

# National Polar Data Center

(NPDC)

National Centre for Polar and Ocean Research

(NCPOR)



## User Manual v 1.4

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## 1. Introduction

The NPDC <https://npdc.ncpor.res.in/npdc/homepage.action>, established in 2014, plays a crucial role in the management and collaborative dissemination of data generated through India's Polar Program. The scientific dataset and information represent important resources of irreplaceable nature in the field of scientific research. Effective data management is not a peripheral activity, but a fundamental element of contemporary scientific practice, integral to the validity and reproducibility of research findings. The expeditions generated vast amounts of data essential to solving complex scientific issues and advancing knowledge of polar and ocean science in the context of the NCPOR. These data cover a wide range of fields, including glaciology, meteorology, oceanography and atmospheric science. We collaborate with national and international institutions, networks, and scientists to provide data management and analysis services, as well as actively participate in scientific research.

Figure 1 provides a detailed representation of the process through which polar datasets are collected from research stations, including Maitri, Bharati, Himadri, Himansh, and Southern Ocean expeditions. The datasets, encompassing both near real-time and non-real-time data, are transmitted to the Data/FTP server and are systematically archived at NPDC to facilitate efficient data dissemination and future accessibility for research purposes.

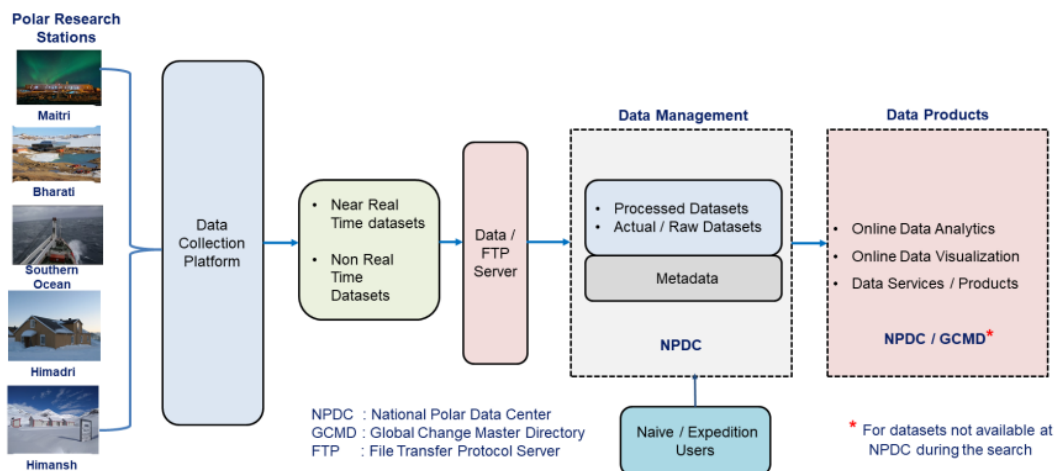


Figure 1: Overall function view of the NPDC

*(click on the link / text to view the image)*

## 1.1. How to submit datasets including metadata at NPDC

The datasets are primarily submitted by the expedition members who have participated in the Indian polar expeditions. Each submission is closely linked with the online project proposal form, which must be filled out prior to the expedition. This ensures that all data collected during the expedition is associated with the specific research objectives outlined in the proposal.

Once the expedition is successfully completed, the principal investigator (PI) is responsible for submitting the collected datasets along with the associated metadata to the National Polar Data Centre (NPDC). This submission process helps maintain a structured and organized archive of scientific data for future use and analysis. Figure 2 provides a brief overview of the dataset submission process at NPDC, outlining the steps from the initial proposal submission by expedition members to the final submission of datasets and metadata by the principal investigator (PI) after the expedition's completion.

