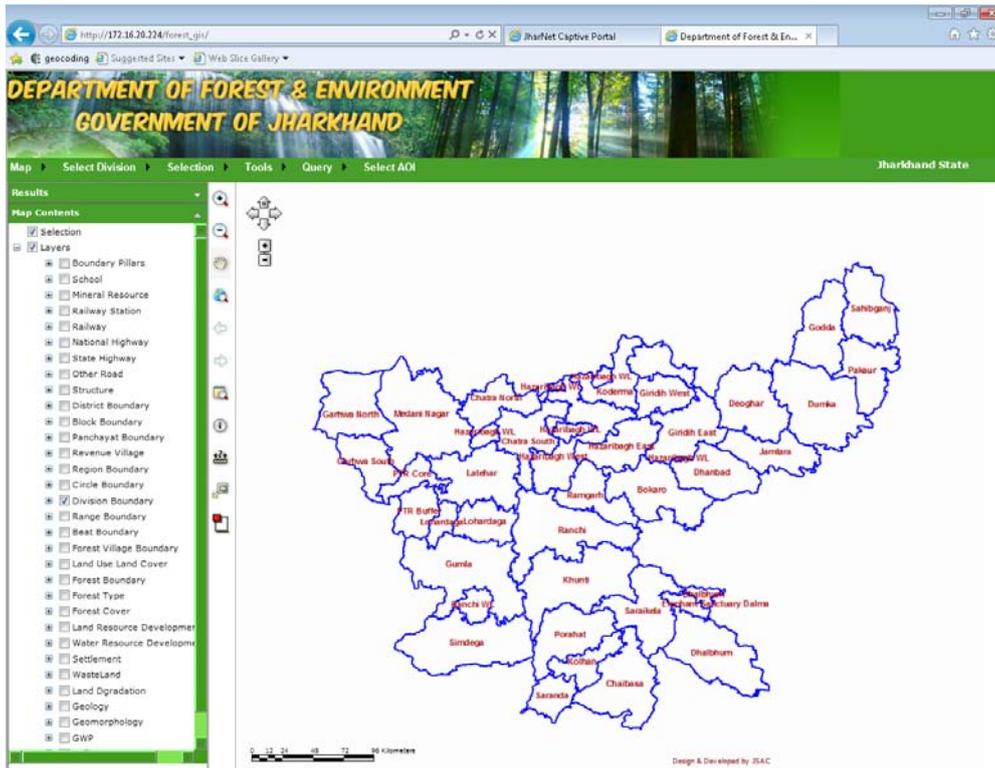


## User Manual for Jharkhand Forest Management Information system

This application requires computer with Jharnet or internet connectivity for the client machine. For best view of this application use Internet explorer 7 or above

- The URL of this application for jharnet user is [http://172.16.20.224/forest\\_gis](http://172.16.20.224/forest_gis)
- The URL of this application for internet user is [http://jsac.jharkhand.gov.in:8082/forest\\_gis](http://jsac.jharkhand.gov.in:8082/forest_gis)

