



RESEARCH  
PROGRAM ON  
Forests, Trees and  
Agroforestry



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# THE FTA GEOPORTAL MANUAL

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# INTRODUCTION

As a collaborative research project, involving numerous researchers from member organisations, data sharing is important for FTA to optimise the use of their data inventory as well as for exchanging their knowledge, thus improving the quality and exposure of FTA research. This geoportal has been designed and developed as a system that can facilitate effective and efficient (geospatial) data access to, and data sharing among, FTA members' internal data inventory as well as that of other organisations. Moreover, this geoportal is also expected to fulfil the need for showcasing or disseminating FTA's research to a wider community/audience.

## WHAT CAN YOU DO?

The geoportal is a web-based entry point or gate to available spatial data or geographic contents and associated services from the FTA Data inventory. It allows users to discover, select, access the data and, to some extent, use the data for certain analysis, mainly visual. This geoportal provides functionalities that can assist users to perform these tasks:

1. Data discovery. This functionality allows users to search for specific available spatial data in the geoportal data catalogue, by either browsing the catalogue or using selected criteria provided in the portal as a filter to narrow down their search.
2. Data selection. This functionality allows users to identify specific spatial data available in the geoportal based on specific criteria following the users' own requirements or interests.
3. Data access. This functionality provides users with specific types of access to available spatial data should they require it. Direct visual access is given via the map services and the users may download original available data from the source.
4. Data analysis. This is not one of the main functionalities of the portal; it is more about providing a visual analysis using the map viewer. For example, the user can compare more than one map on the map viewer; using their own data or data sourced from elsewhere.

The following are possible tasks that may be conducted in the portal:

Select a study area, browse spatial data or maps, find specific maps, learn about data, add data to a map, add your own data, download data, perform basic spatial tasks, print your map, [create a thematic/analysis map](#)

## A GUIDE TO THE FTA GEOPORTAL

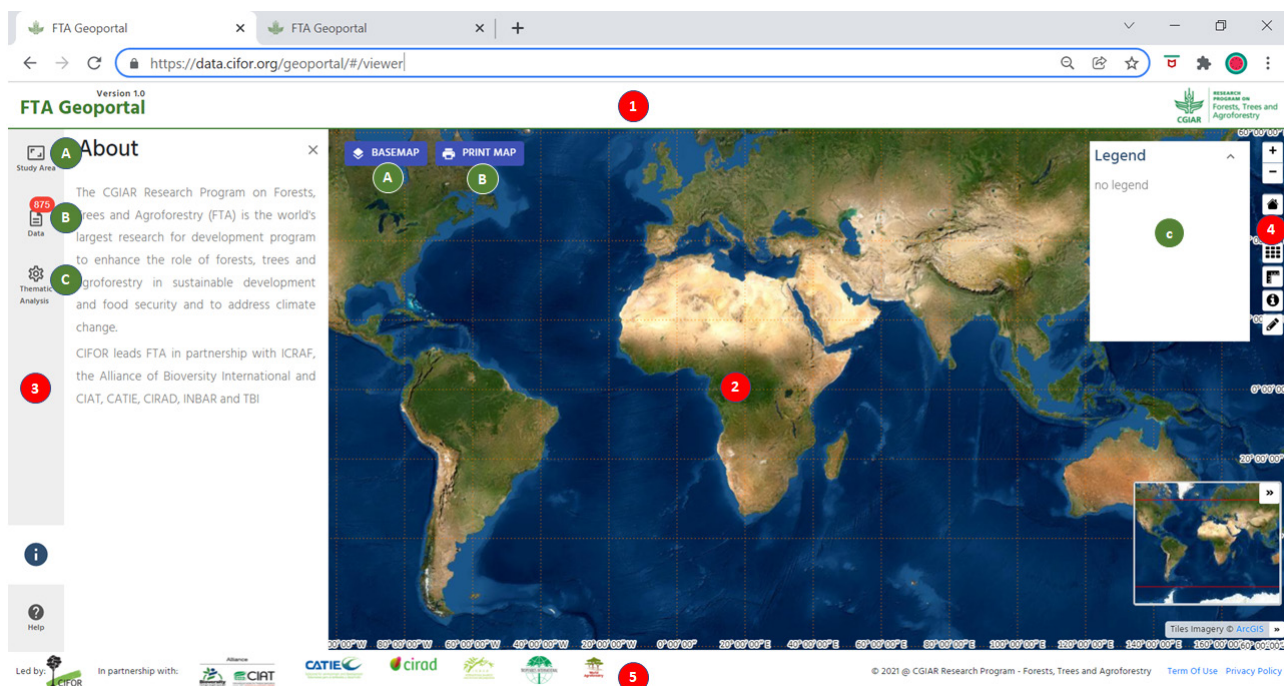


Figure 1. The FTA Geoportal Default Layout

The FTA Geoportal is a web-based application that can be accessed via the link: <https://data.cifor.org/geoportal/#>, however, before you use the geoportal, we recommend you familiarise yourself with it.

The geoportal consists of five main elements or sections, as shown in **Figure 1**.

1. The header section contains the geoportal title following the FTA main portal style including the links to the portal.
2. The map section is where selected maps are presented to users and the world map is shown as the default. On the section there are three other tools:
  - a. Base map. Should the users need to change the background for their map, this tool allows the users to change the base map/background map using various available services.
  - b. Print Map helps the users to download the map viewed in the map section in pdf format using the principle 'what you see is what you get'
  - c. Legend. This allows the users to activate the legend window of the selected map(s).
3. The main tool section is where almost all the functionalities of the geoportal can be performed. There are 3 subsections:
  - a. Study Area. This is where users can begin their map/data search by defining their area of interest by: (1) activating the select area button and selecting a specific area using a hierarchical administrative boundary system or (2) activating the bounding box tool and draw a box covering their area of interest.
  - b. Data. Using tools located here, the users can search and select available data/maps from the FTA geoportal, view them in the map section by activating the Browse button or downloading their own local data onto the geoportal by activating the Import button. This sub-section also shows the name(s) of the selected data, which later can be manipulated using other tools, explained in the Activities window.
  - c. Thematic Analysis is an additional functionality of the geoportal designed for the FTA to exhibit their specified maps, graphs or charts from their selected projects or research. As this concept is still being developed, this functionality is still at a minimal level.
4. On screen tools provide capabilities for the users to manipulate the map view and perform basic tasks on the map(s), such as:
  - (1) zoom in and out,
  - (2) zoom to full extent (world),
  - (3) activate or deactivate the grid/graticule lines,
  - (4) measure distance,
  - (5) identify objects and
  - (6) draw objects on the (map) screen.
5. The footer section follows a similar design approach to the header section and contains logos and links to webpages on the FTA website.

# SELECTING A STUDY AREA

Defining your study area is important to help you narrow down your specific search of the data based on the location. You are able to do so by drawing a bounding box on the overview map or selecting a specific administrative name for the location.

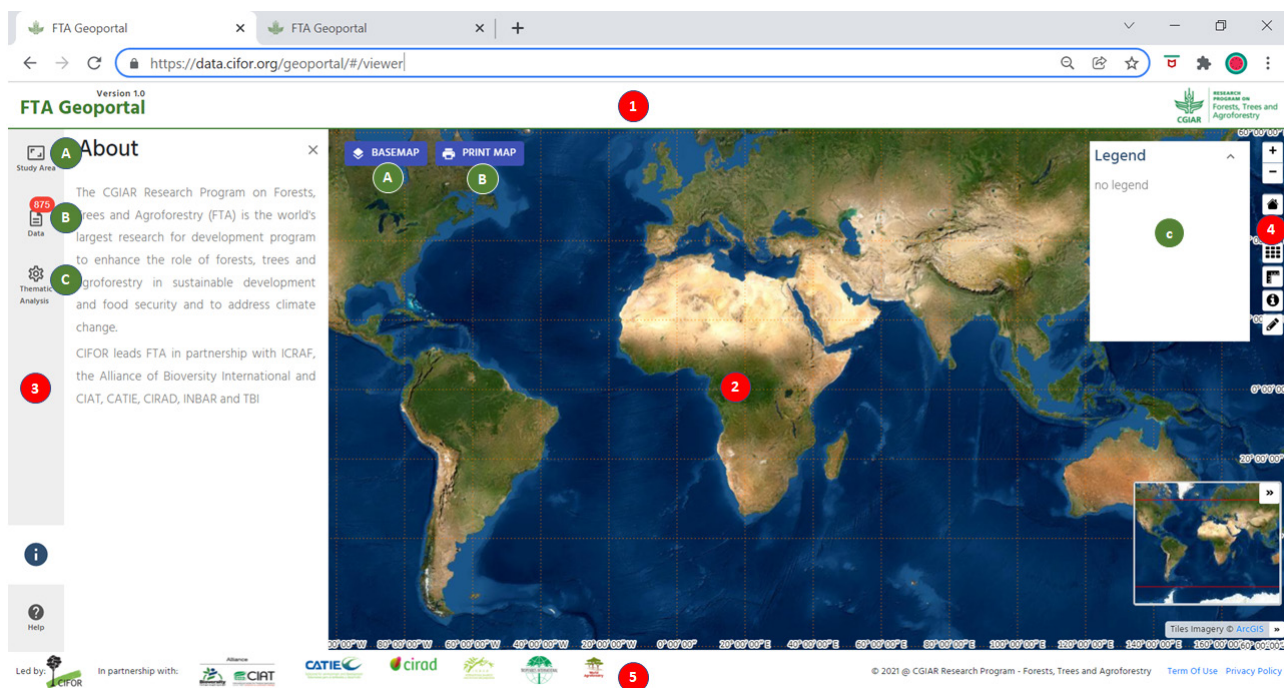


Figure 2. Study area (Section 3-A)

To activate the bounding box tool, click on the **Draw BBOX** button on the 3-A Section (**Figure 2**) and draw a bounding box on the map window covering the area of your study. You can only draw the box while the button appears as **Active**, as shown in **Figure 5**. The button will turn to **Draw BBOX** again when you finish drawing the bounding box. You will need to click on it again if you need to draw another bounding box. Once the bounding box is set, you can see the coordinates of your study area on the “Selected Bounding Box:” (**Figure 3**) and your data search will now be limited to this area.

