

# Mock Dataset Results Submission Guidelines

PS: 10 - Change detection in satellite imagery

- In this presentation, we are presenting how to submit the results for PS -10 Statement.

The following points are covered in brief:-

- Downloading Dataset
- Generation of Inference\Output for submission on portal
- Creating a package (zip file), its nomenclature and its submission for online portal for correct evaluation by the organizer.
- Common mistakes to avoid
- Submitting results in portal

# Step 1: Download Data (LISS4)

Login to the Portal

The screenshot displays the Bhoonidhi portal, ISRO's EO Data HUB. The header includes the ISRO logo, the Bhoonidhi logo in English and Hindi, and the NRSC logo. A navigation bar contains links for Explore, Archives, PI Actions, Utilities, and a Login button (highlighted with a red box). The main interface is divided into a left sidebar with search filters and a right panel showing a satellite map of India and surrounding regions.

**Search-Criteria** | Search-Results | Cart

**Area of Interest** ☒

Location | Polygon | Shapefile | KML / KMZ | Events | Mapsheet

**Date range**

03 September 2025 | 03 October 2025

**Filters (Optional)**

- Open/Priced
- Resolution
- Imaging Spectrum
- Satellite
- Sensor Type
- Products
- Themes

**Satellite-Sensor (select max 10)**

- ☐ - Disabled / Unavailable for the selected date range
- ☐ OpenData\_DirectDownload
- ☐ OpenData\_OnOrder
- ☐ Priced

**Advanced Filters** ☐

**Submit** **FEEDBACK** Tell Us What You Think!

**Map Coordinates:** N 51° 10' 54" E 53° 27' 08" | Latitude: 51.1816 Longitude: 53.4522

**Browsers supported: Firefox 60+, Chrome 78+, Edge 18+, Opera 64+**

**Footer:** About Us | Help | Terms&Conditions | Disclaimer | FAQ | © Bhoonidhi: ISRO/NRSC, 2020

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

## Plot location

The screenshot displays the Bhoonidhi ISRO's EO Data HUB interface. The header includes the ISRO logo, the text "Bhoonidhi ISRO's EO Data HUB", and the name in Hindi "भूनिधि इसरो इओ डाटा हब". The "nrsc" logo is also present in the top right.

The left sidebar contains the following sections:

- Search-Criteria** (selected), Search-Results, Cart
- Area of Interest** (checked):
  - Location** (highlighted with a red box), Polygon, Shapefile, KML / KMZ, Events, Mapsheet
  - Place Name:
  - Decimal (selected), Degree-Minute-Second
  - Latitude:
  - Longitude:
  - Area(km):
  - Plot** (highlighted with a red box)
- Date range**: 03 September 2025 to 03 October 2025
- Filters (Optional)**: Open/Priced, Resolution, Imaging Spectrum, Satellite, Sensor Type, Products, Themes
- Satellite-Sensor (select max 10)**:
  - ☐ - Disabled / Unavailable for the selected date range
  - ☐ OpenData\_DirectDownload

The main map area shows a satellite view of a region in Bhuvan. A red rectangular box highlights the Area of Interest. The map includes a scale bar and a coordinate display in the bottom right corner: "N 25° 47' 36" E 91° 38' 59" Latitude: 25.7934 Longitude: 91.6497".

Enter latitude & longitude provided in “PS10\_Mock\_Dataset.docx” and click plot to view Area of Interest on map.

## Select dates and sensor

The screenshot displays the Bhoonidhi ISRO's EO Data HUB interface. The header includes the ISRO logo, the text "Bhoonidhi ISRO's EO Data HUB", and the Hindi text "भूनिधि इसरो इओ डाटा हब". The navigation bar contains links for "Explore", "Archives", "PI Actions", and "Utilities". The main content area is divided into a left sidebar and a right map area.

