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MAPCENTER 3 TUTORIALS

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SATSHOT
PRECISION DEFINED

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WELCOME TO MAPCENTER 3

This tutorial begins by covering the basics of Mapcenter 3 and will be followed by step-by-step examples at the end of each section.

It details the functions of each main menu option located at the bottom of the program.

The main menu is in a 'start-to-finish' order, meaning the simplest way to get started is to work from left to right beginning with 'MY ACCOUNT'.

To Login, simple visit www.satshot.com and select the Login In tab on the top of the browser window. Make sure to select the correct Country when logging in.

BROWSER REQUIREMENTS

Before getting too far, be sure you are using the latest version of your preferred browser. These versions are the latest at the time of this tutorial's update.

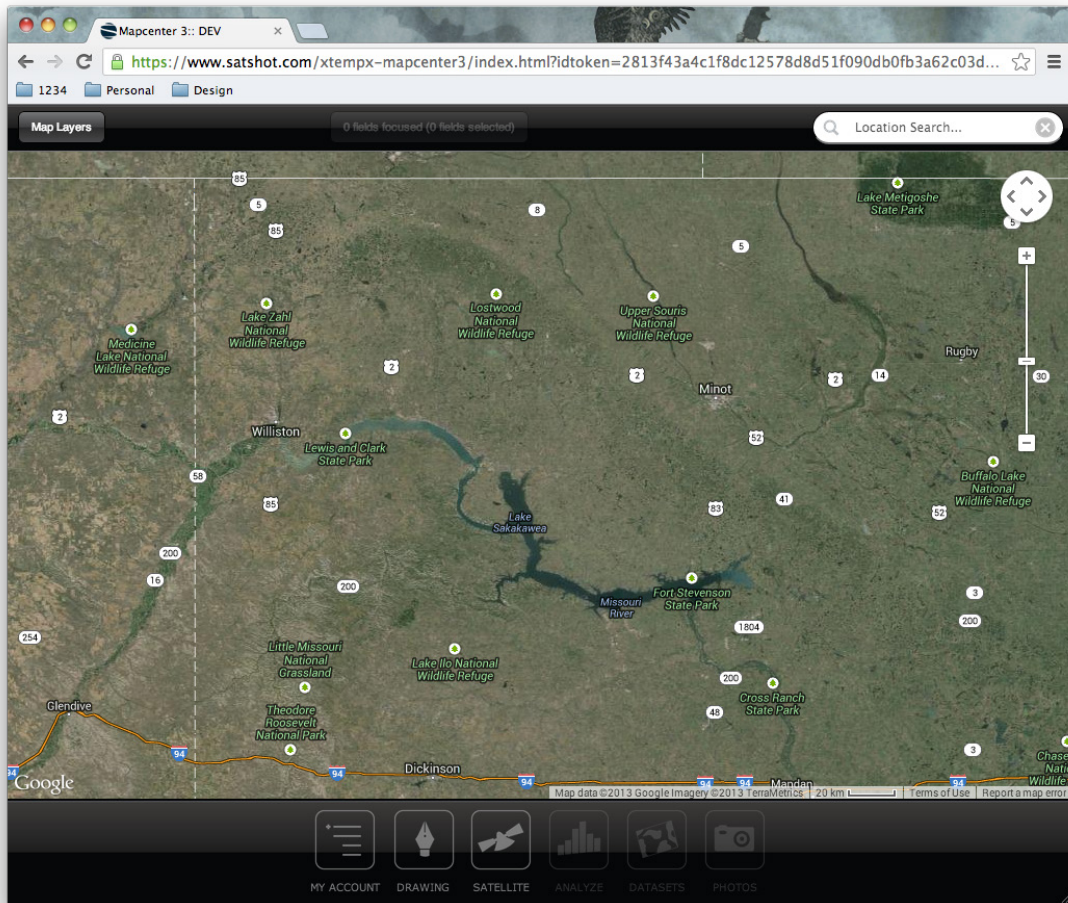
Google Chrome (recommended)
Mozilla Firefox

Apple Safari
Internet Explorer or Edge not supported



PROGRAM OVERVIEW

There are three main pieces to MC3: Header, Map and Main Menu.



MAIN MENU
MAP/NAVIGATION
HEADER

Header

Manage map layers, selected fields, and search the map.

Map/Navigation

Zoom and pan the map. Select and focus fields.

Main Menu

Manage your fields, data and account information.

