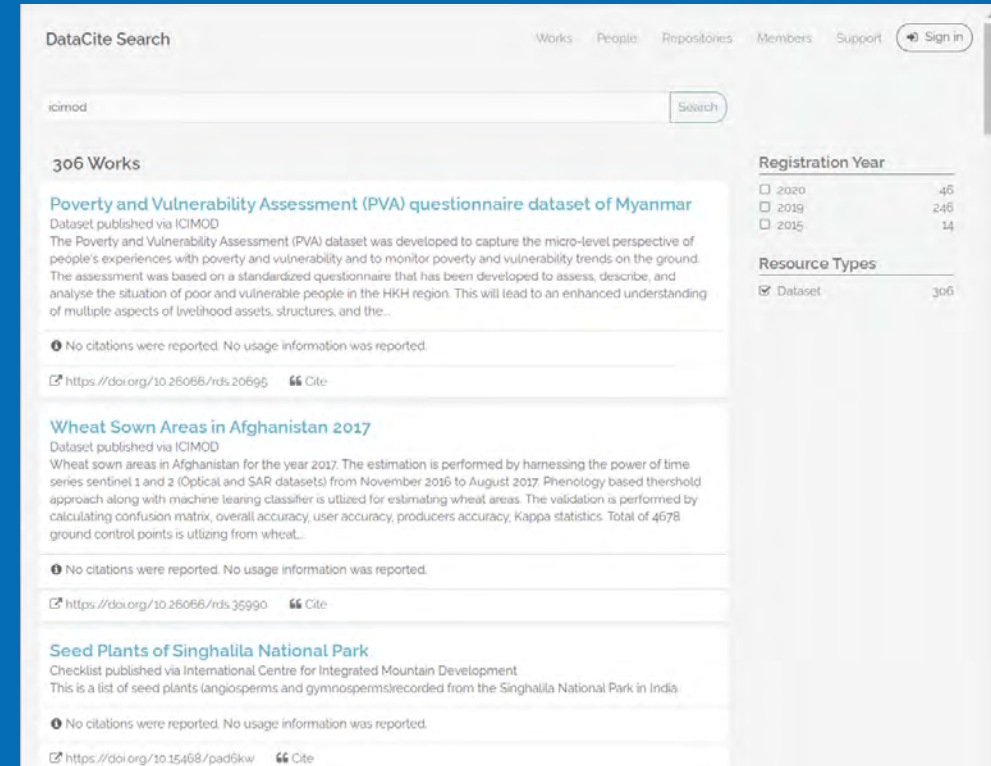


DataCite Member

Generation of Digital Object Identifiers (DOIs) for all public data.



The screenshot shows the DataCite homepage. At the top, there's a navigation bar with links: About us, Services, Resources, Community, and Become a member. The main header features the DataCite logo and a large banner with the text "WELCOME TO DATACITE" and "Locate, identify, and cite research data with the leading global provider of DOIs for research data." Below the banner, there's a "Learn more" button. The footer contains four circular icons with corresponding text: a magnifying glass for "Find what you're looking for by searching millions of records with extensive, reliable metadata.", a circular arrow for "Share your data and reuse the data of others to create the highest impact in the research community.", a quote mark for "Cite your research sources with confidence, and receive proper credit when your work is reused.", and a chain link for "Connect your research – publications, datasets, software, authors, institutions, and funding data all in one place."



The screenshot shows the DataCite Search results page. The search bar at the top contains the text "icimod". Below the search bar, there's a section titled "306 Works". The first result is "Poverty and Vulnerability Assessment (PVA) questionnaire dataset of Myanmar", published via ICIMOD. The description states: "The Poverty and Vulnerability Assessment (PVA) dataset was developed to capture the micro-level perspective of people's experiences with poverty and vulnerability and to monitor poverty and vulnerability trends on the ground. The assessment was based on a standardized questionnaire that has been developed to assess, describe, and analyse the situation of poor and vulnerable people in the HKH region. This will lead to an enhanced understanding of multiple aspects of livelihood assets, structures, and the...". It notes "No citations were reported. No usage information was reported." and provides the DOI: <https://doi.org/10.26066/rds.20695>. The second result is "Wheat Sown Areas in Afghanistan 2017", also published via ICIMOD. The description states: "Wheat sown areas in Afghanistan for the year 2017. The estimation is performed by harnessing the power of time series sentinel 1 and 2 (Optical and SAR datasets) from November 2016 to August 2017. Phenology based threshold approach along with machine learning classifier is utilized for estimating wheat areas. The validation is performed by calculating confusion matrix, overall accuracy, user accuracy, producers accuracy, Kappa statistics. Total of 4678 ground control points is utilizing from wheatL...". It also notes "No citations were reported. No usage information was reported." and provides the DOI: <https://doi.org/10.26066/rds.35990>. The third result is "Seed Plants of Singhalila National Park", published via International Centre for Integrated Mountain Development. The description states: "This is a list of seed plants (angiosperms and gymnosperms) recorded from the Singhalila National Park in India". It notes "No citations were reported. No usage information was reported." and provides the DOI: <https://doi.org/10.35468/pad5kw>. On the right side, there's a sidebar with filters: "Registration Year" (2020: 46, 2019: 246, 2015: 14) and "Resource Types" (Dataset: 306).