**Search-Criteria** Search-Results Cart

**Date range**

15 February 2022 15 February 2022

**Filters (Optional)**

- Open/Priced
- Resolution
- Imaging Spectrum
- Satellite
- Sensor Type (1/18)**
  - ☒ LISS4
  - ☐ AIS
  - ☐ AVHRR
  - ☐ AWIFS
  - ☐ LISS1
  - ☐ LISS2
  - ☐ LISS3
  - ☐ MODIS
  - ☐ MultiSpectral
- Products
- Themes

**Satellite-Sensor (select max 10)**

- ☐ - Disabled / Unavailable for the selected date range
- ☒ OpenData\_DirectDownload
  - ☒ ResourceSat-2\_LISS4(MX70)\_L2
  - ☒ ResourceSat-2A\_LISS4(MX70)\_L2
- ☐ OpenData\_OnOrder

**Advanced Filters** ☐

**Submit** **FEEDBACK**

The main map area shows a satellite image of a region with a red rectangular box highlighting a specific area. The map includes a scale bar and a coordinate display at the bottom right: "N 25° 47' 25" E 91° 38' 49" Latitude: 25.7903 Longitude: 91.6469".

Select date mentioned in “PS10\_Mock\_Dataset.docx”, choose LISS4 data. Click Submit.

## View metadata & Add to Cart

The screenshot displays the Bhoonidhi portal interface. On the left, the 'Search-Results' tab is active, showing a single search result for 'Sat\_Sen: RS2\_LIS4\_- F\_L2'. A red box highlights the 'Add to Cart' icon (a green cart) next to the result. A red arrow points from this icon to the 'Add to Cart' text below. Another red arrow points from the 'Meta Data Information' window to the 'Add to Cart' text.