PROGRAM OVERVIEW

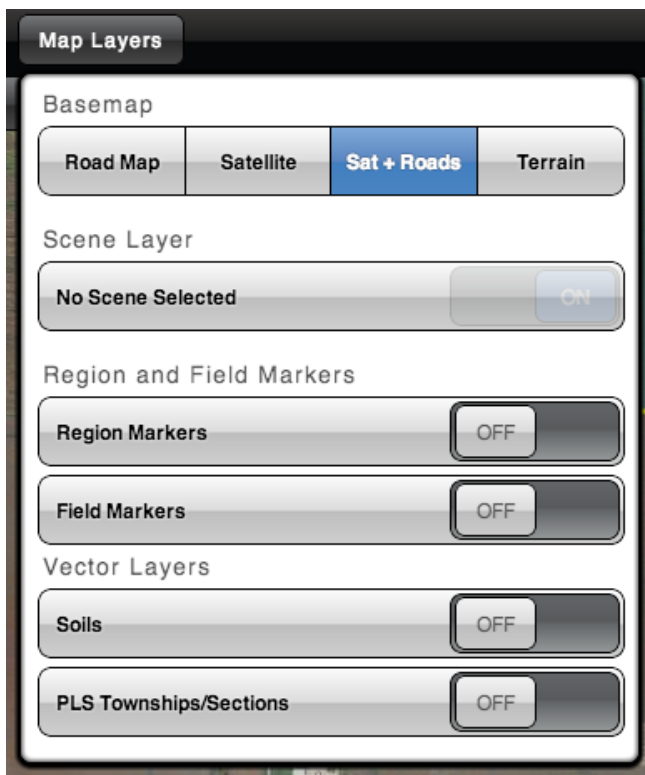
Header (Map Layers)

The 'Map Layers' button allows you to toggle individual map layers, like the Public Land Survey and Soils.

Also, this is where you can switch between basemap views.

NOTE: click the Map Layers button to close the menu.

A new feature allows the display of region and field markers on the map for quick navigation and info display for clients with a large number of field boundaries.



PROGRAM OVERVIEW

Map/Navigation (Zooming)

There several ways to zoom in Mapcenter 3.

The first way is to use the zoom tool to the far right of the map.

Clicking the "+" sign zooms in by a set scale, the "-" sign zooms out by the same set scale.

Using the mouse-scroll will also zoom.

To draw a zoom to box, hold down the "shift" key on the keyboard and click-hold + drag the mouse across the screen to create the zoom-box.



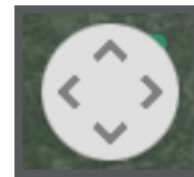
Map/Navigation (Panning)

There are two ways to pan.

First, use the pan tool to the far right of the map.

Click on any direction arrow and the map will pan in that direction a set distance.

You can also pan by left-click + drag the mouse within the map window.





MY ACCOUNT

The first main menu option is 'MY ACCOUNT'. Here, you can manage your Groups, Users, Regions and Fields. Selecting a field or region will zoom to that location, too.

Basics of the Account Panel

Once you have logged in, and once the default state for your account has been displayed, the 'loading' spinner will stop spinning.

At this point, you may select 'MY ACCOUNT'.

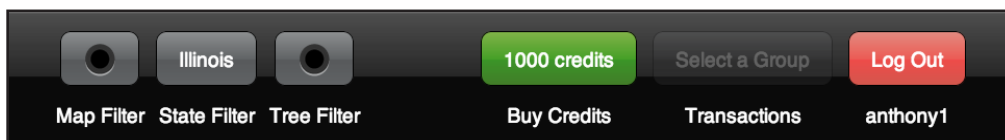


NOTE: Depending on the size of your account, this panel may take a few seconds to load.

When the account panel is finished loading, it will display two interactive trees: 'Groups & Users' and 'Regions & Fields'.

The Groups & Users tree is a hierarchy of your entire account and the Regions & Fields is a list of every field visible to you sorted by their region.

Also, at the bottom is a sub-bar where you can filter out fields from the tree and map, purchase credits, view your account history and logout.



Map Filter: Toggles map visibility of what you've selected in the tree.

State Filter: Shows the regions and objects that exist per state.

