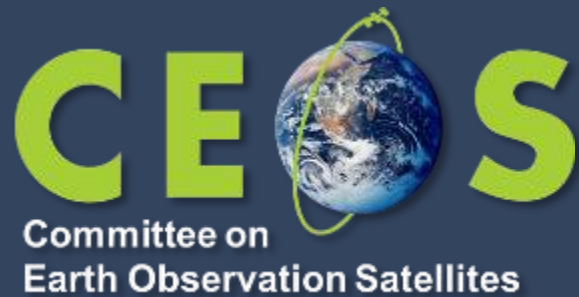
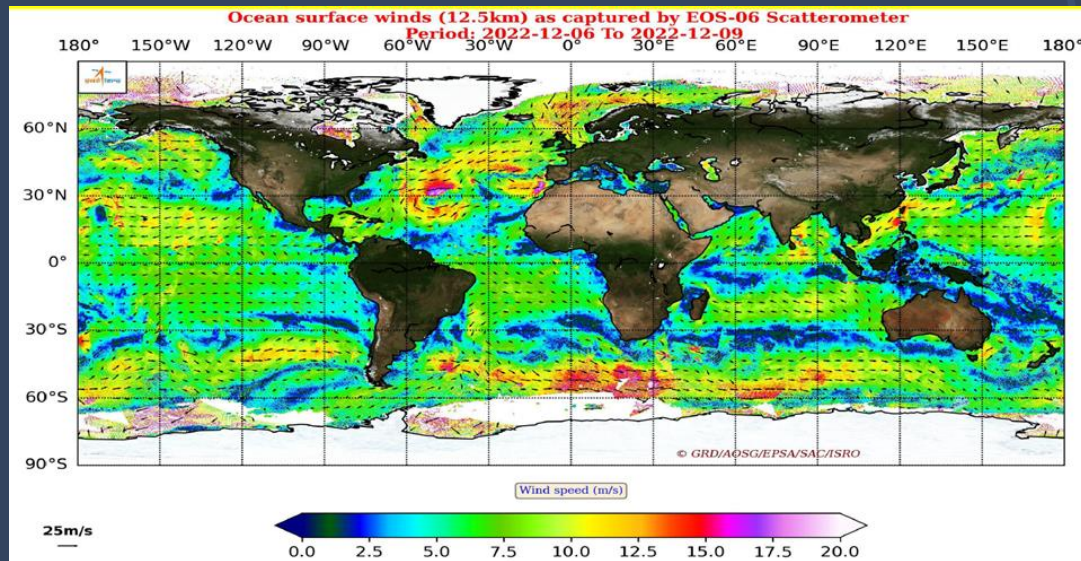


# ISRO Agency Report

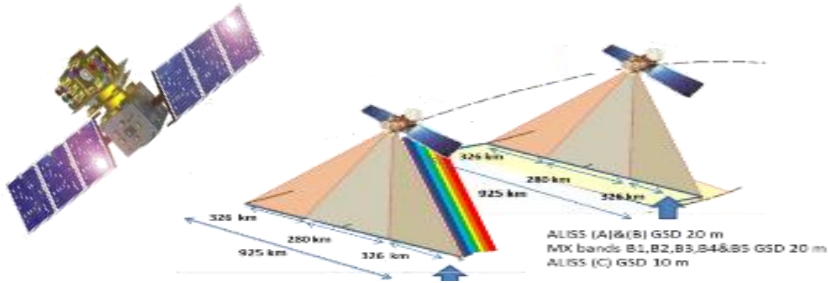


Nitant Dube  
Agenda ID: 2023.10.24\_10.50  
WGISS-56  
Paris, France (CNES)  
24-26 October, 2023

# Upcoming Earth Observation Missions

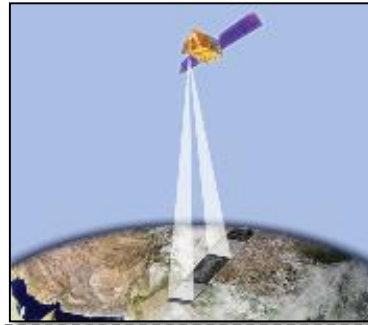


### Resourcesat-3A: Next Generation Resourcesat



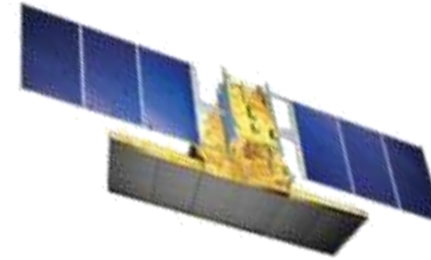
Wide Swath imaging with improved spatial resolution