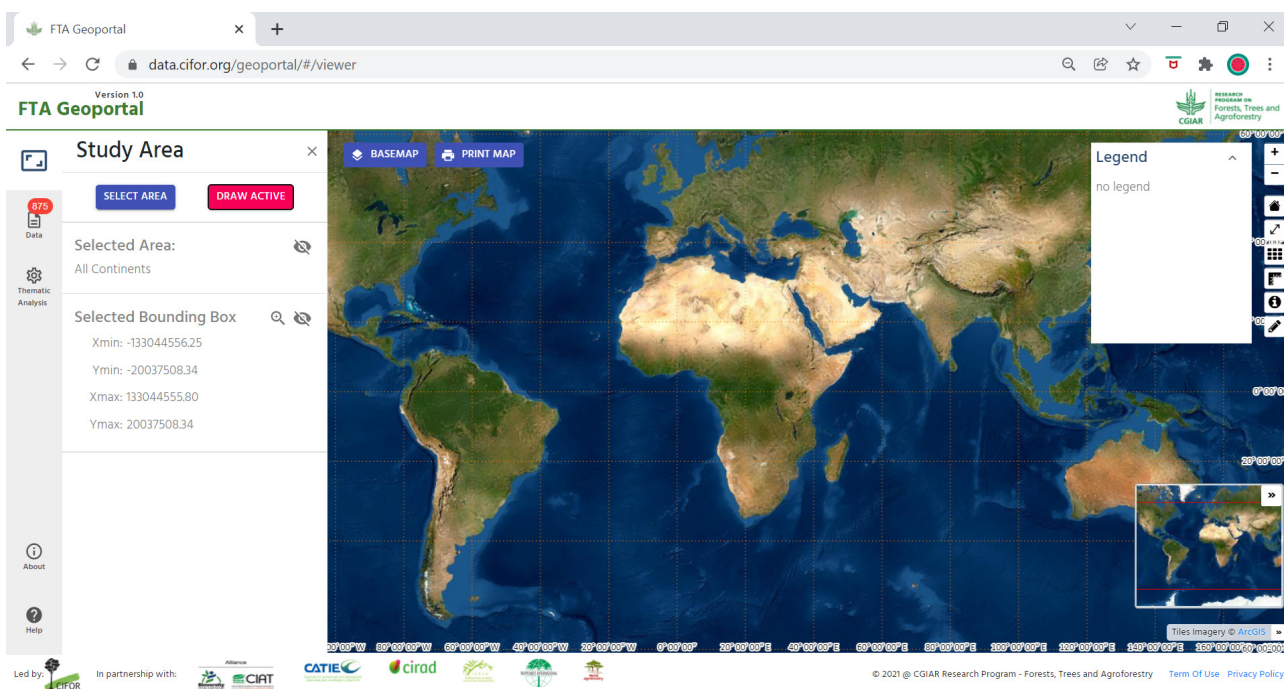
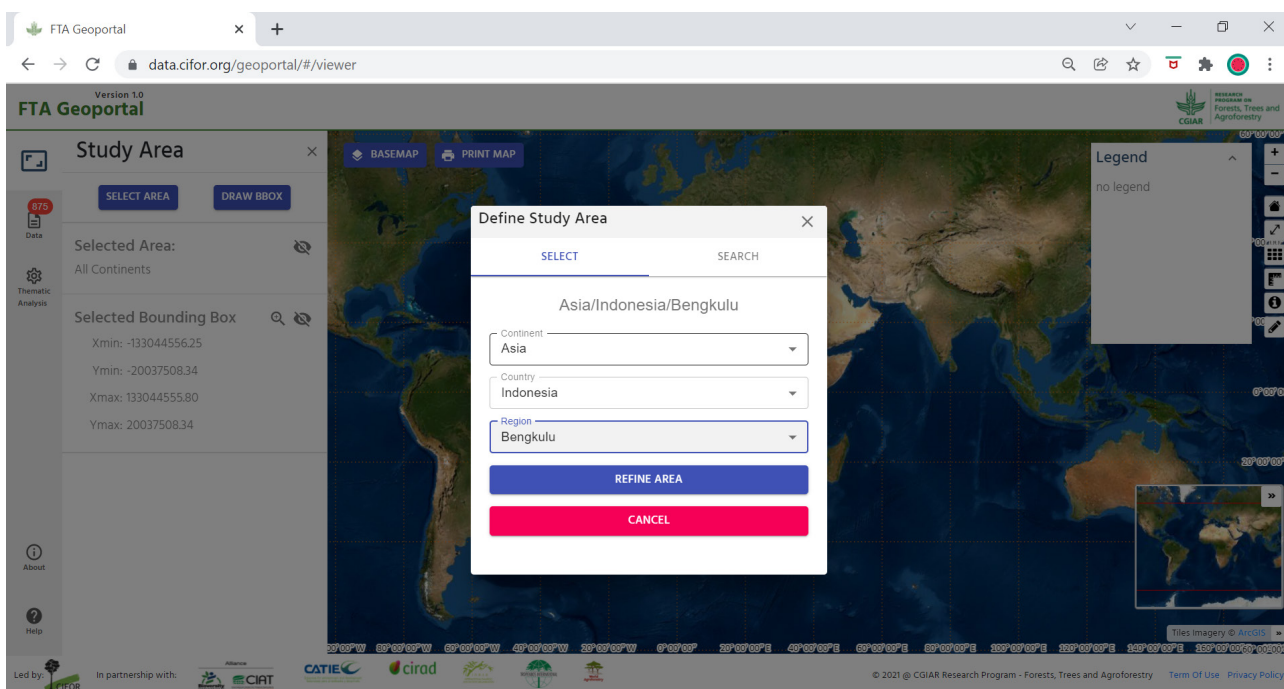


Figure 3. Active bounding box tool study area (Section 3-A)

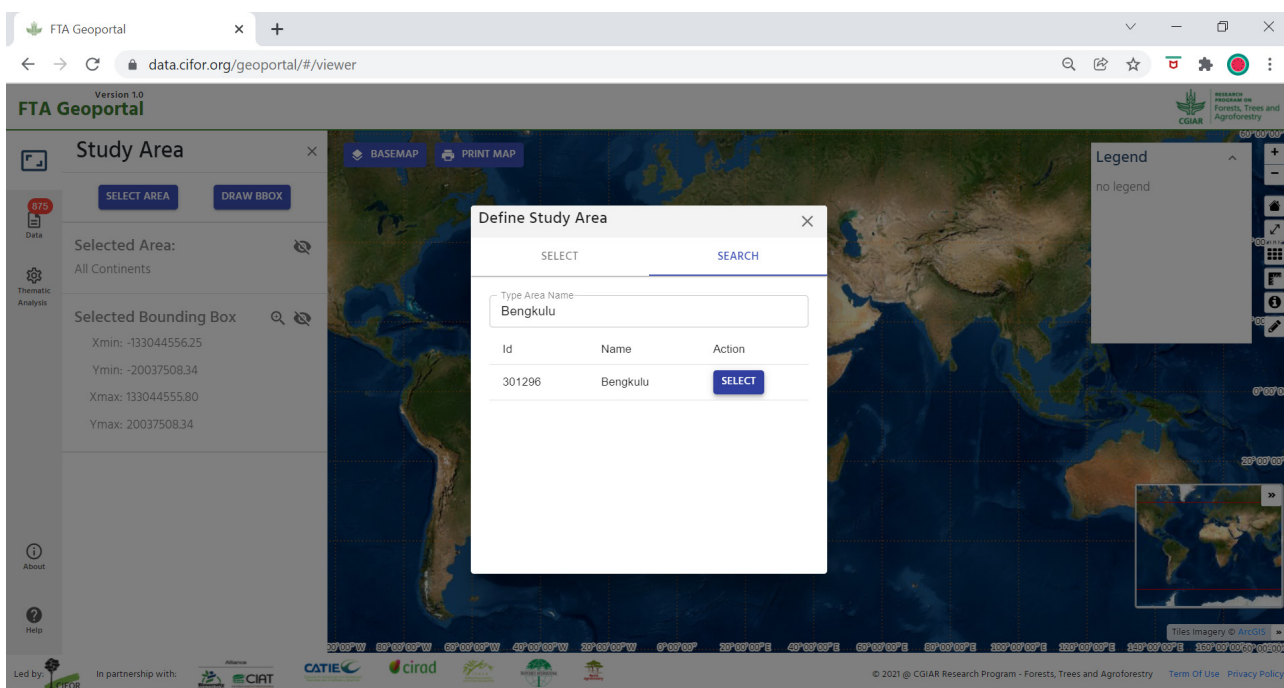
You can also select your study area by selecting a predefined administrative area, by activating the **Select Area** button in section 3-A (**Figure 2 and 3**). Once you click on the button, you can select your desired research area using the hierarchical area selection window (**Figure 4**).



**Figure 4. Select study area using a predefined area**

Once you click on the button, you can select your desired research area using the hierarchical area selection window, Figure 4. Once you find and select the desired area, you may proceed by clicking the Refine Area button or you may cancel it by clicking the Cancel button.

You can also type in the name of your desired location or study area, using the provided window (**Figure 5**), when you activate and click on the Search tab on the Define study area window.



**Figure 5. Find a study area using a predefined area**

If your search finds any match, a list of matched results will be presented, and you may then select using the select button. "No match found" will appear when your search does not find a match.

## SEARCHING AND SELECTING SPATIAL DATA OR MAPS

There are three ways of finding and selecting spatial data or maps using this geoportal: (1) Location-specific search, (2) General search or (3) Browsing. The former is conducted by selecting the study area first, as explained in the previous section, and then click on **Browse** provided in Section 3-B (Data), **Figure 6**. The latter can be conducted by directly clicking on the **Browse** button in Section 3-B (Data).

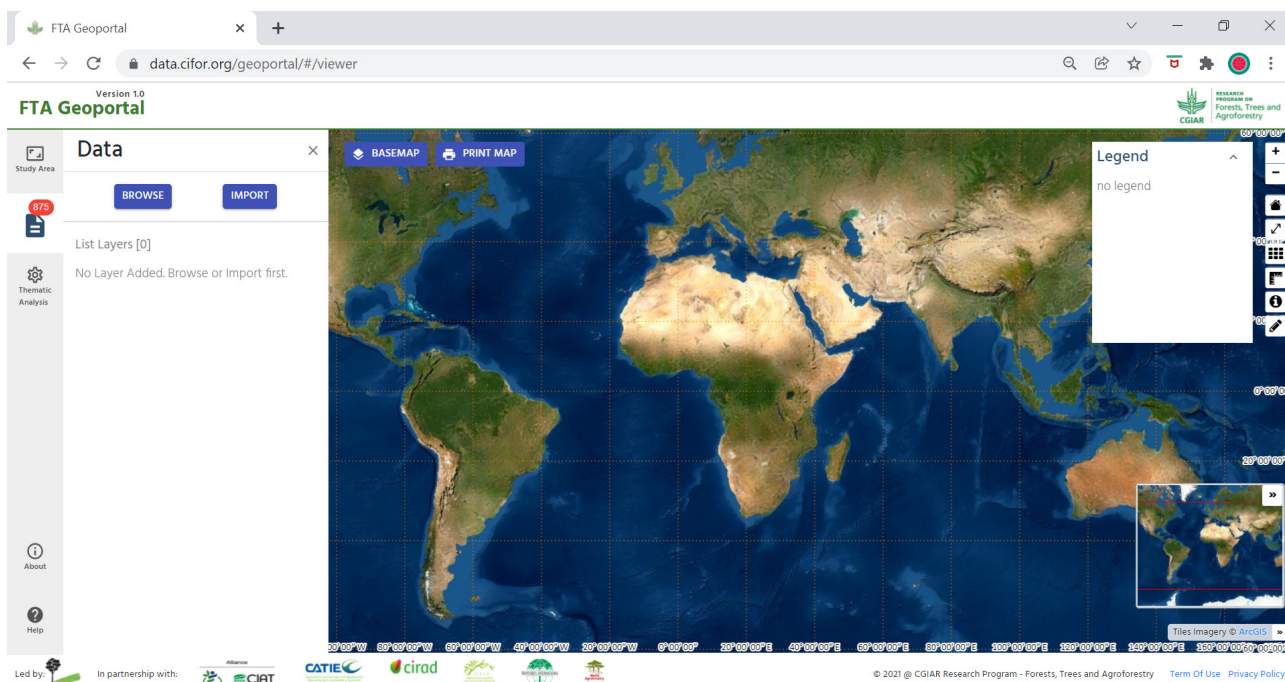


Figure 6. Data window (Section 3-B)

When the browse/search window pops up (**Figure 7**), you can find 5 sections that will help you manage the search as well as the selection process of the available spatial data.