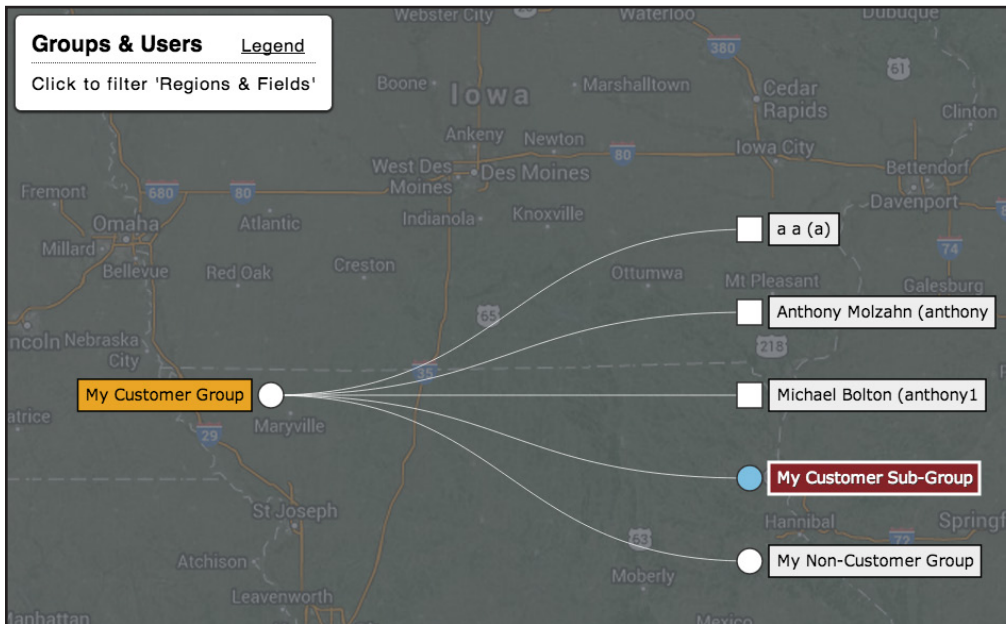
Tree Filter: Hides regions and objects not tied to a selected group or user.

Buy Credits: Is where you purchase credits to analyze imagery.

Transactions: Lists every purchase or charge on your account, in credits.

Log Out: Brings you back to the Satshot homepage.

MY ACCOUNT




Groups & Users Tree

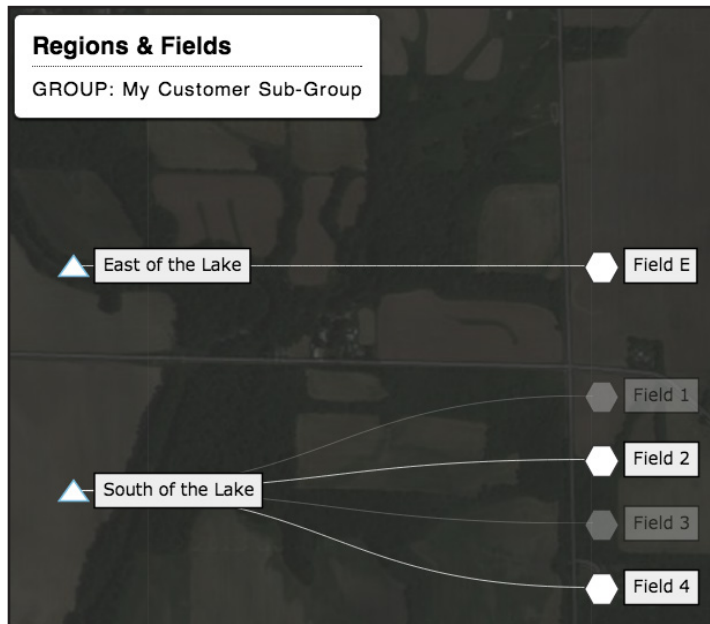
The tree on the left-side of 'MY ACCOUNT' is the 'Groups & Users' tree.

It visually lays out the hierarchy you've created for said groups and users.

On the top-left of this tree you will see a link for 'legend'. This will display the meaning of colors and icons associated with the trees in 'MY ACCOUNT'

- = Group △ = Region ○ **NAME** = Item Name (Clickable)
- = User ⬡ = Field ○ **NAME** = Selected Item (Editable )
- ■ ▲ = Has Children ○ **NAME** = Carries a Personal Balance

MY ACCOUNT



Regions & Fields Tree

The tree on the right-side of 'MY ACCOUNT' is the 'Regions & Fields' tree.

It displays all the regions (farms) and fields visible to your account.

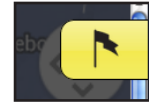
The important thing to remember about the 'Regions & Fields' tree is that it is filtered based on what you have selected (in red) on the 'Groups & Users' tree.

If a region or field is semi-opaque, it means that the region or field in question is not visible to a group or user you've currently selected. (Ex. Field 1 and Field 3 are not visible to the group 'My Customer Sub-Group').