### Resourcesat-3S: High resolution Stereo



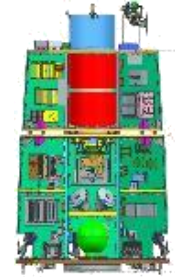
Concurrent Stereo & MX imaging

### RISAT-1B



All-weather; Day & Night Imaging

### HRSAT\*: High Res Sat Constellation



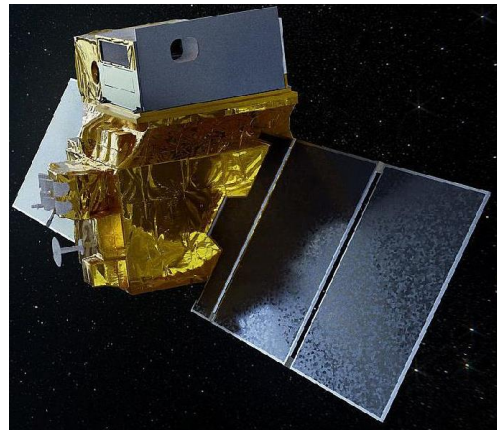
Daily re-visit of Area of Interest

### NISAR: L & S Band SAR



All-weather; Day & Night Imaging

### TRISHNA: High res. TIR & VSNIR



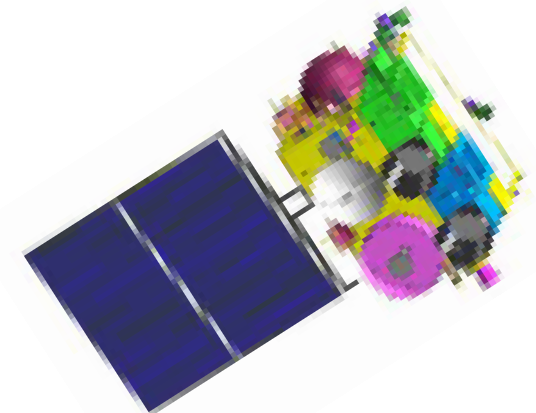
Thermal Imaging

### Oceansat-3A Series (constellation)



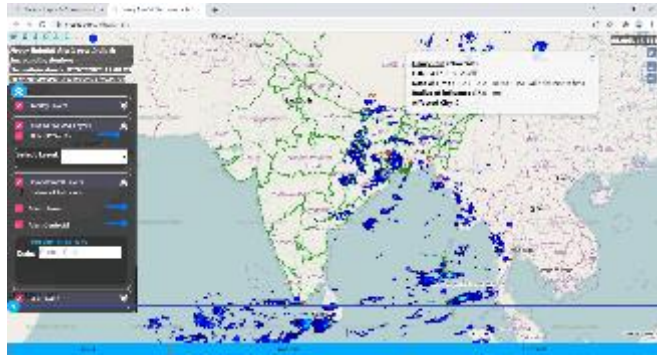
Ocean Color & Wind vector - Continuity + SST

