

【JJ-FAST operation manual】

Ver. 20220328

Home Page

The following shows the JJ-fast Home Page (Figure 1).

<http://www.eorc.jaxa.jp/jjfast/>

JICA-JAXA Forest Early Warning System in the Tropics

home map system initiative topics support

Watching on Deforestation

Map
See the Forest Cover Change Map and download the deforested area data.

System
See the JJ-FAST features and system details.

Initiative
The Forest Governance Initiative calls for a global partnership to use satellite technology to fight against tropical deforestation and climate change.

Topics
See event reports and related information on JJ-FAST and Forest Governance Initiative.

Map Updates

- 2020 **Feb.10** **Cycle 146 observation plan.**
- 2020 **Jan.24** **Cycle 145 observation plan.**

What's new

- 2019 **Oct.28** **Cameroon field visit on October 10 and 11, 2019.**
- 2019 **Sep.6** **Satellite observations of forest fires in Brazil in August 2019 (link to JAXA web, in Japanese)**

Figure 1. JJ-fast Home Page

How to use

Webpage Operation Manual

1. Enlarge the image to full screen by clicking the “Map” button at the left of the Home Page. (Figure 2)
Red or yellow pins indicate the existence of a deforested area within a 1° grid. Red pins indicate the existence of areas deforested within 15 days since the previous data was updated. Yellow pins indicate deforested areas detected at other times in the past.

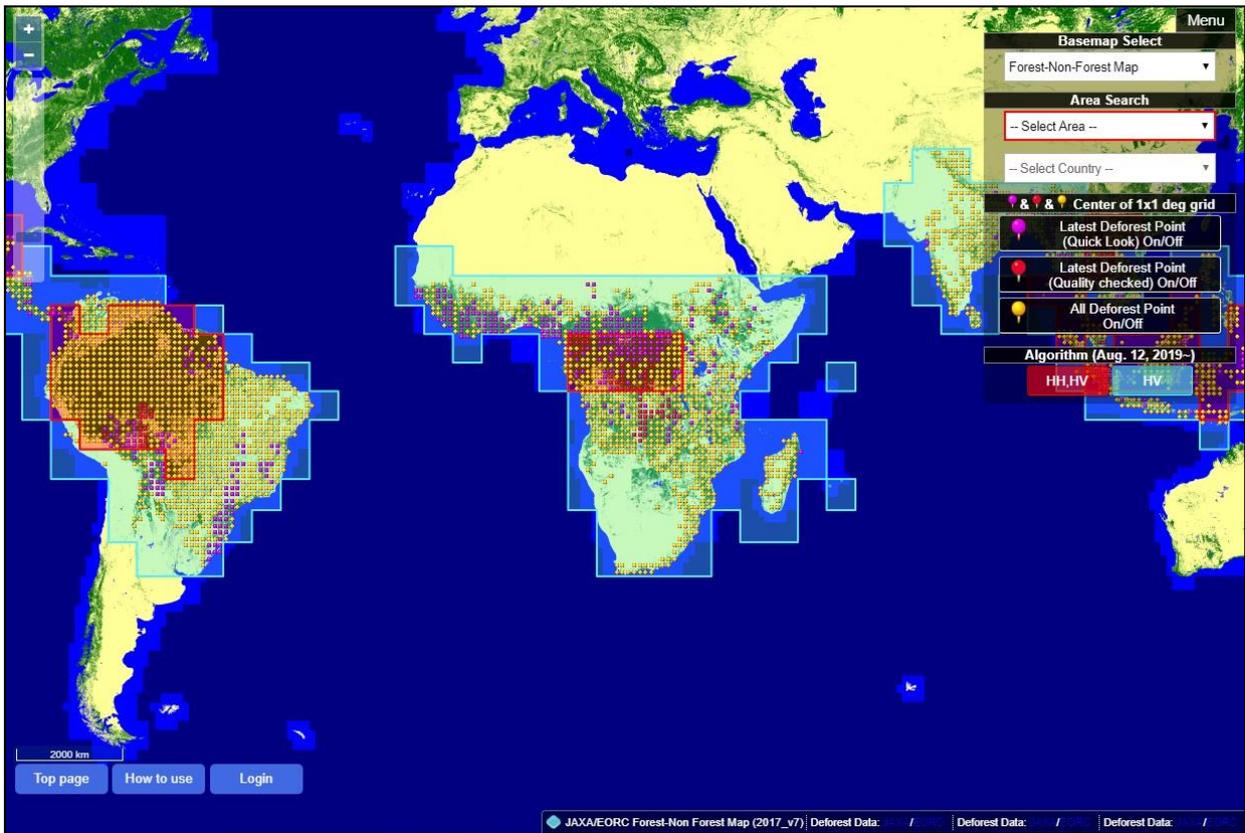


Figure 2. Full Screen Page

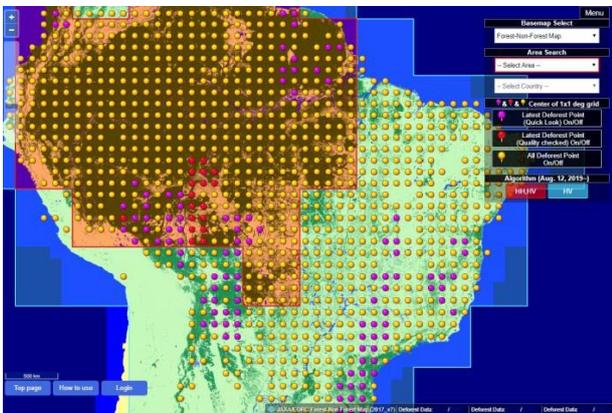


Figure 3. Zoomed in image

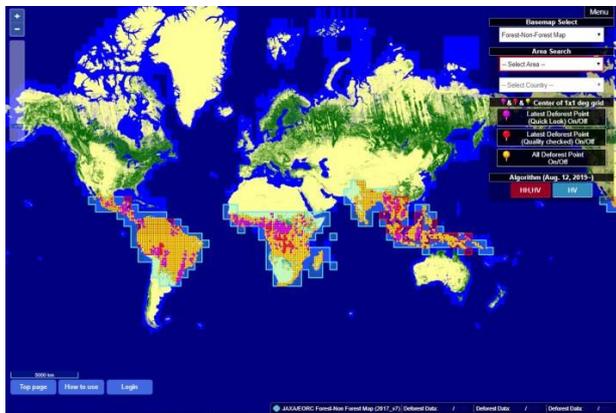


Figure 4. Zoomed out image

Placing the mouse cursor over the map and rolling the mouse wheel up or down allows you to zoom in or out on the map on the area centered on the cursor. It is also possible to zoom in or out using the “+” and “-” buttons at the upper left. (Figure 3, Figure 4)

2. Area selection

Select the region you wish to survey for deforestation (South America, Central-South America, West Africa, East Africa, Central Africa, South Africa, Asia, Oceania) from “Select Area,” at the top of the “Area Search” pull down menu in the upper right “Menu”. When an area is selected, the area concerned is indicated by a pink polygon. (Figure 5)

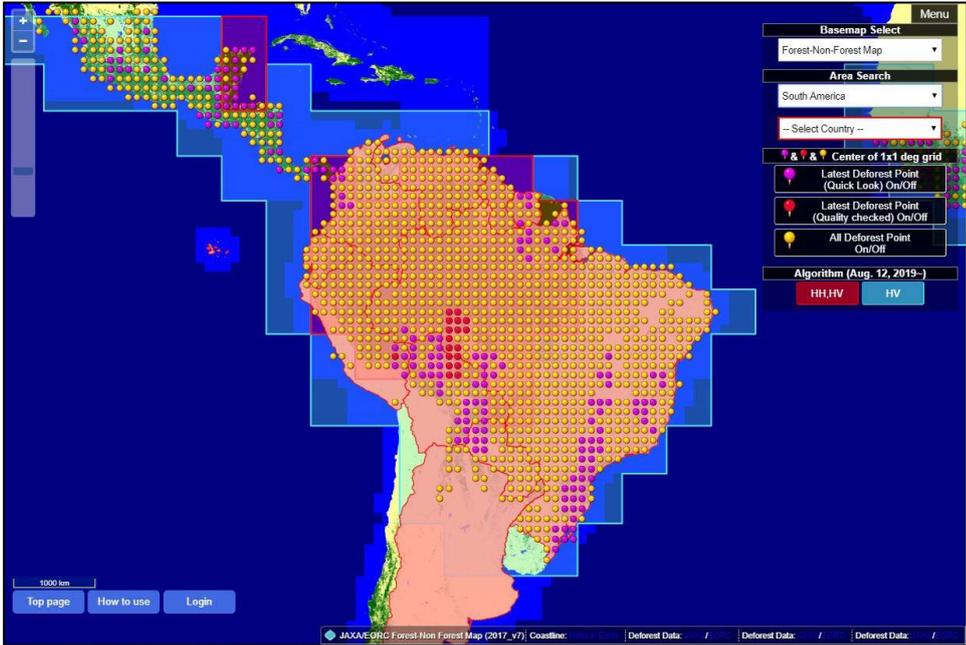


Figure 5. (Ex.) South America selected

3. If you wish to view deforested areas by size for each country, select the country you wish to view from "Select Country," located in the second position, which will display the countries in the region. Once you have selected the country you wish to view, the area of that country will be indicated by an orange polygon. (Figure 6)

