

# Customised Special Products



*R.V.G.Anjaneyulu*

*GH, SPFPG / DPA*



# Agenda

- Value Addition
- Value added products from Bhoonidhi
- Orthorectified products
- PAN sharpened products
- AWIFS NDVI products
- Carto DEM products
- Customised products for user projects



# Value added products

Value addition is the process of improving the product attributes in terms of radiometry (enhancement), location accuracy (using orthorectification with high precision references like GCPs) or spatial resolution (using PAN sharpening) for making them ready to use in applications.



# Value added products from Bhoonidhi

- Orthorectified products (Resourcesat-1/2/2A, Cartosat-1/2 missions)
- Pansharpened products (Cartosat-1 PAN + Resourcesat Mx, C2S, C3)
- Resourcesat-2 AWIFS time composite NDVI product
- Carto DEM and Carto Ortho Reference products
- Customised Special products for National User projects (MNCFC, IWMP, NABARD, SISDP etc)



# Orthorectified products

- Orthorectified products of Resourcesat-1/2/2A, Cartosat-1/2 missions are generated by using CartoDEM reference over Indian region, and SRTM-30/ASTER-30 for outside Indian regions.
- The accuracy achieved is of the order of better than 1 pixel for Plain areas and upto 2 pixels in the hilly areas.
- From Cartosat-2S onwards DPGS will generate the scene based ortho products, where as products requiring interactive correction will be generated at VADS.



C2S Mx Doha, Qatar



C2S Mx Statue of equality



# Ordering Ortho products in Bhoonidhi

Browser address bar: bhoonidhi.nrsc.gov.in/bhoonidhi/index.html

Navigation: NRSC-Mail, DIKSTRA (Dashboar..., Canteen-Booking, Home, Google, Gmail, https://uops-intern..., https://uops-stagin..., https://uops.nrsc.g..., Ubuntu free online...

Header: Bhoonidhi ISRO's EO Data HUB भूनिधि इसरो इओ डाटा हब nrsc

Menu: Explore, Archives, PI Actions, Utilities -

Search: Search-Criteria, Search-Results, Cart

Search Criteria:

- Polygon
- Shapefile
- Map Sheet
- Events

Date range: 01 February 2022 to 25 October 2022

Product: Standard

Satellite-Sensor:

- Resolution: Very high (0m - 1m) Resolution
- Source: Optical

Priced

- CartoSat-2\_PAN(SPOT)
- CartoSat-2A\_PAN(SPOT)
- CartoSat-2B\_PAN(SPOT)
- CartoSat-2C\_PAN(SPOT)
- CartoSat-2D\_PAN(SPOT)
- CartoSat-2E\_PAN(SPOT)
- CartoSat-2F\_PAN(SPOT)
- CartoSat-3\_PAN(SPOT)
- KompSat-3\_MS
- KompSat-3A\_MS

Map: Type search text here... Eg. Get recent landsat 8 data. Includes ISRO logo and nrsc watermark.





















Coordinates: N -15° 31' 35" E 115° 57' 19" Latitude: -15.5264 Longitude: 115.9552