### INSAT-3DS: Met. Observation



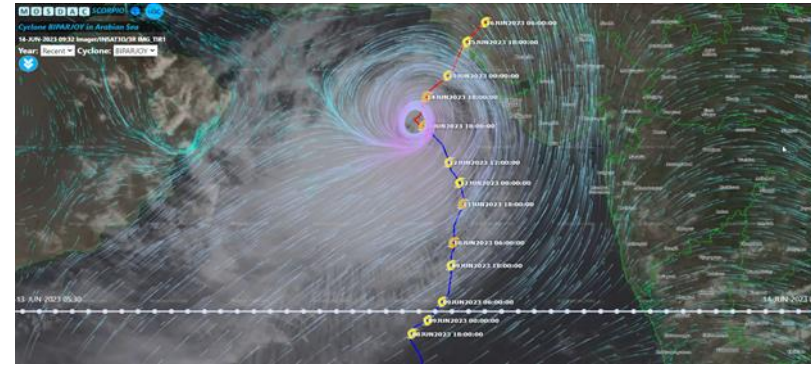
Continuity & Next Generation

## HEM based Rainfall NOWCASTING Service over Indian Region and

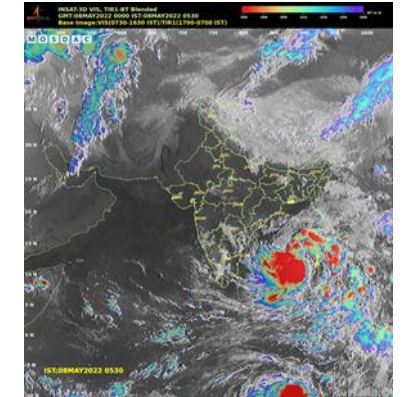


<https://mosdac.gov.in/heavyrain/>

## Enhanced web application for NRT dissemination of Cyclone Information along with Web Analytics capability (SCORPIO)



<https://mosdac.gov.in/scorpio/>



## Exterme Weather Events related to Potential Fishing Zones, Cyclones and Sea level Anomaly over forum for India Pacific island Cooperation (FIPIIC) and OMAN

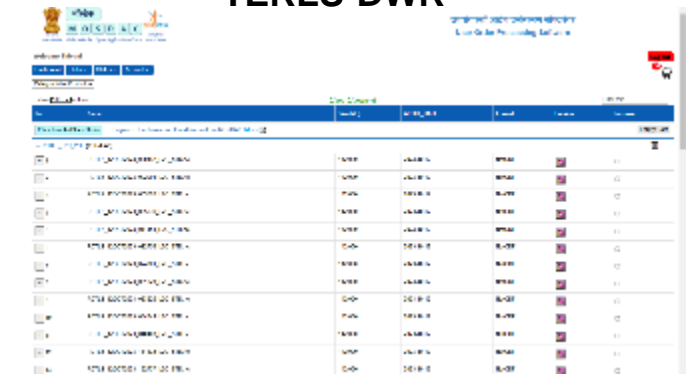


<https://mosdac.gov.in/scorpio/fipic>



<https://mosdac.gov.in/pfz/oman>

## Release of NRT Volumetric Gridded data products from TERLS-DWR

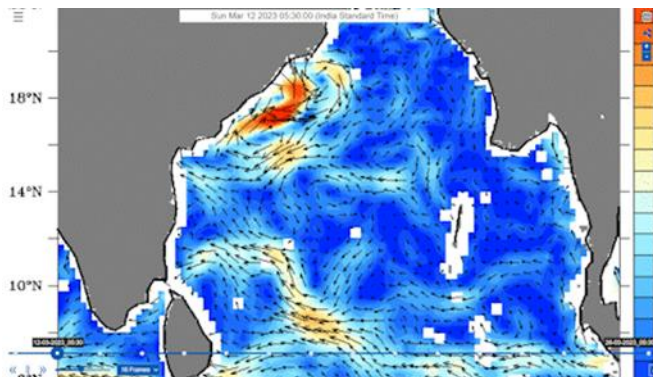


Product Name	Year	Lat Range	Lon Range	Resolution	Format	Status
1. NRT Volumetric Gridded Data	2022	10N-10S	70E-100E	10'x10'	NetCDF	Available
2. NRT Volumetric Gridded Data	2021	10N-10S	70E-100E	10'x10'	NetCDF	Available
3. NRT Volumetric Gridded Data	2020	10N-10S	70E-100E	10'x10'	NetCDF	Available
4. NRT Volumetric Gridded Data	2019	10N-10S	70E-100E	10'x10'	NetCDF	Available
5. NRT Volumetric Gridded Data	2018	10N-10S	70E-100E	10'x10'	NetCDF	Available
6. NRT Volumetric Gridded Data	2017	10N-10S	70E-100E	10'x10'	NetCDF	Available
7. NRT Volumetric Gridded Data	2016	10N-10S	70E-100E	10'x10'	NetCDF	Available
8. NRT Volumetric Gridded Data	2015	10N-10S	70E-100E	10'x10'	NetCDF	Available
9. NRT Volumetric Gridded Data	2014	10N-10S	70E-100E	10'x10'	NetCDF	Available
10. NRT Volumetric Gridded Data	2013	10N-10S	70E-100E	10'x10'	NetCDF	Available

