SIMSUITE USER'S GUIDE

U.S. ARMY CORPS OF ENGINEERS

OCTOBER 30, 2014

US Army Corps of Engineers ®

IWR

TABLE OF CONTENTS

TABLE OF CONTENTS I
TABLE OF FIGURES II
INTRODUCTION TO SIMSUITE 1
WHAT IS SIMSUITE? 1
HOW DOES IT WORK? 1
WHAT CAN I USE IT FOR? 2
NAVIGATING THE SIMSUITE PORTAL 3
HOW DO I GET TO SIMSUITE? 3
SIMSUITE HOMEPAGE 4
HOW DO I ACCESS VIEWERS? 5
RESOURCES TAB 6
BASE LAYERS 13
DATA LAYERS 14
LEGEND AND OPACITY 17
REAL TIME LAYERS 19
SIMSUITE TOOLS 23
LAYER TOOLS 23
STANDARD TOOLS 25
Home, Forward, backward view *25*
Zoom and Pan *26*
Draw *26*
Measure *32*
Identify Features *32*
Select By Location *32*
SWIPE SPOTLIGHT *33*
ADMIN/ADVANCED USER TOOLS 35
Login *35*
Create Viewer *36*
Edit current viewer *39*
Delete Viewer *40*
Manage simsuite layer library *41*
Manage simsuite layer library *43*
SIMSUITE APPS 44
ANIMATION / TIME CONTROL 44
DRIVE TIME CALCULATOR 45
ROUTE CALCULATOR 45
EOC WHITEBOARD 46
GOOGLE STREET VIEW 47
MISSION MODELS 47
MY MAPS 48
STRUCTURE INVENTORY (BETA) 48
TRAFFIC INCIDENTS 49
IWRM LIBRARY GEOSEARCH (BETA) 50
NATURESERVE 50
NHD PLUS CATCHMENT REPORTS 50
DOWNSTREAM ROUTE 51
ELEVATION PROFILE 52
ENVIRONMENTAL APP 52
PLANNING KICK-START APP 54

EddMaps Invasive Species App 58
Emergency Power Response Assessment Model (EPRAM) App 58
Social Media App 60
iArc (BETA) App 61
Hurricane Forecast Models 62
Local Storm Reports 63
Tornado Impacts 64
Social Media 65
MICA App 67
COMMON PROBLEMS / TROUBLESHOOTING 68

TABLE OF FIGURES

Figure 1: Simsuite Homepage 3
Figure 2: Data Layer Search Results 5
Figure 3: Environmental Protection and Restoration Data Viewing portal 6
Figure 4: Standard Simsuite Viewer 8
Figure 5: Real-Time Data Layers 9
Figure 6: Data Layer icons 9
Figure 7: Standard Tools 10
Figure 8: Login, Print, PowerPoinT, Share, Contact Us Features 10
Figure 9: Print, Powerpoint and Share Features 11
Figure 10: Scale 11
Figure 11: Latitude and Longitude 12
Figure 12: Base Layers 13
Figure 13: Layers 14
Figure 14: Expanding and Eollapsing Data Layers 15
Figure 15: Viewing and Adding Sub-Layers 16
Figure 16: Zooming to Layers 17
Figure 17: Data Legend 18
Figure 18: Data Layer Options Vary Based on the Data Source 19
Figure 19: Real-Time Data Layers 20
Figure 20: Data Scale Visibility 20
Figure 21: Wildfire Real-Time Layer Visibility 21
Figure 22: River Gauge real-Time Layer 22
Figure 23: Search Layers 23
Figure 24: Add data layers 24
Figure 25: Export data 25
Figure 26: Navigation tools 26
Figure 27: Zoom and Pan 26
Figure 28: Draw 26
Figure 29: Draw Utility 27
Figure 30: Draw Drop downs 27
Figure 31: Create a Point 28
Figure 32: Buffer 28
Figure 33: Polyline 29
Figure 34: Freehand Drawing 30
Figure 35: Rectangle drawing 30
Figure 36: Polygon Drawing 31
Figure 37: Label Drawings 31

Figure 38: Measure 32
Figure 39: Select by Location 33
Figure 40: Swipe 34
Figure 41: Spotlight 34
Figure 42: Login 35
Figure 43: Admin Tools 36
Figure 44: Create Viewer 36
Figure 45: Viewer Setup 37
Figure 46: Choose Viewer Theme 38
Figure 47: Choose Base Map 38
Figure 48: Edit Current Viewer 39
Figure 49: Data Library 41
Figure 50: ADd new Data Layer 42
Figure 51: App Library 44
Figure 52: Drive Time Calculator 45
Figure 53: Route Calculator 46
Figure 54: EOC Whiteboard 46
Figure 55: Google Street View 47
Figure 56: Mission Models 48
Figure 57: National Structure Inventory App 49
Figure 58: Traffic Incidents 49
Figure 59: NatureServe 50
Figure 60: NHD Catchments 51
Figure 61: Downstream Route 51
Figure 62: Elevation Profile 52
Figure 63: Environmental App 53
Figure 64: Environmental App Question Mark info 54
Figure 65: Planning KickStart 55
Figure 66: Planning KickStart Summary 56
Figure 67: Planning KickStart Report 57
Figure 68: EDDMaps Invasive Species App 58
Figure 69: EPRAM App Results 59
Figure 70: Social Media App Output 60
Figure 71: iArc App Output 61
Figure 72: Hurricane Forecast Model 62
Figure 73: Local Storm Reports 63
Figure 74: Tornado Impacts 64
Figure 75: Query status 64
Figure 76: Tornado ImpactS Report 65
Figure 77: YouTube Results 66
Figure 78: FliKR Results 66
Figure 79: MICA App 67

INTRODUCTION TO SIMSUITE

WHAT IS SIMSUITE?

SimSuite is a web-based, interactive, and customizable application built by the U.S. Army Corps of Engineers (USACE) Readiness Support Center (RSC) in order to provide relevant mission area information and data. It is currently available for USACE users at http://simsuite.usace.army.mil.

SimSuite was originally created to support Emergency Management. However, it is now used across mission areas by planners, environmental specialists, engineers, and others. SimSuite provides an easy-to-use Geographical Information System (GIS) tool for team communication, planning, and basic analyses. The tool was designed in such a way that it does not require a formal background in GIS to use.

Some of the features of SimSuite include:

- User-friendly access to tools and data in one portal
- On-the-fly analyses and data summaries (including elevation profiles, tornado impacts, identifying invasive species, demographic summaries and more)
- A GIS-based view and platform that merges external data and resources with internally available data in order to provide a cohesive overview of mission relevant data
- Customizable viewer so that users and teams can access the data they need most often more easily
- Data is easily added via uploads and web services
- Hundreds of existing layers to choose from with export and download capability
- Graphics, tables, and diagrams to visually represent data
- Snapshot, printing, and easy sharing options to communicate geographical features
- Templates and start-up tools to create a custom viewer
- Access to all viewers to learn from others and use their viewers for one's own analysis without impacting their work
- Portals for USACE communities to organize, gather, and mark their favorite viewers

HOW DOES IT WORK?

There are three main parts to SimSuite: data layers, applications ("apps") and the GIS platform.

First, SimSuite uses a variety of data sources (also known as web services, data layers, or APIs) within the application. These data sources serve as "layers" that can be applied to a map view of a specific location. Data layers draw from state and federal agencies including, but not limited to the Environmental Protection Agency (EPA), the National Weather Service (NWS), the National Oceanic and Atmospheric Administration (NOAA), and the U.S. Geological Survey (USGS). SimSuite also draws data from HSIP (Homeland Security – Infrastructure Program) Gold. Data from these sources is updated in real-time and reflected in the SimSuite viewer when layers are applied. The platform has expanded since its original design and purpose in order to include a multitude of mission-specific

viewing panes, including viewers relating to emergency, environmental, flood risk management, military support, recreation, regulatory, and planning missions. Each viewing pane works similarly, but, by design, will have suggested layers. Users are able to search for additional available layers, add data sets in order to use that information as a layer, save specific views with layers and tools applied, and model events such as floods and hurricanes, as well as other functions. SimSuite features allow users to customize the application to best serve organizational missions. These capabilities will be described in detail in later sections.

Next, SimSuite has several existing apps to help do various types of analysis using these data layers. Some of the existing apps include a downstream routing tool, identification of invasive or endangered species in an identified area, and summarizing demographic information. When a new app is added, all users will have access to this app. The platform in SimSuite enables apps to be built more easily and quickly by advanced users and programmers. This capability permits communities to design their own apps easily to meet their needs in coordination with the SimSuite administrators and advanced users. One should click Contact Us if they are interested in adding apps or have ideas for new apps.

Finally, SimSuite is built on ArcGIS (ESRI) Flex Viewer Platform. This platform offers basic GIS tools and base map layers that almost any GIS system typically would have such as zoom, select, layer list, a key, and a general hosting platform. This platform enables many users to construct multiple viewers using the same base tools and to be able to share all tools, apps and data across viewers. An app that is built for one community or viewer can benefit other users. Likewise, data layers that are added into the system by an administrative user will also be available to all other users. The platform provides protection to the system by ensuring that a non-administrative user is able to use the tool without permanently impacting the system as a whole, other viewers or other users. As appropriate, higher privileges are available for more advanced users.

WHAT CAN I USE IT FOR?

The SimSuite application can be used to view data relevant to missions including, but not limited to emergency management, environmental, flood risk management, military support, recreation, regulatory, and navigation. More recently, Corps Planners are also using this tool for reconnaissance and feasibility studies. Users can access data relevant to their mission or task through one integrated portal.

Not only can users view the data on the web application, but they can also export the data to share it with others, add additional data sets, and save specific viewers in order to access data without having to reapply each layer every time they use the tool. These application capabilities make it easier for users to access, share, analyze, and make use of available data relating to project missions and requirements.

NAVIGATING THE SIMSUITE PORTAL

HOW DO I GET TO SIMSUITE?

The tool can be accessed several ways. The most direct way to access SimSuite is to visit the following web address: http://simsuite.usace.army.mil/simsuite/index.html. The website is also accessible through the USACE Readiness Support Center website, which can be found at the following web address: http://rsc.usace.army.mil/. The main homepage will load, and will look similar to the image provided below in **Figure 1**:

FIGURE 1: SIMSUITE HOMEPAGE

SIMSUITE HOMEPAGE

The five tabs on the main page are as follows:

- **Home**: Returns the user to the main SimSuite page from another section such as "Activity" or "Data." This method is preferred instead of using the browser's "back" button.
- **Data**: Search for any SimSuite base layers or viewers that are available to the public. There is also the ability to narrow the search to specific groups or layer owners.
- **My Favorites**: This tab displays any viewers or layers that a user has bookmarked as a favorite over time, starting with the most recent.
- **Activity**: This tab displays when a layer or viewer has been created or modified. This is done through APIs in case more technical employees are interested.
- **Resources**: This tab provides additional information such as tutorials, frequently asked questions, and additional links.
- **Contact Us**: This tab, located in the upper right corner, allows users to email the Simsuite administrators.
- **Login**: This is located in the upper right corner. This allows new users to request admin rights to manage viewers and data. It also allows current admins to login.
- **Dashboard**: This is a new tool to keep maps and data further organized.

A few notes about the Data tab…:

While using SimSuite, the user can choose to create a viewer or use an existing viewer (discussed in detail later). Different viewers contain different tools and apps already loaded into the base map, and the user can select the subject matter as appropriate. Each viewer customizes the extent, data, and apps for that specific viewer, but all have access to the same tools. Users should feel free to browse viewers and try out the various functions.

A type of viewer or layer can be easily searched by typing in a brief description in the top right corner search box. For example, to find the U.S. Geological Survey's Stream Flow Stations, type "USGS" in the search box, and it will bring up all of the USGS layers that are available in SimSuite. To narrow the search results, typing in "USGS stream" would bring the user directly to that layer. It is important to note the differences between a layer and a viewer. If "USGS Stream Flow Stations" is selected and "viewer" is selected, the search wouldn't bring any results because this is a layer and not a viewer.

In order to narrow the groups within a layer, first type a search in the search box, **Figure 2**. For example, typing "biodiesel" in the search box will bring up basic information about the "Biodiesel Stations" layer, including the URL, the layer owner, and what group this layer can be found in. In the case of the Biodiesel Stations, it belongs to "Commodities & Supplies." If the user clicks on the group "Commodities & Supplies," it will pull up all other layers that belong to that group. There are keywords that appear for each layer, such as "Diesel, Alternative Fuels, Petroleum, Stations, etc…" which can be used when searching for a specific layer.

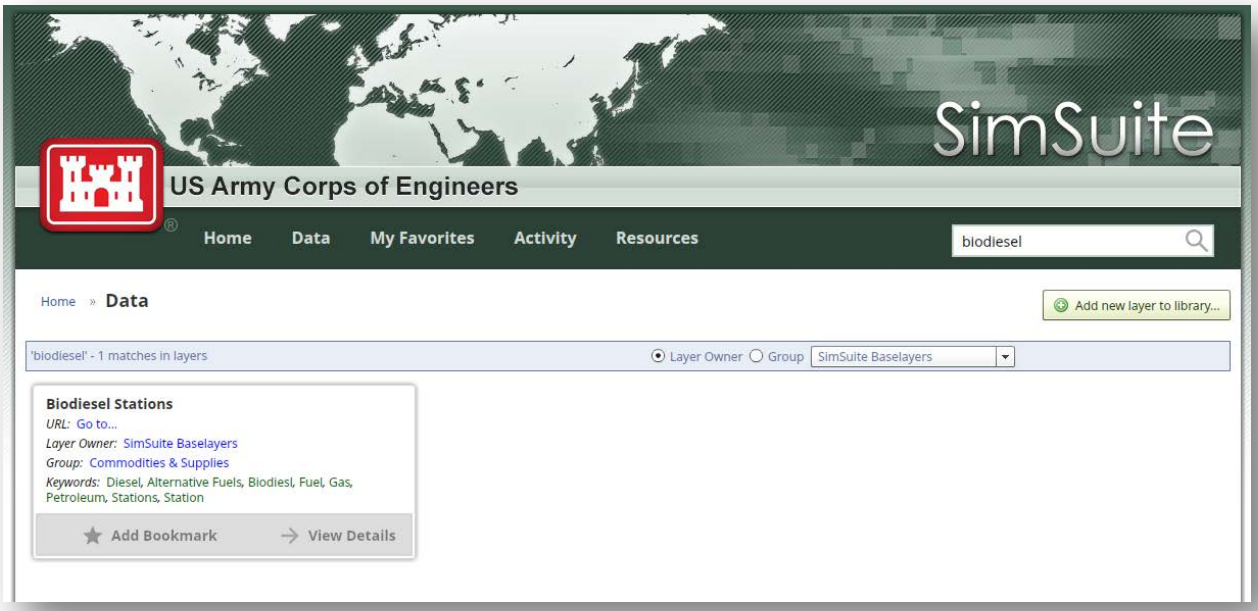


FIGURE 2: DATA LAYER SEARCH RESULTS

HOW DO I ACCESS VIEWERS?

To access a specific viewing panel and gain access to the GIS enabled map and associated features, return to the "Home" page and select "Browse existing viewers" under the area of interest. Creating a new viewer will be discussed later in this tutorial. As seen in **Figure 3**, the top page banner has changed to show the features and components relating to the Environmental Protection and Restoration viewer.

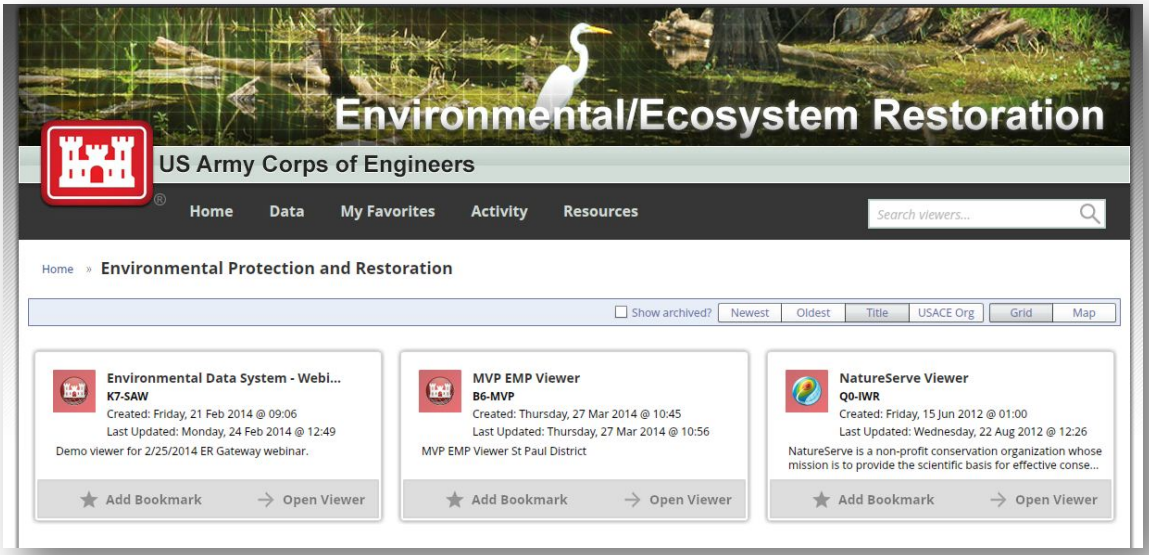


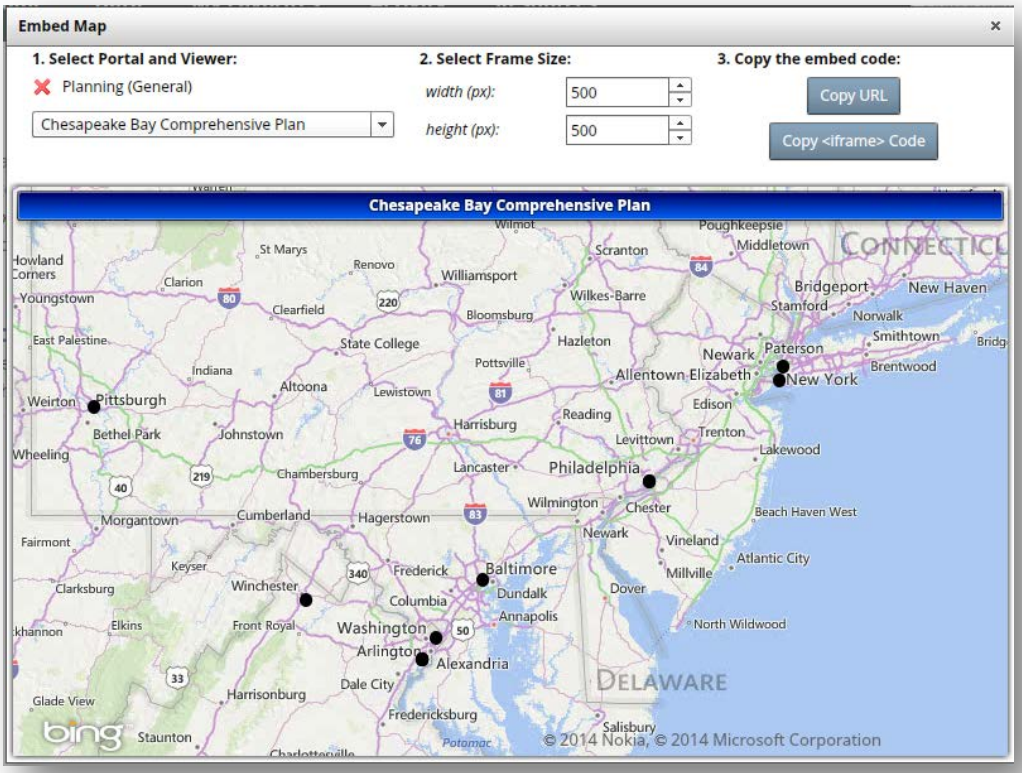
FIGURE 3: ENVIRONMENTAL PROTECTION AND RESTORATION DATA VIEWING PORTAL

Each viewer displays basic information to allow a user to quickly determine if that viewer is of interest. In the case of the Environmental and Ecosystem Restoration viewer, there are a few viewers that display the type of viewer, when it was created and last updated, and a basic description of what the overall viewers purpose is.

In order to launch the viewer, select “Open Viewer.” There is also an option to bookmark frequently used viewers by selecting “Add Bookmark.” As mentioned above, viewers that are bookmarked are available under the “My Favorites” tab.

RESOURCES TAB

The Resources Tab offers additional help on using Simsuite. This tab holds this documentation and has helpful links among other things. It also has other function too. For example, one can embed their Simsuite Viewer into their website, Sharepoint or other applications. This can be done through the selection of the portal and copying the url or code that is produced into your application.


Embed Map
1. Select Portal and Viewer:
Planning (General)
Chesapeake Bay Comprehensive Plan
2. Select Frame Size:
width (px):
500
height (px):
500
3. Copy the embed code:
Copy URL
Copy <iframe> Code
Chesapeake Bay Comprehensive Plan
Wilmot
Poughkeepsie
Middletown
Howland Corners
St Marys
Renovo
Scranton
Clarion
Williamsport
Youngstown
Clearfield
Wilkes-Barre
Bridgeport
New Haven
Stamford
Norwalk
Bloomsburg
East Palestine
State College
Hazleton
Smithtown
Pottsville
Newark
Paterson
Indiana
Brentwood
Allentown
Elizabeth
New York
Altoona
Lewistown
Weirton
Pittsburgh
Reading
Edison
Harrisburg
Bethel Park
Johnstown
Levittown
Trenton
Wheeling
Lakewood
Chambersburg
Lancaster
Philadelphia
Wilmington
Chester
Morgantown
Cumberland
Hagerstown
Beach Haven West
Fairmont
Newark
Vineland
Keyser
Frederick
Baltimore
Atlantic City
Clarksburg
Winchester
Dundalk
Millville
Dover
Columbia
Annapolis
Elkins
Front Royal
North Wildwood
Washington
Arlington
Alexandria
Dale City
DELAWARE
Glade View
Harrisonburg
Fredericksburg
Salisbury
Staunton
Potomac
© 2014 Nokia, © 2014 Microsoft Corporation

SimSuite Basics

The following image depicts the basic SimSuite interface. This particular image is of the Environmental viewer, and will have layers that are different from other viewers. However, these layers are available in other viewers, and layers not included in this viewer can be accessed as well. Viewers can be customized, accessing any available layer in the SimSuite application.

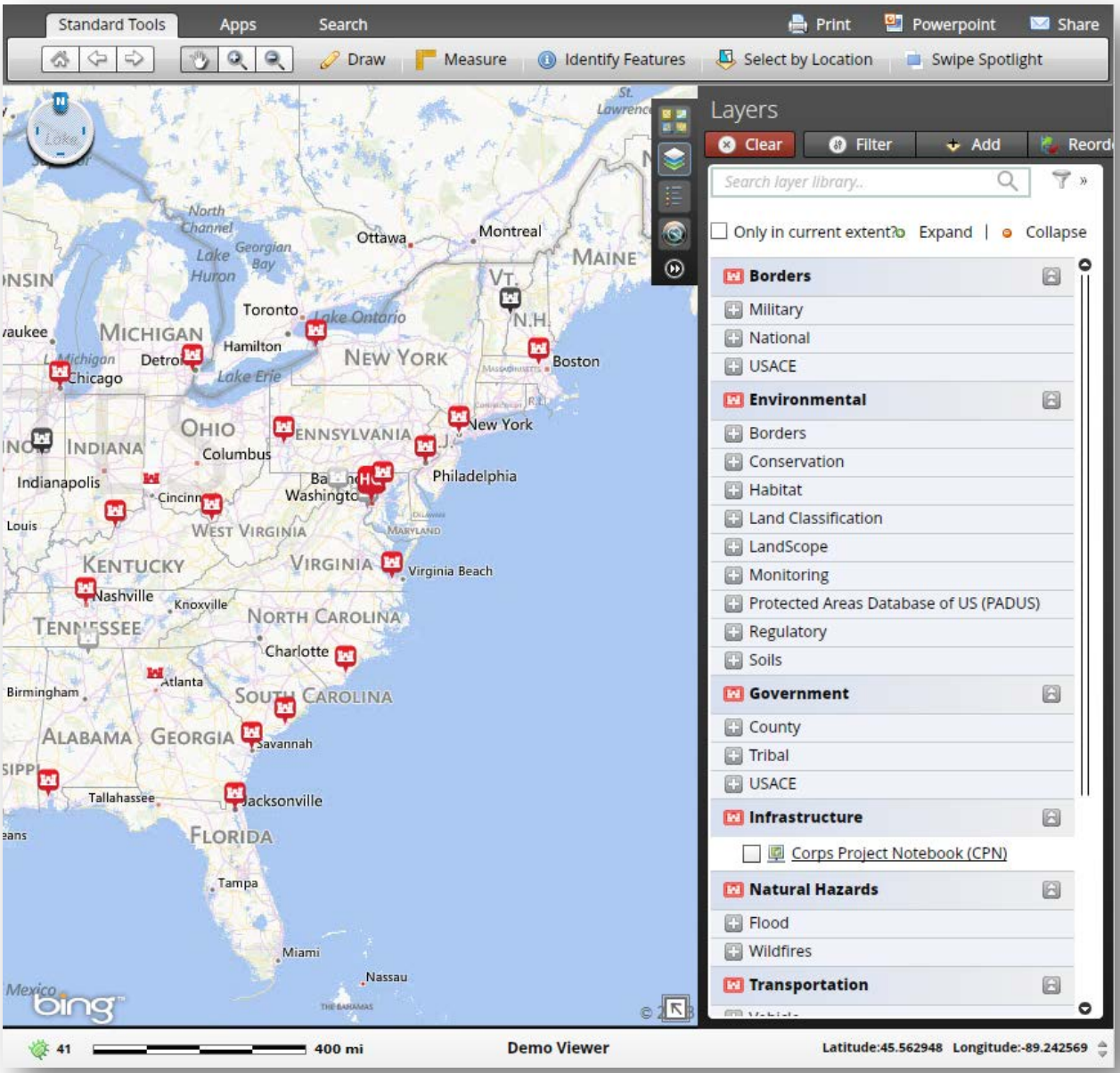


FIGURE 4: STANDARD SIMSUITE VIEWER

From the "Home" page, there are options to either browse existing viewers or create a new viewer. When the user opens the SimSuite viewer, a large map with a gray navigation bar at the top of the page will

appear, and a small black, rectangular layer tool on the right side of the window. As shown in **Figure 5** below, in order to expand this toolbar, click on the expand arrow located in the bottom of the tool bar.

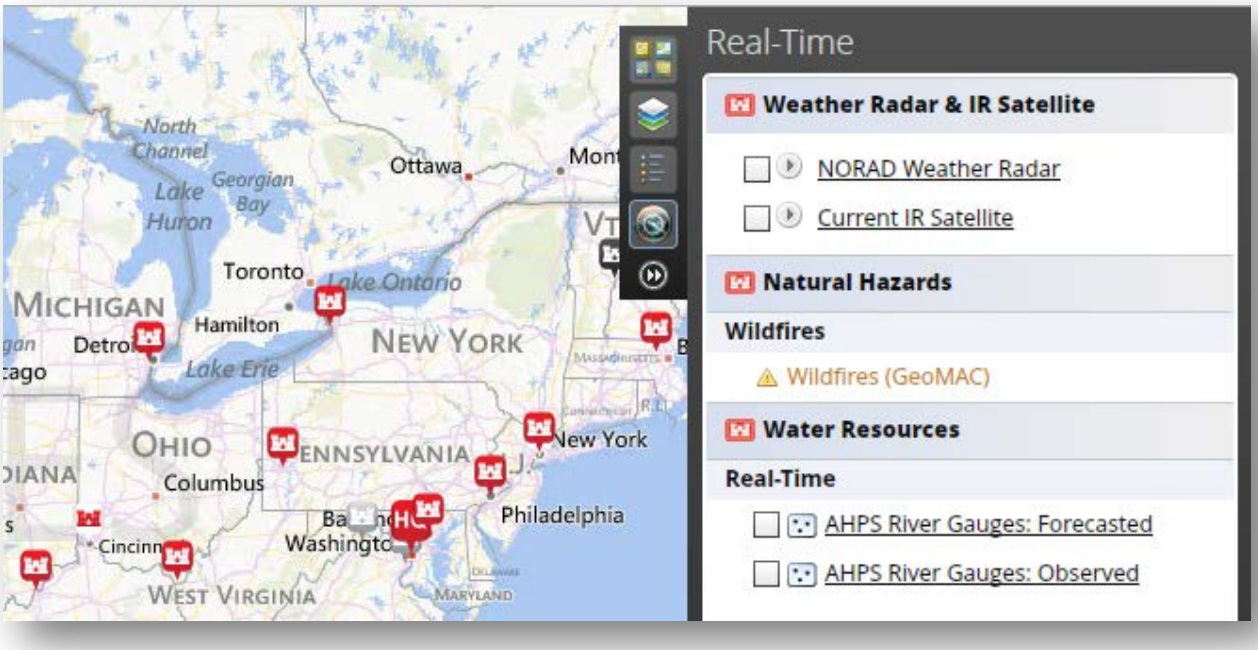


FIGURE 5: REAL-TIME DATA LAYERS

Under the rectangular layer tool, there are four main tools: Base Layers, Layers, Legend, and Real-Time.