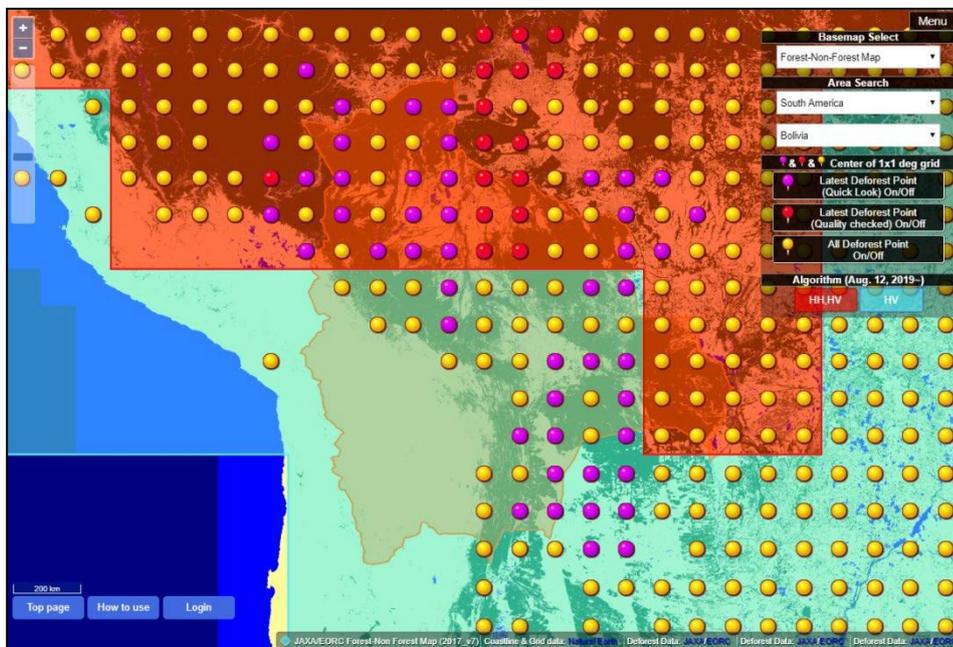


Figure 6. (Ex.) Bolivia selected

- 4. Click on a red or yellow drop pin in the area you wish to view. The most up-to-date starting and ending data on deforested areas within a 1° grid will be indicated by a red polygon. (Figure 7)

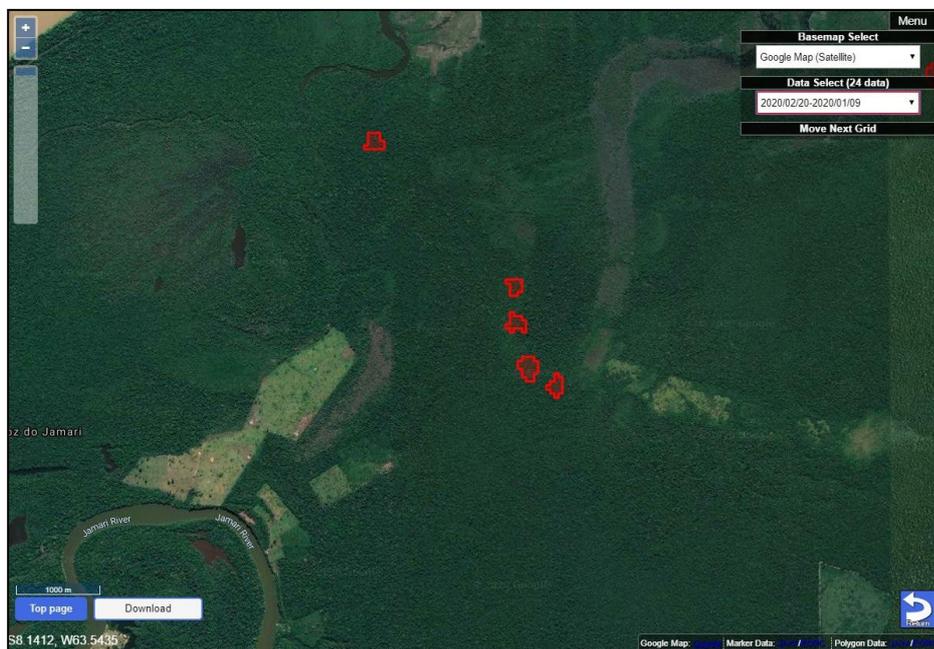


Figure 7. Deforested area polygon

- 5. Clicking the deforested area polygon will display country name, state, town, latitude, longitude, size of deforested area (units of hectares), level of reliability, and a comment button for user feedback (Figure 8).

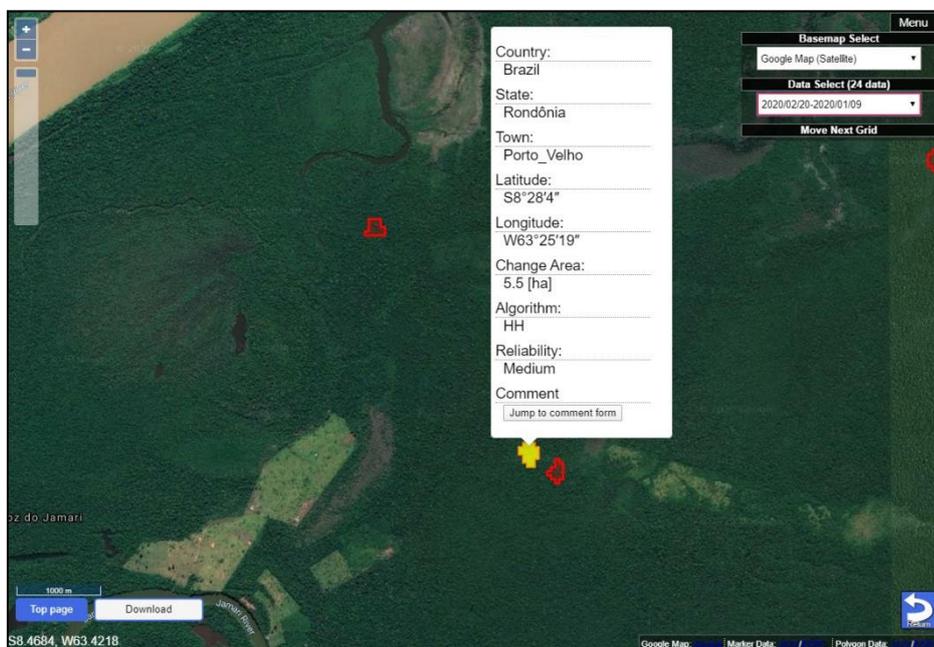


Figure 8. Polygon Information Display

- 6. Clicking the “Jump to comment form” button will display the Terms of Use in a separate window (Figure 9), and a feedback form where you can input comments for the deforested area polygon ID after agreeing. Leaving a comment requires inputting your name, email address, country of residence (select from a pull-down menu), organization/affiliation, and a comment (Figure 10).