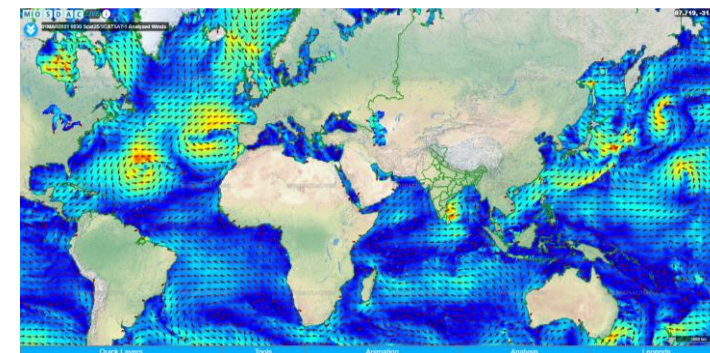
<https://mosdac.gov.in/uops>



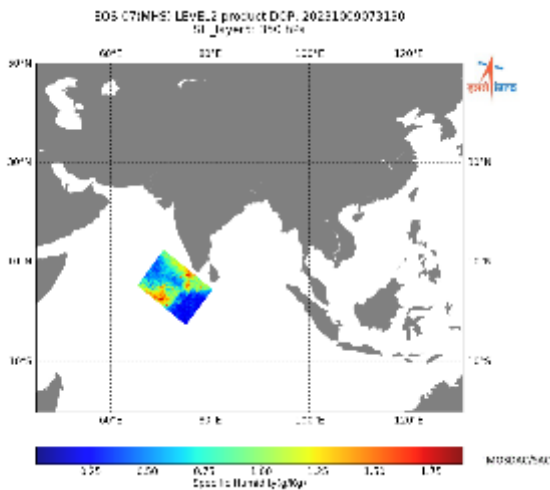
**EOS-06 Mission Pages**



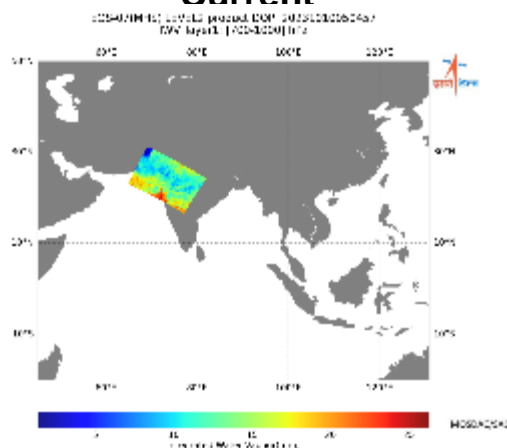
**EOS-06 Global Ocean Surface Current**



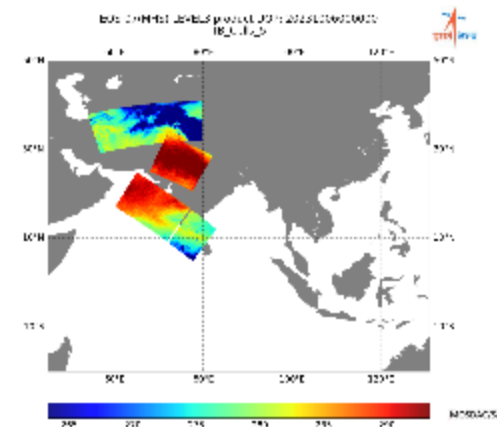
**Integration of EOS-06 Products into LIVE**



**EOS-07 Specific Humidity**



**EOS-07 Integrated Water Vapour**



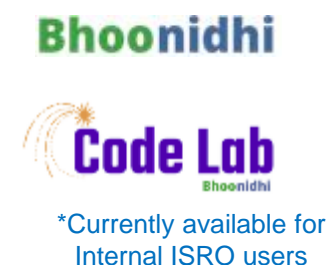
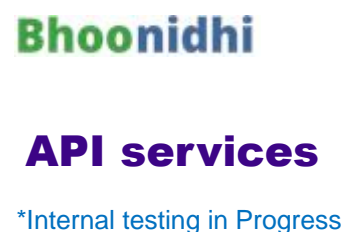
**EOS-07 Brightness Temperature**

**Bhoonidhi** is data repository of remote sensing satellites of the Indian Space Research Organisation, facilitates the dissemination of satellite data products to online users on web.