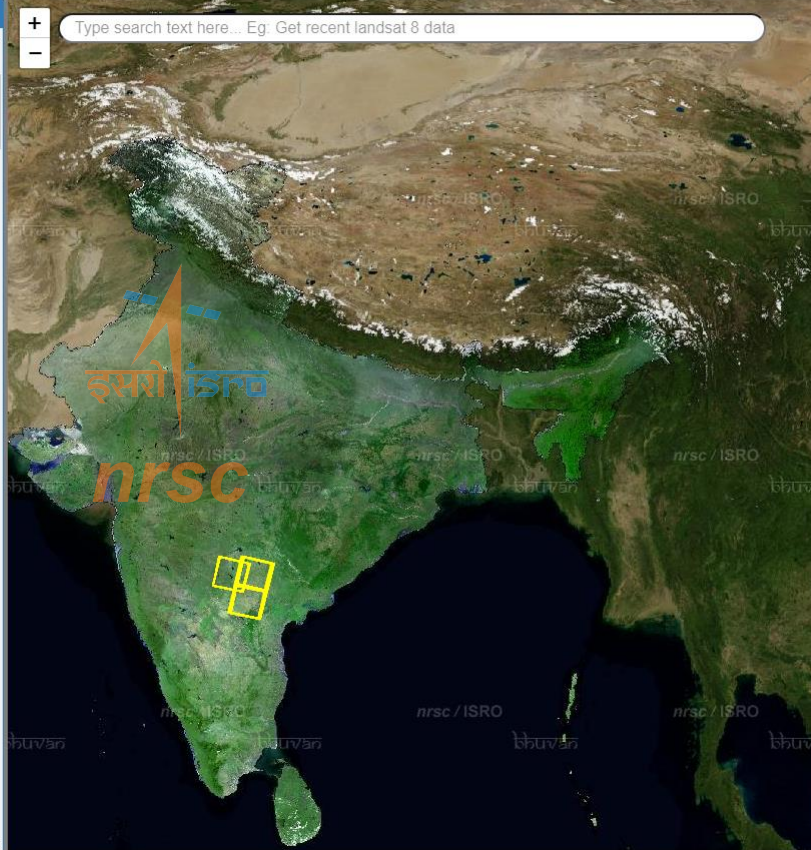


Explore Archives PI Actions Utilities

Search-Criteria Search-Results Cart

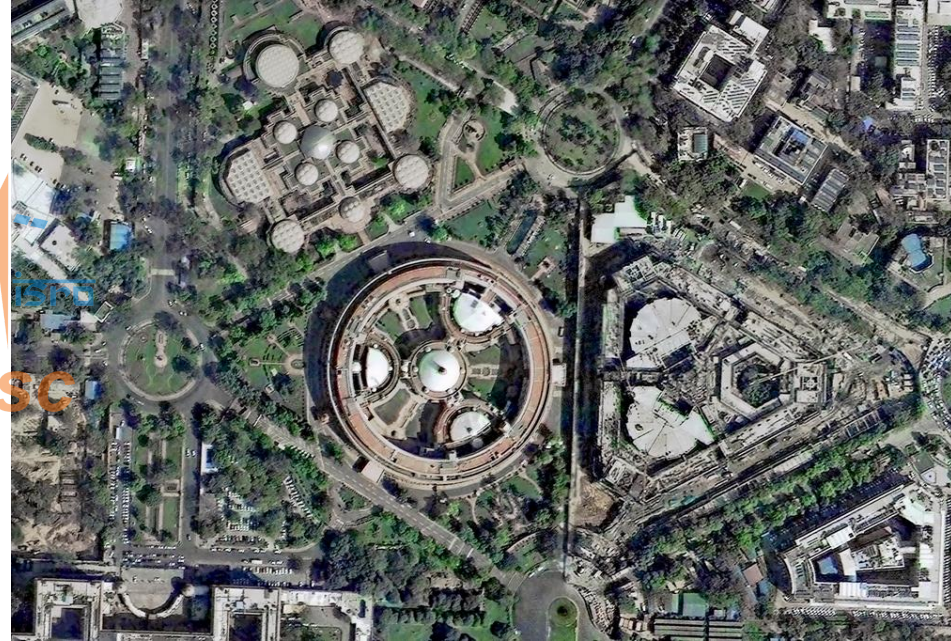
Type search text here ... Eg. Get recent landsat 8 data