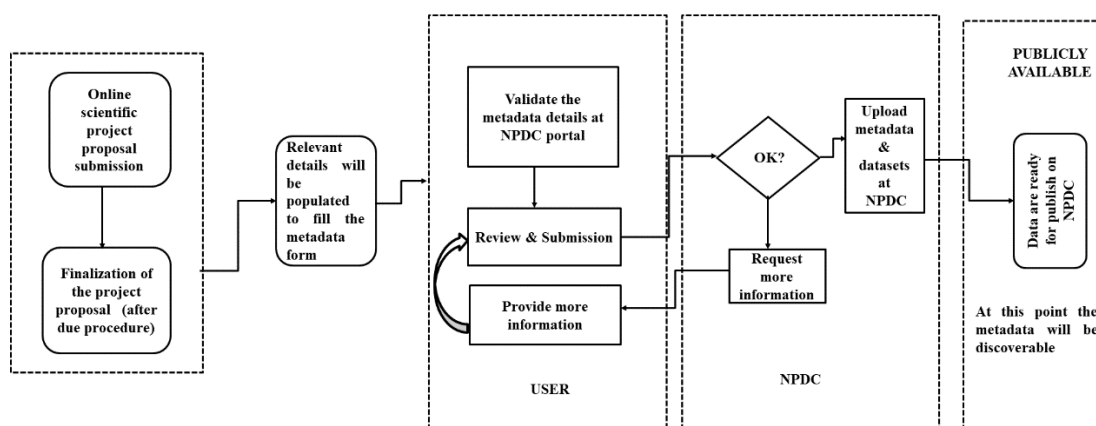


Figure 2: [Flow diagram for datasets submission at NPDC](#)  
([click on the link / text to view the image](#))

## 1.2. Home Page of the NPDC

<https://npdc.ncpor.res.in/npdc/homepage.action>

Figure 3 below illustrates the homepage of the NPDC portal, providing an overview of its layout

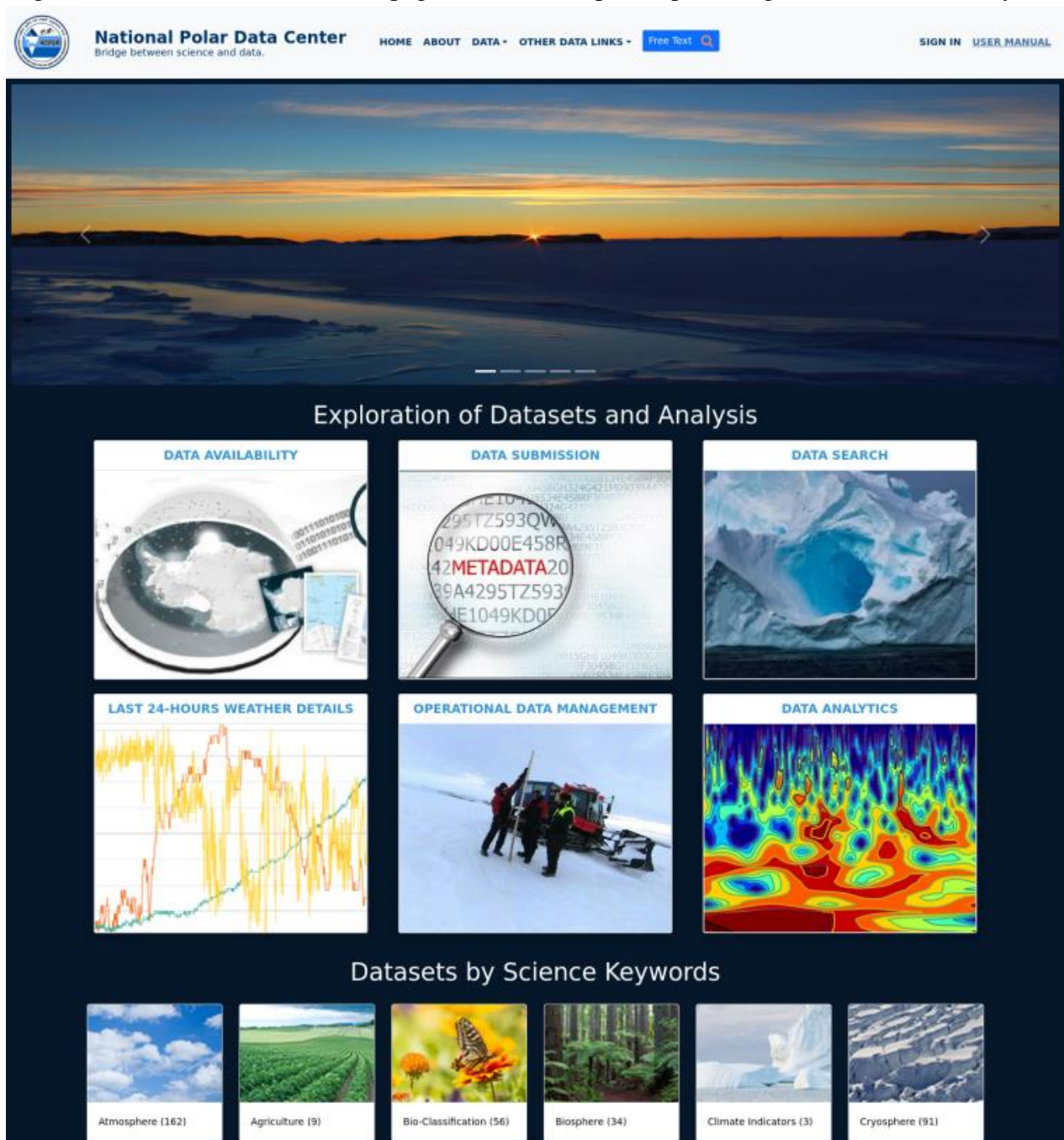


Figure 3: [Homepage of NPDC](https://npdc.ncpor.res.in/npdc/homepage.action)

*(click on the link / text to view the image)*

### 1.3. How to sign up as a new user

To register as a user on the NPDC portal, please click on the "Sign-In" menu located at the top right corner of the homepage. Figure 4 shows the sign-in page for a new user with NPDC for submitting collected datasets.