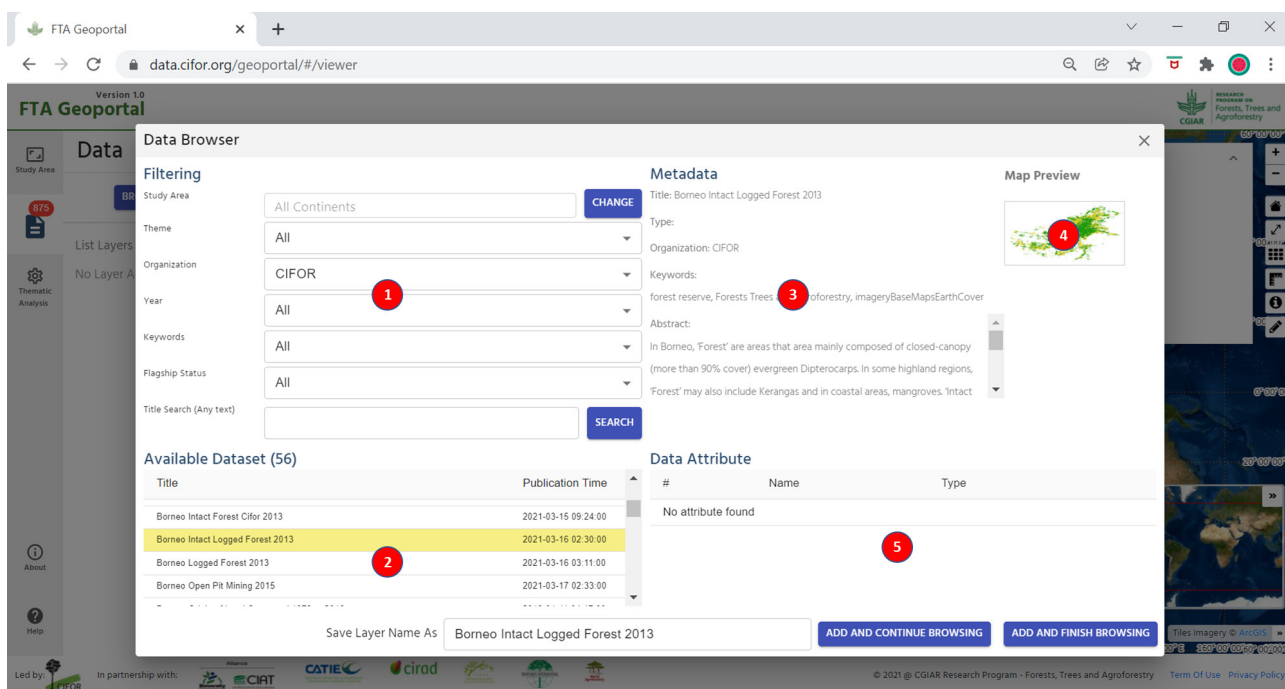


Figure 7. Data browser window

**Section 1** is the searching criteria that you can use as filters to narrow down your search. The Study area is one of the criteria and will automatically be filled in with the selected area you have chosen during the previous stage and will appear as “All continents” if you do not select anything. You can, however, select your study area by clicking the Change button in section 1 and the selection tool as explained earlier will appear. You can then follow a similar process for selecting your study area. Still in section 1, some criteria are given to help you narrow down your search, however, you may leave them as they are should you want to browse all available data. When you are satisfied with your search, you can submit by clicking on the Search button, although the system will automatically process the results whenever you change the content of any search criteria.

**Section 2** shows the results of your search; the available data with the number presented inside the bracket. You can also check the results to find certain data by looking at the title and the last modification date of the data presented in the list. When you click on specific data, you can find information about the data, which will be automatically presented in section 3, 4 and 5.

**Section 3** is the information about the data from the metadata of the selected data on the list (search results in section 2). A set of selected information: Title, Type, Organisation, Keywords and Abstract of the data are presented.

**Section 4** shows the thumbnail for the selected data. This provides users with a glimpse of what the data looks like, e.g., the shape, the density, etc.

**Section 5** provides users with information about the structure and quality of the data and whether the data fits their requirements.

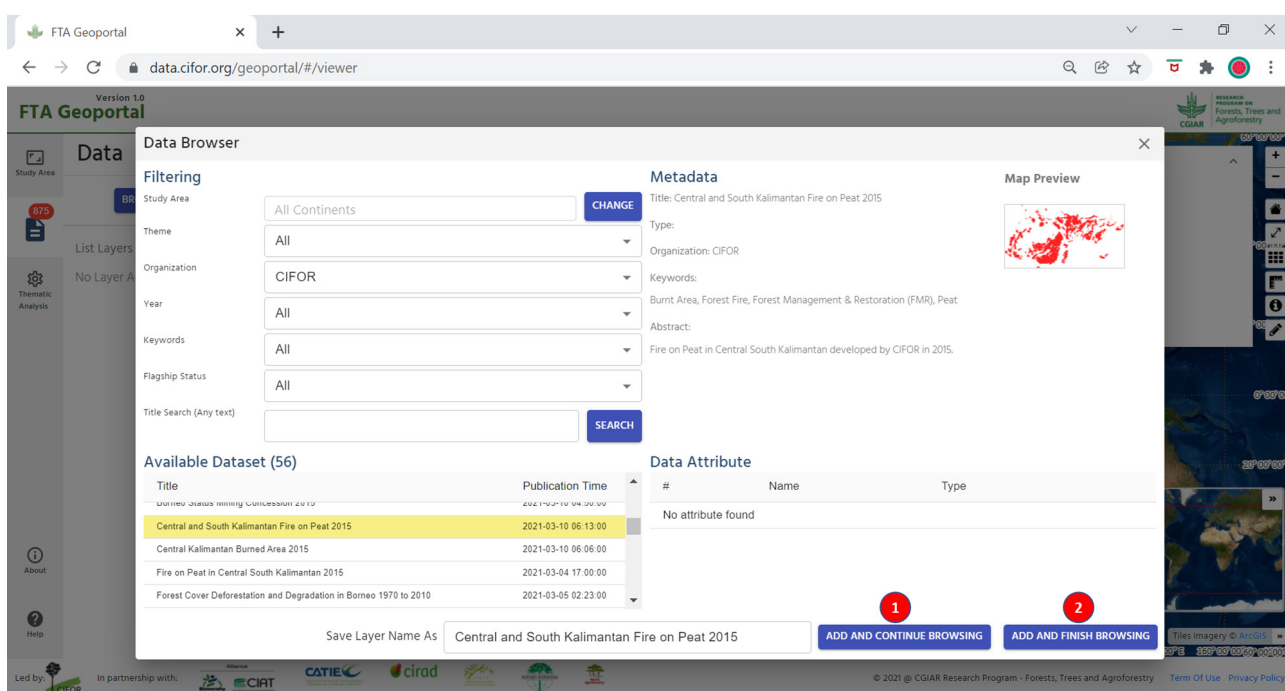
## LEARN ABOUT DATA

As explained in the introduction, users can use this geoportal to learn about and assess the relevance of spatial data before they finally select the data. There are several ways to learn about the data, but the most common is by looking at the surrounding information and that which comes with the data.

This geoportal is developed based on metadata at its core. Data owners tend to provide information about spatial data in their metadata while other information is presented in the geoportal, section 3 in Figure 7. For example, you may find data you are interested in, to obtain more information about the data you can select the data by clicking on the title in the list and by looking at the metadata section. Users might also need to check the thumbnail and quality of the selected data, as seen in Figure 7, to see what the data looks like. You can also learn about the data by looking at the data directly in the map viewer or map section once you open the selected data. The geoportal also provides the tool to open the metadata and quality of the data after the data is opened.

## ADD DATA TO A MAP

If you find data you want to work with, or are interested in, you can continue to add data to a map by clicking the Add and continue browsing button (1). If you still need to find more data before you finish, use the Add and finish browsing button (2) (see **Figure 8**).



**Figure 8. Add Data in Data Browser Window**

Selected data or maps will appear in the main section (map viewer) along with the title of the data section, once users add and finish the selection process (**Figure 9**).

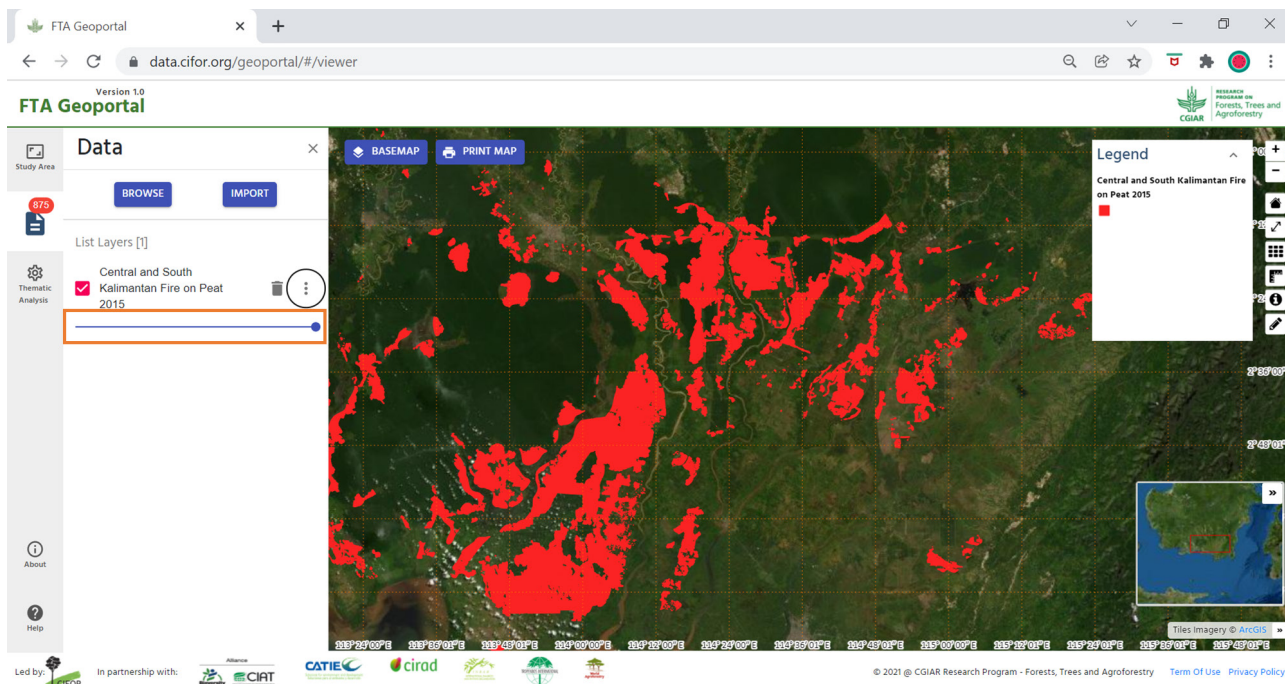
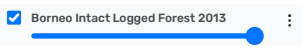


Figure 9. Geoportal window with spatial data added

Inside the orange box on the picture  there are tools that can be used in the geoportal. The thick box is used to activate or deactivate data from the map viewer and the sliding bar is used to set the opacity of the map presented in the map section. These tools are important when working with two or more datasets.

