



BHOONIDHI ISRO EO Data Hub

UZAIR MUJEEB BHOONIDHI TEAM

https://bhoonidhi.nrsc.gov.in







Points Covered

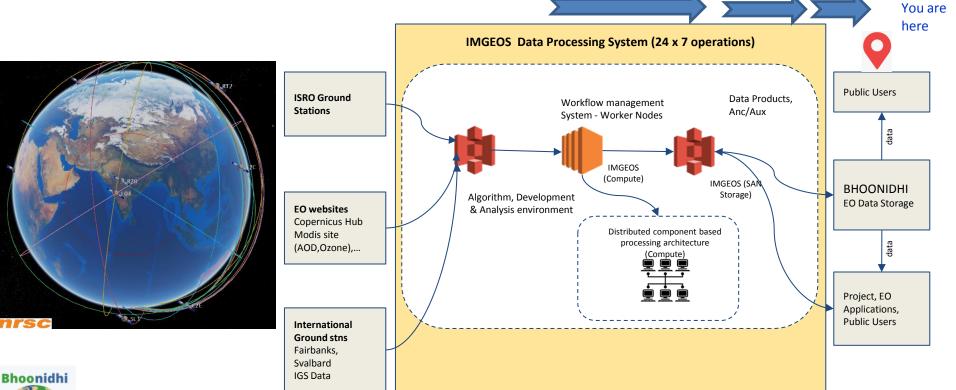
- IMGEOS Processing Network
- Bhoonidhi ISRO EO Data Hub
- Data Access Services
- Data Diversity
- Features
- Data Archive
- Data Access- Free and Priced
- Dissemination Mechanisms





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IMGEOS Processing Network- How Data gets Generated



Bhoonidhi Workshop#1

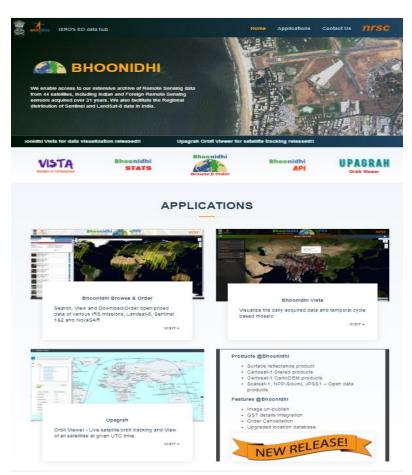


Bhoonidhi

nrsc

Bhoonidhi enables access to our extensive archive of Remote Sensing data from 46 satellites, including Indian and Foreign Remote Sensing sensors acquired over 33 years.

We also facilitate the Regional distribution of Sentinel and LandSat-8/9 data in India.







Bhoonidhi Data Access- How you get







Search, View and Download,

Paid CART Interface,

Proforma (PI),

Place workorder

https..

SFTP..

bhoonidhi.nrsc.gov.in/bhoonidhi/index.html



Visualize the NRT daily acquired data and temporal cycle based mosaic,

Quick animation of a point AOI



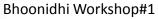
UPAGRAH **Orbit Viewer**

Orbit Viewer - Live satellite/orbit tracking

Quick View of all satellites at predicted UTC time.

For Online Analysis bhoonidhi.nrsc.gov.in/upagrah







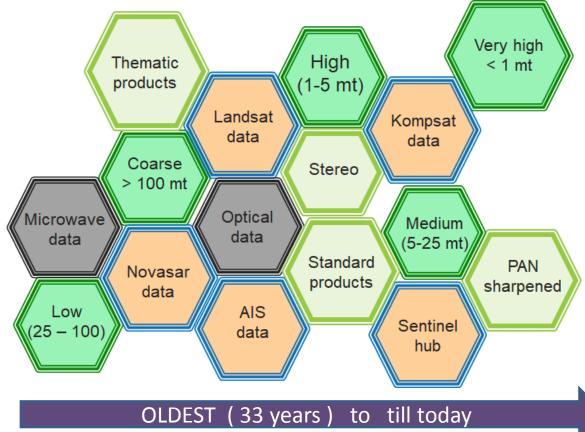
Data Diversity at Bhoonidhi



Foreign missions
 Resolutions
 Bands

Product types

- EOS-04 (C-SAR) data products
- Landsat-8 collection 2
- Landsat-9
- Ortho products from IRS 1A/1B/1C/1D Liss sensor
- Scatsat-1, NPP-Suomi, JPSS-1: Open data products

