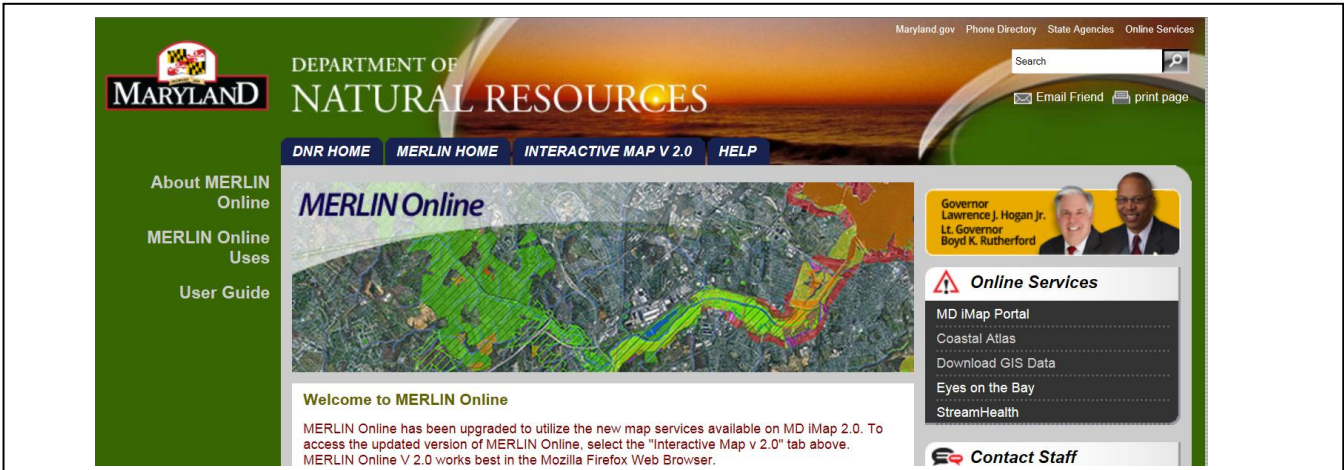


MERLIN – Explore the MERLIN Interactive Mapper

Specialized software is not required to use this map. Only a web browser is needed. The map has been tested using Mozilla Firefox. If you are using a version of this browser that is older than the most recent version or are using a different browser, the map may not function as designed. The map works well when using the Safari browser on an iPad tablet.



After clicking the mouse on the INTERACTIVE MAP V 2.0 tab the map will load. Be patient as there is a lot of data in the map and it may take time to load.

GENERAL TOOL IDENTIFIER

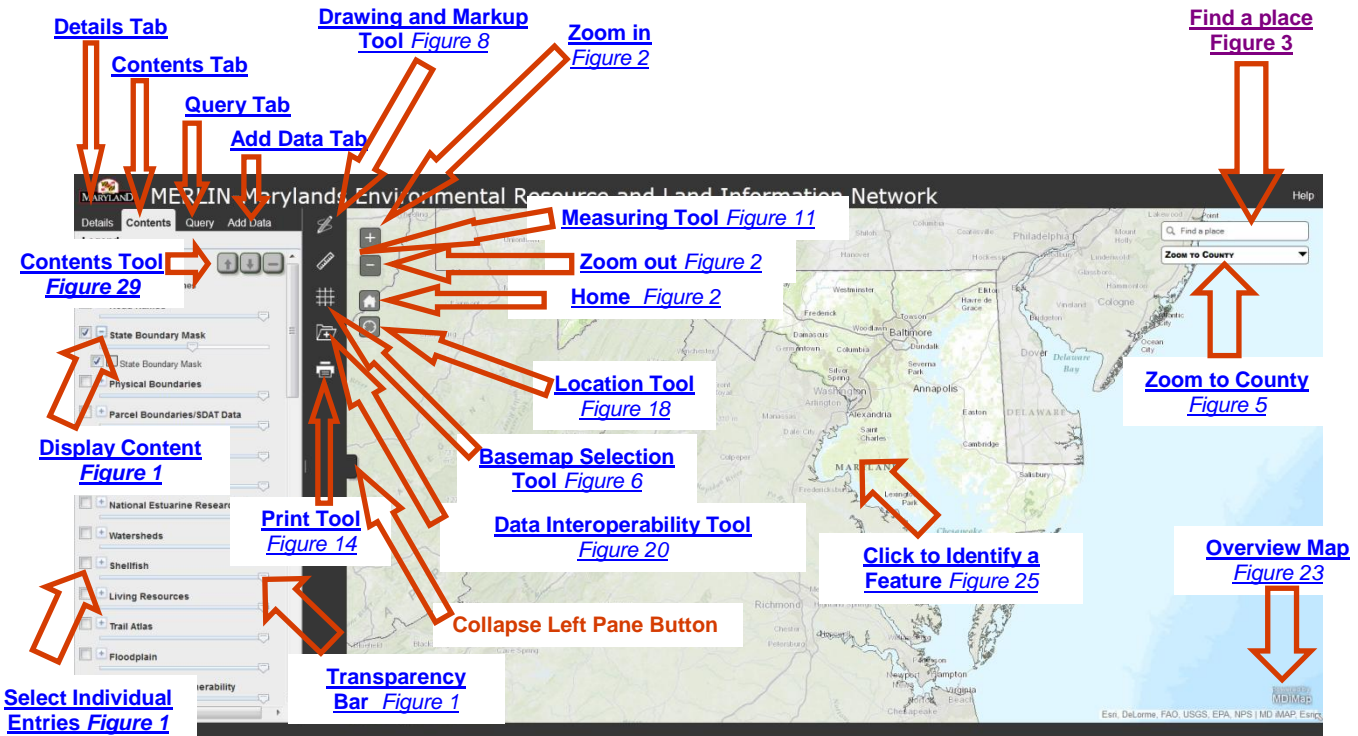
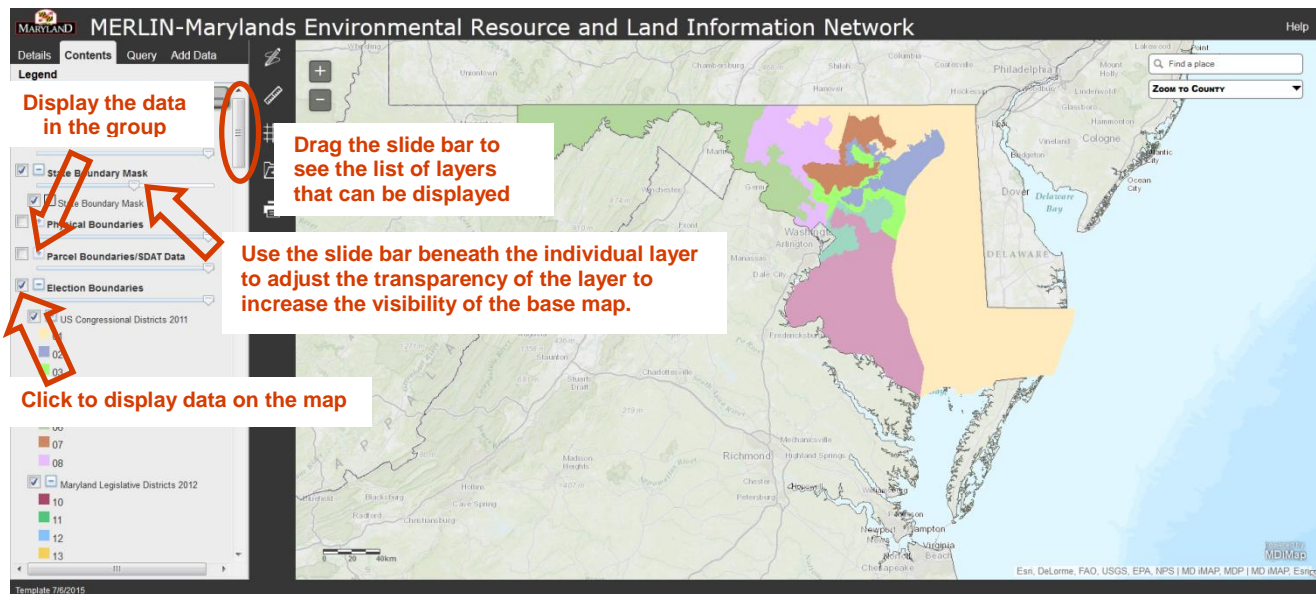


Figure 1: MERLIN Online front page

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The Contents tab is the default display. Drag the slide bar on the right of the Legend to see a list of layers that can be displayed on the map. Check the first box before a group name to display the data layer(s) on the map. When clicked, a check box containing the '+' sign will show all of the data contained in the data group/layer/sub-layer. To turn a layer off, click the check box to clear it. Select the entries you wish to show. Use the slide bar beneath the entry to change the transparency of the layer.