### Home page of the JFMIS



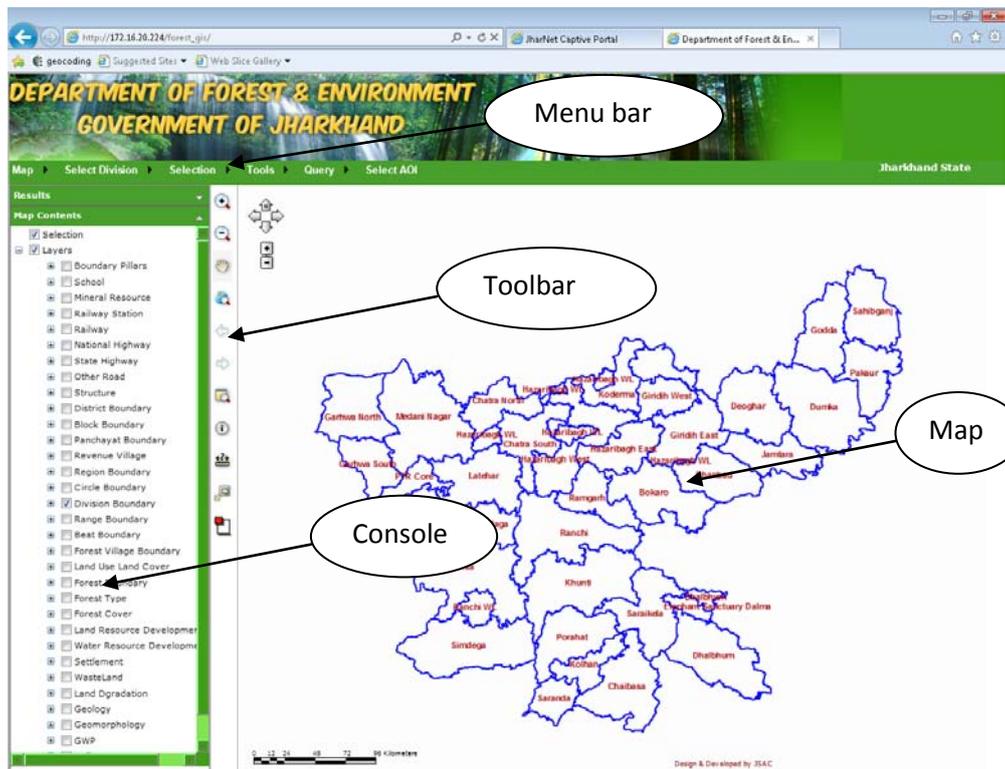
## Getting Started

The JFMIS Application enables you to explore a map and find information useful to you.

### How it works

The JFMIS Application home page has four main parts:

- A menu of tasks for interacting with the map.
  - **Tasks** enable you to find and interact with data. Available tasks are as follows
    - Print
    - Select Division
    - Selection -> Select by attribute, Select by Location and Select by Buffer
    - Tools -> Draw Graphics, Draw Label and Draw Shape
    - Query-> Multilayer search, Lat/Long Search and Predefine Query
    - Select AOI- Select Area of Interest.
  - Results
  - Map Contents
  - Overview
- Map
- GIS Toolbar -> Zoom-In, Zoom-out, Pan, Full extent, Previous extent, Forward Extent, Identify, Measure, etc.
- Console, on the left side of the page, provides information about the map contents and also displays results when added to the Console.



### Working with the Console

- You can resize the area used by the Console by clicking and dragging the divider between the Console and the Map. This allows more room to view either area as you work.
- You can expand and collapse sections as needed. Click the down arrow to expand a Console section

- Click the up arrow in the title of a section to collapse it to its title bar
- The content of the section is hidden but not deleted. Expand the section to see the content again.
- Console sections can be resized in height. To resize a section height, move the cursor to the bottom of the task section, until the up-down arrow appears. Click and hold the left mouse button, and drag the section up or down to resize.

### Working with moveable elements

- Some elements, such as the Measure window and the Magnifier window, may be moved around the page, collapsed and closed. You can arrange these elements to suit your own work.
- To move elements, click and hold with the left mouse button on the title bar of the element. As you hover over the element's title bar, the cursor changes to a four-way arrow, indicating you can move it by clicking and dragging.

Drag the element to the position you want, then release the mouse button.

- If you accidentally move an element outside the visible window, you may move it back by using the browser's scrollbars to scroll the window until the element is visible, then drag it back to the main area of the window.
- To collapse the element, click the up arrow in its upper right corner. The element window collapses to its title bar. To restore it to normal view, click its down-arrow.
- Close a moveable window by clicking the close button in its upper right corner. Most such windows may be re-opened from the appropriate location. For example, the Measure and Magnifier windows may be re-opened from the Toolbar.

### Resizing moveable elements

Some element windows, such as Magnifier, can be resized to show more or less area. To resize, move the mouse over the right or bottom edge of the element window until you see the cursor change to a double arrow. Hold the mouse down and drag the window edge to resize it, then release.

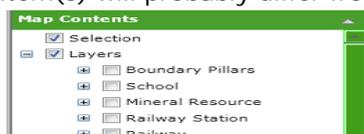
### Working with layers and map contents

A map layer is a type of data shown on the map, such as Division Boundary, Circle Boundary, District Boundary etc.

you can view the list of the contents of the map, turn on and off layers, and examine the symbols for layers.