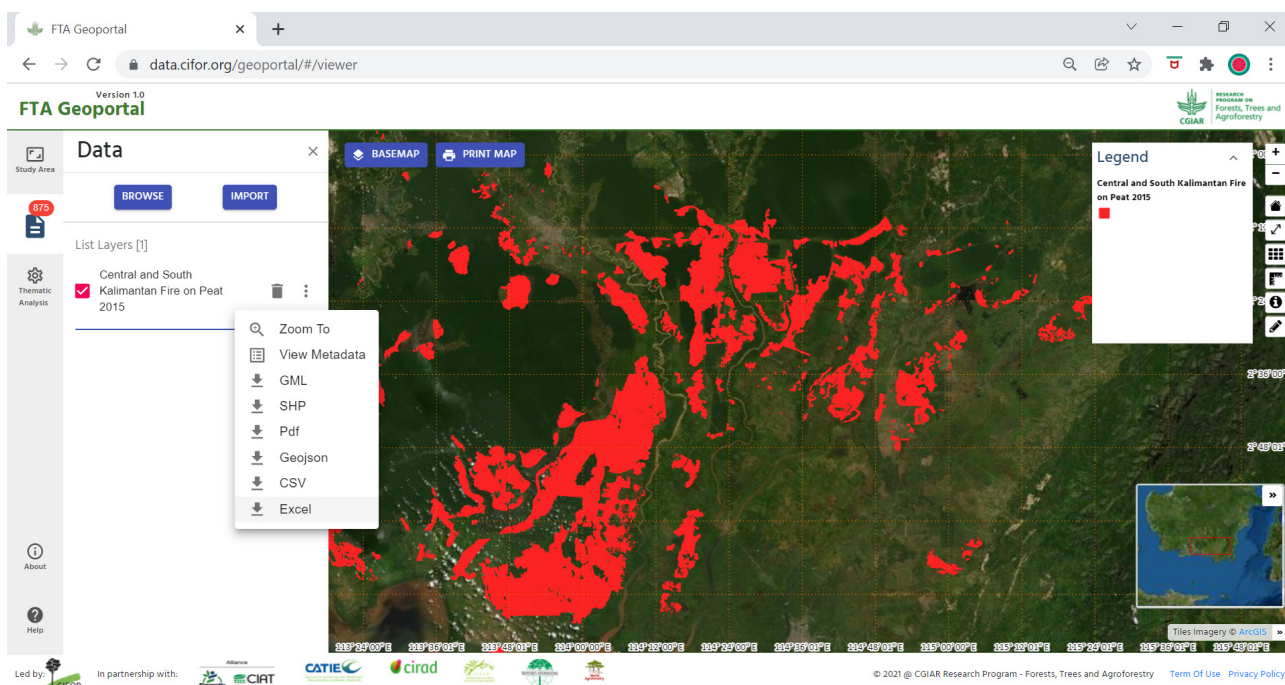


Figure 10. Map tools for selected spatial data



As can be seen in **Figure 10**, there is a garbage bin symbol that can be used to delete the selected data from the map, and a triple vertical dot icon that provides access to a number of tools: (1) Zoom to the selected map extent, (2) View metadata, to let users open the metadata window (**Figure 11**) should they need information about the data, and (3) Download, to let users download data with a specific format given by the owner and subject to availability.

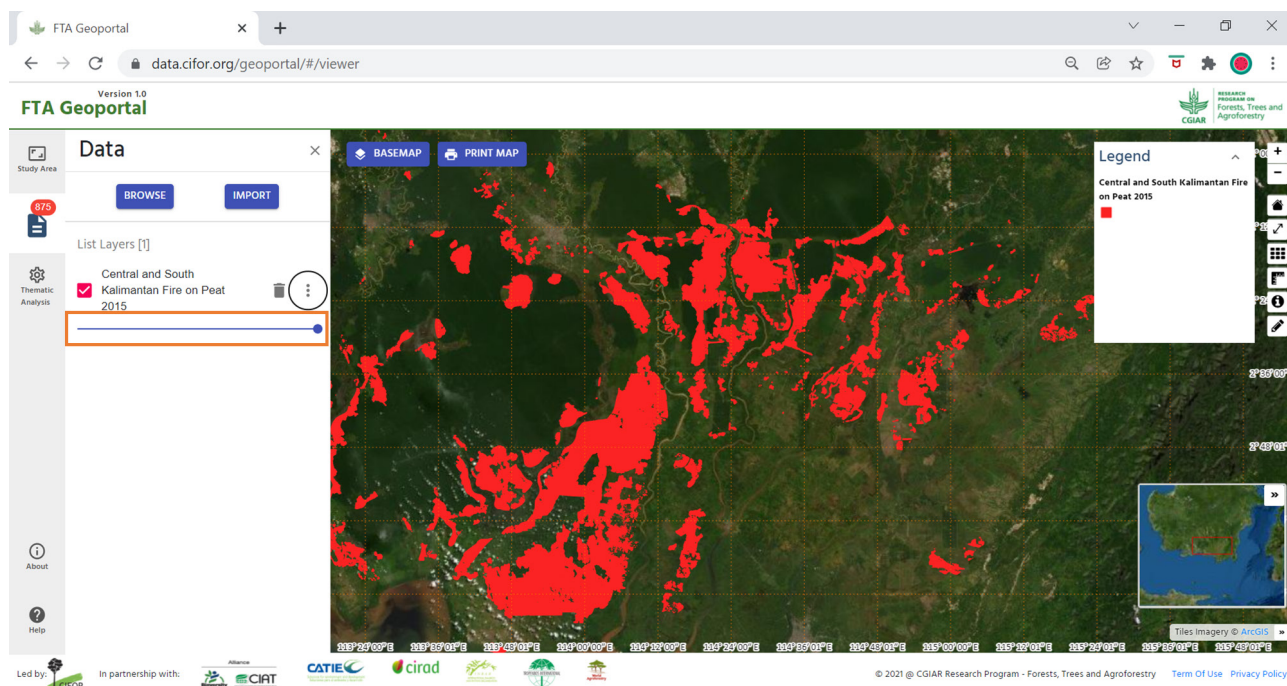


Figure 11. Metadata Window

## DOWNLOAD DATA FROM THE GEOPORTAL

If you find the data (available to download) is important and you want to download it, you can open the link as seen in Figure 10. If the data is downloadable, the Download link will appear along with the data format. You can select the data format you want if there is more than one option, click on it to download the data (**Figure 10**).

## ADD YOUR OWN DATA

Spatial data users will usually have their own data and want to compare the available data from the geoportal with theirs. The geoportal provides a very useful tool to accommodate this need. Users can click on the **Import** button in the Data Section (Figure 6) should they decide to add their data to the portal, and the import data window will appear (**Figure 12**). Click on Choose Files button from the window to select the respective spatial data to be imported (**Figure 13**). Note that the data should consist of all the relevant files (shapefiles) and in a compressed zip format.

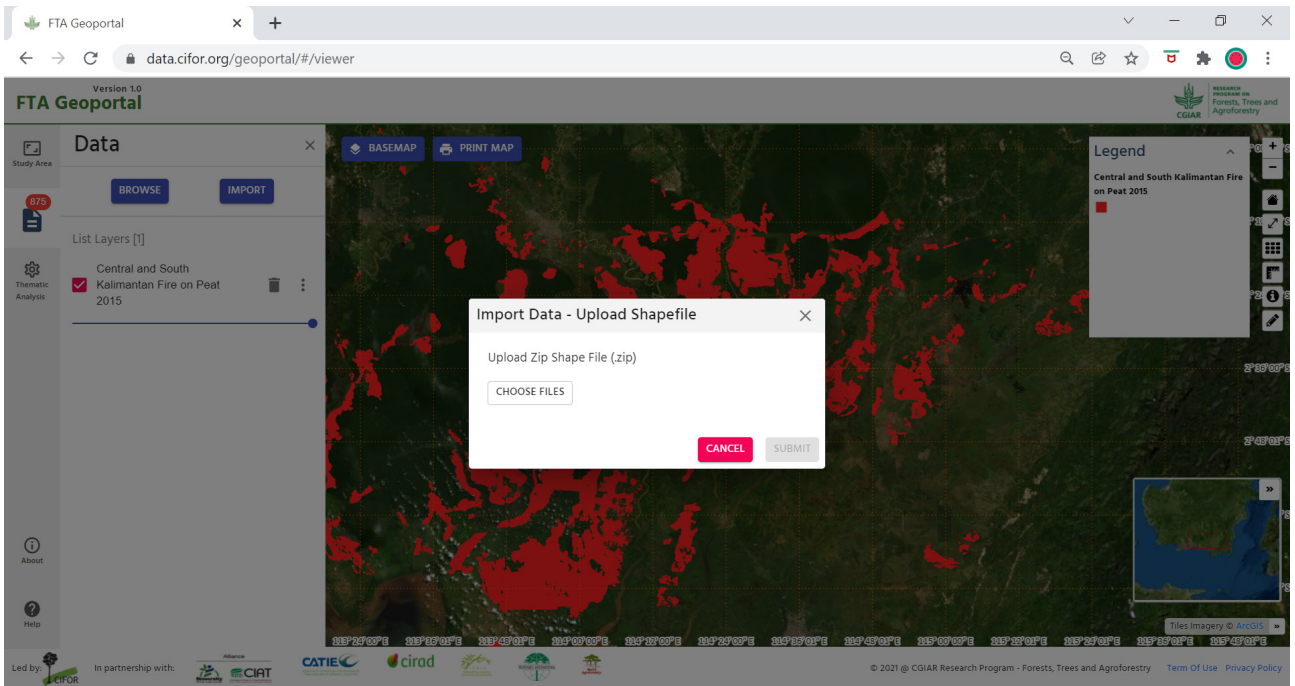


Figure 12. Import or add local data window

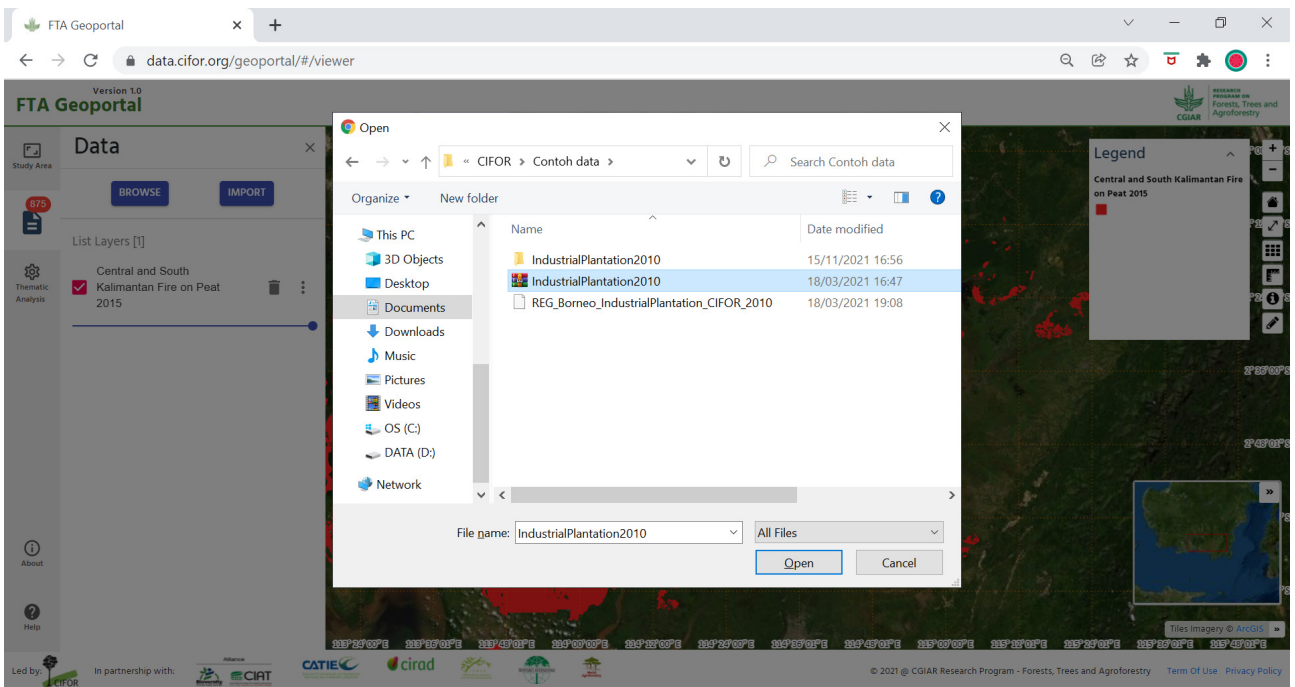



Figure 13. Import or add local data selection

Once the local data is imported into the geoportal, users can perform similar activities as with the data from the geoportal repositories.

## CHANGE THE BACKGROUND MAP

The background map plays an important role in mapping. For your own preferred mapping style, you might need to change the background map. You can do so by activating the selection window, click on  Basemap button in the Section 2-A (Figure 1) and select a background map from the list (Figure 14).