Navigating Around the Map

Click and hold the left mouse button to move the map around.
Use the scroll on your mouse to zoom in and out.

Zooming and Navigation Buttons

Figure 2: Main Navigation Buttons

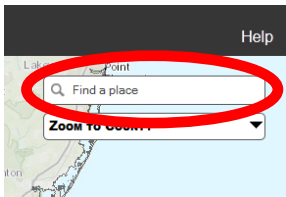
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Zooming buttons (Figure 2) are similar to navigation tools available for Google or Bing Maps. The '+' Zoom Button zooms you in one scale level of the map, the '-' Zoom Button zooms the map out one scale. MERLIN also includes a "Home" button which will take the user back to the map's initial extent and a "Find my location" button that will zoom the map to the user's approximate location. From a desktop computer, this may display the approximate location of the Internet Service Provider and not the user's computer.

Additional In-Map tool buttons (Figure 3)

Figure 3a: Find a place tool

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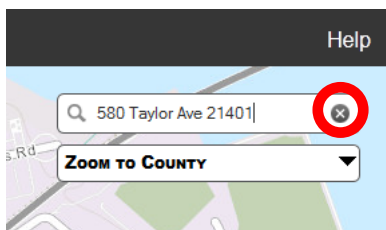


The “Find a place” tool allows you to search for an Address or Point of Interest using an Address Locator. This tool uses the Maryland Composite Locator for place finding. The search results from this tool will place a pushpin on the map and zoom to the result, if one is found from the search (Figure 3).

This field will also allow a search for a point location using latitude and longitude. The format to use is ‘longitude,latitude’ in decimal degrees (Example: -75.884024,37.968848).

Figure 3b: remove Find a place tool icons

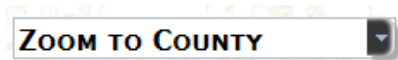
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If multiple thumbtacks appear, they can be removed by clicking the ‘x’ on ‘Find a place’ (Figure 3).

Figure 4: Zoom to County Tool Dropdown

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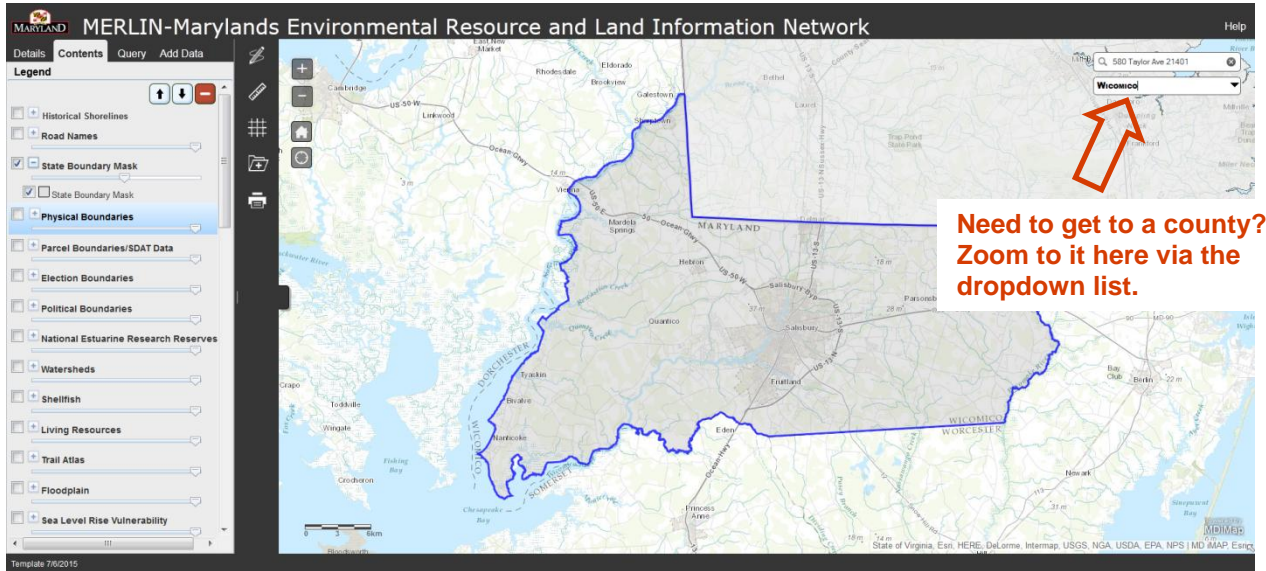


The “Zoom to County” tool (Figure 4) is a tool that allows a user to zoom to the full extent of a selected county.

Click on the dropdown arrow to view a list of the county names. Click on the county of choice and the map will zoom to and momentarily highlight the location of the county in a bright blue outline (Figure 5). To return to the original view click on the ‘Home’ button ((Figure 2).

For reference, a County Boundaries layer is available under Physical Boundaries on the Contents Tab and Boundaries on the Add Data tab.

Figure 5: A Zoom to County Result with County Highlight of Bright, Blue Outline [Back to Top](#)



Basemap Selection Tool

Figure 6: Basemap Selection Tool Button [Back to Top](#)

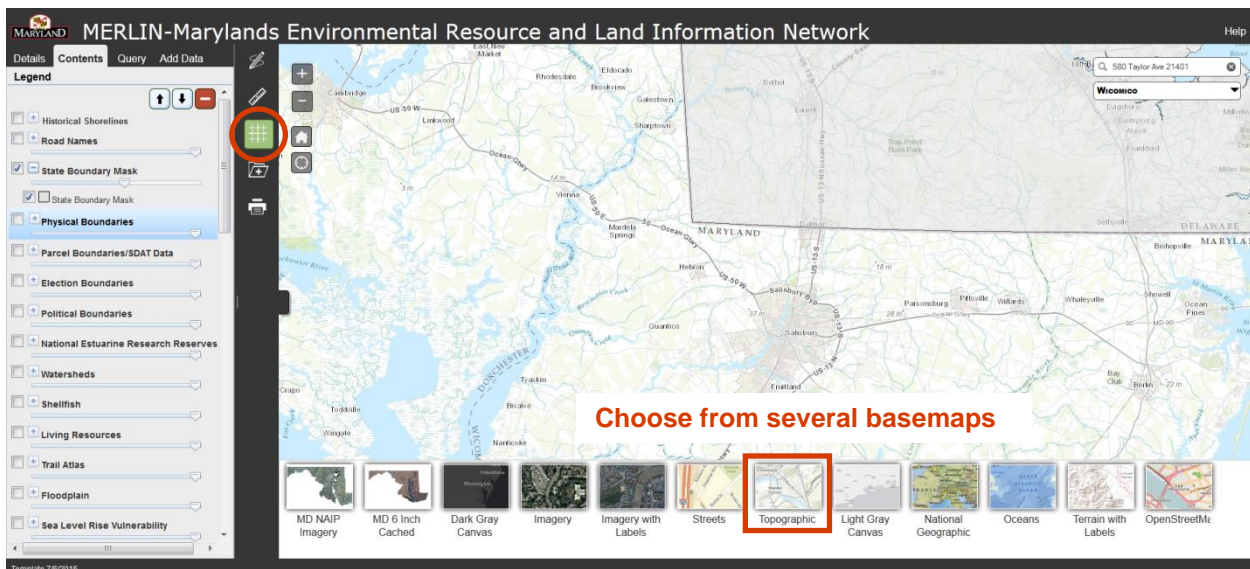


Similar to other interactive maps on the web, a user can select from a gallery of basemaps or background reference maps using the Basemap Selection Tool (Figure 6). The standard Esri basemaps are provided with MERLIN (Figure 7).

