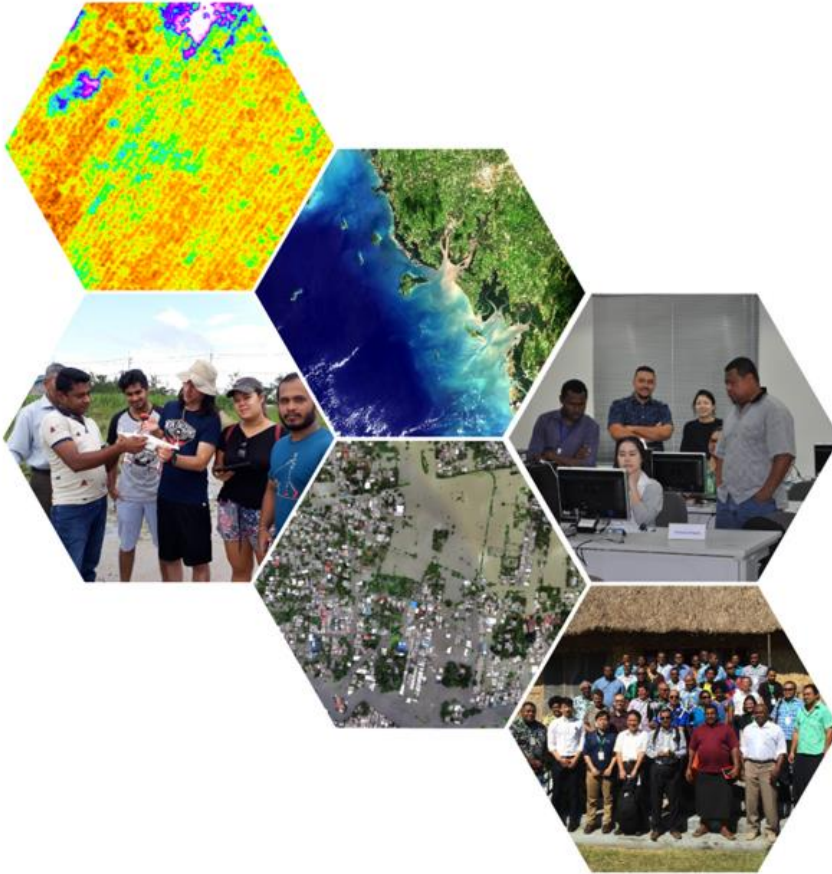


Searching & Obtaining Satellite Data



syams@ait.asia

Geoinformatics Center - AIT



Overview

In this exercise, you will get familiar with some web portals providing free satellite images. In addition, you may also search for GIS data and other disaster-related information.

1. Sentinel Asia Optemis
2. Copernicus Data Space Browser
3. ASF Data Search Vertex
4. Other sources

1. Sentinel Asia Optemis

<https://optemis.sentinel-asia.org/dashboard/users/login>



≡ Nav

🔑 Login

3.1.0-beta

Login

Access to Sentinel Asia Dashboard

Email *

angsana@ait.asia

Password *

Submit

Clear

Recovery Password

1

1. Provide Login information, then click [Submit](#).

2. On the front page, you will see the Latest Emergency request. You can select the event that the data you want to download.

SENTINEL Asia

DASHBOARD

Overview

MANAGE

EOR Management

DAN Management

Summary

ACCOUNT

Change Password

MAINTENANCE

User Manual

Contact & Report

Email

Nav


Back to Homepage

Asian Institute of Technology (AIT)

Syams Nashrullah Member


Logout

4.0.0



Hi Syams Nashrullah, Welcome to Dashboard !


You are already logged in. Your account will expire on 31 March 2026



Latest Emergency

List of 5 the latest requests


Request NO.	Country	Disaster	DPN	DAN	Activation Time	Status
20250612-Vietnam-Flood-Landslide-Storm-00584	Vietnam	Flood, Landslide, Storm	11	62	2 days 06:42:57	Approved
20250608-Vietnam-Flood-Landslide-Storm-00583	Vietnam	Flood, Landslide, Storm	11	62	5 days 07:45:06	Approved
20250525-India-Other-00582	India	Other	11	62	18 days 21:58:05	Approved
20250525-Vietnam-Flood-Landslide-Storm-00581	Vietnam	Flood, Landslide, Storm	11	62	19 days 06:30:09	Approved
20250518-Vietnam-Flood-Landslide-Storm-00580	Vietnam	Flood, Landslide, Storm	10	62	25 days 05:51:13	Approved



Permissions

Allow Modules and Permissions

Modules	Read	Write	Edit	Delete
Constellation Parameter	✗	✗	✗	✗
SA Members	✗	✗	✗	✗
User Accounts	✗	✗	✗	✗
Emergency Request Management	✓	✗	✗	✗
DPN Management	✗	✗	✗	✗
DAN Management	✓	✓	✓	✓



Members

List of your organization members

No	Name	Email	Phone	Last Login
1	Angsana Chaksan	angsana@ait.asia	+66890406417	2025-05-23 02:50:08
2	Syams Nashrullah	syams@ait.asia	66652155537	2025-06-14 10:33:00
3	Thanaphol Boodchuang	thanaphol@ait.asia	0936724741	2025-05-30 02:50:16

3. You can also check the previous activation by clicking to [DAN Management](#) or [EOR Management](#).

SENTINEL

ASIA

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Asian Institute of Technology (AIT)

Syams Nashrullah Member

Logout

4.0.0

EMERGENCY REQUEST

EOR Management Databales

Show

















































10

entries

Search:

NO.	COUNTRY	REQUESTER	DISASTER	AREA OF INTEREST	CREATE AT	PERIOD	STATUS	ACTIONS
20240516-Turkmenistan-Flood-00504	Turkmenistan	Name: Ulan Abdybachaev Phone: 996706385927 Email: u.abdybachaev@caia.g.kg	Flood		2024-05-18 05:01:13 Ended	2024-05-16 17:00	Approved	
20240511-Indonesia-Flood-Landslide-00503	Indonesia	Name: Dr. Yenni Vetrta Phone: 6281386448212 Email: yenn004@brin.go.id	Flood, Landslide		2024-05-13 09:52:16 Ended	2024-05-11 14:00	Approved	
20240502-Indonesia-Flood-Landslide-00502	Indonesia	Name: Dr. Yenni Vetrta Phone: 6281386448212 Email: yenn004@brin.go.id	Flood, Landslide		2024-05-12 09:15:58 Ended	2024-05-02 17:00	Approved	
20240502-United Arab Emirates-Flood-Storm-00501	United Arab Emirates	Name: Alia Phone: 0097146071133 Email: alia.almekhyat@mbrsc.ae	Flood, Storm		2024-05-01 15:04:07 Ended	2024-05-02 2:00	Approved	

4. Click the **Download** button to download the data from the data provider. You may have to select from a list of available datasets.