To examine the map contents:

- In the Console, display the **Map Contents** item, if necessary, by clicking the down arrow for Contents.
- When Map Contents opens, only the top-level content items may be visible. Your content item(s) will probably differ from this graphic.



- Click the plus button **+** next to a content item to display the **layers** within it.
- A **check-box** next to the layer indicates whether the layer is currently turned on.
- If enabled, you can click the check-box next to the layer name to **turn the layer on or off**. The map automatically redraws to reflect the changes in layer visibility.

- Some layers may not be visible at the current map scale (zoom level). These layers are called **scale dependent**. You may need to zoom the map in or out to see a particular layer displayed, even if its check-box is checked to draw.
- If layers have a plus button **+** next to the name, you can expand the layer to display a **legend** for the layer. The legend may display a single symbol or multiple symbols for the layer.



## Identify features on the map

If you want to know about a feature on the map, you can get more information about it using the Identify tool.

1. In the [Toolbar](#), click the Identify button. The button changes to a light background to indicate it is the active tool.
2. Click on the feature you want to identify. An identify icon will be placed on the map at the location clicked. A callout label will also be placed near the location, with the name of the feature found, if any.



3. To view details (attributes) for the feature, click the gray down-arrow at the right side of the callout label. This expands the callout box to show the attributes of the feature, as well as the layer name, and an option to add to results (see below).



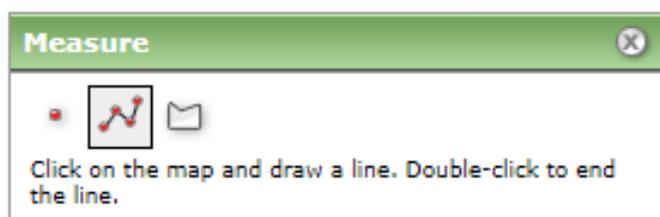
4. Multiple features may be found at the location clicked. To see the other features, hover the cursor over the name of the feature in the identify callout. The name will change to a drop-down list appearance. Click the drop-down arrow to see the other feature names, if any. Click the other feature to see its details in the callout label box.
5. If you want to keep this identify result for later use, click the drop-down button on the right side of the callout label, and choose **Add to Results**. After a few moments, an entry for the location should appear in the **Results** section of the Console. The Location will display the coordinates of the location clicked.
6. To close the identify callout box that appears on the map, click the close button on its upper right. The identify callout will also be dismissed when the map zooms or pans.

## Measure distance and area

You can use the Measure tool to measure distances and areas. To use one of these tools, open the Measure dialog and then use the appropriate tool.

### **a) To open the Measure dialog**

1. In the Toolbar, click the **Measure** icon.
2. This opens the Measure element dialog.

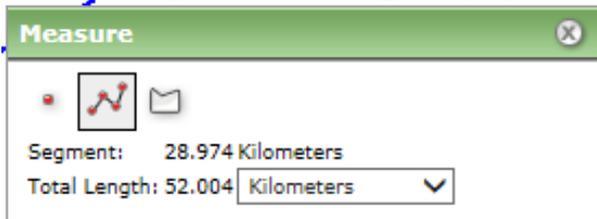


See the instructions below depending on whether you want to measure a line or to measure area. You can also use the point option to find the x,y coordinates of a location on the map.

3. After measuring, you can close the Measure dialog by clicking on its Close icon in the upper right, or by clicking any other tool in the Tools element (Zoom in, Zoom out, Pan, etc.)

### b) To measure a line

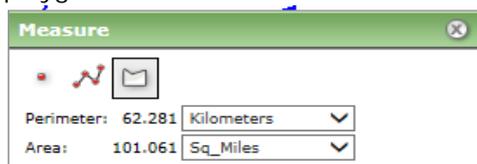
1. In the Measure dialog, click the Line icon. The Line icon is outlined to show it is the active type.
2. Move the cursor to the first point of the line you want to measure, and click the left mouse button. As you move the mouse from this location, you will see the line stretching to the current position. The measure dialog will also begin to display distance.
3. Move the cursor to the second point of the line. If you only want to measure one straight-line segment, double-click at this location. Otherwise click once with the left mouse button.
4. If measuring a line with multiple segments (polyline), continue clicking at vertices to add segments. The length of the previous segment is shown in the **Segment** display in the Measure dialog. The **Total Length** displays the sum of segments added so far.



