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MINISTRY OF AGRICULTURE

USER'S MANUAL

Ethiopia Agricultural Data Portal

Manual version: 1.0

Website: http://196.189.234.104

Ministry of Agriculture – Ethiopia

Powered by : KUKUNET digital

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KUKUNET digital

Table of contents

Introduction

Welcome to the Ethiopia Agricultural Data Portal. This interactive web platform, developed by the Ministry of Agriculture, is designed to help officials, researchers, and partners visualize and analyze key agricultural data across Ethiopia.

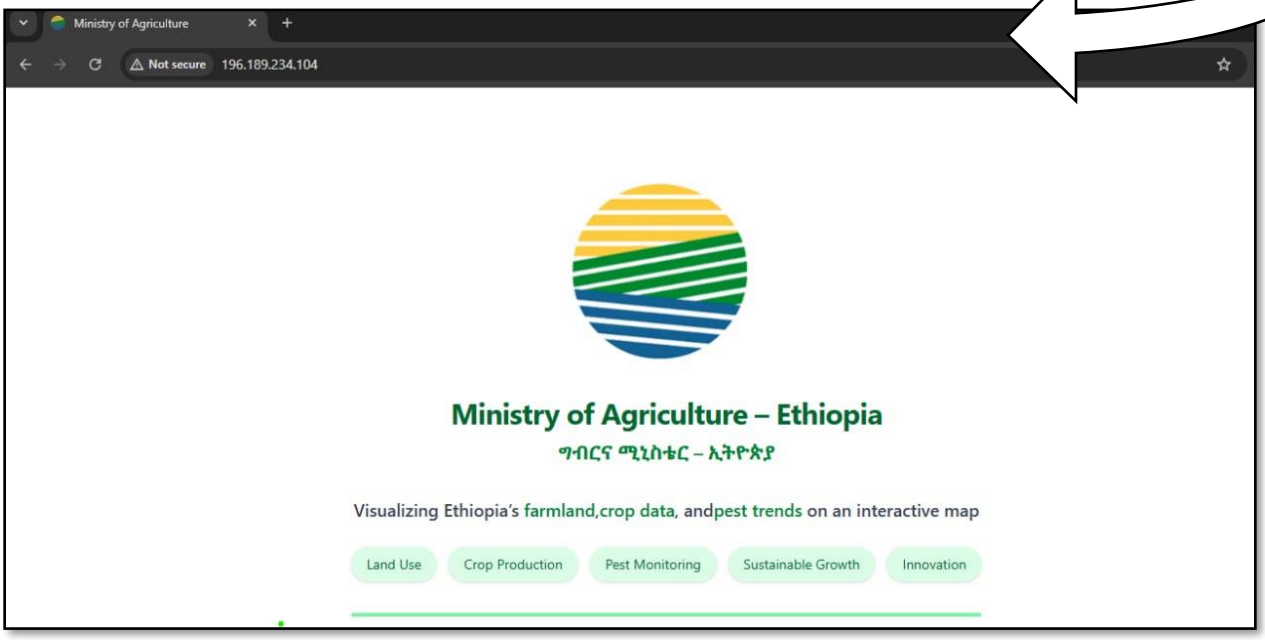
The portal allows you to:

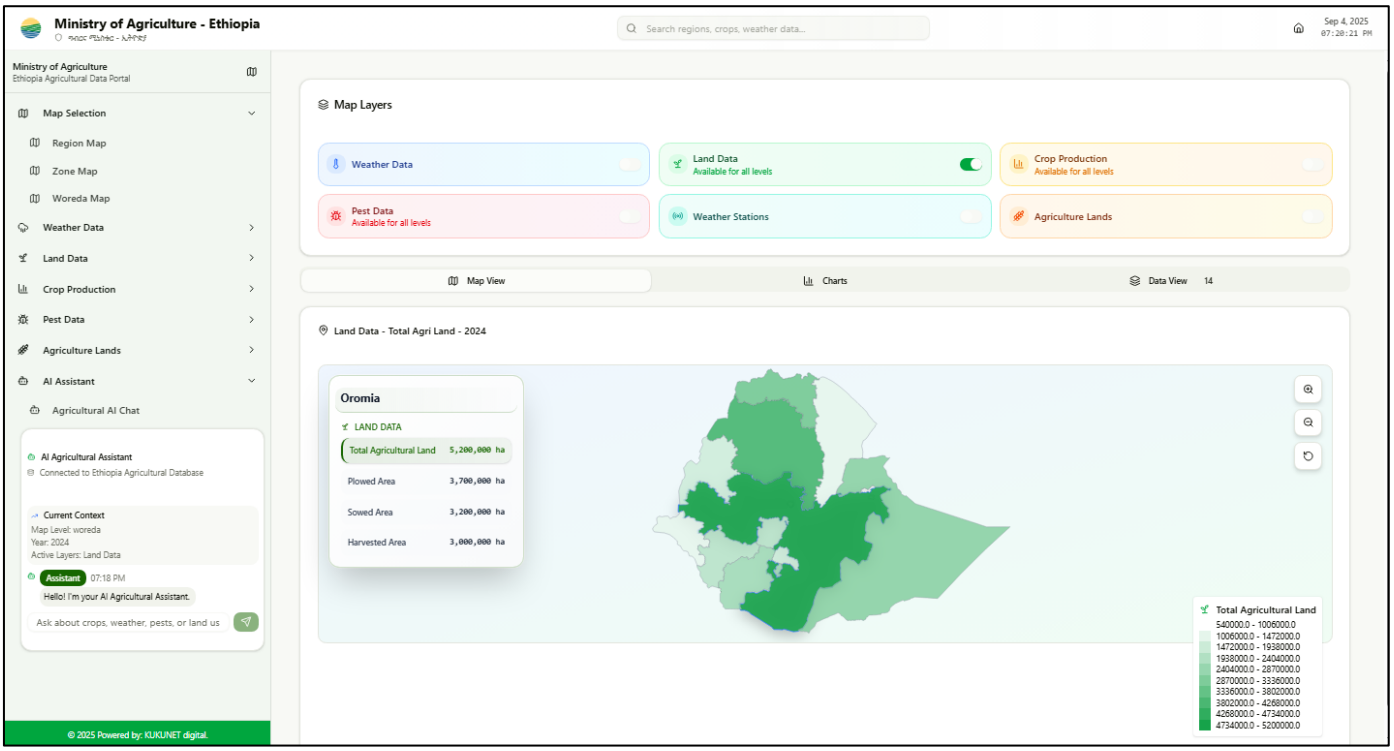
- View an interactive map of Ethiopia's Regions, Zones, and Woredas.
- Display different agricultural data layers on the map, such as weather, land use, crop production, and pest monitoring.
- Generate and export charts (bar, line, pie) based on the data.
- View the raw data used to create the maps and charts.
- Support decision-making for sustainable agricultural growth and innovation.
- This manual will guide you on how to use all these features effectively.

Getting Started

Accessing the Portal:

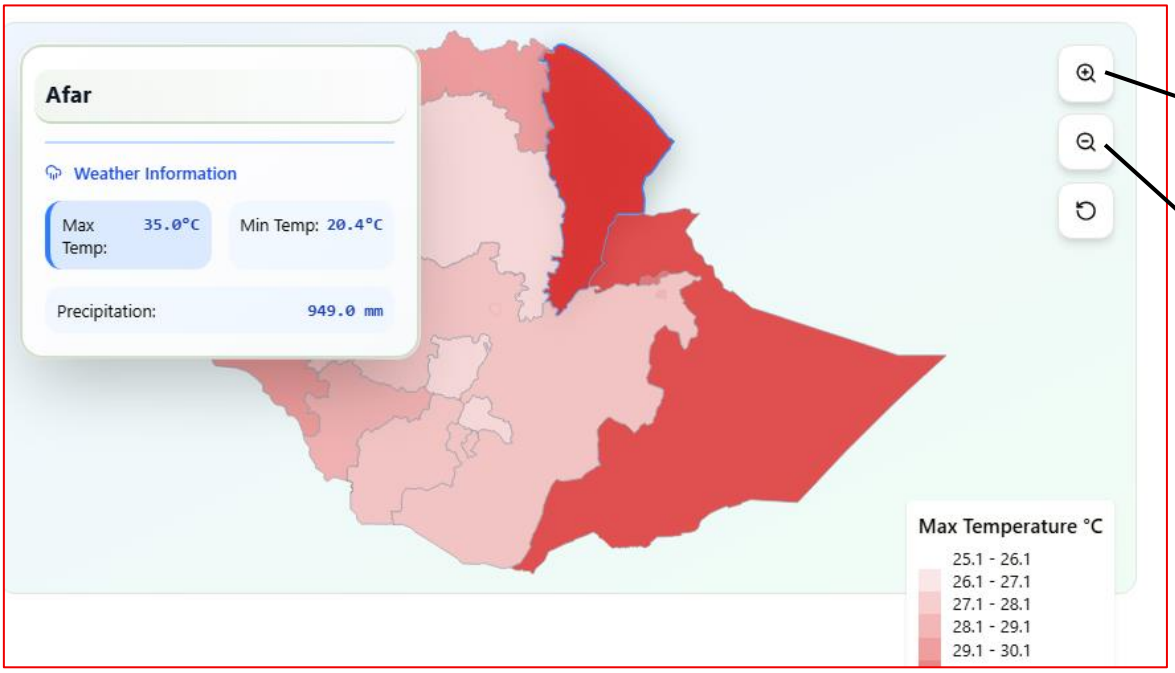
- Open a web browser (like Chrome, Firefox, or Edge).
- In the address bar at the top, type: http://196.189.234.104
- **Press Enter:** The homepage of the Ministry of Agriculture's data portal will load.





Understanding the map

- The main screen is an interactive map of Ethiopia. You can interact with it in the following ways:
- Zoom In/Out: Use the + and - buttons on the map or scroll with your mouse wheel.
- Pan/Move: Click and drag the map to move to a different area.