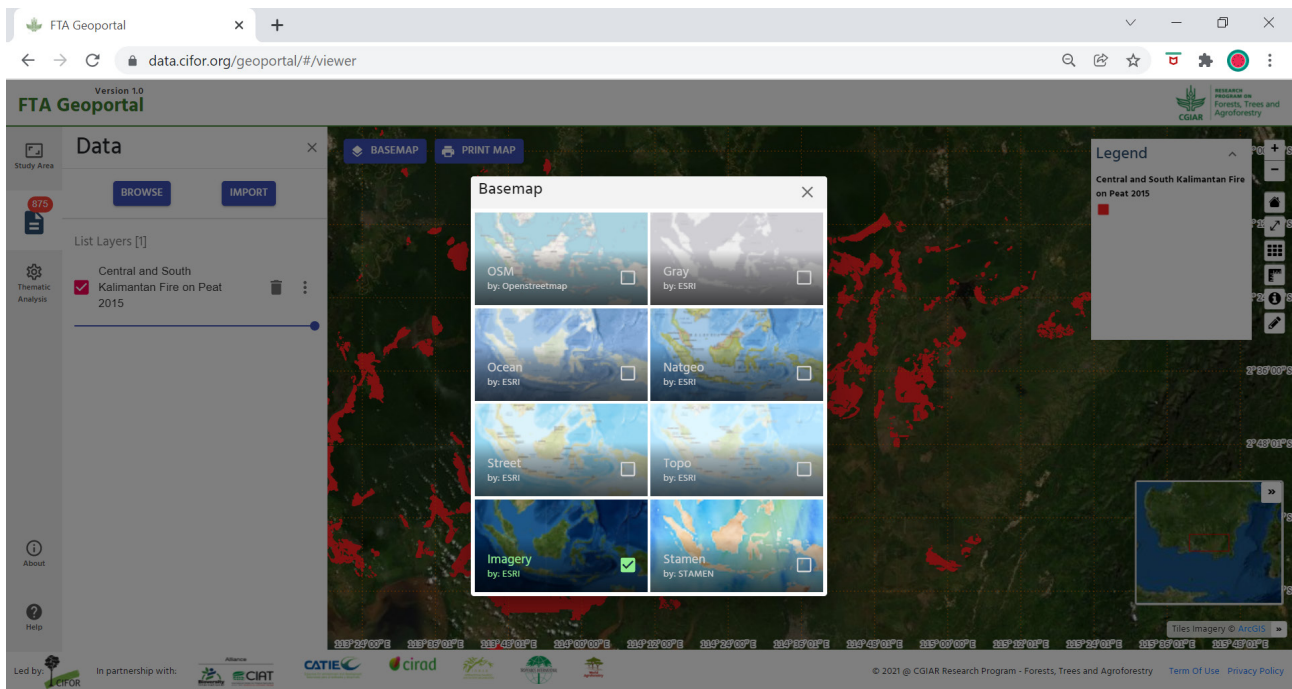









Figure 14. Background map selection window

## PERFORM BASIC SPATIAL ACTIVITIES

Once the data is uploaded on to the map, users can start to look at the data or map. The geoportal provides basic tools to work with the map, as explained earlier in Figure 1: (1) zoom in  and out , (2) zoom to full extent , (3) activate or deactivate the grid/graticule lines , (4) measurement , (5) identify objects and (6) draw objects on the (map) screen .

**The Measurement** tool is used to check the distance from one specific point to another or multiple consecutive points. Figure 15 shows the Measurement windows, which can be activated by clicking on the  icon on the map.

The user can then select the measurement type: Length or Polygon, from the dropdown list and click on the start measurement button to start. When the tool is active, the window's appearance will change from 15(a) to 15(b). Once the measurement is completed, the results will appear on the screen (Figure 16). The users can take another measurement or when they are finished click the Finish measurement button, see Figure 15(b). The window will return to that of Figure 15(a). To delete the results from the map viewer, the users can click on the Clear Measurement button.

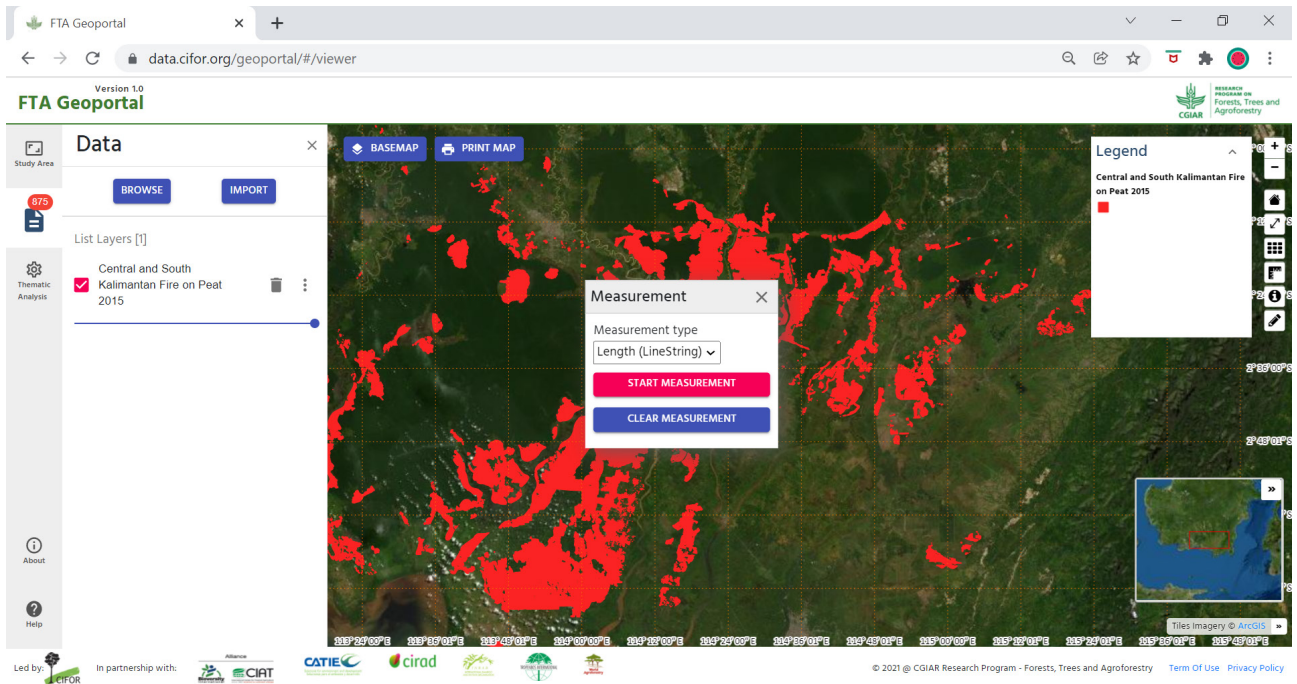


Figure 15 (a). Measurement tool NOT ACTIVE

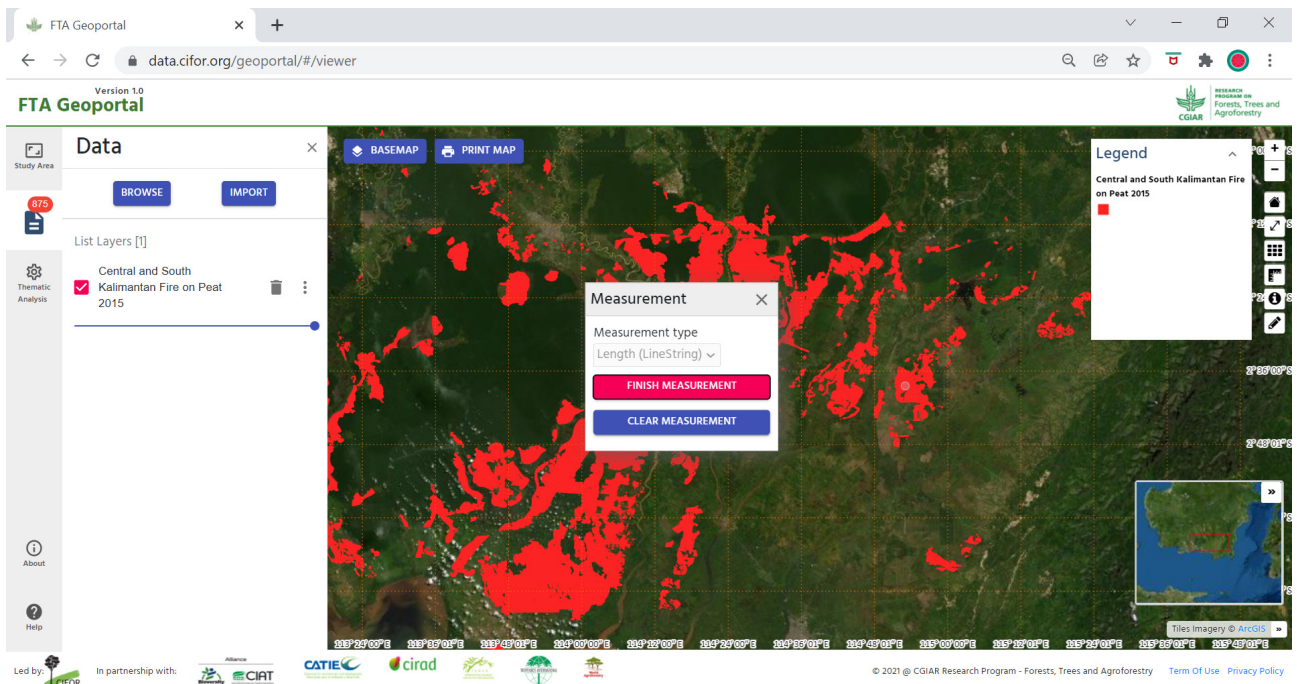


Figure 15 (b). Measurement tool ACTIVE

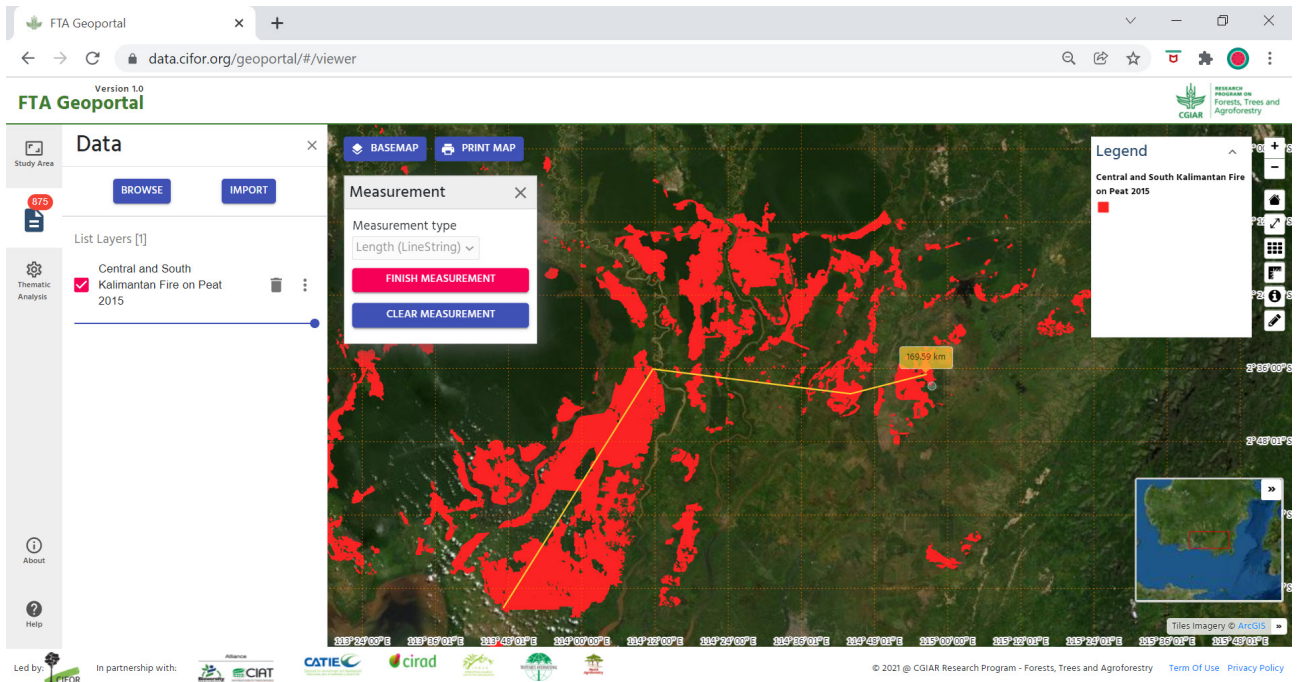


Figure 16. Measurement Results

The **Identify** tool can be used to see and check what the data is about in a specific location. To activate the tool, click the **i** button on the map window. The identification window will appear with the NOT ACTIVE mode as the default, see **Figure 17(a)**; it will need to be activated before it can be used, **Figure 17(b)**.