**National Polar Data Center**  
Bridge between science and data.

HOME ABOUT DATA OTHER DATA LINKS METADATA

Free Text Search SIGN IN

## Sign In

User Name:

Password:

[Log In](#)

[Forgot Password ? or Register](#)

Free Text Search [SEARCH](#)

**Quick Links**

- Contact Us
- Data Policy & Guidelines

**Data Submission**

- Common Project Proposal Form
- Submit a New Metadata

**For Scholars**

- Dataset by Science Keywords
- Dataset by Location
- Observation Dataset
- Quantarctica

**Useful Links**

- Python
- Ferret visualization and analysis Tool
- The R Project

Australian Antarctic Data Centre | British Antarctic Survey | SCAR | SIOS | AWIPEV | SOOS | KPDC

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Figure 4: [Sign-in page](#)  
([click on the link / text to view the image](#))

### 1.4. Type of users

There are two user types. The first one is registered user and second one is general user.

#### 1.4.1. General User

These users are general user those who are looking for datasets pertaining to Polar regions for their academic / research purpose. The users might not be required to registered user in the NPDC portal.

## 1.4.2. Registered User

These are the users who are associated with NCPOR for participating Indian Scientific Expedition to Antarctic, Arctic, Southern Ocean and Himalayas and those who collect the datasets from the polar regions. They upload metadata along with actual / processed datasets at NPDC. For registration, please go to user registration section.

## 1.5. User Registration

Click on the Register link on the sign-in page to create an account. After successful registration, you will receive an email, and another will be sent once your account is activated. Please check your email, including your spam or junk folder, in case the messages were delivered there. Figure 5 illustrates the user's registration page at NPDC.

**National Polar Data Center**  
Bridge between science and data

HOME ABOUT DATA OTHER DATA LINES METADATA

Free Text SEARCH

### User Registration Form

**User Details**

Title\*

First Name\*

Last Name\*

Preferred Name

**Login Details**

Valid Email-id\*

Confirm Email-id\*

Password\*

Confirm Password\*

**Organisation/Inst.**

Designation

Organisation Name\*

Organisation website link/URL\*

Personal profile link/URL, page of Organisation

**Contact Details**

Address (Communication address)

Alternate e-mail

Mobile number

**Captcha**

Verify code  Verify 2\*

Enter code

Free Text Search

**ABOUT US**

- Contact Us
- Data Policy & Guidelines

**Data Resources**

- Common Project Proposal Form
- Submit a New Metadata

**For Dataset**

- Dataset by Science Keywords
- Dataset by Location
- Observation Dataset
- Quicklook

**Feature Links**

- Python
- Error visualization and analysis Tool
- The R Project

ANTARCTIC DATA CENTRE ARCTIC DATA CENTRE Indian Antarctic Survey Arctic Research Center AWIPEV SCS OS KPDC

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Figure 5: [User's Registration Form](#)  
(click on the link / text to view the image)



## 2. Search/Browse Datasets.

### 2.1. Free Text Search

Any user may do free text search / browse dataset by clicking on the “FREE TEXT” (top right corner) search. Figure 6 presents the free text search for the given datasets.

The screenshot shows the 'Free Text Search' page of the National Polar Data Center. The header includes the center's logo, name, tagline 'Bridge between science and data.', and navigation links: HOME, ABOUT, DATA, OTHER DATA LINKS, and METADATA. A 'Free Text' search button and a 'SIGN IN' link are in the top right. The main content area features a large 'Free Text Search' title and a search form with a text input field labeled 'Enter Text' and a blue 'Search' button. Below this, a secondary search bar with the placeholder 'Free Text Search' and an orange 'SEARCH' button is visible. The page is divided into four columns of links: 'Quick Links' (Contact Us, Data Policy & Guidelines), 'Data Submission' (Common Project Proposal Form, Submit a New Metadata), 'For Scholars' (Dataset by Science Keywords, Dataset by Location, Observation Dataset, Quantarctica), and 'Useful Links' (Python, Ferret visualization and analysis Tool, The R Project). The footer contains logos for various data centers (Australian Antarctic Data Centre, Australian Antarctic Program, British Antarctic Survey, SCAR, SIOS, AWIPEV, SOOS, KPDC) and a copyright notice for the National Centre for Polar and Ocean Research (NCPOR), Ministry of Earth Sciences (MoES), Government of India.