Organization	Area (Km ²)	Status				Remark	Shapefile	Data																																			
		Acknowledge	Planned	Processed	Uploaded																																						
 Indian Space Research Organization (ISRO)	0	✓	✓	✓	✓	<div><div><div>Storage</div><div>Shapefile & Datafile</div></div><table><thead><tr><th>File Name</th><th>Size (MB)</th><th>Disk</th><th>Date</th><th>Download</th></tr></thead><tbody><tr><td>4459v15a-5u48-4796-915c-3a2c...</td><td>2686.902901</td><td>20240803-Bhutan Flood Landslide-00033</td><td>2024-08-14 06:42:57</td><td></td></tr><tr><td>4459v15a-5u48-4796-915c-3a2c...</td><td>472.906000</td><td>20240803-Bhutan Flood Landslide-00033</td><td>2024-08-14 06:53:21</td><td></td></tr><tr><td>4459v15a-5u48-4796-915c-3a2c...</td><td>2487.63008</td><td>20240803-Bhutan Flood Landslide-00033</td><td>2024-08-14 06:53:41</td><td></td></tr><tr><td>4459v15a-5u48-4796-915c-3a2c...</td><td>474.828132</td><td>20240803-Bhutan Flood Landslide-00033</td><td>2024-08-15 13:27:13</td><td></td></tr><tr><td>4459v15a-5u48-4796-915c-3a2c...</td><td>2487.63007</td><td>20240803-Bhutan Flood Landslide-00033</td><td>2024-08-15 13:26:30</td><td></td></tr><tr><td>4459v15a-5u48-4796-915c-3a2c...</td><td>0.000000</td><td>20240803-Bhutan Flood Landslide-00033</td><td>2024-08-14 06:28:18</td><td></td></tr></tbody></table></div>	File Name	Size (MB)	Disk	Date	Download	4459v15a-5u48-4796-915c-3a2c...	2686.902901	20240803-Bhutan Flood Landslide-00033	2024-08-14 06:42:57		4459v15a-5u48-4796-915c-3a2c...	472.906000	20240803-Bhutan Flood Landslide-00033	2024-08-14 06:53:21		4459v15a-5u48-4796-915c-3a2c...	2487.63008	20240803-Bhutan Flood Landslide-00033	2024-08-14 06:53:41		4459v15a-5u48-4796-915c-3a2c...	474.828132	20240803-Bhutan Flood Landslide-00033	2024-08-15 13:27:13		4459v15a-5u48-4796-915c-3a2c...	2487.63007	20240803-Bhutan Flood Landslide-00033	2024-08-15 13:26:30		4459v15a-5u48-4796-915c-3a2c...	0.000000	20240803-Bhutan Flood Landslide-00033	2024-08-14 06:28:18			
File Name	Size (MB)	Disk	Date	Download																																							
4459v15a-5u48-4796-915c-3a2c...	2686.902901	20240803-Bhutan Flood Landslide-00033	2024-08-14 06:42:57																																								
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4459v15a-5u48-4796-915c-3a2c...	474.828132	20240803-Bhutan Flood Landslide-00033	2024-08-15 13:27:13																																								
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4459v15a-5u48-4796-915c-3a2c...	0.000000	20240803-Bhutan Flood Landslide-00033	2024-08-14 06:28:18																																								
 Geo-Informatics and Space Technology Development Agency (GISTDA)	0																																										
 Vietnamese Academy of Science and Technology (VAST)	0																																										
 Korea Aerospace Research Institute (KARI)	0																																										
 Japan Aerospace Exploration Agency (JAXA)	0	✓	✓	✓	✓																																						
 Secretariat	0																																										
 Philippine Space Agency (PhilSA)	0																																										
 Taiwan Space Agency (TASA)	0	✓	✓																																								
 Centre for Remote Imaging, Sensing and Processing (CRISP)	0																																										
 Mohammed Bin Rashid Space Centre (MBRSC)	0																																										

5. Check the Message Box to be informed of the available dataset.

5. Check the Message Box to be informed of the available dataset.

SENTINEL ASIA

EMERGENCY OBSERVATION REQUEST (EOR) FORM (1/1)

Requester (your name and organization)

Your name

Ms. Sonam Lhamo

Your organization

National Center for Hydrology and Meteorology (NCHM)

Membership:

☒ JPT member ☐ ADRC member

Your phone

97502328280

Your cellular

97517411353

Your fax

Your E-mail

sonamlhamo@nchm.gov.bt

Message Box

5

ML

Ms. Sonam Lhamo 5 days ago

Cannot download any files.

Reply

MS

Masami Sugiura 5 days ago

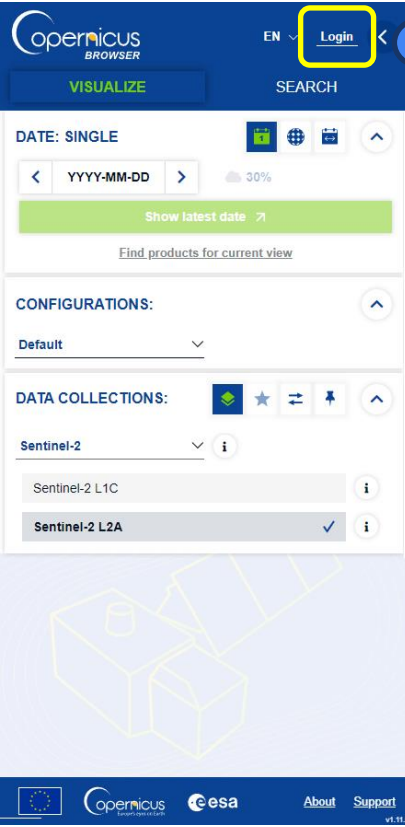
No observation data has been uploaded yet.

Please wait.

2. Copernicus Data Space Browser

1. Click [Login](#) to access the Copernicus Browser.

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



Copernicus BROWSER

EN **Login**

VISUALIZE **SEARCH**

DATE: SINGLE

< YYYY-MM-DD > 30%

Show latest date ↗

Find products for current view

CONFIGURATIONS:

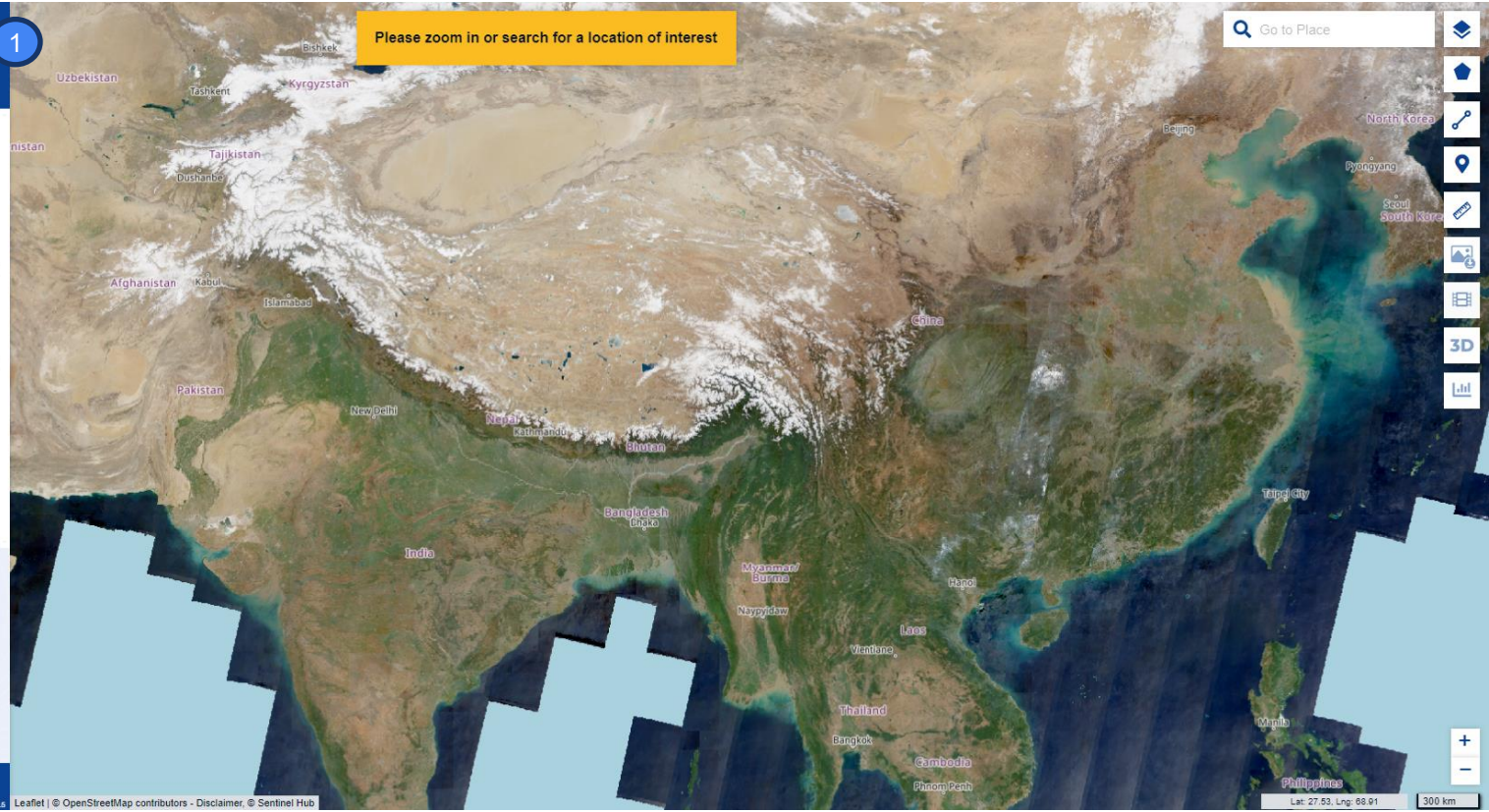
Default

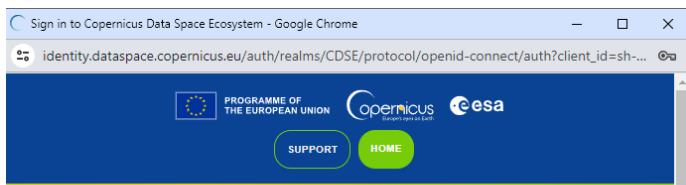
DATA COLLECTIONS:

Sentinel-2

Sentinel-2 L1C

Sentinel-2 L2A





Login to access your account

Email

syams@ait.asia

Password

[Forgot Password?](#)

LOGIN

2. If you already have an account, log in with your email address and password.

Register and create an account for free in 60 seconds

- ✓ Access a variety of Earth observation data
- ✓ Manage your personal settings
- ✓ Follow your credits and orders

3

REGISTER

3. If you don't have an account yet, please register first.



Register form

* Required fields

First name *

syams

Last name *

Nashrullah

Email *

syams@ait.asia

Password *

Confirm password *

Country *

Thailand

Type of user (you are your organisation is ?) *

Research & education organisation

Thematic activity

Land

Purpose of use

Research

☒ Accept [terms and conditions](#) and [privacy policy](#)

☒ Give the permission to contact you at the email address provided during the registration for the purpose of possible user surveys

I am also interested in accessing Copernicus Contributing Missions data
The approval of your registration request depends on adherence to the [Copernicus Contributing Missions Data Policy](#). Registration under the Public user category is automatically approved.
More information can be found at [Copernicus Contributing Missions Online](#)

☒ Subscribe to the CDSE monthly mailing to receive the latest updates in your mailbox

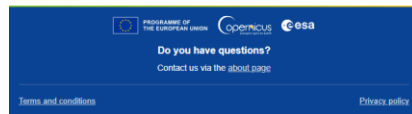
☒ I'm not a robot

REGISTER

[Back to Login](#)

5

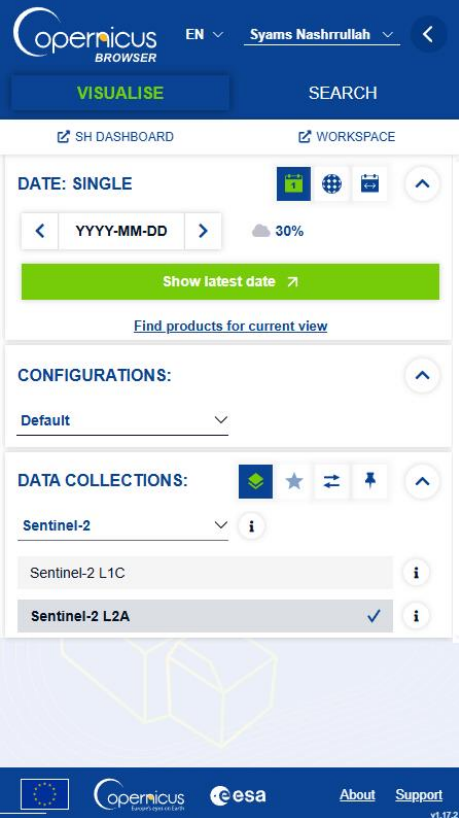
4. Provide detailed information for your new account.
5. Click [Register](#).
6. Check your email to complete registration



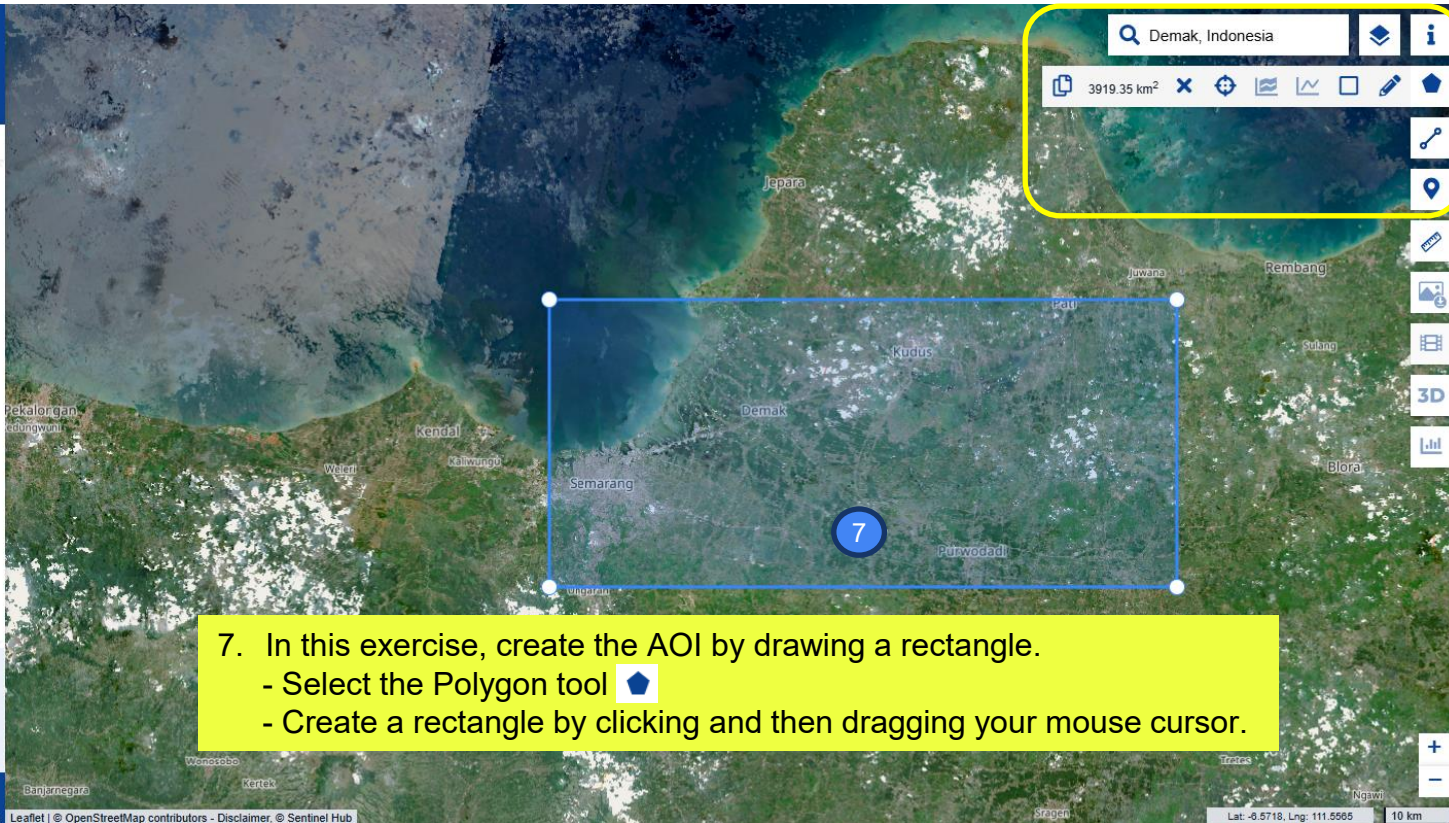
6. Define your Area of Interest (AOI) using the tools provided on the right side.