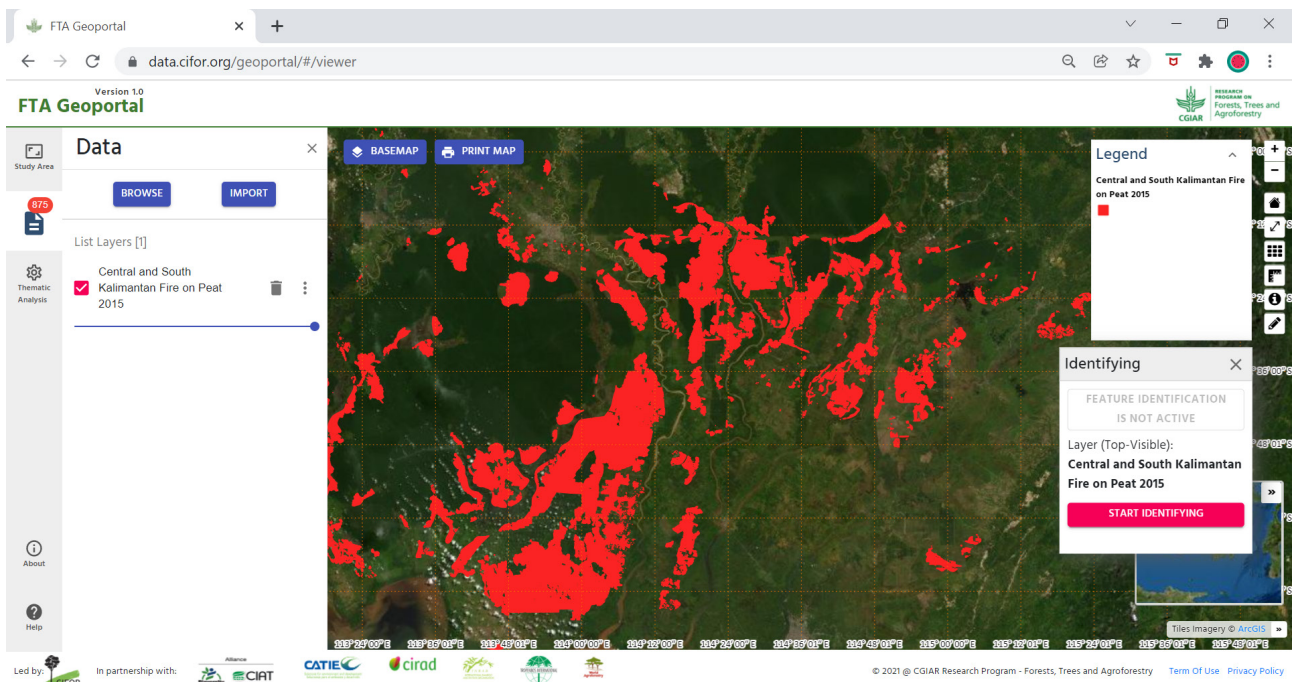


Figure 17 (a). Identify Tool NOT ACTIVE

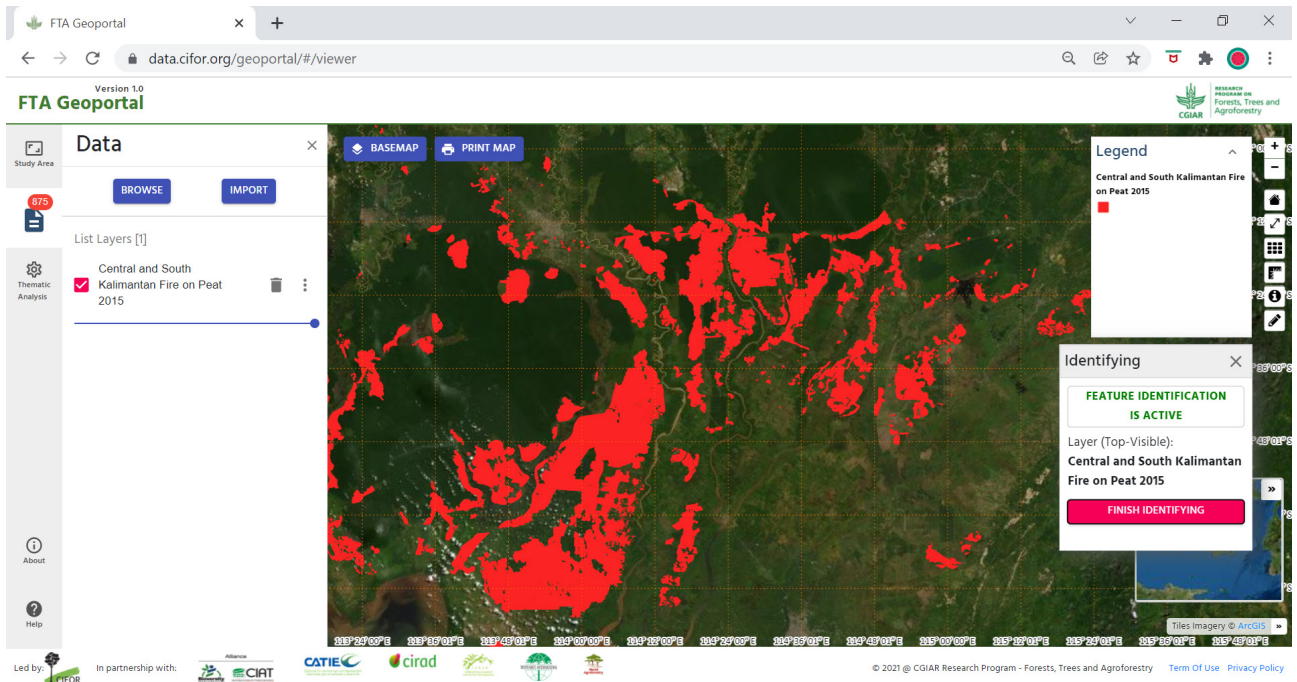


Figure 17 (b). Identify Tool ACTIVE

In active mode, users can find and click on an exact location on a map to gain information about the data for that location, the results will be presented as in **Figure 18**. Please note that the identification works only for the top-visible layer (data) on the map.

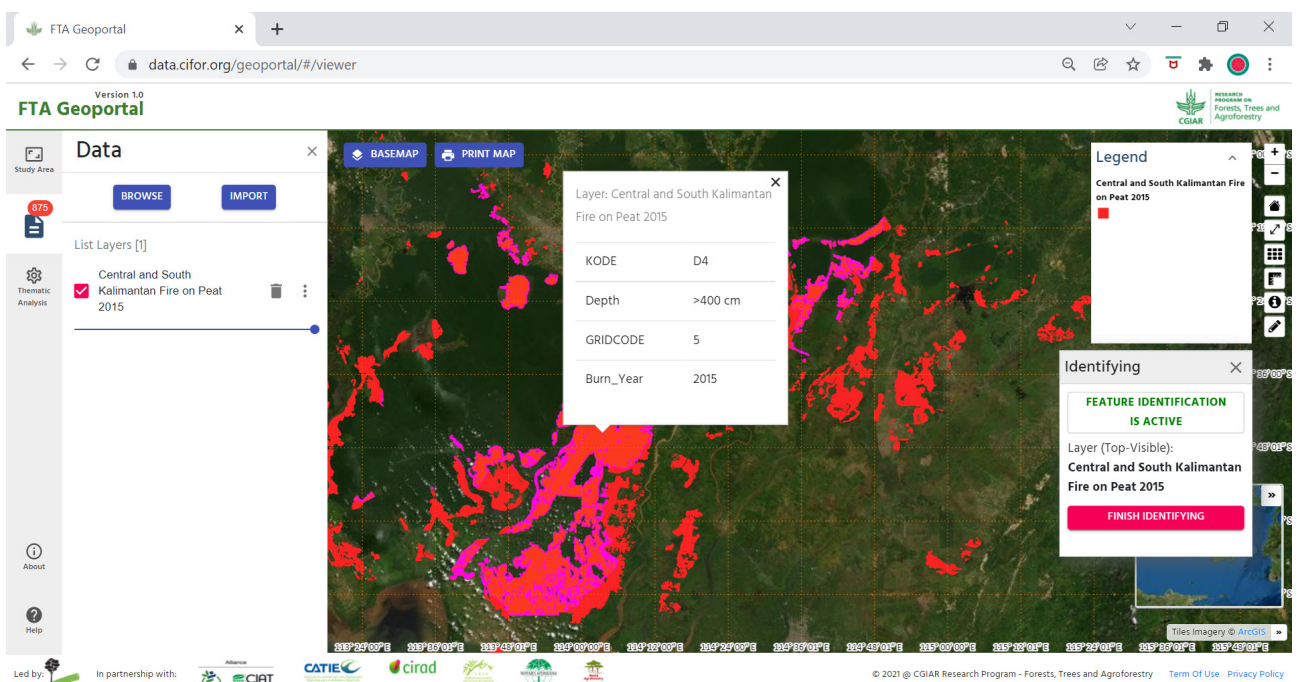



Figure 18. Identification Result

**Draw** objects is another useful tool that allows users to draw objects on the map. This tool helps users to draw points/lines/ areas of interest using the maps as the background. The possibilities and benefits of this tool are endless. Each user, with specific requirements, can use this tool to create their own map(s) combining data available from the geoportal with their own data, plus their own objects.

The user can activate the Draw object tool by clicking on the  button in the map window and open the draw window, (Figure 19 (a)).