Figure 6: Free Text Search  
*(click on the link / text to view the image)*

## 2.2. Browse by Scientific Keywords

By clicking on the Data (Top Menu) → Search For Datasets → Browse By Keyword. Figure 7 shows the free text search for the given datasets

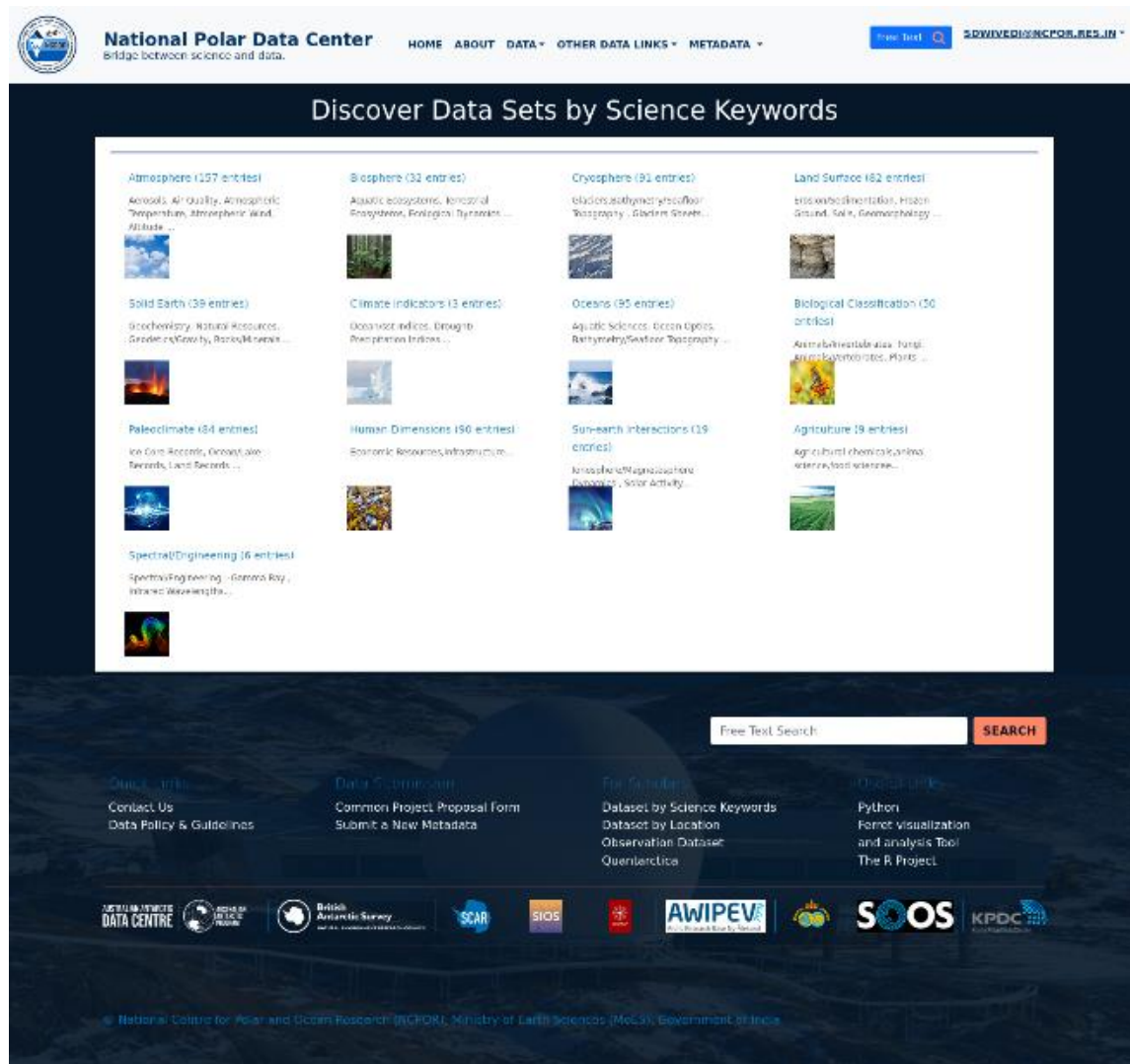
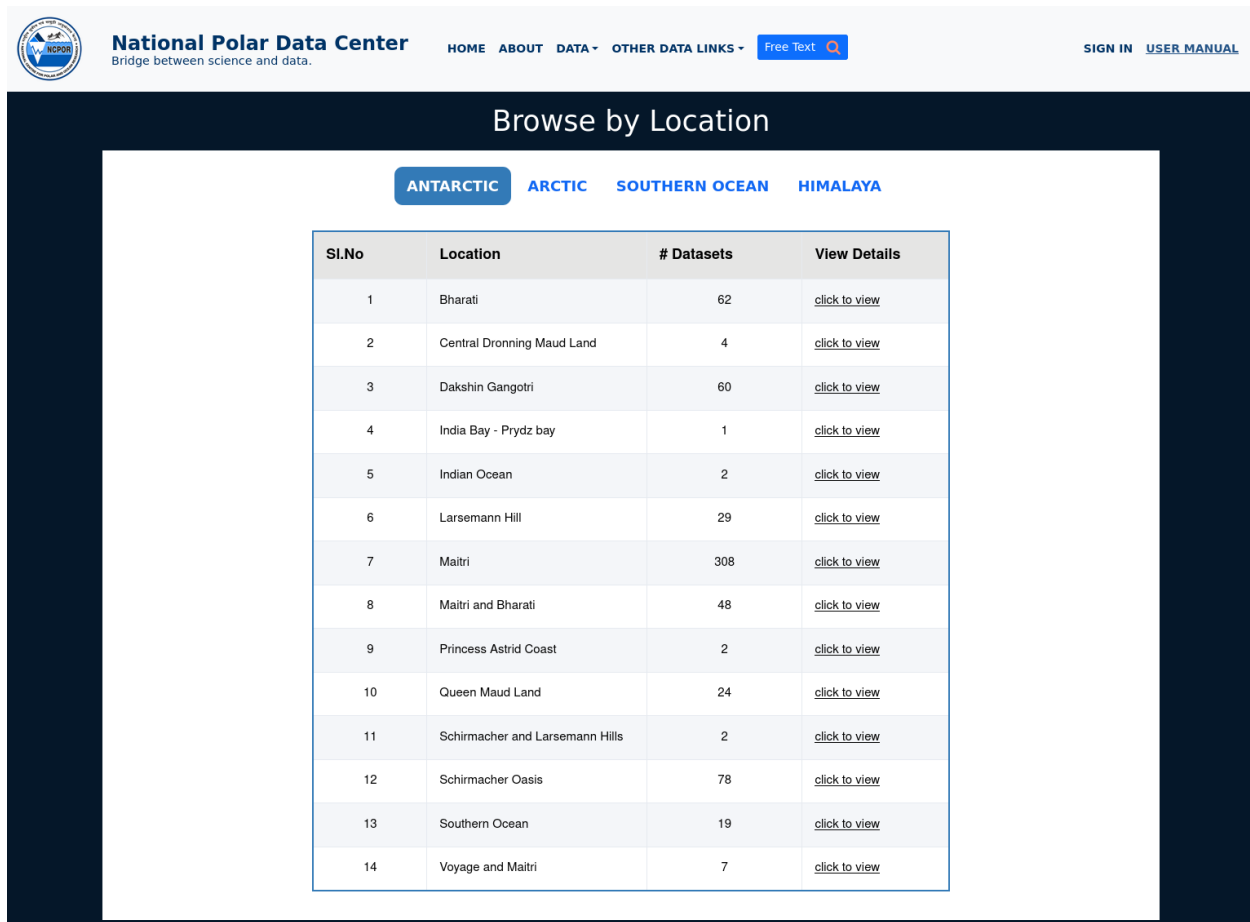