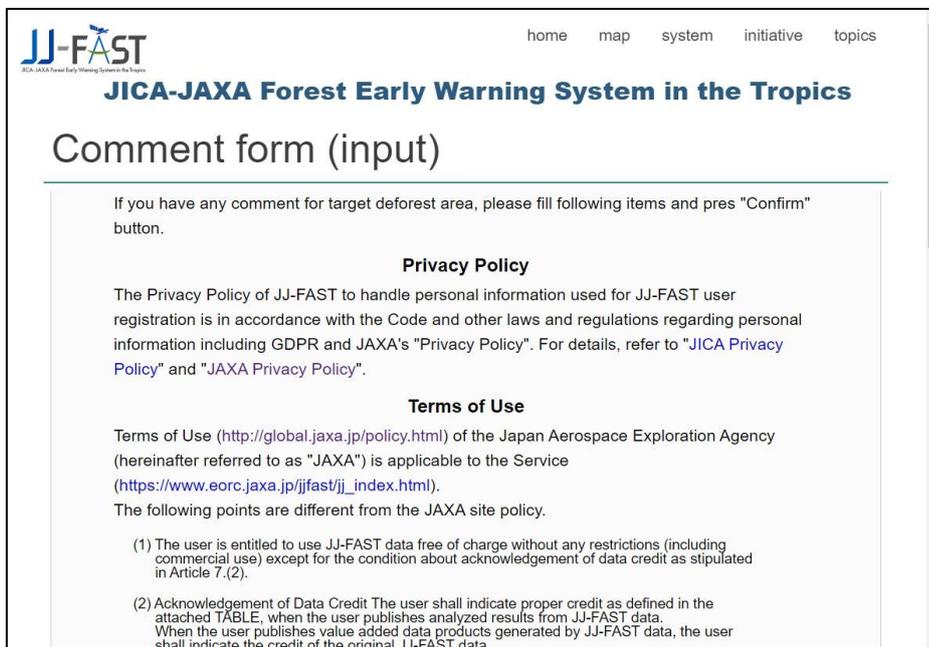


Figure 9. Terms of Use

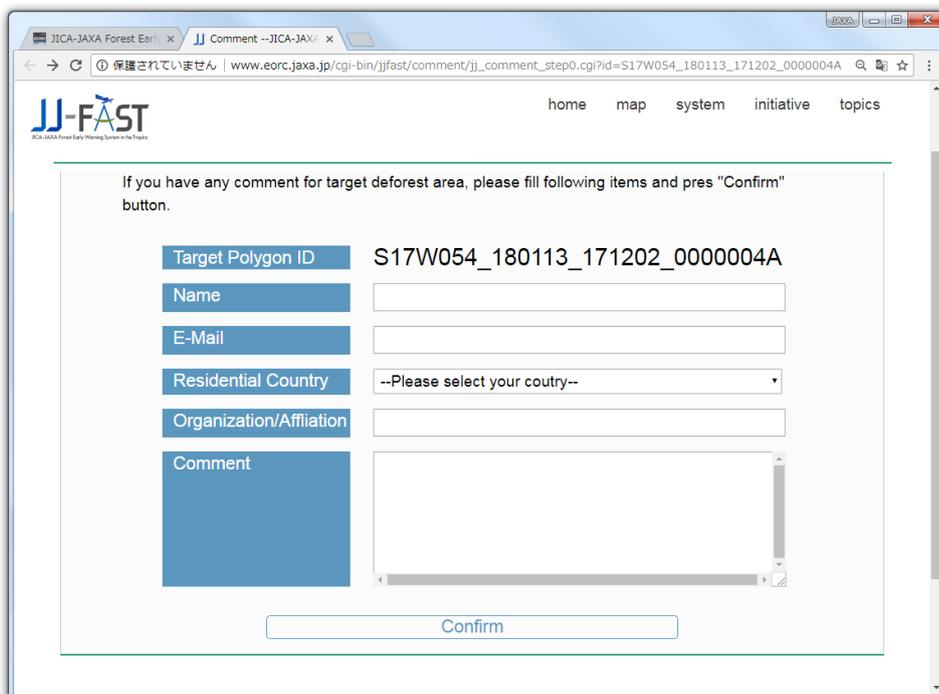


Figure 10. Comment input form for feedback

Clicking the “Confirm” button will display a content confirmation screen (Figure 11). If there are no mistakes, clicking the “Send” button will send the information to the JJ-FAST office. If there are any mistakes, you can click the “BACK” button to return to the previous screen and edit it.

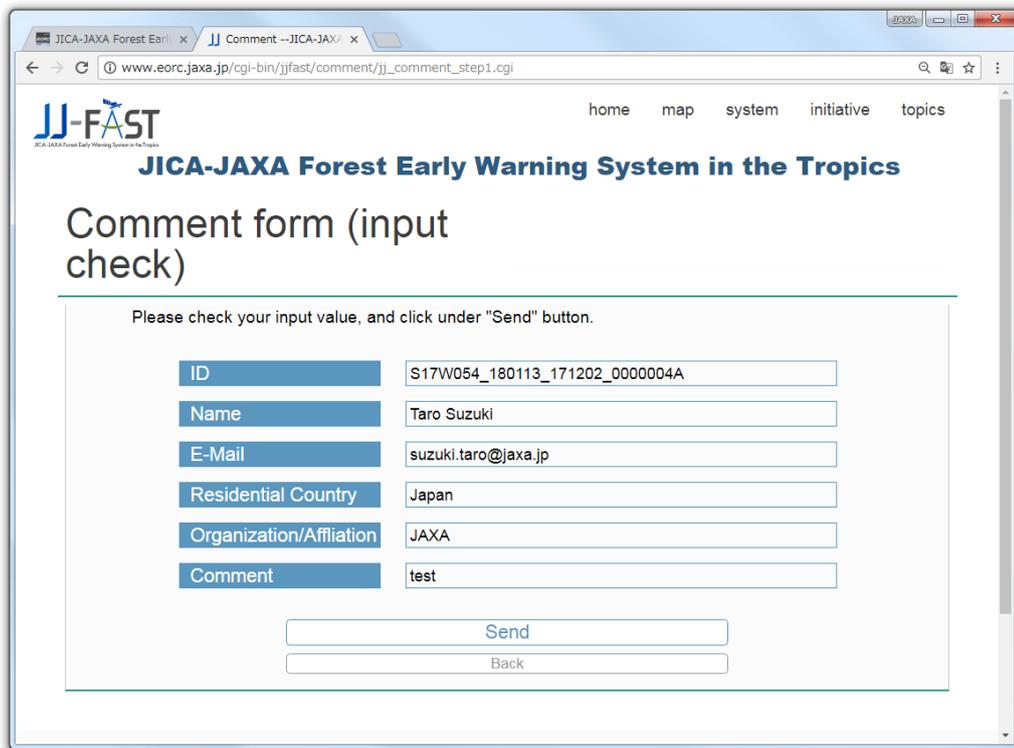


Figure 11. Comment confirmation page for feedback

- 7. The functions in top-right menu on the region selection page and those on the deforested area polygon information page are partially different.

Common Functions

- a. Switch display of control section on and off

The “Menu” button is normally displayed, but it is possible to display (Figure 12) / hide (Figure 13) the button by clicking inside the “Menu.”

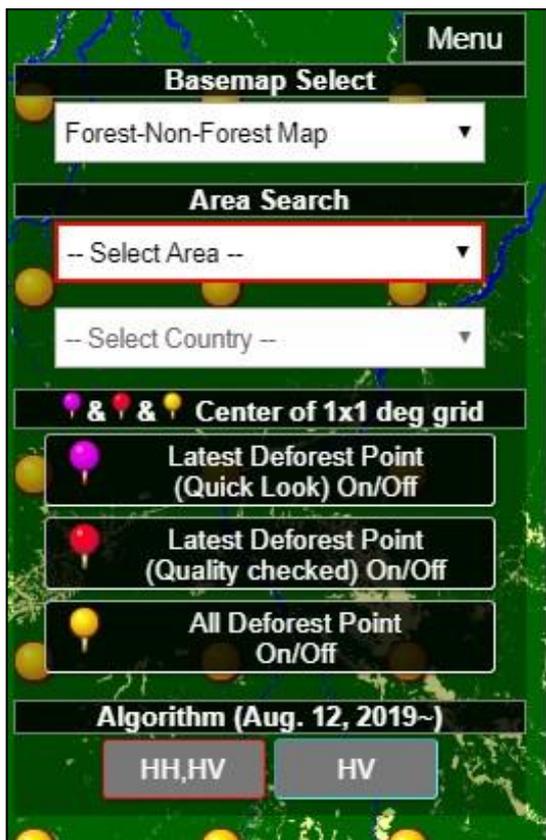


Figure 12. Menu button displayed

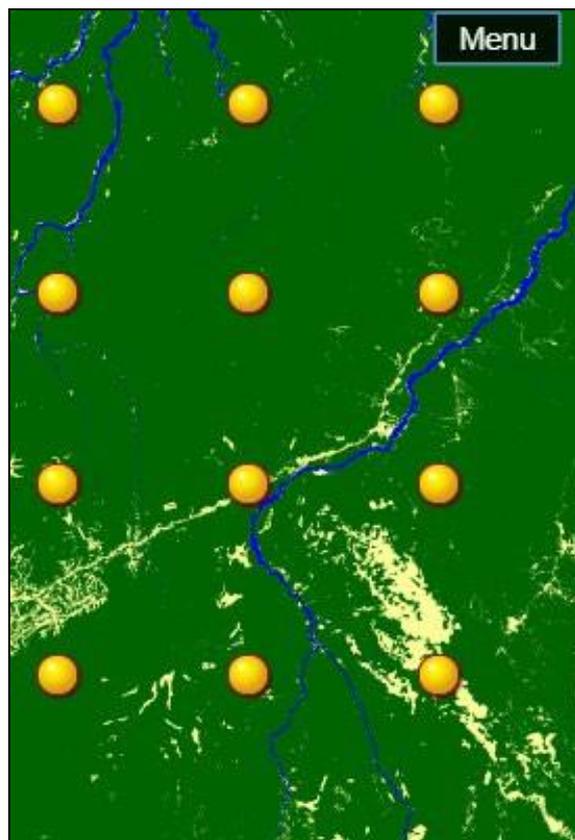


Figure 13 Menu button hidden

b. Switch base map

Two types of base map can be selected: (1) Google Map (Satellite) (Figure 14), and (2) Google Map (Roadmap) (Figure 15).