FIGURE 6: DATA LAYER ICONS

By clicking on any of these icons, additional tools in the viewer that are used to change the aesthetics, data shown on the map, information on data display, and real-time information relating to weather, water and additional hazards will be shown. These tools will be explained in the following sections.

Note the text around the borders of any viewer. All viewers will include these clickable options that allow the user to contact, go back to the main SimSuite entrance page, among other functions. These hyperlinked text options are listed below along with an explanation and an overview screenshot of where they are located.

- **Return to Portal** – Returns the user to the home portal.
- **Viewer Name** – Displays the name of the current viewer; for example, in **Figure 7** below, the current viewer is called "Environmental Data System – Webinar."

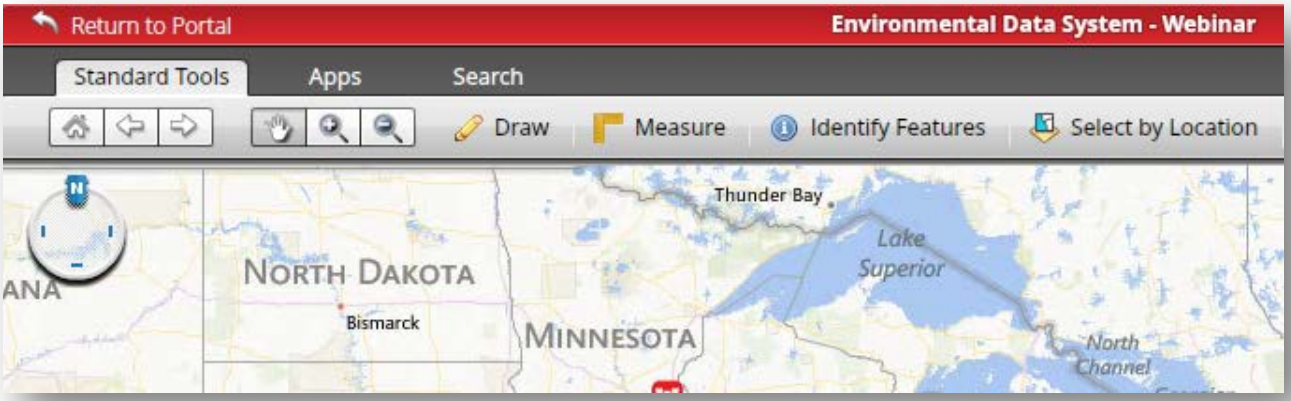


FIGURE 7: STANDARD TOOLS

- **Contact Us** – Click this link to send an e-mail to SimSuite technical support.
- **Login** –Allows users to login to SimSuite to make administrative changes contingent on the user's access privileges.

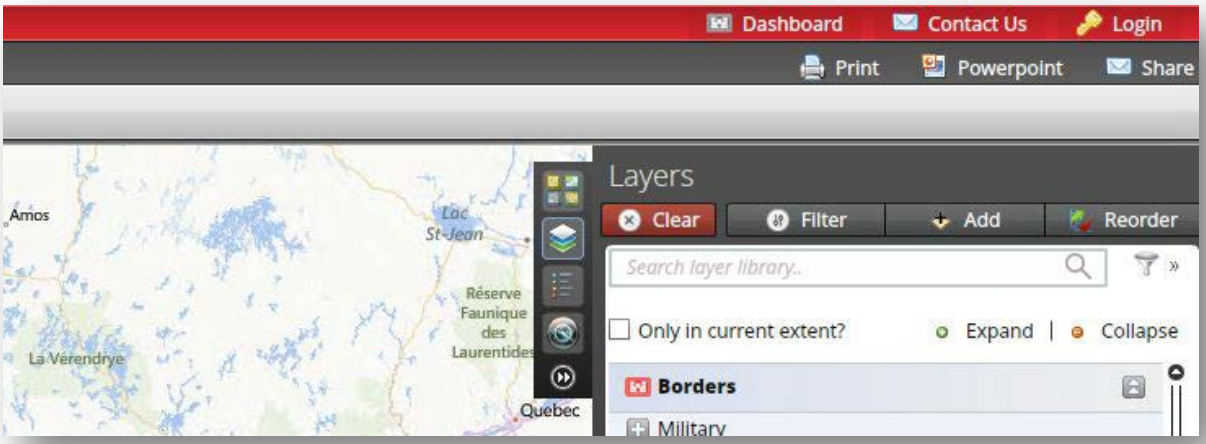


FIGURE 8: LOGIN, PRINT, POWERPOINT, SHARE, CONTACT US FEATURES

- **Print** – This allows the user to print the current map view.
- **PowerPoint** – Allows the user to export the current map view to a PowerPoint slide. After clicking on the linked text, click the "Capture" option in order to take a screenshot of the map view, then the "Download" option to access the screenshot. Clicking the "Download" option will

open a dialogue box on the user's computer to save the image, which will be a .zip of the .png image, including the map and legend. Once the file is saved, it can be added to a PowerPoint presentation.

- **Share** – Allows the user to email a link of the current viewer to a specific email address. The email will include a link that will take the recipient of the email to the viewer, including layers and other items selected in the viewer. Click on this link to open the user's email dialogue box (Outlook for U.S. Army Corps of Engineers employees).

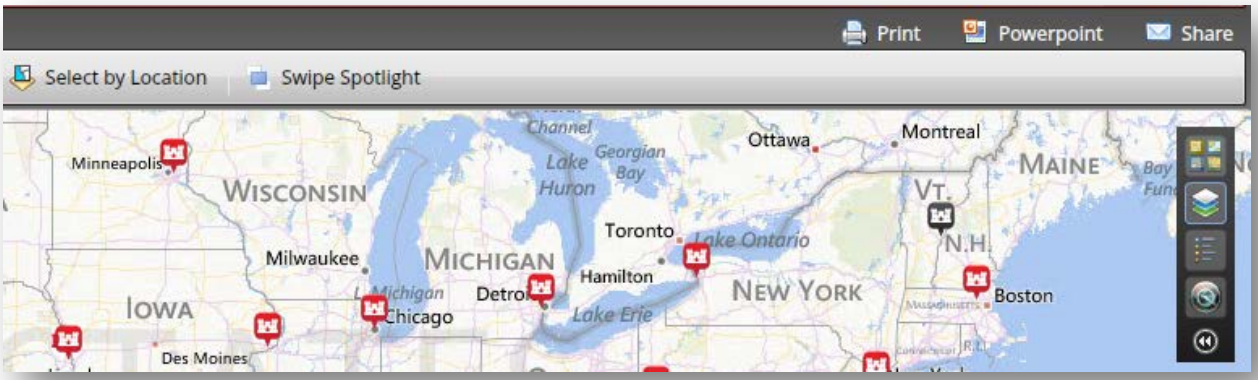


FIGURE 9: PRINT, POWERPOINT AND SHARE FEATURES

- **Scale bar** – Change as the user zooms in and out on the map. The scale bar displays the scale of the current view. For example in the image below (**Figure 10**), the scale is 500 miles for the shown bar length.

FIGURE 10: SCALE

- **Latitude / Longitude** – Displays the longitude and latitude based on the location of the user's cursor on the map at any given time. The image below (**Figure 11**) displays the latitude and longitude coordinates based on where the user's cursor was at the time the screenshot was taken.

FIGURE 11: LATITUDE AND LONGITUDE

SimSuite users can change their basic viewer to display data overtop a base layer. The user may choose a base layer that is most appealing and useful to view data that is most relevant to the mission. To access base layers, click on the top icon in the right floating layer toolbar to display the 12 base layer options. Choosing one of these layers will change the background or base layer of the map view. The base layer options include Bing (default setting), Bing Aerial, Bing Aerial with labels, Bing Streets, Aeronautical Charts, MapQuest-OSM, National Geographic, Ocean Basemap, Open Street Map, Shaded Relief, Topo USA (detailed), and Topo World.

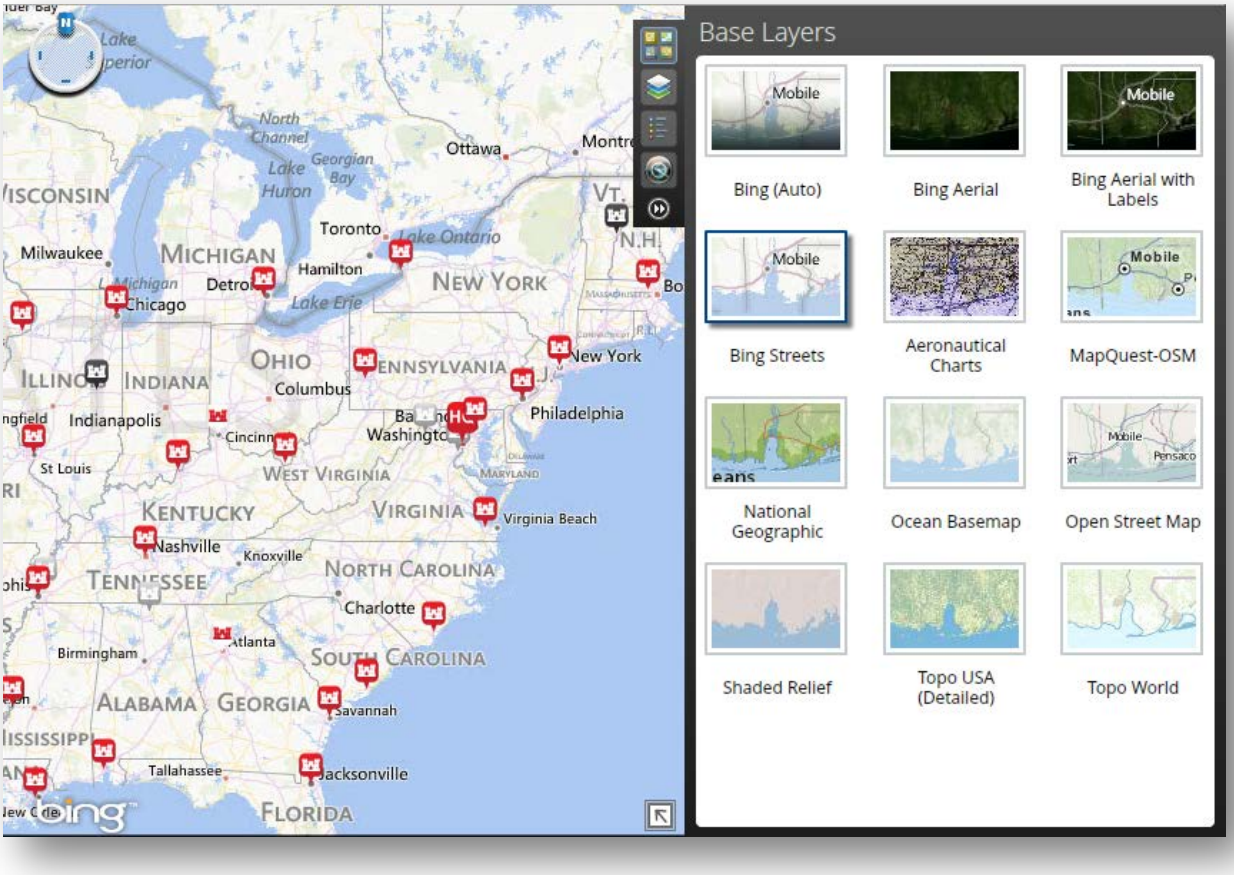


FIGURE 12: BASE LAYERS

The user is able to change the base layer at any time while using SimSuite.

Every viewer in SimSuite includes a set of layers that can be added to the map in order to allow the user to view data sets relevant to the mission. Layers are accessed by clicking on the second icon down in the toolbar (circled in red) as shown in **Figure 13** below.

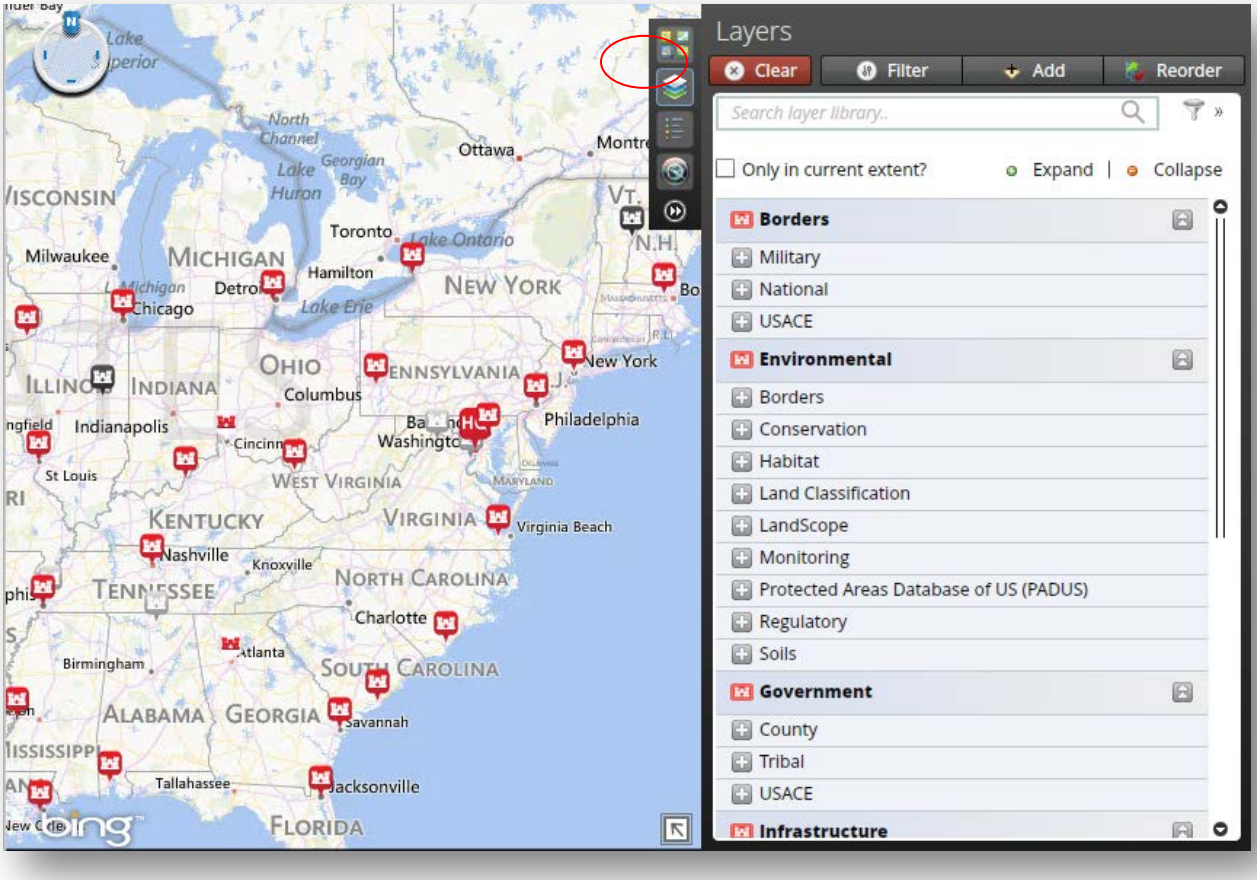


FIGURE 13: LAYERS

In the layers section, there is a menu of data sets available to apply to the user's viewer. This allows the user to view data in a specified area. For example, the Environmental viewer that is shown in **Figure 13** above displays layers that provide information specific to conservation, habitat, land resources, landscape, monitoring, the protected area database, soil and additional datasets.

To view additional layers and sub-layers, click on the plus signs located to the left of each menu item, shown in the image below, **Figure 14**. If the user clicks on the layer itself, there will be a pop-up menu with options to change the opacity, look up the data source, update the layer library, or remove the layer.

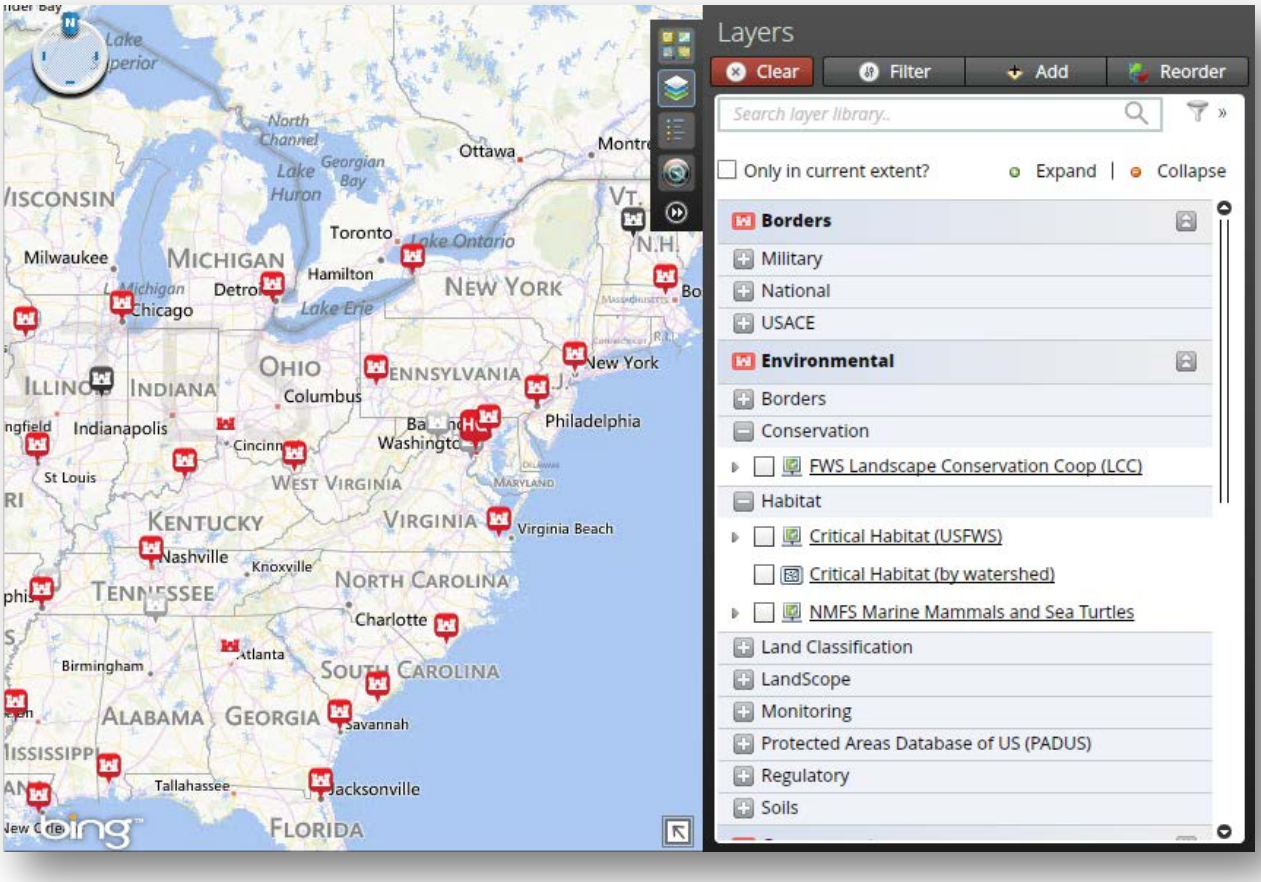


FIGURE 14: EXPANDING AND EOLLAPSING DATA LAYERS

When opening layers, the plus sign will turn into a minus sign when clicked, and will be followed by additional list menu items. Some of these sub-items will include a gray arrow to the left. This is a sub-layer that has additional data layer options. In the image below (**Figure 15**), additional list items are available, which can be selected or de-selected to display data relevant to the user. Additionally, if the layer of interest is displayed in yellow font next to an exclamation point, then there is an issue with the data source URL for that layer. The user can click on the layer to correct the URL if it is known, or select a different layer with similar information. Sometimes these layers take more time to connect; it is also possible that the server that the data is being retrieved from is temporarily unavailable.

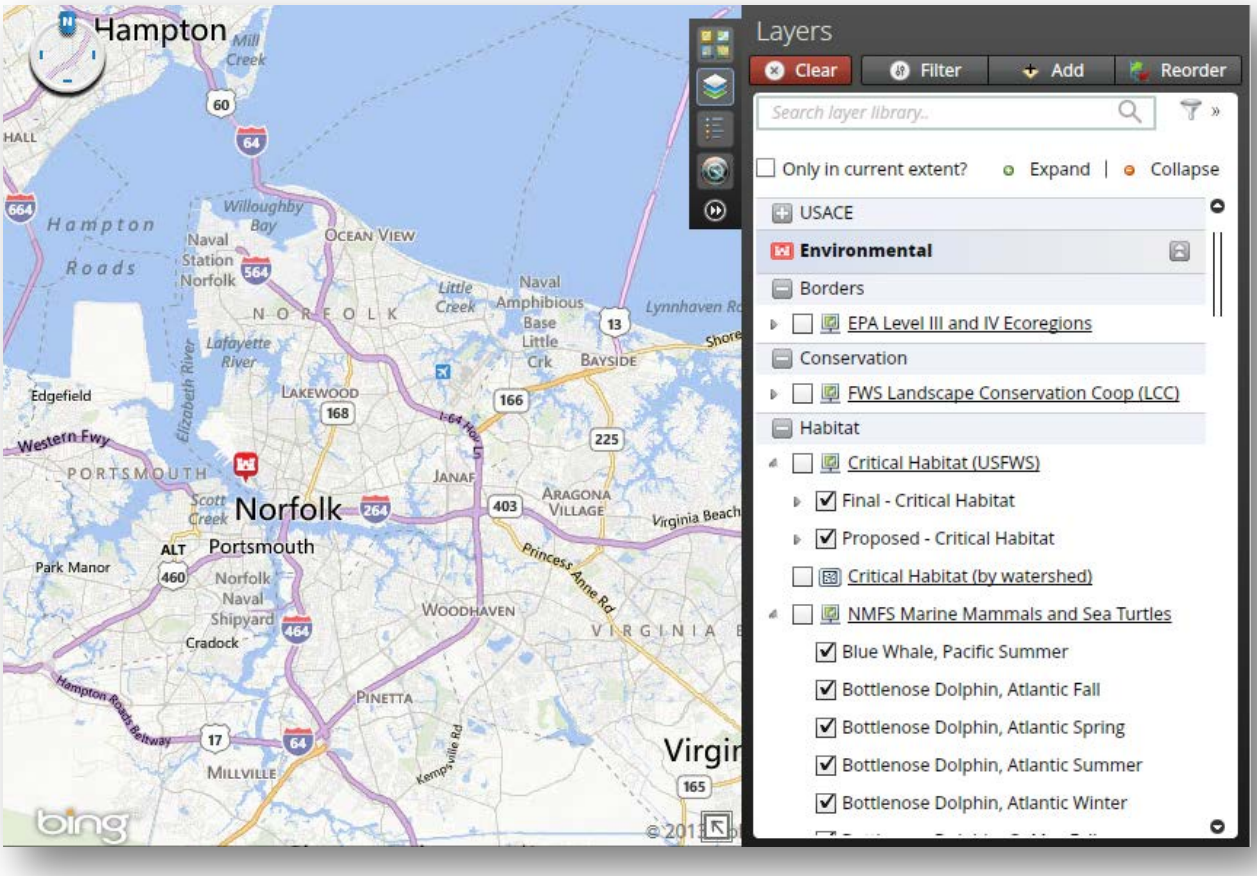


FIGURE 15: VIEWING AND ADDING SUB-LAYERS

All of the additional sub-layers can be collapsed again by clicking on the arrow (up/down direction) located to the right of the main layer list items. When the user clicks this tool, the list will collapse to the simpler list. This can be done in all viewers to customize data relevant to the user. As shown **Figure 16,** some list items are listed in italicized gray. When a list item displays in italicized gray, you must zoom closer into the desired location in order to view the data. If this occurs for a list item, there is simply too much data to display for the size of the area the user is querying data for.

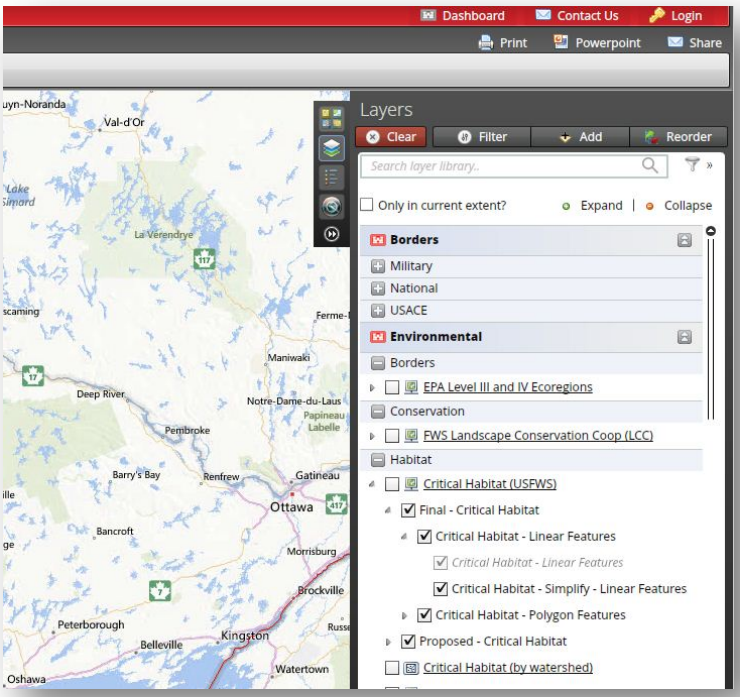


FIGURE 16: ZOOMING TO LAYERS

In order to apply data layers, check the box located to the left of each menu list item. SimSuite will apply that data set to the user's viewer. Each data set is displayed differently and will appear with a different color/shape/design. If no graphics show up on the map following the application of a layer, zoom in prior to taking any other actions; it is often the case that the viewing zone needs to be relatively close in order to display the relevant information. If the layer still does not load, take the steps described in the troubleshooting section of this guide.

LEGEND AND OPACITY

As mentioned in the previous section, for each layer, there is a related legend that helps the user to understand the data shown on the viewer. The legend for each layer can be viewed by clicking on the third icon down in the main toolbar on the right of the map viewer. Clicking the third icon on the toolbar will display a viewing pane that has a color/shape/image-coded key related to the data the user is viewing. The colors and images that are displayed with data sets are often based on the original data source. For example, if data from the Environmental Protection Agency (EPA) is displayed with red circles, the data that will be shown on the SimSuite viewer and in the key will match this. In the image below (**Figure 17**), the legend is for a zoomed-in area near Suffolk, VA, with the FWS Landscape Conservation Coop (LCC) layer applied. Although we are unable to see all of the colors listed in the legend in this specific view, there is a color coordinated with each area. The legend feature becomes especially important when viewing areas in more detail and with more data.