- Enter the name of the area to limit the search window
- You can define the AOI by drawing a point, line, or polygon.
- **Alternative:** You can upload a KML/KMZ, GPX, WKT (in EPSG:4326), or GEOJSON/JSON file to create the AOI.

6




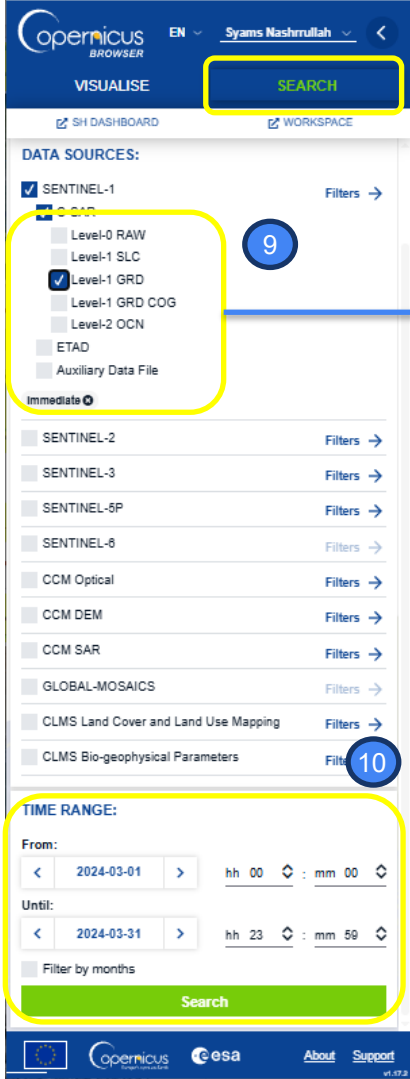
The image shows the Copernicus Browser interface. At the top, there's a search bar with 'Syams Nashrullah' entered. Below it, there are buttons for 'VISUALISE' and 'SEARCH'. The left sidebar contains navigation options like 'SH DASHBOARD' and 'WORKSPACE'. The main panel shows 'DATE: SINGLE' with a calendar icon and a date selector 'YYYY-MM-DD'. There's a 'Show latest date' button and a 'Find products for current view' link. Below that, the 'CONFIGURATIONS' section shows 'Default' selected. The 'DATA COLLECTIONS' section lists 'Sentinel-2' with a dropdown menu. Under 'Sentinel-2', 'Sentinel-2 L1C' and 'Sentinel-2 L2A' are listed, with 'Sentinel-2 L2A' being selected and marked with a checkmark. At the bottom, there are logos for the European Union, Copernicus, and ESA, along with 'About' and 'Support' links.



The image shows a satellite map of Demak, Indonesia. A blue rectangle is drawn on the map, indicating the Area of Interest (AOI). The rectangle is labeled with a blue circle containing the number '7'. The map shows various geographical features, including water bodies, land, and urban areas. The search bar at the top right shows 'Demak, Indonesia' and the area is highlighted in yellow. The bottom right corner shows the coordinates 'Lat: -6.5718, Lng: 111.5565' and a scale bar for '10 km'.

7. In this exercise, create the AOI by drawing a rectangle.

- Select the Polygon tool 
- Create a rectangle by clicking and then dragging your mouse cursor.



The screenshot shows the Copernicus Browser interface. At the top, there's a header with the Copernicus logo and user information. Below the header, there's a 'VISUALISE' button and a 'SEARCH' button. The 'DATA SOURCES' section on the left lists various data sources, with 'SENTINEL-1' selected. Under 'SENTINEL-1', 'Level-1 GRD' is selected. A blue arrow points from the 'Level-1 GRD' selection to the 'SENTINEL-1' filter panel on the right. The 'SENTINEL-1' panel shows various filter options like 'SATELLITE PLATFORM', 'ORBIT DIRECTION', 'RELATIVE ORBIT NUMBER', 'ACQUISITION MODE', 'BEAM ID', 'POLARISATION', and 'PRODUCT AVAILABILITY'. At the bottom, there's a 'TIME RANGE' section with 'From' and 'Until' date pickers set to 2024-03-01 and 2024-03-31 respectively. A 'Search' button is at the bottom of the interface.

8. On the left side of the browser panel, click **Search**.

9. We will search for Sentinel-1 data.

- Select SENTINEL-1
- Select Level-1 GRD

Optional: You can provide a more detailed search by clicking the **Filters** button.

- Select the options for Satellite platform, Orbit direction, Relative orbit number, Acquisition mode, Beam ID, and Polarisation mode.

10. We will select the time range of data based on the Sentinel Asia activation for the observation of the Central Java flood.

- Select the time range from **2024-03-01 to 2024-03-31**.
- Click **Search**.

You may see several scenes of Sentinel-1 images that cover the AOI.

11. Click one of the scenes. The selected scene will be highlighted in green, and the corresponding satellite images will pop up in the **Results** window.

12. Download your selected scenes by clicking the  icon in the **Results** window.

Copernicus BROWSER EN ▼ Syams Nashrullah ◀

VISUALISE SEARCH

SH DASHBOARD WORKSPACE

Search Showing 6 results

Select all Add to workspace

	S1A_IW_GRDH_1SDV_20240331T105854_20240331T105922_053224_06733F_DA5B.SAFE	Mission: SENTINEL-1 Instrument: SAR Size: 1847MB	Sensing time: 2024-03-31T10:58:54.070359Z	
	S1A_IW_GRDH_1SDV_20240327T221739_20240327T221804_053173_067146_068A.SAFE	Mission: SENTINEL-1 Instrument: SAR Size: 1640MB	Sensing time: 2024-03-27T22:17:39.856426Z	
	S1A_IW_GRDH_1SDV_20240319T105853_20240319T105921_053049_066C9A_0E6E.SAFE	Mission: SENTINEL-1 Instrument: SAR Size: 1846MB	Sensing time: 2024-03-19T10:58:53.541147Z	
	S1A_IW_GRDH_1SDV_20240315T221739_20240315T221804_052998_066A91_7AD8.SAFE	Mission: SENTINEL-1 Instrument: SAR Size: 1640MB	Sensing time: 2024-03-15T22:17:39.731582Z	
	S1A_IW_GRDH_1SDV_20240307T105853_20240307T105921_052874_066656_ACC8.SAFE	Mission: SENTINEL-1 Instrument: SAR Size: 1844MB	Sensing time: 2024-03-07T10:58:53.089793Z	