**Add to Cart**

**Meta Data Information**

Brightness : 0 Contrast : 0

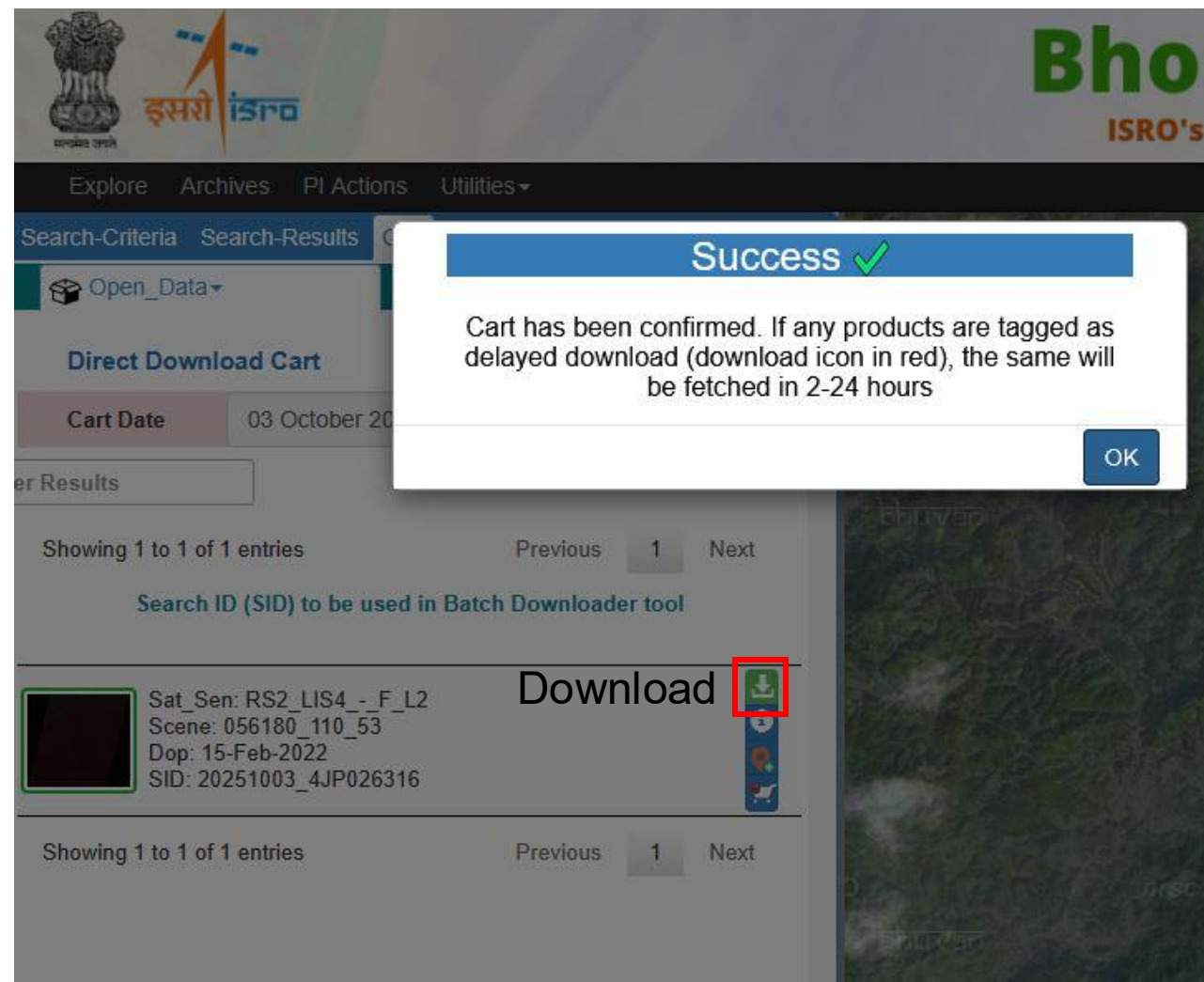
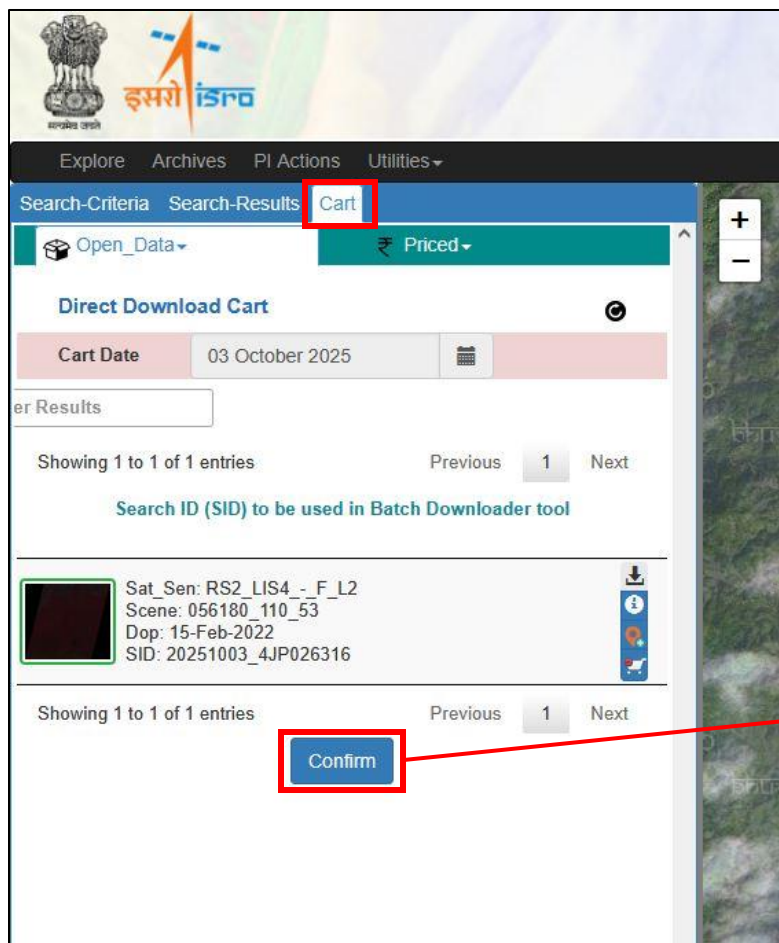
Product Id: R2F15FEB2022056180011000053SSANSTUC00GTDD

SCENE DETAILS	COVERAGE DETAILS
Satellite: RS2	Top Left Lat: 26.2241
Sensor: LIS4	Top Left Lon: 91.3428
Date of Pass: 15-Feb-2022	Top Right Lat: 26.231764

Latitude: 25.7812 Longitude: 91.6624

In case of multiple results, check product id with id mentioned in "PS10\_Mock\_Dataset.docx". Add correct product to cart.