ICIMOD. (2018). *The Status of Glacial Lakes in the Hindu Kush Himalaya* [Data set].

ICIMOD. <https://doi.org/10.26066/RDS.35856>



Data from Partners

ICIMOD

HomeData ExplorerClimate DataAboutLogin

Regional Database System

electrification

QAdvanced Search

Filters

Keywords

Utilities communication (2)

Bhutan (1)

Geoscientific information (1)

Aster DEM (1)

Aster DEM Bhutan (1)

Hydropower (1)

electrification (1)

bhutan (1)

3 Record(s) found

Power Infrastructure Map of Bhutan

Power Infrastructure Map contains maps of Hydro power plants, Rural electrification plan, National Transmission Grid Master Plan, Sub-basins and Land cover Map of Bhutan.

BHUTAN GEOSPATIAL PORTAL

Aster DEM of Bhutan

It shows the Aster DEM with 15m spatial resolution covering whole of Bhutan.

BHUTAN GEOSPATIAL PORTAL

Rural Electrification Master Plan for Dzongkhag wise electrification in Bhutan

The dataset contains all existing power distribution infrastructure (substation in point shape, distribution poles and lines), all unelectrified rural villages and RE expansion network plan for the c.

BHUTAN GEOSPATIAL PORTAL

Bhutan GeoSpatial Portal

HomeData AppsAboutContact

FILTER

DISCIPLINARY TOPIC

DHPS, MoEA (1)

KEYWORDS

UtilitiesCommunication (2)

Hydropower (1)

Bhutan (1)

electrification (1)

Aster DEM Bhutan (1)

Aster DEM (1)

geoscientific information (1)

Bhutan (1)

FORMATS

dataset (3)

YEARS

2014 (3)

Filter

Search Datasets

Q electrification

SearchAdvanced Search

3 RESULTS FOUND

Power Infrastructure Map of Bhutan

Power Infrastructure Map contains maps of hydro power plants, Rural electrification plan, National Transmission Grid Master Plan, Sub-basins and Land cover Map of Bhutan.

2445 views0 downloadsLAST UPDATED 2014-07-10

Rural Electrification Master Plan for Dzongkhag wise electrification in Bhutan

The dataset contains all existing power distribution infrastructure (substation in point shape, distribution poles and lines), all unelectrified rural villages and RE expansion network plan for the country.

2784 views0 downloadsLAST UPDATED 2014-06-28

Aster DEM of Bhutan

It shows the Aster DEM with 15m spatial resolution covering whole of Bhutan.

573 views0 downloadsLAST UPDATED 2014-07-10

Bhutan GeoSpatial Portal

HomeData AppsAboutContact

Power Infrastructure Map of Bhutan

22 IDENTIFICATION INFO

DATE

2014-07-10

DATE TYPE

CWATON

ABSTRACT

Power Infrastructure Map contains maps of Hydro power plants, Rural electrification plan, National Transmission Grid Master Plan, Sub-basins and Land cover Map of Bhutan.

PURPOSE

For planning purposes.

STATUS

ongoing

DISCRIPTIVE KEYWORD

Hydropower (Items) Bhutan (place)

23 MAINTENANCE AND UPDATE FREQUENCY

AsNeeded

24 ACCESS CONSTRAINTS

Copyright

Copyright

Enclosure right to the publication, production, or sale of the rights to a literary, dramatic, musical, or artistic work or to the use of a commercial print or label, granted by law for a specified period of time to an author, composer, artist, distributor

Copyright

Vector

25 USE CONSTRAINTS

Spatial representation type

Equidistant scale

Language

English

Character set

UTF8

Topic category code

UtilitiesCommunication

26 GEOGRAPHIC EXTENT

EAST

82.11422

WEST

88.15194

NORTH

28.525

SOUTH

26.70361

27 DISTRIBUTION INFORMATION

INDIVIDUAL NAME

Not Available

EMAIL

lvwangmo@gmail.com

ORGANIZATION NAME

Wangmo

VOICE

1753600

POSITION NAME

Asst. Engineer

ADDRESS

ROLE

originator

28 REFERENCE SYSTEM INFORMATION

CODE

Druk4503

29 DATA QUALITY INFO

HIERARCHY LEVEL

Dataset

30 METADATA

FILE IDENTIFIER

Baib660-3501-452f-9422-a795c02056d5

METADATA

Eng

CHARACTER SET

UTF8

DATE STAMP

2014-10-07T11:38:48

STANDARD NAME

North American Profile Of ISO 19115:2003

31 AUTHOR CONTACT

INDIVIDUAL NAME

Wangmo

EMAIL

lvwangmo@gmail.com

ORGANIZATION NAME

DHPS, MoEA

VOICE

POSITION NAME

Asst. Engineer

ADDRESS

ROLE

author

HomeData ViewerAppsAboutContact

© 2014 Royal Government of Bhutan - National Land Commission, Centre for GIS Coordination. All Rights Reserved. Supported by SIBRIH-Himalaya International Centre for Integrated Mountain Development.

Thank you

Protect the pulse