Figure 7: [Browse By Scientific Keywords](#)  
([click on the link / text to view the image](#))

## 2.3. Browse by Location

By clicking on the Data (Top Menu) → Search For Datasets → Browse By Location. Figure 8 shows the browse by location for the given datasets.



Sl.No	Location	# Datasets	View Details
1	Bharati	62	<a href="#">click to view</a>
2	Central Dronning Maud Land	4	<a href="#">click to view</a>
3	Dakshin Gangotri	60	<a href="#">click to view</a>
4	India Bay - Prydz bay	1	<a href="#">click to view</a>
5	Indian Ocean	2	<a href="#">click to view</a>
6	Larsemann Hill	29	<a href="#">click to view</a>
7	Maitri	308	<a href="#">click to view</a>
8	Maitri and Bharati	48	<a href="#">click to view</a>
9	Princess Astrid Coast	2	<a href="#">click to view</a>
10	Queen Maud Land	24	<a href="#">click to view</a>
11	Schirmacher and Larsemann Hills	2	<a href="#">click to view</a>
12	Schirmacher Oasis	78	<a href="#">click to view</a>
13	Southern Ocean	19	<a href="#">click to view</a>
14	Voyage and Maitri	7	<a href="#">click to view</a>

Figure 8: Browse By Location  
(*click on the link / text to view the image*)

## 2.4. Observation Datasets Search

To search for datasets, click on "Data" in the top menu, then select "Search For Datasets" and "Data Availability." Figure 9 shows how to use the data search feature on the portal <https://data.ncpor.res.in/>. Through this, users can search for datasets by polar region for easier access and retrieval.