	Sat_sen: R2A_LIS3_-F Scene: 25306_99_60 Dop: 23-Oct-2021 Pricing: Priced	
	Sat_sen: R2A_LIS3_-F Scene: 26375_99_60 Dop: 27-May-2022 Pricing: Priced	
	Sat_sen: R2A_LIS3_-F Scene: 22919_99_60 Dop: 08-May-2021 Pricing: Priced	
	Sat_sen: R2A_LIS3_-F Scene: 23942_99_60 Dop: 19-Jul-2021 Pricing: Priced	
	Sat_sen: R2A_LIS3_-F Scene: 23601_99_60 Dop: 25-Jun-2021 Pricing: Priced	
	Sat_sen: R2A_LIS3_-F Scene: 22166_99_60 Dop: 16-Mar-2021 Pricing: Priced	
	Sat_sen: R2A_LIS3_-F Scene: 21825_99_60 Dop: 20-Feb-2021 Pricing: Priced	
	Sat_sen: R2A_LIS3_-F Scene: 25647_99_60 Dop: 16-Nov-2021 Pricing: Priced	
	Sat_sen: R2A_LIS3_-F Scene: 23260_99_60 Dop: 01-Jun-2021 Pricing: Priced	
	Sat_sen: R2A_LIS3_-F Scene: 24283_99_60 Dop: 12-Aug-2021 Pricing: Priced	



# PAN sharpened products

- Pansharpened products from all IRS missions will be generated
  - for ex., Cartosat-1 PAN + Resourcesat Mx, Cartosat-2S PAN + Mx, Cartosat-3 PAN + Mx, Cartosat-3 PAN + Cartosat-2S Mx etc
  - PAN coverage falling in one Mx scene or in several Mx scenes
- AOI based PAN sharpened products
- State of the art algorithms to generate best fused quality products.



Parliament House, New Delhi, C2S Fused



# Ordering Merged products in Bhoonidhi

Search-Criteria Search-Results Cart

Decimal  Degree-Minute-Second

Latitude:

Longitude:

Area(km):

Polygon

Shapefile

Map Sheet

Events

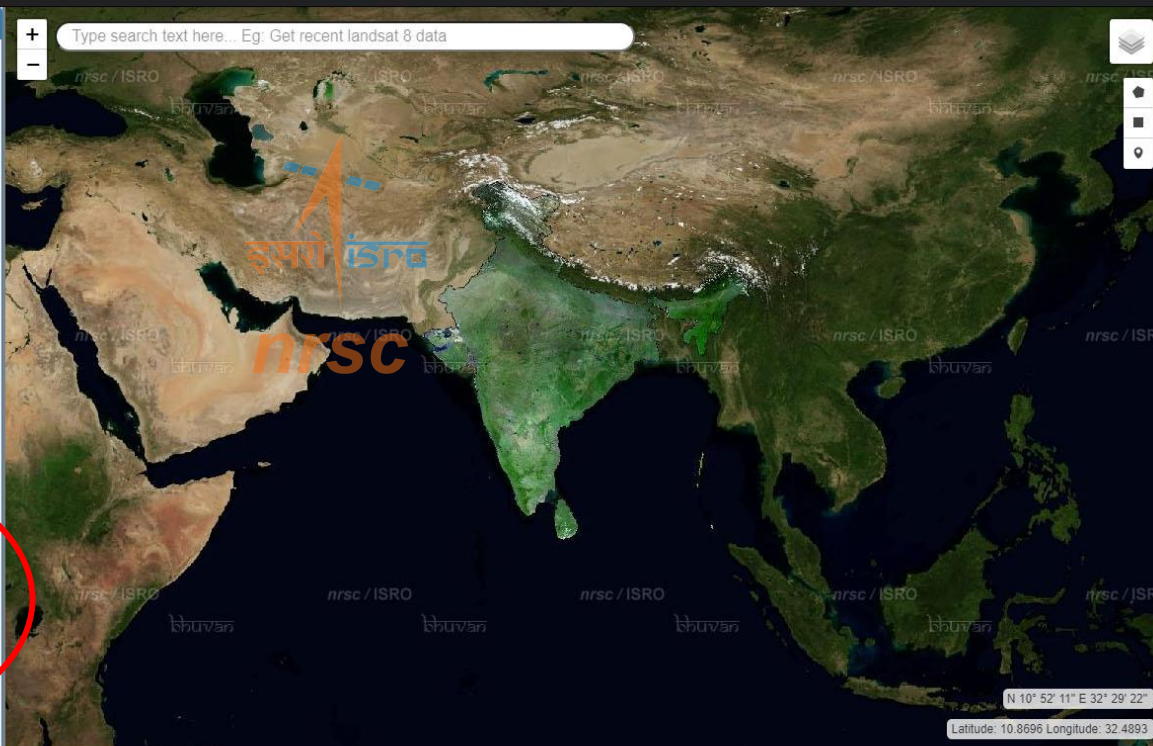
Date range:

Product:

Combinations:

- CartoSat-2C\_PAN(SPOT) + CartoSat-2C\_MX(SPOT)
- CartoSat-2D\_PAN(SPOT) + CartoSat-2D\_MX(SPOT)
- CartoSat-2E\_PAN(SPOT) + CartoSat-2E\_MX(SPOT)
- CartoSat-2F\_PAN(SPOT) + CartoSat-2F\_MX(SPOT)
- CartoSat-2S\_PAN(SPOT) + CartoSat-2S\_MX(SPOT)
- CartoSat-3\_PAN(SPOT) + CartoSat-3\_MX(SPOT)

Submit





Explore Archives PI Actions Utilities -

Search-Criteria Search-Results **Cart**







Footprint Controls

Search Details

[Load more results](#)

Show 100

Filter Results

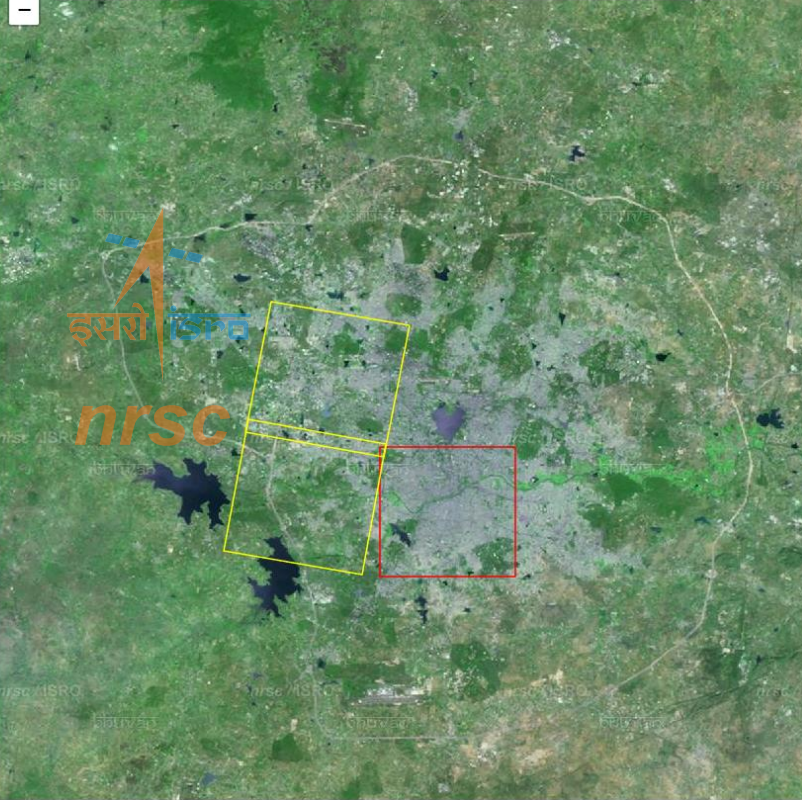
	Sat_sen: C2F_PAN_SP_F Scene: 26617_2_020249_4 Dop: 31-Oct-2022 Pricing: Priced	 	<a href="#">Fetch MX</a>
	Sat_sen: C2F_PAN_SP_F Scene: 26617_2_020249_5 Dop: 31-Oct-2022 Pricing: Priced	 	<a href="#">Fetch MX</a>

Showing 1 to 2 of 2 entries

1

[Load more results](#)