5. At any point during the measuring, you can change the units for measuring distance by using the drop-down list in the measure dialog. You can also change units after completing the measurement.
6. At the last vertex, double-click to end the line. The **Total Length** displays the length of the line, including all segments if multiple ones were drawn. You can change the units drop-down list to see the same line expressed with different units.
7. To draw a new line, simply click on the map to start the new line. This erases the previous line.
8. To erase the line from the map, click any of the measure type icons in the Measure dialog. If you click any other tool in the Tools element, this will close the Measure dialog, and any line or polygon will also be erased.

### c) To measure area

1. In the Measure dialog, click the Polygon icon. The Polygon icon is outlined to show it is the active type, and the dialog changes to show information on measuring polygons.
2. Set the units for measuring distance. For polygons, the measured area displays in the Area Units, and the perimeter displays in the Distance Units.
3. Click the left mouse button at the first point in the polygon. As you move the mouse from this location, you will see the line stretching to the current position.
4. Click the second point of the polygon. The first segment draws, and the polygon now stretches to the current position from the last point as well as to the initial point. When you click the third point, the measure dialog displays the perimeter and area of the polygon based on the vertices added. The total is updated as you add more vertices.



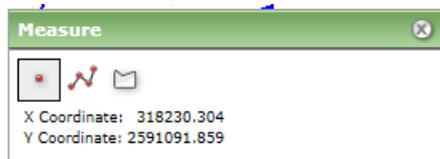
5. Continue adding points (vertices) of the polygon. New vertices add segments connecting to the previous vertex.

6. At the last vertex in the polygon, double-click the mouse. You do not need to click at the original point again. Read the Area and Perimeter from the Measure dialog. You can change the Distance Units to see the same polygon expressed with different units.
7. To draw a new polygon, simply click on the map to start the new polygon. This erases the previous polygon.
8. To erase the polygon from the map, click any of the measure type icons in the Measure dialog. If you click any other tool in the Tools element, this will close the Measure dialog, and any line or polygon will also be erased.

#### d) To find X,Y coordinates

The Measure dialog also allows finding the X,Y coordinates at a point where you click on the map.

1. In the Measure dialog, click on the point symbol.
2. Click on the map. The coordinates at the location you clicked will be displayed in the Measure dialog.



#### Explore the map using the keyboard

You can use keyboard to move around and explore the map. These keys navigate the map **when the mouse cursor is over the map area**.

Map action	Keyboard shortcut	Description
Zoom in	<b>Shift + +</b>	Each click of the plus key (on numeric keypad only) zooms in the map by a fixed amount. Hold the Shift key down and press the Plus key.
Zoom out	<b>Shift + -</b>	Each click of the minus key (on numeric keypad only) zooms out by a fixed amount. Hold the Shift key down and press the Minus key.
Recenter (pan) the map	<div style="text-align: center;"> <p><b>HomeUp</b>                      <b>Page Up</b></p> <p><b>Left</b>                              <b>Right</b></p> <p><b>End</b>   <b>Down</b>                      <b>Page Down</b></p> </div>	These keys move the map a small amount with each click. Arrow keys move vertically or horizontally. Home/End/PageUp/PageDown move diagonally. To use these keys on a numeric keypad, turn off the number lock (Num Lock key).

## Explore the map using the mouse

You can use a mouse or pointing device to move around and explore the map.