Results Showing 3 results

	S1A_IW_GRDH_1SDV_20240327T221739_20240327T221804_053173_067146_068A.SAFE	Mission: SENTINEL-1 Instrument: SAR Size: 1640MB	Sensing time: 2024-03-27T22:17:39.856426Z	
	S1A_IW_GRDH_1SDV_20240315T221739_20240315T221804_052998_066A91_7AD8.SAFE	Mission: SENTINEL-1 Instrument: SAR Size: 1640MB	Sensing time: 2024-03-15T22:17:39.731582Z	
	S1A_IW_GRDH_1SDV_20240307T221739_20240307T221804_052823_06648A_598B.SAFE	Mission: SENTINEL-1 Instrument: SAR Size: 1640MB	Sensing time: 2024-03-07T22:17:39.778920Z	

Demak, Indonesia

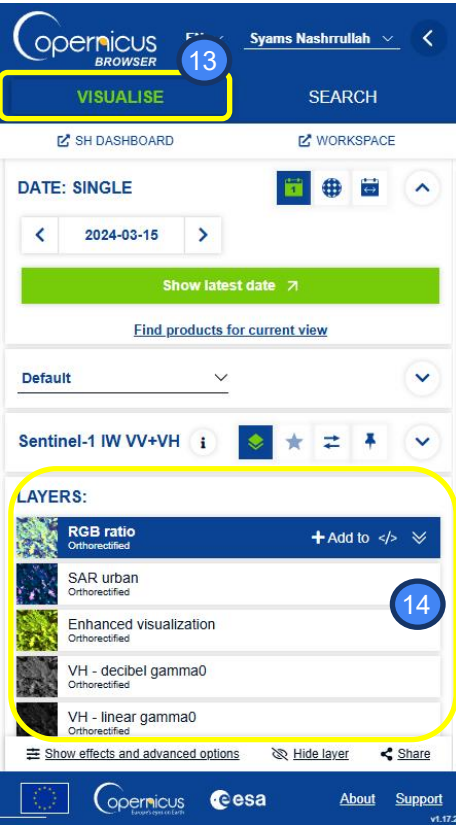
3919.35 km²

11 12

3D

Lat: -6.671, Lng: 109.517 50 km

13. To explore the data, you can click the **Visualize** button in any of the result image scenes.



Copernicus BROWSER

13

VISUALISE

SEARCH

SH DASHBOARD WORKSPACE

DATE: SINGLE

2024-03-15

Show latest date

Find products for current view

Default

Sentinel-1 IW VV+VH

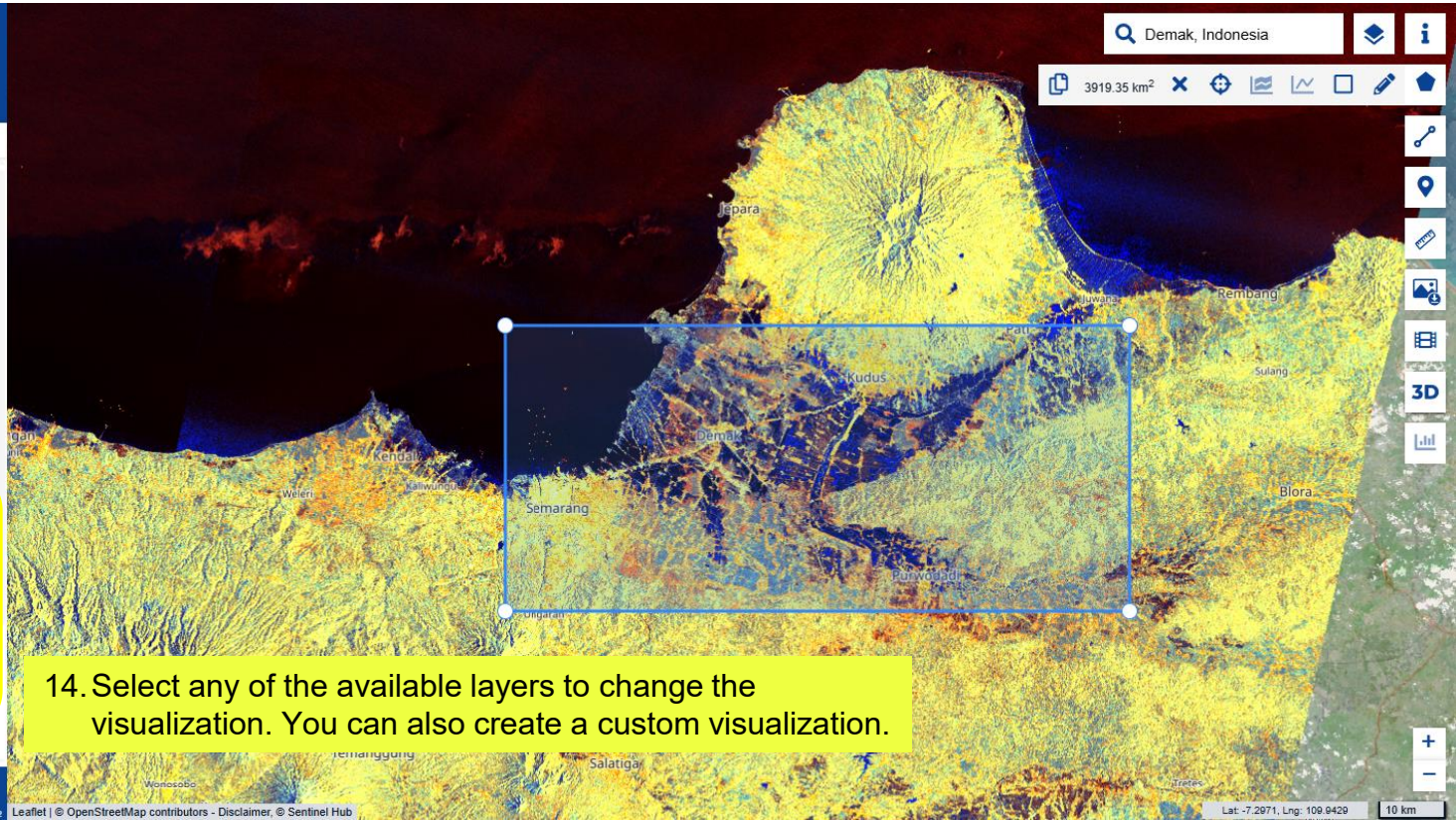
LAYERS:

- RGB ratio Orthorectified
- SAR urban Orthorectified
- Enhanced visualization Orthorectified
- VH - decibel gamma0 Orthorectified
- VH - linear gamma0 Orthorectified

14

Show effects and advanced options Hide layer Share

opernicus ESA About Support



3. ASF Data Search Vertex

<https://search.asf.alaska.edu/>

Search Type

Geographic Search

Dataset

Sentinel-1

Area of Interest - WKT

Start Date

MM/DD/YYYY

End Date

MM/DD/YYYY

Filters

250 of 19,081,150 Files

SEARCH

On Demand

Downloads

Help

English

Sign In

Feedback

Map View

+

-

Layers

Area Of Interest

Opacity

100%

lat 27.7237° lon 84.3477°

100 km

1

Click to start drawing

2

2. If you already have Earthdata account, sign in with your username and password.

3

3. If not, please register first.

Earthdata Login - Google Chrome

urs.earthdata.nasa.gov/oauth/authorize?response_type=code&client_id=BO_n7nT...

Alaska Satellite Facility: making remote-sensing data accessible

Username

hashr1

Password

.....

Stay signed in (this is a private workstation)

LOG IN

REGISTER

I don't remember my username

I don't remember my password

Help

Why must I register?

2

3

© 2024 ASF | Contact | Non-Discrimination | Mapbox | OpenStreetMap contributors | Improve this map

4. Define your Area of Interest (AOI).


- You can define the AOI by drawing a point, line, or polygon.
- **Alternative:** You can upload a .shp, .geojson, .kml, or .zip file to create the AOI.