An imported ArcGIS Online web map will have its own basemap loaded on the initial view. However, you can change the basemap with this tool.

Note: MERLIN uses the World Topographic Map as the default basemap.

Figure 7: Available Gallery of Basemaps and Background Reference Maps



Drawing and Markup Tools

Figure 8: Drawing and Markup Tool Button

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Notation on the map as text, points, lines and polygons (areas) can be added using the Drawing and Markup Tool.

Click the Drawing and Markup tool button (*Figure 8*) to open a floating pane with various options for adding graphic features to the map.

There are many options within the floating pane (*Figure 9*).

Draw Points adds multiple, different colored points, dotted lines can be straight or freehand and polygons can be drawn as multiple shapes, including arrows and triangles (*Figure 10*).

Text can be added and you can select the outline color, font size and angle of the text. Drawings and markups can be cleared with the Clear All button located in the floating pane.

Note: Drawings and markups will remain even as a user closes this tool and engages another. The Drawing and Markup Tool can be reopened later to clear drawings and markups.

Figure 9: Options for drawing and marking up the map

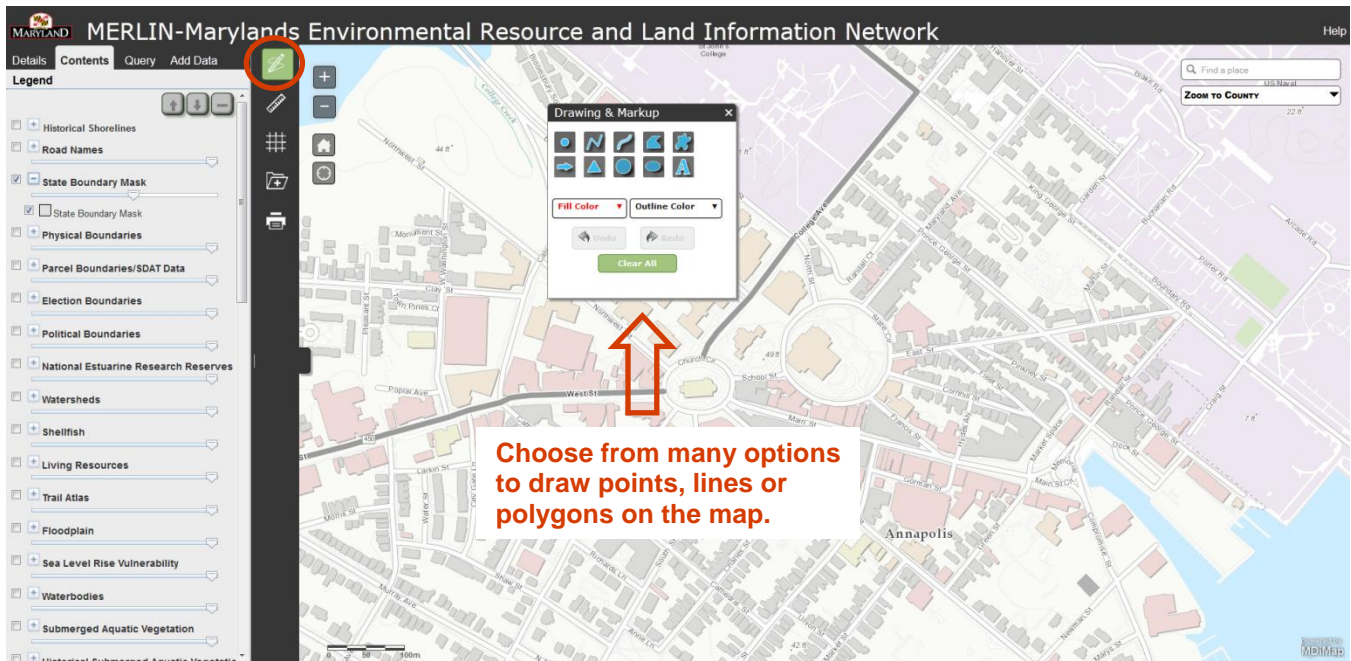
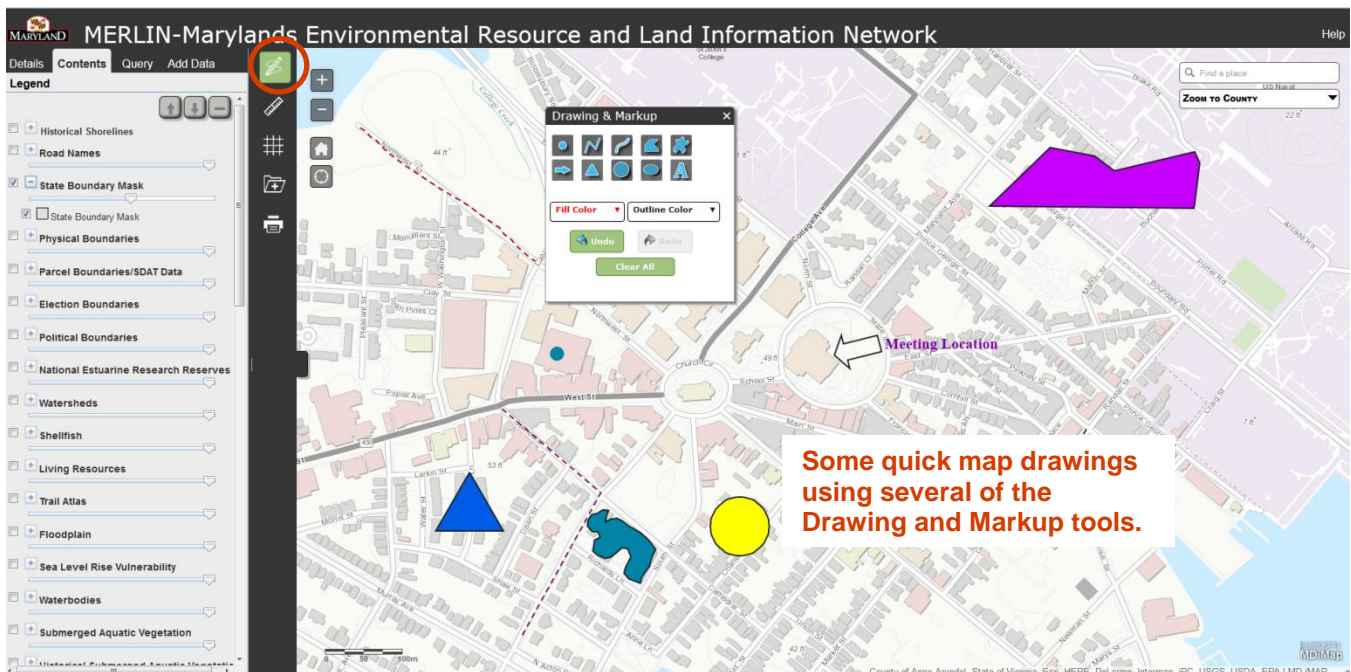