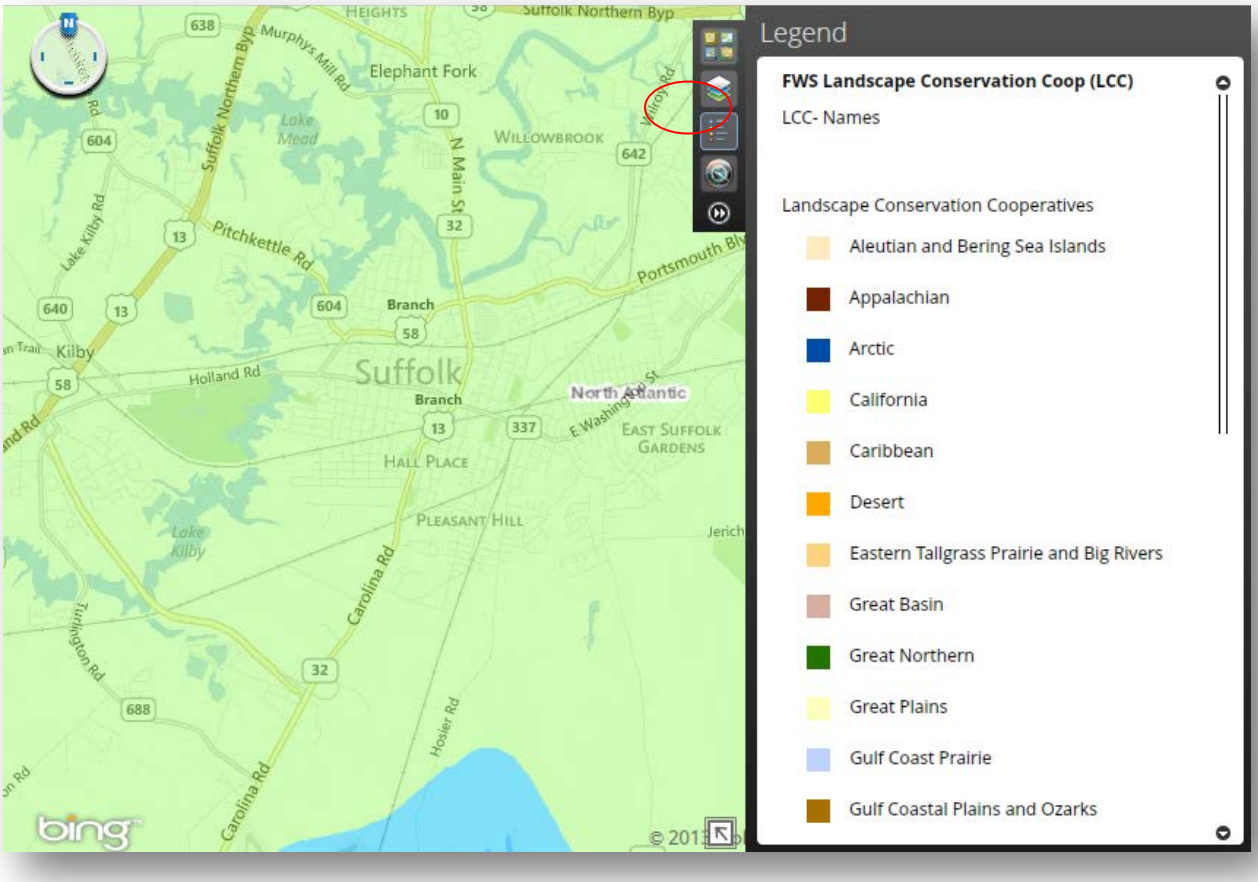


FIGURE 17: DATA LEGEND

Some layers will be easier to view overtop other data if the opacity of the layer is changed. This must be done in the layers toolbar, not the legend toolbar. Click on the Layers menu icon, click on the specific layer you wish to change, and a menu dialogue box will pop up. Click back and forth on the opacity scale to change the layer view, as shown in the image below (**Figure 18**). These same steps are followed to do the following actions: remove the layer, zoom, see the source for the data, rename layers, download data, access data tables or more,. To download the files, click on ArcMap, which provides a link to the Layer file where the user can download, save and export the data.

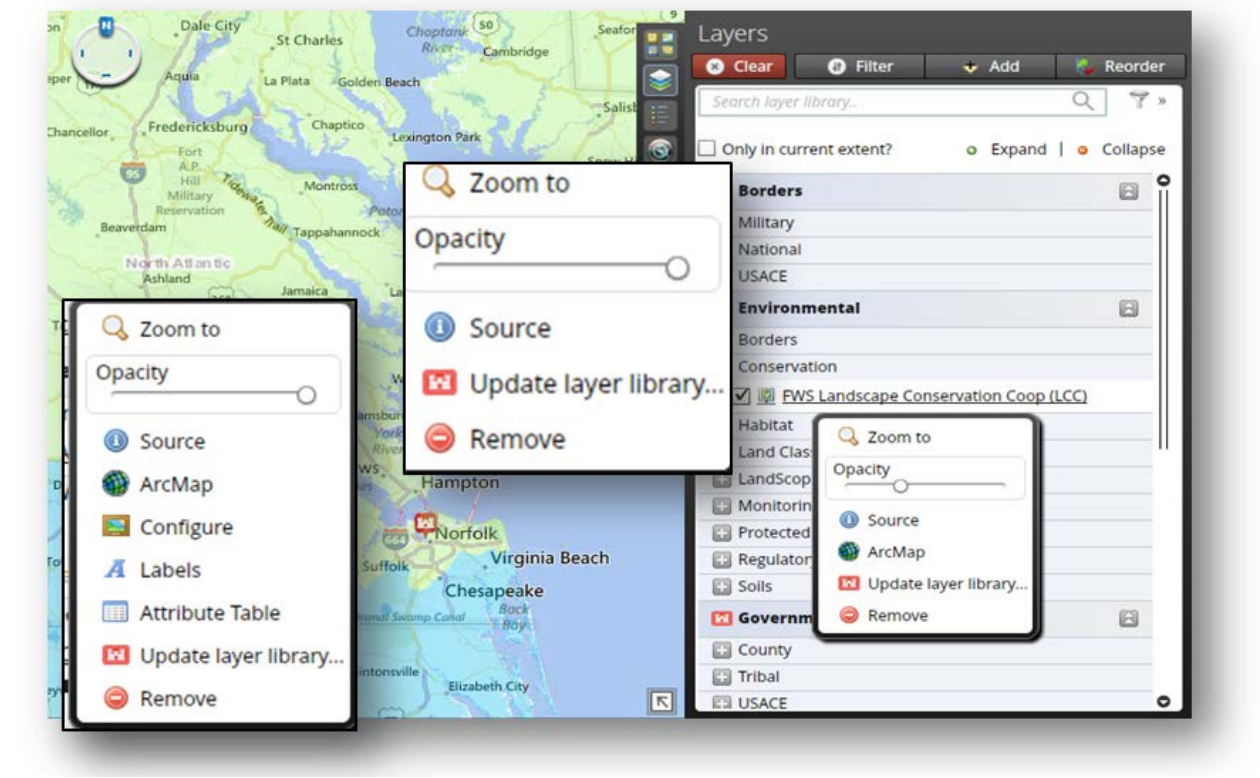


FIGURE 18: DATA LAYER OPTIONS VARY BASED ON THE DATA SOURCE

REAL TIME LAYERS

The fourth icon included on the main layer toolbar is for real-time layers. Real-time layers include weather radar and IR satellite, wildfires and water resources forecasts. These layers can also be added in the main Layers tab, but they are all duplicated under this tab for quick and easy access.

Under the weather radar and IR satellite menu option, there are layers for NORAD Weather Radar and Current IR Satellite. These layers can be used in combination with base data layers.

The image below (**Figure 19**) gives an example of what the NORAD layer looks like when applied. The user can view the legend for this layer in the manner described above (by using the third icon on the main toolbar). The user can also zoom to see more micro patterns.

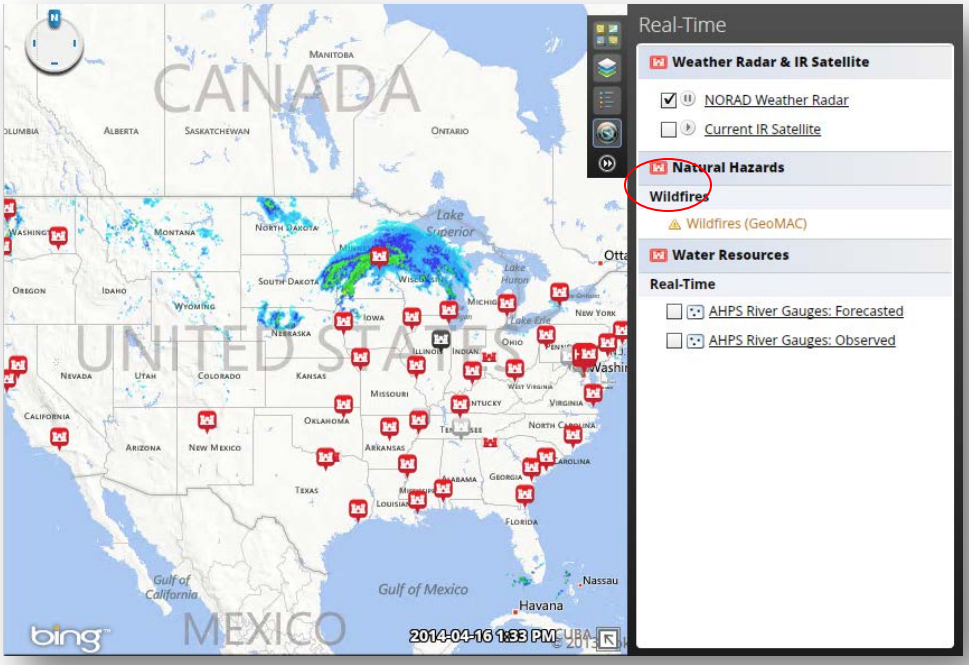


FIGURE 19: REAL-TIME DATA LAYERS

The following image (**Figure 20**) depicts the IR Satellite layer when applied to the map. This layer can also be viewed at a more micro level, and has a legend available in the same section of the toolbar as mentioned above.

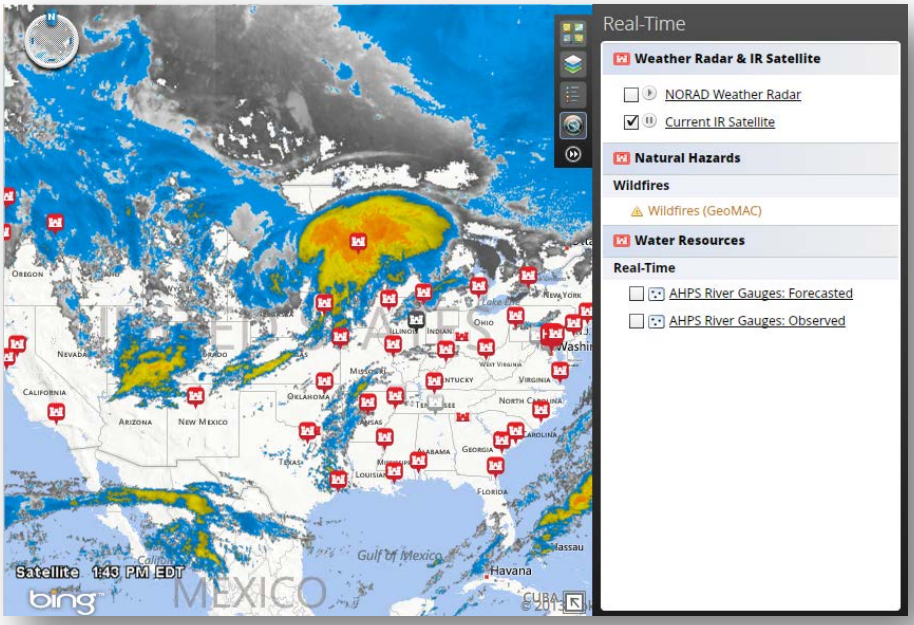


FIGURE 20: DATA SCALE VISIBILITY

The layer for Wildfires has to be viewed at a much closer zoom level than the weather and IR layers. The following image is of wildfire activity in New Mexico. In this image (**Figure 21**), the layer legend is open to show how the data is reflected on the map. If the user is not able to see any data when the wildfire layer is first applied, zoom in to a specific area until the data appears. If the area is zoomed in and the user still cannot see any areas reflecting wildfire data, there likely is not a current wildfire in that specific area. Common problems and troubleshooting are discussed later in the guide.

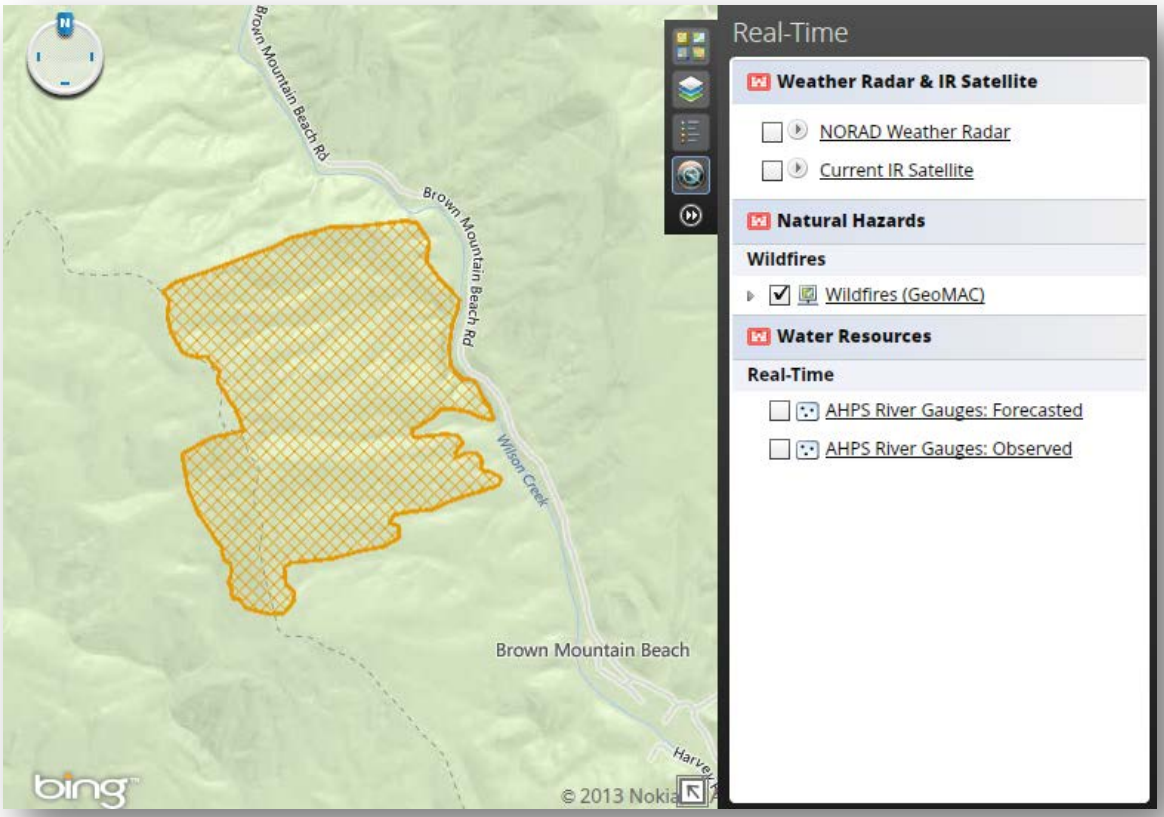


FIGURE 21: WILDFIRE REAL-TIME LAYER VISIBILITY

The River Gauge Forecasted and Observed layers are located under the Water Resources section. This layer, similar to the Wildfire layer, must be viewed relatively close to the area of interest. In the image below (**Figure 22**), the legend suggests there is action and minor action in the area with the circular orange and yellow images.

The following image (**Figure 22**) reflects the way the River Gauges Observed layer will appear in SimSuite. If there is trouble viewing any data, it may be necessary to zoom in on the map to a more specific area or troubleshoot using the methods described in this user guide. Additionally, the gauges may show up green and white depending on the gauge level, and this color can be hard to see when the topographic base layer is turned on. Try changing base layers if items are hard to see or seem invisible.

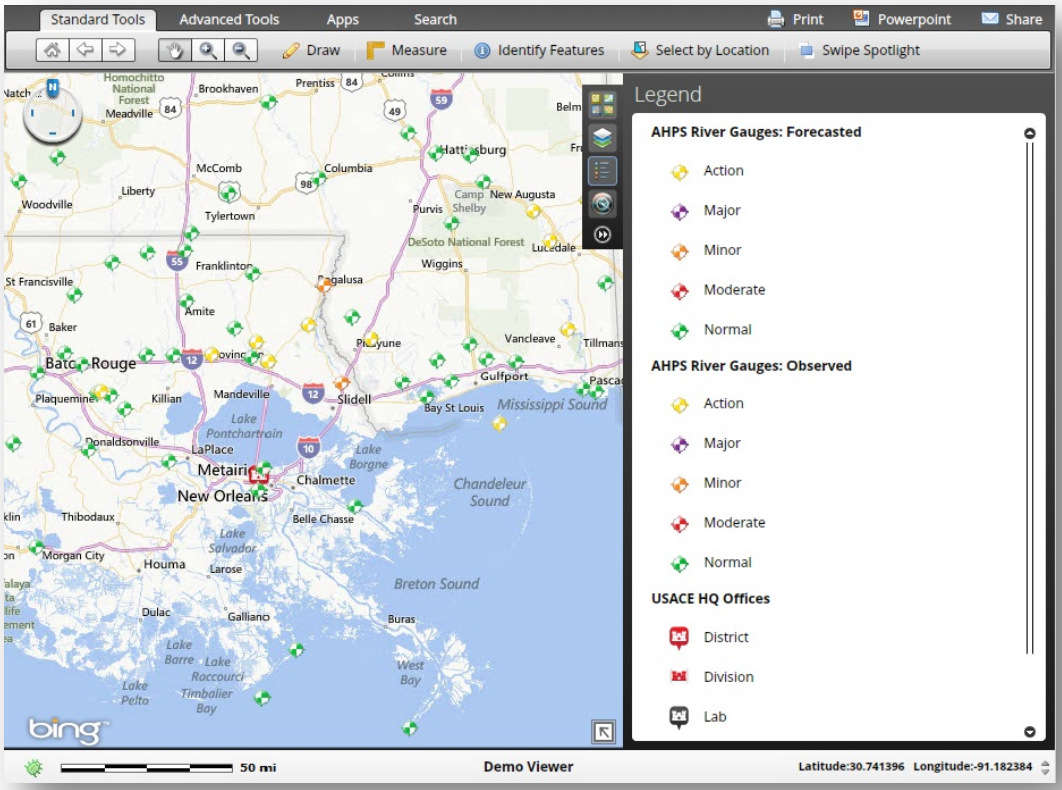


FIGURE 22: RIVER GAUGE REAL-TIME LAYER

SIMSUITE TOOLS

SimSuite comes equipped with a variety of different tools to help manage the viewer. There are layer tools that appear on the right side bar with the layer tree and legend window. In addition, there are standard tools that reside on the main toolbar on the top of each viewer. The standard tools have to be activated by clicking the "Standard Tools" tab on the top toolbar. The following sections will explain these two types of tools.

LAYER TOOLS

Notice that on the same tool bar that contains layers, legend, and all of the capabilities discussed in the prior sections, there are also icons to clear, filter, add, and reorder the data.

FIGURE 23: SEARCH LAYERS

- Clicking the Clear icon will clear any layers, information, or data on the map, restoring the SimSuite viewer to the base map.
- The Filter icon allows the user to select an area of interest and apply a spatial filter to all layers applied to the map. For example, the user could filter data to a specific region such as the state of New York, then down to a specific county, etc.
- The Add icon allows the user to add data to the map in the following formats: Delimited CSV, Shapefile, ArcGIS Service, WMS Service, or a KML.
    - To add a shapefile, all files must be in.zip format and projected to WGS 1984 Web Mercator. Data that is added to the map will remain in the viewer until the viewer is closed or the user returns to the SimSuite homepage. For information on how to permanently add layers, see the "Admin Section" of this document.

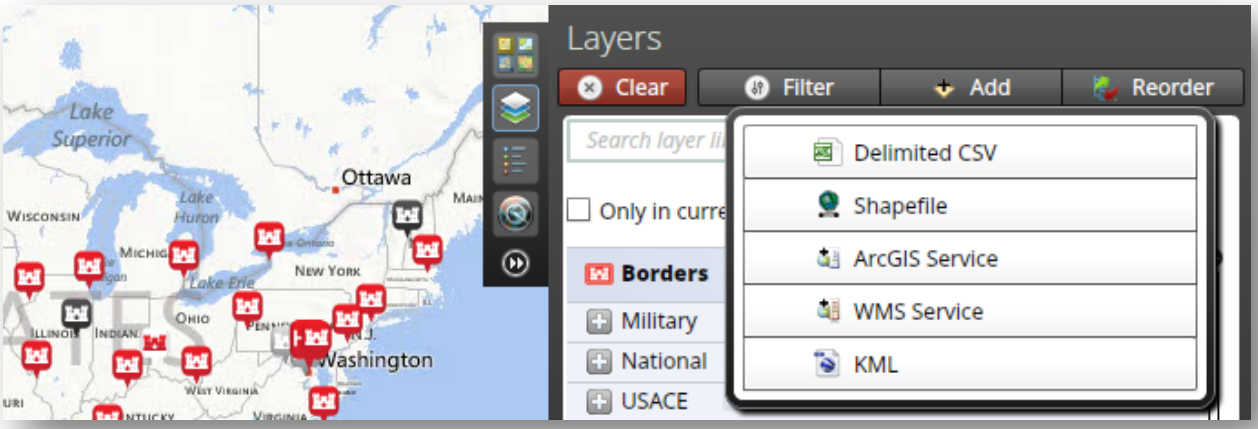


FIGURE 24: ADD DATA LAYERS

- The Reorder icon allows the user to arrange layers in the order the user prefers on the map. In the ArcGIS platform that SimSuite is built on, the appearance of data layers will depend on the order in which they are drawn. Changing the order allows certain layers to display on top of others. For example, a flood zone may be displayed in one dark color, and on top of that another layer may show land use type in a transparent color. In the Reorder menu, these would need to be arranged in this manner. Layers with more transparency and point layers should be arranged from the top down (i.e., from most transparent to least).

FIGURE 25: EXPORT DATA

- To Export data to a layer file, choose any layer in the layer tree and a dialog box will drop down. Choose the ArcMap icon and then select Layer File. This will download the appropriate layer file.
- Viewing the Source for Data Layers may be useful. In order to view the source of the Data layer, click on any layer in the Layer tab, then navigate down to the link called "Source." This will direct the user to the source directory for the data.

STANDARD TOOLS

The standard tools are located in the top gray navigation bar shown. Click on the standard tools tab to see several icons and options that can apply more specific functions to any layers overlaid on the map.

HOME, FORWARD, BACKWARD VIEW

On the standard tools bar, there is a home icon located to the far left. When clicked, this icon will take the user back to the original, home view of the existing SimSuite viewer by zooming out and resetting the layers tool bar on the left side of the viewer. Right next to the home icon there are two arrows: forward and backward as shown in the image below (**Figure 26**). These icons will allow you to view the previous

map. For example, the user may apply a layer and click back and forth between the maps before and after the layer was added.

FIGURE 26: NAVIGATION TOOLS

ZOOM AND PAN

Next to the home and arrow icons, there are zoom and pan icons. The zoom (magnifying glass with a plus and minus) can be used to move closer or farther away in the viewing pane, while the pan icon allows you to pan/slide side to side on the viewer. This is done by left clicking and holding, then moving left to right, or up and down. This standard tool allows you to move to the area of focus on the map.

FIGURE 27: ZOOM AND PAN

DRAW

The next icon to the right of the zoom and grab icons is a draw icon. When you click on the draw icon, a small menu box will appear on screen with several menu items including an eraser, a save icon, and a folder icon used to open files from your computer or network. You can see this menu in the image below, **Figure 29**. In the first box on the left side of the draw menu, there is a drop down bar where you may choose a shape to draw or use in order to create a focal point to aggregate data. This tool is useful for those that need to examine a very specific planned project area.

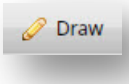


FIGURE 28: DRAW

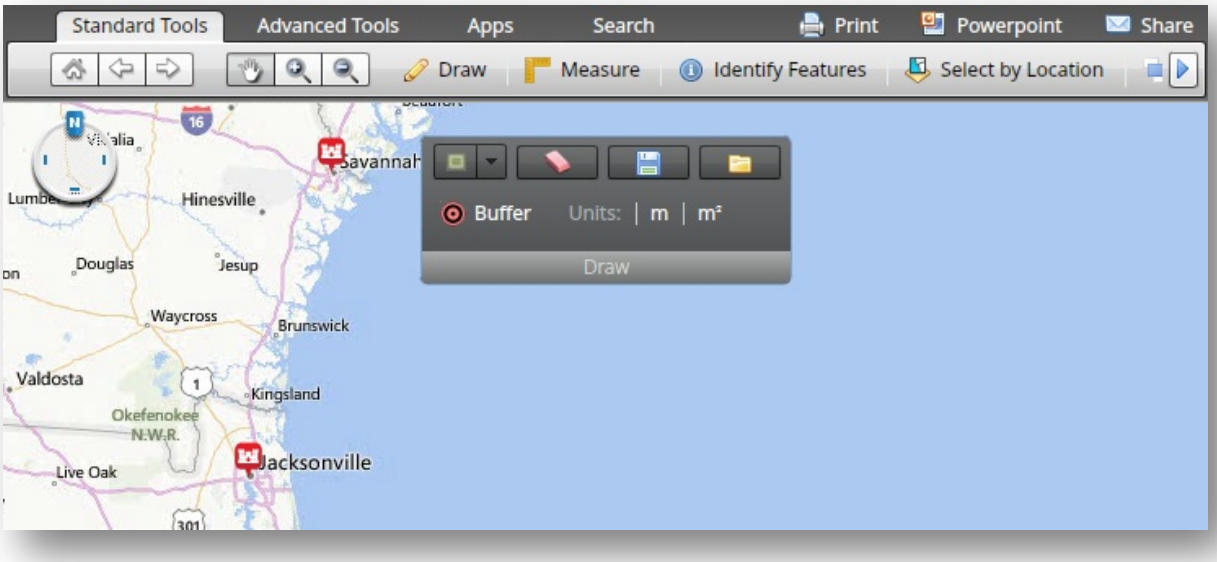


FIGURE 29: DRAW UTILITY

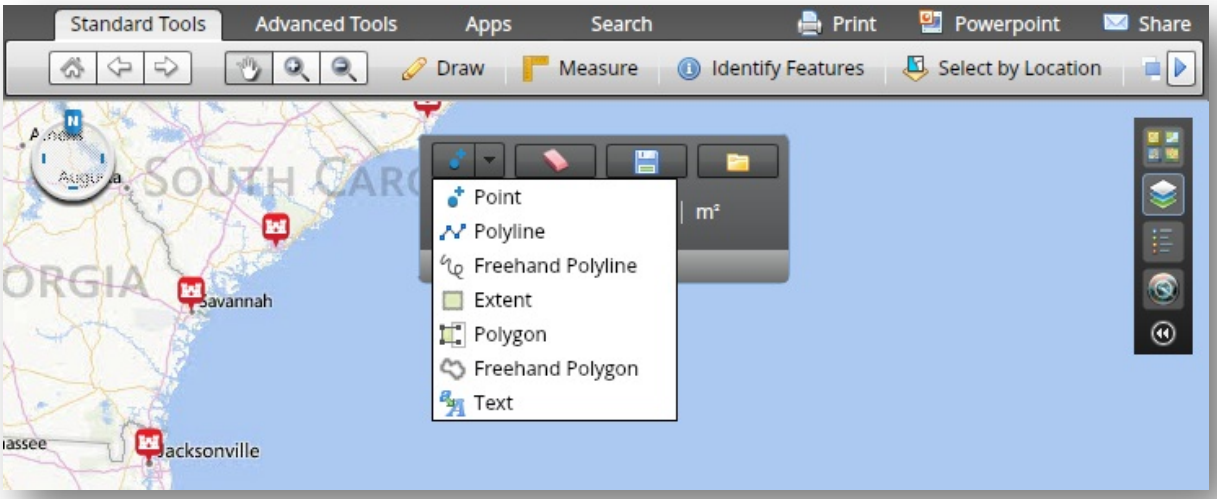


FIGURE 30: DRAW DROP DOWNS

The first option on the drop down list is a point. The point is used to create a graphic point on the map. This point will have x,y coordinates assigned to it based on an identified location. This tool is applied by selecting the point icon off the drop down menu, and then clicking on a specific part of the map. Once this is done, you will see a green spot on the map, which can then be named, saved, deleted, and zoomed to (see **Figure 31**).

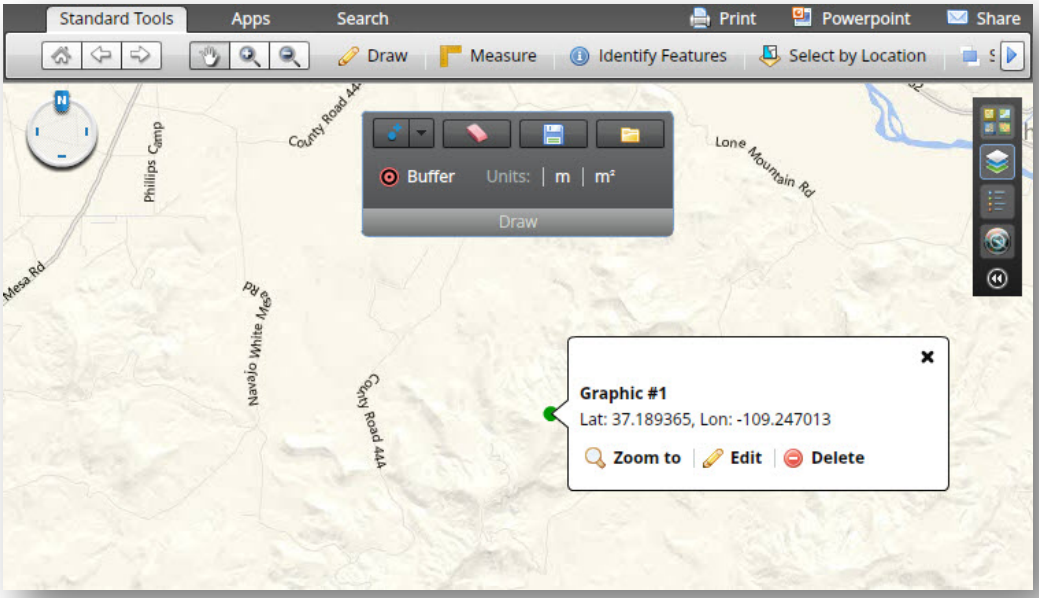


FIGURE 31: CREATE A POINT

The buffer icon is used to change the buffer information; click the point created to increase the size of the point and add a buffer ring. This icon can be used to look at a specific area in great detail. This point is a graphic and does not save to the map viewer.