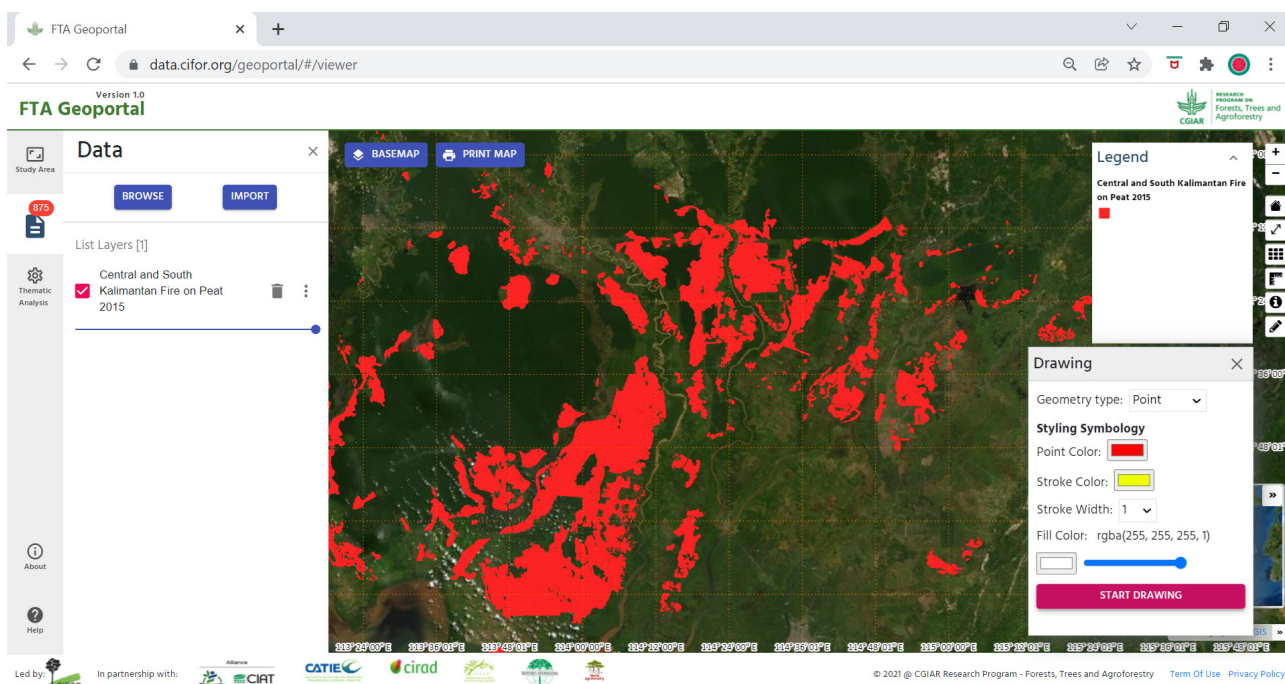


Figure 19 (a). Draw Object Tool NOT ACTIVE

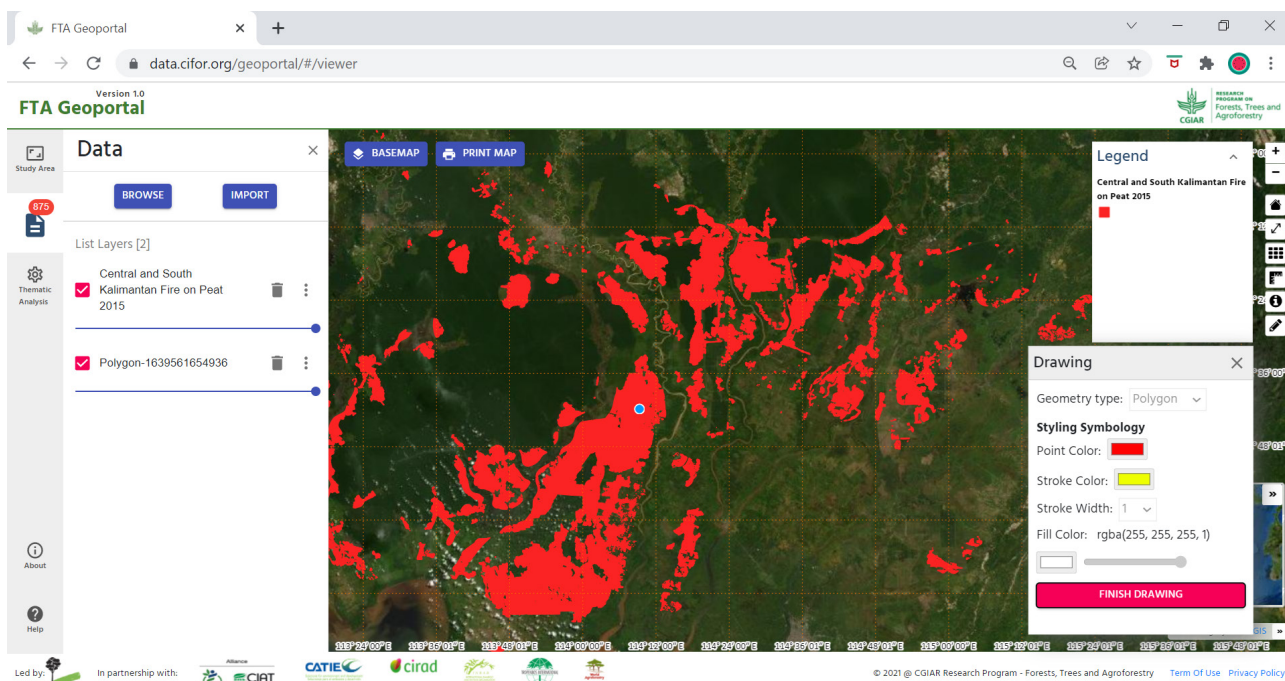
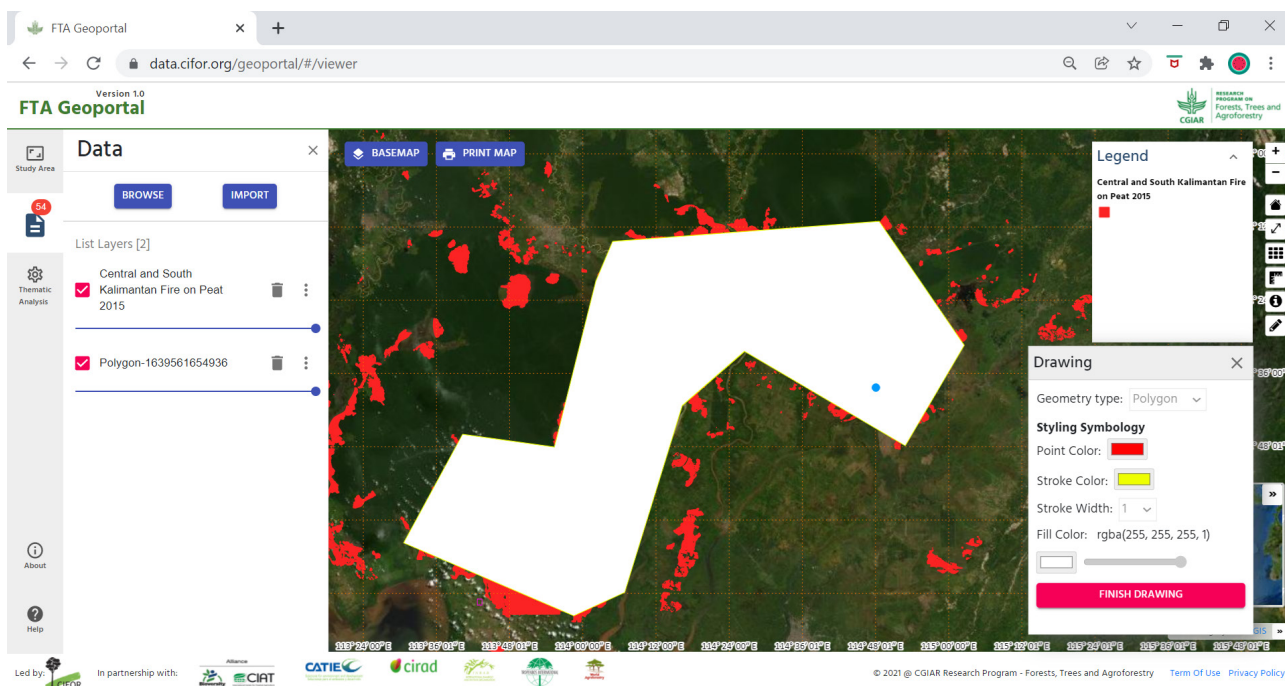


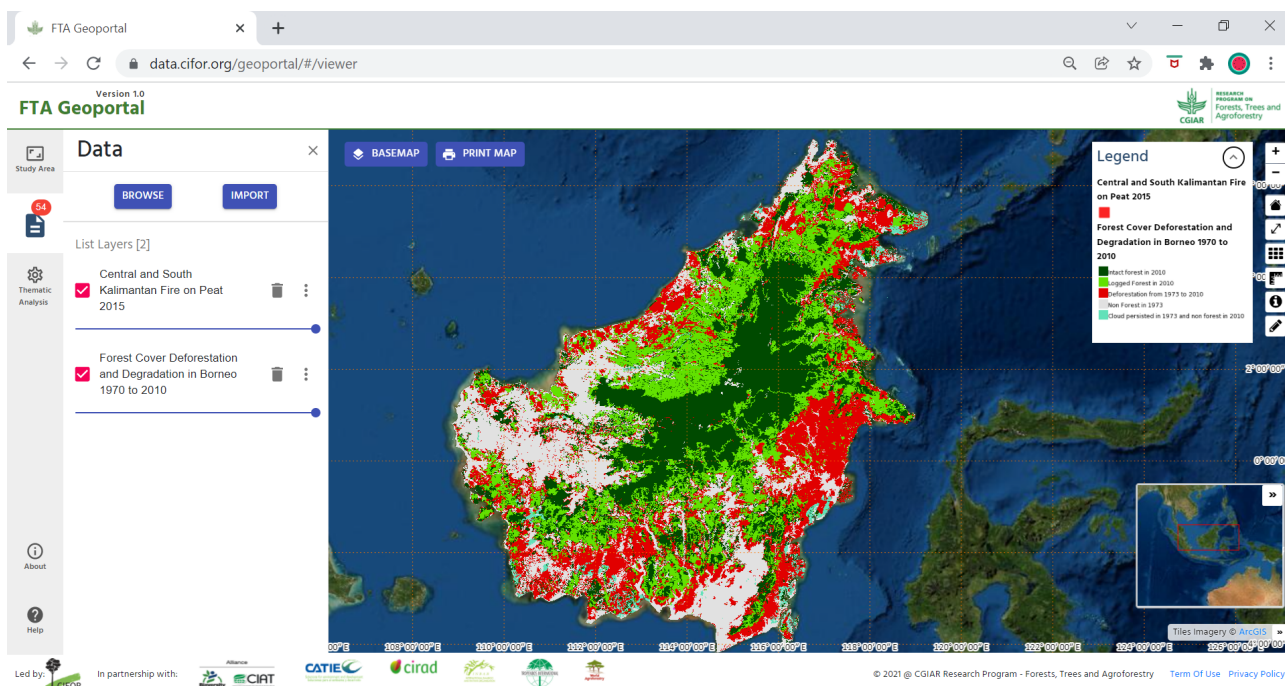
Figure 19 (b). Draw Object Tool ACTIVE

Before starting to draw any object, the users can choose a geometric shape: (1) Points, (2) Lines or (3) Polygons, as well as the style, i.e., fill colour, stroke colour and stroke width as can be found in any GIS application or software. Once the setting is ready, click on the start drawing button, the window will change to that in **Figure 20 (b)** and the users can start drawing objects on the map (**Figure 20**).



**Figure 20. Results of Draw Object**


As on most maps, the legend plays an important part to help spatial data users gain a more comprehensive understanding about the information presented on the maps. When the users open a map(s), the legend is shown as the default of this geoportal. Users can hide the legend by simply clicking the up arrow (v) button next to the legend word, section 2-C (**Figure 21**).



**Figure 21. Map View with the legend ACTIVE**



# PRINT YOUR MAP

Once the users are satisfied with the map they have created, they can print the map on A4 size paper into a pdf or graphic document by simply clicking on the print tab in the window,  Print Map on section 2-B (**Figure 1**). Please be advised that you should manage the map face as you wish it to appear in the printed document and ensure that you put correct information such as Map Title and Map Description on the Print Map window before you print it (**Figure 22**).