Figure 10: Example of user created markups



Measuring Tools

Figure 11: Measure Tool Button

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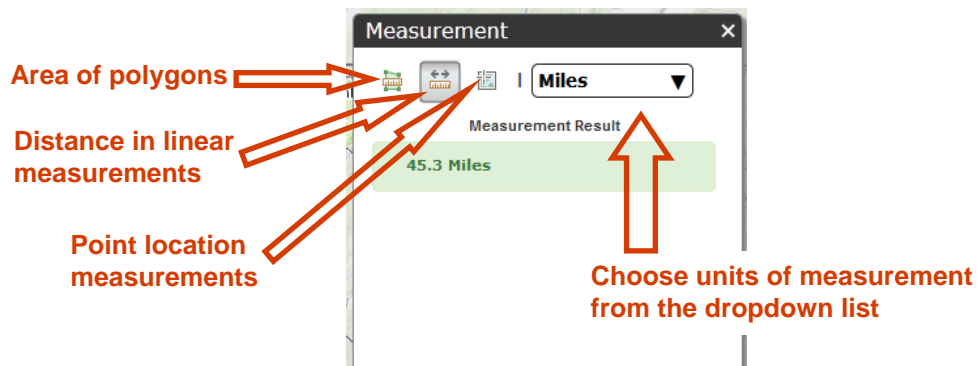
 Oftentimes, it is helpful to ascertain general measurements from a map, for example point location coordinates (longitude/latitude), how many miles it is from point to point or how many acres in a particular polygon. Click the measure tool button (Figure 11) to open a floating pane with three measure options (Area, Distance and Point Location) and the ability to acquire measurements in several corresponding units (Figure 12).

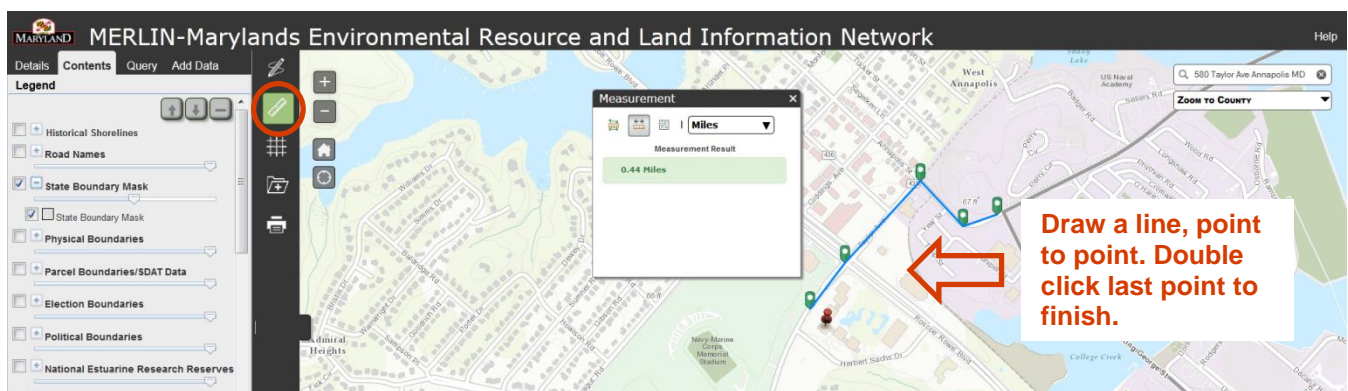
Figure 12: Measure tool floating pane

Click on one of the three measurement options to select it and click the dropdown arrow to select the unit of measure. Options change depending on which measure option is selected.



The values of the measurement will appear in the floating pane at the conclusion of the measure action (Figure 13). Selecting a different measure tool or closing the tool will clear the measurement from the map.

Figure13: Options for measure tool



Print Tool

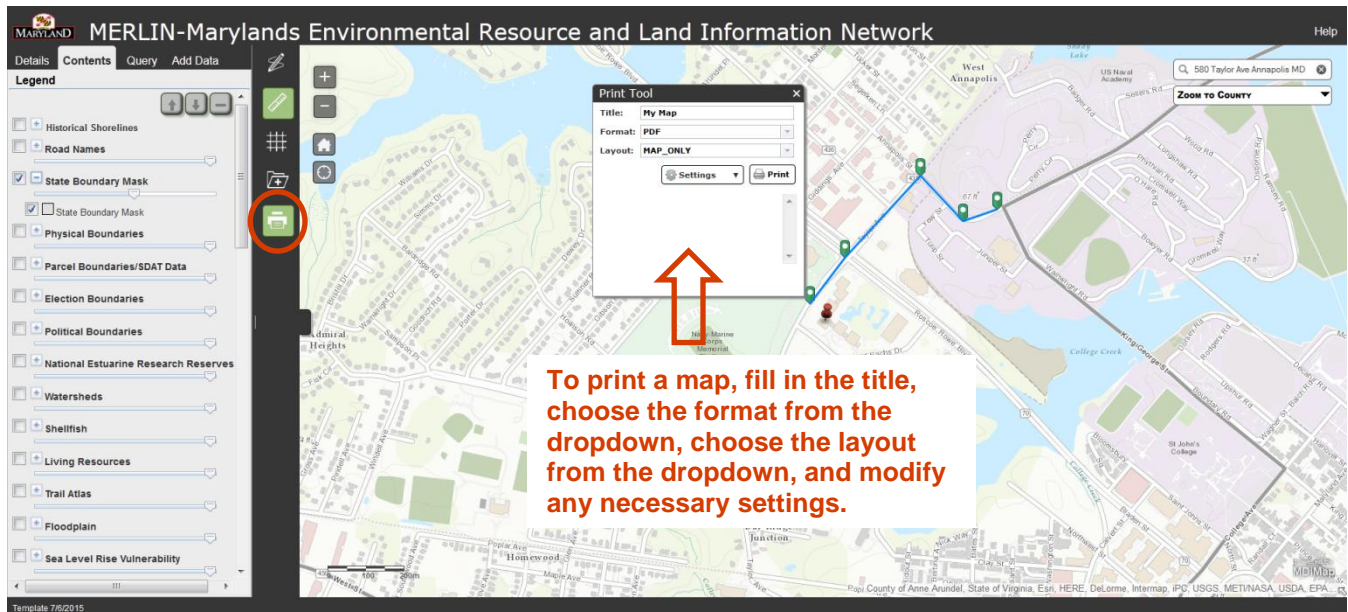
Figure 14: Print Tool Button

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The print tool (Figure 14) allows a user to print a map as a pdf, jpeg or other format image in portrait or landscape orientation. Click on the various dropdown menus (Figure 15) to view a list of print formats and layout options. Click on the settings dropdown to set your map scale and/or choose other options.

Figure 15: Options for print tool



Click the print button to process your map. Once the map is processed and available, click on the icon to view the map. (Figure 16). Print the map using your browser print controls or save the file (Figure 17). Note: Large or complex maps may take extra time to produce.