The screenshot displays the ASF Data Search Vertex web application. The top navigation bar includes the NASA EarthData logo, a search type dropdown set to 'Geographic Search', a dataset dropdown set to 'Sentinel-1', and a search button. A yellow box highlights the 'Area of Interest - WKT' input field, which contains the text 'POLYGON((90.2176 28.0838, 90.3353 28.0838, 90.3353 28.1394, 90.2176 28.1394, 90.2176 28.0838))'. A blue circle with the number '4' is placed over this input field. To the right of the input field are fields for 'Start Date', 'End Date', and 'Filters', followed by another search button. Below the input field is a 'Drag and Drop' box with an upload icon and the text 'Geospatial Files Here (.shp, .geojson, .kml, .zip)' and an 'Import File' button. The main map area shows a satellite image of a mountainous region. A yellow rectangle is drawn on the map, and a blue circle with the number '5' is placed over it. The bottom of the page features a footer with copyright information and a NASA logo.

- #### 5. Draw your AOI. Create a rectangle by clicking and then dragging your mouse cursor

6. Select the satellite data.

- ASF Vertex offers several options for satellite data, including Sentinel-1, ALOS PALSAR, ALOS AVNIR-2, and more.



Search Type
Geographic Search

Sentinel-1

2014 to Present

Sentinel-1 includes twin satellites that each carry C-band synthetic aperture radar (SAR), together providing all-weather, day-and-night imagery of Earth's surface.

[More Info](#)

ESA

S1 Bursts (beta)

2014 to Present

Sentinel-1 BURST products are the individual radar pulse responses that make up the 3 sub-swaths of every Sentinel-1 SLC product.

[More Info](#)

ESA

OPERA-S1

2014 to Present

Sentinel-1 RTC backscatter products providing near-global coverage, as well as Sentinel-1 CSLC products covering North America.

[More Info](#)

OPERA-JPL

ALOS PALSAR

2006 to 2011

PALSAR was developed to contribute to the fields of mapping, precise regional land-coverage observation, disaster monitoring, and resource surveying.

[More Info](#)

JAXA/METI

ALOS AVNIR-2

2006 to 2011

Advanced Visible and Near-Infrared Radiometer (AVNIR)-2 images have removed distortions caused by the sensor and terrain. This allows the overlay of

[More Info](#)

JAXA

SIR-C (beta)

1994

The instrument was flown aboard two of the space shuttle Endeavour's missions. The instrument monitored and assessed large-scale environmental processes.

[More Info](#)

NASA

6

End Date

Filters

SEARCH

AM/DD/YYYY

of 7,272 Files

Feedback

On Demand


Downloads

Help

English

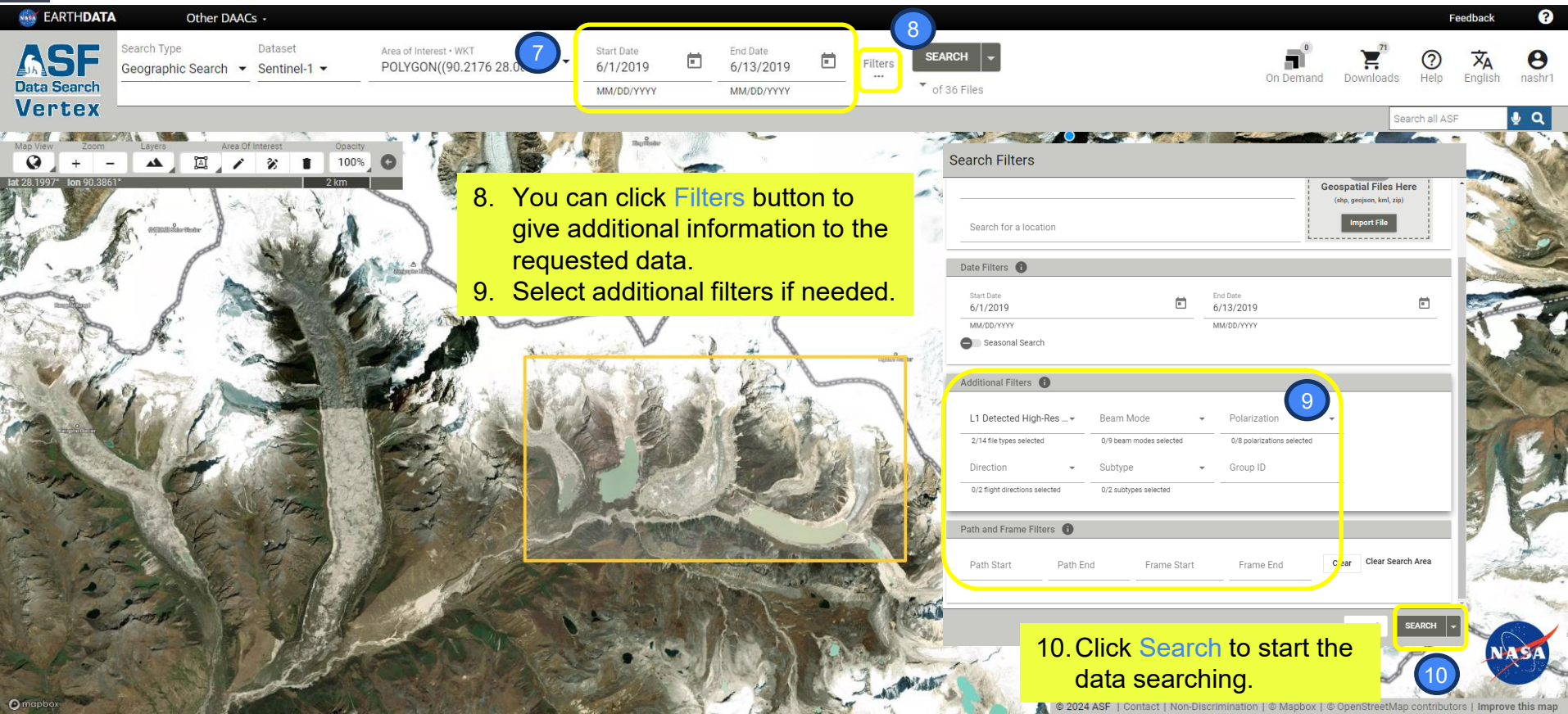
nashri

Search all ASF



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7. Define the observation date.
- Start Date and End Date.



The screenshot displays the ASF Data Search Vertex web application. The top navigation bar includes the NASA EarthData logo, 'Other DAACs', and a 'Feedback' link. The main search area features a 'Search Type' dropdown set to 'Geographic Search', a 'Dataset' dropdown set to 'Sentinel-1', and an 'Area of Interest - WKT' field containing 'POLYGON((90.2176 28.0...'. Below these are fields for 'Start Date' (6/1/2019) and 'End Date' (6/13/2019), both with calendar icons and 'MM/DD/YYYY' format labels. A 'Filters' button with a dropdown arrow is highlighted with a yellow box and a blue circle containing the number 8. To the right of the filters is a 'SEARCH' button. The bottom right corner shows a 'SEARCH' button with a dropdown arrow, highlighted with a yellow box and a blue circle containing the number 10. The left sidebar contains a map view with a zoom control, a 'Layers' panel, and an 'Area Of Interest' panel showing a map of a mountainous region with a yellow rectangle highlighting a specific area. The right sidebar contains a 'Search Filters' panel with sections for 'Geospatial Files Here', 'Date Filters', 'Additional Filters', and 'Path and Frame Filters'. The 'Additional Filters' section is highlighted with a yellow box and a blue circle containing the number 9. The 'Date Filters' section shows the same date range as the main search area. The 'Additional Filters' section includes dropdowns for 'L1 Detected High-Res', 'Beam Mode', 'Polarization', 'Direction', 'Subtype', and 'Group ID'. The 'Path and Frame Filters' section includes input fields for 'Path Start', 'Path End', 'Frame Start', and 'Frame End', along with 'Clear' and 'Clear Search Area' buttons.