Also, when you select a region or field by clicking on its name, it will automatically zoom the map to that field or region. If you have the 'map-filter' toggled on, then you will only see, on the map, the fields or region you have selected in the tree.

MY ACCOUNT

Editing your Account

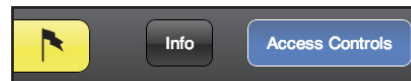


On the top-right of 'MY ACCOUNT' is a flag icon that will toggle info and controls, based on what you currently have selected (in red).

If you have a Group or User selected, then you will see two main sections: 'Info' and 'Privileges'.



If you have a Region or Object selected, then you will instead see the sections: 'Info' and 'Access Controls'.



'Info' shows basic information about the current selection, which can be edited, in most cases.

Privileges

'Privileges' are what gives a user the ability to do something, such as analyze imagery or save datasets. These can be set to ON or OFF for a given user.

NOTE: you can NOT edit your own privileges.

'Privileges' set on a group are ultimately passed down to the users within that group and these privileges can be set to GRANT, ALLOW or DENY.

If set to DENY, then no user can have this privilege inside this group and the opposite goes for GRANT as all users automatically have this privilege.

ALLOW is a neutral state, giving you custom control on a case-by-case basis.

MY ACCOUNT

Access Controls

'Access Controls' are set on a field and based on the group or user selected.

The access controls for a field are: VISIBLE, APPEND and MODIFY and can be set to ON or OFF.

This way, you may hide a field from a group in your account while another can see it and yet, another may only be able to view while another can edit.

You may also set the access controls on a region.
Doing this will auto-set all fields in that region to the same.

Adding and Editing

YOU CAN:

- Create groups and users for a group you currently have selected.
- Create a region for a group or user you currently have selected.
- Edit all information other than a user's 'username'.
- Delete a region or field by selecting the 'delete' checkbox in info and updating.
- Disable a user's login.

YOU CAN NOT:

- Move a group or user into another group (reparenting).
- Delete a group or user
- Edit your own privileges or disable yourself.

MY ACCOUNT

Transaction Log

A transaction log is a history of all charges from a 'customer-group' account.

A 'customer-group' is represented with an orange background on the 'Groups & Users' tree and means that it carries its own balance of credits.

Inside the transaction log there are two sections for filtering on top.

There are also three options for export: CSV, Excel and Print.



The image shows a user interface for filtering and exporting transaction logs. On the left, there are four controls: a date input field with 'Jan 01 2013' and a 'FROM' label below it; another date input field with 'Oct 03 2013' and a 'TO' label below it; a radio button labeled 'SUM' with a dot inside; and another radio button labeled 'CHILDREN' with a dot inside. On the right, there are three buttons labeled 'CSV', 'Excel', and 'Print' in a row. Below these buttons is a search input field with the label 'Search:' to its left.

The 'FROM' and 'TO' dates will show you all transactions from within the time-period.

If you have the 'SUM' button toggled on, then all 'imagerycharge' rows will be summed into one line giving a total of all charges.

If you have 'CHILDREN' toggled on, then you will be able to see the balance of any 'customer-group' underneath your own 'customer-group' account.

NOTE: when exporting, what you've filtered for is what will be included in the file: 'What-you-see-is-what-you-export'.

ON THE MAP (FIELD SELECTION)

Selecting and Focusing Fields

Once the field of interest is displayed on the map, left-click inside the field boundary to select the field.

The boundary will turn red and will be listed in the 'Field Information' tab at the top and center of the Header.

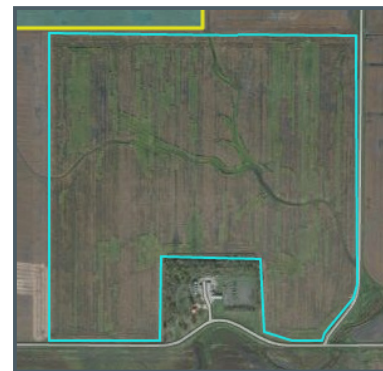
Now, to work on that individual field, you must 'focus' the selected field by either a left-click inside the selected field boundary (in red) or choosing the field from the 'Field Info' tab.

Once a field has been focused, the field boundary will turn light blue on the map and the 'Field Info' tab will display information of the field.

Also, you can zoom to a 'focused' field by clicking the green icon with the spyglass in the 'Field Info' tab.



A selected field (red).



A focused field (light-blue).

Field Information Tab

A focused field allows you to run functions such as image analysis, loading saved datasets and exporting are now available for that field.