Figure 16: Print tool display window showing map selections

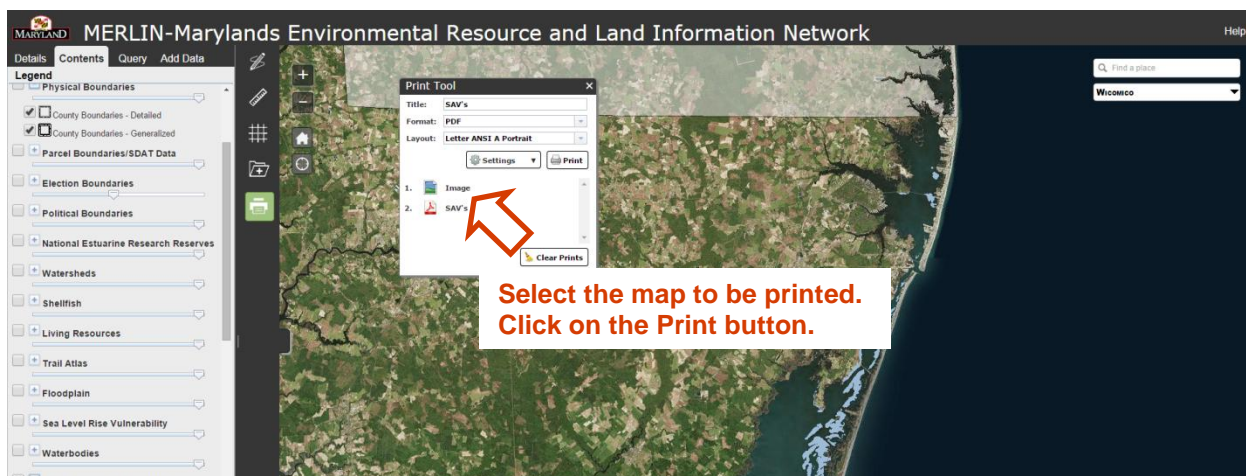
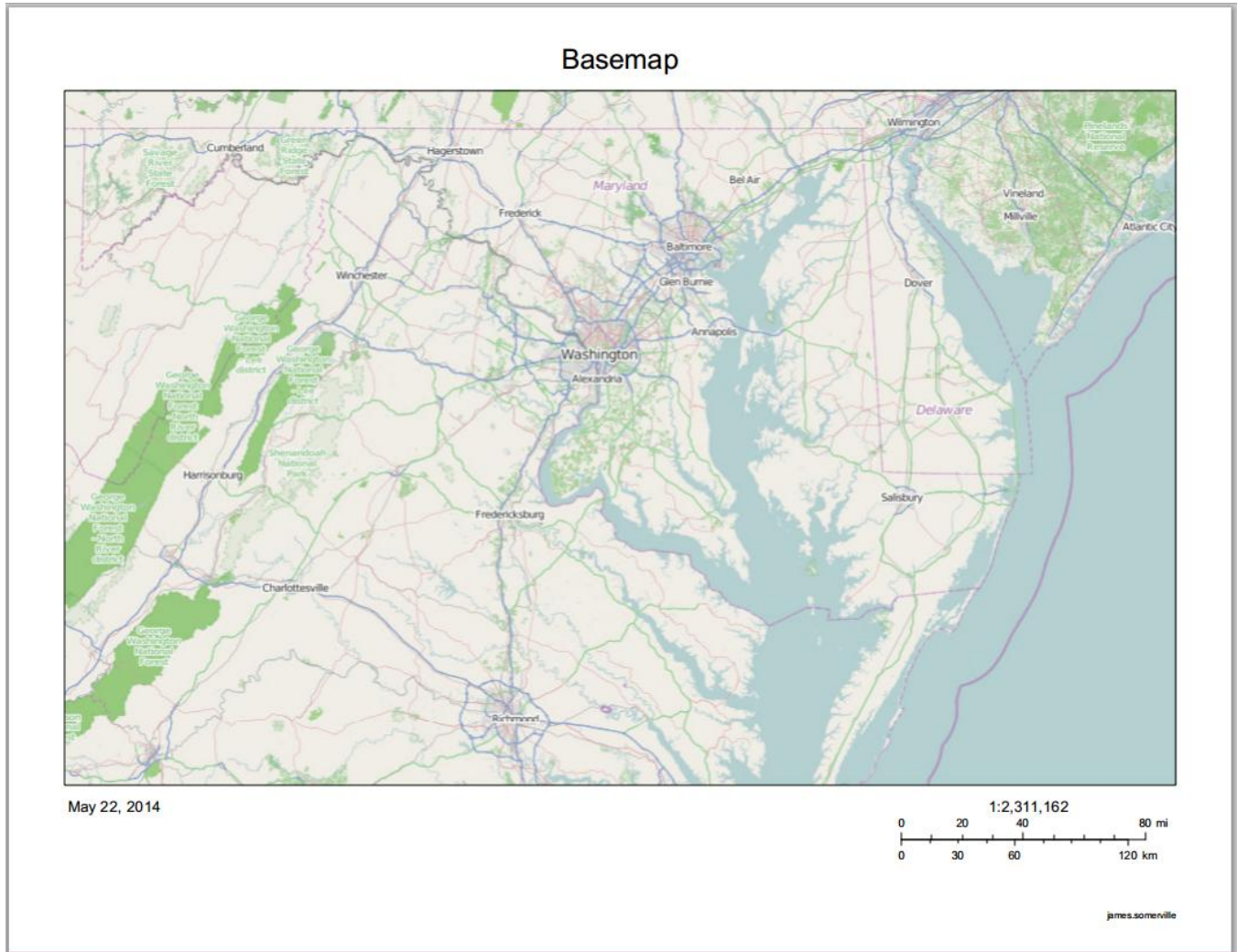


Figure 17: Example of a prepared image



Location Tool

Figure 18: Location Tool Button

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The location tool (Figure 18) provides the means for locating and zooming into a user's current location. Click the location tool button once to identify your current location.

For instance, if someone is at 580 Taylor Avenue in Annapolis, MD and clicked on this button, the map would zoom to that area and place a marker on the map (Figure 19).

Note: You may get a notice from the web browser to allow access for this interaction. A system or browser generated pop-up asking for permission to continue or "share location" may appear.

Figure 19: Results from the Location Tool



Data Interoperability Tool

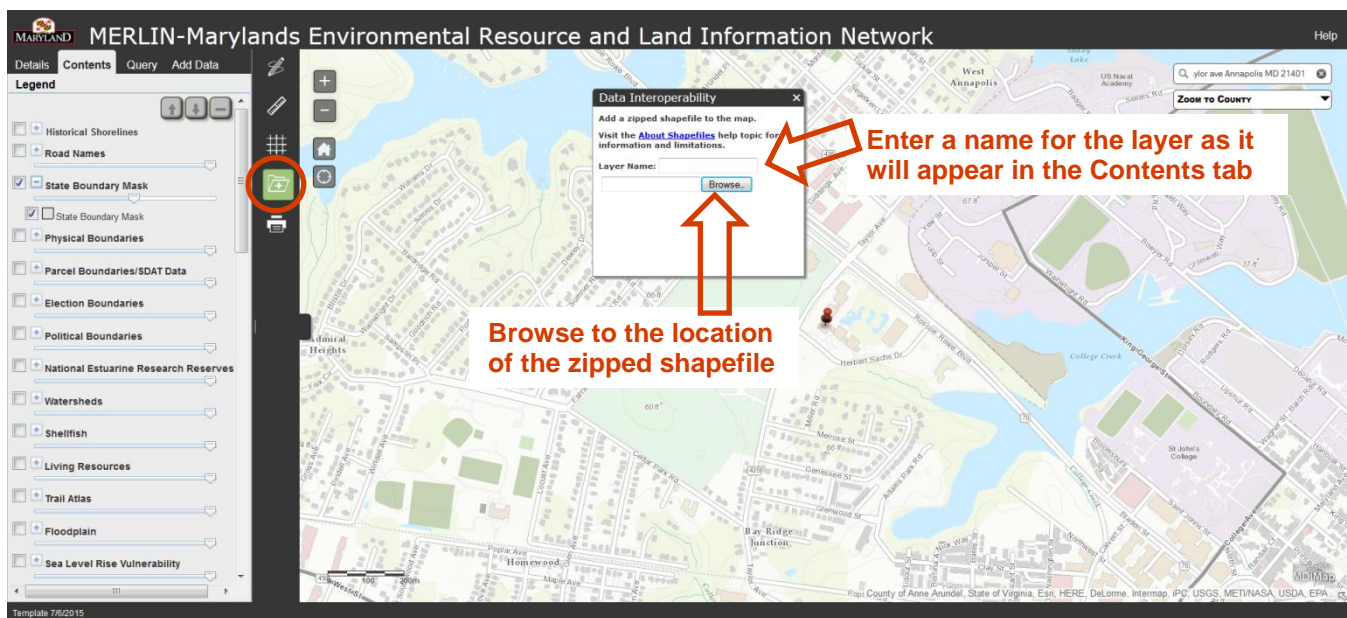
Figure 20: Data Interoperability Tool Button