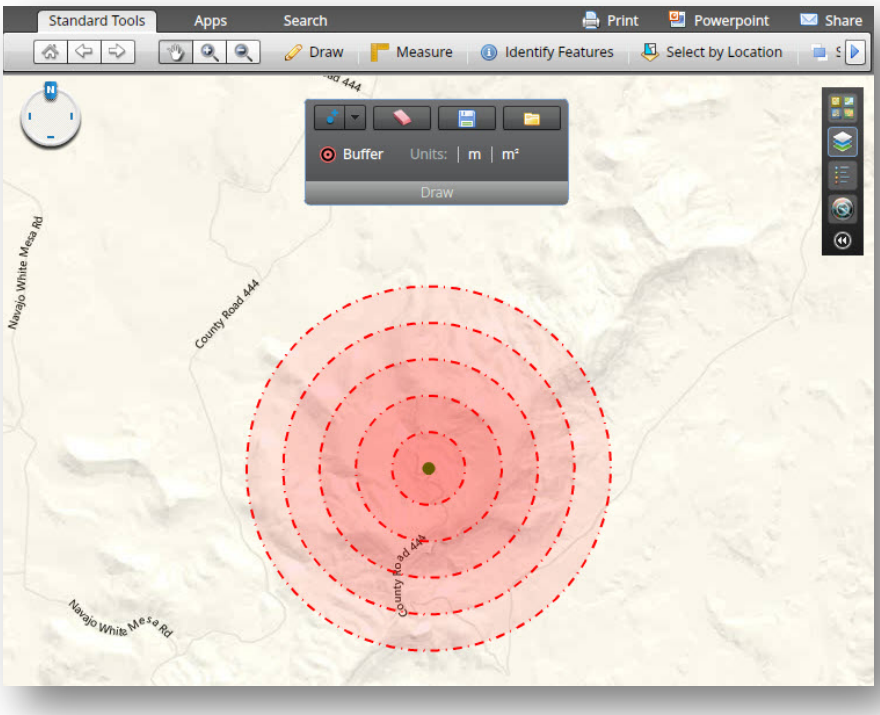


FIGURE 32: BUFFER

The next option available on the drop down draw menu is the polyline. This can be applied by clicking on a spot on the map, then moving to the next desired point and clicking again. Repeat until the user is ready to close the figure. Double click to close the figure. The polyline will appear on the map similarly to the image below (**Figure 33**). Any action performed in the draw function is a graphic and does not save to the viewer.

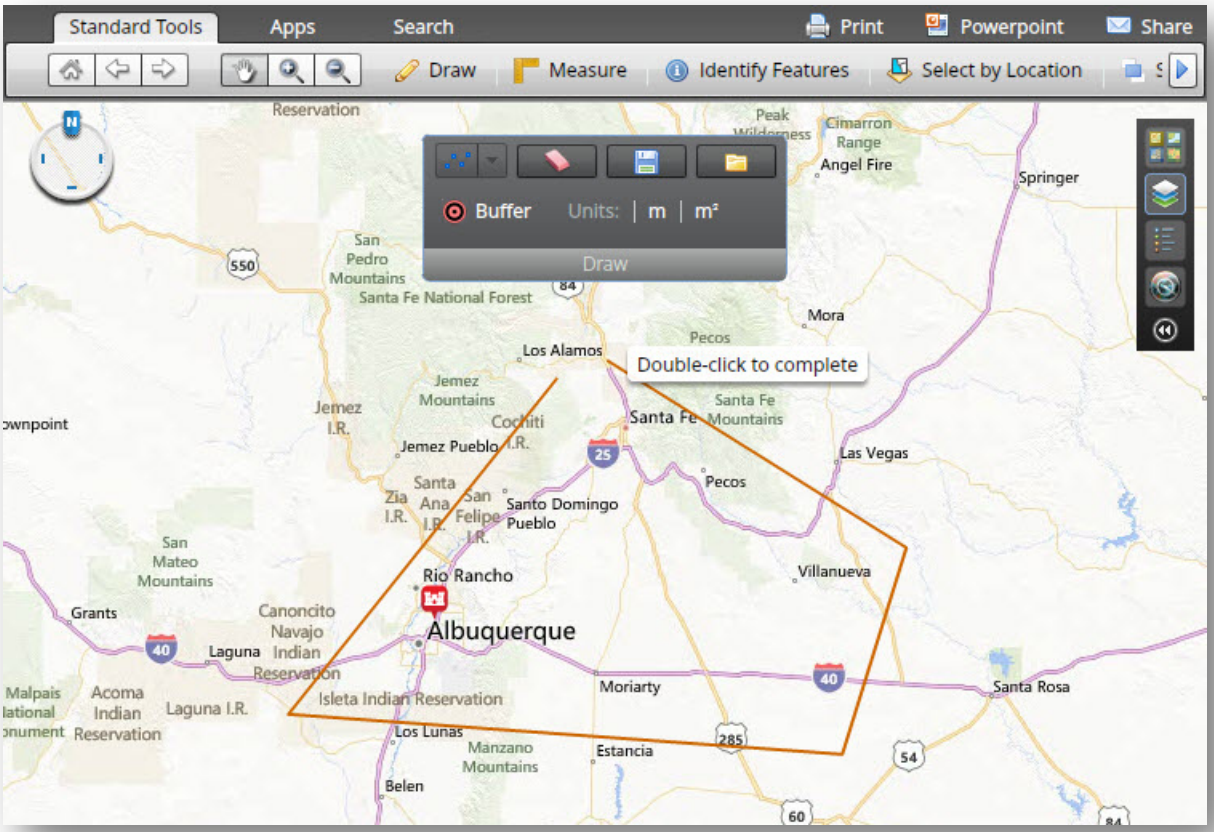


FIGURE 33: POLYLINE

The freehand polyline is the next menu item that allows the user to draw an area of focus more freely than the polyline tool. To use the freehand tool, click down and hold the curser and move it to the desired area. When finished, the polyline will close and appear as it was drawn, as shown in the image below (**Figure 34**). The resulting drawing does not save to the viewer.

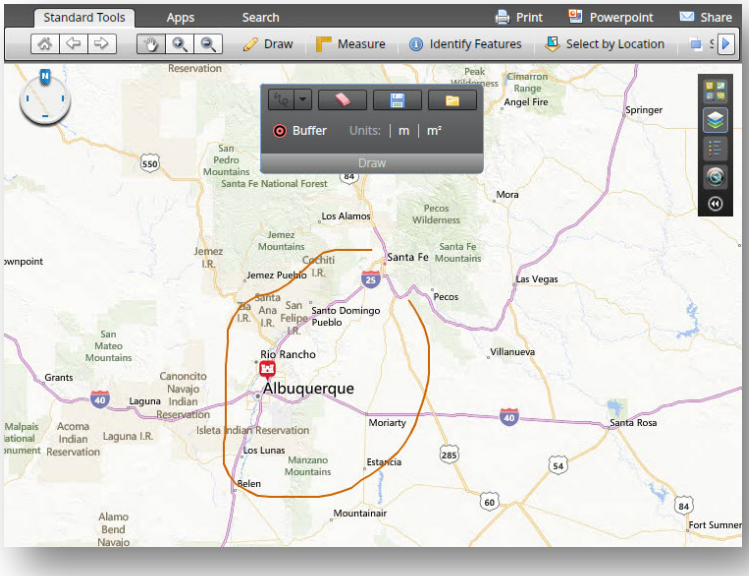


FIGURE 34: FREEHAND DRAWING

The extent option on the draw drop down menu is used to draw an exact rectangular area. Once the tool is selected, select the area you wish to view by holding down the mouse and dragging from one side to the other. The figure will appear as it is drawn. Click on the image to change the color of the figure. A white message box will pop up with options to zoom, edit, and delete. Under "edit," there is an option to change the symbol color, opacity, and similar choices, as well as an option to move the figure.

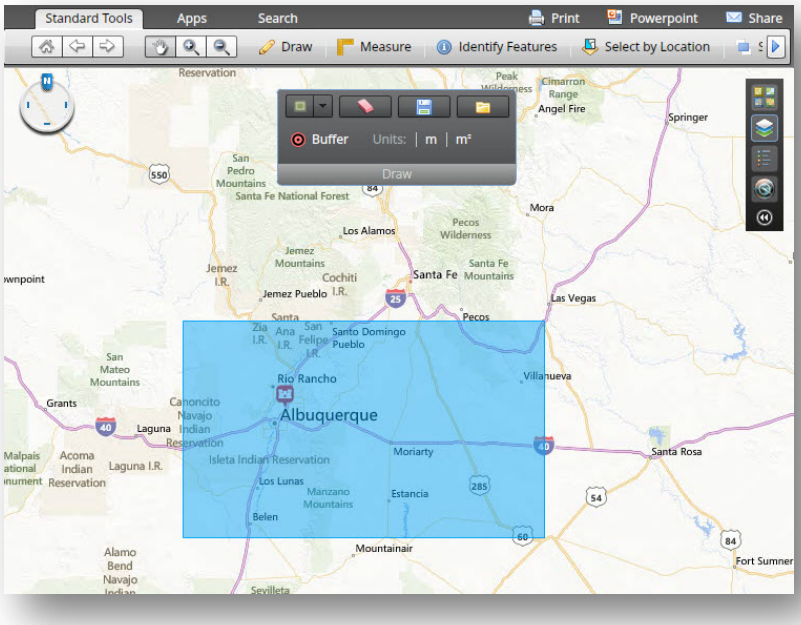


FIGURE 35: RECTANGLE DRAWING

The following tools are applied by following similar steps to the previous tools. For the polygon tool, click on the map, then click on each of the points of the figure to draw. Double click to close the figure. This tool will create a shape with sharp corners and straight edges. The freehand polygon can be very useful if looking at an area with a less structured shape; it is applied by clicking on the map once and holding it down and move the mouse to draw the desired shape.

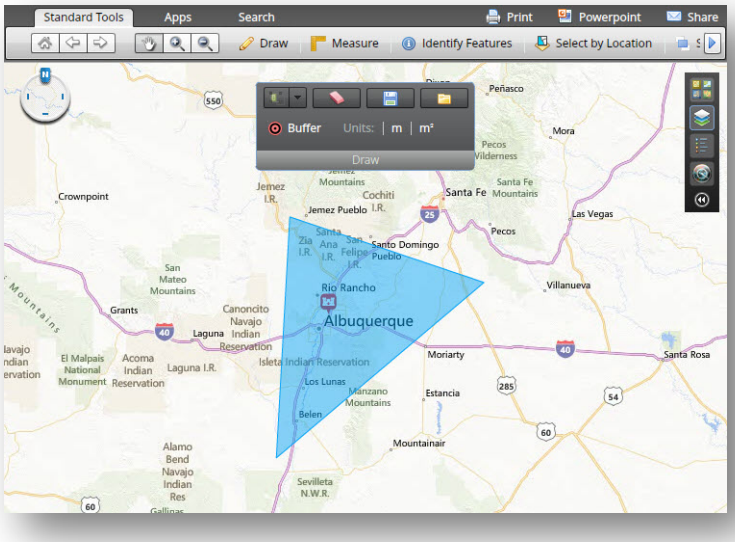


FIGURE 36: POLYGON DRAWING

The last tool included under the draw drop down menu is the typing tool, which is used to label any area on the map as shown in image below (**Figure 37**). This is done by clicking on the desired spot and entering text, then saving it.

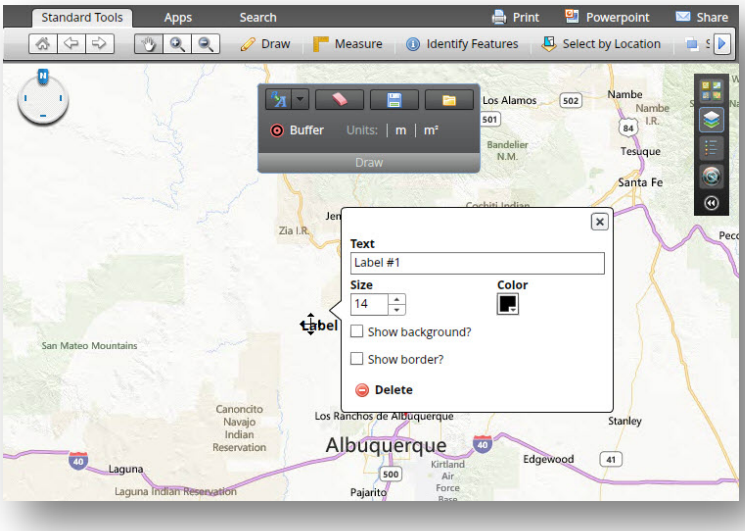


FIGURE 37: LABEL DRAWINGS

MEASURE

Another standard tool available is the measure tool (**Figure 38**). Once the user selects the Measure tool, any of the graphics produced using the Draw tool can be measured. This is done by clicking the graphic, at which time a white box will appear that includes the area and perimeter of the drawn graphic.

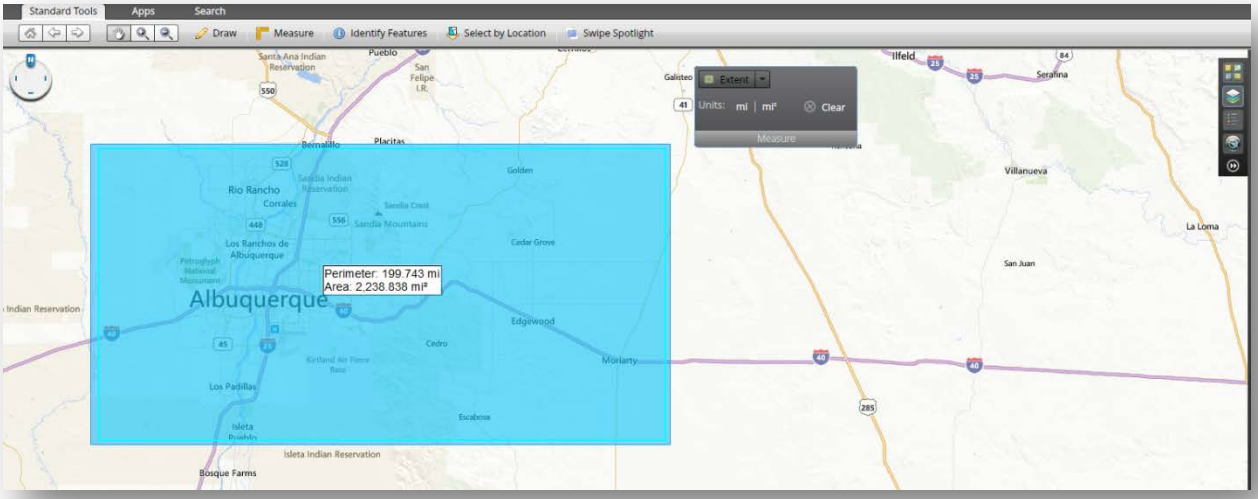


FIGURE 38: MEASURE

IDENTIFY FEATURES

Once clicked in the Standard Tools menu, the Identify Features box will appear. The feature will have either a green “on” or red “off” button indicated in the box. The green “on” button must be activated for the tool to work. The user can then click a spot on the map and the tool will bring up information about that specific point, such as the location, county, and related information. This tool may take time to query the information for the position clicked. Once the information is available, a box will appear on the left with relevant information. If no information loads, the selected location does not have an available feature layer.

SELECT BY LOCATION

Another tool available under standard tools is Select by Location (**Figure 39**). Clicking this tool allows the user to select features based on their location relative to features in another layer. A buffer distance can be selected in miles or kilometers as the user sees fit. The source layer and selectable layer information is based off of what is present in the right-hand Layers menu. Under the source layer drop-down, the user can choose the spatial selection method from which the features will be selected. Once the information is populated, a selection results tab will pop up on the left side displaying information from the selection.

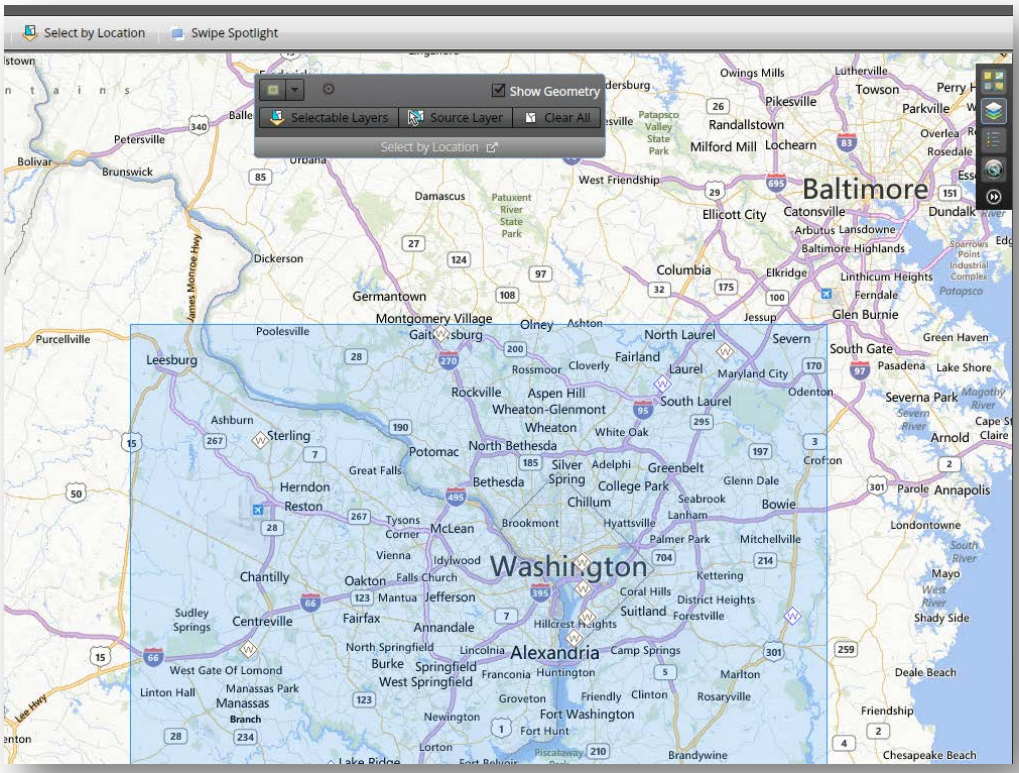


FIGURE 39: SELECT BY LOCATION

SWIPE SPOTLIGHT

The last tool available under Standard Tools is the Swipe Spotlight tool. This tool allows the user to hover the cursor over added layers without switching them off. Once the user selects the Swipe Spotlight tool, click "Select Layer;" this will be the layer that moves with the cursor. For viewing purposes, the user can choose to set the cursor at Swipe or Spotlight. To use Swipe, hold down the cursor and use it to pan across the screen to view the layers. An example of using Swipe is shown in **Figure 40** with the SSURGO Soils layer. To use Spotlight, select the radius, then hold down the cursor over the area of interest. See **Figure 41** for a visual example.

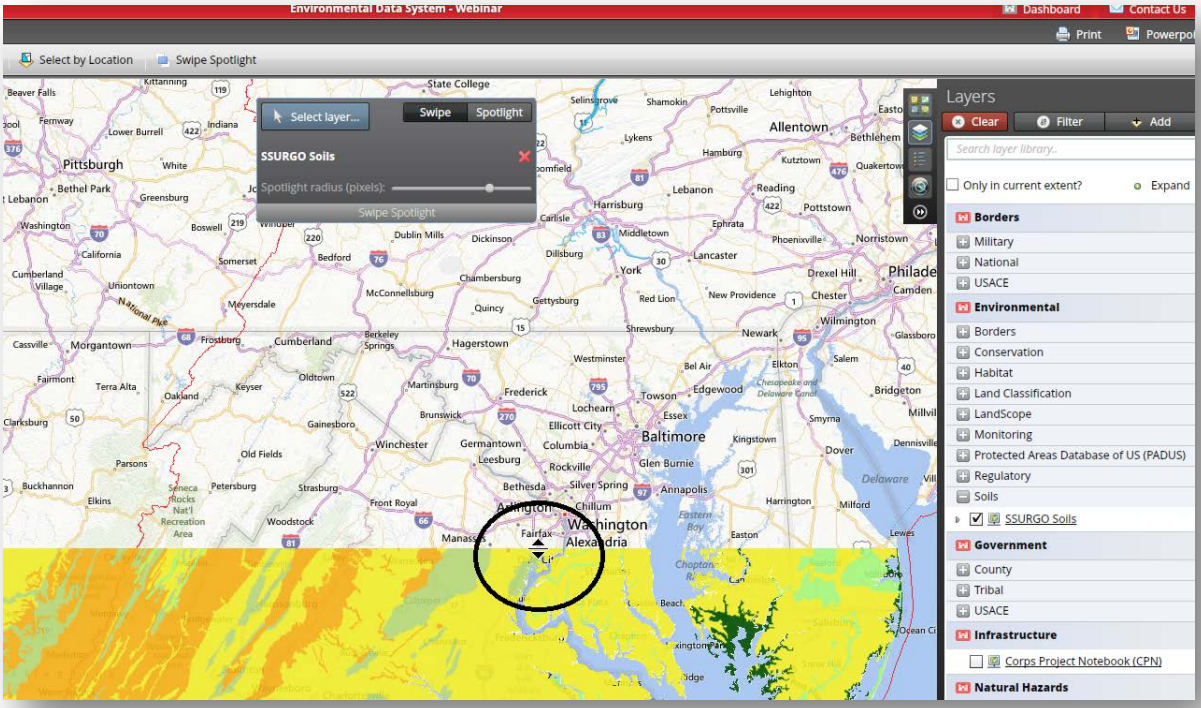


FIGURE 40: SWIPE

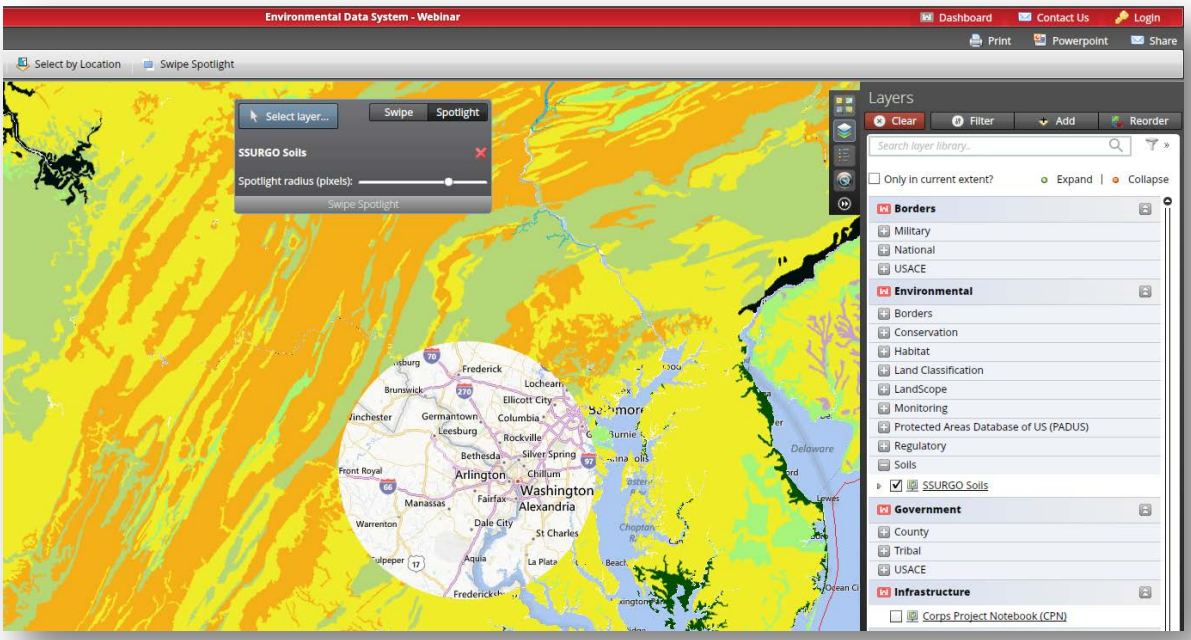


FIGURE 41: SPOTLIGHT

ADMIN/ADVANCED USER TOOLS

SimSuite allows advanced users the opportunity to create, modify, and enhance individual viewers to meet the specific needs of a business line and/or mission. This section will go through all the available Admin Tools and give a brief overview of how to use them. In order to access the Admin Tools, you will need to use the "Contact Us" field. Once approved, the advanced user will receive a login/password, as well as some rules and requirements for adding and making changes to viewers.

LOGIN

To access the SimSuite Admin Tool, the user must first log in to the application by clicking on the "Login" link at the top right of the viewer, as shown in the image below (**Figure 42**). The "Login" option is available in an individual viewer as well as the main SimSuite webpage.

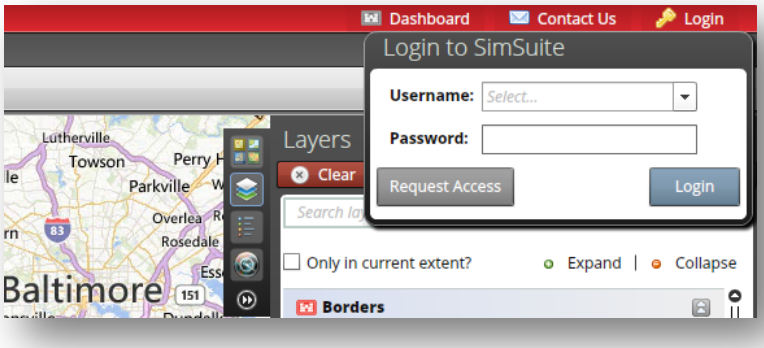


FIGURE 42: LOGIN

To log in, enter the username and password provided by IWR. As stated in the previous section, use the "Contact Us" link to contact the administrator for login information if you do not have it already. A username and password is not needed to use the basic features of SimSuite. Login is required for advanced users to manage viewers and data. Once logged in, the username will appear at the top right corner of the viewer. The "Admin Tools" toolbar will now be available for use, shown below in **Figure 43**. This toolbar shows all the available Admin Tools. The following sections review how to use each of these tools.