To deselect a field, choose it from the 'Field Info' tab and 'Deselect'.





SCENE SELECTION

The 'SCENES' tab toggles a sub-bar to search for and display any imagery in the Satshot Database.

Selecting and Focusing Fields

You can query for scene imagery anytime, with or without a field focused.

From/To: This filter allows you to set a date range for a scene query. You must pick a month AND a day within each calendar to set the date. The default range is the current year.

Type: This filters the satellite source. The options: All, Sentinel, SPOT, Landsat and Aster. More types will be available to filter as they are added into the system.

Extents: This filters the scene search extents. Map refers to the currently viewed map area displayed in the map window and Focused Fields will query scenes that encompass all of the currently focused fields.

Scenes: Once the above filters have been set, select Click to View and this will generate a list of scenes based on the filters that you have set.

Once the list is generated, select the desired scene and it will display in the map window.

Clear: This will remove the selected scene from the map window.

NOTE: You may analyze a satellite image once you have focused at least one field within that scene (see Analyze Imagery).



ANALYZE IMAGERY

The 'ANALYZE' tab toggles a sub-bar to set parameters for custom analyses of your focused fields.

Selecting and Focusing Fields

Once a scene is displayed on the map and a field within that scene has been focused, you may analyze that scene with custom parameters in 'ANALYZE'.

Extract Raw: Clicking this button allows the creation of a Raw Dataset, and will appear in the Dataset Tray (see Datasets). The Datasets icon will flash when the extraction is complete and the loading indicator has stopped spinning. **NOTE:** Select this if you are going to only export from the Raw dataset.

Analysis Type: This sets the type of analysis, NIR, NDVIR, NDVIG, Multi-band. The default is NDVIR. Red Edge is only for certain satellites but are not used currently with the satellites we have in the system.

Color Table: This sets the desired color table for analysis. The default is Satshot 31-color.

Zones: This sets the desired number of zones/divisions.

Min/Max: This sets the analysis mode. If this is deselected,

Analyze: This button will generate the analysis based on the parameters selected and will place the generated analysis in the Dataset Tray. You do not need to Extract Raw first, the Analyze button will generate the Raw and the analyzed datasets for you.



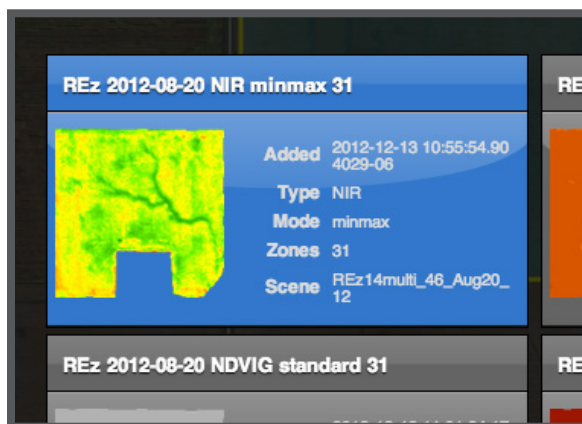
DATASETS

The 'DATASETS' tab toggles the Dataset Tray controls the newly created and saved datasets for a single Focused Field.

The Collection View

If a field is focused and the Datasets tab is selected, a list of existing datasets will appear on the screen in the Collection View.

To load them into the Dataset Tray for display and/or vectorizing, select the dataset by clicking anywhere on the dataset collection item.



The dataset item will turn blue and can then be added to the Dataset Tray by clicking the green checkmark button (select) in the 'DATASETS' sub-bar.

NOTE: You can also export selected datasets from the list as well as permanently delete the dataset(s).

DATASETS

The Dataset Tray

If an image has been analyzed, the Raw dataset will be in the tray with the analysis when the 'DATASETS' tab is selected.

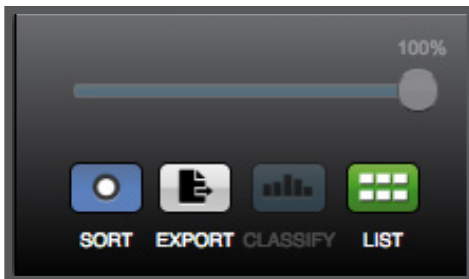
To view a dataset on the screen, click the dataset twice and there will be a blue border around the dataset thumbnail in the tray and it will move to the far left of the dataset tray as well as display on the map.

Datasets are layered in the map area based on a left to right order in the dataset tray, the furthest left will be on the top and so on.

NOTE: if a dataset is visible on the map, there will be a number on the dataset icon representing the layer order; 1 is the top.