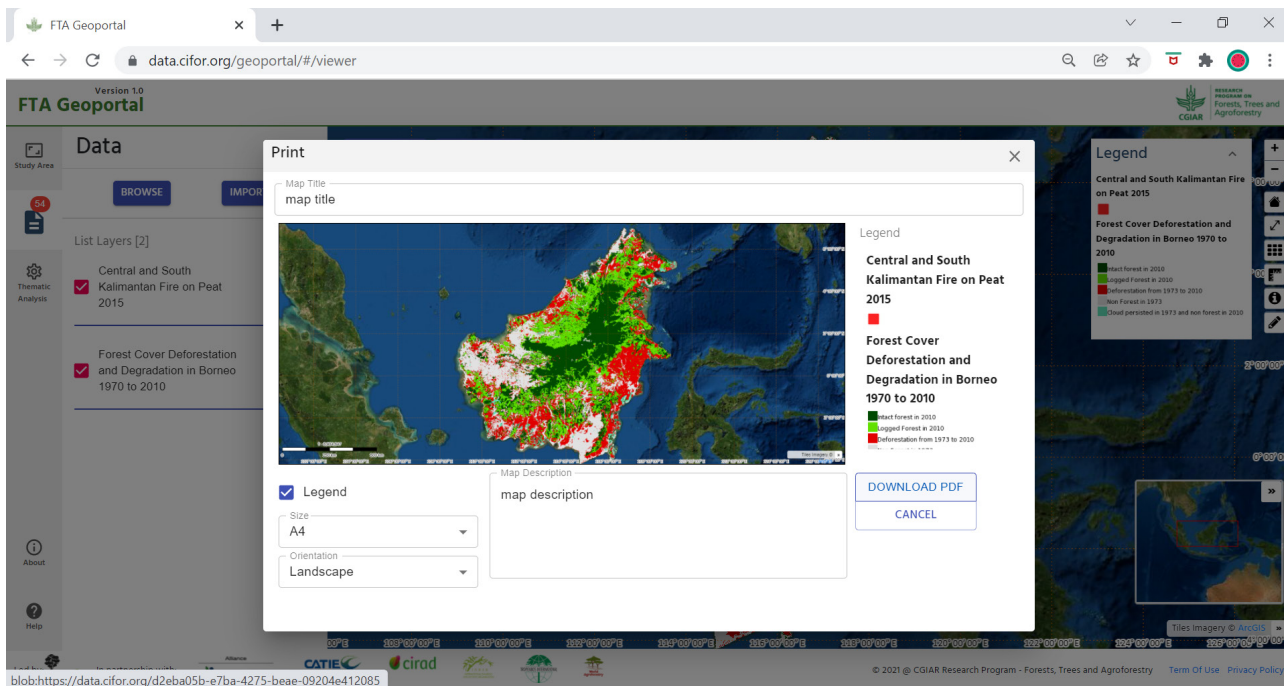



Figure 22. Print Map

Once the print window is open (**Figure 22**), users may select the paper size and orientation of the map. Tick the Legend box to put the legend on the map. When the map is ready, just click on the Download pdf button, and the map will be printed in a pdf format file.

# THEMATIC ANALYSIS MAPS

The geoportal also provides selected predefined analysis maps that you can explore. However, this functionality is currently still marginal. Should you wish to do so, just click on the Analysis button in the geoportal,  Thematic Analysis , section 3-C (Figure 1), to open the window, Figure 23.

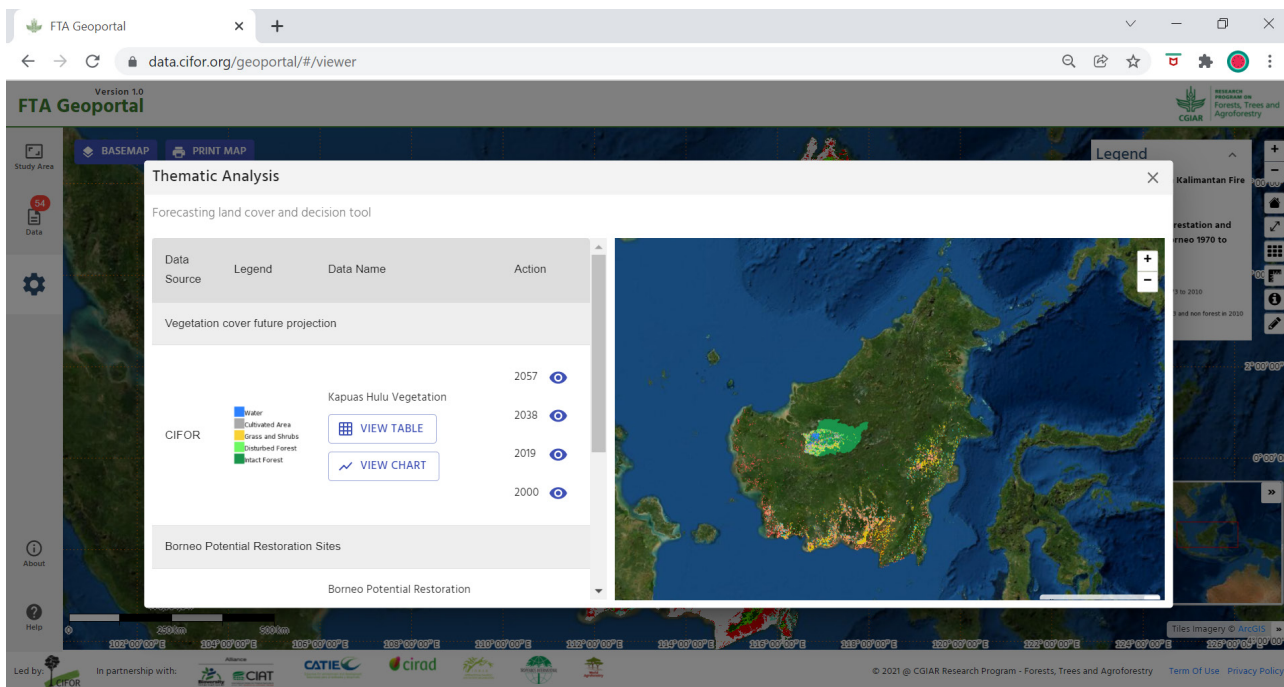


Figure 23. Thematic Analysis Window (map view)

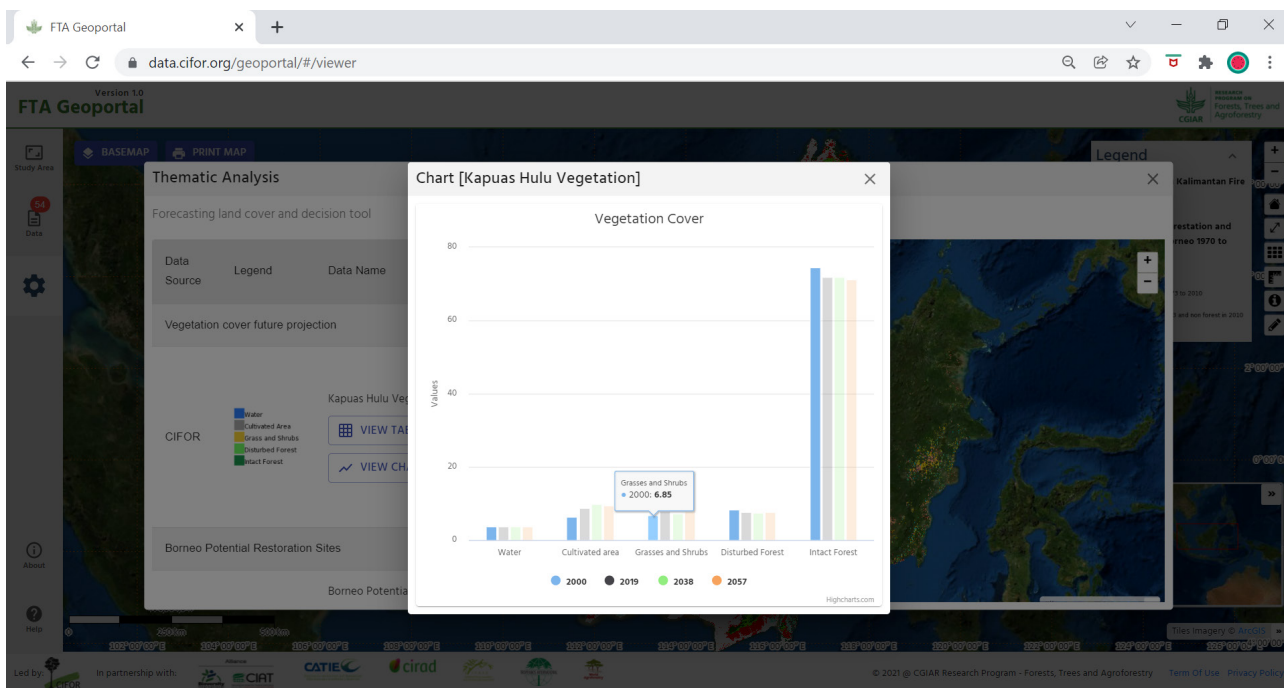


Figure 24. Thematic Analysis Window (statistical chart view)

Users can also use the view table and view chart tools to observe and learn about other information of the map such as statistical graphs (Figure 24) or tabular information (Figure 25).

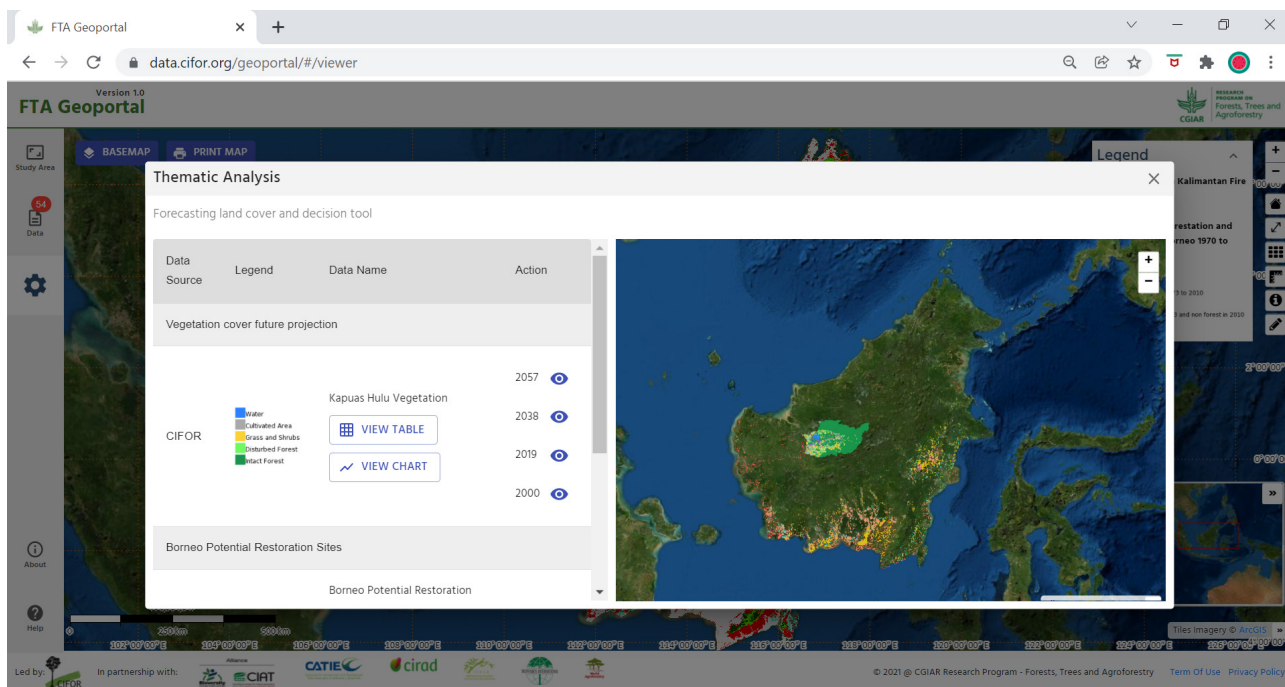


Figure 25. Thematic Analysis Window (tabular chart view)