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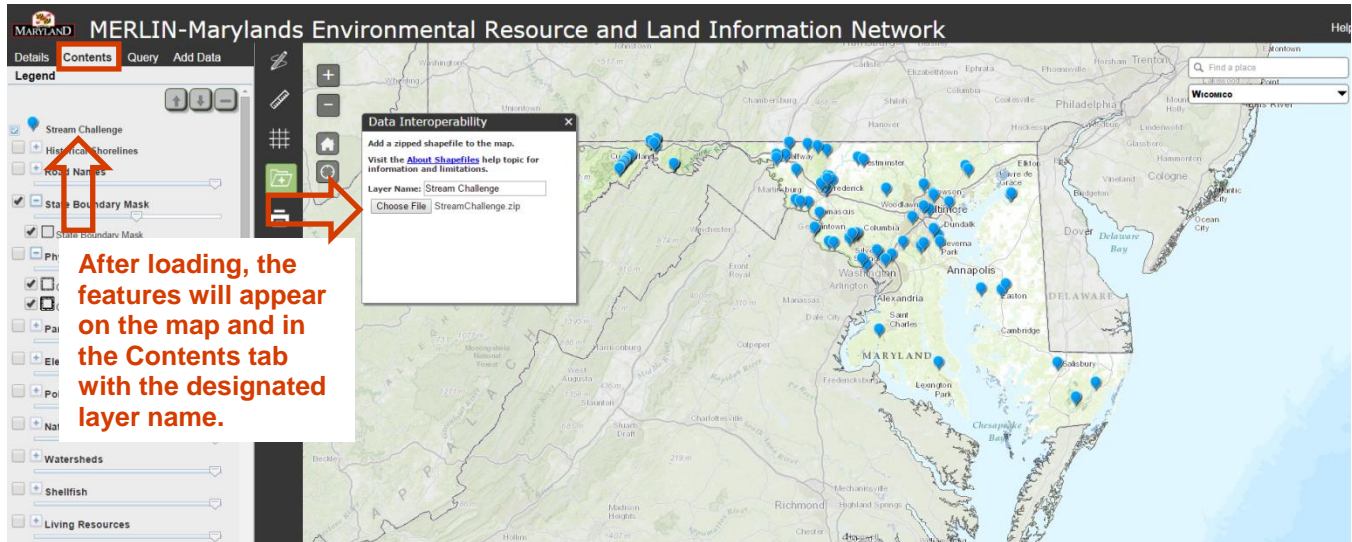
One of the unique features of MERLIN is the ability to add shapefile data to the map from a local machine. Click on the data interoperability tool button (Figure 20) to open a floating pane. In the layer name text box, enter a name for the layer as it will appear in the Contents tab. Click on the 'Choose File' button to browse to the location of an archived or 'zipped' folder containing the shapefile. (Figure 21).

Figure 21: Data Interoperability Tool Floating Pane



For instance, a Stream Challenge zipped shapefile is selected and the Layer Name is entered as “Stream Challenge”. After browsing, selecting and clicking Open, MERLIN will add the data to the map and it will be accessible from the Contents tab (Figure 22).

Figure 22: Data Interoperability Tool Results



Note: The Data Interoperability floating pane will provide indication that the file is loading and provide a warning if the number of features exceeds the maximum number of records allowed (1,000 limit).

To remove the shapefile from the Contents tab, select the layer and click the Minus button at the top of the Contents tab (Figure 31).

Overview Map

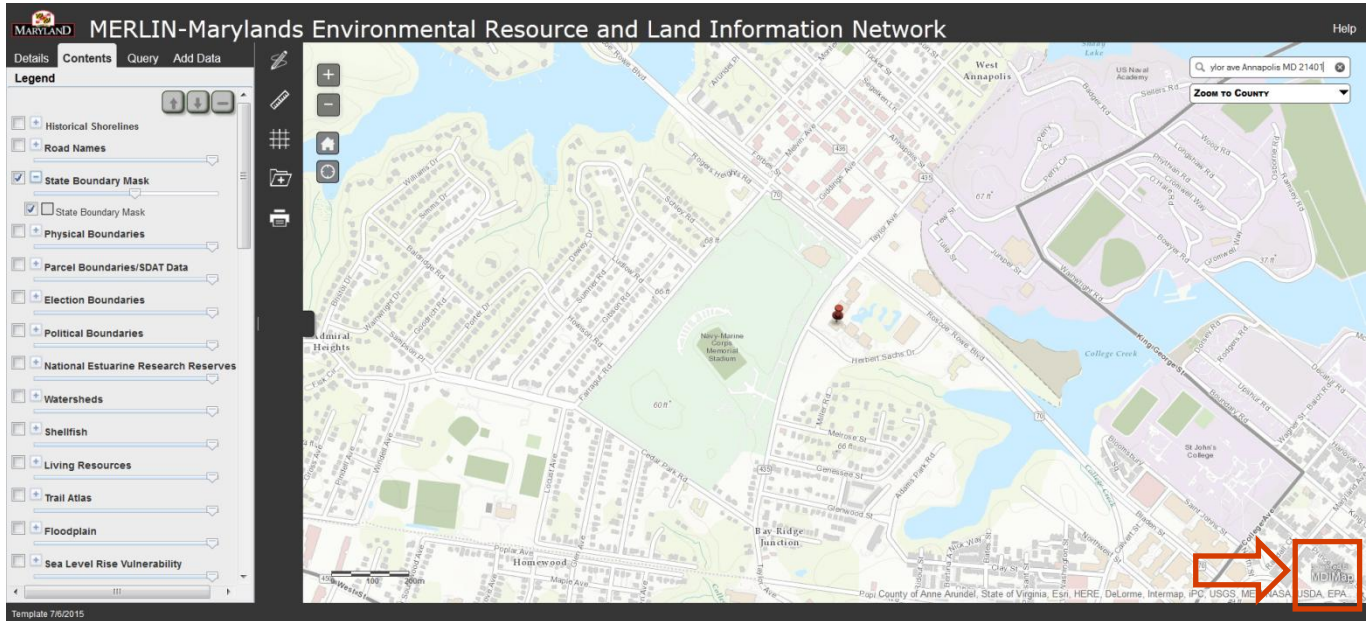
Figure 23: Overview Map

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In the lower, right corner of the map there is a little arrow (Figure 23). Click on the arrow to display the overview map, which provides where the current location of the main map is in relation to smaller scale or zoomed out features, such as a metropolitan area in relation to a county or a county to the state or other states (Figure 24).