Map action	Use this tool...	...and do this
Re-center the map	Navigation element	Located in the upper left corner of the map display. Click and hold on the Navigation image in the direction you want to re-center the map. You can click on any spot on the Navigation image to fine-tune the movement.
	Pan tool 	Click on the Pan tool in the Toolbar, then click and drag the map to move it.
Zoom in	Mouse wheel 	Scroll the mouse wheel forward or up to zoom in. Each wheel click will zoom the map by about 50 percent in width and height.
	Shift+Left mouse 	Hold the Shift key down, then hold the left mouse button down and drag to draw a rectangle. The map will zoom in to the area of the rectangle.
	Zoom in tool 	Click on the zoom-in tool in the Toolbar, then <ul style="list-style-type: none"> <li>Click once on the map: the map will zoom in and recenter the map where you click; <b>OR</b></li> <li>Click and drag to draw a rectangle on the map: the map will zoom in to the area of the rectangle.</li> </ul>
	Zoom-level 	Click the plus button on the zoom level control to zoom in. Some maps may have ticks between the plus and minus buttons, which may be clicked to zoom to a specific scale.
Zoom out	Mouse wheel 	Scroll the mouse wheel backward or down to zoom out. Each wheel click will zoom the map by about 50 percent in width and height.
	Ctrl+Left mouse	Hold the Ctrl key down, then click the left mouse button to zoom out. You can also hold the left mouse button down and drag to draw a rectangle. The map will zoom out so that the current map extent fits into the

		rectangle drawn. The smaller the rectangle, the more the map zooms out.
	Zoom out tool 	Click on the zoom-out tool in the Toolbar, then <ul style="list-style-type: none"> <li>• Click once on the map: the map will zoom out and recenter the map where you click; <b>OR</b></li> <li>• Click and drag to draw a rectangle on the map: the map will zoom out so that the current map area will fit into the rectangle drawn. The smaller the rectangle you draw, the more the map will zoom out.</li> </ul>
	Zoom-level 	Click the minus button on the zoom level control to zoom out. Some maps may have tics between the plus and minus buttons, which may be clicked to zoom to a specific scale.
<b>Zoom out to full map</b>	Zoom full extent 	Click on the full extent image in the Toolbar. The map will zoom all the way out to the full map extent.

### Explore the map Using the Toolbar

The toolbar allows you to interact with the map by clicking on the map with a tool. For example, if you click in the toolbar on the Zoom In tool, then click on the map, the map will zoom in around where you click.

### To use a tool

*Note: Some tools do an action immediately.* These include the Full-extent, Back-extent, Next-extent, and Magnifier tools.

- In the toolbar, click on the tool you want to use.
- Move the cursor over the map. The cursor may change to indicate the tool you are using.
- Click on the map with the left mouse button. *Note:* Some tools work by depressing the mouse and dragging the cursor to draw a rectangle, line or polygon, then releasing the mouse button.
- The results depend on the tool. The map appearance may change, such as zooming in or out. Or the results may appear in the Console's Results section, such as with the Identify tool.

## Tools

Tools in JFMIS website depend on the purpose and use of the application.

Name	Icon	Description
Zoom in		<b>Click and drag a rectangle:</b> Click and hold the left mouse button down on the map at one corner of the rectangle to zoom in to. Drag the mouse to the other corner of the rectangle, and release the mouse button. The map will zoom in to the area of the rectangle.
Zoom out		<b>Click and drag a rectangle:</b> the map will zoom out so that the current map area will fit into the rectangle drawn. The smaller the rectangle you draw, the more the map will zoom out.
Pan (recenter)		<b>Click and drag the map:</b> Click and hold the left mouse button on the map, and drag the map. The map will be recentered, with the location dragged at the location you dropped it.
Full extent		<b>Full extent:</b> Immediately zooms the map out to the area of all features and layers. The active tool does not change.
Previous extent		<b>Previous extent:</b> The map returns to the area displayed previously. Similar to the browser's Back button, but specifically for the map. Up to fifty previous extents are stored when the map is zoomed or panned. If the button is disabled, you are at the original extent in the extent history.
Forward extent		<b>Forward extent:</b> The map displays the next extent in the list of stored map extents. This is only available after the Previous Extent button has been clicked. Up to fifty extents are stored in the extent history. If the button is disabled, you are at the latest extent in the extent history.
Identify		<b>Click to identify:</b> Click with the left mouse button on the map. A small icon is added to the map  and a callout box displays the name of a feature at the location.
Measure		<b>Measure distance or area</b>
Magnifier		<b>Magnify a section of the map.</b>
Overview map		<b>Toggle overview map on/off:</b> Turns the overview map on or off. The overview map displays the main map's extent as a red rectangle within a map that covers a larger extent.