Dataset	Institute	Duration	Download
All Sky Imager Data	Indian Institute of Geomagnetism (IIG)	01/01/2020 - 31/12/2021	<a href="#">Request Data</a> <a href="#">Data Details</a>
Atmospheric Data (OTT - PARSIVEL)	NCPOR	01/01/2018 - 31/12/2021	<a href="#">Get Data</a> <a href="#">Data Details</a>
Automatic Weather Station Datasets	India Meteorological Department (IMD)	01/01/1985 - 19/12/2016	<a href="#">Get Data</a> <a href="#">Data Details</a>
	Snow and Avalanche Study Establishment (SASE)	23/02/2006 - 31/12/2015	<a href="#">Get Data</a> <a href="#">Data Details</a>

Figure 9: [Dataset's search](#)  
([click on the link / text to view the image](#))

## 2.5. Scientific Voyage Details

To view scientific voyage details, click on "Data" in the top menu, then select "Search For Datasets" and "Scientific Voyage Details." Figure 10 shows the voyage details for the Southern Ocean Expedition (SOE) up to the 10th expedition.

Voyage Name	Cruise Name	Ship Name
ISOE-9	Indian Southern Ocean Expedition (ISOE)	MV SA Agulhas
ISOE-8	Indian Southern Ocean Expedition (ISOE)	ORV Sagar Nidhi
ISOE-7	Southern Ocean Expedition 2013	ORV Sagar Nidhi
ISOE-6	06th National Expedition to Southern Ocean	ORV Sagar Nidhi
ISOE-5	Southern Ocean Expedition 2011	ORV Sagar Nidhi
ISOE-4	Southern Ocean Expedition 2010	ORV Sagar Nidhi
ISOE-3	Southern Ocean Expedition-2009	R.V Akademik Boris Petrov
ISOE-2	Special Expedition to Larsemann Hills, Antarctica & Southern Ocean	R.V Akademik Boris Petrov
ISOE-10	10th Indian Sector of Southern Ocean Expedition	S. A. AGULHAS
ISOE-1	Pilot Expedition to Southern Ocean	ORV Sagar Kanya

Figure 10: [Scientific Voyage Details](#)  
([click on the link / text to view the image](#))

### 3. Data details

Expedition members / registered users can submit datasets to NPDC and have the privilege to update their previously submitted datasets. The submitted datasets can be viewed in PDF and also machine readable format i.e., in XML formats. To submit datasets online, please use the following link: [https://npdc.ncpor.res.in/npdc/submit\\_new\\_dataset.action](https://npdc.ncpor.res.in/npdc/submit_new_dataset.action). Figure 11 shows the view of the datasets along with metadata.

The screenshot displays the National Polar Data Center (NPDC) website interface. At the top, the NPDC logo and name are visible, along with navigation links: HOME, ABOUT, DATA, OTHER DATA LINKS, and METADATA. A 'New User' button and a 'SIGN IN' link are also present. Below the navigation bar, there are tabs for 'Brief Record', 'Full Record', 'View XML', and 'Export PDF'. The main content area shows the details of a dataset titled 'Studies on the Increase in Seismicity in the Antarctic Plate: Observations from DB Seismological Observatory (OAT) at Haliburton, Antarctica during 23th IAC'. The 'Abstract' section describes the establishment of the DB Seismological Observatory in 1997 at Haliburton, Antarctica, and its primary purpose to monitor seismicity in and around Antarctica. The 'Purpose' section mentions the study of seismicity in the Indian Ocean and the Indian Plate Boundary. The 'New Information' section lists details such as Release Date (6/10/2020), Creating Center, Data Set Progress (Complete), Data Set Language, and Data Type Category (Seismology). The footer of the page features a search bar, quick links, and logos of various organizations including the National Science Foundation, British Antarctic Survey, SCAR, IACS, AWIPEV, and NPDC.