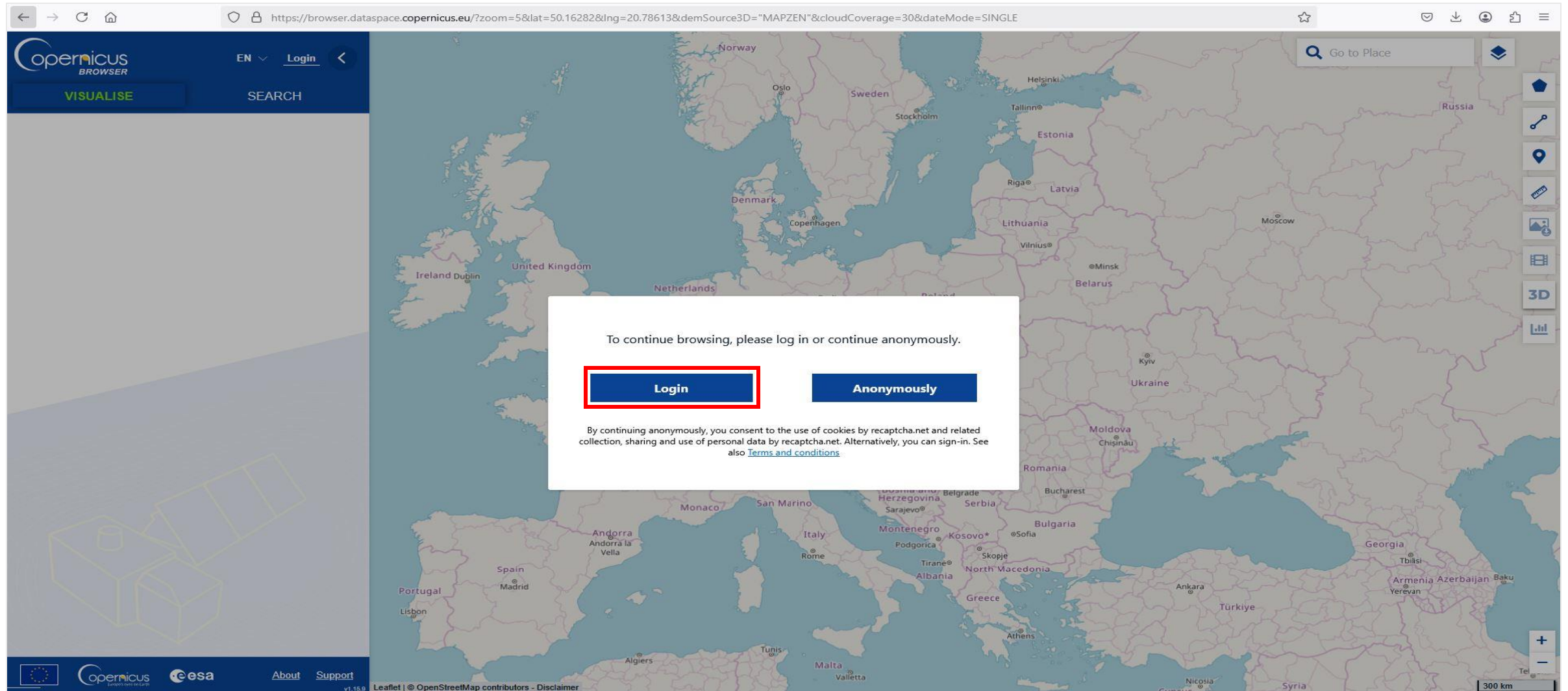
## Confirm & Download



Go to cart tab, click confirm & download the product.

# Download Data (Sentinel)

## Login to the Portal



<https://browser.dataspace.copernicus.eu>

# Search product

Opennicus  
BROWSER

EN Login

VISUALISE

SEARCH

SEARCH CRITERIA:

30307T042709\_N0510\_R133\_T46RCP\_20240820T132041.SAFE

To apply a location filter, please define an AOI/a POI

DATA SOURCES:

SENTINEL-1

Filters

SENTINEL-2

Filters

SENTINEL-3

Filters

SENTINEL-5P

Filters

SENTINEL-6

Filters

CCM Optical

Filters

CCM DEM

Filters

CCM SAR

Filters

GLOBAL-MOSAICS

Filters

CLMS Land Cover and Land Use Mapping

Filters

CLMS Bio-geophysical Parameters

Filters

TIME RANGE:

From:

< YYYY-MM-DD >

hh 00

mm 00

Until:

< YYYY-MM-DD >

hh 23

mm 59

Filter by months

Search

Go to Place


3D

Lat: 37.66, Lng: -1.76

300 km

In search criteria, enter the image id mentioned in “PS10\_Mock\_Dataset.docx” and click Search.