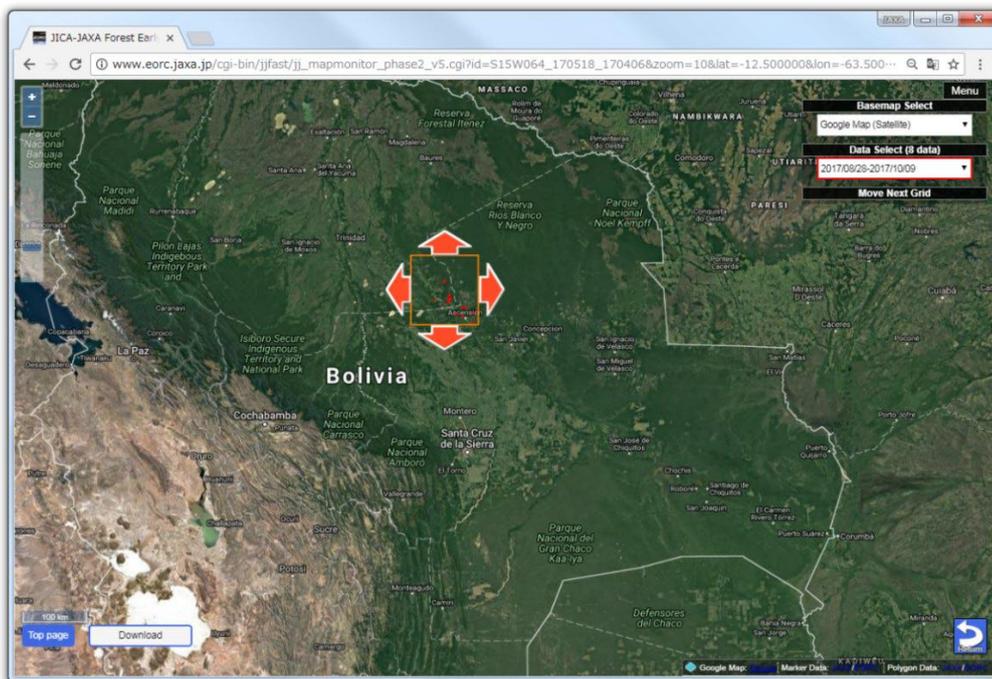


Figure 14. Google Satellite basemap

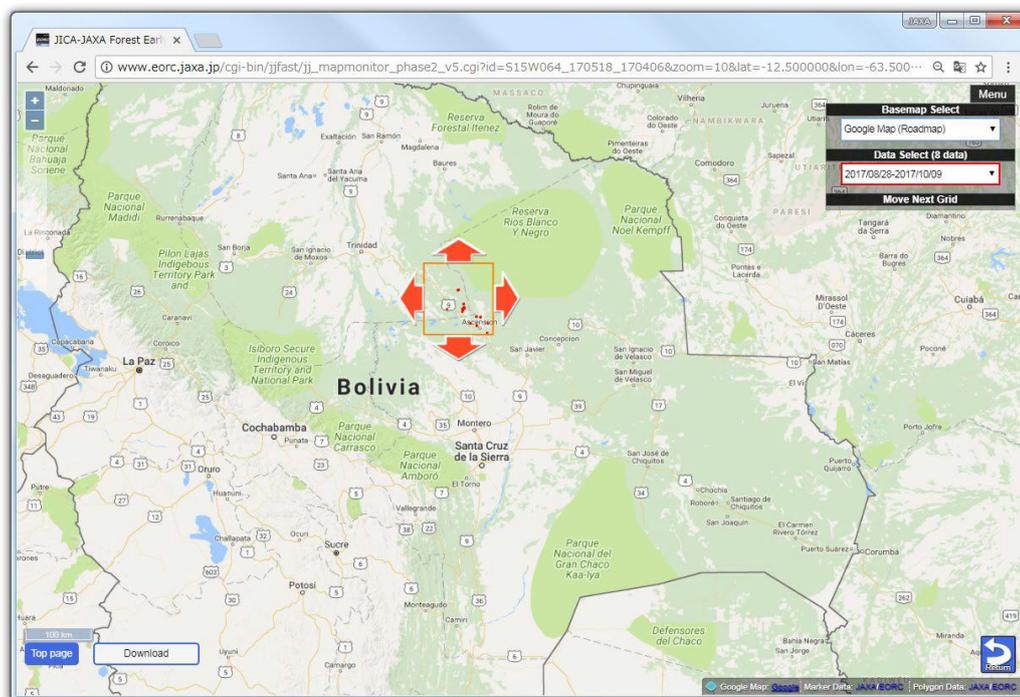


Figure 15. Google Roadmap basemap

Region selection page menu (Figure 16)

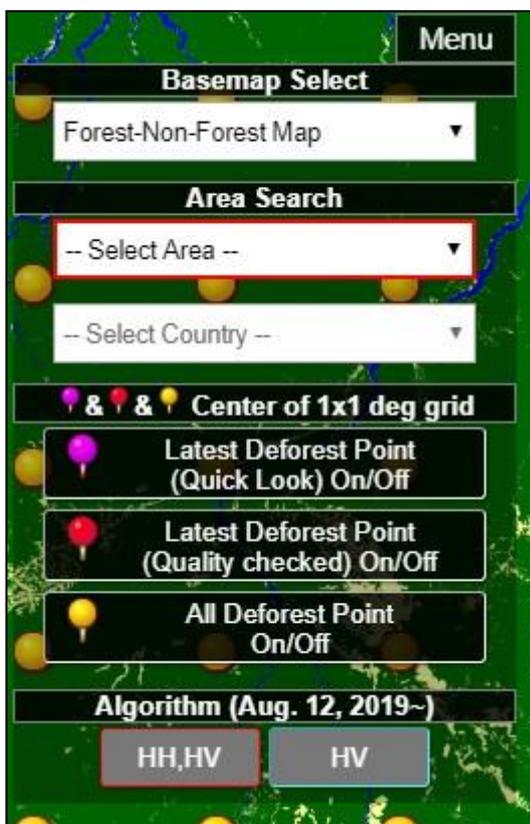


Figure 16. Region selection page menu

The items and functions in the region selection page menu are as per Table 1.

Table 1. List of items in control section on the region selection page.

Item name	Function
Basemap Select	Base map selection
Area Search	The display will move to center on the selected country or region. The selected country or region will be displayed in pink.
Center of 1x1 deg grid	<p>Latest Deforest Point (Quick Look): Displays extracted sites with the latest unverified forest changes. On/Off.</p> <p>Latest Deforest Point (Quality checked): Displays extracted sites with the latest verified forest changes. On/Off.</p> <p>All Deforest Point: Displays all forest change sites extracted up to this point. On/Off.</p>
Algorithm	Displays region stipulating the algorithm used during detection. On/Off.

Forest change detected area polygon information display page menu (Figure 17)

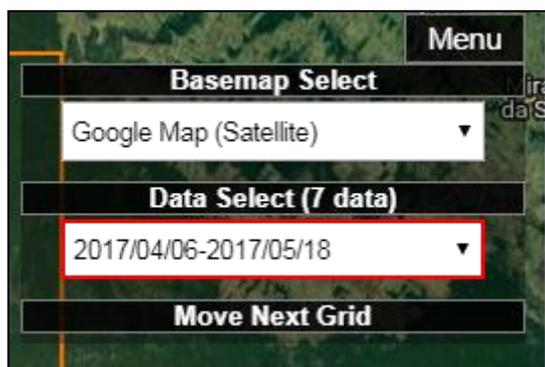


Figure 17. Forest change detected area polygon information display page menu

The items and functions in the menu are as per Table 2.

Table 2. List of items in the control section on the forest change detected area polygon information display page

Item name	Function
Basemap Select	Base map selection
Data Select	Selection of start and end dates (year/month/day) for detected deforested area
Move Next Grid	North, south, east and west-bound movement on the 1 degree grid (not displayed by default; display/hide by clicking within "Move Next Grid")

When “Data Select” is clicked, a start and end date period list for the change areas detected will be displayed as in Figure 18. From this list you can select polygon information for the forest change areas detected during the target period.

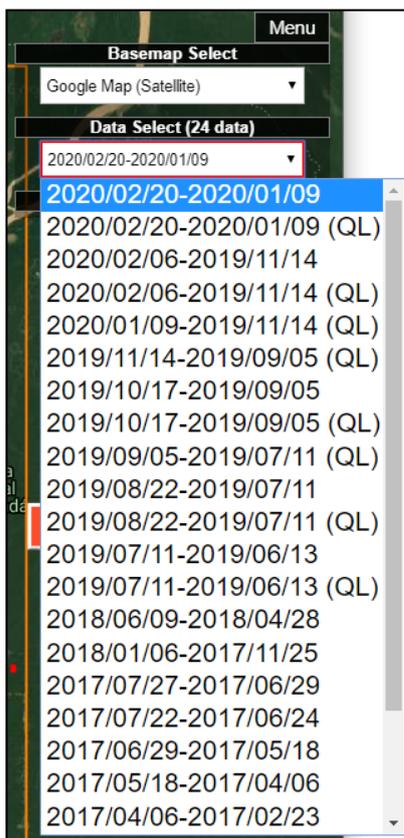


Figure 18. Data Select button (QL stands for Quick Look)

Other Buttons

- a. Bottom-left button

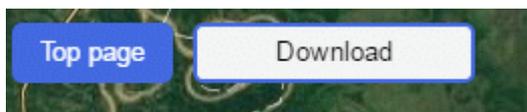


Figure 19. Bottom-left button

The bottom-left menu button (Figure 19) is used as per Table 3.

Table 3. Bottom-left menu functions

Item name	Function
Top page	Move to top page
Download	An extended menu where you can download data on a deforested area will be displayed.

The extended menu appearing when the Download button is clicked will display where you can download the deforested area data inside the menu on the left side (Figures 20 and 21).