A web portal enables access to archive of Remote Sensing data from 47 satellites, including Indian and Foreign Remote Sensing Sensors data acquired over 33 years.

*\*EOS-06 OCM3 and SCAT3 as open data is available @Bhoonidhi for browsing/download.*

*Multi Layer Visualization of data at Bhoonidhi Vista .*



<https://bhoonidhi.nrsc.gov.in>

OCM Data Products (LAC/GAC Mode)		SCAT 3 Data Products	
<b>Level -1 Basic</b>	<ul style="list-style-type: none"> <li>▪ Radiance Product</li> <li>▪ Geo Referenced Products</li> </ul>	<b>Level -1</b>	<ul style="list-style-type: none"> <li>• Scan mode sigma-0</li> </ul>
<b>Level - 2 Geo Physical</b>	<ul style="list-style-type: none"> <li>▪ Chlorophyll concentration</li> <li>▪ Total Suspended Matter</li> <li>▪ Aerosol Optical Depth</li> <li>▪ Diffuse Attenuation Coefficient</li> <li>▪ Remote Sensing Reflectance- NLW (with F-not)</li> <li>▪ NDVI</li> </ul>	<b>Level -2</b>	<ul style="list-style-type: none"> <li>• L2A - Grid mode sigma-0</li> <li>• L2B - Grid mode wind</li> </ul>
		<b>Level -3</b>	<ul style="list-style-type: none"> <li>• L3SH - Global sigma-0 Horizontal Polarization</li> <li>• L3SV- Global sigma-0 Vertical Polarization</li> <li>• L3W – Global wind product</li> </ul>

## Validated

ISRO E06 Science team

## Dissemination

@Bhoonidhi

## Visualization

@Bhoonidhi Vista

## Availability

01April2023 till date



## **PayLoad Acquisition PlaNNing Request Service**

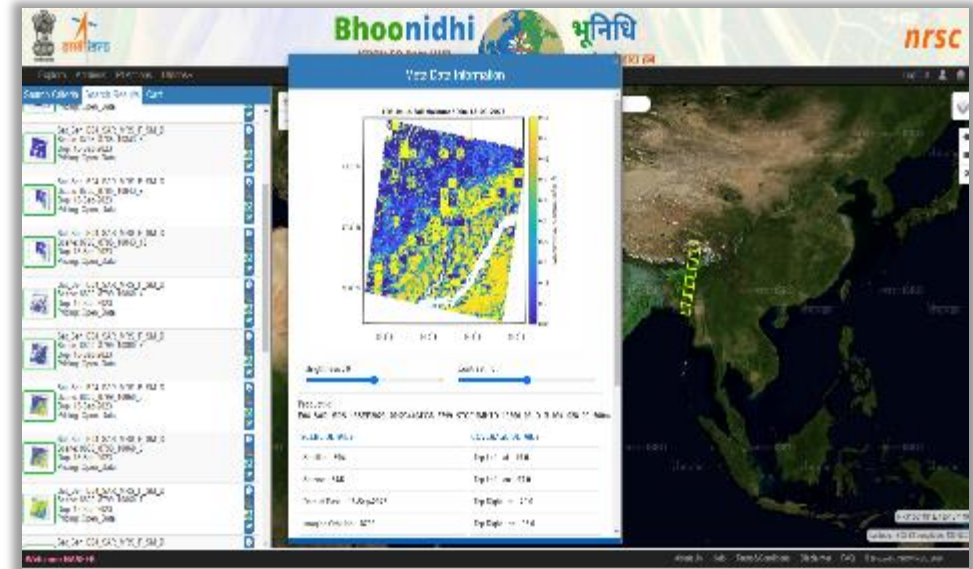
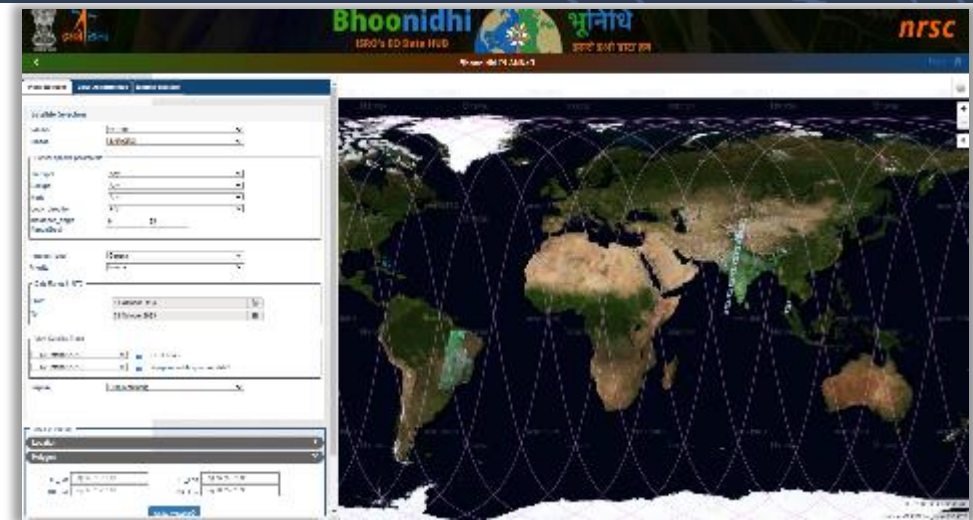
The future acquisition request placing service in PLANNer allows for users to submit future satellite acquisition requests.