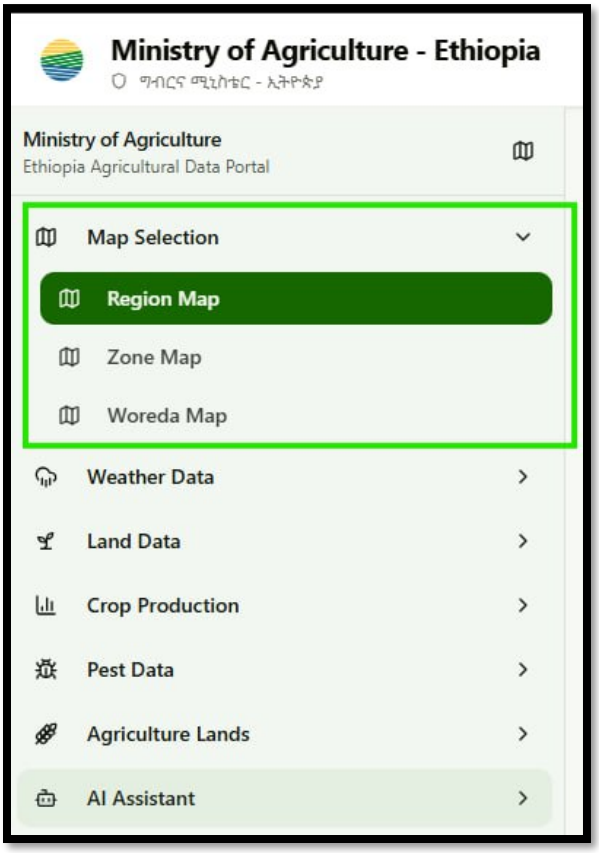
Selecting an Administrative Level

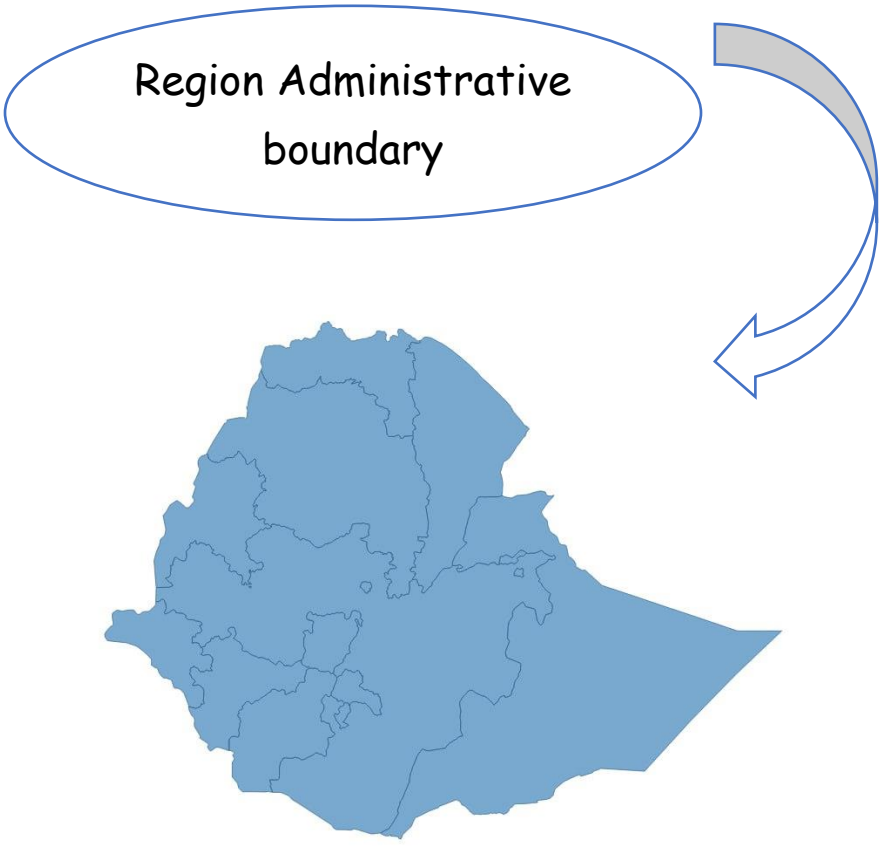
You can choose which administrative boundary to view on the map.

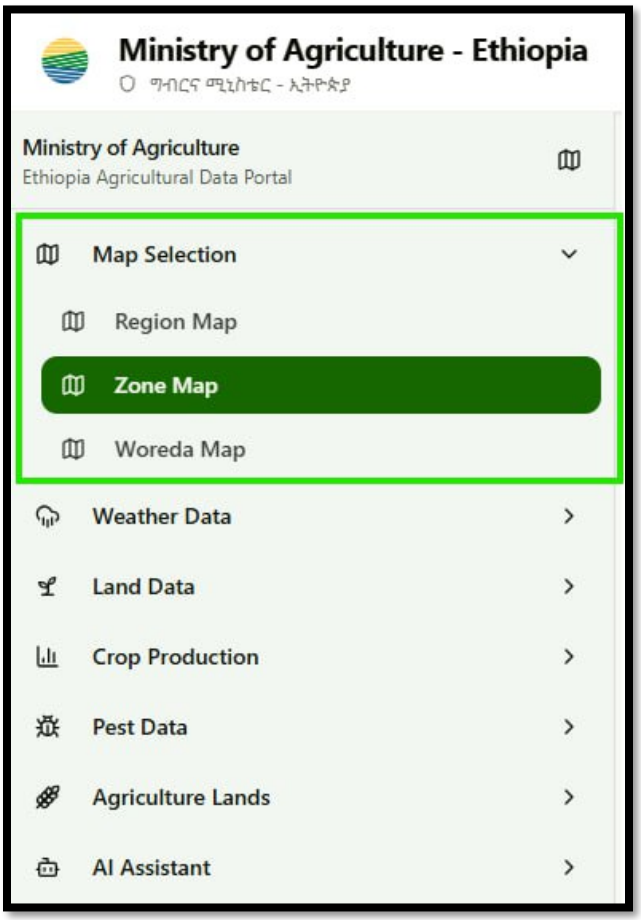
Look for the section titled "Map Selection" or similar.

Click to choose between:

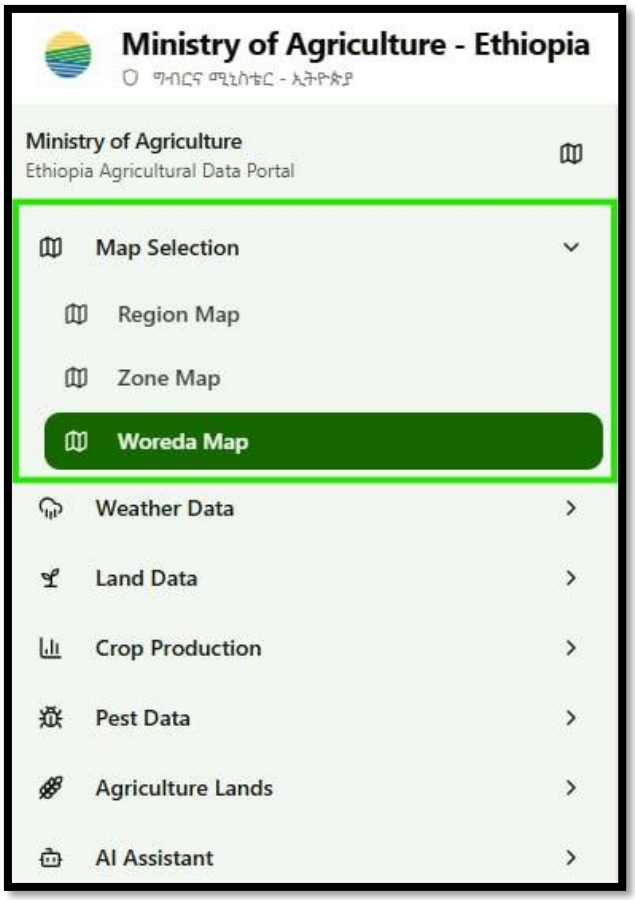
- Region Map Zone Map Woreda Map



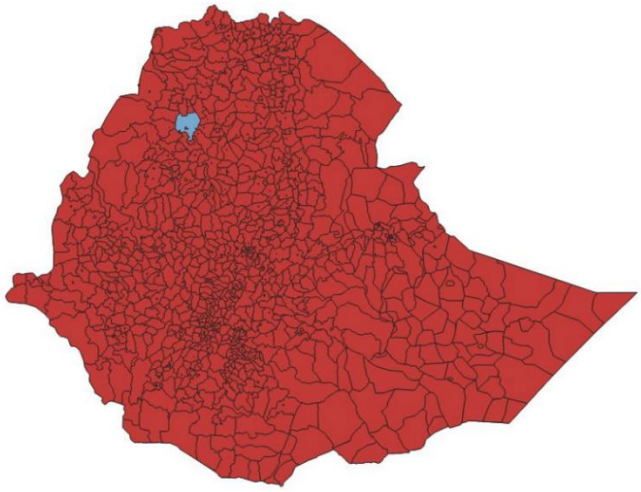




Zone adminstrative boundaries



Woreda adminstrative boundaries



Using the Weather Data Layer

The Weather Data layer allows you to visualize historical weather patterns across Ethiopia. This is useful for understanding climate trends and their impact on agriculture.

- How to Use It: Activate the Layer:
- From the "Map Layers" menu, click on "Weather Data". The map will now be colored based on the default weather settings

Customize the Data Display:

Once the layer is active, a sidebar or a control panel will appear with options to customize exactly what weather data you see on the map.

Select the Year: Use the "Year Selection" dropdown menu. For example, you can choose 2020 to see the weather data for that specific year.

Choose a Weather Parameter: Use the "Parameter" dropdown menu to select what type of weather information you want to see:

- Max Temperature, Min Temperature, Precipitation

Change the Color Scheme:

- Red, Blue, Green, Orange, Purple

Adjust the Color Ranges:

The "Color Ranges" option lets you choose how many different color shades are used on the map (e.g., 6 ranges). More ranges can show more detailed variations in the data.

What Happens:

Each time you make a change (e.g., select a new parameter or year), the map will automatically update to reflect your new selection.

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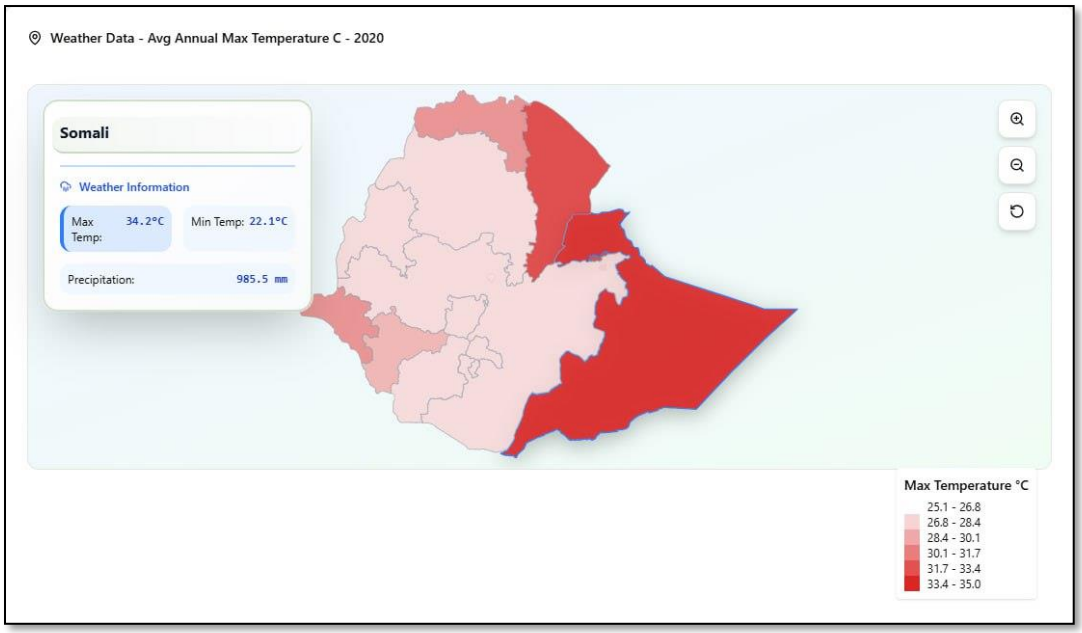
Hover on any specific region on the map (e.g., the Somali region) to see a pop-up box with detailed weather numbers for that exact area, like the maximum and minimum temperature and precipitation levels.