Figure 20. Extended menu appearing when the Download button is clicked

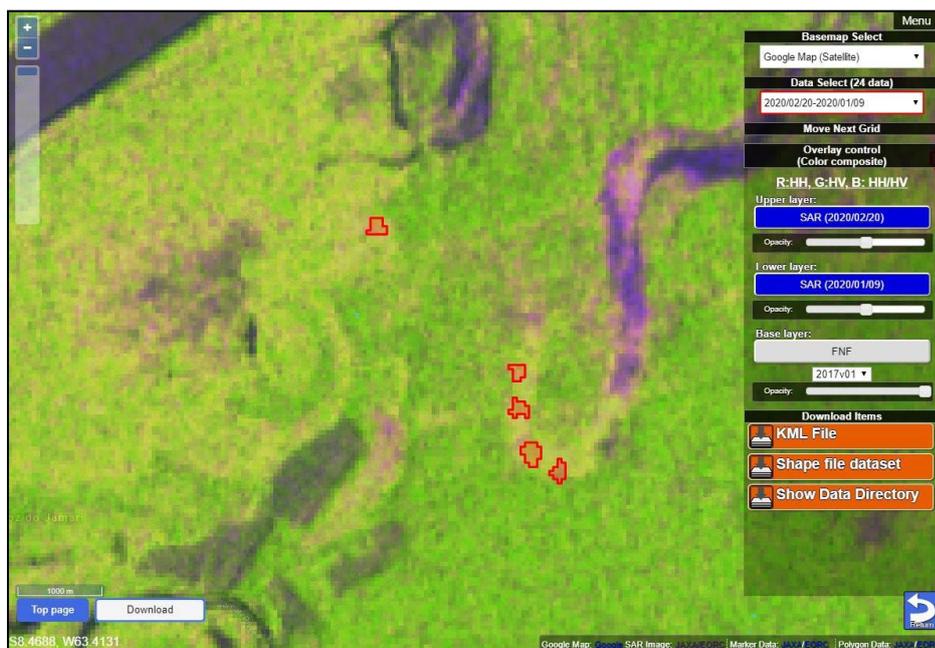


Figure 21. Extended menu displayed

The extended menu button (Figure 20) is used as per Table 4.

Table 4. Extended menu functions list

Item name	Sub-item name	Function
Overlay control	Upper layer	Turns the SAR screen for the end of the selected period On/Off (Figure 22). You can also change the opacity by moving the opacity slider.
	Lower layer	Turns the SAR screen for the start of the selected period On/Off (Figure 23). You can also change the opacity by moving the opacity slider.
	Base layer	An FNF Map can be displayed below the lower layer (Figure 24). You can also change the opacity by moving the opacity slider. An FNF version can also be selected from the selection box.
Download items	KML File	KML data on the deforested area can be downloaded.
	Shape tile dataset	The shape (shape standard (.shp), shape index standard (.shx), attribute standard (.dbf), and projection standard (.prj)) and the GeoJSON data for the deforested area can be downloaded.
	Shape Data Directory	Directory: The ftp site data directory can be directly viewed. This is convenient when viewing large volumes of data. SAR Image thumbnail: A thumbnail image of the start and end dates is displayed.

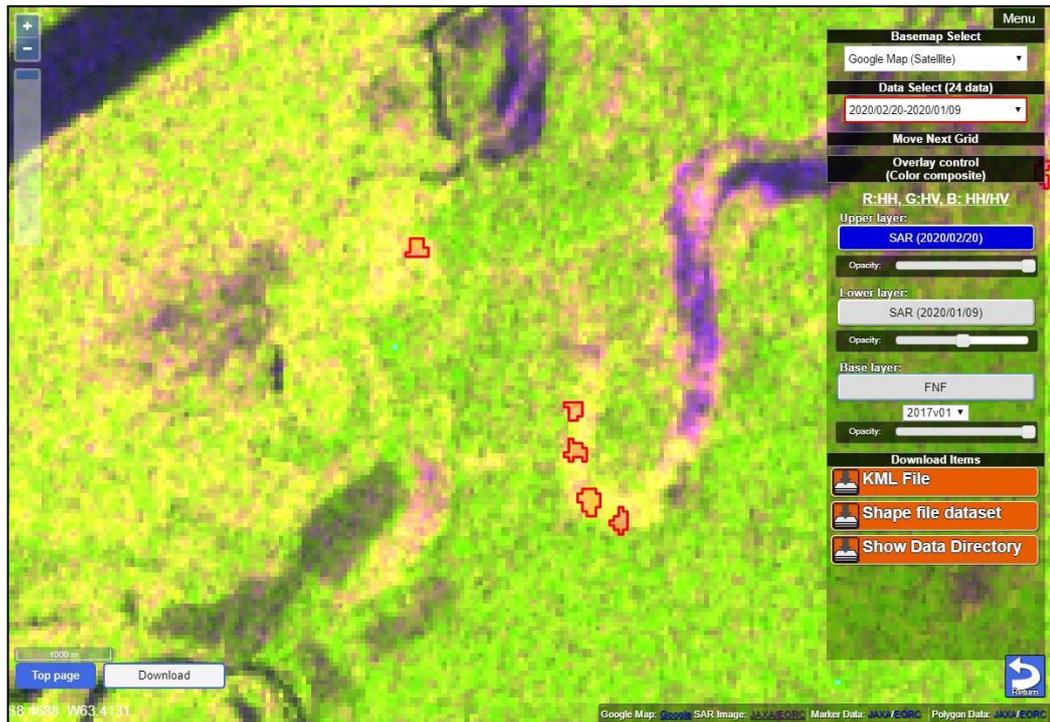


Figure 22. Sample SAR image display of the end of the selected period

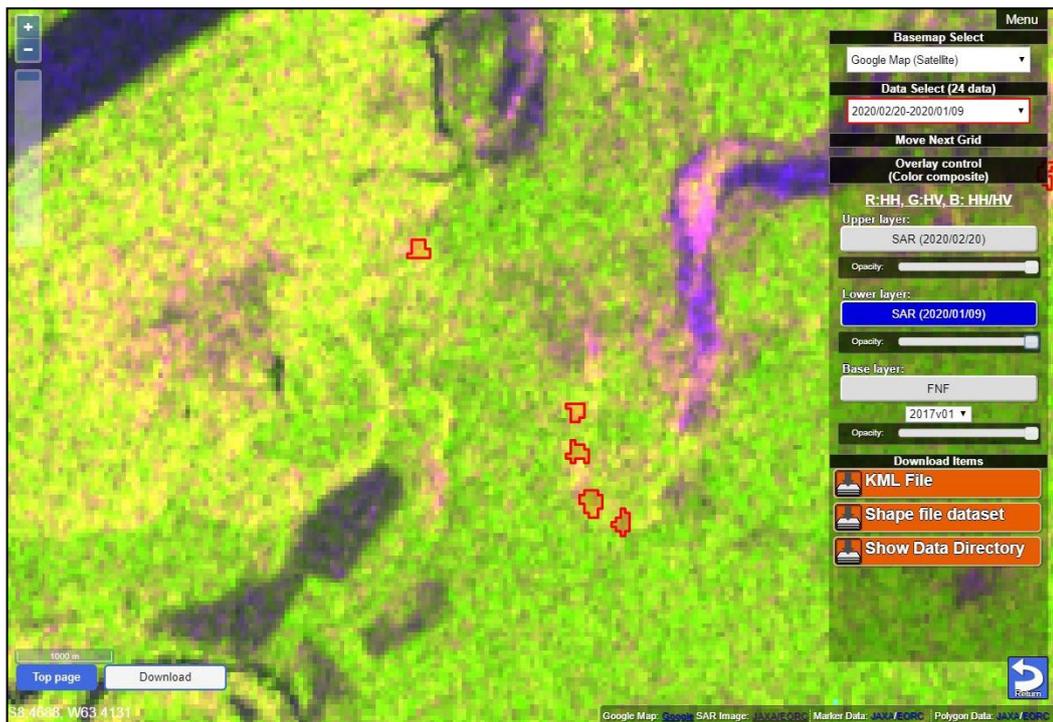


Figure 23. Sample SAR image display of the start of the selected period



Figure 24. Sample display of FNF

b. Bottom-right button



Figure 25. Bottom-right button

The bottom-right button (Figure 25) is used as per Table 5.

Table 5. Bottom-right button functions

Item name	Function
Return	Move to full screen page

User registration

User registration is not necessarily required for using JJ-FAST, but once you complete user registration, the following functions become available for use.

- You can use viewing history (the last 10 items).
- You can register points of interest (1°grid) (five points).
- You can add comments to points of interest (100 characters).
- You can add, delete and edit your points of interest.

1. Click the “Login” (Figure 26) button, the left-most button on the right edge of the map top page to register.

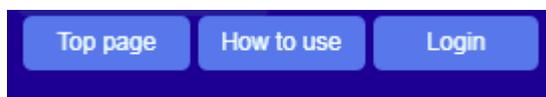


Figure 26. Location of the Login button

2. After user registration is completed, user account and password can be input on the login screen (Figure 27). To register for the first time, click "here" in "If you have not registered yet, please register here."