- ❑ Provision to view possibility & dates of acquisitions to all users. Authorized users allowed to submit planning requests. The request will be honored as per the feasibility
- ❑ Post acquisition, the user may see the acquired coverage and subsequent data can be pulled at Bhoonidhi.

Currently E04 satellite is available for future tasking, will be soon made public through [https:// bhoonidhi-planner.nrsc.gov.in](https://bhoonidhi-planner.nrsc.gov.in)

### **E04 Soil Moisture products @ Bhoonidhi**

Apart from Standard products, Thematic product like Soil moisture will be available for Ordering.



- Resourcesat 2/2A LIS3 and AWIFS surface reflectance products
  - [https://doi.org/10.46693/NRSC/10/RS2\\_AWIFS\\_STLCSRHTD](https://doi.org/10.46693/NRSC/10/RS2_AWIFS_STLCSRHTD)
  - [https://doi.org/10.46693/NRSC/10/RS2\\_LIS3\\_STLCSRHTD](https://doi.org/10.46693/NRSC/10/RS2_LIS3_STLCSRHTD)
- E06 OCM Level 1C standard products in LAC/GAC mode
  - [https://doi.org/10.46693/NRSC/10/E06\\_OCM\\_GAC\\_STGO00GND](https://doi.org/10.46693/NRSC/10/E06_OCM_GAC_STGO00GND)
  - [https://doi.org/10.46693/NRSC/10/E06\\_OCM\\_LAC\\_STGO00GND](https://doi.org/10.46693/NRSC/10/E06_OCM_LAC_STGO00GND)
- E06 Scat3 Level 2 Sigma 0 Horizontal and Vertical, Wind vector products.
  - [https://doi.org/10.46693/NRSC/10/E06\\_SCAT\\_L2B](https://doi.org/10.46693/NRSC/10/E06_SCAT_L2B)
  - [https://doi.org/10.46693/NRSC/10/E06\\_SCAT\\_L3SH](https://doi.org/10.46693/NRSC/10/E06_SCAT_L3SH)
  - [https://doi.org/10.46693/NRSC/10/E06\\_SCAT\\_L3SV](https://doi.org/10.46693/NRSC/10/E06_SCAT_L3SV)
  - [https://doi.org/10.46693/NRSC/10/E06\\_SCAT\\_L3WW](https://doi.org/10.46693/NRSC/10/E06_SCAT_L3WW)
- E04 Coarse and Medium resolution standard products
  - [https://doi.org/10.46693/NRSC/10/E04\\_MRS\\_STUC00ETD](https://doi.org/10.46693/NRSC/10/E04_MRS_STUC00ETD)
  - [https://doi.org/10.46693/NRSC/10/E04\\_CRS\\_STUC00ETD](https://doi.org/10.46693/NRSC/10/E04_CRS_STUC00ETD)