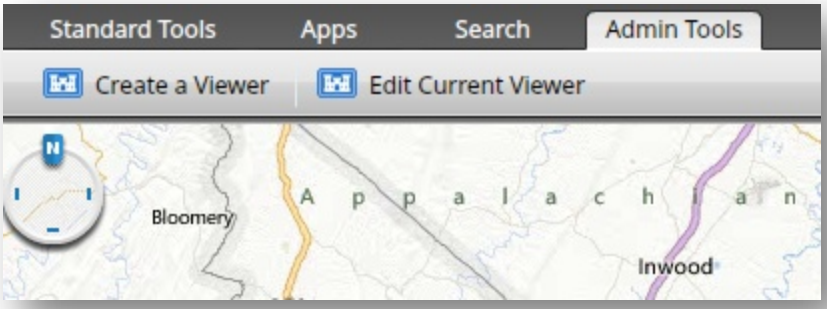


FIGURE 43: ADMIN TOOLS

CREATE VIEWER

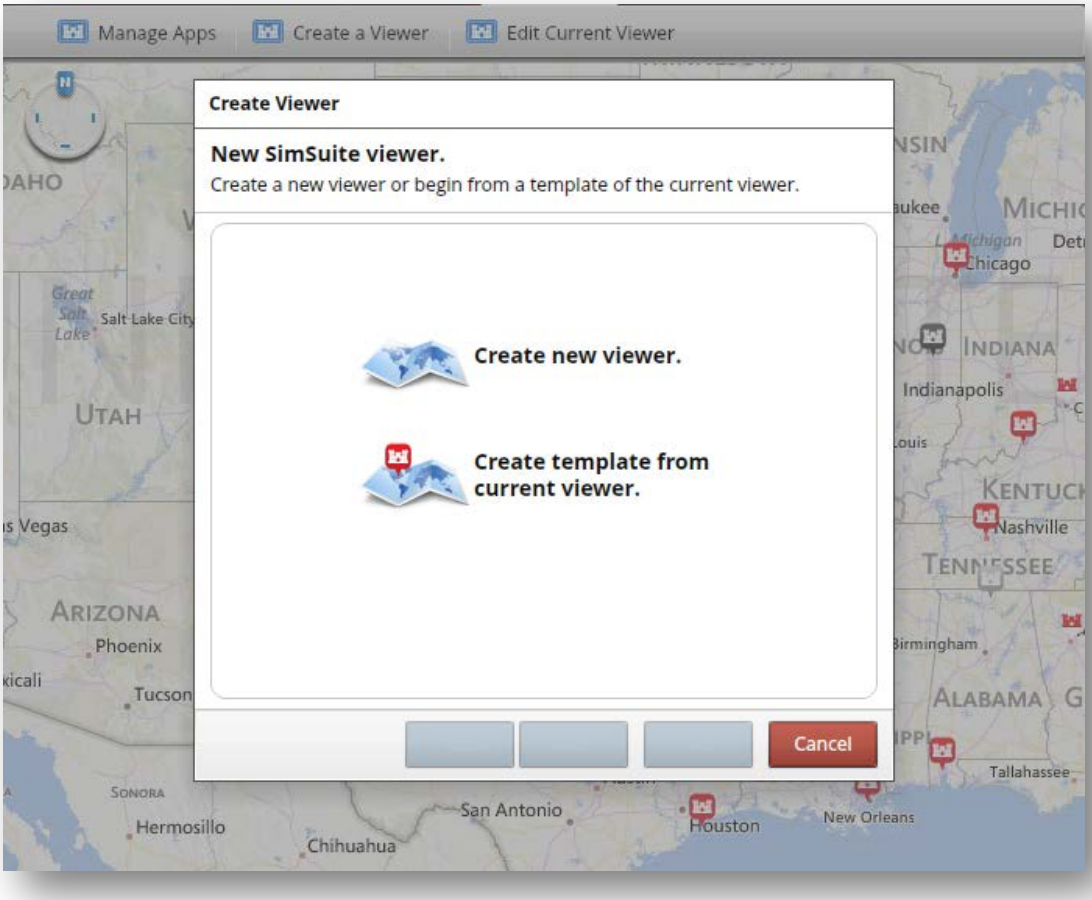


FIGURE 44: CREATE VIEWER

In order to create a new viewer, select the Create a Viewer tab. Once activated, a command prompt will appear asking whether the user would like to create a new viewer, or create template from the current viewer. The first option will create a new viewer that will load completely empty. It is then up to the user to add all data layers and set the zoom extent. The second option allows a user to create a new viewer that will have the same layers and parameters loaded as the current viewer. This option is usually the easiest one to use. Once created, the user can add or remove layers as needed. Creating a template from the current viewer does not lock the viewer in; rather, it pre-loads layers and parameters to make the creation of a new viewer quicker. Once created, the viewer can be customized to fit the needs of the user. The next three steps of the process are listed below.

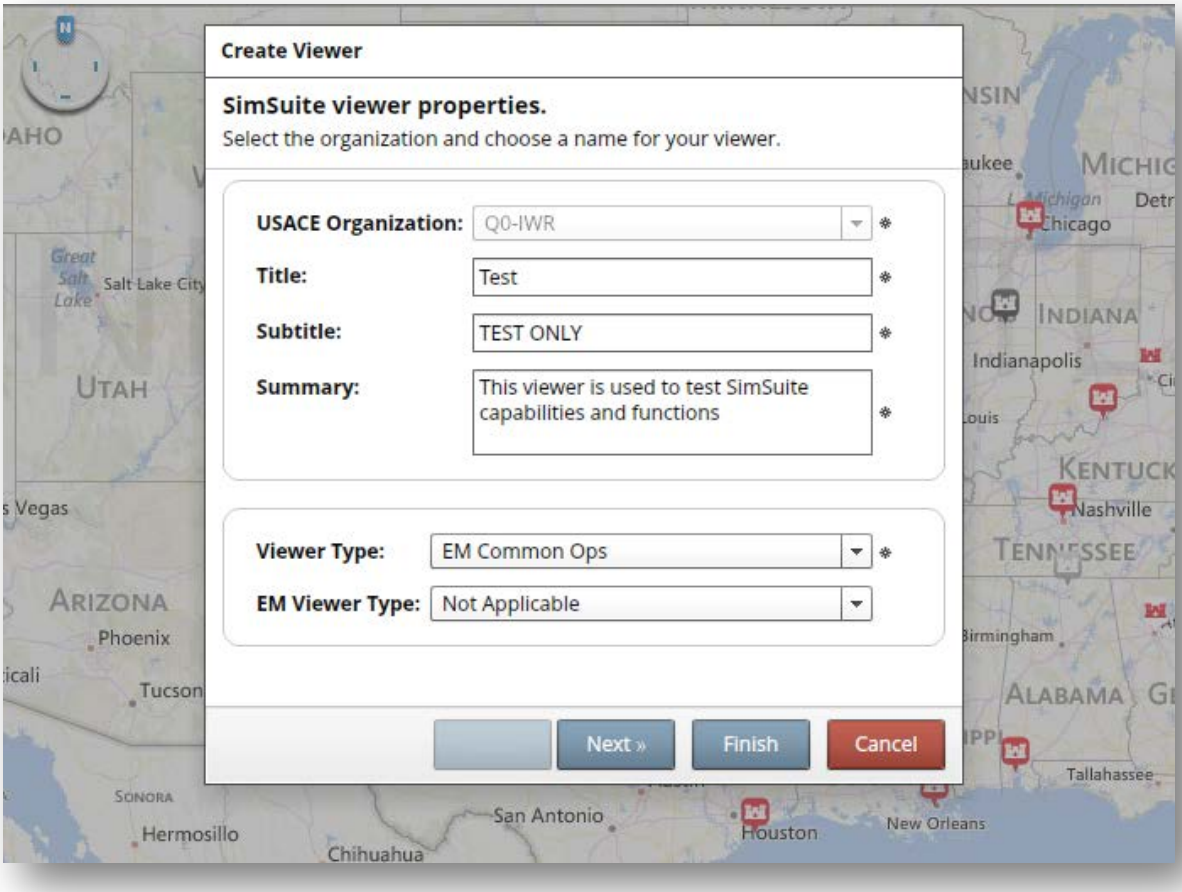


FIGURE 45: VIEWER SETUP

The first step is to name the viewer, give it a subtitle, and a brief summary. These, in addition to the Viewer Type, are required fields. The viewer type should be chosen based on the use of the viewer. If the user is uncertain of which category to add a viewer to, use the “Contact Us” option to contact IWR.

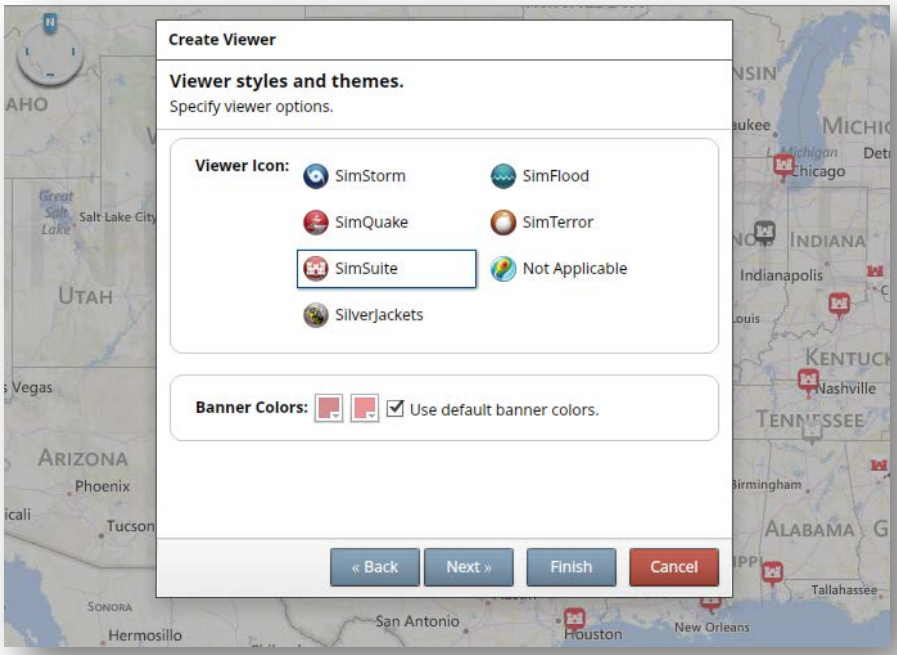


FIGURE 46: CHOOSE VIEWER THEME

Next, select a viewer icon. This should be based on the type of viewer created. Most viewers will use the SimSuite viewer icon.

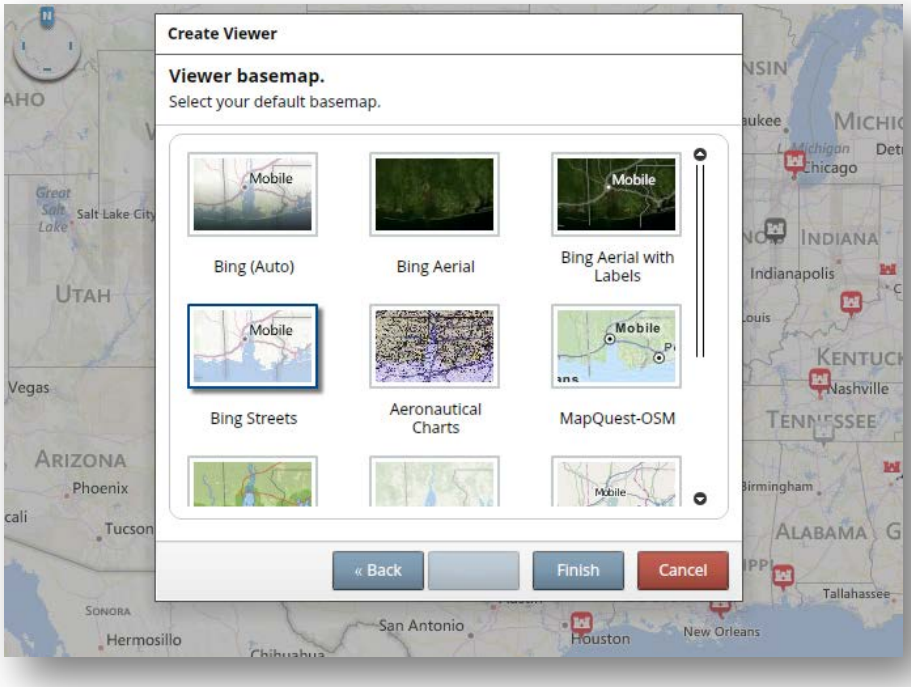


FIGURE 47: CHOOSE BASE MAP

The last step of creation is to select a base map. This will become the default Base Map until the user changes it in the "Edit Current Viewer" section. After choosing a base map and clicking Finish, the user will be taken to the newly created viewer.

EDIT CURRENT VIEWER

The Edit Current Viewer tab allows the user to edit the viewer. This should only be done when the user is the responsible party for that particular viewer. During the Edit Current Viewer session, a user can make changes to the viewers layers, zoom extent, activate apps, etc. and then use the save button to save the changes. When an admin user clicks save in the Edit Current Viewer menu, any and all changes that have been made to the viewer will be saved. For example, even the simplest change —such as zooming in and panning— will be saved once the Save option is selected. Inside the Edit Current Viewer pane, users can make changes to all information that was assigned when a viewer was created. The user can also Archive this map viewer so that it is not seen in the home screen of SimSuite. At the bottom of the Edit Current Viewer, there are apps, which may be loaded in the Apps toolbar and activated when the viewer loads. The shadow box behind an app name indicates that it has been loaded to the App toolbar for the viewer. If there is a check mark in the box to the right of the name, then it has been activated to load by default with the viewer. The more apps that are pre-activated, the slower the viewer will load. Only apps that are specific to the viewer should be pre-activated. There are two ways to make an app accessible: it can either be added to the App menu, or if a check is placed in the box on the "Edit Current Viewer," then it will open immediately when a user opens the viewer. When finished inside the Edit Current Viewer tab, simply click Save (if applicable) and then click the Close button.

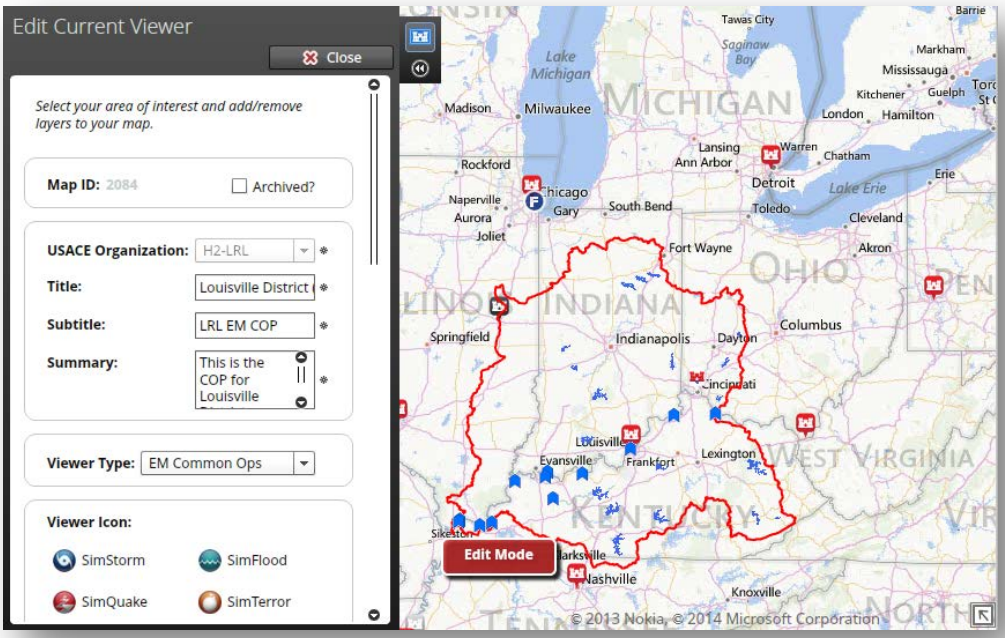


FIGURE 48: EDIT CURRENT VIEWER

DELETE VIEWER

The Delete Viewer button is found under the Advanced Users/Admin Console within a viewer. This allows the user to remove the viewer from Simsuite altogether. This should only be done when the user is the responsible party for that particular viewer. To delete a viewer, login in and go to the viewer that should be deleted. Click on Admin Tools and

MANAGE SIMSUITE LAYER LIBRARY

Admin users have the ability to manage the SimSuite Layer Library. This permission allows users to add layers to the library permanently, unlike the Add feature described earlier. This tool also allows users to manage the Layers that they have previously added under their admin account. A user cannot make changes to layers that another user created. One way to access the Layer Library is to go to the SimSuite Home page, then click on Data. Clicking on View Details will add the layer to the Library. The image below (**Figure 49**) shows the Layer Library page.

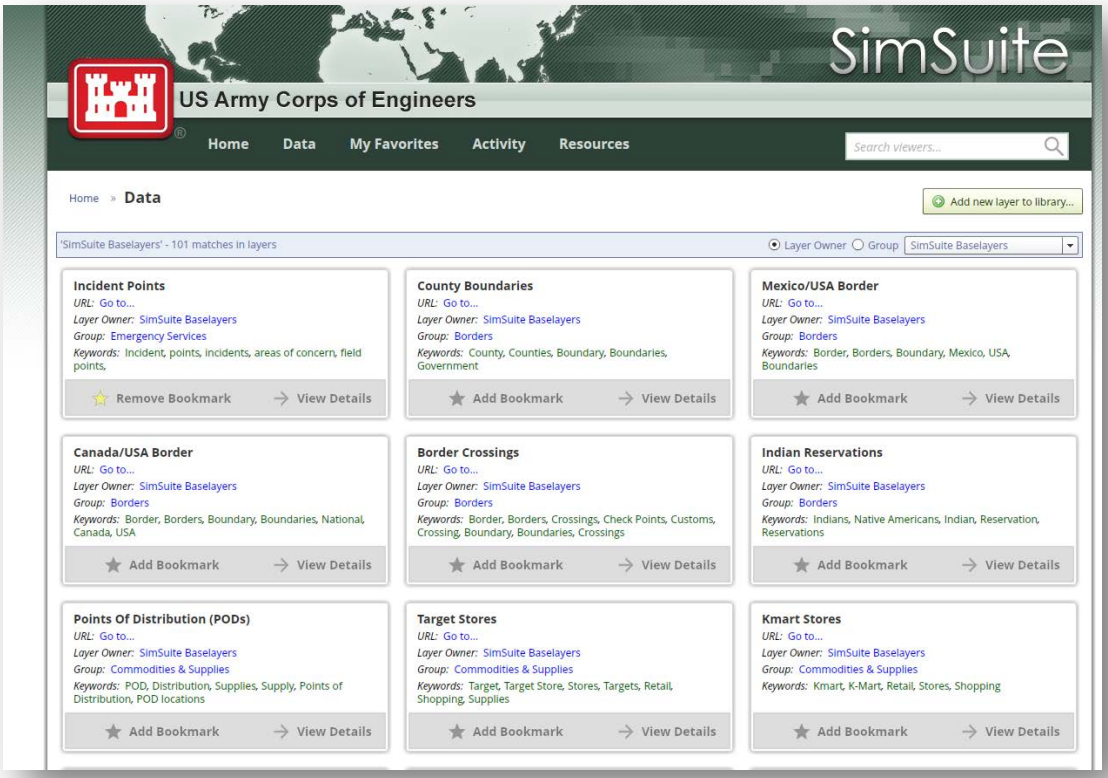


FIGURE 49: DATA LIBRARY

To add a new layer to the library, click the "Add new layer to library" button. If you are not logged in, the system will prompt you to do so. Once the button is clicked, it will take you to a new page where the user can add information to build the new layer. This process is shown in the image below (**Figure 50**).

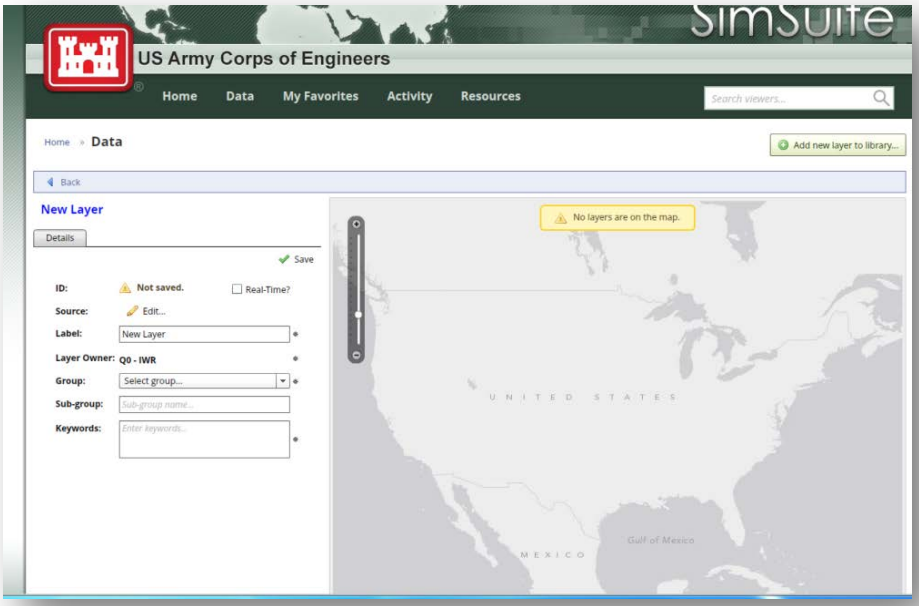


FIGURE 50: ADD NEW DATA LAYER

At this point, the user can click on the layer and edit its parameters, such as URL, Label, Group, Sub-group, and Keywords. Each of these parameters is very important to fill out. The URL should already be the same as the one that was entered to create the web service (link to connect data). The Label should be changed to whatever name suits the data layer. The Group should represent where the data should be stored. For example, if the layer is a border, then Borders would be the correct group to select. The sub-group can be specified and is recommended. For example, under Government there is a sub-layer that already exists called National; the user should keep this file structure if possible. Keywords for the layer should be chosen carefully and should be selected to best describe the layer. For example, a layer for the Louisville District Flooding should have keywords like “Louisville,” “LRL,” and “flood.” Keywords should be very specific, and if necessary, descriptive words can be used.

Questions regarding any of the admin tools should be directed to the system administrator, who can be contacted using the “Contact Us” link at the top right of any viewer.

MANAGE SIMSUITE LAYER LIBRARY

Advanced users can also add layers and data directly into their viewers. This method does not enable sharing of the data across all viewers. This function should only be used when the data or layer being added is unique to the team using the viewer. Otherwise, the adding and editing of data layers should be completed within the Data Library. To add data to only one's viewer, please login and go to the viewer of interest. Next, click on Add in the Layers box.

Manage simsuite layer library

SIMSUITE APPS

SimSuite Apps are tools that can be used and run using SimSuite as a common interface. Some of the available apps include Google Streetview, Elevation Profile, and Structure Inventory, among others. Specific viewers often have suggested apps to use, and include those apps when the viewer loads; they are located on the main toolbar under the Apps option on the top navigation pane. However, the user can access all available apps from any viewer simply by clicking App Library. A menu will pop up to select and apply any available viewer (see **Figure 51** below). The red or green circle in the top right corner of each app indicates if it has been added to the current viewer.

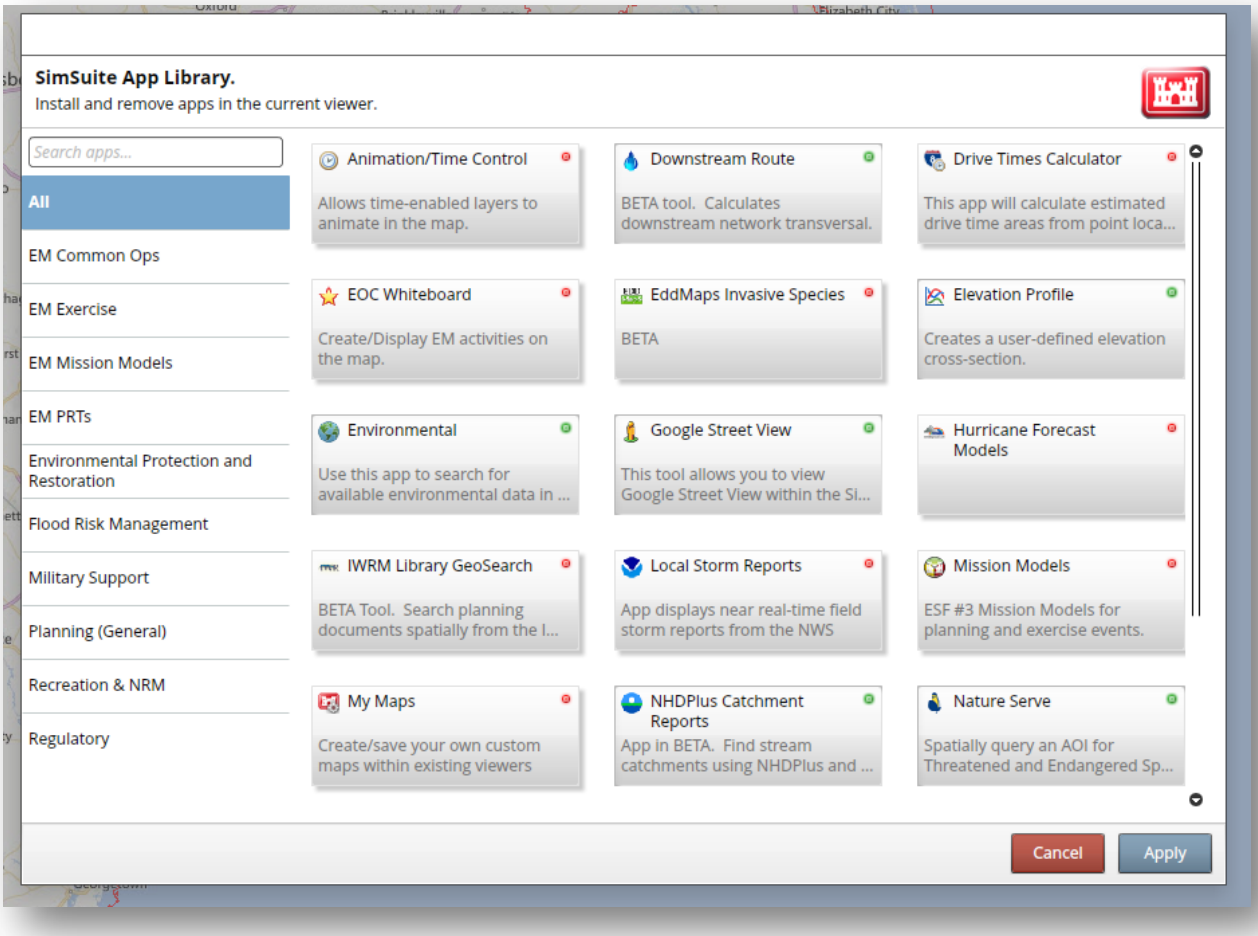


FIGURE 51: APP LIBRARY

ANIMATION / TIME CONTROL

This app allows time-enabled layers to animate the map. Most data will not have the ability to be time-enabled. Data layers that are time-enabled will have to be created this way by the author and are usually specific to a location or event.

DRIVE TIME CALCULATOR

The Drive Time Calculator app calculates estimated drive time areas from point locations. The app allows a user to select a point on the map, after which it will return the estimated drive times in a color-coded shading. This app uses ArcGIS geoprocessing to determine the estimated time from a source location out to other areas. This app could be useful for emergency planners in order to determine where response teams should be placed and at what time. The app could also be used to plan various inspection trips.

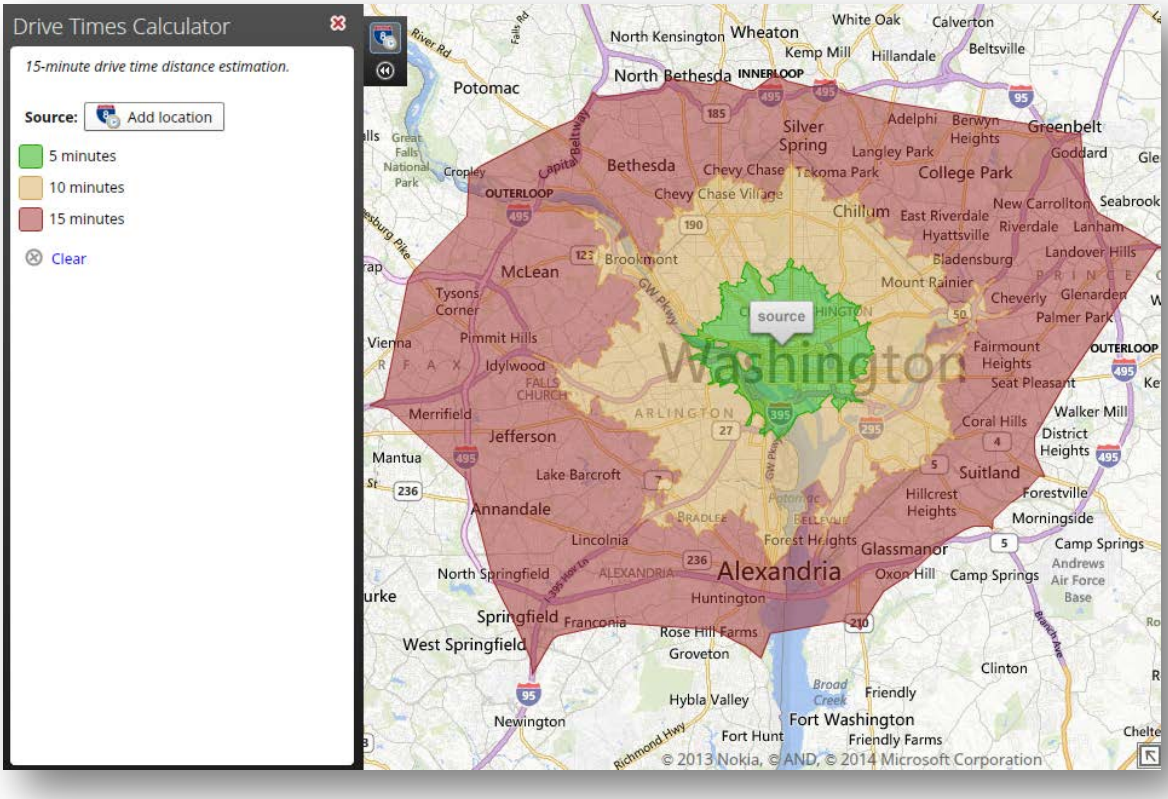


FIGURE 52: DRIVE TIME CALCULATOR

ROUTE CALCULATOR

Route Calculator is similar to Google Maps or MapQuest; it will give the user driving directions from one point to another. Users can either enter the starting and ending address or choose the mouse click option to select two points on the map. This app will find the nearest address for each click and load it into the start and finish locations. Turn-by-turn directions will then be returned along with total distance and estimated time. There is also an option to print directions. If a user scrolls over each step in the direction, it will show on the map where that turn will take place.