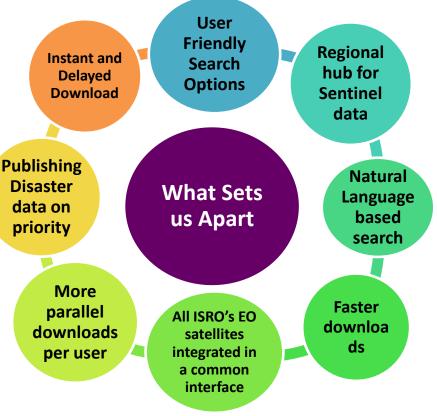






Unique Features

- User friendly search options to ease target area identification:
- Multiple satellite and sensors, resolutions, date range
- Event-based input specifications
- Natural language text based search options
- AOI specification using free draw on map, shapefile, polygon, points, pre-defined locations.
- Additional filtering based on cloud, polarisation, sub-scene, path, row.
- ePayment through Non-Tax Receipt Portal (NTRP) (<u>https://bharatkosh.gov.in</u>.) – Enabled @Bhoonidhi



Bhoonidhi Workshop#1

Bhoonidhi



Data Archive



10/01/2019 - till date

01/01/2002 - till date

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		25-48	Switz Bar W. Ro tan word	Mongolia	0-4-114-	LandSat-8	01/01/2017 - till date
NOAA-19 (₹)	04/29/2010 - 07/15/2013	49-71	200 mile State and State a		Satellite	LandSat-9	04/01/2022 - till date
O Novasar-1 (₹)	10/01/2019 - till date	72-95	Contract Turkey the Statementan	A A A A A A A A A A A A A A A A A A A	O Aqua (₹)	O NOAA-11 (₹)	08/25/1994 - 09/13/1994
Ocean Sat-1 (₹)	05/26/1999 - 08/08/2010	96-119	Tunisia		O CartoSat-1 (₹)	O NOAA-12 (₹)	09/14/1994 - 11/04/1995
Ocean Sat-2 (₹)	05/08/2009 - till date	120-143	-II-IX-II-U-II-V-Mident-Ubult-II-DI-IR-		O CartoSat-2 (₹)	O NOAA-14 (₹)	04/03/1995 - 09/22/2010
) RISAT-1 (₹)	05/08/2012 - 03/17/2017	167-190		Sau INepal	CartoSat-2A (₹)	O NOAA-16 (₹)	06/20/2001 - 07/15/2013
ResourceSat-1 (₹)	05/08/2003 - 10/09/2019	191-214	United Arab Emirates	1-1-Benglindesh	O CartoSat-2B (₹)	O NOAA-17 (₹)	09/20/2005 - 12/31/2010
ResourceSat-2 (₹)	09/01/2010 - till date	215-238		Myanmar (G CartoSat-2E (₹)	O NOAA-18 (₹)	09/20/2005 - 10/09/2009
AWIFS	05/08/2011 - till date	239-261	Chad #Hree Veneen		CartoSat-3 (₹)	O NOAA-19 (₹)	04/29/2010 - 07/15/2013
LISS3	09/01/2010 - till date	262-285	Score Different		O EOS-04 (₹)	O Novasar-1 (₹)	10/01/2019 - till date
LISS4(MONO)	05/08/2011 - till date	286-309	Contra African Republic	Estrationka English		OceanSat-1 (₹)	05/26/1999 - 08/08/2010
LISS4(MX23)	05/08/2011 - till date	310-333	Southing Southing	TEL TELET Brup	O IRS-1A (₹)	OceanSat-2 (₹)	05/08/2009 - till date
LISS4(MX70)	05/08/2011 - till date	334-356	Uganda	Singation	O IRS-1B (₹)	O RISAT-1 (₹)	05/08/2012 - 03/17/2017
ResourceSat-2A (₹)	12/18/2016 - till date	357-380	Democratic Republic of the Congo		O IRS-1C (₹)	O ResourceSat-1 (₹)	05/08/2003 - 10/09/2019
ScatSat-1	01/01/2020 - 12/31/2021		United Republic of Tanzania	Scene:125_80_C	O IRS-1D (₹)	O ResourceSat-2 (₹)	09/01/2010 - till date
Sentinel-1A	10/01/2019 - till date		Anglas LINUX LILL	Cocos (Keeling) Island	O KompSat-3 (₹)	O ResourceSat-2A (₹)	12/18/2016 - till date
) Sentinel-1B	10/01/2019 - till date		A TANKIN WEYORA	ooos (Nooming) Island	O KompSat-3A (₹)	ScatSat-1	01/01/2020 - 12/31/2021
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ounder 2A	reventer to - tin date		Reunion		TATATATATATATA	Sentinel-1B	10/01/2019 - till date