8. You can click [Filters](#) button to give additional information to the requested data.

9. Select additional filters if needed.

10. Click [Search](#) to start the data searching.

Search Type

Geographic Search

Dataset

Sentinel-1

Area of Interest - WKT

POLYGON((90.2176 28.0

Start Date

6/1/2019

End Date

6/13/2019

Filters

...

SEARCH

▼

of 5 Files

On Demand

Downloads

Help

English

nashr1

File Types: GRD_HD,GRD_HS

Search all ASF

Map View

Zoom

Layers

Area Of Interest

Opacity

100%

Lat 26.6695°

Lon 96.7844°

100 km

Approximate Placement Only

5 Scenes

(5 of 5 Files)

S1A_IW_GRDH_1SDV_20190613T120532... 196F

June 13, 2019, 12:05:32Z

11

S1A_IW_GRDH_1SDV_20190608T11574... 9A63

June 8, 2019, 11:57:41Z

0/1

S1A_IW_GRDH_1SDV_20190608T11571... 00C4

June 8, 2019, 11:57:16Z

0/1

S1A_IW_GRDH_1SDV_20190603T23545... B435

June 3, 2019, 23:54:51Z

0/1

S1A_IW_GRDH_1SDV_20190601T12053... B634

June 1, 2019, 12:05:32Z

0/1

Scene Detail

1 File

S1A_IW_GRDH_1SDV_20190601T120532_20190601T120557_027486_0319F2_B634

Sentinel-1 • C-Band

Start Time • 06/01/2019, 12:05:32Z

Stop Time • 06/01/2019, 12:05:57Z

Beam Mode • IW

Path • 114

Frame • 86

Flight Direction • ASCENDING

Polarization • VV+VH

Absolute Orbit • 27486

PGE Version • 2.91

Data courtesy of ESA

Citation

12

L1 Detected High-Res Dual-Pol (GRD-HD)

979.53 MB

13

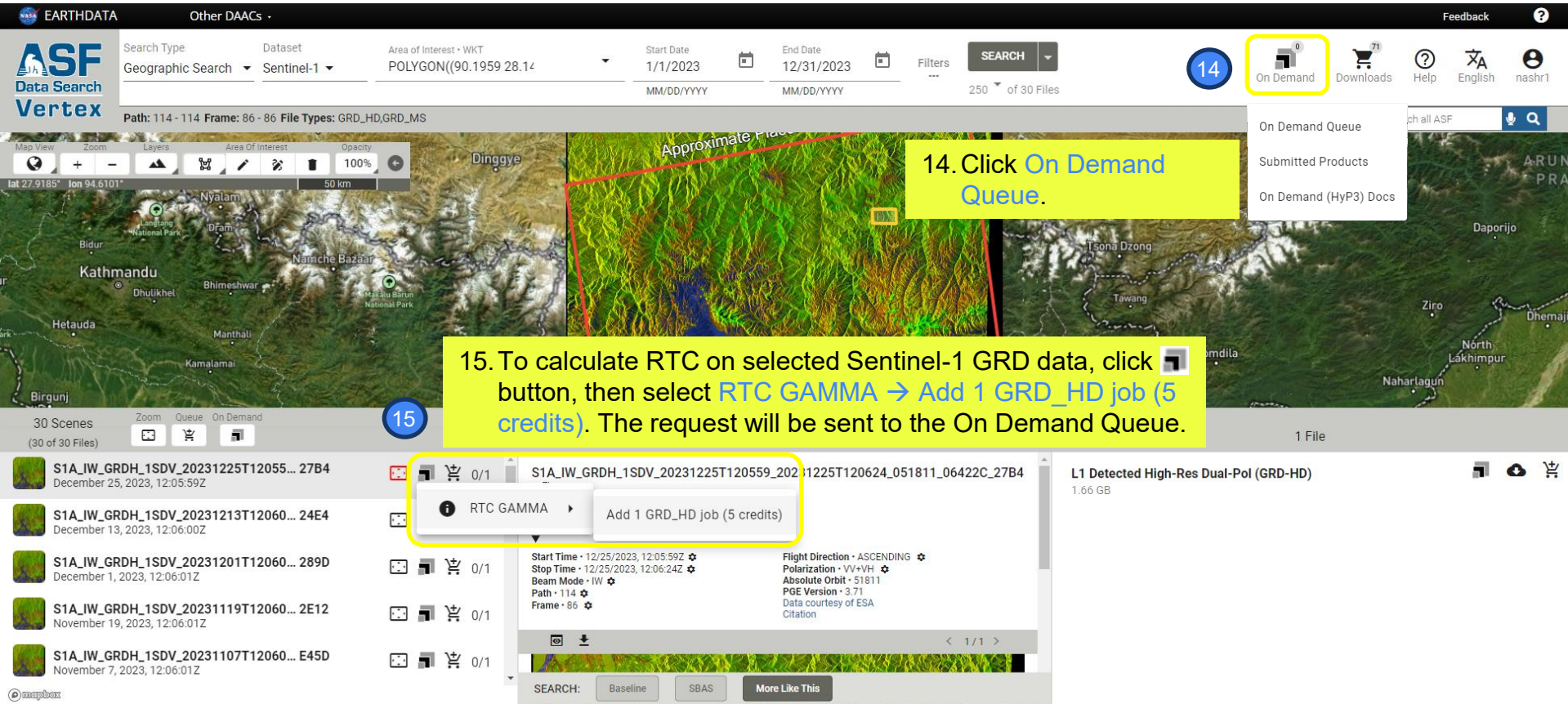
11. All available datasets based on your search filter will be shown here.

11. When you select one of the available datasets, detailed information will be shown here.

13. Click Download button to download the selected data.

Other than downloading the satellite data, ASF Vertex also provides on-demand services such as:

- Radiometric Terrain Correction (RTC) for a single Sentinel-1 GRD data.
- Interferometric SAR (InSAR) for Sentinel-1 SLC data pair.
- autoRIFT for Sentinel-1 SLC data pair.



The screenshot displays the ASF Data Search Vertex web interface. At the top, there's a navigation bar with 'EARTHDATA' and 'Other DAACs'. Below this is a search bar with fields for 'Search Type' (Geographic Search), 'Dataset' (Sentinel-1), 'Area of Interest' (WKT: POLYGON((90.1959 28.14)), 'Start Date' (1/1/2023), 'End Date' (12/31/2023), and 'Filters' (250 of 30 Files). A 'SEARCH' button is present. To the right, there's a 'Feedback' link and a '14' badge indicating the number of items in the queue.

The main content area shows a map of the Kathmandu region with a red polygon highlighting the area of interest. A yellow box with the text '14. Click On Demand Queue.' points to the 'On Demand' button in the top right corner. Below the map, there's a list of search results. A yellow box with the text '15. To calculate RTC on selected Sentinel-1 GRD data, click [RTC GAMMA button], then select RTC GAMMA → Add 1 GRD_HD job (5 credits). The request will be sent to the On Demand Queue.' points to the 'RTC GAMMA' button in the search results.