+ Type search text here Eg: Get recent landsat 8 data

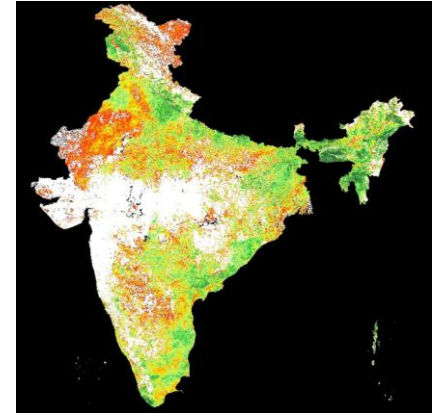


# AWIFS Time composite NDVI products

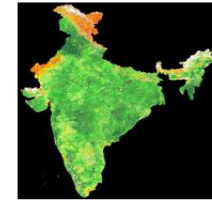
- Resourcesat-2 AWIFS maximum value time composite NDVI full India mosaic product @ AWIFs native resolution of 56m is generated for every 10/15 days by processing the every day acquired AWIFs data and disseminated.
- The major users are MNCFC, RRSSCs and NRSC agriculture group.
- The products are supplied in Albers Equal area Conical map projection with WGS 84 Datum.



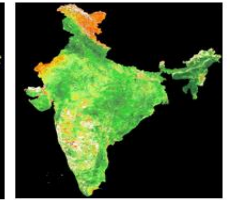
nrsc



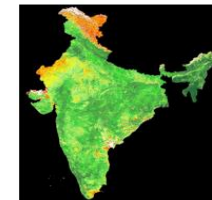
NDVI variation from Jan-Dec 2020



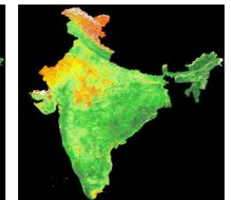
1-15 Oct 2020



16-30 Oct 2020



1-15 Oct 2020



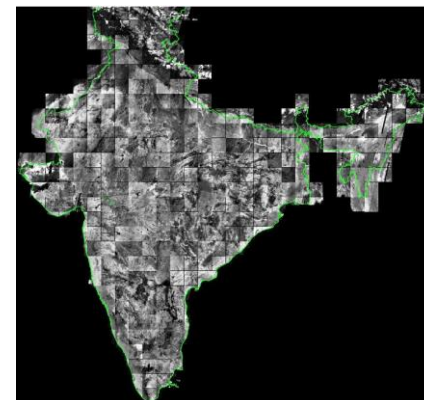
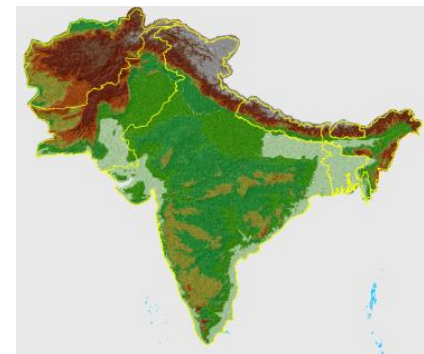
16-31 Oct 2020

# Carto DEM and Carto Ortho tiles

- Carto DEM with posting interval 1/3 arc second and Carto Ortho Reference @ 2.5m generated as a part of Carto DEM project using Highly accurate Ground control points are disseminated to users.
- The accuracies of the reference tiles are CE 90 of 15m and LE 90 of 8m.
- The high accuracy references are being used extensively by the users in mapping and hydrological applications



Carto DEM



Carto Ortho Tiles

# Ordering CDEM products in Bhoonidhi



Explore Archives PI Actions Utilities

Search-Criteria Search-Results Cart

Area(km) 10

Polygon  
Shapefile  
Map Sheet  
Events

Date range  
01 February 2022 25 October 2022

Product Thematic

Satellite-Sensor  
Source DEM

**Note: Date range selection is invalid for DEM data**

Priced  
 CartoSat-1\_PAN(CD)\_CartoDEM-10m

Advanced Filters

Submit

FEEDBACK  
Tell us what you think

Type search text here... Eg: Get recent landsat 8 data

Latitude: 44.2392 Longitude: -12.0135



Explore Archives PI Actions Utilities

Search-Criteria Search-Results **Cart**

Footprint Controls

Search Details

Add these products to Cart

Load more results

Filter Results

1



Sat\_sen: P5\_PAN\_CD\_F  
Scene: P5\_PAN\_CD\_N17\_375\_E078\_500  
Pricing: Priced