Download product



EN ▼ Login ◀


VISUALISE


SEARCH

◀ Search

Showing 1 result

☐ Select all

 Add to workspace






S2B\_MSIL1C\_20230307T042709\_N0510\_R133\_T46RCP\_20240820T132041.SAFE


Mission: SENTINEL-2 Instrument: MSI Size: 791MB

Sensing time: 2023-03-07T04:27:09.025000Z

Visualise

SENTINEL-2 MSI S2MS1C

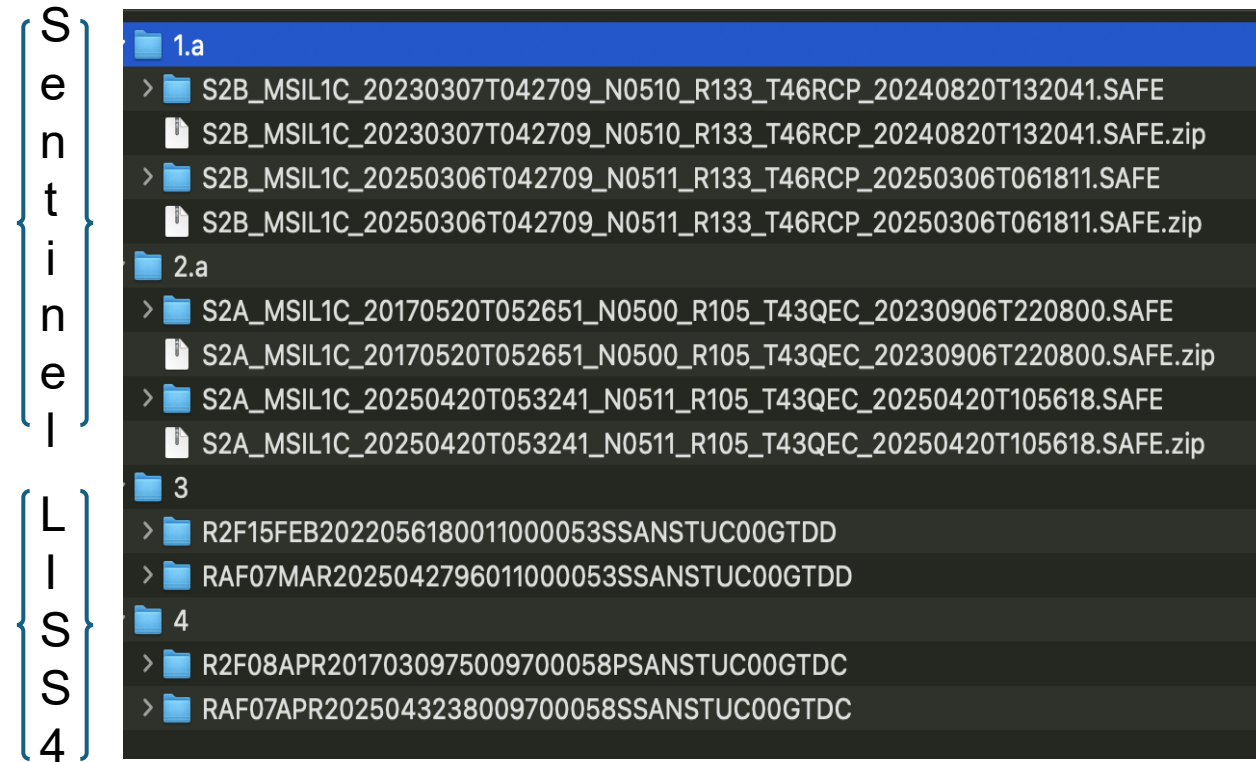


A satellite map of Europe with a large, dark, semi-transparent rectangular area overlaid, representing the spatial extent of the Sentinel-2 MSI product. The map includes labels for various countries and cities: Norway, Oslo, Sweden, Denmark, Copenhagen, Germany, Berlin, Netherlands, Amsterdam, United Kingdom, London, Ireland, Dublin, Belgium, Luxembourg, Paris, France, Liechtenstein, Bern, Vaduz, Austria, Vienna, Czech Republic, Prague, and Switzerland. The product footprint covers a significant portion of Northern and Central Europe, including the British Isles, Scandinavia, and Central Europe.