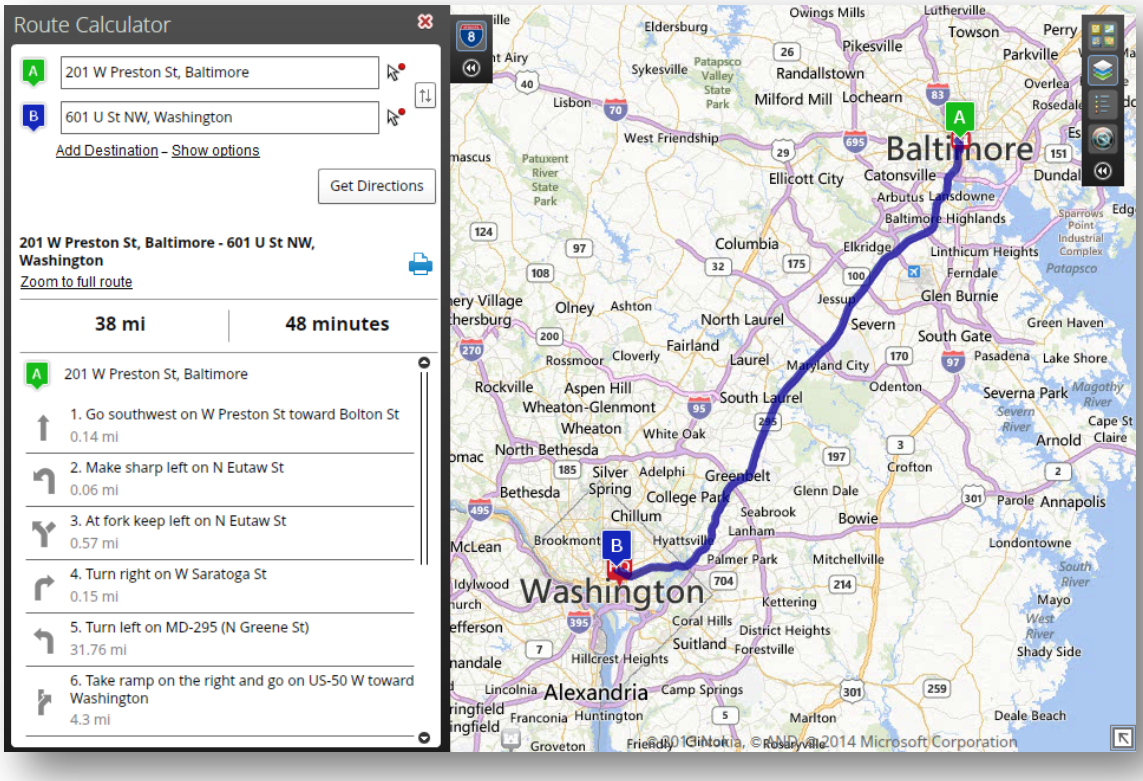


FIGURE 53: ROUTE CALCULATOR

EOC WHITEBOARD

This app allows the emergency management community users to create and display mission-related activities on the map. The tool uses sequential points to show impacted areas.

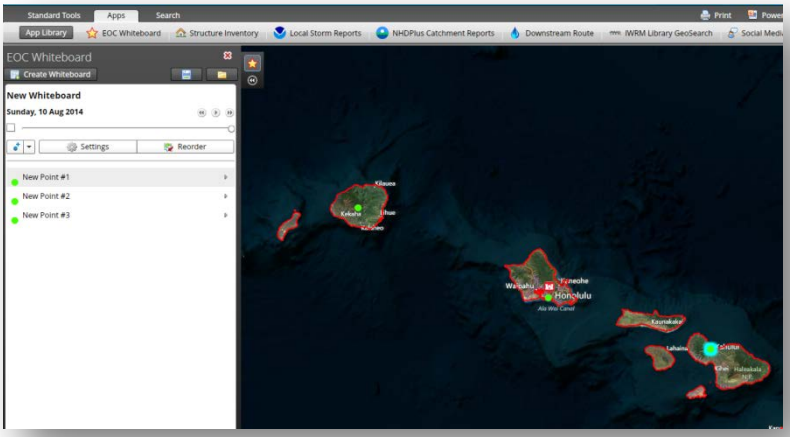


FIGURE 54: EOC WHITEBOARD

GOOGLE STREET VIEW

Google Street View app allows users to view the Google Earth Street View within the SimSuite application. Simply launch the app and place the Google Street View man on the SimSuite interface map. The app will then find the nearest available street view location and launch it in a window on the bottom of the viewer.

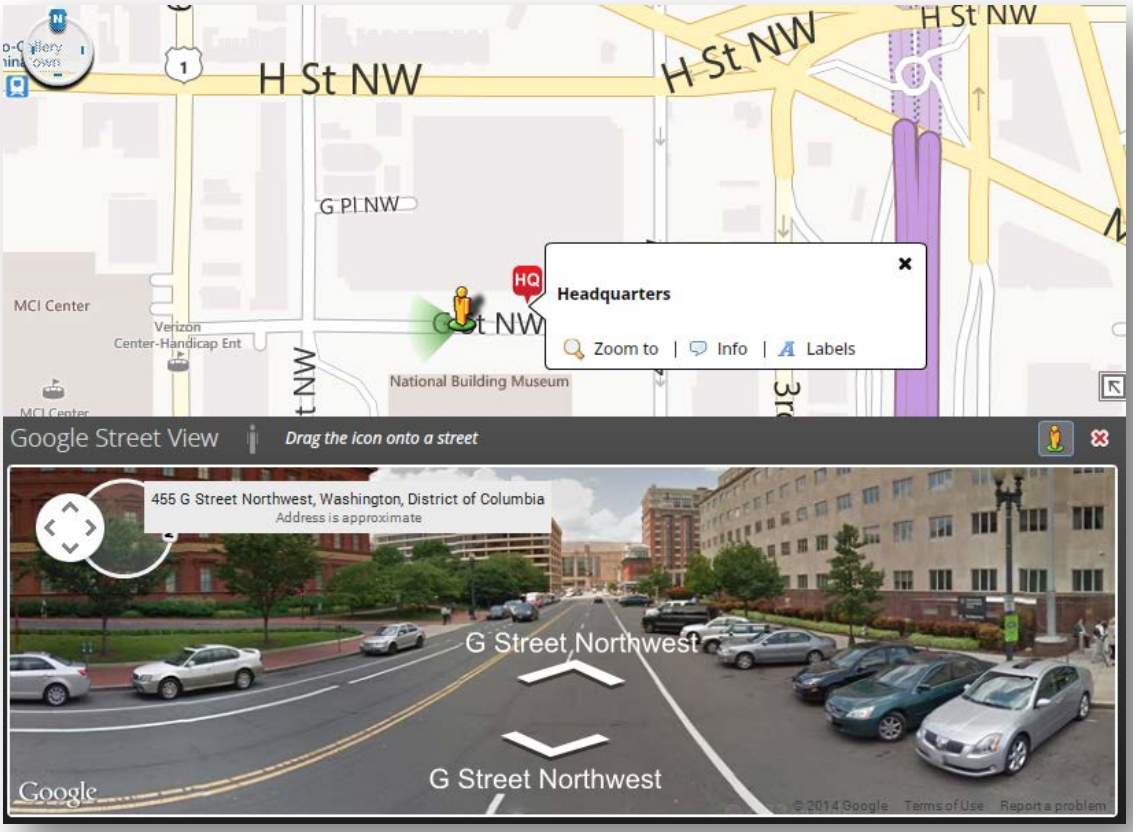


FIGURE 55: GOOGLE STREET VIEW

MISSION MODELS

This app is used for ESF #3 Mission Models for planning and response to events. This app continues to be updated and modified. At this time, it is used for hurricanes only. Users can use a freehand polygon to create a shape around a specific area. Once created, the app will perform analysis to determine the affected area and type of damage to be expected based on USACE ESF #3 missions. The results can be rendered based on different items such as debris, commodities, temp roofing, population, and households affected. The intensity of the hurricane can also be changed. Please contact SimSuite administrators with any questions regarding this application.

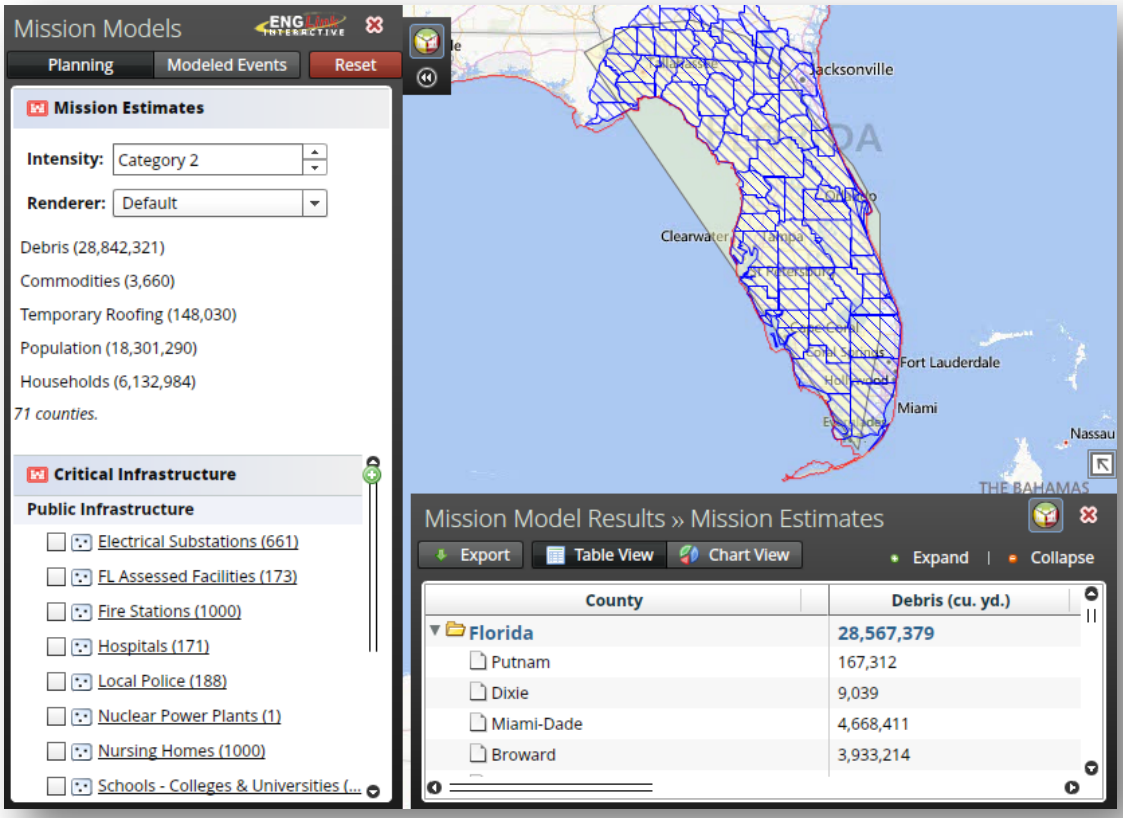


FIGURE 56: MISSION MODELS

MY MAPS

My Maps allows a user to save current map views. This can be helpful if a user wants to show customers many different areas and layers very quickly without having to zoom, pan, or add/remove layers. Each view can be saved, and when the user clicks through the saved maps, they will be able to switch to that previously created view.

STRUCTURE INVENTORY (BETA)

The Structure Inventory app is currently in a beta phase. This app uses data from the Hydrologic Engineering Center (HEC) National Structure Inventory Database. This data draws upon Census data and estimates the location of structures and their values. At present, this data has a very low level of resolution and one should be cautious in its application. When complete, the app will allow users to select a point or area on the map and the result will be a visual and tabular view of all structures inside that query. These queries will be broken down based on structure type. Contact SimSuite administrators for questions regarding this app or Will Lehman of HEC for data information.

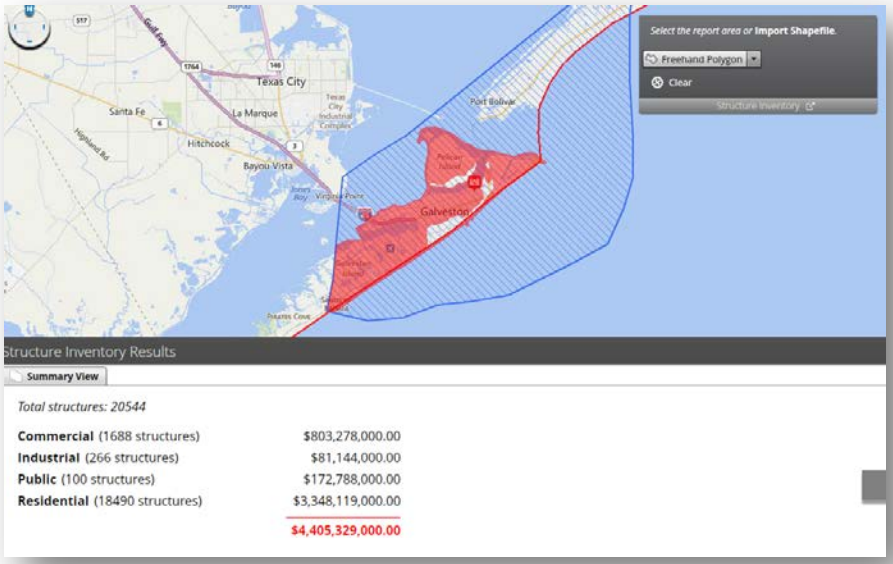


FIGURE 57: NATIONAL STRUCTURE INVENTORY APP

TRAFFIC INCIDENTS

This app allows users to view traffic-related issues, to include areas of lane closures, road closures, lane restrictions, or accidents. Once activated, the app will show major construction issues nationwide. By clicking on a construction icon on the map, the user can access information about traffic incidents being displayed.

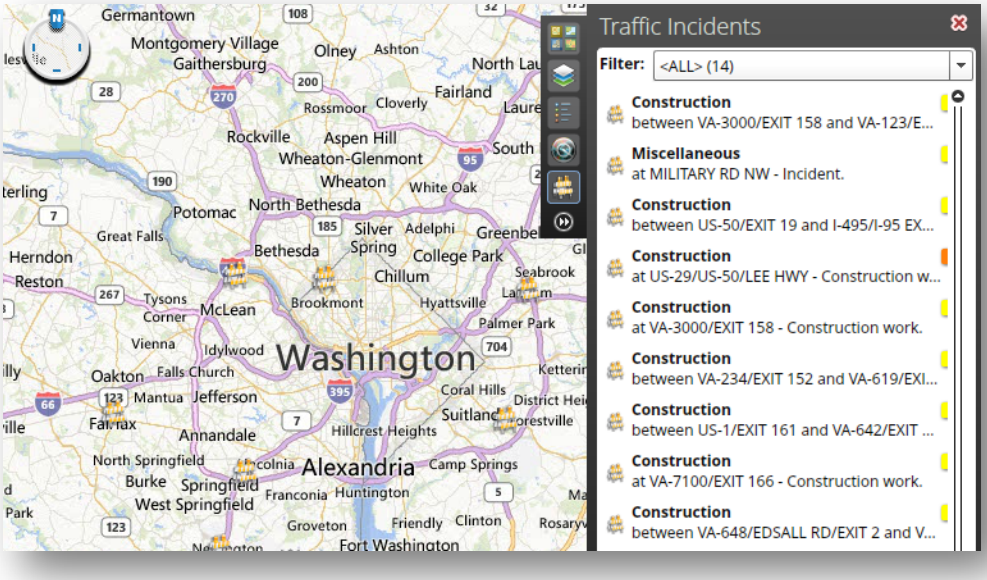


FIGURE 58: TRAFFIC INCIDENTS

IWRM LIBRARY GEOSEARCH (BETA)

When the app is complete, users will be able to search planning documents spatially from the IWRM Library. Once activated, users will be able to select their method for performing data queries: polygons, hydrologic unit codes (HUC), or Corps district. After selecting their preferred method, the user then defines the area and clicks "submit." All planning documents in that area will be returned. These documents can be viewed from the left side panel in the IWRM Library App. This tool is expected to be ready in Fall/Winter of 2014.

NATURESERVE

The NatureServe app allows users to engage with NatureServe directly through SimSuite. When launched, the user will need a NatureServe ID and password. To register for an account, visit the NatureServe webpage or contact SimSuite support. Once logged in, the user can query NatureServe data by a point, polygon, county, or watershed. Select the method of query and then select a location. Once a location is selected, the app will begin to query the NatureServe database. This may take up to two minutes. Results are displayed in the left sidebar and have tabs for listed endangered species, listed threatened species, etc.

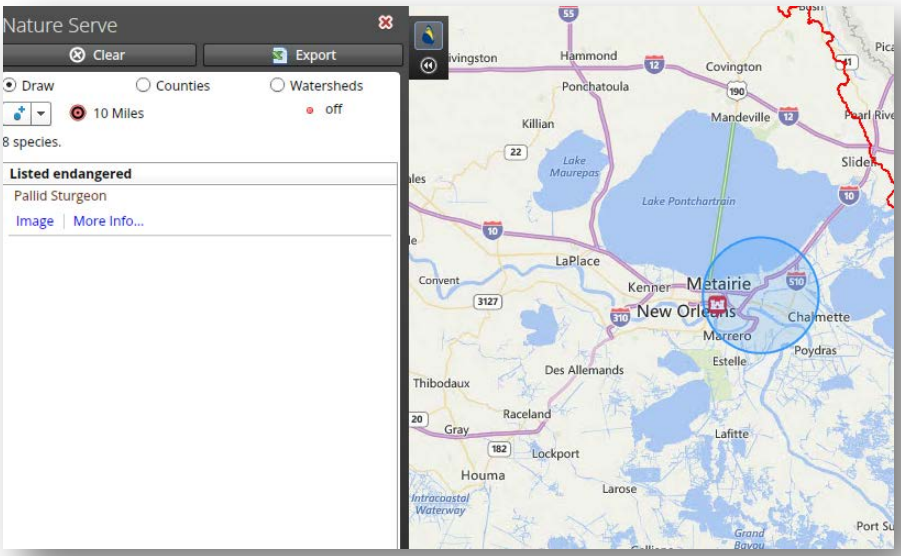


FIGURE 59: NATURESERVE

NHD PLUS CATCHMENT REPORTS

The NHD Catchment Reports app is used to aggregate related reports based on location. To use the app, click on it from the top navigation bar. After selecting it, zoom in to the target area until purple lines begin to show up on the map. The user can then select a "flowline." The app pulls information from the Environmental Protection Agency's website and lists all of the related reports in that particular flowline. You can view a report by clicking on the "view report" icon in blue font. A web browser will then open

to the address where the report is located. There is an "export" icon located above the available reports column which allows the user to export the related reports and data to a desktop or network.

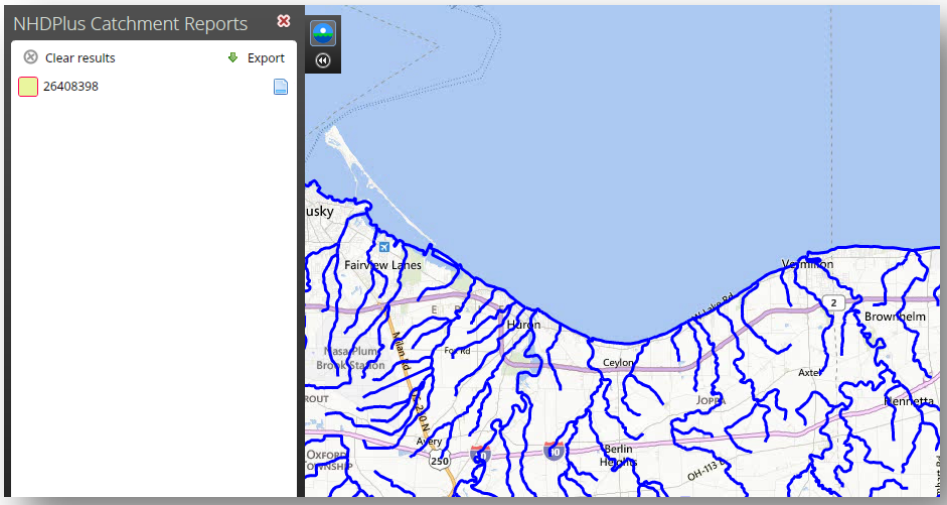


FIGURE 60: NHD CATCHMENTS

DOWNSTREAM ROUTE

The Downstream Route app is located on the far right of the top toolbar under the Apps option. The app can be used in order to determine where water outflow leads to. To use the app, first select it from the menu bar. Zoom in until the app provides an option to click the map to begin routing. Once the blue icon shows up to click a point on the map, click the icon and select an area within the waterway. The app will then track where the water point would outflow. In the image below (**Figure 61)**, the start is on the Ohio River and the app traces which rivers are downstream from this point.

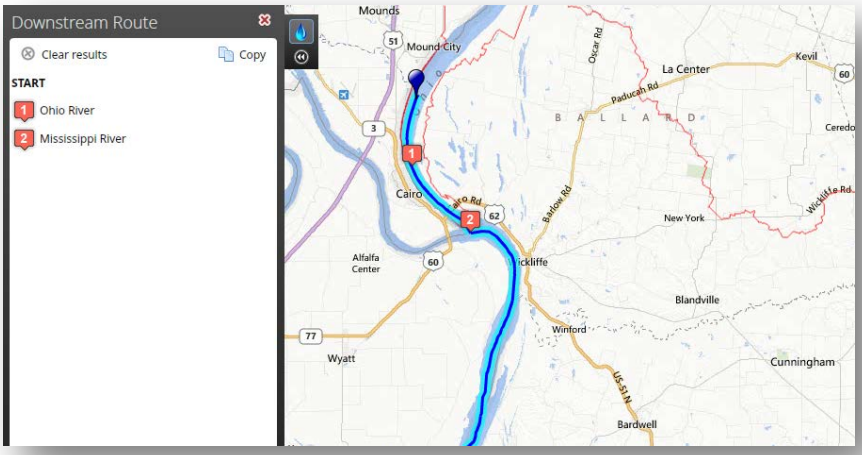


FIGURE 61: DOWNSTREAM ROUTE

ELEVATION PROFILE

The Elevation Profile app is the first option in the Environmental viewer's App Library. To use this tool, click on the Elevation Profile icon and use the draw tool located on the app toolbar to draw the study area. The polygon and freehand polygon tool are available for use in this app, and either one can be used in order to target a location. After drawing the area of study, the app will automatically pull in data on elevation in that area. The measurement can be changed from miles to kilometers if necessary.

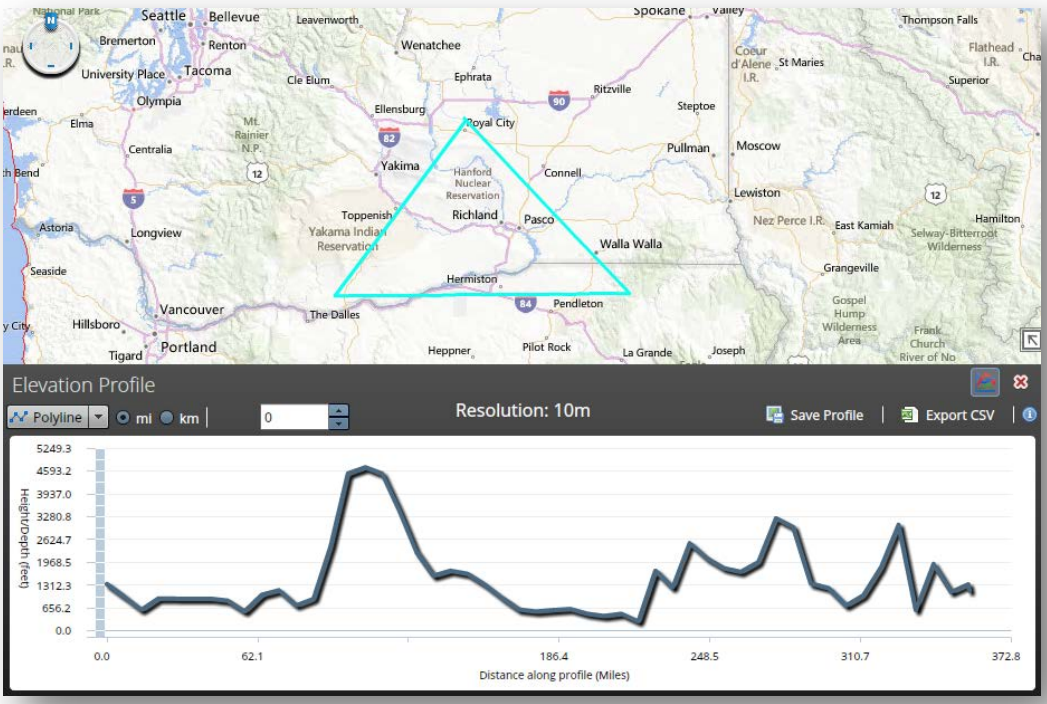


FIGURE 62: ELEVATION PROFILE

ENVIRONMENTAL APP

The Environmental App is designed to help customers involved in the Environmental Business line, in addition to all SimSuite users. The concept behind this app is to provide users with a one-stop shop for environmental data available in SimSuite. Layers have been pre-loaded into the app and will be queried based on selection. To activate the Environmental App, navigate to the "Apps" tab inside any viewer. Click the "App Library" tab to enter the library of SimSuite Apps. Scroll down until "Environmental App" is visible. Click the tab to turn the app on. Exit the library and click "Environmental" on the Apps toolbar. The app will appear on the left portion of the screen.

The first step to using the Environmental App is to choose a selection mode. The options in the drop down are: Point, Buffer, Extent Polygon, and Freehand Polygon. Choose a preferred method of selection and zoom into the area of concern on the map. Use the mouse to select the area of data interest based on the chosen selection method. When complete, the application will begin to query the pre-loaded Environmental Data in that area. The available data will appear in the left toolbar like the view of layers in the layer toolbar. From here, the data layers can be turned on and off. There is an information tab for

each dataset that is represented by a “?”. Click the question mark to get detailed information about the dataset. In addition to viewing the data, it can also be exported to a .shp file. To export, left click the layer and a drop down menu will appear. Choose “export to SHP”. The data will save as a .zip file.