Figure 11: [Sample Metadata](#)  
([click on the link / text to view the image](#))

#### 4. How to submit datasets

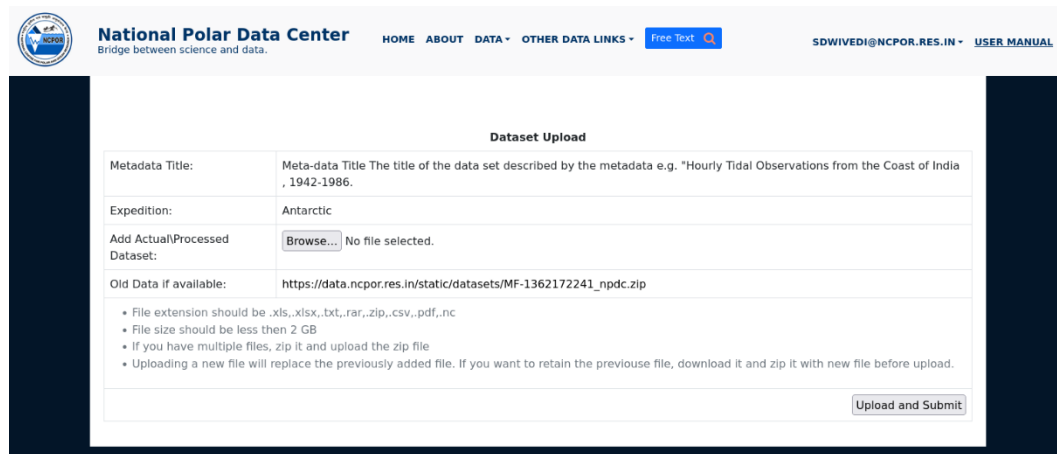
To submit new datasets, click on "Data" in the top menu, then select "Submit Your Data" and choose "New Datasets." A metadata form will open where you can enter the required information and submit the data for the relevant expedition. Figure 12 shows how the form looks for submitting datasets and metadata

The screenshot displays the 'ONLINE METADATA FORM' from the National Polar Data Center. The form is organized into several sections, each with a title and a set of input fields. The sections are: Expedition Type (with radio buttons for Antarctic, Arctic, Southern Ocean, and Himalaya), Metadata Title (a text field), Science Keywords (with dropdowns for Category and Topic), ISO Topic (a dropdown), Expedition Year (a dropdown), Expedition No (a text field), Project Details (with text fields for Project Number and Project Name), Summary Abstract (a text area), Dataset Citation (with text fields for Creator, Title, Series Name, Release Date, Release Place, Version, and Online Resource), Scientist Details (with text fields for Role, First Name, Middle Name, Last Name, E-mail, Phone, and Mobile Number, and a dropdown for Institution/Organization), Address (with text fields for Address, City, Country, Postal Code, and State), Instrument Details (with text fields for Short name and Long name), GPS Data Collection (with a checkbox for 'Whether GPS is used for Data Collection?'), Data Set Progress (with a dropdown for Data Set), Location (with dropdowns for Category, Region, Type, and Subregion), Data Resolution (with text fields for Latitude Resolution, Longitude Resolution, Horizontal Resolution, Vertical Resolution, Temporal Resolution, and Range), and Platform (with text fields for Short name and Long name). At the bottom of the form are three buttons: PREVIEW, RESET, and SAVE AND NEXT.

Figure 12: [Sample Metadata Form](#)  
([click on the link / text to view the image](#))

#### 4.1. Upload Dataset for the corresponding submitted metadata

You can upload the actual or processed datasets after filling in the necessary metadata entries in the NPDC portal for the corresponding datasets. If the actual / processed dataset is not yet ready, it can be uploaded later using the dashboard. Figure 13 demonstrates how to upload actual or processed datasets to the NPDC portal, along with the associated metadata.



The screenshot shows the 'Dataset Upload' form on the National Polar Data Center website. The form includes fields for 'Metadata Title', 'Expedition', 'Add Actual/Processed Dataset', and 'Old Data if available'. The 'Add Actual/Processed Dataset' field has a 'Browse...' button and a message 'No file selected.'. Below the form, there are instructions: 'File extension should be .xls,.xlsx,.txt,.rar,.zip,.csv,.pdf,.nc', 'File size should be less than 2 GB', 'If you have multiple files, zip it and upload the zip file', and 'Uploading a new file will replace the previously added file. If you want to retain the previous file, download it and zip it with new file before upload.' An 'Upload and Submit' button is at the bottom right.

Dataset Upload	
Metadata Title:	Meta-data Title The title of the data set described by the metadata e.g. "Hourly Tidal Observations from the Coast of India , 1942-1986.
Expedition:	Antarctic
Add Actual/Processed Dataset:	<a href="#">Browse...</a> No file selected.
Old Data if available:	<a href="https://data.ncpor.res.in/static/datasets/MF-1362172241_npdc.zip">https://data.ncpor.res.in/static/datasets/MF-1362172241_npdc.zip</a>

- File extension should be .xls,.xlsx,.txt,.rar,.zip,.csv,.pdf,.nc
- File size should be less than 2 GB
- If you have multiple files, zip it and upload the zip file
- Uploading a new file will replace the previously added file. If you want to retain the previous file, download it and zip it with new file before upload.