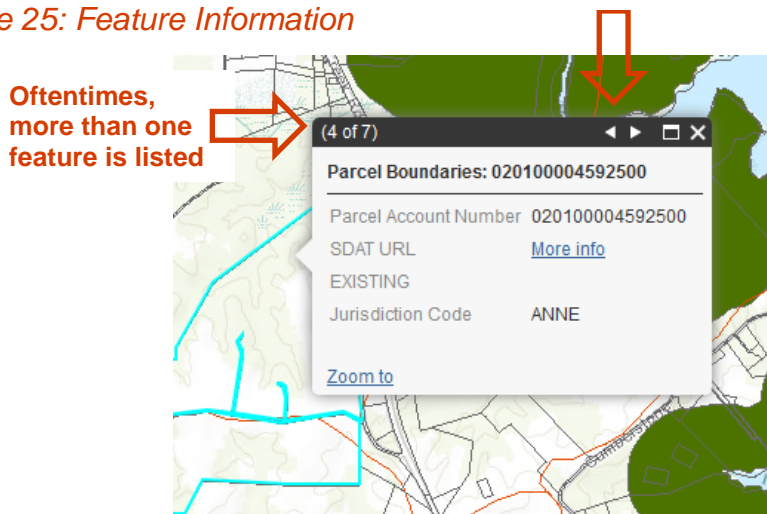
Figure 24: Overview Map shown in the Lower, Right Corner of the Main Map



Feature Information

Oftentimes, mapping applications will have an “i” or information tool to click a map feature and identify its attributes. MERLIN does not have a separate tool, but instead integrates the functionality automatically. Click on any map feature to display a pop-up with the feature’s attribute information (Figure 25).

Figure 25: Feature Information



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Note: The pop-up functionality must be enabled on your computer.

For example, the Parcel Boundaries/SDAT Data (Figure 25) displays a result after a user clicks on a feature. Note that the information pop-up may have more than one set of results depending on how many active layers are available. To access the other layer results, click on the arrow at the top of the result box. In the pop-up information display for the highlighted feature (Figure 26) additional information is available for highlighted links.

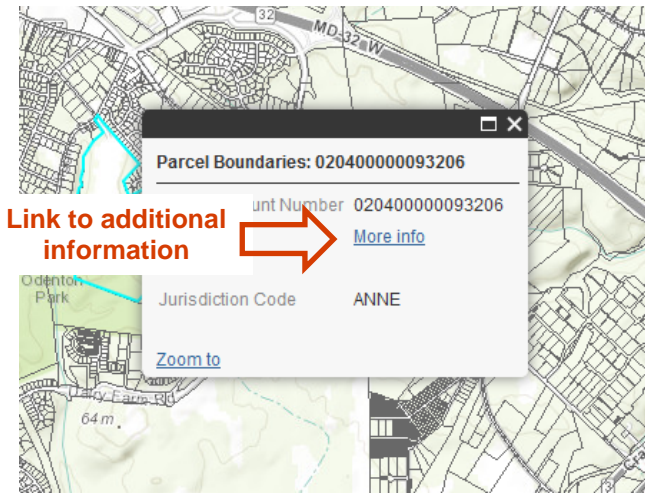
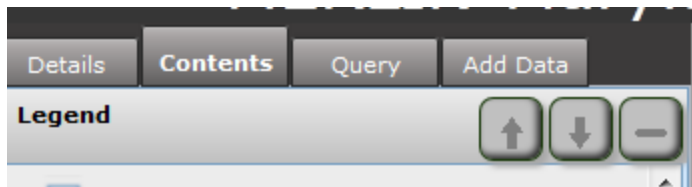


Figure 26: Pop-up Information Displayed for the Highlighted Feature

Table of Contents Tabs

Figure 27: MERLIN Table of Contents Tabs

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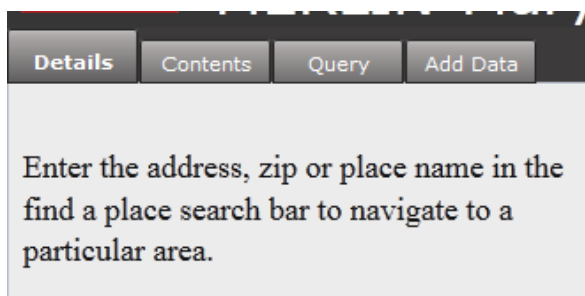
To the left of the map is the Table of Contents which includes four tabs: Details, Contents, Query and Add Data

Details Tab

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The Details tab lists general instructions for using MERLIN.

Figure 28: Details Tab

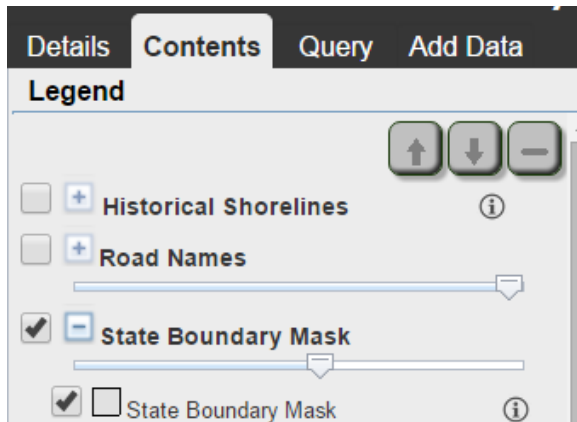



Contents Tab

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The layers appear as they were designed for the web map in ArcGIS.com, including color scheme, cartographic symbols, transparency levels, naming, layers set for initial display, etc.

Figure 29: Contents Tab Up, Down and Minus Buttons



NOTE: In the near future an  information button will be added to each layer that will link to the DOIT website. Metadata is available for each layer from the DOIT site.

This pane provides the ability to turn layers or sublayers on or off. At the top of the Contents tab are up and down arrow buttons along with a minus sign button (*Figure 29*). This allows for the re-ordering or removal of map layers within the map if multiple layers are available. The minus sign allows for the layer to be removed from the map. To move a layer's position up or down or to remove it from the Contents Tab, click on the layer and select the necessary button at the top. The minus sign is not a permanent delete feature. It only makes the layer no longer available within the active mapping application section.

Query Tab

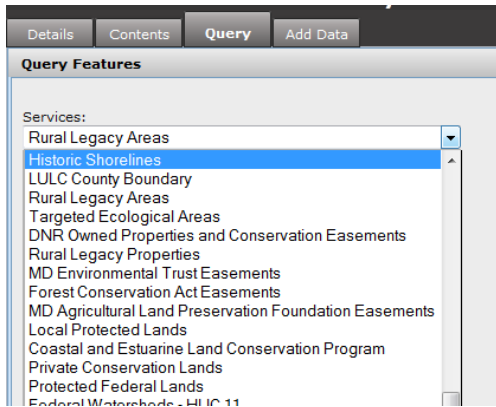
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The Query tab allows users to run searches spatially or on a layer's attributes. This tool supports existing services with single or multiple map layers or new layers that have been added to the map through the Add Data tab. A Query can be made either spatially (e.g. – select via a polygon) or by attribute (e.g. – select via attributes within a table). The easiest query is a spatial select query.

Figure 30: Dropdown List for Query of Web Map Services

First, select a service that is available from the dropdown list (*Figure 30*).

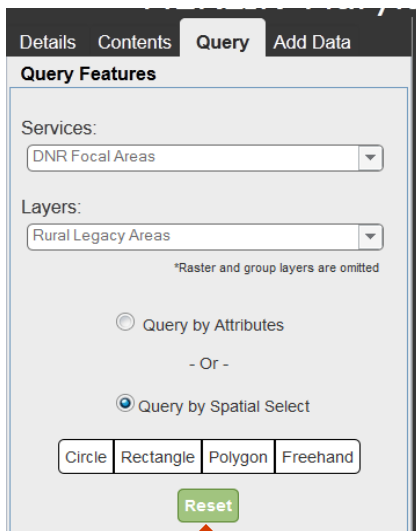
Note: If the service is made up of multiple layers, another dropdown list will appear with all the layers to choose from.



Next, choose either [“Query by Attributes” \(Figure 34\)](#) or [“Spatial Select” \(Figure 31\)](#). Choosing “Spatial Select” will enable the options of using a circle, rectangle, polygon or freehand polygon. Click on one of the choices and draw around the desired features on the map. The selected features are highlighted on the map and a pane appears at the bottom of the map with attribute data of each selected feature (*Figure 35*).