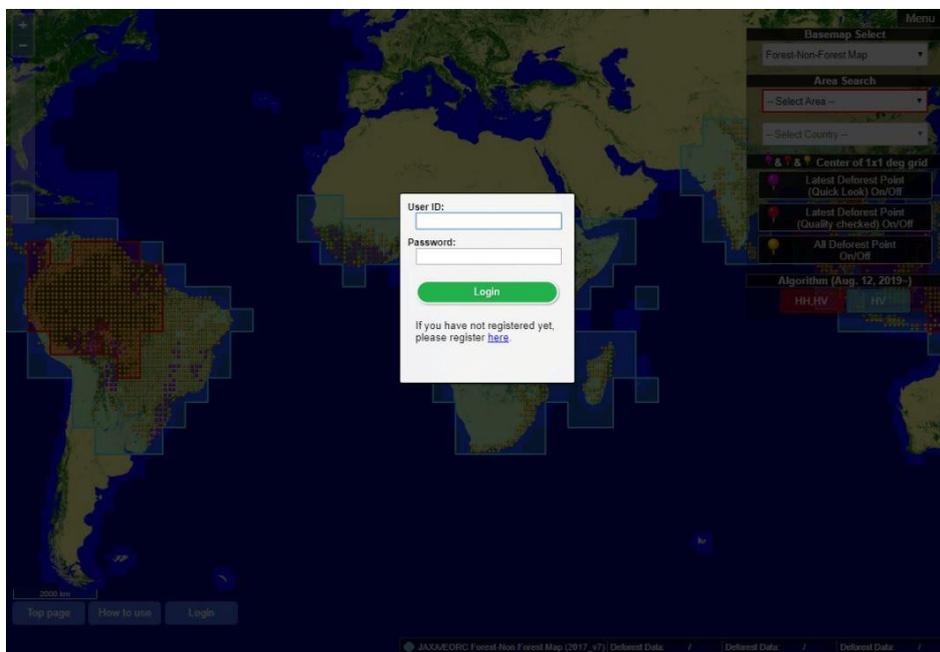


Figure 27. User login page

3. Registering as a user requires your name, email address, country of residence (select from a pull-down menu), organization/affiliation, and a comment (optional) (Figure 28). After completing user registration, a USER ID and password will be sent to you by email.

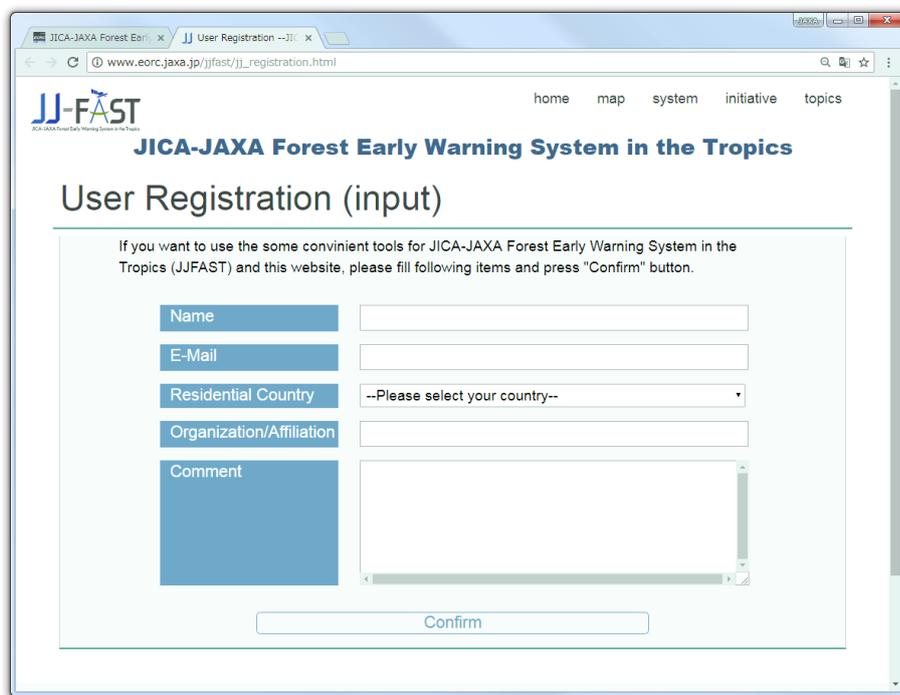


Figure 28. User registration page

4. Once you “Log in”, the “Login User Menu” will be displayed on the top-left edge (Figure 29).

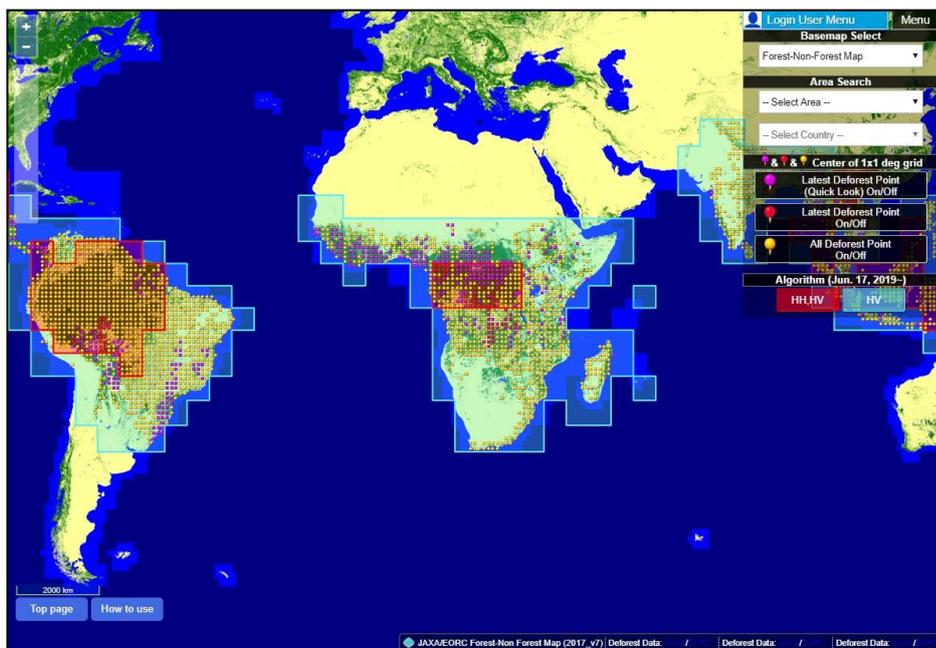


Figure 29. Map page when logged in

5. Clicking the “Login User Menu” button (Figure 30) will display your browsing history (last 10 items) and points of interest to which you can add comments (1 degree grid) (5 points). The “Add” button enables you to add points of interest, and the “Edit” button enables you to edit comments.

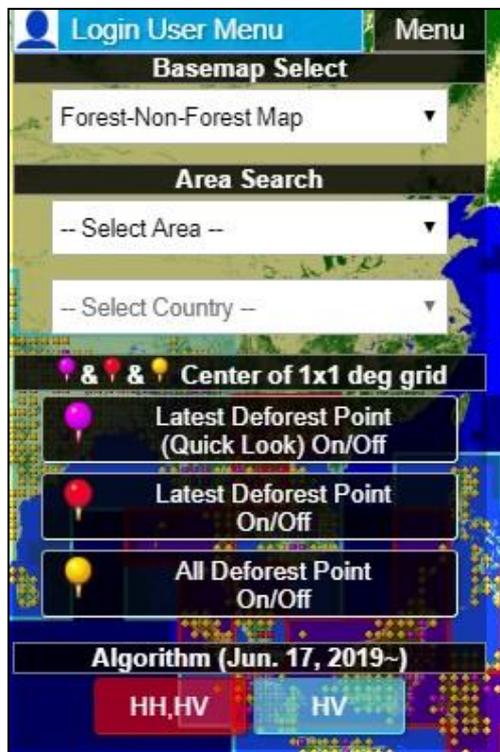


Figure 30. “Login User Menu” button

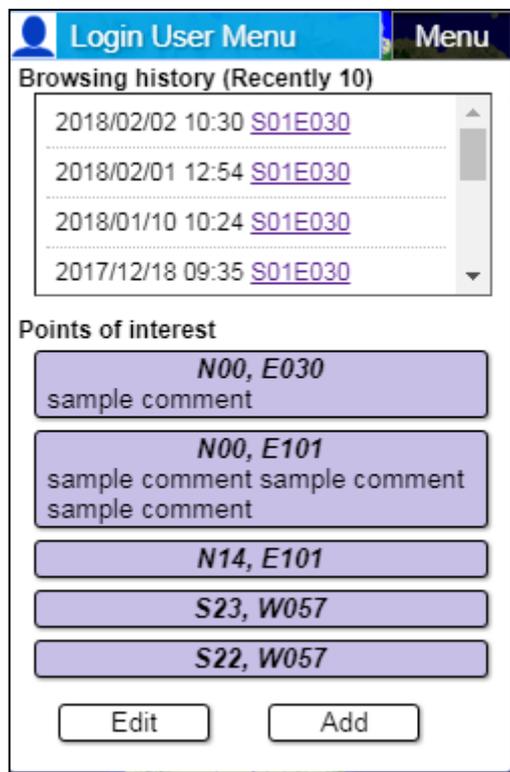


Figure 31. Display when login user menu is clicked

Description of features for JJ-FAST registered users

Completing forest change area detection system user registration will enable the use of the functions shown in Table 6. The following is an explanation of how to use these functions.