To the right of the dataset tray is one set of tools/functions.



The slider at the top sets opacity for the highlighted dataset.

'List' takes you to the list of all saved datasets for the focused field.

'Export' is for exporting all datasets currently in the tray (see Exports).



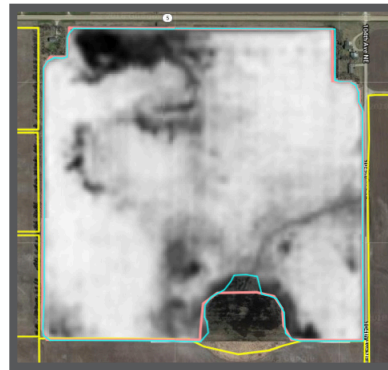
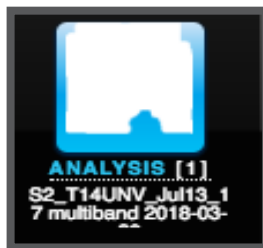
DATASETS

The 'DATASETS' tab toggles the Dataset Tray controls the newly created and saved datasets for a single Focused Field.

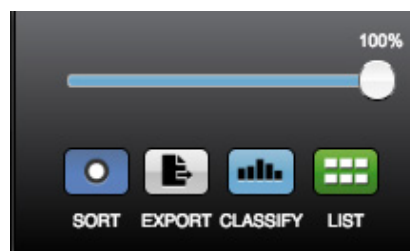
Multi-Band Analysis

If you analyzed a Multiband indice, then the picture under the Datasets tab will show the image and date but it will appear white.

To load this dataset, you select it in the tray below and highlight it blue like the other datasets. It will appear on the screen in a black and white fashion like the picture on the right.



Once you have the Multiband (black and white) image on the screen, select the Classify button on the bottom right of the window.



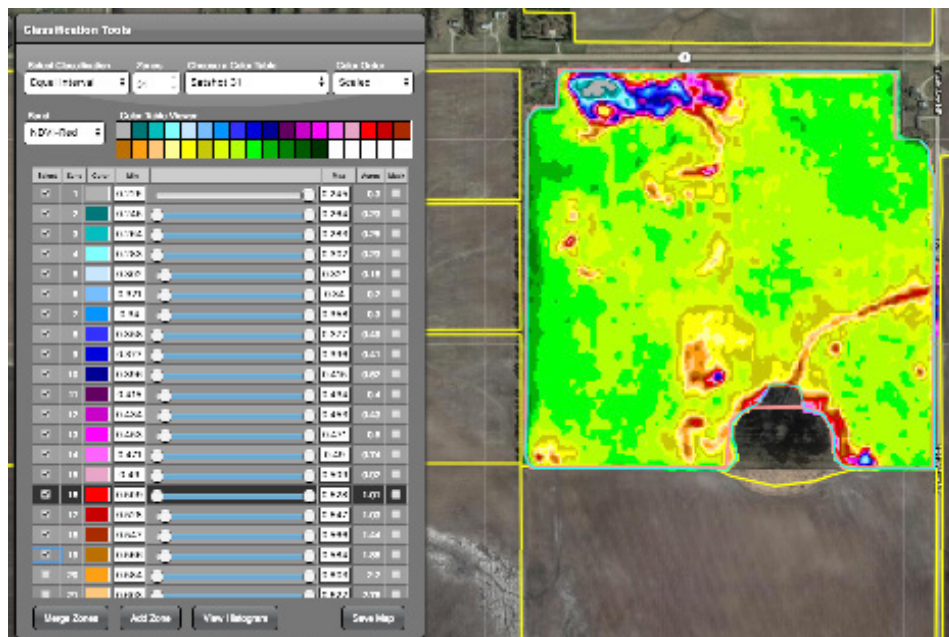


DATASETS

The 'DATASETS' tab toggles the Dataset Tray controls the newly created and saved datasets for a single Focused Field.

Multi-Band Analysis - continued

Once you select the Classify button, a popup screen will appear on the left side of the map window with the amount of zones you selected. You can change the number of zones at any time as well as different types of indices like NDVI, NDVI, and NIR.



If you want from here, you can change any of the selection to see different variation in the analysis instead of doing them one by one in the analysis process before this.

One of the main features of Classify is to select the zones you want on the left side of the window you want to merge to create a more manageable map or to figure out more defined acres in a region of the field. Simply select the zones you want to merge, hit Merge Zones on the bottom left of the Classify window. If you want to save that map, hit Save Map on the bottom and name accordingly. It will then save in the Dataset list for future use. Merge as much as you want or go back and change the zone numbers to revert back to the original amount.