The search results list includes the following items:

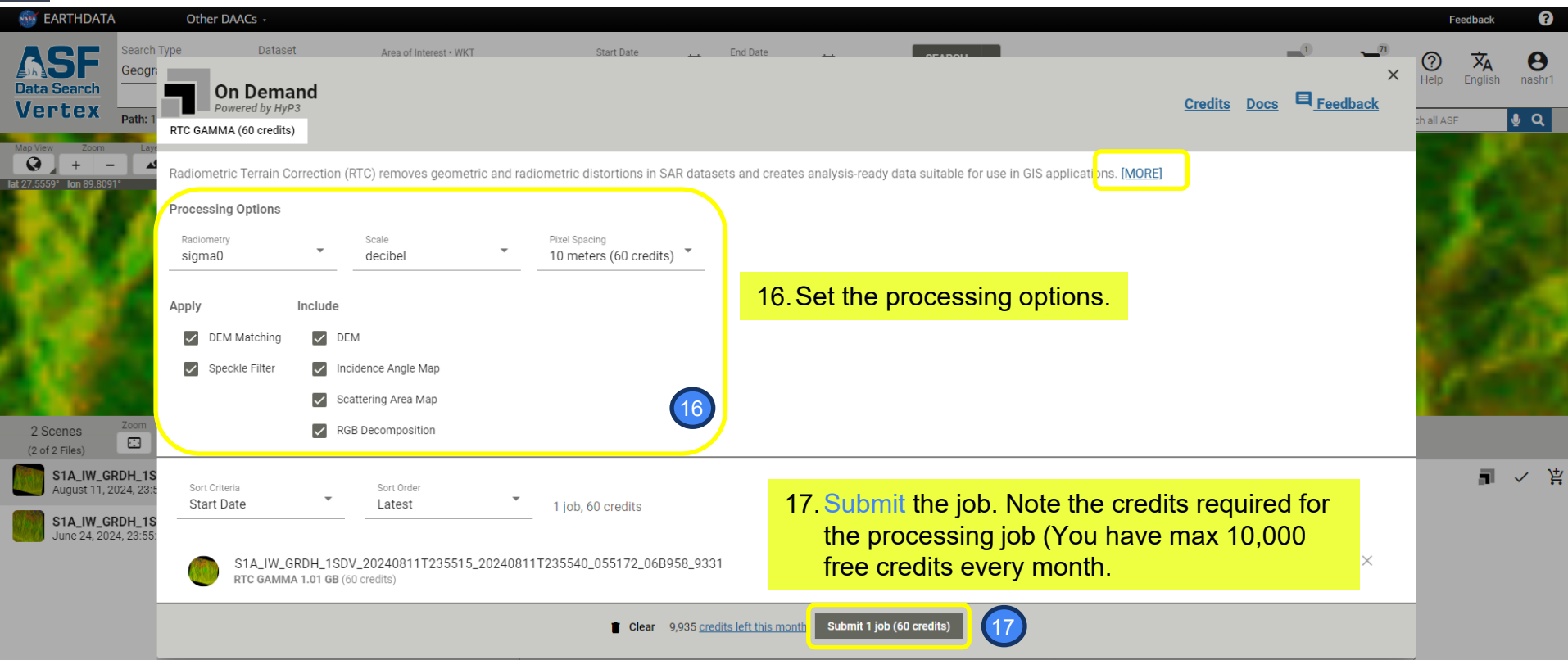
- S1A_IW_GRDH_1SDV_20231225T12055... 27B4 (December 25, 2023, 12:05:59Z)
- S1A_IW_GRDH_1SDV_20231213T12060... 24E4 (December 13, 2023, 12:06:00Z)
- S1A_IW_GRDH_1SDV_20231201T12060... 289D (December 1, 2023, 12:06:01Z)
- S1A_IW_GRDH_1SDV_20231119T12060... 2E12 (November 19, 2023, 12:06:01Z)
- S1A_IW_GRDH_1SDV_20231107T12060... E45D (November 7, 2023, 12:06:01Z)

The details for the selected item (S1A_IW_GRDH_1SDV_20231225T12055... 27B4) are shown below the list:

- Start Time: 12/25/2023, 12:05:59Z
- Stop Time: 12/25/2023, 12:06:24Z
- Beam Mode: IW
- Path: 114
- Frame: 86
- Flight Direction: ASCENDING
- Polarization: VV+VH
- Absolute Orbit: 51811
- PGE Version: 3.71
- Data courtesy of ESA
- Citation

The bottom right corner shows the file details: 'L1 Detected High-Res Dual-Pol (GRD-HD)' and '1.66 GB'.

ASF's Sentinel-1 On-Demand RTC products are generated using GAMMA Software. Click [MORE] to get detailed information on the processing options and workflows.



The screenshot shows the ASF Data Search Vertex interface. The top navigation bar includes 'EARTHDATA', 'Other DAACs', and 'Feedback'. The main header area displays 'On Demand Powered by HyP3' and 'RTC GAMMA (60 credits)'. The central content area is titled 'Processing Options' and contains several dropdown menus and checkboxes. The 'Radiometry' dropdown is set to 'sigma0', the 'Scale' dropdown is set to 'decibel', and the 'Pixel Spacing' dropdown is set to '10 meters (60 credits)'. Under the 'Apply' section, the following options are checked: 'DEM Matching', 'Speckle Filter', 'DEM', 'Incidence Angle Map', 'Scattering Area Map', and 'RGB Decomposition'. A blue circle with the number '16' is overlaid on the 'Apply' section. To the right of the 'Processing Options' section, a yellow box contains the text '16. Set the processing options.' Below the 'Processing Options' section, there is a 'Sort Criteria' dropdown set to 'Start Date' and a 'Sort Order' dropdown set to 'Latest'. The '1 job, 60 credits' status is displayed. A list of search results is shown, including 'S1A_IW_GRDH_1SDV_20240811T235515_20240811T235540_055172_06B958_9331' with a 'RTC GAMMA 1.01 GB (60 credits)' label. At the bottom, a 'Submit 1 job (60 credits)' button is highlighted with a yellow box, and a blue circle with the number '17' is overlaid on it. To the right of the 'Submit' button, a yellow box contains the text '17. Submit the job. Note the credits required for the processing job (You have max 10,000 free credits every month.)'.

ASF's Sentinel-1 On-Demand RTC products are generated using GAMMA Software. Click [MORE] to get detailed information on the processing options and workflows.

Processing Options

Radiometry: sigma0
Scale: decibel
Pixel Spacing: 10 meters (60 credits)

Apply

Include

- ☒ DEM Matching
- ☒ Speckle Filter
- ☒ DEM
- ☒ Incidence Angle Map
- ☒ Scattering Area Map
- ☒ RGB Decomposition

16. Set the processing options.

Sort Criteria: Start Date
Sort Order: Latest
1 job, 60 credits

S1A_IW_GRDH_1SDV_20240811T235515_20240811T235540_055172_06B958_9331
RTC GAMMA 1.01 GB (60 credits)

Submit 1 job (60 credits)

17. Submit the job. Note the credits required for the processing job (You have max 10,000 free credits every month.)

4. Other Data Sources

Satellite data sources

- Copernicus Data Space Browser: <https://browser.dataspace.copernicus.eu/>
- ASF Data Search Vertex: <https://search.asf.alaska.edu/>
- NASA's Earth Data: <https://search.earthdata.nasa.gov/search>
- USGS's Earth Explorer: <https://earthexplorer.usgs.gov/>
- Google Earth Engine: <https://earthengine.google.com/>
- SentinelHub: <https://apps.sentinel-hub.com/eo-browser/>

GIS data sources

- OpenStreetMap: <https://download.geofabrik.de/>
- Humanitarian Data Exchange (HDX): <https://data.humdata.org/>
- DEM: <https://opentopography.org/>
- WorldPop: <https://www.worldpop.org/>
- Land Cover: <https://livingatlas.arcgis.com/landcover/>
- Building Footprints: <https://sites.research.google/gr/open-buildings/>
- Global Administrative Areas (GADM): <http://www.gadm.org/country>

Disaster maps

- Sentinel Asia: <https://sentinel-asia.org/>
- International Disaster Charter: <https://disasterscharter.org/>

THANK YOU

Geoinformatics Center, Asian Institute of Technology