O Sentinel-2B

O Terra (₹)









Data Access: Registration

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Explore Archives Pl Actions Utilities+		DLogin			
Area of Interest 2 Location	ch text here Eg: Get recent landsat 8 data				
Polygon Shapefie					
Map Sheet					
Events		Sign In			
Date range	· · ·				
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Product Standard	A				
Satellite-Sensor		Login			
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Advanced Filters D		НОМЕ			
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		Gender	female		~
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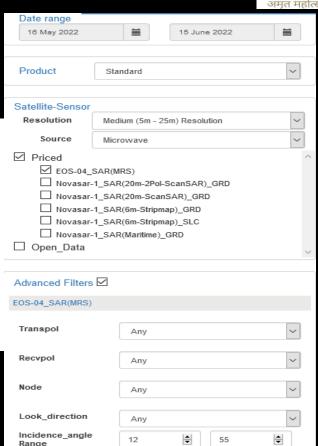




Product Search: Inputs

- Area of Interest
- Date Range
- Product Type
- Resolution
- Satellite-Sensor
- Events
- Advanced Filters
- Natural language text based search option

Explore Archiv	es PI Actions Utilities -
arch-Criteria Sea	arch-Results Cart
vrea of Interest 🗹	
ocation	
Place Name	Hyd
	Hyderabad, Telangana, India
	17.361, 78.474
Latitude	17.361
Longitude	78.474
Area(km)	10
	•
Polygon	
Shapefile	
Vap Sheet	
Events	
Date range	
23 February 2022	25 March 2022





Product Search Inputs: Area of Interest

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Latitude Longitude	eg 17.75, -18.98 eg 78.75, -78.98		•
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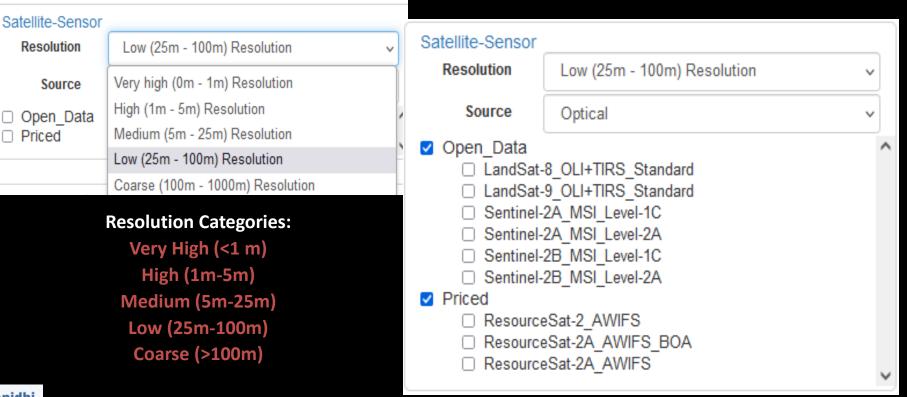


Product Search Inputs: Product Type

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		Footprint Controls	*	
		Search Details	+	
		Q, Loa	id more results	
Product	Standard	Show 100 v	Filter Results	
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Resolution	Merged	P5_PANA_SR_F 68756_594_280	D P5 PANE SR F	
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		P5_PANA_SR_F		
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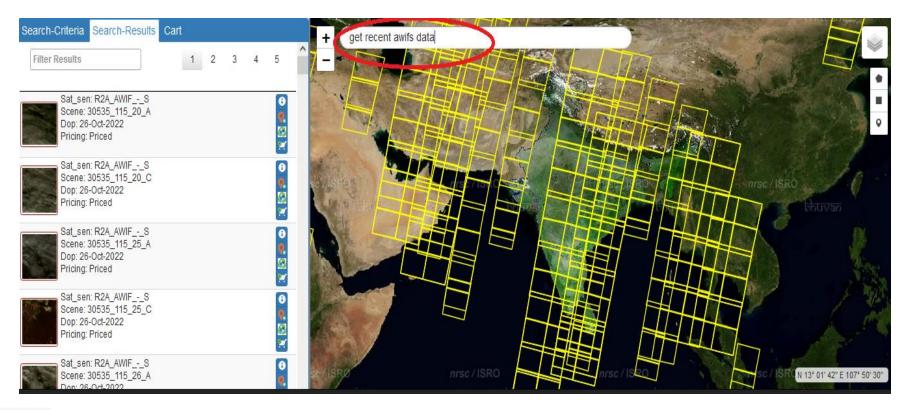
Advanced Filters