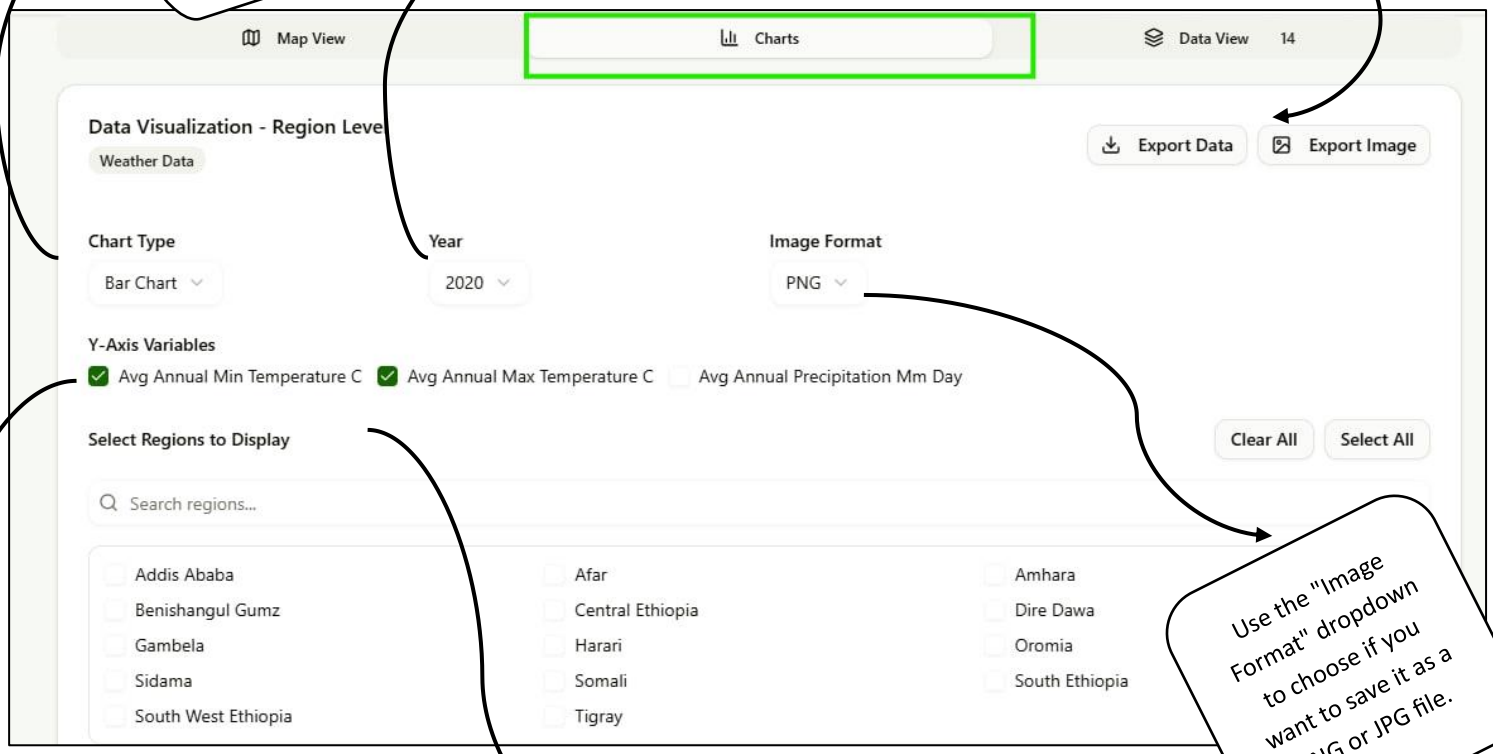
Generating Charts and Viewing Data

The Charts and Data View features allow you to create visual graphs and see the raw numbers behind the map, making it easier to analyze and present the information.

- **How to Use It:** Switch to Chart/Data View:
- Near the map, you will see tabs or buttons for "Map View", "Charts", and "Data View".
- Click on the "Charts" tab to create a graph, or click on "Data View" to see the raw numbers in a table.

For Charts (Creating a Graph):

Click Charts



Choose the type of chart you want from the "Chart Type" menu. You can create: Bar chart, line chart, pie chart, clustered bar

To Choose the Year of data you want to graph from the dropdown menu

Exporting Your Chart:

After the chart is generated, you can download it. Click the Download or Export button to save the image to your computer for use in reports and presentations.

Use the "Image Format" dropdown to choose if you want to save it as a PNG or JPG file.

To Choose What to Graph (Y-Axis Variables): A list of available data will be shown (e.g., Avg Annual Min Temperature C, Avg Annual Max Temperature C). Select one or more variables to include in your chart.

To Select Regions: In the "Select Regions to Display" section, choose the specific regions you want to compare in the chart. You can click on their names or use the search box to find them quickly.

Getting Data by Hovering:

Even on the Map View, you don't always need to click. Simply hover your mouse cursor over any region on the map. A small pop-up box will appear instantly, showing you the key data for that specific area.

Viewing the Raw Data (Data View)

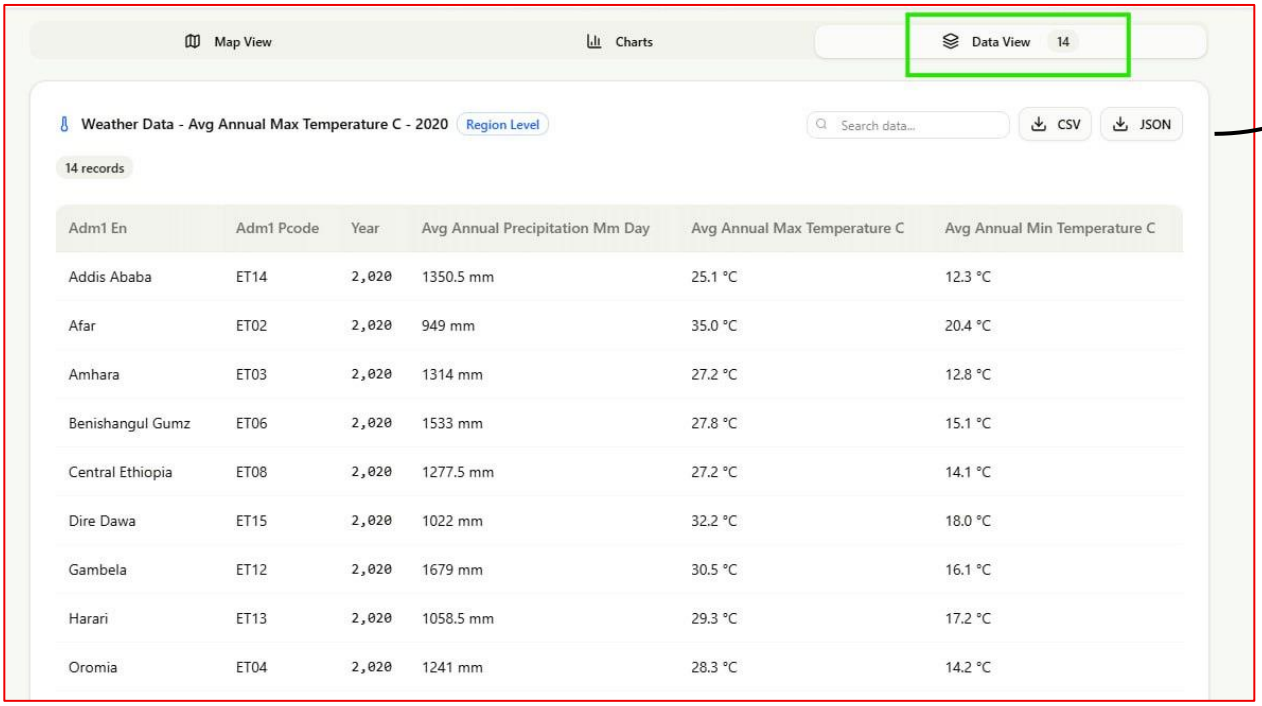
The Data View provides access to the precise numbers behind the maps and charts. This is essential for detailed analysis, record-keeping, and using the data in other applications.

- How to Use It: Access the Data Table:
- Click on the "Data View" tab located near the "Map View" and "Charts" tabs.
- A structured table will load, displaying all the data for the currently selected layer and administrative level (e.g., Region Level).

Download the Data:

Look for an Export or Download button in the Data View section.

You can typically download this data as a JSON file. This file format is useful for developers and analysts who want to import the data into other software systems, databases, or custom programs for further processing



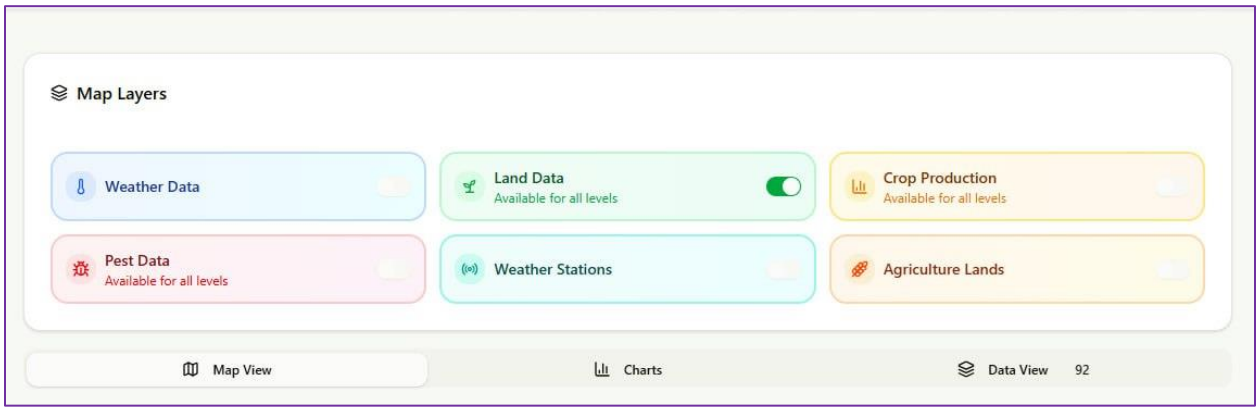
Adm1 En	Adm1 Pcode	Year	Avg Annual Precipitation Mm Day	Avg Annual Max Temperature C	Avg Annual Min Temperature C
Addis Ababa	ET14	2,020	1350.5 mm	25.1 °C	12.3 °C
Afar	ET02	2,020	949 mm	35.0 °C	20.4 °C
Amhara	ET03	2,020	1314 mm	27.2 °C	12.8 °C
Benishangul Gumz	ET06	2,020	1533 mm	27.8 °C	15.1 °C
Central Ethiopia	ET08	2,020	1277.5 mm	27.2 °C	14.1 °C
Dire Dawa	ET15	2,020	1022 mm	32.2 °C	18.0 °C
Gambela	ET12	2,020	1679 mm	30.5 °C	16.1 °C
Harari	ET13	2,020	1058.5 mm	29.3 °C	17.2 °C
Oromia	ET04	2,020	1241 mm	28.3 °C	14.2 °C

Using the Land Data Layer

The Land Data layer allows you to visualize agricultural land use statistics across Ethiopia. This is useful for monitoring farming activity, land preparation, and crop output at various administrative levels.

How to Use It: Activate the Layer:

From the "Map Layers" menu, click on "Land Data". The map will now be colored based on the default



Select the Year:

Use the "Year Selection" dropdown menu. For example, you can choose 2020 to see the land data for that specific year.

Choose a Land Parameter:

Use the "Parameter" dropdown menu to select what type of land use information you want to see:

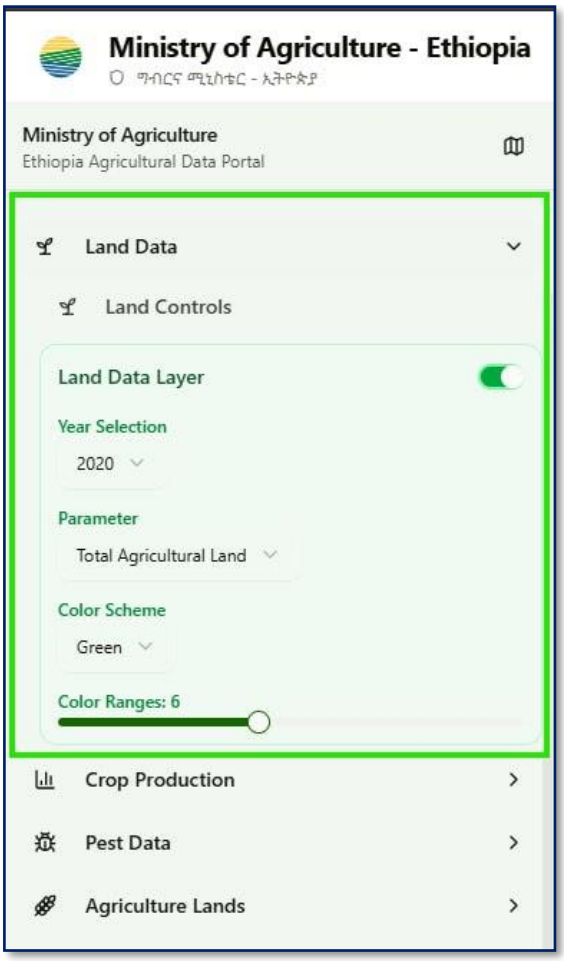
- Total Agricultural Land , Plowed Area
- Sowed Area , Harvested Area

Change the Color Scheme:

red, blue, green, orange, purple

Adjust the Color Ranges:

The "Color Ranges" option lets you choose how many different color shades are used on the map (e.g., 6 ranges). More ranges can show more detailed variations in the data.