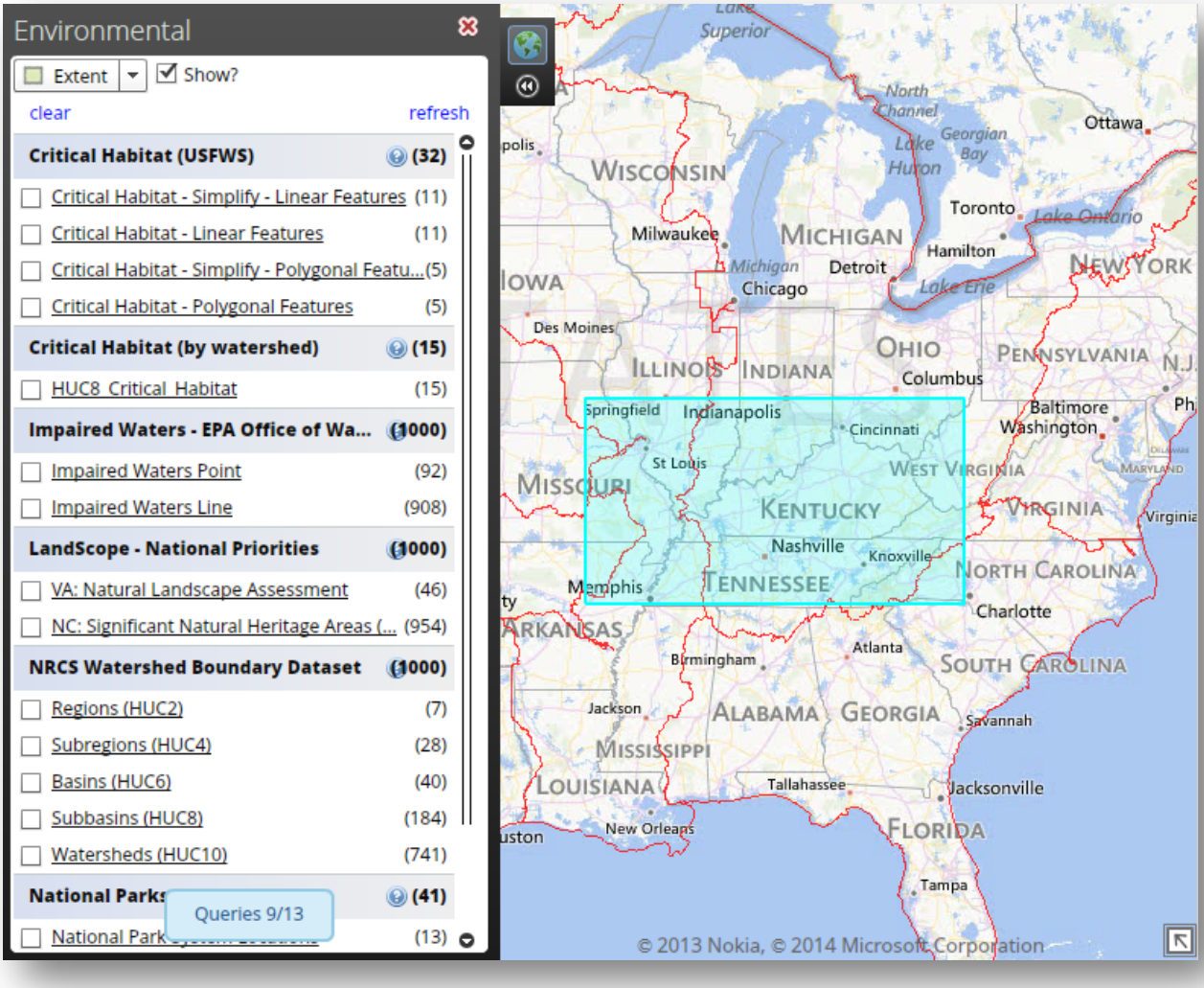


FIGURE 63: ENVIRONMENTAL APP

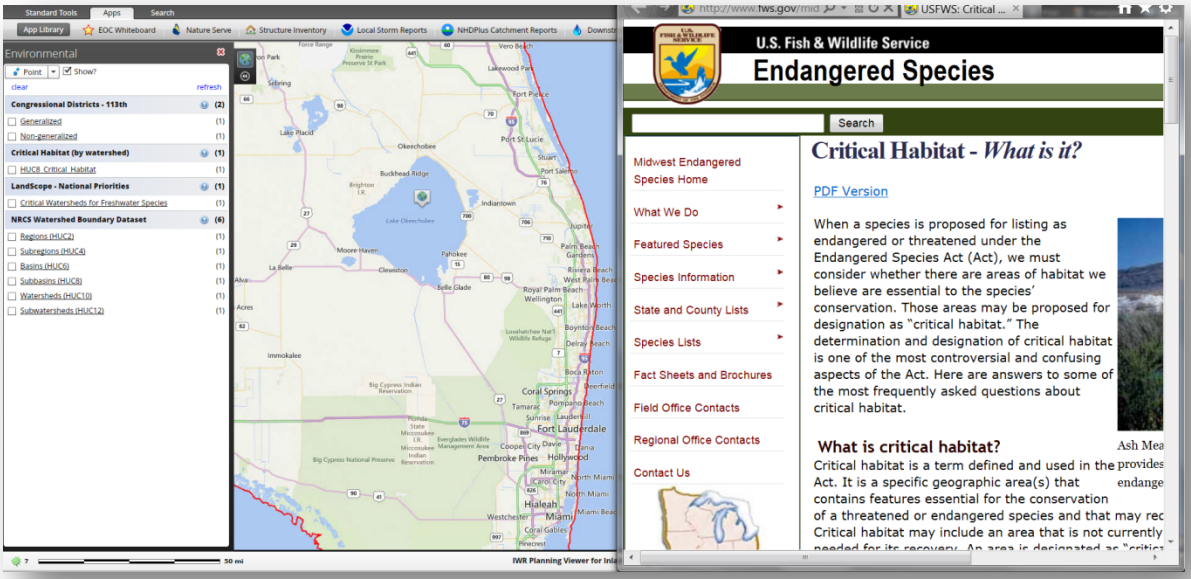


FIGURE 64: ENVIRONMENTAL APP QUESTION MARK INFO

PLANNING KICK-START APP

The Planning Kick-Start App was developed to allow users in SimSuite to query a specific set of data and then create a .pdf document showing the data queried at the location on a map. To find the Kick-Start app, navigate to the apps tab and go into the App Library to the "Planning Kick-Start App." Turn the app on and return to the map. Once selected in the toolbar, the app appears on the left side of the screen as is shown on the image below (**Figure 65**).

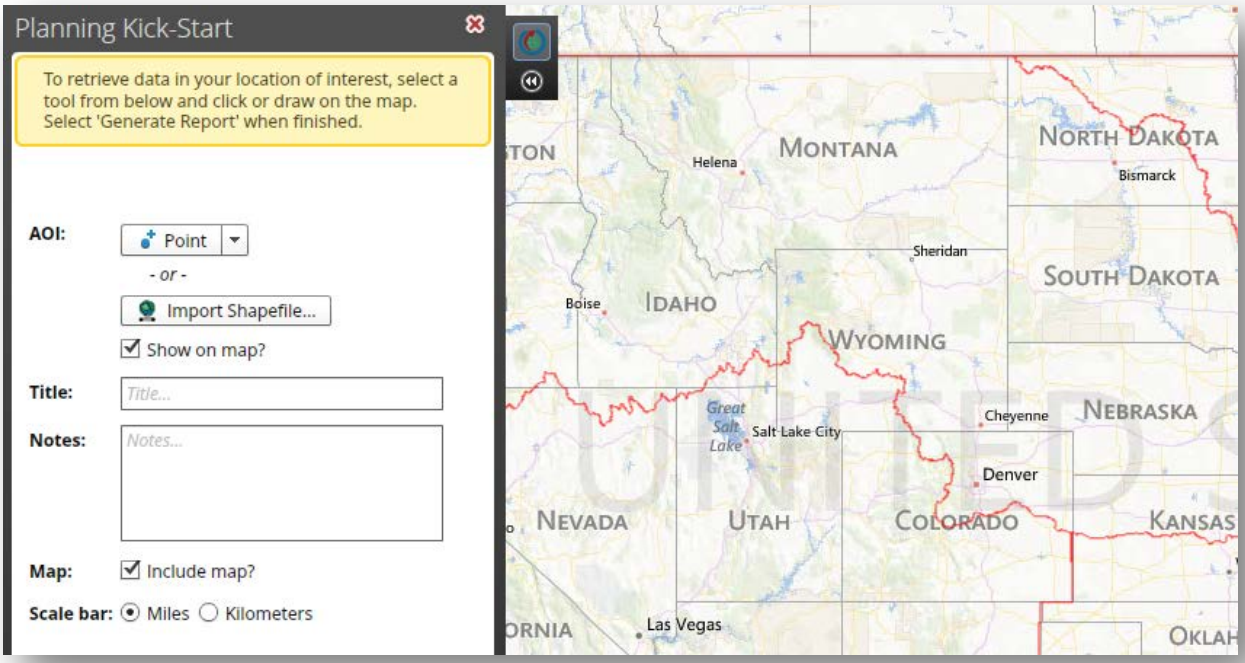


FIGURE 65: PLANNING KICKSTART

The user can now select how to query the data such as Point, Buffer, Extent, Freehand Polygon, or Import Shapefile. After running the app, the user can use the "show on the map" function, which sets the data to display on the map. Next, the user will enter a title add any necessary notes, click "Include Map," and choose the scale bar reference to miles or kilometers. After all this is complete, return to the AOI selection and choose the query tool to use. In **Figure 66**, the Extent was used to perform the query. Select the query area and the app will begin to run. The end result should be similar to the image below.

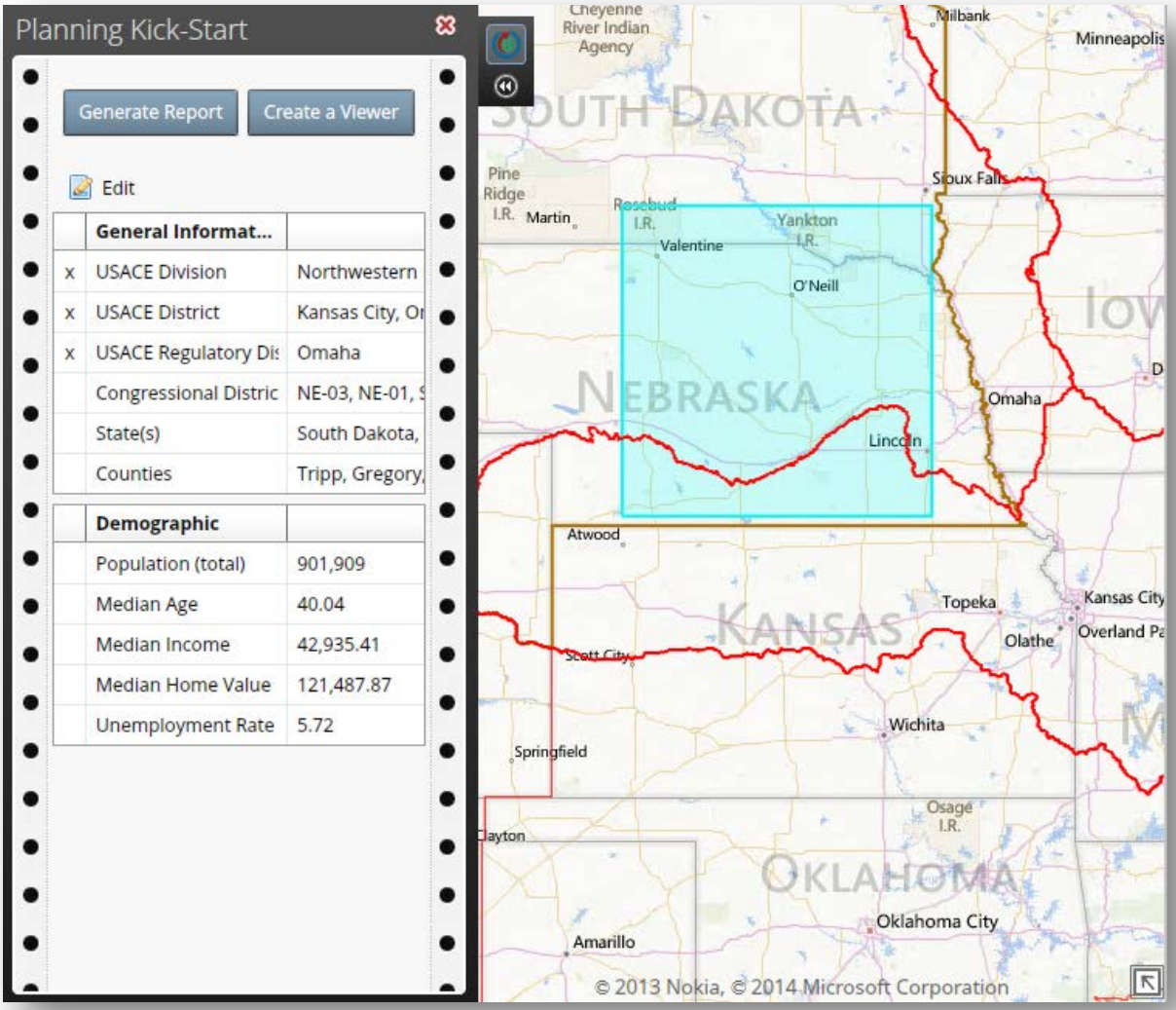
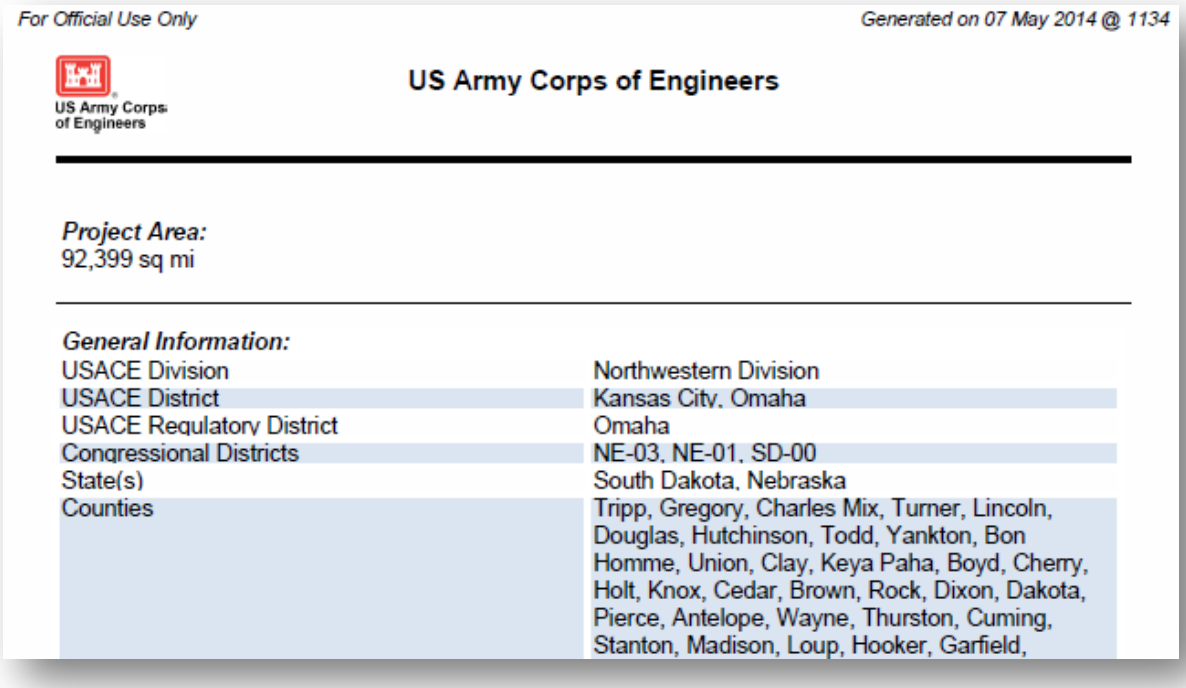


FIGURE 66: PLANNING KICKSTART SUMMARY

After the query finishes and the result displays, it is time to generate the report. The edit function can be used to return to the map and perform a new query to change the area. Data can be turned on and off just to the left of the data name. The "X" displayed represents that the layer is currently turned on and viewable on the map. Only data that has an "X" will be displayed on the generated map. When everything is set up, select "Generate Report." The user will be prompted at this time to save the .pdf document. A .pdf report will be generated and saved to the user-designated file location. The first page should be similar to the image below (**Figure 67**). The next two pages of the report contain a map and legend.



For Official Use Only *Generated on 07 May 2014 @ 1134*

US Army Corps of Engineers

US Army Corps of Engineers

Project Area:
92,399 sq mi

General Information:

USACE Division	Northwestern Division
USACE District	Kansas City, Omaha
USACE Regulatory District	Omaha
Congressional Districts	NE-03, NE-01, SD-00
State(s)	South Dakota, Nebraska
Counties	Tripp, Gregory, Charles Mix, Turner, Lincoln, Douglas, Hutchinson, Todd, Yankton, Bon Homme, Union, Clay, Keya Paha, Boyd, Cherry, Holt, Knox, Cedar, Brown, Rock, Dixon, Dakota, Pierce, Antelope, Wayne, Thurston, Cuming, Stanton, Madison, Loup, Hooker, Garfield,

FIGURE 67: PLANNING KICKSTART REPORT

EddMaps Invasive Species App

To access this app, click on Apps then click on App Library and select EddMaps Invasive Species. Once activated (as signified with a green circle), you can close the App Library and the app will appear in the list. This app will list the invasive species for the area of interest. Click on the app, choose point, buffer, or extent, then click on the map and a list of invasive species will appear to the left, as is shown in **Figure 68**.

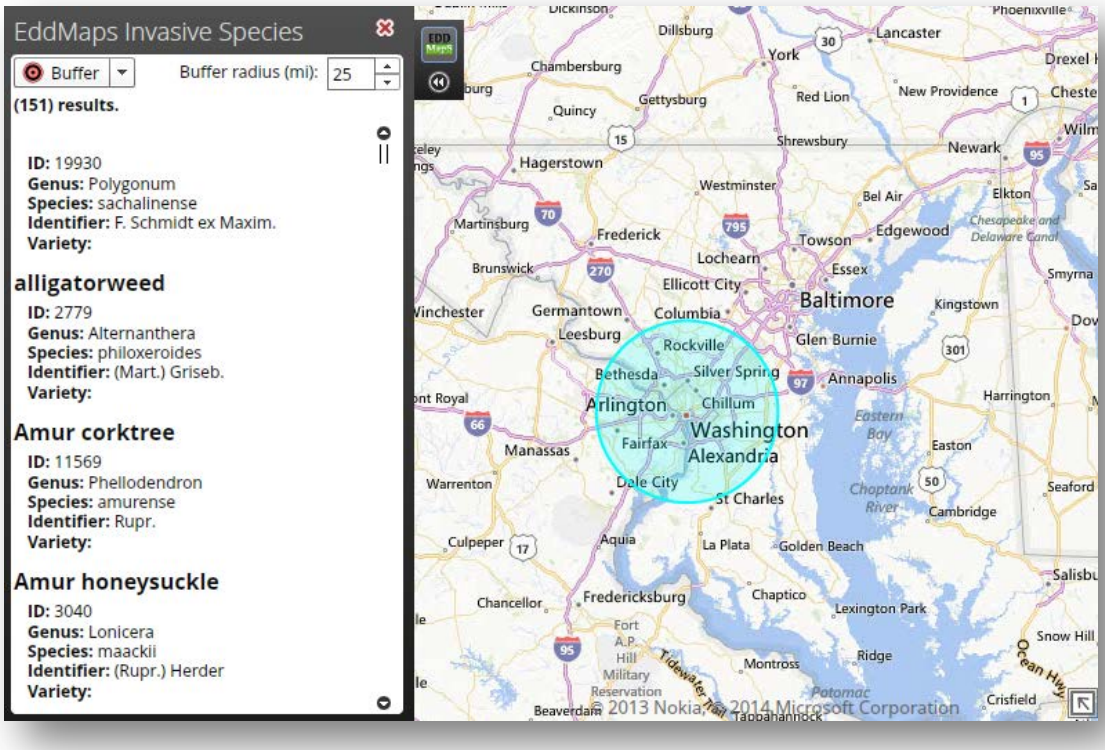


FIGURE 68: EDDMAPS INVASIVE SPECIES APP

Emergency Power Response Assessment Model (EPRAM) App

To access this app, click on Apps then click on App Library and select EPRAM. Once activated (as signified with a green circle), you can close the App Library and the app will appear in the list. The purpose of this tool is to rapidly assess the temporary power requirements of critical infrastructure in any user-selected geographic area. This requires two basic steps: first, select the critical infrastructure from the list of available infrastructure types; second, designate the impact zone to be analyzed by either selecting it by hand (buffer, extent, polygon, and freehand polygon options available), uploading a shapefile of the desired area, or selecting a storm swath from SimSuite's database.

The following types of critical infrastructure are able to be analyzed using this tool: AM antennas, cellular towers, FM antennas, private schools, public schools, colleges and universities, 911 call centers, emergency medical services, fire stations, service providers, nursing homes, hospitals, and urgent care

facilities. For each of these, users can view the estimated generator count (#), power requirement (kW), and range (kW).

Results are displayed in graph and chart form, both of which display the total number of critical structures in the selected area and their associated power requirements (kW). Users are able to download the raw data (in Microsoft Excel format) and the map to their computer. An example of EPRAM's resulting output is shown in **Figure 69**.

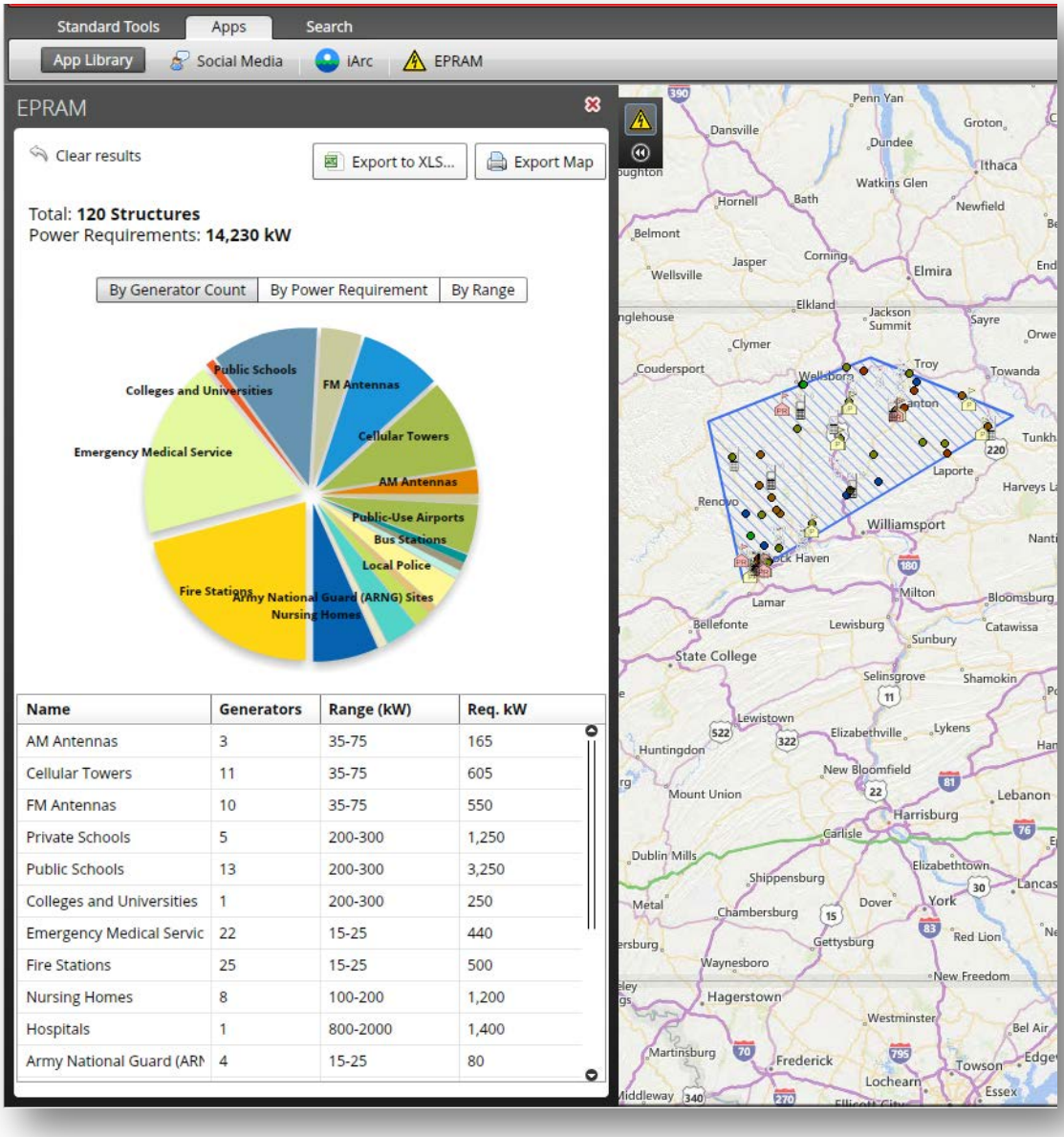


FIGURE 69: EPRAM APP RESULTS

To access this app, click on Apps then click on App Library and select Social Media. Once activated (as signified with a green circle), you can close the App Library and the app will appear in the list. The purpose of this tool is to give users the opportunity to search social media sites – specifically YouTube and Flickr – for related postings in a user-specified area. The use of this app requires two steps: first, users must select the geographic area they are interested in (users can choose a 1 mile to 20 mile search radius from the point they select on the map); second, users must enter their search term(s) or keyword(s). After completing these steps and clicking "Search", the app will return all YouTube and Flickr results related to the given keyword(s) in the selected geographic region. An example of the Social Media app's resulting output is shown in **Figure 70**.

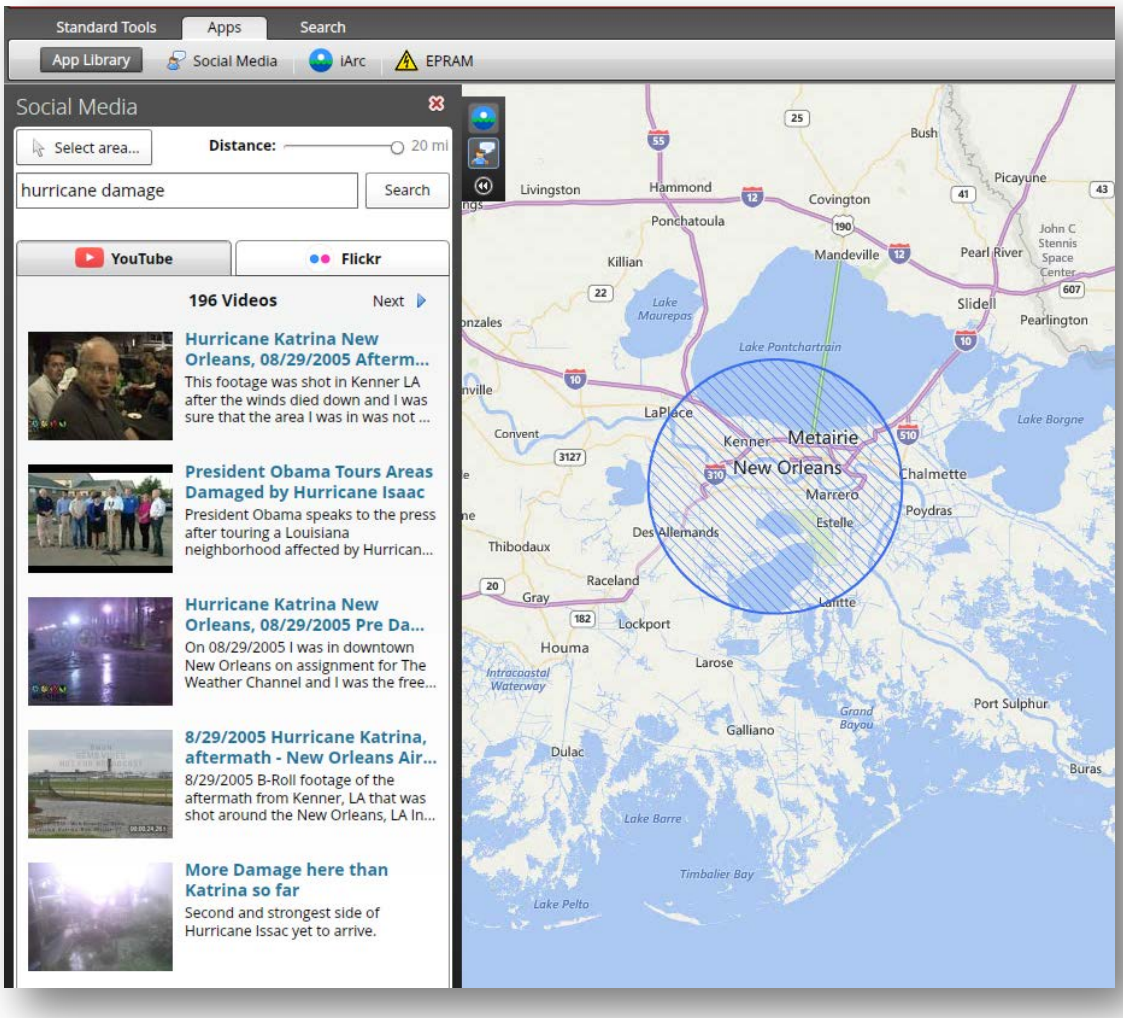


FIGURE 70: SOCIAL MEDIA APP OUTPUT

To access this app, click on Apps then click on App Library and select iArc. Once activated (as signified with a green circle), you can close the App Library and the app will appear in the list. The purpose of this tool is to provide demographic and structure value information for any user-specified geographic area. For areas within the Tulsa levee district, the app provides the number and estimated dollar value of the following types of structures: commercial, industrial, public, and residential. Additionally, for any selected geographic area, the tool shows the estimated values for each of the user-selected report data. The data users are able to include are median age, median home value, median income, population, unemployment rate, fire stations, hospitals, nuclear power plants, and nursing homes.

Users can obtain these results with two basic steps: first, select the report area using either the extent tool, freehand polygon tool, or National Levee Database (NLD) selection tool; second, select data to be included in the report. After completing those two steps, simply click "Generate Report" to view the results. Results are given in chart form and can be saved to a user's computer in PDF form. An example of iArc's resulting output is shown in **Figure 71**.