Search-Criteria Search			Search-Results	Cart			
		Open_Data					^
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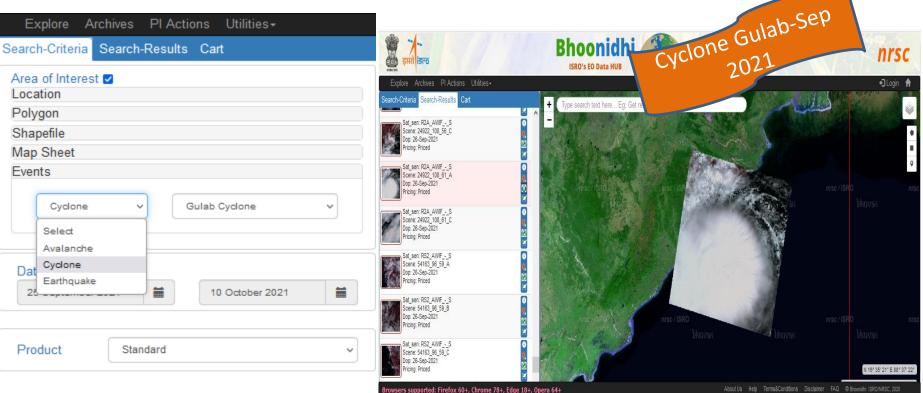


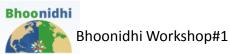




आजादीका

अमत महोत्सव



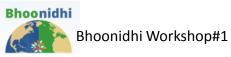






Thematic Data

Product	Thematic	~			
OceanSat	Optical -2_OCM(GAC)_L2B-AerosolDepth -2_OCM(GAC)_L2B-Chlorophyll -2_OCM(GAC)_L2B-DifferentAttenuation -2_OCM(GAC)_L2B-SuspendedSediments	~	fia Search-Results Cart pis • oSat-1_PAN(CD)_CetroDEM-10m 25 September 2021 to 10 October 2021 polygon User's AOI is represented in red 2 20221021_000028162 products to Cart Q. Load more results itts 1	arch text here Eg: Get recent landsat 8 data	euse (SRO DUUTS DUUTS DUUTS
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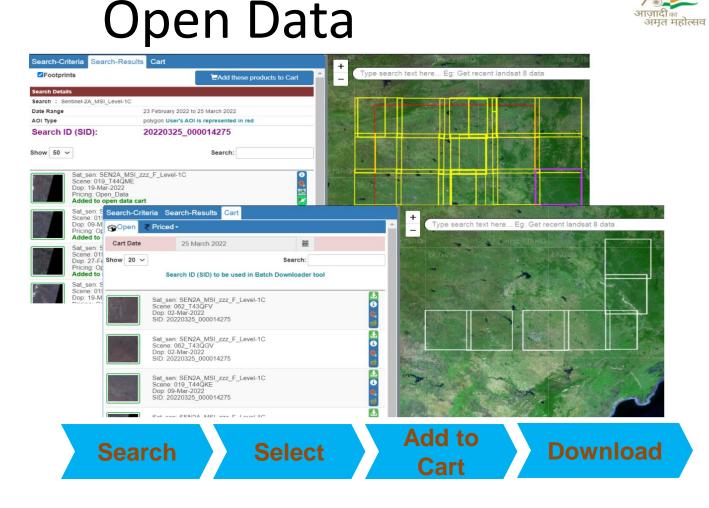