Sat\_sen: P5\_PAN\_CD\_F  
Scene: P5\_PAN\_CD\_N17\_250\_E078\_500  
Pricing: Priced



Sat\_sen: P5\_PAN\_CD\_F  
Scene: P5\_PAN\_CD\_N17\_375\_E078\_375  
Pricing: Priced



Sat\_sen: P5\_PAN\_CD\_F  
Scene: P5\_PAN\_CD\_N17\_250\_E078\_375  
Pricing: Priced

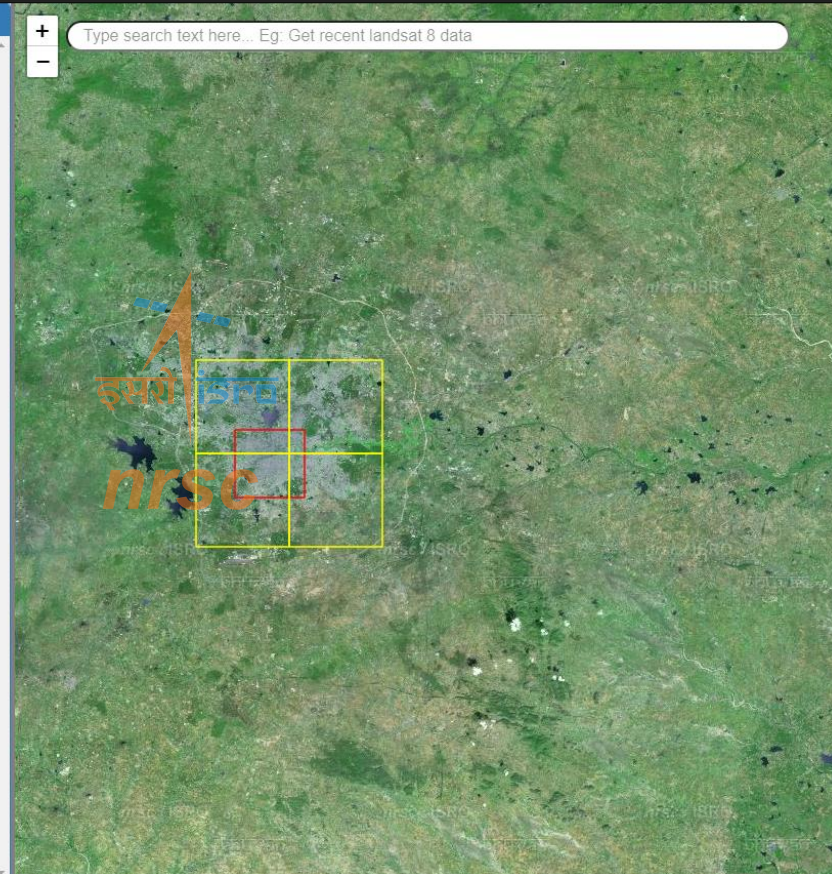
Showing 1 to 4 of 4 entries

1

Add these products to Cart

Load more results

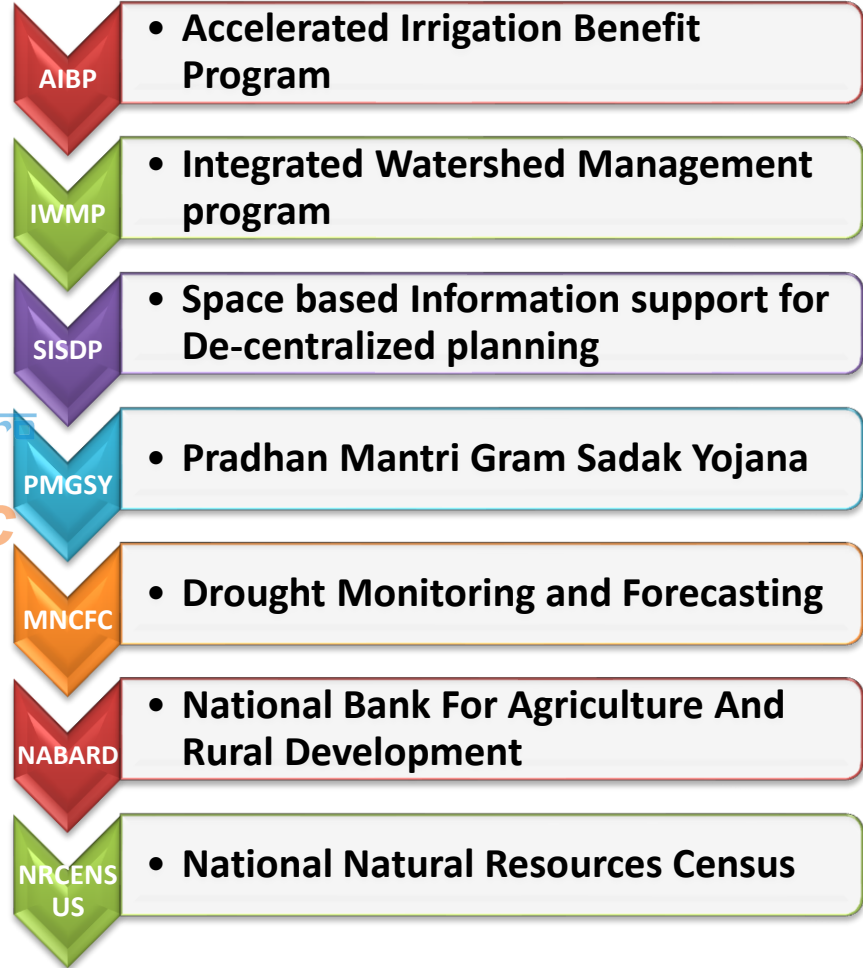
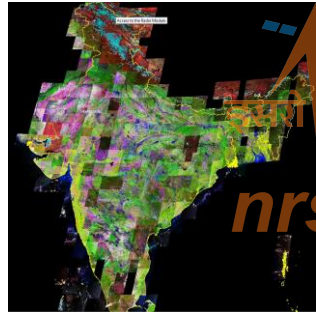
Type search text here... Eg: Get recent landsat 8 data



# VADS products for National User projects

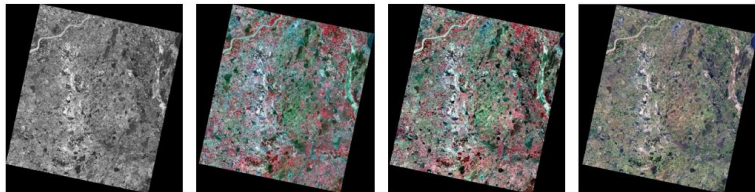
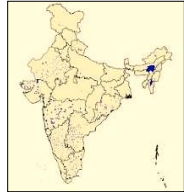
- Customised VADS products in terms of map projection, references to be used accuracies to be achieved, deliverables are being supplied to National User projects.

RS2 Liss-3 Ortho tiles Sep-Oct 2018 and Feb - Mar 2019 for MNCFC



Watershed Map

IWMP Project



# Applications of VADS products

- **Ortho products** : Base map creation, time series studies, Cadastral mapping, town planning etc.
- **Merged products** : Watershed management and harnessing, 1:10K thematic map creation, urban database creation for smart cities, visualisation of data at high spatial resolution etc.
- **Mosaic products** : District level, State level, National level mapping and monitoring applications, high resolution city mosaic creation etc.
- **Carto DEM and Carto Ortho products** : Geological studies, volumetric studies, flow modelling, as a reference image in geometric rectification, drainage pattern and slope analysis for dam site construction etc.
- **NDVI products** : Drought monitoring, crop yield estimation, crop growth monitoring etc.





इसरो डिजिटल  
nrsc

Thank you  
for your Kind  
Attention ...