# Downloaded Data

- Download data mentioned in “PS10\_Mock\_Dataset.docx” from Bhoonidhi and Copernicus portal.
- Pre-process the data, if required.
- Note: Sentinel L1C data is shown here for reference. Participants can download and use either L1C or L2A products.

One Example how downloaded data looks



# Step: 2 Generate inference on each image-pair

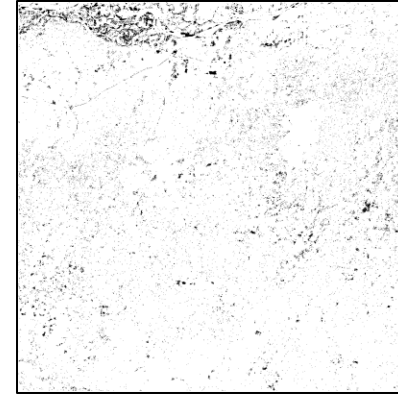
Old Image



New Image



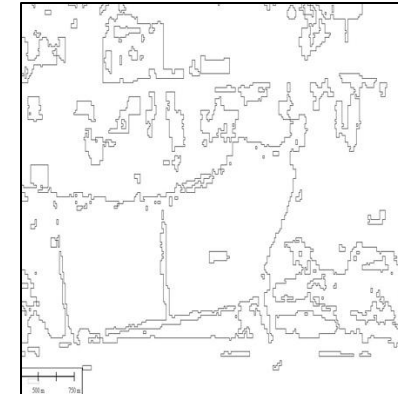
AI/ML  
Model



Mask (.tif file) where 1 represents change and 0 represents no change



Ensure detected man-made changes mask has same dimensions & resolution of input image-pair



Mask (.shp file)

\* Images shown here are for reference only.

# Step: 3 How to submit the results

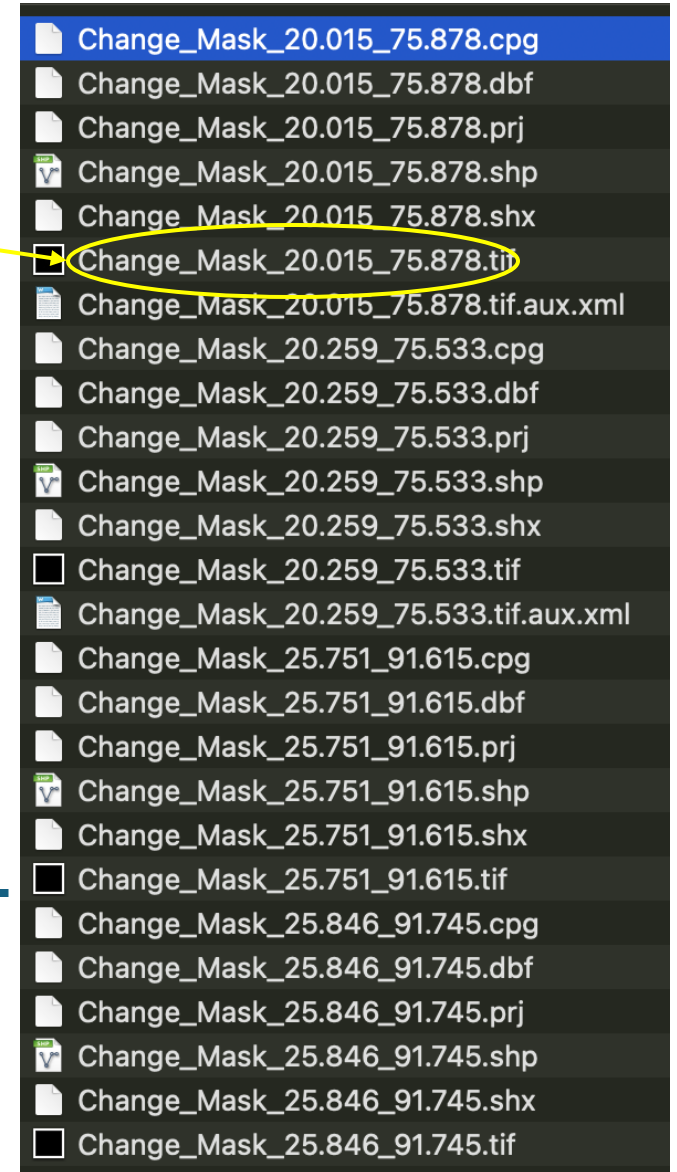
- Raster (tif) and vector (shapefile) files need to be submitted for all 4 image-pairs.
- Naming convention for files is “Change\_Mask\_Lat\_Long.[extension]”
- For shapefile, along with .shp submit all associated files
- Partial results submitted will not be considered for evaluation.