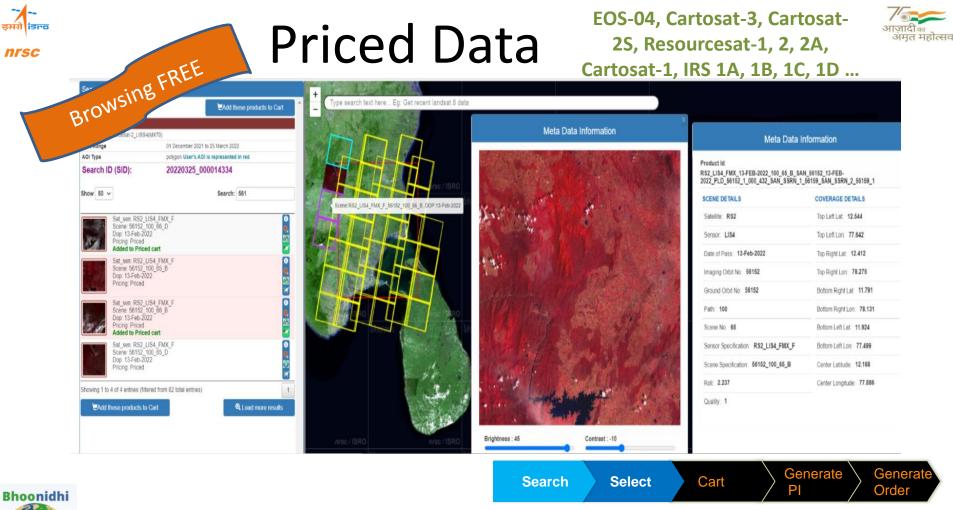


Download

Oceansat2 OCM-GAC, JPSS1, Suomi-NPP, Landsat-8&9, Sentinel 1A, 1B, 2A, 2B







Bhoonidhi Workshop#1



Priced Data



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Priced Data: Within 1 hour



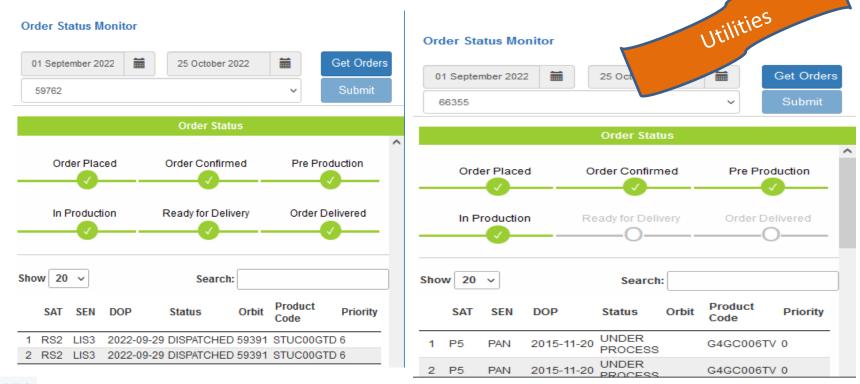
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~	Enhancement	00_Digital	~	Product Res	56.0	
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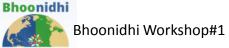






Order Status Monitoring



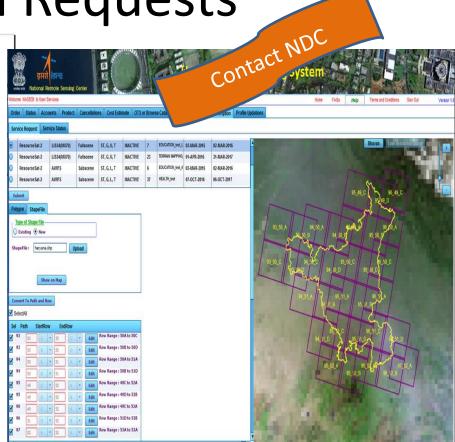




Subscription Requests

Subscription Service :

- India being a tropical country, at times 4-6 months in a year is cloudy over large areas. However, the data with partial cloud cover can be used for generation of time composites. Keeping this in view and to provide continuous (fresh acquisitions) and layered data, subscription service can be considered for current IRS satellites sensors which collects data with fixed path-row / systematic collection options i.e. Oceansat Ocean Color Monitor - Local Area Coverage, Resourcesat AWIFS / LISS-III / LISS-IV Cartosat-1and RISAT-1 data and similar succeeding missions with the following terms:
 - Provide necessary data, irrespective of cloud cover, through subscription service, by entering into a yearly agreement.
 - Basic unit of data request could be a region (covering in excess of 10,000sq.km)/State/Entire country. The price for such subscription may be
 - o 25% of the user category price for OCM, AWIFS and LISS-III data
 - 50% of the user category price for LISS-IV, RISAT-1 and Carto-1 data.
 - Whenever NRSC is not able to supply the total data of basic unit of request as defined above, due to technical difficulties, NRSC may charge only for the data supplied on a pro-rata basis.