DATASETS

The second set of functions that is specific to an individual dataset is launched by left-click and holding on a dataset icon for a second (pictured on the previous page).

This will bring up a menu of functions specific to that dataset, there will be one or more functions depending on the dataset.

View Info: This will launch an info list of the selected dataset.

Remove from Tray: This removes the dataset from the tray, you will be prompt to save a dataset if it has not been saved.

Save: This will allow you to save the highlighted dataset.

Rename: This will allow you to rename the highlighted dataset.

Save PDF: This will create a pdf report of the selected dataset.

Make Polygon Vector: This will create a new polygon vector dataset based on the selected dataset.

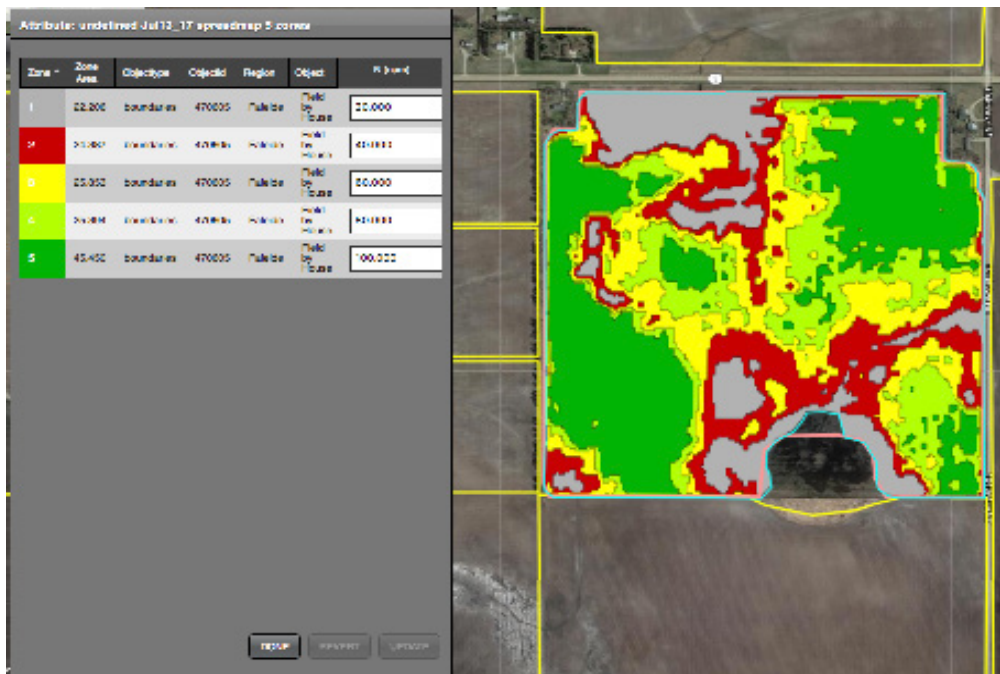
Make Point Vector: This will create a new point vector dataset based on the selected dataset.



DATASETS - continued

If selecting Polygon or Point Vector as an option. You will get a new dataset that will allow you put certain rates toward each zone you created. This is great to make simple Variable Rate Application maps.

The most common is Polygon Vector. Once selected, choose the new dataset by selecting in the dataset tray below, click and hold on it and select Edit Attributes. A new window will pop up. If you want to add attributes, select the + sign on the upper right of the window (you may scroll to the right to see the + sign). This will open another window where you select Number or String. Number is the most common. By selecting that you can add a new column named for the type of attribute you want to add (example - Nitrogen). Add that column and the numbers that a controller would utilize to adjust that rate. Hit Update to Save, and Done to close the window.