To save the data as a PDF, click "Print" (on the results view of the app) and you will be prompted to choose a location to save the information on your computer. In addition to the demographic and structure value information, the saved PDF also contains a map of the corresponding geographic area.

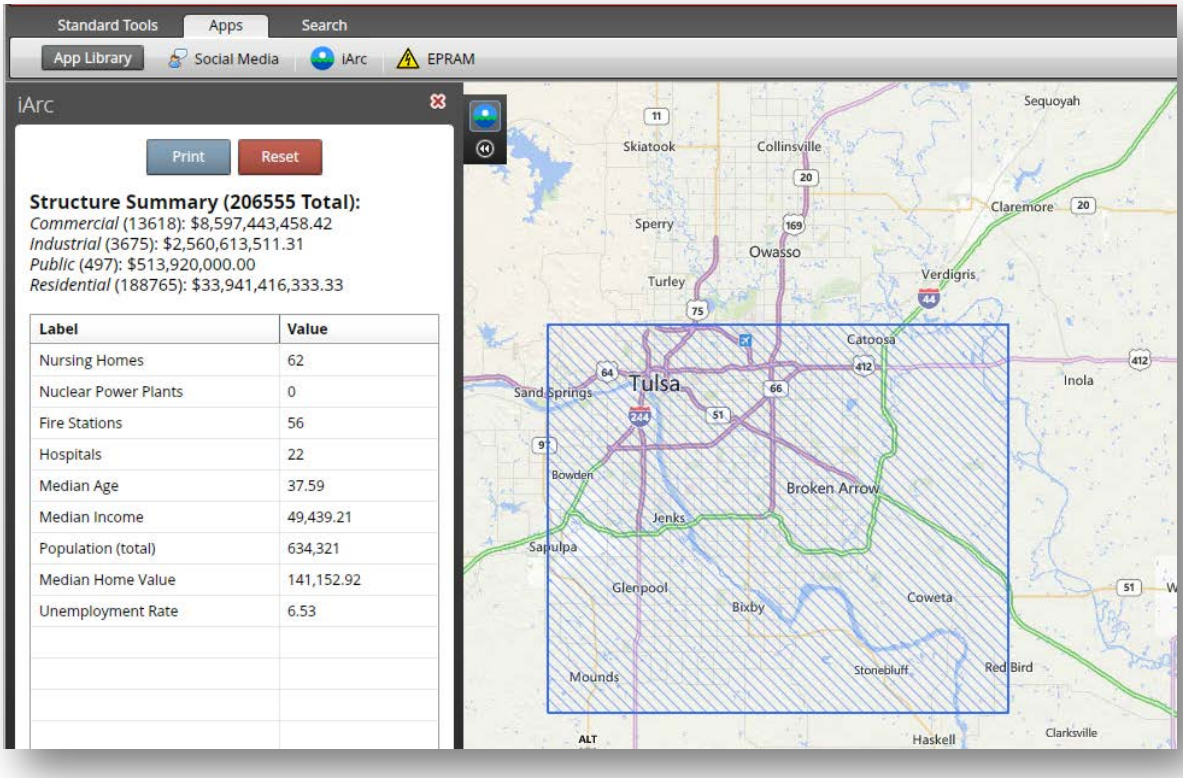


FIGURE 71: iARC APP OUTPUT

To access this app, click on Apps then click on App Library and select Hurricane Forecast Models. Once activated (as signified with a green circle), you can close the App Library and the app will appear in the list. This app provides information on any forecasted storms; simply click on an area on the map (e.g., **Figure 69**). If no storms are projected at the time, the app will state, "There are currently no models to display."

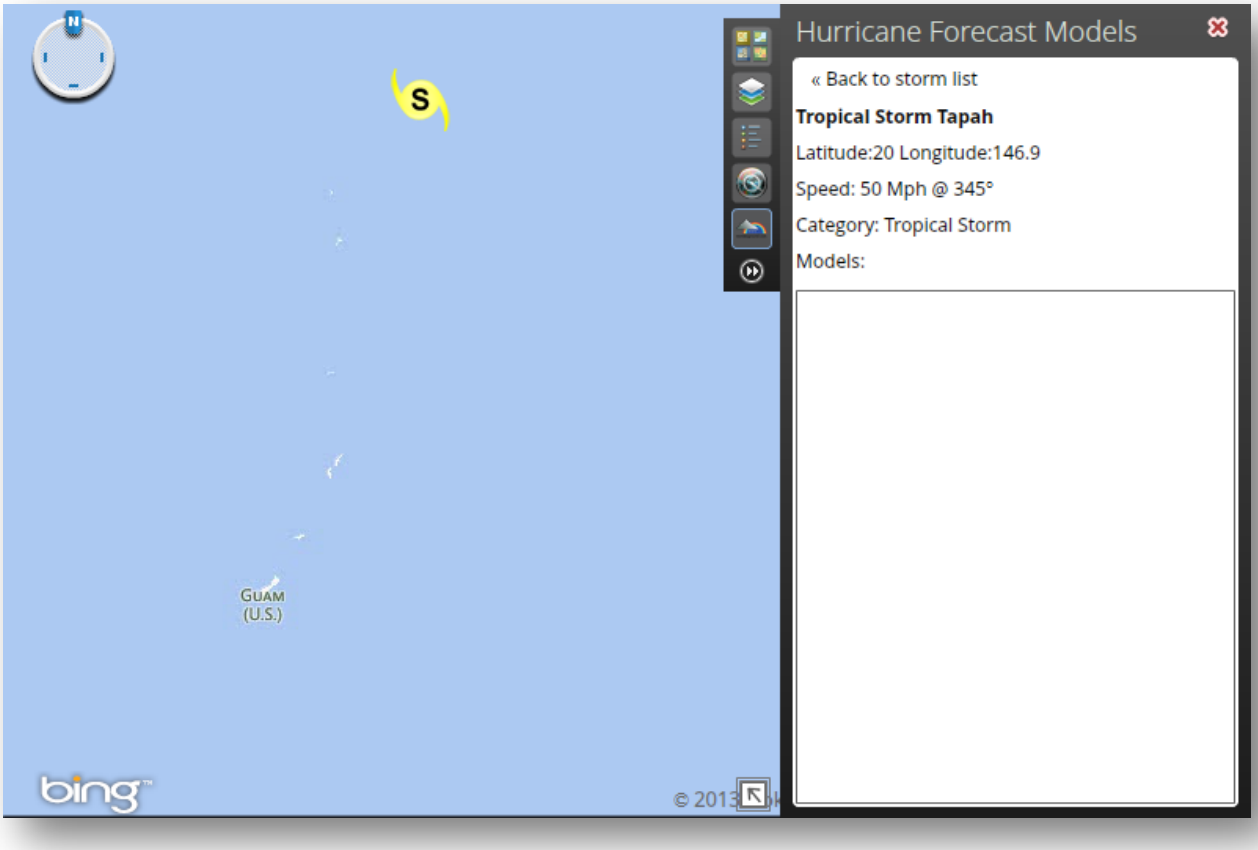


FIGURE 72: HURRICANE FORECAST MODEL

LOCAL STORM REPORTS

This app will allow the user to select a start and end date for a range of local storm events. There is an on and off button on this app, so be sure to click "on" to use. The user should click an area of interest. Storm events will appear on the screen for the chosen area.

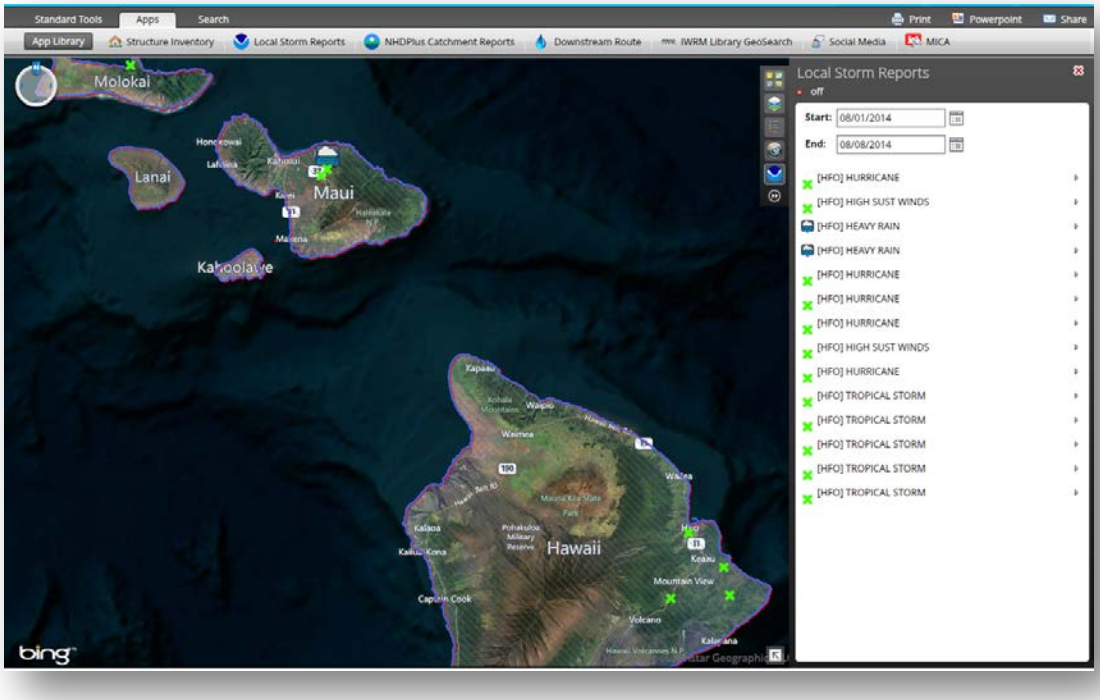


FIGURE 73: LOCAL STORM REPORTS

To access this app, click on Apps then click on App Library and select Tornado Impacts. Once activated (as signified with a green circle), you can close the App Library and the app will appear in the list. Once the Tornado Impacts App is loaded, navigate to the area of interest on the map. Select "Create" or "Import Shapefile..." Click an area on the map and double click when the selection is complete.

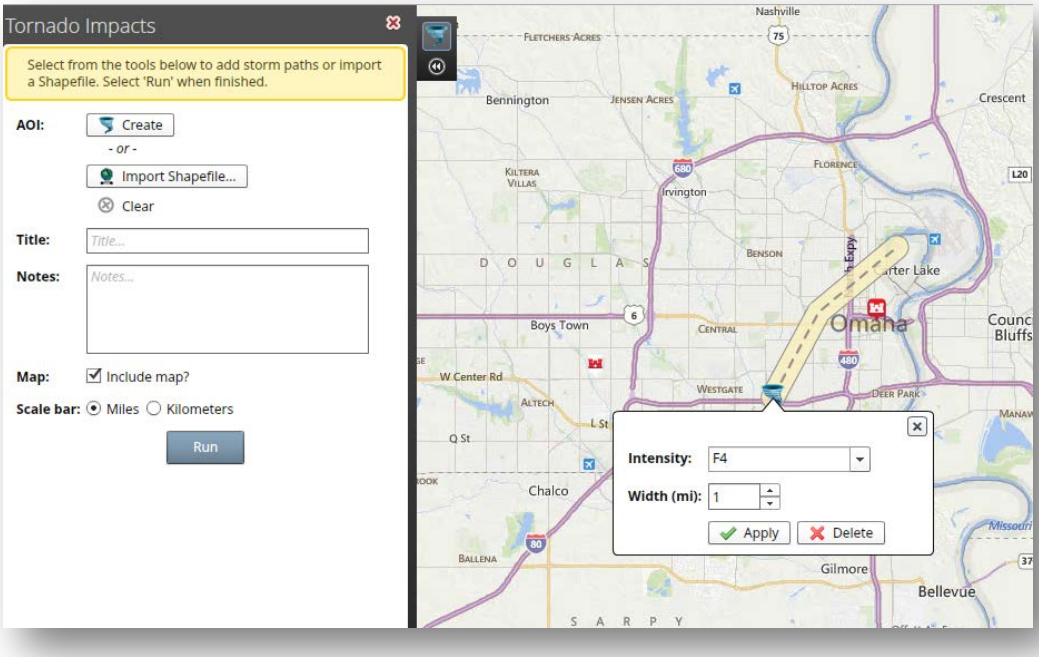


FIGURE 74: TORNADO IMPACTS

A popup box will appear on the screen that will allow the user to designate the type of intensity (F1-F4) and select a storm width (miles or kilometers).

Select "Run" to start the App. Depending on how large the area of selection is, it may take a few minutes to gather the data. A blue box will appear at the bottom of the screen that shows how many possible queries are in the selected area.

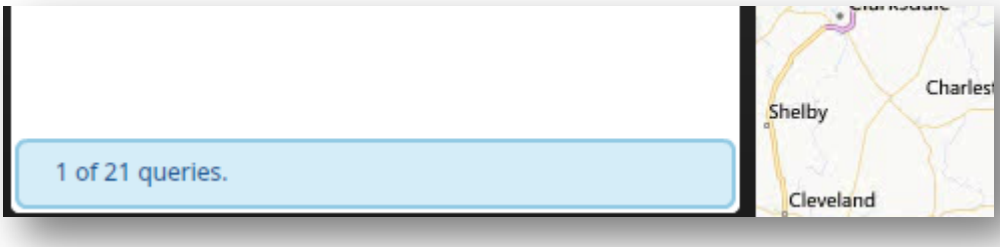


FIGURE 75: QUERY STATUS

Once SimSuite has completed the query process, the data will be displayed on the left hand side of the screen.

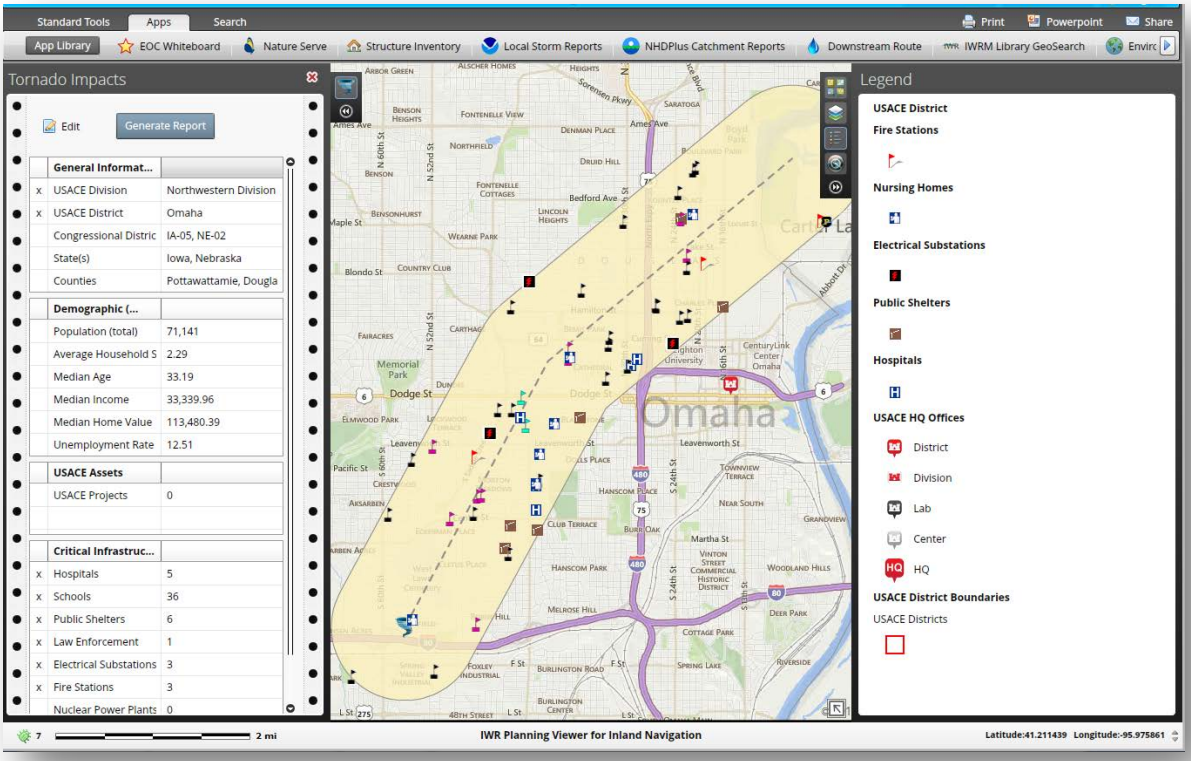


FIGURE 76: TORNADO IMPACTS REPORT

SimSuite has the ability to generate a PDF file of the captured data for the area of interest. By selecting "Generate Report," SimSuite will load all of the information that is displayed on the map into an easy-to-read document.

SOCIAL MEDIA

The Social Media app will enable the user to search by geographical area and by keyword through YouTube and Flikr. Searches will result in videos or images taken in this geographical area. This app could be helpful to examine the natural environment for outdoor images or to help understand a community's response to an extreme event. It may also help identify historical events or stakeholders in the area of interest. The radius of the geographical area can be set from 5 to 20 miles in a circle from the point selected. For example, the image below is a search of the word "Hurricane" within the radius of Oahu Island in Hawaii during the arrival of Hurricane Iselle on August 8, 2014.

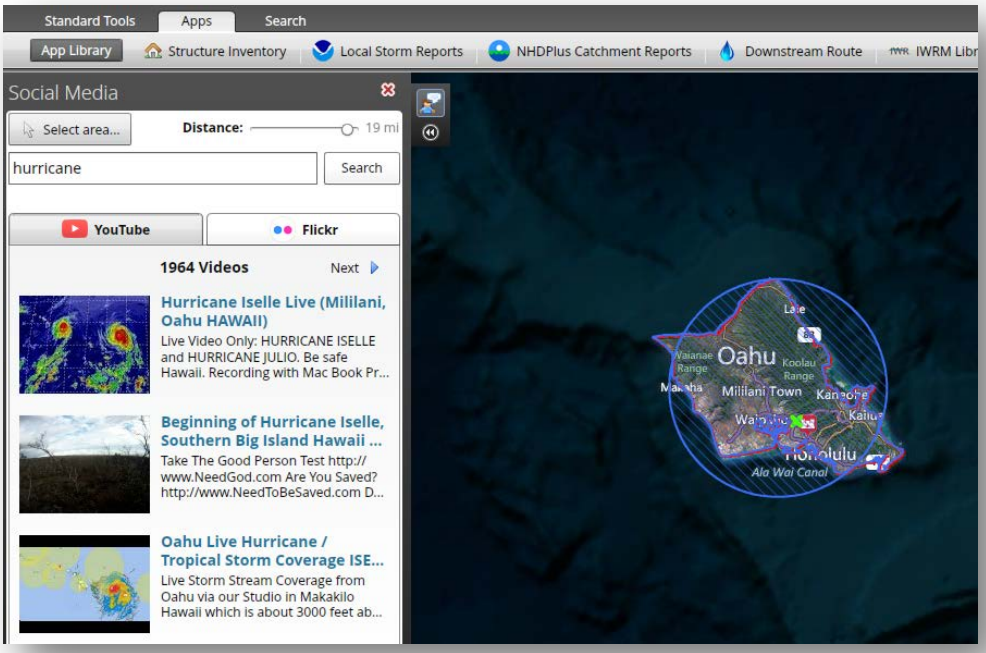


FIGURE 77: YOUTUBE RESULTS

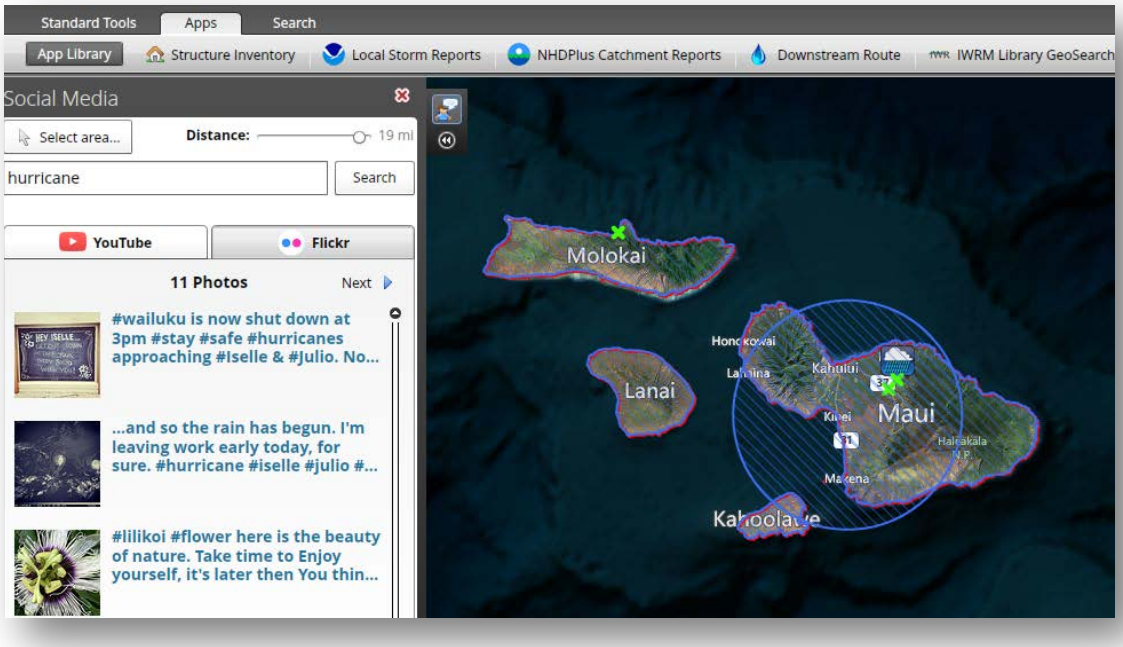
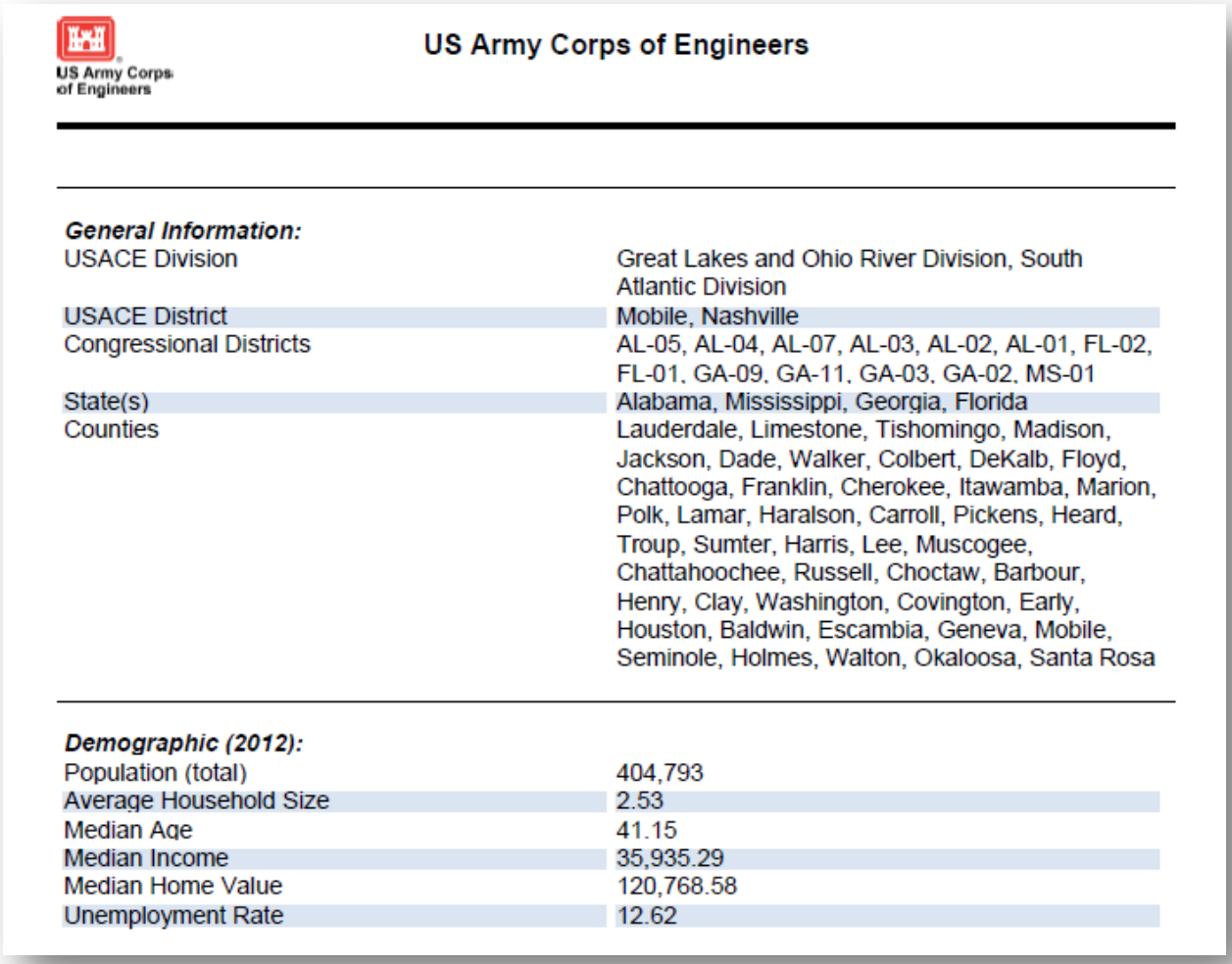


FIGURE 78: FLIKR RESULTS

MICA (or Mobile Information Collection Application) is a system built by the Engineer Research and Develop Center (ERDC) in Vicksburg, Mississippi. It is a means to collect data via mobile devices. It has been used in emergency events, but its reach is expanding further. Data collected from the mobile apps and deposited in MICA is available within SimSuite and listed as a project.



US Army Corps of Engineers

US Army Corps of Engineers

General Information:

USACE Division	Great Lakes and Ohio River Division, South Atlantic Division
USACE District	Mobile, Nashville
Congressional Districts	AL-05, AL-04, AL-07, AL-03, AL-02, AL-01, FL-02, FL-01, GA-09, GA-11, GA-03, GA-02, MS-01
State(s)	Alabama, Mississippi, Georgia, Florida
Counties	Lauderdale, Limestone, Tishomingo, Madison, Jackson, Dade, Walker, Colbert, DeKalb, Floyd, Chattooga, Franklin, Cherokee, Itawamba, Marion, Polk, Lamar, Haralson, Carroll, Pickens, Heard, Troup, Sumter, Harris, Lee, Muscogee, Chattahoochee, Russell, Choctaw, Barbour, Henry, Clay, Washington, Covington, Early, Houston, Baldwin, Escambia, Geneva, Mobile, Seminole, Holmes, Walton, Okaloosa, Santa Rosa

Demographic (2012):

Population (total)	404,793
Average Household Size	2.53
Median Age	41.15
Median Income	35,935.29
Median Home Value	120,768.58
Unemployment Rate	12.62

FIGURE 79: MICA APP

SimSuite is a web-based application. It does not house data as an application; therefore, each time data is queried, the tool pulls data in from external sources. This can cause the tool to seem a bit slow, but it often only needs a few moments to load.

It is possible that after waiting a few moments, the data may still not load as it should. If this occurs, there are a couple of steps to take prior to contacting the system administrator that may fix the problem.

First, check to see if the layer being applied is in grayed-out font, or in the darker font all other text is in. If the font is gray, it means you are trying to view the data from too far out. Zoom in to the necessary level of closeness on the map; the layer title should then change color and begin to display data on the map.

If the viewer layer you are trying to access is not grayed out, then there are several other steps to take to see if the data will reload. These include the following:

- Refresh your browser page.
- Clear the history of your browser. (Delete cookies and internet browsing history.)
- Check the browser that is running the application.

If refreshing the page, refreshing your cache, and removing webpage history does not help display the data. Check to see which browser is being used. U.S. Army Corps of Engineers computers typically have Internet Explorer 9 (IE9) and sometimes FireFox. It is possible that an update has been pushed through for IE9 and that SimSuite has not synced yet. If this is the case, the problem will be widespread and should be resolved shortly. Adobe Flash is necessary to run SimSuite. FireFox on USACE computers does not always have Flash enabled, which will not allow the map to load properly.

In summary, if you are having issues with viewing SimSuite, try some of the following mitigation steps:

- Check what browser you are using.
- Refresh the webpage.
- Clear browser history/cache.
- Zoom in on the map.

If these steps do not help, contact the system administrator using the Contact Us link at the top right of the main SimSuite page.

Some viewers on SimSuite have apps that can be applied. If specific apps are not functioning correctly, it may be necessary to contact the app's provider. For example, for issues with NatureServe login, the user may need to contact NatureServe directly. Prior to contacting a specific provider, it is recommended to go through the Contact Us link so all issues are documented and resolved through the proper chain of command.