

## ANNOUNCEMENT OF EOS-04 DATA PRODUCTS TO USERS

### ✚ Availability of data from 23<sup>rd</sup> march, 2022.

- EOS-04 is a follow-on mission of RISAT-1,
- Launched on 14-February 2022 by PSLV C-52 launch vehicle.
- EOS-04 SAR payload is operating in C- Band Frequency (5.4 GHz).
- Operating in sun synchronous orbit of 524.87 Km altitude.
- Designed to cater to a wide range of incidence angles and swaths.
- Capability to image in multiple resolutions in single, dual, circular or full polarization.

**Table-1: EOS-04 Payload Specifications**

Parameters	Specifications
Altitude	524.87 km
Orbit	Sun synchronous (6 AM -descending / 6 PM equatorial crossing)
Frequency	5.4 GHz $\pm$ 37.5 MHz
Polarization Combination	Single / Dual / Full /Hybrid polarimetry (Transmit circular, receive linear)
Antenna Roll Bias (deg)	$\pm$ 36°
Range Coverage (Km)	100-650 (either side of flight track)
Look Angle (deg)	11.5 - 49.6
Incidence Angle (deg)	12.4 – 55.5

### **EOS-04 Imaging Modes:**

The following table shows imaging modes which are announced to the user community.

MODES	FRS-1 (Fine Resolution Stripmap-1)	FRS-2 (Fine Resolution Stripmap-2)	MRS (Medium Resolution ScanSAR)	CRS (Coarse Resolution ScanSAR)
Chirp Bandwidth (MHz)	<b>75</b>	<b>37.5</b>	<b>18.75</b>	<b>18.75</b>
Worst Sigma	<b><math>\leq</math>- 18</b>	<b><math>\leq</math>-19</b>	<b><math>\leq</math>- 18</b>	<b><math>\leq</math>-18</b>

<b>Naught (dB)</b>				
<b>Swath (km)</b>	<b>25</b> #20	<b>25</b> #20	<b>160</b> #115	<b>223</b> #168
<b>Off-Nadir (km)</b>	<b>100 – 650</b> #100-400	<b>100-650</b> #100-400	<b>100 - 650</b> #100-400	<b>100 - 650</b> #100-400
<b>Slant range resolution(m)</b>	<b>2</b>	<b>4</b>	<b>8</b>	<b>8</b>
<b>Ground range resolution(m)</b>	<b>9.3 – 2.4</b>	<b>18.6 – 6.3</b>	<b>37.2-9.7</b>	<b>37.2-12.6</b>
<b>Azimuth Resolution(m)</b>	<b>3</b>	<b>3</b>	<b>33</b>	<b>50</b>
<b>Mode Description</b>	Basic conventional mode of Stripmap imaging with fixed antenna beam orientation with respect to flight path	Similar to FRS-1 with single beam operation except for range resolution of 4m	8-beam ScanSAR mode allows for increase of the range swath dimension	12-beam ScanSAR mode Similar to the MRS mode

# represents specifications for Full Polarimetric mode.

#### **EOS-04 Data Products:**

- The following products are announced :

<b>Imaging Mode</b>	<b>L1-Slant Range Geotagged Product (CEOS &amp; Geotiff)</b>	<b>L1-Ground Range Geotagged Product (CEOS &amp; Geotiff)</b>	<b>Level-2 Enhanced Terrain corrected Geo Referenced Product (Geotiff)</b>
<b>FRS-1</b>	✓	✓	✓
<b>FRS-2</b>	✓	✓	✓
<b>MRS</b>	✓ (Geotiff)	✓	✓
<b>CRS</b>	✓ (Geotiff)	✓	✓

### **EOS-04 Data Acquisition Plan:**

✚ Following is the plan of data acquisition :

- a) In the Descending Pass, MRS systematic coverage over Indian Region is being covered with the following configuration :
  - Resolution: 33m
  - Swath: 160Kms.
  - Repetivity: 17 days
  - Polarization : HH+HV
  - Descending, Right look
- b) In the Ascending node, future collection request are being taken

### **Pricing:**

The data will be distributed with the following terms:

- a) Dissemination of EOS-04 satellite data to all Central Ministries / Departments and State Government Departments - free of cost.
- b) Dissemination of EOS-4 satellite data to Domestic Private & International users as per the existing satellite data pricing policy of DOS.

Users can order the data through <https://bhoonidhi.nrsc.gov.in/bhoonidhi/index.html> and can view the full resolution data through <https://bhoonidhi.nrsc.gov.in/vista/index.html>

### **For any further queries you may contact:**

NRSC DATA CENTRE

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