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About Microlevel Information System on Soils of Kerala (MISSK)

The need for a cadastral level soil resource database is a long felt need for effective implementation of all technologies and agricultural developmental programme at farm level. Keeping in view of the importance of the developing cadastral level information on the soil resources of the state at panchayat level, the Department of Soil Survey and Soil Conservation has developed Microlevel Information System on Soils of Kerala (MISSK). This is the output of Detailed Soil Survey conducted at panchayat level using cadastral maps of scale 1:5000/4000 as base map. The field Survey was carried out by trained and experienced technical Officers of Soil Survey under the supervision of the Senior Level Officers of Soil Survey in the department.

The Microlevel Information System on Soils of Kerala (MISSK) is a web based project developed in GIS Platform by the Department of Soil Survey & Soil Conservation under the technical guidance of the ESRI India.

Objectives of MISSK

- Generation of soil information system consisting of the soil type, depth, slope, erosion status, land capability class, land irrigability class, soil fertility status, soil conservation priority, etc at panchayat level along with the cadastral details.
- Generation of soil and other thematic maps in GIS platform enabling easy retrieval and updation.
- Developing Web Based Micro Level information system on Soils of Kerala so as to enable the users to access all information on soils on survey number basis through internet.
- To help the farmers to manage their land by understanding its potentials and limitations.
- Enabling the planners, administrators and researchers to formulate micro level plans by proper understanding of the status of the resource base of a region.

This document details on the various tools, functionalities and methods to retrieve the information from the website.
MISSK Landing Page

On selecting the district name and the panchayat from the list in the MISSK home page, website will be directed to the MISSK application.

By default landmark names and entity like waterbodies, streams, canals, road railway lines etc. will be displayed for having an overview of panchayat.

24 layers of information available with MISSK can be turned on or off on need basis.

Select Soil Parameters

Select Survey Number
To retrieve information associated with any plot the end user has to just click on the plot. Block number and plot number will be displayed in the pop-up.
Viewing all Soil Parameters
Select the Right Arrow on the pop-up to see the complete soil parameter information in the pop-up

Screen shot shown below lists complete soil parameters of Block 53: Survey plot 406 of Kolazhy Panchayat in Thrissur.
Map Navigation

The Navigation widget provides a comprehensive set of map navigation controls in the MISSK site. It gives the users an easy map navigation experience. It includes all the standard navigation tools that end users expect from a web mapping application. It is usually located on the left side of the web application and appears on top of the map display. It becomes transparent when the cursor is not hovering over a navigation control.
Map Contents

The Layer List widget provides MISSK application end users with the ability to turn map layers on and off. The list of layers that appear in the widget are the operational layers available, which can be controlled by the viewers.

In the MISSK web application, 24 layers of information are available.
Map Search

The Search widget enables end users to search for features in a specific layer in the MISSK web application. The widget provides multiple options to perform a search: By Selecting spatially, by entering attribute (text search) or by attribute selection (using a graphical search tool):

Selecting spatially using graphical tools

Select by attribute entering (text search)
Search Survey Number or Soil Parameters

Search Widget helps the users to search the Survey Number or any Soil Parameter directly.

From the drop-down list of available searchable layers, layer to search can be selected. Associated attributes of the layers also has to be selected from the dropdowns given to complete the selection.

Above screen capture of the search widget shows the Survey plot Number 1, of Block 52 selected from the dropdown.

Note: Same search method is available for Survey Number or any Soil Parameter available in the panchayat database.
Viewing Soil Parameters

Once the Survey plot is selected, soil Parameters need to be viewed can be selected from the Spatial Search tab.

Results

In the following graphic, a spatial search was executed for Soil pH condition on the Survey Plot 406 in Block 53, and 4 features were selected. They are listed in the widget dialog box and highlighted as red polygons on the map display.

Clicking a feature in the list will center it on the map display. In addition, a pop-up will appear for the selected feature showing related attribute data.

Selected features can be removed from the map display in either of the following ways:

- Click the Select features button in the widget dialog > Clear.
- Click the Select by attribute button in the widget dialog > Clear.
Map Notes – Draw Tools

Basic sketching and redlining capabilities are provided to the MISSK application through the Draw widget.

The Draw widget enables end users to draw simple graphics and text onto the map display for the current session. It provides basic sketching and redlining functionality for the MISSK application. It also provides some measurement capability by displaying measurement values (if activated) for drawn features: lengths for lines, and areas and perimeters for polygons.

When the widget is initially activated, the end user is presented with a dialog box that contains nine feature creation tools.
Print Maps

Print widget is enabled for MISSK application end-users to print what-you-see is-what-you-get output, meaning all visible map display is printed.

Soil Map

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