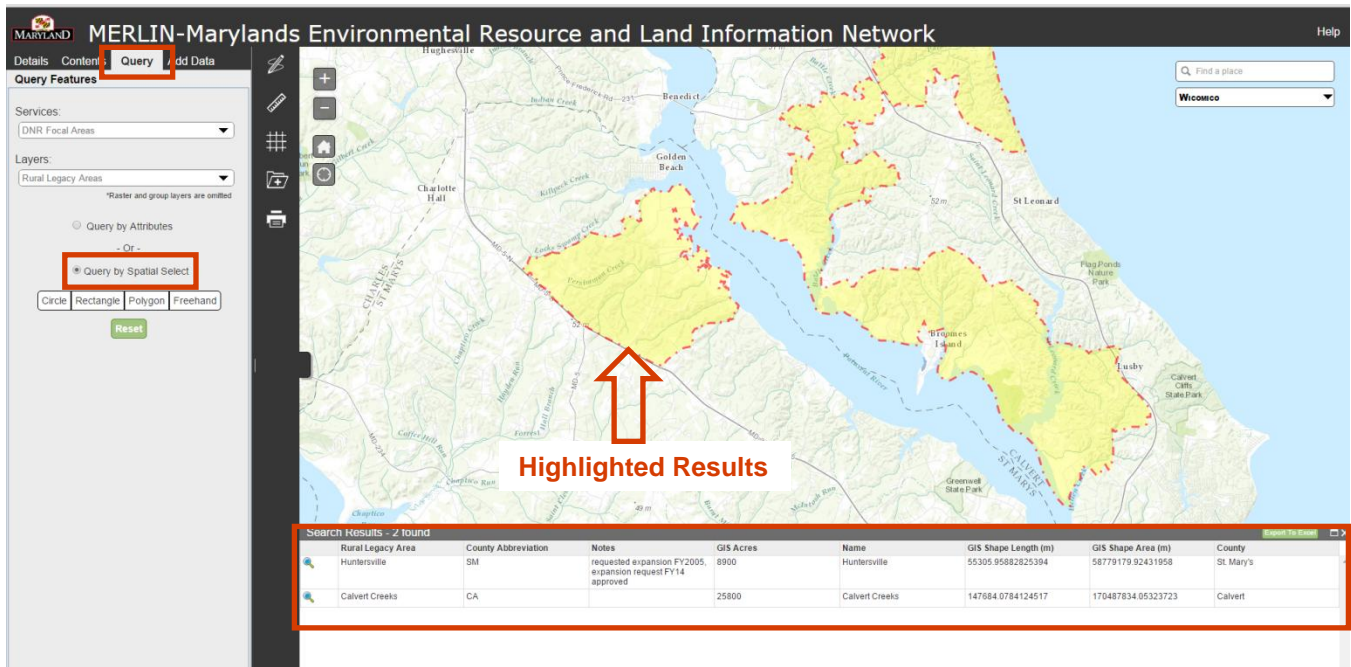
Figure 31: Selected Service and Query Option “Spatial Select”

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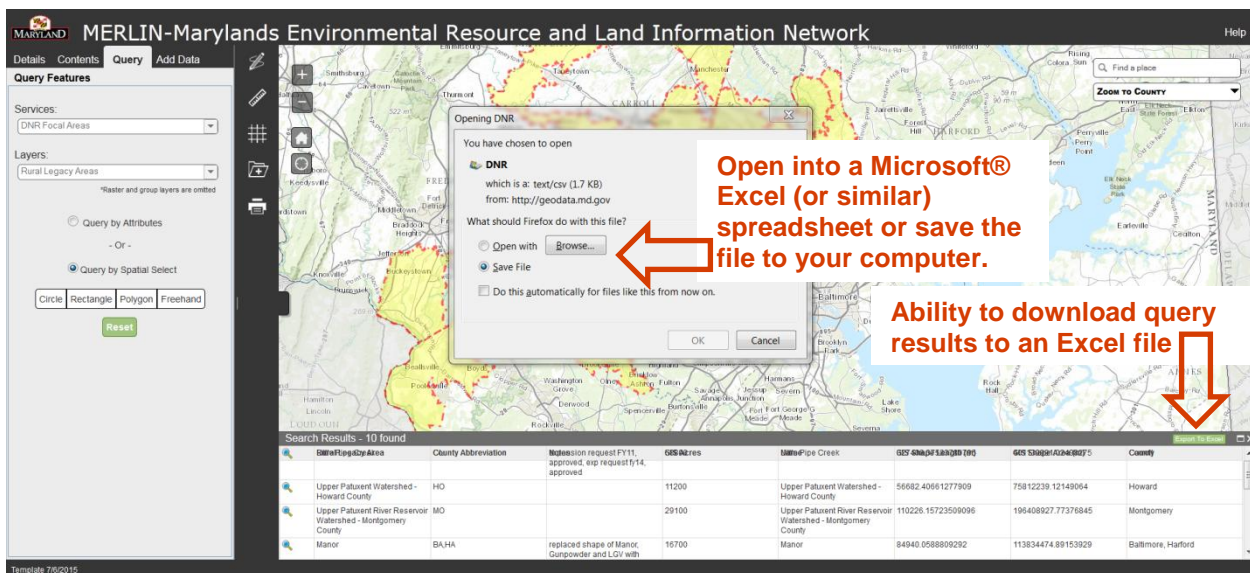
Click the Reset button to begin a new query.

Figure 32: Selection Results Highlighted in the Map and Table Displaying Attribute Data



There are many options to view the selection results. The data table is expandable. The columns can also be sorted alphabetically by clicking on a column name. Click the “Export to Excel” to save the attribute data table to a file that can be opened in Microsoft Excel (or similar) software (Figure 33).

Figure 33: Download the Selected Results to a CSV File



The other select option is “Query by Attributes” (Figure 34). Choosing “Query by Attributes” will enable a second dropdown list which is used to select the attribute field to query. Once the field has been selected, a unique entry is provided in the text box.

Figure 34: Selected Service and Query Option “Query by Attributes”

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Details Contents **Query** Add Data

Query Features

Services:

Layers:

*Raster and group layers are omitted

Query by Attributes
 - Or -
 Query by Spatial Select

Fields:

Type in a value to match possible values in the field that you selected above. For example, if the field is "City", you might type in "Annapolis" or even "anna".

For instance, if you want to find information on the Nanticoke Rural Legacy Area you would select “Name” and type “Nanticoke” in the text box (Figure 35).

Figure 35: Selection Results Highlighted in the Map and Table Displaying Attribute Data

MARYLAND MERLIN-Marylands Environmental Resource and Land Information Network Help

Details Contents **Query** Add Data

Query Features

Services:

Layers:

*Raster and group layers are omitted

Query by Attributes
 - Or -
 Query by Spatial Select

Fields:

Type in a value to match possible values in the field that you selected above. For example, if the field is "City", you might type in "Annapolis" or even "anna".

Nanticoke

Search Results - 1 found

Rural Legacy Area	County Abbreviation	Notes	GIS Acres	Name	GIS Shape Length (m)	GIS Shape Area (m)	County
Nanticoke	DO	Area amended by applicant 106, FY12 expansion request approved, FY14 expansion request	26000	Nanticoke	97849.79550179101	172384046.9506487	Dorchester

Add Data Tab

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The Add Data Tab contains layers from other sources. Click on the '+' to see choices for each category. Click on the layer for a brief description of the data. The '+' will add the layer. You can remove the added layer by clicking on the layer name and then using the '-' button in the content window. Many of these layers are already contained in the Contents Tab.

Figure 36: Add Data Tab

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