Table 6. List of functions usable by registered users

Function	Detail
Saving browsing history	You can use viewing history (the last 10 items).
Saving points of interest	You can register points of interest (1°grid) (five points)
Adding comments	You can add comments to points of interest (100 characters)
Editing points of interest	You can add, delete and edit your points of interest.
User information input support when posting comments	The registration information for registered users is automatically entered, which makes it easier to use the comment posting function.
Site information input support when posting comments	The selection items "Deforestation," "Landcover" and "Deforestation factor" are added to the comment section for registered users.

1. User Registration and Login Instructions

First, click the “Login” button located at the bottom-left of the screen in which the marker pin is pointing to the site with the detected forest change areas shown in (Figure 32).



Figure 32. Location of the forest change area detected site display screen and login button

Clicking the button will display the user ID and password entry screen shown in (Figure 33). If user registration has not been completed, you can proceed to the user registration form via "If you have not registered yet, please register here" under "Login" button and follow the registration procedure to register.

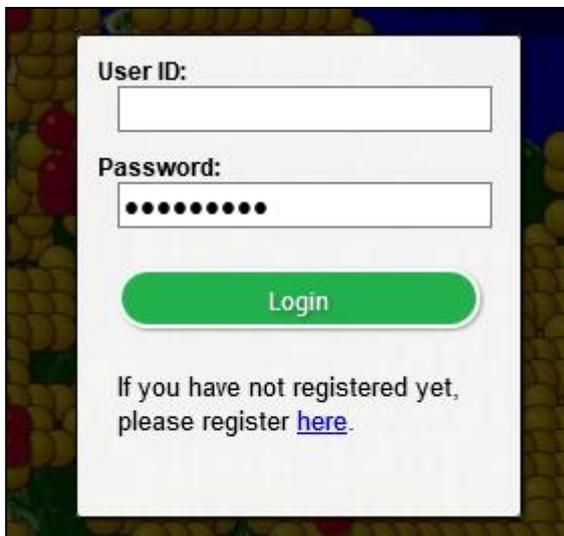


Figure 33. Login screen

2. Registered user menu details

Logging in will display the menu for registered users shown in (Figure 34) at the top-left of the screen. Normal map switching and the change area detection target period selection menu displays can be switched by clicking the "Login User Menu" button. The following functions can be used on the registered user menu.

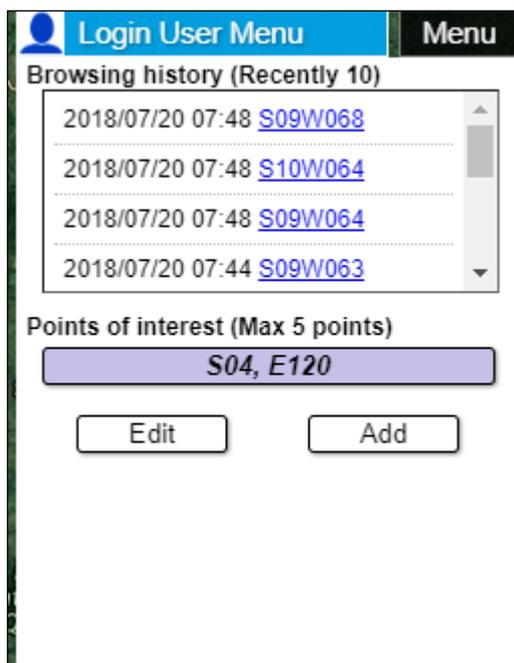


Figure 34. Menu for registered users

(1) Saving browsing history

Registered users can save the last 10 sites viewed as well as when the sites were viewed. Sites are saved to your browsing history when clicked on, and when your browsing history exceeds 10 sites, sites will be automatically removed. Furthermore, browsing history cannot be deleted. The browsing history can be checked via “Browsing history” in (Figure 35).

(2) Saving points of interest and adding comments

Registered users can register up to 5 sites as points of interest that they wish to check regularly. To register a site, click the “Add” button at the bottom of the menu, which will display the add points of interest menu as shown in (Figure 35). When saving sites, comments can be input to also save notes on site information, etc. Added points of interest will be displayed along with comments in the center of the menu screen.

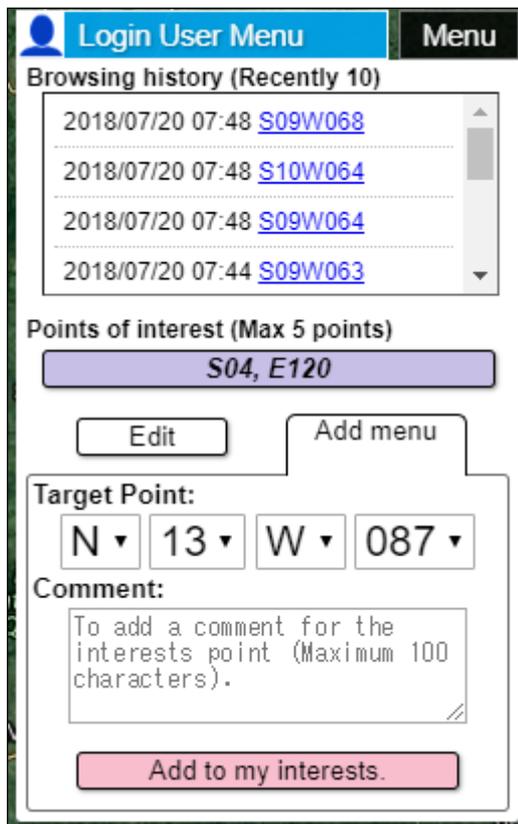


Figure 35. Add points of interest menu

(3) Editing points of interest

Registered points of interest can be deleted and the comments can be edited by clicking the “Edit” button. The edit menu is displayed in (Figure 36).

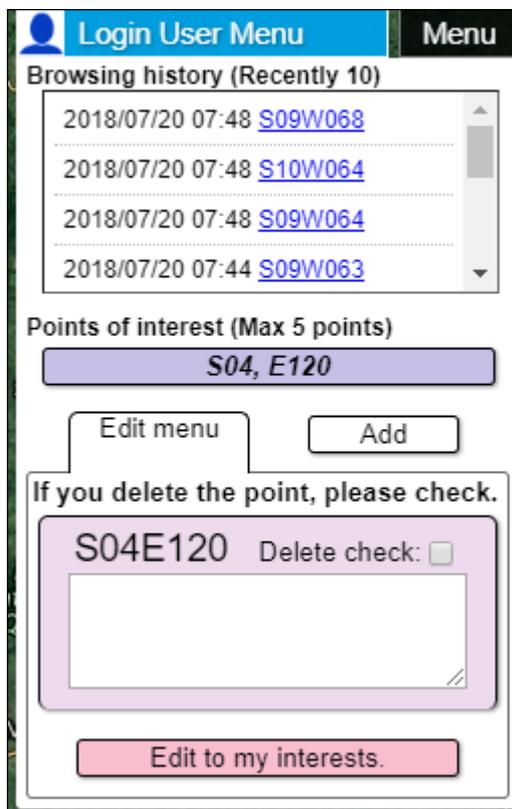


Figure 36. Edit points of interest menu

3. User information input support when posting comments

Clicking a forest change area detection site on the JJ-FAST forest change area map screen will display details for that site and allow users to post comments. However, general users are required to input user information each time they attempt to post a comment. By contrast, the registration information for registered users is automatically entered, which makes it easier to use the comment posting function. Furthermore, the selection items "Deforestation," "Landcover" and "Deforestation factor" are added to the comment section for registered users, enabling the posting of site information without entering them into the comment field. The post comment screen for registered users is shown in (Figure 37).

home map system initiative topics

JICA-JAXA Forest Early Warning System in the Tropics

Comment form (input)

If you have any comment for target deforest area, please fill following items and pres "Confirm" button.

Target Polygon ID	S10W064_180929_180818_0000005A
Name	<input type="text"/>
E-Mail	<input type="text"/>
Residential Country	<input type="text" value="Japan"/>
Organization/Affiliation	<input type="text"/>
Deforestation	<input type="radio"/> True <input type="radio"/> False
Landcover (now) (*Multiple selection possible)	<input type="checkbox"/> Agriculture <input type="checkbox"/> Artificial area <input type="checkbox"/> Urban area <input type="checkbox"/> Wetland <input type="checkbox"/> Rice paddy <input type="checkbox"/> Crop <input type="checkbox"/> Grass <input type="checkbox"/> Bareland
Deforestation factor	<input type="text" value="Forest fire"/>
Comment	<input type="text"/>

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Figure 37. Post comment screen for registered users

Observation Plan Map

1. Clicking the icon in the observation plan map update information from the JJ-FAST TOP page enables the display of the observation plan map.