What Happens:

Each time you make a change (e.g., select a new parameter or year), the map will automatically update to reflect your new selection.

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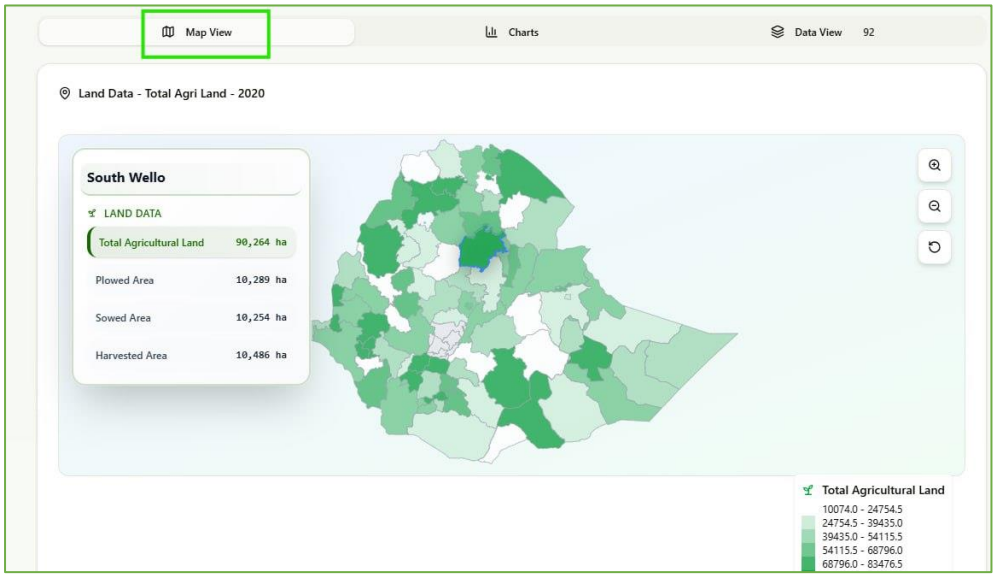
Hover on any specific area on the map (e.g., South Wello zone) to see a pop-up box with detailed land use numbers for that exact area, including Total Agricultural Land, Plowed Area, Sowed Area, and Harvested Area.

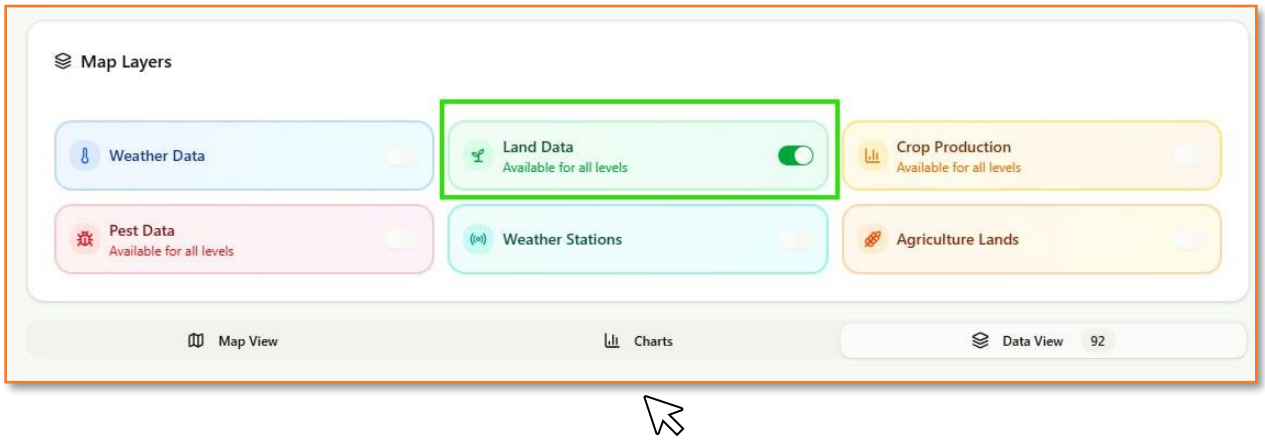


Generating Charts for Land Data (Zone Level)

The Charts feature allows you to create visual comparisons of land use data between different zones. This is useful for analyzing regional performance, planning resource allocation, and presenting findings.

How to Use It: Switch to Chart View:

Click on the "Charts" tab from the main navigation.

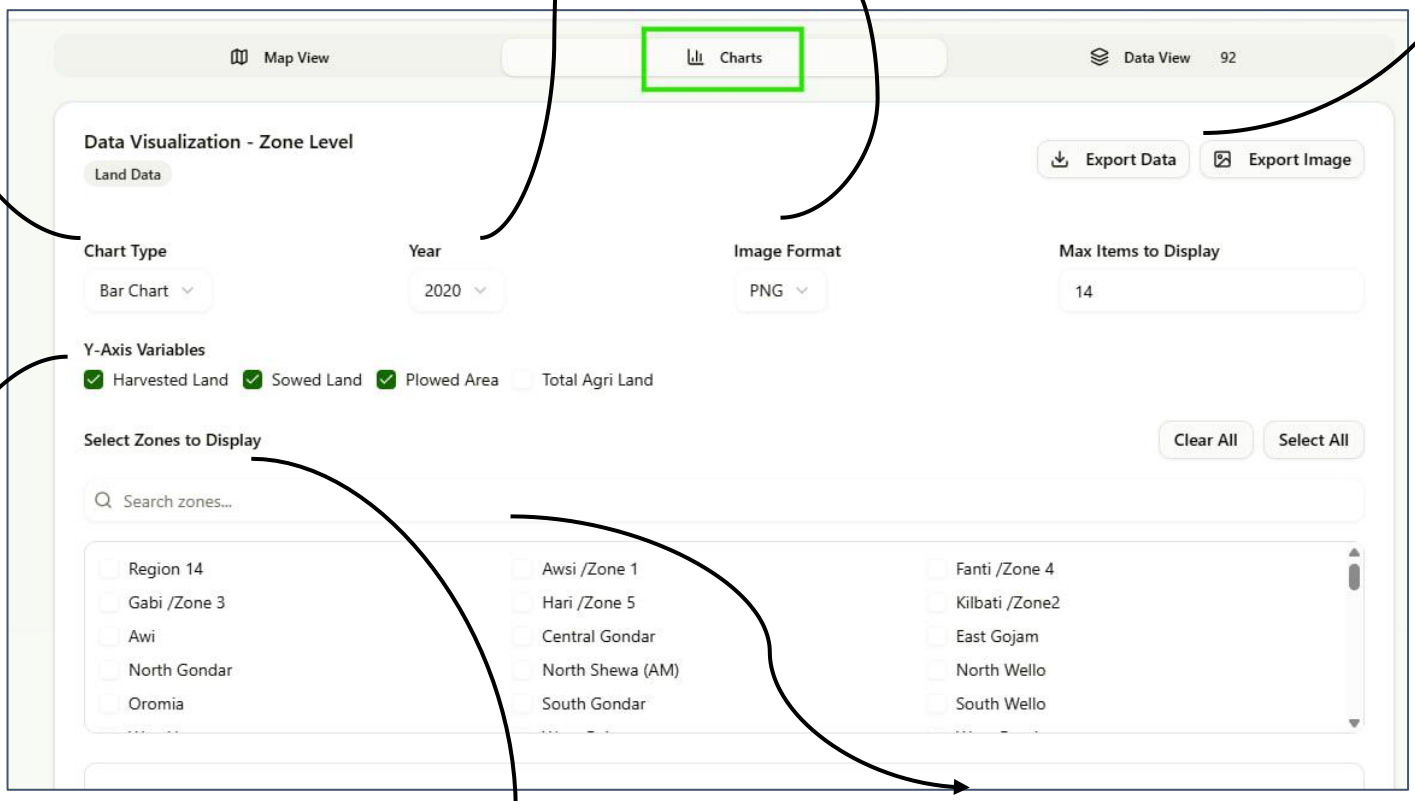


Choose the type of chart you want from the "Chart Type" menu. You can create: Bar chart, line chart, pie chart, clustered bar chart

To Choose the Year of data you want to graph from the dropdown menu

After the chart is generated, use the "Image Format" dropdown to choose PNG or JPG.

Exporting Your Chart: After the chart is generated, you can download it. Click the Download or Export button to save the image to your computer for use in reports and presentations.



Search for zone names using the search bar.

Click on the names of the specific zones you wish to analyze (e.g., South Wello, North Gondar). A checkmark or highlight will appear next to your selections.

Choose What to Graph (Y-Axis Variables):

A list of available land data metrics will be shown. You can select one or more to include on your chart:

Total Agri Land, Plowed Area ,Sowed Land, Harvested Land

Use the "Select Zones to Display" box to choose only the zones you want to compare.

What Happens:

The chart's vertical axis (Y-axis) will show the land area in hectares (ha).

The horizontal axis (X-axis) will list the zones you selected.

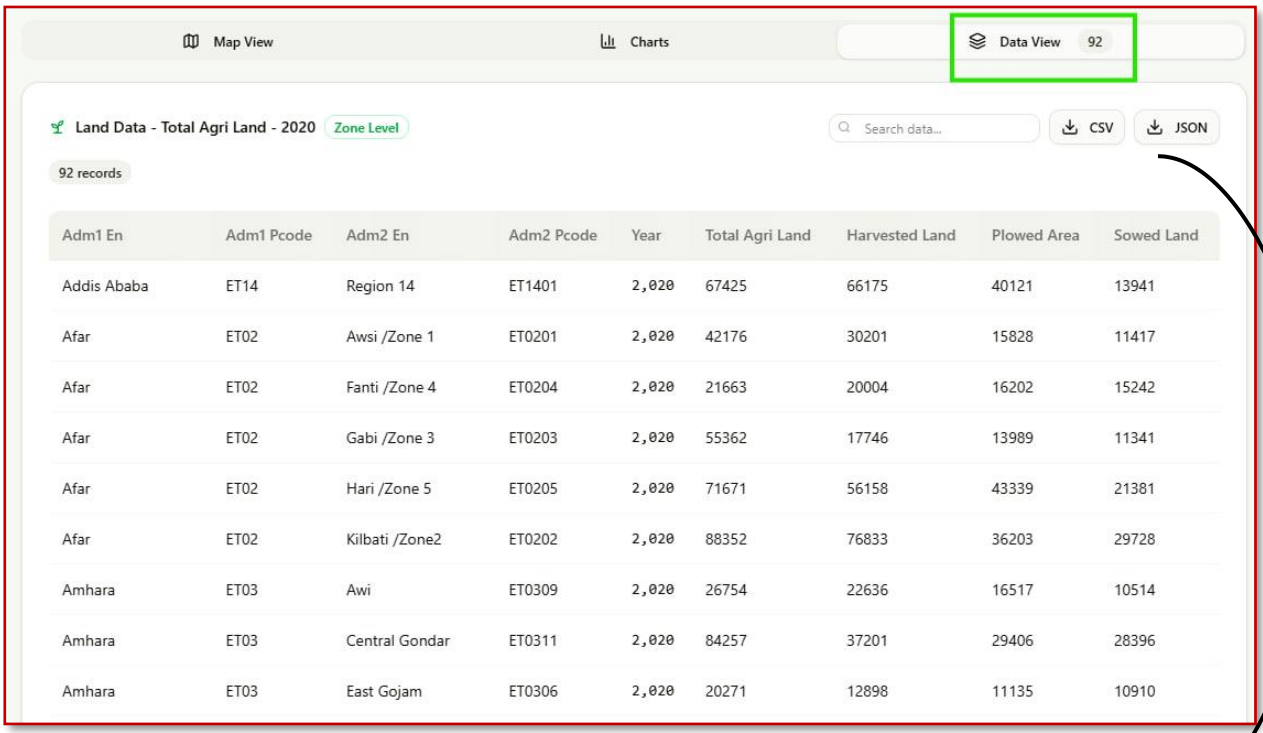
If you selected multiple metrics (e.g., both Sowed Land and Harvested Land), a clustered bar chart will show them side-by-side for each zone, allowing for easy comparison.