Paste results in a folder, name it as shown  
and submit on Grand Challenge portal

**PS10\_DD-MM-YYYY\_STARTUPNAME.ZIP**

## Example Folder for submission



# Common Mistakes to Avoid

- Wrong PS Submission.
- Incorrect zip file name.

PS10\_DD-MM-YYYY\_STARTUPNAME.ZIP

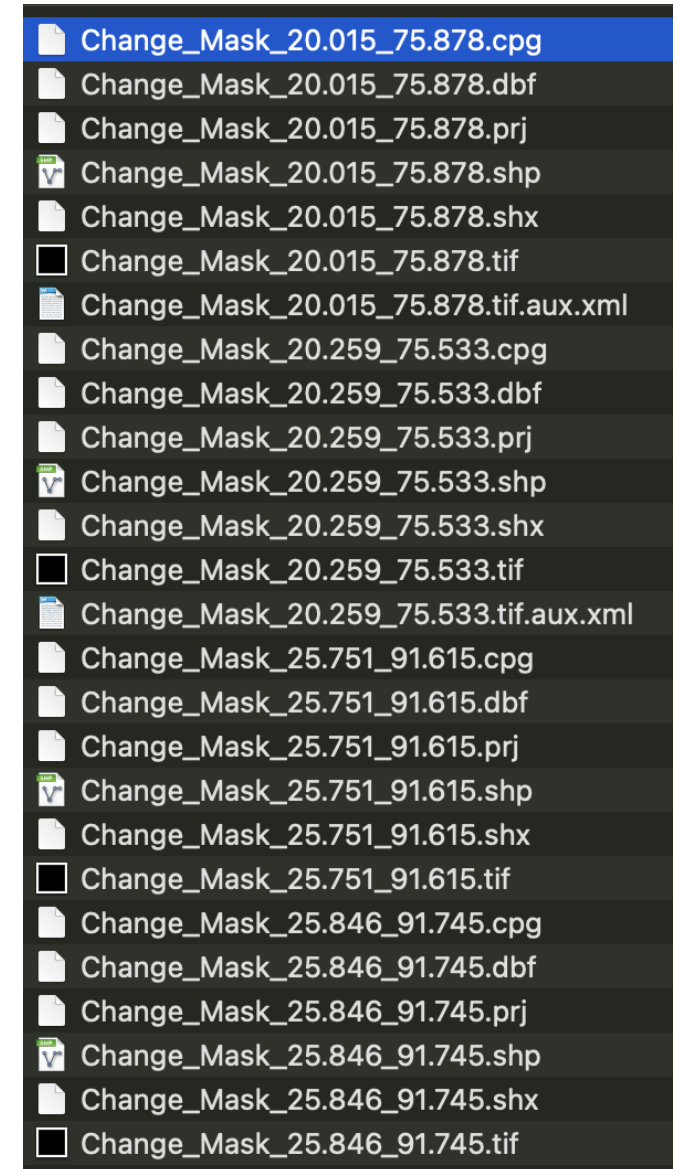


- Partial/ Incorrect Submissions

Missing tif files ❌

Missing shapefile extensions ❌

Incorrect folder structure ❌



Complete Submission



- Incorrect pixel size, dimensions and CRS (Coordinate Reference System)
- ✓ Pixel size of change mask should match the original image (10m for Sentinel & 5m for LISS4) ✓
- ✓ Change mask dimensions should match the original image ✓
- ✓ CRS of change mask should match the original image (recommended) ✓
- ✓ Change mask should be georeferenced ✓
- ✓ Change mask should cover entire extent of original image ✓

Layer Properties - T46RCP\_20230307T042709\_B04 — Information

Information

Source

Symbology

Transparency

Histogram

Rendering

Temporal

Pyramids

Elevation

Metadata

Legend

Display

Attribute Tables

QGIS Server

More information

- X : 5490
- Y : 5490
- X : 2745
- Y : 2745
- X : 1373
- Y : 1373
- X : 687
- Y : 687

Dimensions

X: 10980 Y: 10980 Bands: 1

Origin

300000.0000000000000000,2900040.0000000000000000

Pixel Size

10,-10

Coordinate Reference System (CRS)

Name

EPSG:32646 - WGS 84 / UTM zone 46N

Units

meters

Type

Projected

Method

Universal Transverse Mercator (UTM)

Celestial Body

Earth

Accuracy

Based on *World Geodetic System 1984 ensemble* (EPSG:6326), which has a limited accuracy of **at best 2 meters**.