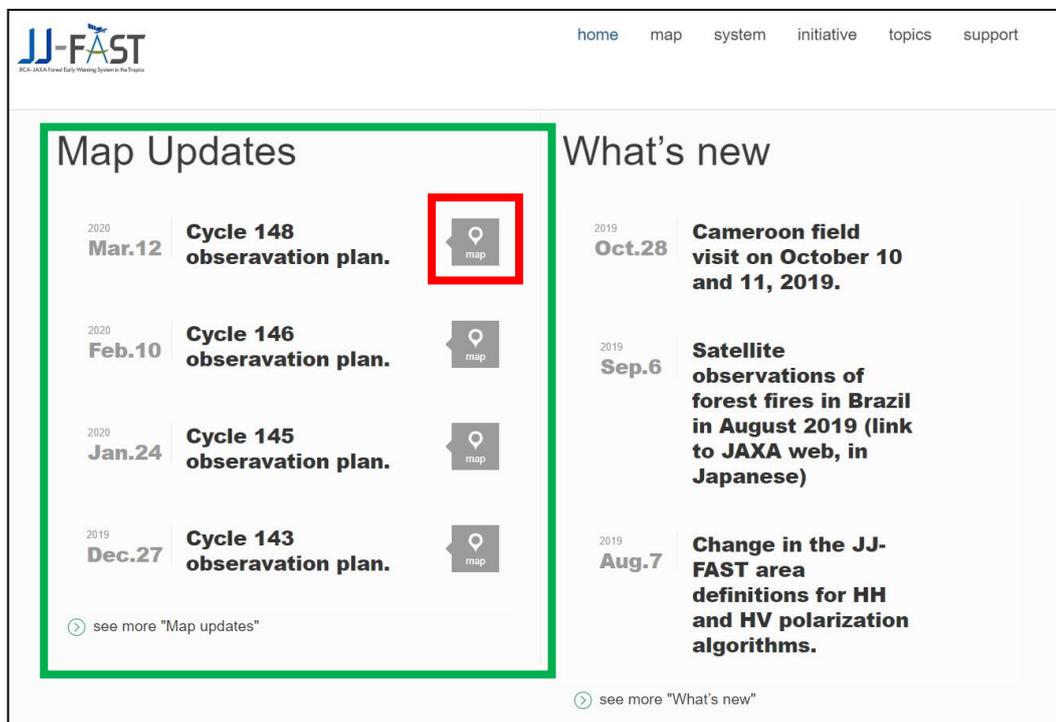


Figure 38. Observation plan map update information (green border) and display icons (red border)

2. For example, clicking the icons shown in the red border in Figure 38 will display the cycle 148 observation plan announced on March 12, 2020 (Figure 39). The other color displays the observation plan, and the light blue color displays a 5-degree grid of targets displayed by JJFAST.

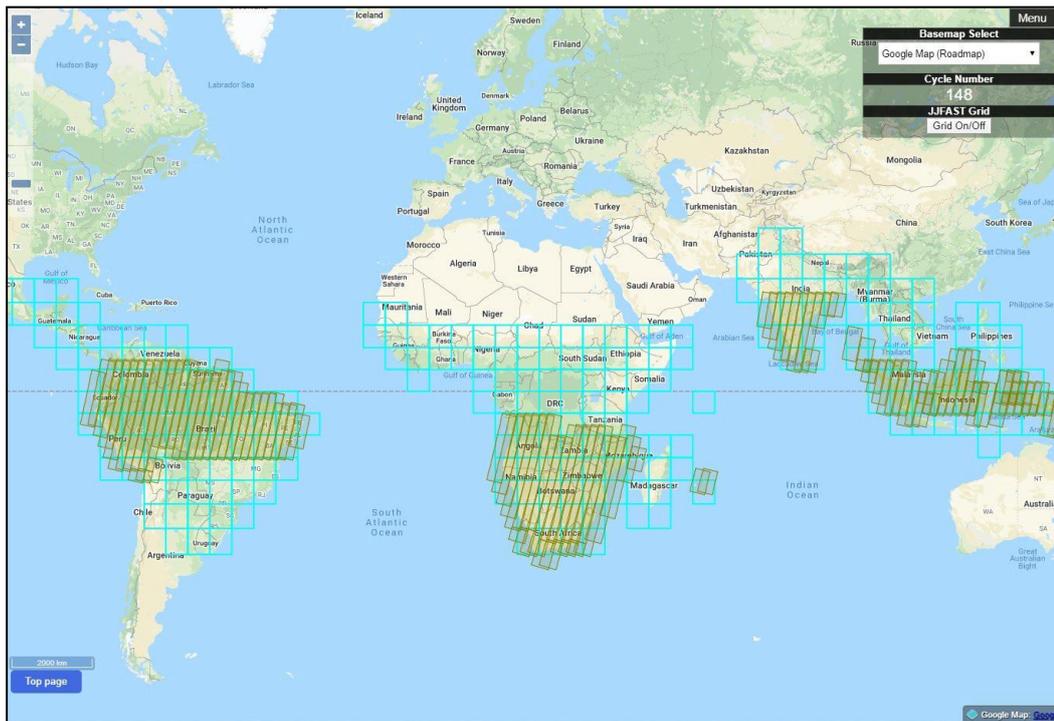
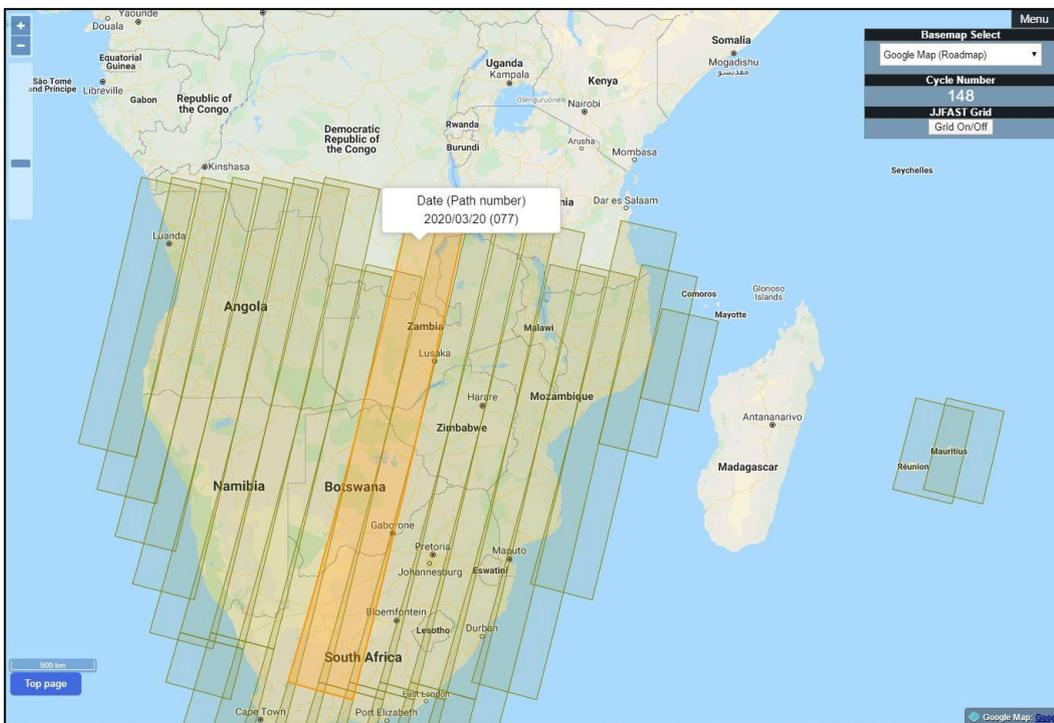


Figure 39. Observation plan display sample (cycle 148)

- Clicking the observation plan will display scheduled observation date and path numbers, and the target paths will change to orange.



JJ-FAST API

Summary

JJ-FAST API provides an HTTPS-based exchange between API providers and API users, enabling the acquisition of Polygon Data (json files) provided by JJ-FAST and web link data which displays said Polygon Data (json files).

How to Use

```
https://www.eorc.jaxa.jp/cgi-bin/jjfast/api/getlist.cgi?lat=XX.X&lon=xxx.x&date= YMMDD
```

By inputting a latitude (from 90 degrees to -90 degrees) into XX.X, a longitude (-180 degrees to 180 degrees) into xxx.x, and a year, month and day into YMMDD, you can obtain a 1-degree grid original json list, including a designated date between the beginning and end period, as well as web link data (JSON format).

Furthermore, by applying 0 to the date, you can display all lists with the corresponding grid.

API output format (JSON format)

The request results can be retrieved as data in the following JSON format.

```
{
  "num": 1,
  "data": [
    {
      "name": "data1",

      "file": "https://www.eorc.jaxa.jp/jjfast/data/geojson/S06/W070/S06W070_210205_201225_Ver_3_0_Area1_QL.geojson",

      "map": "https://www.eorc.jaxa.jp/cgi-bin/jjfast/jj_mapmonitor_phase2_v7.cgi?zoom=10&id=S06W070_210205_201225_Ver_3_0_Area1_QL.geojson"
    }
  ]
}
```

- “num” refers to the number of JSON Polygon Data files that conform to the search conditions designated in Lat, Lon, and date.
- “data” refers to the object name(s) of the data portions.
- “name” refers to the name(s) of the data portions (numerical portions are the numbers assigned sequentially).
- “file” refers to the Polygon Data (JSON format) file for the deforestation region between the 1-degree grids corresponding to the search conditions.
- “map” refers to URL link data representing the aforementioned Polygon Data.