You can hover your mouse over any bar on the chart to see a pop-up with the precise value (e.g., "Kilbati /Zone2: Harvested Land 76,833 ha").

Viewing the Raw Land Data (Zone Level - Data View)

The Data View provides the complete, precise dataset for land use at the zone level. This table is your source for the official numbers behind the maps and charts.

- How to Use It: Access the Data Table:
- Click on the "Data View" tab. The system will display a table with all the land data records for zones.



Adm1 En	Adm1 Pcode	Adm2 En	Adm2 Pcode	Year	Total Agri Land	Harvested Land	Plowed Area	Sowed Land
Addis Ababa	ET14	Region 14	ET1401	2,020	67425	66175	40121	13941
Afar	ET02	Awsi /Zone 1	ET0201	2,020	42176	30201	15828	11417
Afar	ET02	Fanti /Zone 4	ET0204	2,020	21663	20004	16202	15242
Afar	ET02	Gabi /Zone 3	ET0203	2,020	55362	17746	13989	11341
Afar	ET02	Hari /Zone 5	ET0205	2,020	71671	56158	43339	21381
Afar	ET02	Kilbati /Zone2	ET0202	2,020	88352	76833	36203	29728
Amhara	ET03	Awi	ET0309	2,020	26754	22636	16517	10514
Amhara	ET03	Central Gondar	ET0311	2,020	84257	37201	29406	28396
Amhara	ET03	East Gojam	ET0306	2,020	20271	12898	11135	10910

Download the Data:

For detailed analysis outside the portal, you can download the entire dataset.

- Click the CSV button to download the data as a spreadsheet file, compatible with Microsoft Excel or Google Sheets.
- Click the JSON button to download the data in a structured format used for software applications and developers.

Using the Crop Production Layer

The Crop Production layer allows you to visualize the harvest output of major crops across Ethiopia. This is useful for analyzing regional production strengths, planning food security strategies, and monitoring national agricultural output.

- How to Use It: Activate the Layer:
- From the "Map Layers" menu, click on "Crop Production". The map will now be colored based on the default crop production settings.

Select the Year: Use the "Year Selection" dropdown menu. For example, you can choose 2020 to see the production data for that specific year.

Choose a Crop and Metric: Use the "Crop Parameter" dropdown menu to select which crop's production information you want to see. The options include:

- Teff Production ,Wheat Production
- Barley Production ,Maize Production

Change the Color Scheme:

red, blue, green, orange, purple

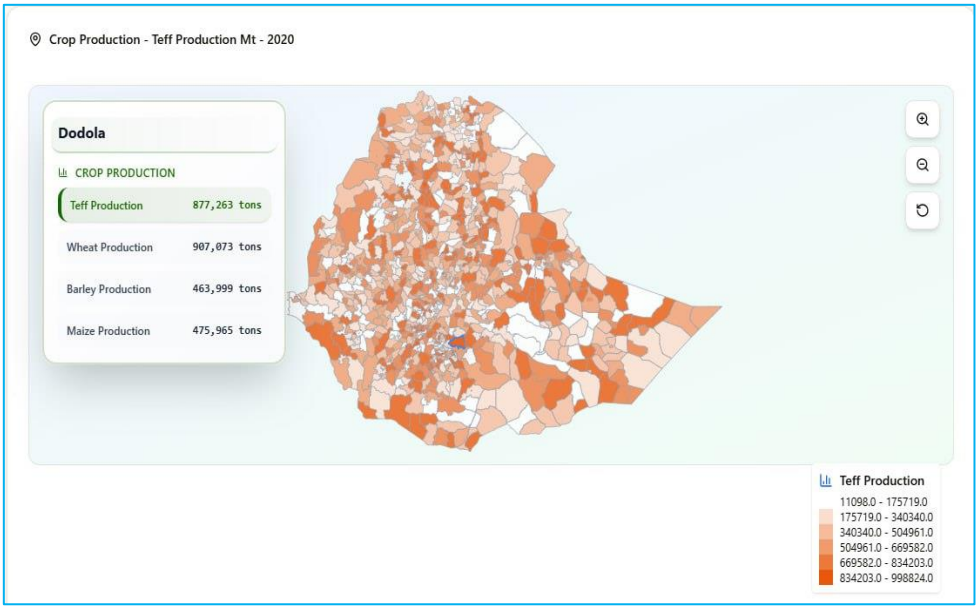
Adjust the Color Ranges:

The "Color Ranges" option lets you choose how many different color shades are used on the map (e.g., 6 ranges). More ranges can show more detailed variations in the data.

What Happens:

Each time you make a change (e.g., select a new crop or year), the map will automatically update to reflect your new selection.

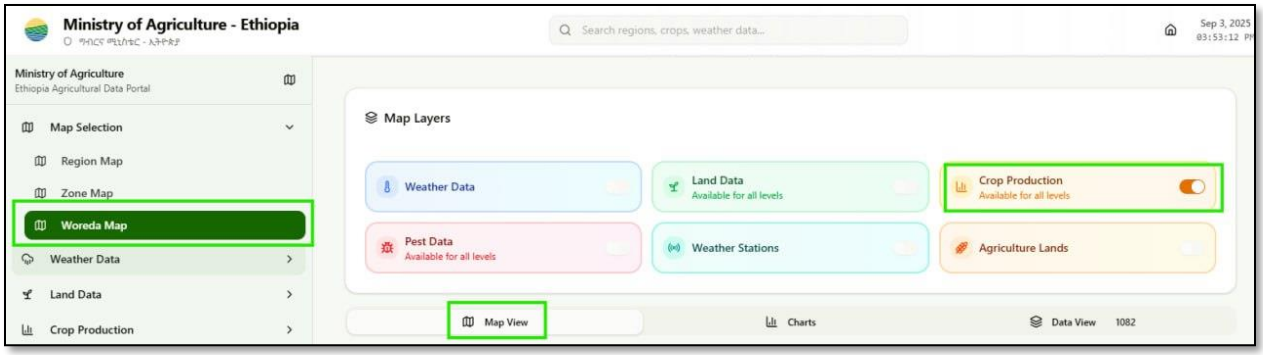
Click on any specific area on the map (e.g., the Dodola woreda) to see a pop-up box with detailed production numbers for that exact area, showing the output for Teff, Wheat, Barley, and Maize



Generating Charts for Crop Data (Woreda Level)

The Charts feature allows you to create visual comparisons of crop production data between different woredas. This is useful for analyzing local production trends and comparing the output of specific areas.

- How to Use It: Switch to Chart View:
- Click on the "Charts" tab from the main navigation.



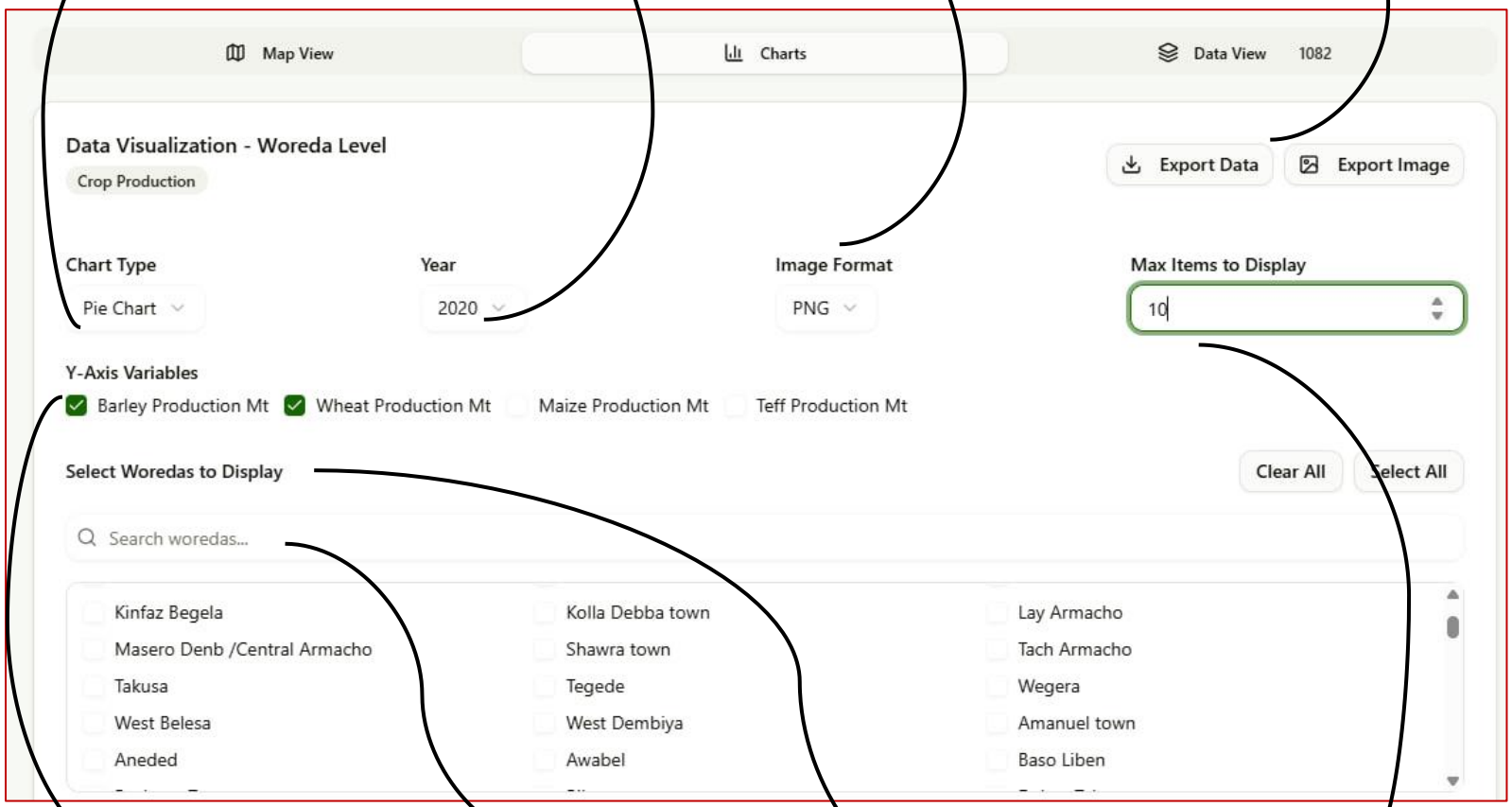
Select Chart Type:

Chart Type: Choose the type of graph. A Pie Chart is excellent for showing the proportion of production contributed by each selected woreda to the total.

Year: Select the Year of data you want to graph (e.g., 2020).

After the chart is generated, use the "Image Format" dropdown to choose PNG or JPG.

Exporting Your Chart: After the chart is generated, you can download it. Click the Download or Export button to save the image to your computer for use in reports and presentations.



Choose What to Graph (Y-Axis Variables):

A list of available crop production metrics will be shown. Select one variable to include on your pie chart (e.g., Barley Production Mt). A pie chart typically shows the distribution of a single metric across multiple woredas.