[Upload and Submit](#)

Figure 12: [Upload Actual/Processed Data](#)  
([click on the link / text to view the image](#))

#### 4.2. Datasets cum Metadata saved Successfully

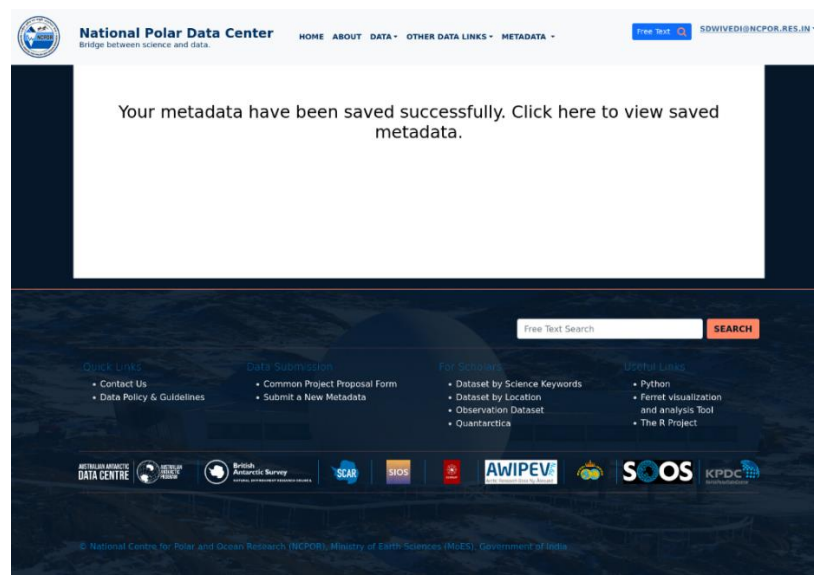


Figure 13: [Datasets cum metadata save information](#)  
([click on the link / text to view the image](#))

Once the data and metadata are uploaded, they will be published on the NPDC portal for public access after following due procedures. Figure 14 illustrates the process following the submission



of datasets and metadata. Users have the privilege to update both the datasets and metadata if any additions or modifications are required.

### 4.3. Dataset Dashboard

A dashboard feature is available, allowing users to update or modify datasets and metadata at any time. Figure 15 illustrates the user's view of the dashboard for updating and modifying datasets, metadata, and other related information.

The screenshot displays the National Polar Data Center (NPDC) website interface. At the top, the NPDC logo and name are visible, along with navigation links: HOME, ABOUT, DATA, OTHER DATA LINKS, and METADATA. A user login button labeled 'Free Text' and the email address 'SDWIYEDI@NCPOR.RES.IN' are also present.

The main section is titled 'Recently Submitted Metadata Details' and contains a table with the following data:

Saved and Incomplete Metadata				
SI No.	Title	Submitted On	Updated On	Dataset
1	Test Upload Aug 8 2024	08-08-2024 Edit	08-08-2024	Upload
2	Meta-data Title The title of the data set described by the metadata e.g. "Hourly Tidal Observations from the Coast of India , 1942-1986.	09-09-2024 Edit		Upload

Below the table, there is a search bar labeled 'Free Text Search' with a 'SEARCH' button. The dashboard also features four columns of links: 'Quick Links' (Contact Us, Data Policy & Guidelines), 'Data Submission' (Common Project Proposal Form, Submit a New Metadata), 'For Scholars' (Dataset by Science Keywords, Dataset by Location, Observation Dataset, Quantarctica), and 'Useful Links' (Python, Ferret visualization and analysis Tool, The R Project). At the bottom, there is a row of partner organization logos including the Australian Antarctic Data Centre, British Antarctic Survey, SCAR, SIOS, AWIPEV, SOOS, and KPDC. The footer text reads: '© National Centre for Polar and Ocean Research (NCPOR), Ministry of Earth Sciences (MoES), Government of India'.

*Figure 15: Dataset Dashboard*  
*(click on the link / text to view the image)*



## Document Revision History

Version	Date	Description of Changes	Prepared by
1.0	9 <sup>th</sup> Sept 2024	Initial Release / Draft	Shubham Dwivedi
1.1	25 <sup>th</sup> Sept 2024	Reviewed initial release	V S Samy
1.2	30 <sup>th</sup> Dec 2024	Modified the document	Shubham Dwivedi
1.3	3 <sup>rd</sup> Jan 2025	Reviewed & corrected the document as suggested by Dr. J. Turner	V S Samy
1.4	23 <sup>rd</sup> Jan 2025	Updated the Figure 2	V S Samy