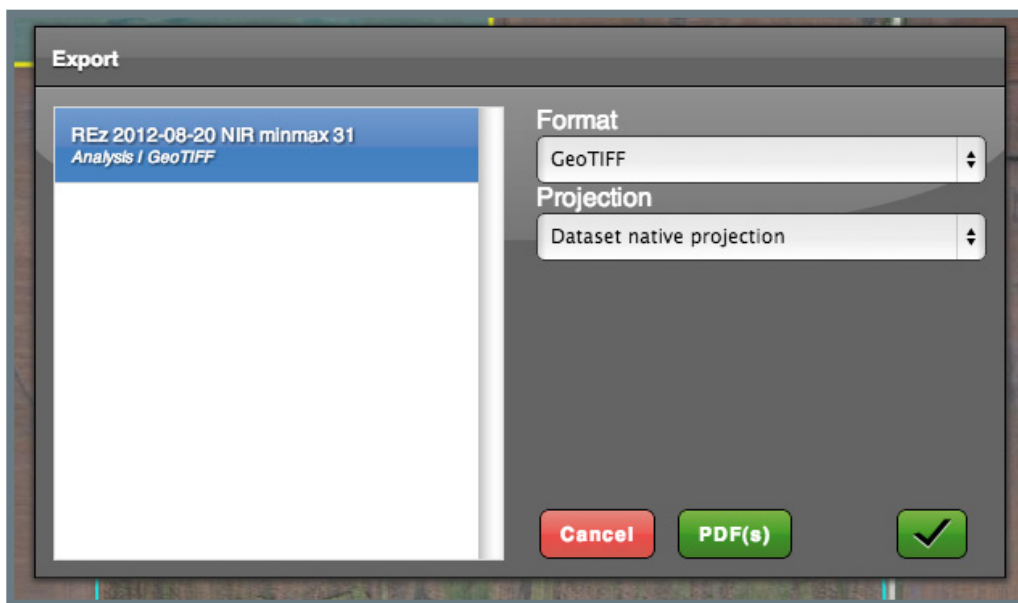


DATASETS

Exporting

All exporting is done in the Datasets tab and there are two ways about it.

One is from the dataset list which also allows multiple dataset exporting, the other is through the dataset tray, one dataset at a time.



Clicking on the 'Export' button on the right side of the Dataset Tray or in the Collection View will present you with the Export Panel (above).

Each Selected Dataset will be listed on the left.

To choose the type of export you'd like to make for a dataset, select it from the list and decide on the 'Format'.

The current format selected for each dataset is listed under the name and to the right of the type (i.e. Analysis | GeoTIFF).

Once you've finished choosing your format for each dataset, click the checkmark and a .zip file will be downloaded to your computer with everything you've requested.

Alternatively, you may create a PDF of your datasets by clicking 'PDF(s)'.



DRAWING

When you have zoomed to your area of interest, select the Drawing tab to open the drawing tools tray.

The Tools (Draw, Edit, Erase)



Drawing: To begin drawing, select the Draw tool and begin by clicking to place vertices around the area of interest.

When holding down the left-mouse button invokes the pan tool and allows panning of the map area. You may also zoom by using the mouse-scroll.

When you near completion of your boundary, double click when adding your last point or left-click on the starting vertex to close the polygon.

Editing: Select the Edit tool to begin editing. Click on the boundary to show all vertices. The boundary focus and the vertices will be white.

To move a vertex, click and hold on the desired vertex and drag your mouse to where you would like to move the vertex. You will notice new vertices being placed on either side of the vertex that has been moved.

You can move these to add more detail to your boundary.

NOTE: Be sure you invoke the pan tool **OUTSIDE** of the polygon, else you will move the polygon itself!

Erase: Select the Erase tool to erase vertices.

DRAWING

The Tools (Import, Save)



IMPORT: This button will pop-up a menu for you to import boundaries saved on your computer (such as a shape file). You may auto-save them to an existing or new region within them menu (see 'Saving Fields' on the next page for details).

SAVE: When you are finished drawing and editing your field you can save to the system.

Note: The polygon(s) must be focused (light blue) to save, use the Select arrow to select your drawn field.

The Tools: Multi-polygon creation (Merge)

To create a multi-polygon field, first draw and edit the individual polygons, then select all polygons (light blue) and select the

NOTE: Once you merge polygons with any of the tools, you must refocus your grouped polygons to save!

Merge tool: This will invoke a sub-menu with a list of multi-polygon tools.

Merge will flatten and group the polygons.

Hole Punch: Be sure the outer and inner polygons are focused and choose Hole Punch from the Merge sub-menu.

Once you are done editing and merging, focus your polygon and 'SAVE'





Photos

This page will go over the Photos options with adding and managing pictures saved to certain field boundaries in the system.

To access the Photos Tab, make sure you select the field and have it Focused in blue. Follow this by selecting the Photo tab where you'll see a Add Photo button on the bottom left of the screen. Click this to add a photo from your computer. If you add a photo from your computer it will locate it in the centroid of the field boundary selected. If you wish to move it to another location you'll need to download our Landscout app for iPad or iPhone, select it, and move it.

If you have saved Photos to the boundary selected, they will show up in the tray below. You can click on them to showcase them on the screen and see where they are located if moved to a specific spot or if it has a GPS location attached to it.