Search for woreda names using the "Search woredas..." bar.

Click on the names of the specific woredas you wish to analyze. You can also use the "Select All" or "Clear All" buttons to manage your choices quickly.

Use the "Select Woredas to Display" box to choose the woredas you want to compare.

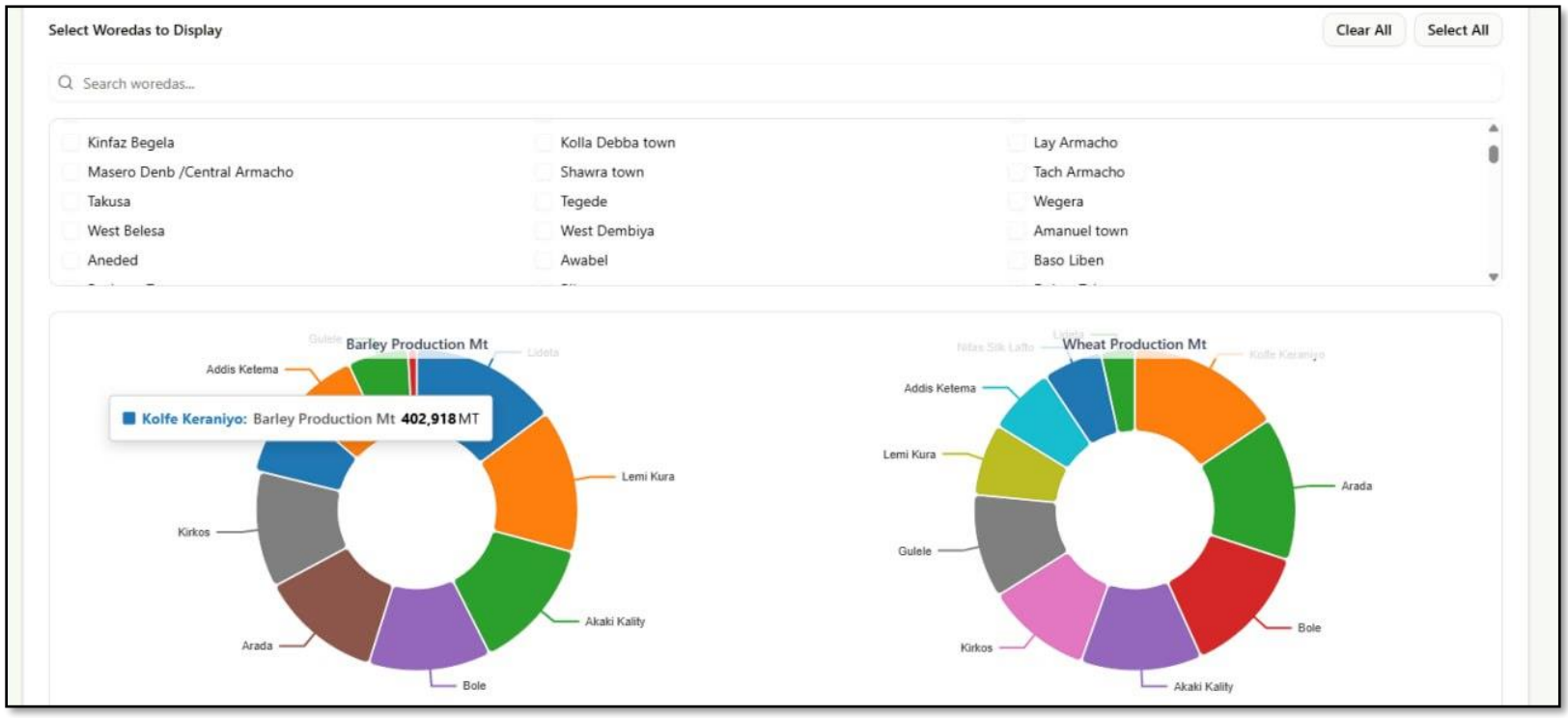
Set a limit (e.g., 10). Even if you select more than 10 woredas, the chart will only show the top 10 based on the production value you selected. This prevents the chart from becoming too crowded with small, hard-to-read slices.

What Happens:

Each slice of the pie represents a different woreda.

The size of each slice corresponds to the amount of crop produced in that woreda compared to the others selected.

You can hover your mouse over any slice on the chart to see a pop-up with the woreda's name and the precise production value (e.g., "Kolfie Karaniye: Barley Production Mt 402,918 MT").



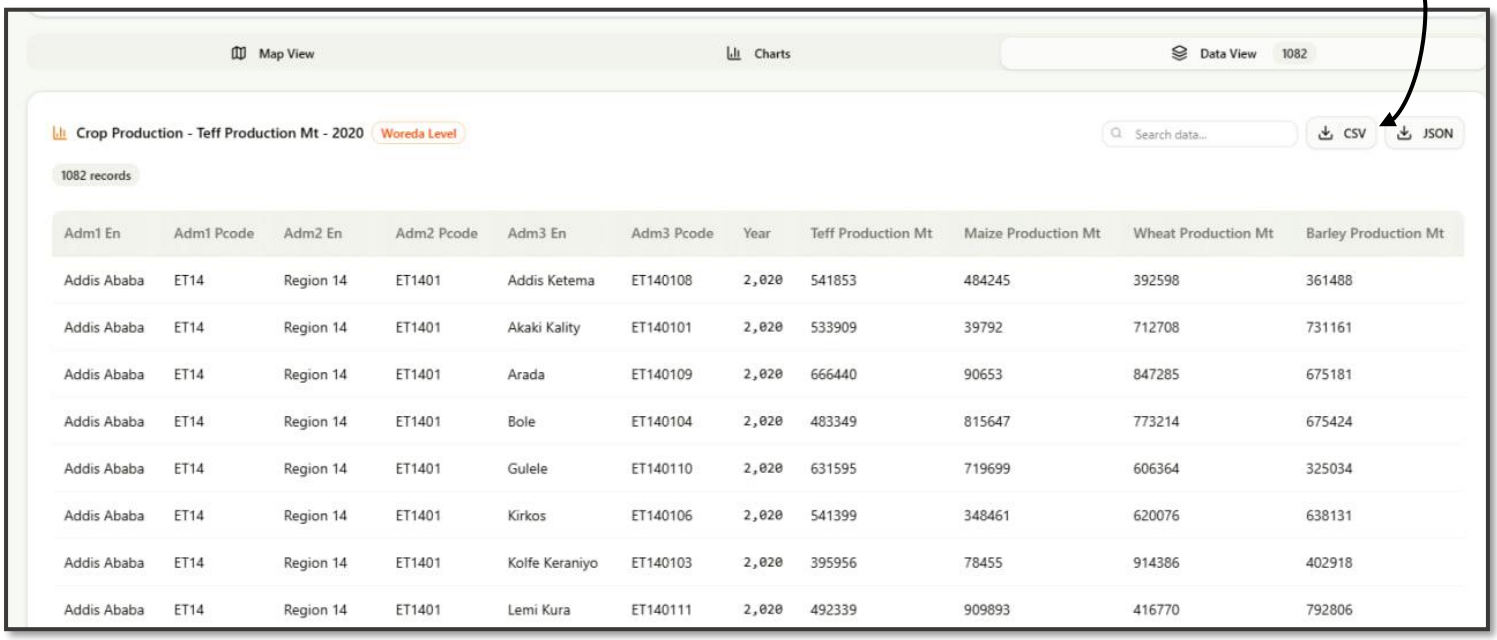
Viewing the Raw Crop Data (Woreda Level - Data View)

The Data View provides the complete, precise dataset for crop production at the woreda level. This table is your source for the official numbers behind the maps and charts, offering the most detailed view available.

- How to Use It: Access the Data Table:
- Click on the "Data View" tab. The system will display a table with all the crop production records for woredas.

To Download the Data:

- Click the CSV button to download the data as a spreadsheet file, perfect for analysis in Microsoft Excel or Google Sheets.
- Click the JSON button to download the data in a format used for software application



Adm1 En	Adm1 Pcode	Adm2 En	Adm2 Pcode	Adm3 En	Adm3 Pcode	Year	Teff Production Mt	Maize Production Mt	Wheat Production Mt	Barley Production Mt
Addis Ababa	ET14	Region 14	ET1401	Addis Ketema	ET140108	2,020	541853	484245	392598	361488
Addis Ababa	ET14	Region 14	ET1401	Akaki Kality	ET140101	2,020	533909	39792	712708	731161
Addis Ababa	ET14	Region 14	ET1401	Arada	ET140109	2,020	666440	90653	847285	675181
Addis Ababa	ET14	Region 14	ET1401	Bole	ET140104	2,020	483349	815647	773214	675424
Addis Ababa	ET14	Region 14	ET1401	Gulele	ET140110	2,020	631595	719699	606364	325034
Addis Ababa	ET14	Region 14	ET1401	Kirkos	ET140106	2,020	541399	348461	620076	638131
Addis Ababa	ET14	Region 14	ET1401	Kolfe Keraniyo	ET140103	2,020	395956	78455	914386	402918
Addis Ababa	ET14	Region 14	ET1401	Lemi Kura	ET140111	2,020	492339	909893	416770	792806

Purpose:

- The Woreda Level Data View is your source for the most granular agricultural production data. You can use it to:
- Get the exact production figures for any woreda in Ethiopia.
- Compare production across different crops within a single woreda.
- Perform detailed analysis and create custom reports using the downloaded data.
- Verify the information presented visually on the map and in charts.

Using the Pest Data Layer

The Pest Data layer allows you to visualize the impact of pests on agriculture across Ethiopia. This is crucial for monitoring outbreaks, assessing damage to crops, and planning pest control strategies.

- How to Use It: Activate the Layer:
- From the "Map Layers" menu, click on "Pest Data". The map will now be colored based on the default pest data settings.

Select the Year: Use the "Year Selection" dropdown menu. For example, you can choose 2020 to see the pest data for that specific year.

Choose a Pest Parameter: Use the "Pest Parameter" dropdown menu to select what type of pest impact information you want to see:

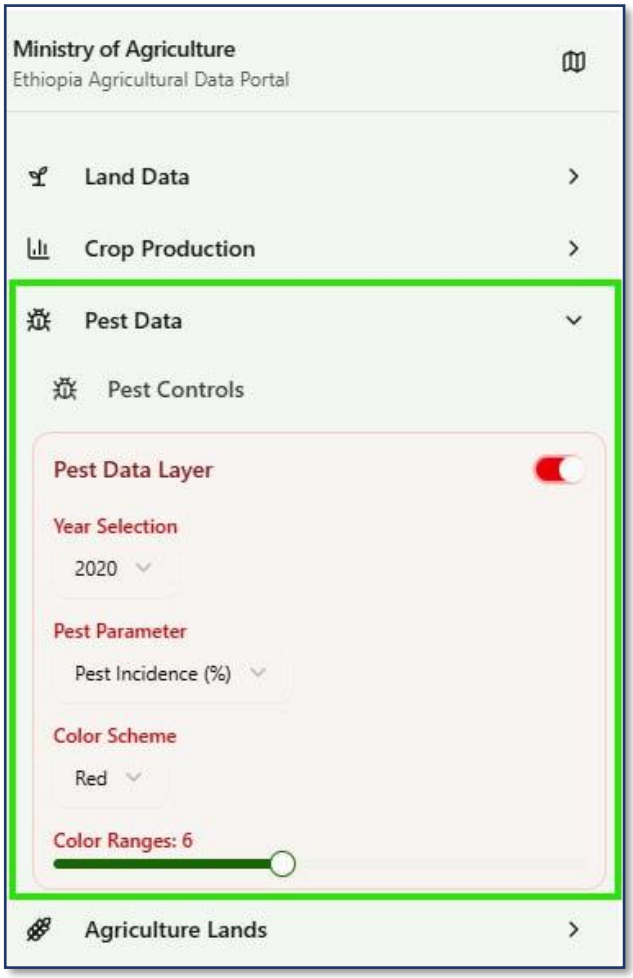
- Pest Incidence (%), Affected Area
- Crop Loss , Pest Control Cost

Change the Color Scheme:

red, blue, green, orange, purple

Adjust the Color Ranges:

The "Color Ranges" option lets you choose how many different color shades are used on the map (e.g., 6 ranges). More ranges can show more detailed variations in the data.