*Total DOI assigned to products are **26 Products** till date of various satellite/sensors are available in NRSC Bhoonidhi ( includes satellites like Resourcesat series, Oceansat 1/2 series, Cartosat-1, IRS-1C, IRS-1D)*



## ❖ Data

- ❑ Satellite Imagery Data - Resourcesat - AWiFS 2023 (Mar, Apr,May,Jun), LISS-3 2023 (Apr-Jun), Cartosat 2S (2021-2023), Cartosat 3 PAN (2021-23), Cartosat 3 MX (2021-23), EOS-4 SAR( July 2023 HH,HV,FCC).
- ❑ Landuse Landcover at 1:250000 scale (2022-23).
- ❑ Building, Rail ,Bridge fly over, Road, Land use, Water bodies, for 232 Amrut Towns.

## ❖ International Collaboration

- ❑ Three Web-based GIS applications were Developed for Oman, DWEPIC, Mauritius employing state of art web technologies showcasing various datasets like OSM, CS2, C3, AWFIS, LIS-III, EOS-4 SAR, Terrain datasets, Thematic Maps, Disaster and Value added Services.

EOS-4 FCC



Oman Web Portal.



DWEPIC Web Portal



## ❖ Services

- ❑ New Bhuvan 2D: New user friendly web application platform, which embraces the latest trends and technologies, featuring a range of GIS tools such as catchment delineation, time-series analysis, draw tool, user data uploads, and interactive data visualization.
- ❑ Bhuvan WBIS: WBIS is now enhanced with additional tools and functionalities such as Water Spread Meter, EAC Generation tool and Regional Analytics.
- ❑ Flood Early Warning System: Real-time Operational Spatial Flood Early Warning System is developed for the major floodplains of Godavari and Tapi river basins using space based inputs through hydrological and hydro dynamic modelling approach.
- ❑ Minor Irrigation– A web-based platform which provides visualization of minor irrigation in rural and urban area in India. The portal provides detailed information about minor irrigation site like ownership type, Nate of water body, major use, storage capacity etc.
- ❑ International Day of Yoga (IDY) – 2023: Supported Ministry of Ayush with a Cross Platform Mobile app for data collection and a Web Portal for visualizing the data captured along with data analytics on Bhuvan Platform, showcasing the mass yoga demonstration

New Bhuvan 2D



Water Spread Meter



Flood Simulation

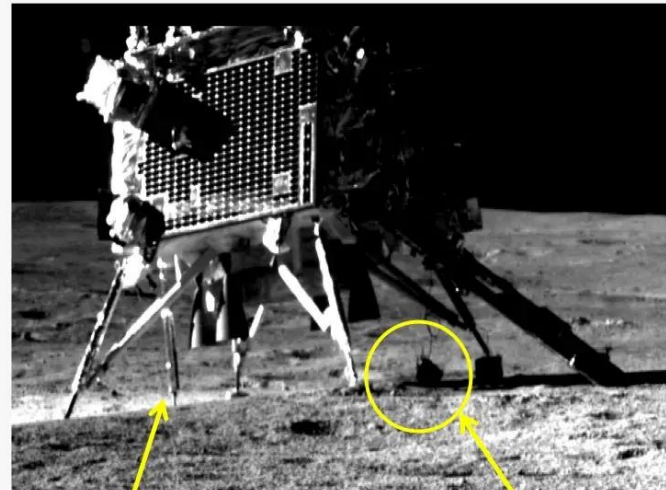


# Updates on Planetary Missions



## Vikram as seen by Pragyan

August 30, 2023, 07:35 Hrs. IST



ChaSTE

ILSA

On August 23, 2023, India's Chandrayaan-3 successfully soft landed on the moon near the lunar south pole



Successfully Launched on 02 Sept 2023

PSLV-C57/  
ADITYA-L1  
MISSION

Aditya L1 shall be the first space based Indian mission to study the Sun.

Thanks  
[nitant@sac.isro.gov.in](mailto:nitant@sac.isro.gov.in)

Space Applications Centre  
Indian Space Research Organisation  
INDIA