## Printing

The JFMIS application allows you to print the map and the results from search and other operations.

### To print the map and results

1. Zoom or pan the map to the area you wish to print.
2. Optionally, use available tasks to display results in the Results area of the Console.
3. Display the **Print** task dialog by clicking its name in the menu area.
4. In the Print dialog, choose options as desired for printing. Options are:
  - o **Title:** title to display at the top of the print page.
  - o **Print the map:** if checked, the map will be included on the print page.
  - o **Map Size:** set the size of the map. The actual size depends on how the administrator configured the website.

- o **Print table of results for:** if displayed, the listed items may be printed from the Results area. Check the boxes for results items to print.
  - o **Include:** if enabled for your application, you may be able to select whether to include items such as north arrow, scalebar and legend on the printed page.
5. Click **Create Print Page** to generate the print-preview page, which opens in a new window. If the window does not open, check to ensure that any pop-up blockers in your browser are not blocking this website.
  6. In the browser print-preview window, click the browser's Print button, or choose File-Print. From the Print dialog, you may print to any device available on your system.

### Menu Bar Items

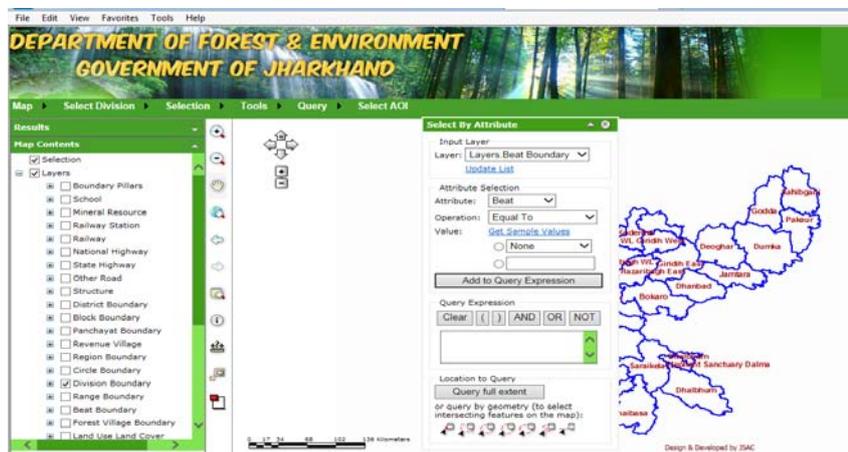
1. Select Division-> Click on Select Division Menu and Select the Division of your choice.



Output



2. Selection-> Select by Attribute (For Query on different Layers using different Operators)



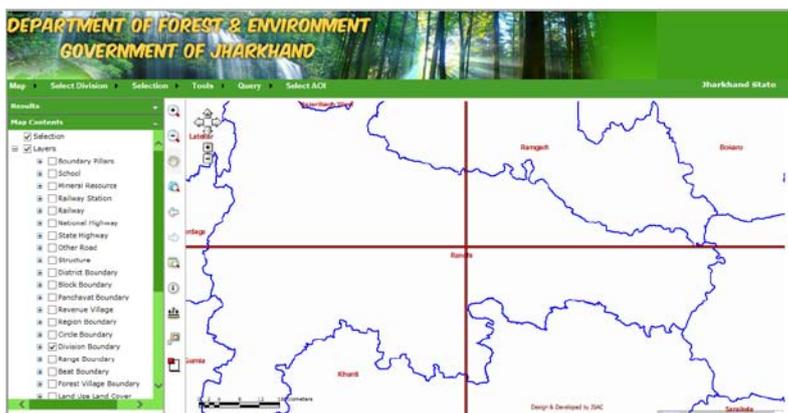
3. Selection-> Select by Buffer(Point, Line, Polygon), User can create buffer using this tool



4. Query->Lat/Long Search(DD,DMS), User can search any area using lat/Long.



### Output



5. Select AOI (Area of Interest) -> User can Select Region, Circle, Division, Range and Beat using this tool

**Area of Interest**

**Region**

**Circle**

**Division**

**Range**

**Beat**