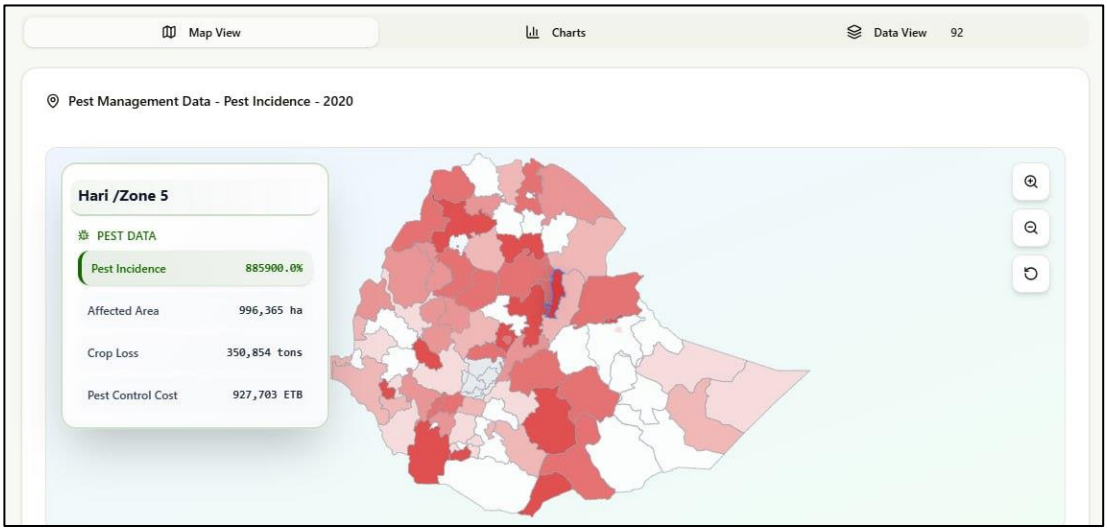


What Happens:

Each time you make a change (e.g., select a new parameter or year), the map will automatically update to reflect your new selection.

The legend on the map will also update to show what each color represents.

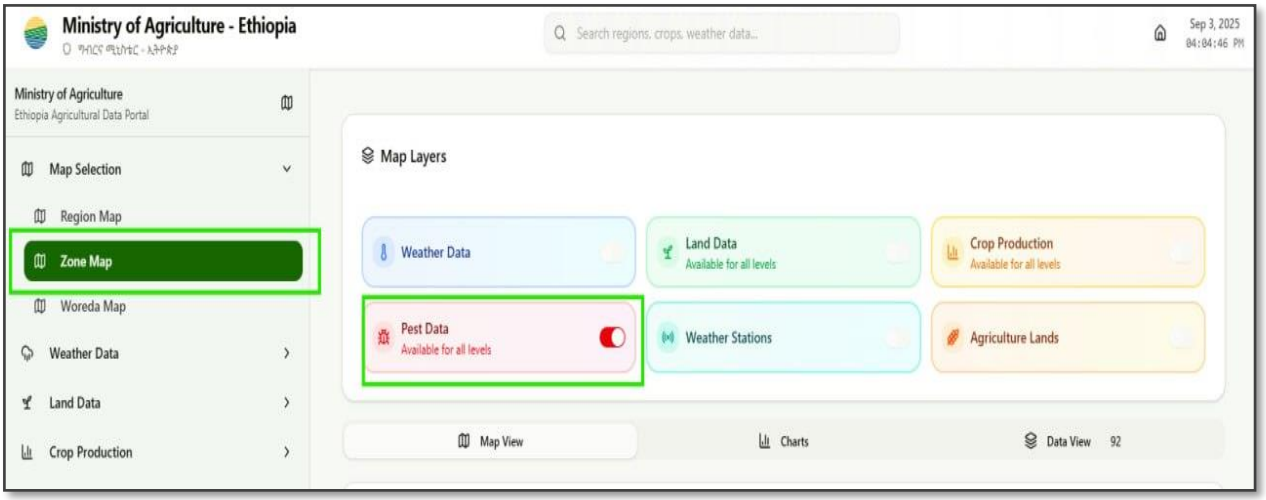
Click on any specific area on the map (e.g., Hari /Zone 5) to see a pop-up box with detailed pest impact numbers for that exact area, including Pest Incidence, Affected Area, Crop Loss, and Pest Control Cost.



Generating Charts for Pest Data (Zone Level)

The Charts feature allows you to create visual comparisons of pest impact data between different zones. This helps in identifying high-risk areas, analyzing the economic impact of pests, and evaluating the effectiveness of control measures.

- How to Use It: Switch to Chart View:
- Click on the "Charts" tab from the main navigation.

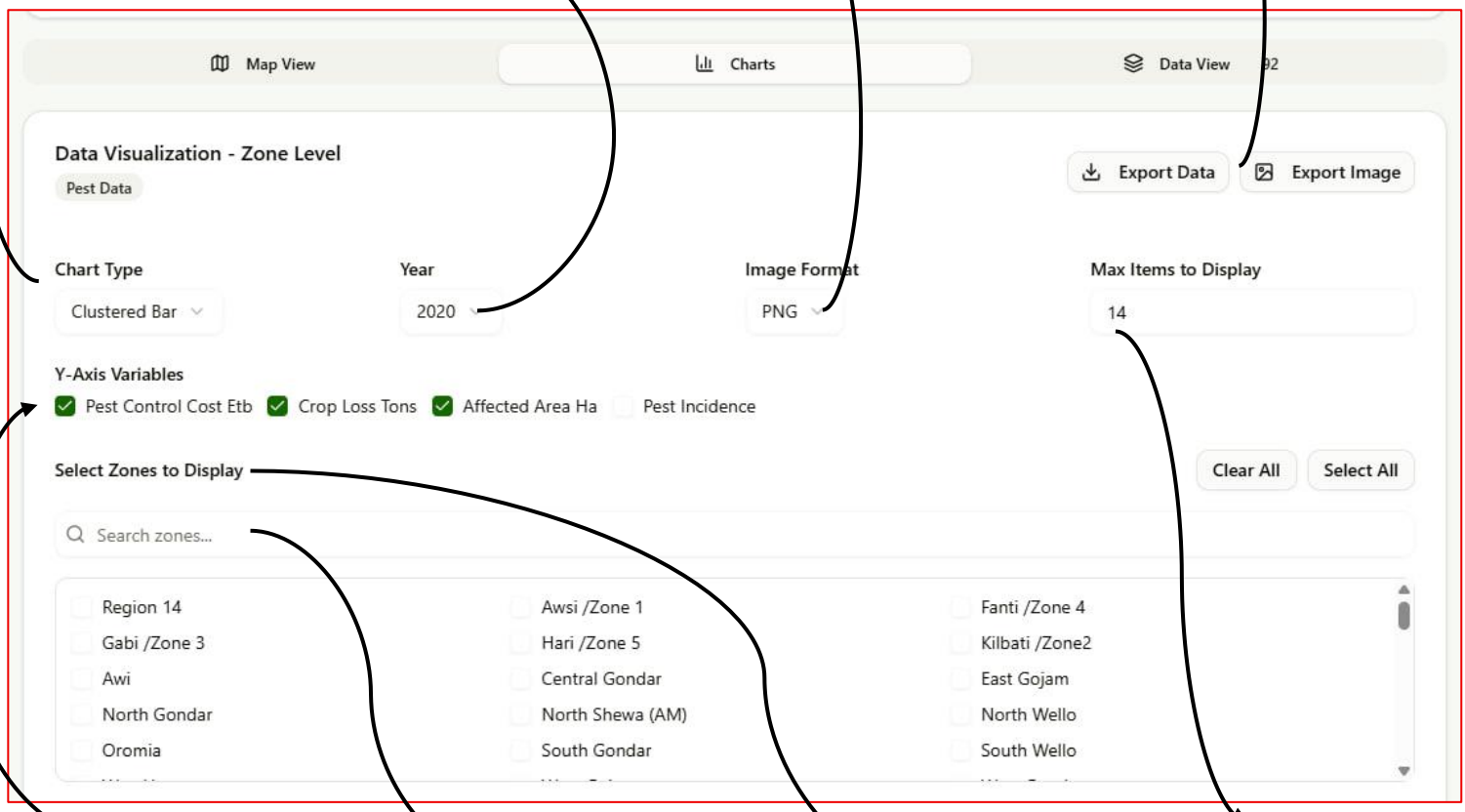


Choose the type of chart you want from the "Chart Type" menu. You can create: Bar chart, line chart, pie chart, clustered bar chart

To Choose the Year of data you want to graph from the dropdown menu

After the chart is generated, use the "Image Format" dropdown to choose PNG or JPG.

Exporting Your Chart: After the chart is generated, you can download it. Click the Download or Export button to save the image to your computer for use in reports and presentations.



Choose What to Graph (Y-Axis Variables):

A list of available pest impact metrics will be shown. You can select one or more to include on your chart:

Pest Control Cost ETB, Crop Loss Tons, Affected Area Ha, Pest Incidence

Search for zone names using the search bar.

Click on the names of the specific zones you wish to analyze (e.g., South Wello, North Gondar). A checkmark or highlight will appear next to your selections.

Use the "Select Woredas to Display" box to choose the woredas you want to compare.

Limit the Number of Zones (Max Items to Display): use the "Max Items to Display" field.

You can set a limit (e.g., 14). The chart will display the zones with the highest values for the selected metrics, making the data presentation more focused.

What Happens:

- The chart's vertical axis (Y-axis) will show the units (e.g., ETB, Tons, Hectares).
- The horizontal axis (X-axis) will list the zones you selected.
- Each cluster of bars represents a zone. Different colored bars within each cluster represent the different metrics you selected (e.g., one bar for Cost, one for Loss, one for Area).
- You can hover your mouse over any bar on the chart to see a pop-up with the precise value (e.g., "Awi: Crop Loss Tons 692,376 tons").