Dissemination Mechanisms

- Direct HTTPS based download through web portal for free data products
 - Instant Downloads for latest data
 - Delayed downloads for older data
- API based downloads for automation at user's end
- Media/FTP based dissemination for priced data products





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Help Documents and Videos

Detailed documents and help videos available at:

https://bhoonidhi.nrsc.gov.in/bhoonidhi/htmls/help.html

इसरो	Help Documents	Bhoonidhi ISRO'S EO Data HUB	भूनिधि इसरो इओ डाटा हब Help Videos	nrs
Title	Description	Bhoonidhi Login	Check Data Availablity on Bhoonidhi	Priced Data Ordering (RS2 LISS3)
LandSat Products Description	User Guide to the Landsat MSS, TM and ETM+ archives			A 1 1 2 Alexandroman (Alexandroman)
Sentinel 1 Product Specification	Sentinel 1A/1B Product Specification Document			
Sentinel 2 Product Specification	Sentinel 2A/2B Product Specification Document	 Control = 0.00 / 0.41 Output (0.00 / 0.41) 	0:00 / 0:47	
NovaSAR Product Release Note	NovaSar Product Release Note - March 2021			
NRSC Satellite Data Ordering	NRSC Satellite Data Ordering Migration from UOPS to Bhoonidhi	Path-Row based ordering M	lerging multiple searches into single order	Nova SAR L1 Product Ordering
SFTP Products Download Help	SFTP Enabled Satellite Data Download Procedure	Normality Section 19		
Bhoonidhi User Manual	Bhoonidhi User Guide			
NovaSAR Product Format Document	NovaSAR Product Format Document	► • • • 0:00 / 0:36 • • • 55 ►	● 0:00 / 4:00 ●) <u></u> ● 53	► ● 0:00 / 2:55 ●





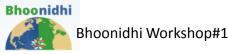
Users' Feedback



Application Usability -Once for every session

- General Feedback on Performance, Navigation, User Friendliness, Suggestions, etc
- Write to us at • bhoonidhi@nrsc.gov.in

r R PLIRNA KIJI	MARI , Your inputs are valuable to us, spe		lhi Survey	
	t Security and Bio-Resources	city your usage	🗌 Water Securi	ty
	Forest cover and type mapping Desertification status mapping Coast mangrov Coral Related	* *		Irrigation infrastructure assessment Water resource information system Snow melt run-off estimation Reservoir capacity evaluation
] Cartography	,		Disaster Ma	nagement Support
	Satellite based topo-map updation Digital Elevation Model Large scale mapping Digital Elevation Model	~		Floo cyclo droug landsli earthquake and forest fire
Geology and	Mineral Resources		Climate Cha	nge Studies
	Landslide hazard zonation Mineral /oil explorati mining areas	~		Mapping the indicatio monitoring the agents and modelling the i Characterization of climate variables Methane emission and Timberline study
Ocean and M	leteorology		🗌 Image proce	ssing Algorithms
	Ocean status forecast Storm surge modelling Tropical cyclone and mesoscale studies Ocean primary productivity	~		Data mining algorithms Time series analysis Radiometric anomaly characterization Geometric Data quality characterization
Rural Develo	opment		□ Interested ir	collaborative project
b.j	Drinking Water mission Wasteland mapping/updation watershed development and monitoring	~	Å	Multi-spectral data compression Spatial database management and data mi Design and development of Calibration sit Automated Data Quality Assessment techn Information fusion methods for multi-sens
Urban Devel	opment		Food Securit	у
	Urban sprawl mapping of major cities Master / structure plans Comprehensive development plans of selee Base map generation for towns	~		Saline/sodic soils mapping Crop production Monitoring and forecast Agro-Met services surveillance







Name *

Please enter your Name *

Mobile *

Please enter your mobile

Email *

Please enter your email *

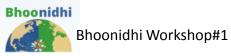
Please rate our application



Any Suggestion *

Message for me *	
	11.

Please provide your valuable feedback on https://bhoonidhi.nrsc.gov.in



THANK YOU