Reference

Dynamic (relies on a datum which is not plate-fixed)

Identification

Identifier

Help

Style

Apply

Cancel

OK

QGIS

# Submitting Results in Portal

- Home
- Community
- Problem Statement
- Sessions
- Inbox

# My Problem Statements (3)

**PS-11: Hyperspectral Anomaly Detection**

Active

AIGR-S31195 (Startup Name)

50.0% profile complete

[Your Action \(Submission\) →](#)

**PS-10: Change Detection in Satellite Imagery**

Active

AIGR-S34212 (Startup Name)

50.0% profile complete

[Your Action \(Submission\) →](#)

**PS-03: Visual Search, Retrieval and Detection in Satellite Imagery**

Active

AIGR-S32058 (My Own Startup)

50.0% profile complete

[Your Action \(Submission\) →](#)

- Home
- Community
- Problem Statement
- Sessions
- Inbox

AIGR-S34212 (Startup Name)

PS-10: Change Detection in Satellite Imagery

[Back](#)

50.0%

> (1) remaining tasks

- Participant Profile

Application

**Your Action (Submission)**

Comments

Engagements

Help

Milestones

26th September Submission

Total Updates: 1

Start Date	Status	Actions
26 Sep 2025	Not Filled	<a href="#">Add</a>

DPIIT

#StartupIndia

FIT

Find something...

Home

Community

Problem Statement

Sessions

Inbox

NO IMAGE AVAILABLE

AIGR-S34212 (Startup Name)

PS-10: Change Detection in Satellite Imagery

50.0%

> (1) remaining tasks

Participant ProfileApplicationYour Action (Submission)CommentsEngagementsHelpMilestones

26 Sep 2025

Start Date

26 Sep 2025

26 Sep 2025

1 Upload .zip file (Output file should be in prescribed format) \*

PS10\_02-10-2025\_Test.zip

Submit

Back

Actions

Add

Support • Feedback • Terms of use • Privacy Policy

PS10\_02-10-2025\_Test

Change\_Mask\_20.015\_75.878.cpg

Change\_Mask\_20.015\_75.878.dbf

Change\_Mask\_20.015\_75.878.prj

Change\_Mask\_20.015\_75.878.shp

Change\_Mask\_20.015\_75.878.shx

Change\_Mask\_20.015\_75.878.tif

Change\_Mask\_20.259\_75.533.cpg

Change\_Mask\_20.259\_75.533.dbf

Change\_Mask\_20.259\_75.533.prj

Change\_Mask\_20.259\_75.533.shp

Change\_Mask\_20.259\_75.533.shx

Change\_Mask\_20.259\_75.533.tif

Change\_Mask\_25.751\_91.615.cpg

Change\_Mask\_25.751\_91.615.dbf

Change\_Mask\_25.751\_91.615.prj

Change\_Mask\_25.751\_91.615.shp

Change\_Mask\_25.751\_91.615.shx

Change\_Mask\_25.751\_91.615.tif

Change\_Mask\_25.846\_91.745.cpg

Change\_Mask\_25.846\_91.745.dbf

Change\_Mask\_25.846\_91.745.prj

Change\_Mask\_25.846\_91.745.shp

Change\_Mask\_25.846\_91.745.shx

Change\_Mask\_25.846\_91.745.tif

- Home
- Community
- Problem Statement
- Sessions
- Inbox

NO IMAGE AVAILABLE

AIGR-S34212 (Startup Name)

PS-10: Change Detection in Satellite Imagery

Back



- Participant Profile
- Application
- Your Action (Submission)**
- Comments
- Engagements
- Help
- Milestones

26th September Submission

Total Updates: 1

Start Date	Status	Actions
26 Sep 2025	Submitted	<div>View Edit</div>

Results Uploaded  
Successfully

Looking forward for your submissions in correct format.

THANK YOU