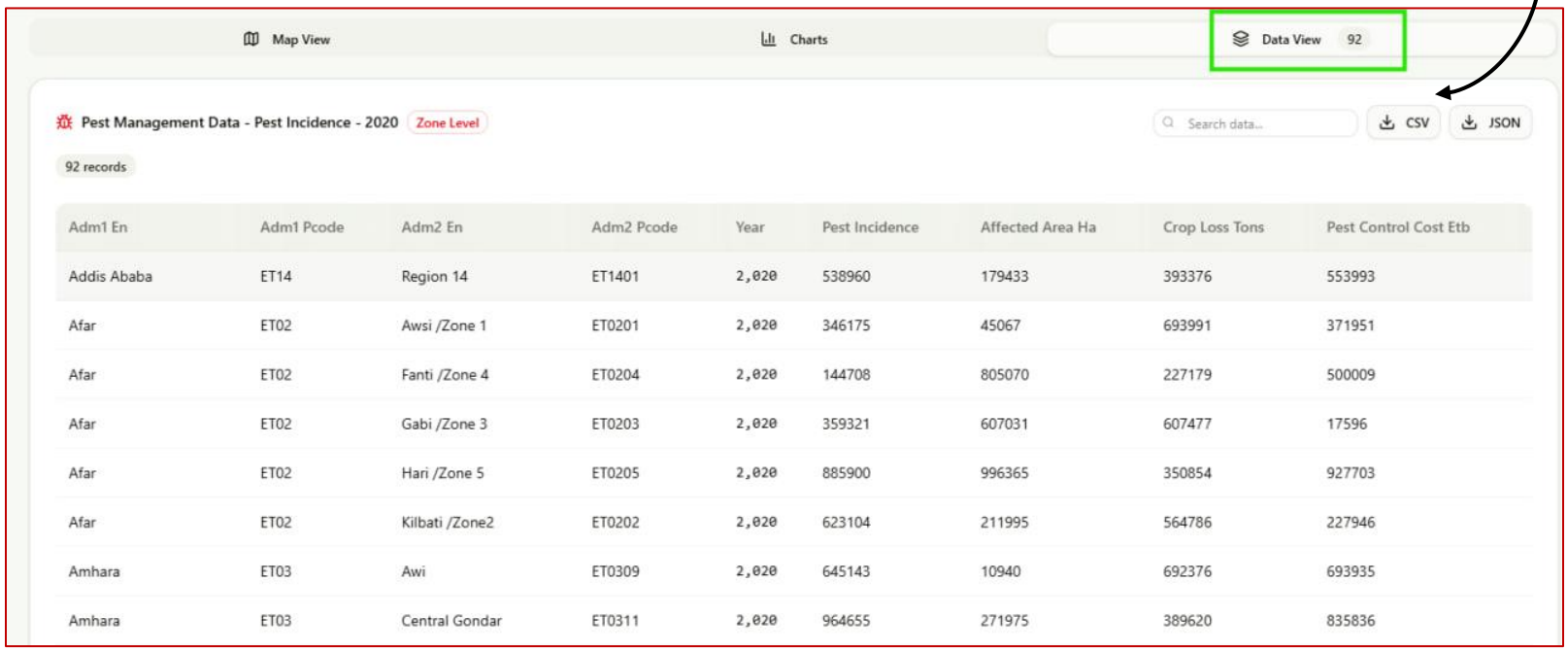
Viewing the Raw Pest Data (Zone Level - Data View)

The Data View provides the complete, precise dataset for pest impact at the zone level. This table is your source for the official numbers behind the maps and charts, detailing the economic and agricultural impact of pests.

- How to Use It: Access the Data Table:
- Click on the "Data View" tab. The system will display a table with all the pest management records for zones

To Download the Data:

- Click the CSV button to download the data as a spreadsheet file, perfect for analysis in Microsoft Excel or Google Sheets.
- Click the JSON button to download the data in a format used for software application



Adm1 En	Adm1 Pcode	Adm2 En	Adm2 Pcode	Year	Pest Incidence	Affected Area Ha	Crop Loss Tons	Pest Control Cost Etb
Addis Ababa	ET14	Region 14	ET1401	2,020	538960	179433	393376	553993
Afar	ET02	Awsi /Zone 1	ET0201	2,020	346175	45067	693991	371951
Afar	ET02	Fanti /Zone 4	ET0204	2,020	144708	805070	227179	500009
Afar	ET02	Gabi /Zone 3	ET0203	2,020	359321	607031	607477	17596
Afar	ET02	Hari /Zone 5	ET0205	2,020	885900	996365	350854	927703
Afar	ET02	Kilbati /Zone2	ET0202	2,020	623104	211995	564786	227946
Amhara	ET03	Awi	ET0309	2,020	645143	10940	692376	693935
Amhara	ET03	Central Gondar	ET0311	2,020	964655	271975	389620	835836

Purpose:

- The Zone Level Pest Data View is your comprehensive source for detailed pest impact statistics. You can use it to:
- Get the exact figures for pest damage and control costs for any zone.
- Perform your own analysis, such as identifying zones with the highest crop loss or control costs.
- Verify the information presented visually on the map and in charts.
- Create custom reports and strategies for pest management using the downloaded data.

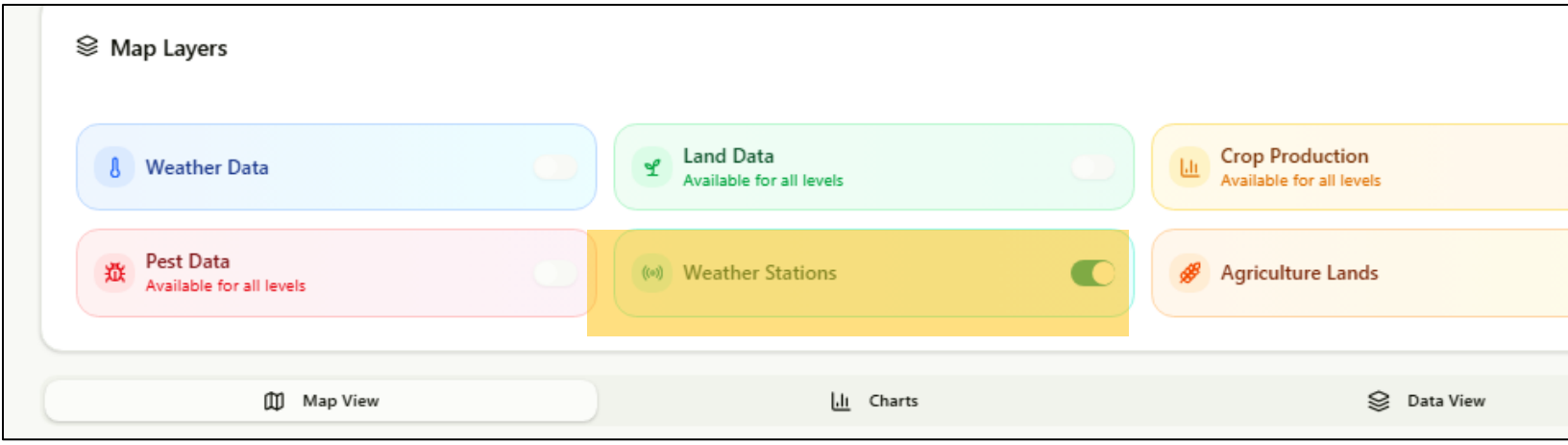
Using the Weather Stations Layer

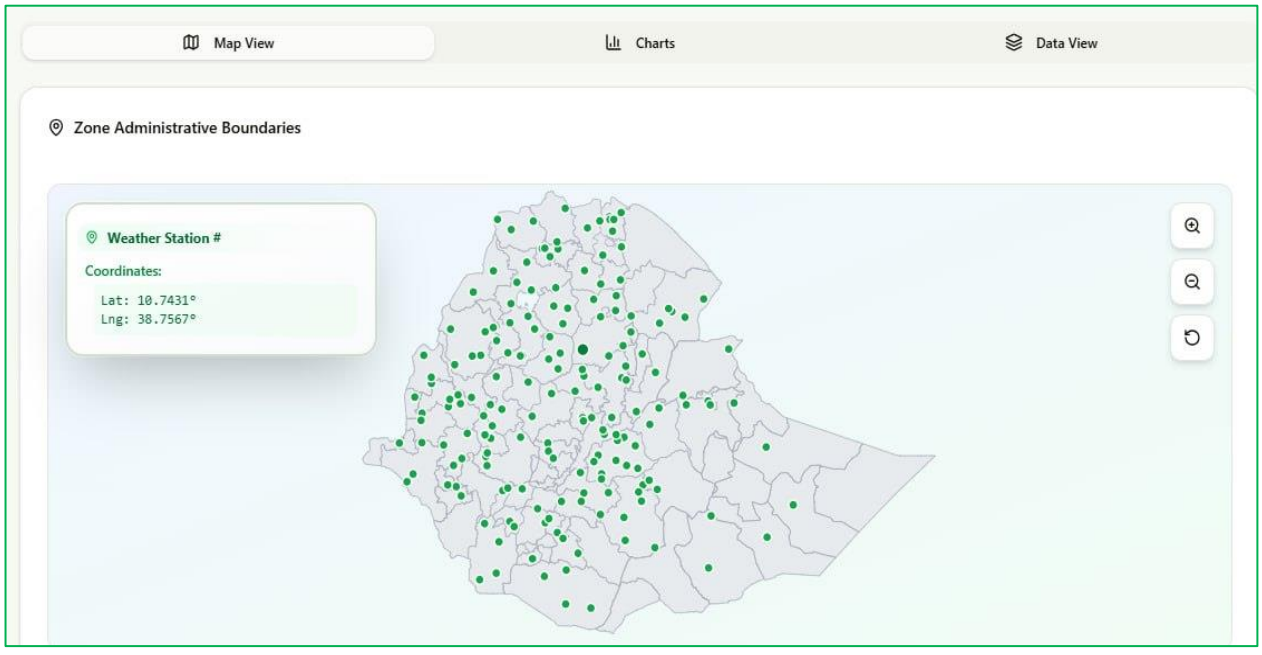
The Weather Stations layer shows the precise locations of all weather monitoring stations across Ethiopia. This helps you see where weather data is collected from and understand the source of the information used in the Weather Data layer.

- How to Use It: Activate the Layer:
- From the "Map Layers" menu, click on "Weather Stations".
- Unlike the Weather, Land, Crop, and Pest data layers, the Weather Stations layer is different:
- **No Sidebar Controls**: It does not have a sidebar for selecting years, parameters, or color schemes. It is a simple location map.
- **No Charts:** You cannot generate charts from this layer.
- **No Raw Data Download**: There is no separate "Data View" table to download for weather stations. The information is displayed interactively on the map itself.

Purpose:

The main purpose of this layer is to provide transparency by showing you the physical locations that are the source of the weather data used throughout the portal.

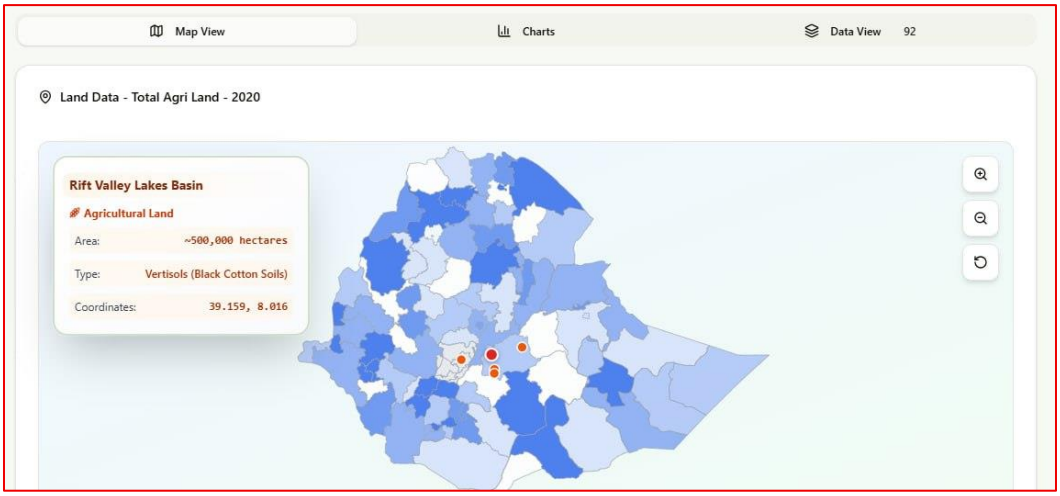




Using the Agricultural Lands Layer

The Agricultural Lands layer highlights specific, important farming areas or basins across Ethiopia. This helps you learn about key agricultural lands, their characteristics, and the crops they support.

- How to Use It: Activate the Layer:
- From the "Map Layers" menu, click on "Agriculture Lands".
- Important Note:
- **No Sidebar Controls:** It does not have controls for years or parameters. It shows fixed information about each location.
- **No Charts:** You cannot generate charts from this layer.
- **No Raw Data Download:** There is no "Data View" table to download. All information is displayed on the map and in the detail panels.
- **Purpose:**
- This layer provides valuable context about Ethiopia's most important agricultural lands, their potential, and their challenges, supporting better planning and education.



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At the bottom of every page on the portal, you will find a footer section.

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