

Let's Build a Dashboard

Wednesday, November 07, 2018
1:30 PM

Introduction

ESRI's Operations Dashboard is a hosted configurable web application. Like most of ESRI's configurable applications, Ops Dashboard relies on a webmap for with GIS layers or tables for content.

Hurricane Michael Scenario

In the days following Hurricane Michael, Leon County's Initial Damage Assessment team assessed nearly 1,200 damaged structures in Tallahassee and Leon County. Based on these findings FEMA approved Leon County's for individual assistance. Within two days of the FEMA declaration a 16 member FEMA team of reported to Leon County's Emergency Operations Center. The team's goal was to reach out to Leon County residents impacted by the storm and encourage them to register with FEMA. The FEMA team's leaders said "We are ready to knock on doors where do you want us to go?". The EOC director instructed the team to use TLCGIS's Initial Damage Assessment Layer to prioritize their fieldwork. The EOC Director also directed TLCGIS staff to devise a method for tracking FEMA's Progress.

Tracking FEMA's Progress

As it turns out FEMA prefers to use the United States National Grid (USNG) in 1 kilometer grid cells to track its outreach progress. TLCGIS Staff extracted a subset of ESRI's USNG 1KM Grid Cell layer for Leon County and added two additional fields "FEMA_Status" and "Date_Completed_FEMA" for tracking the teams progress. The layer Was added to ArcGIS Online as a secured hosted feature Layer for editing. A public facing view of the layer was created for use in apps and webmaps.

Know Your Data!

In order to build an Ops Dashboard or any app that accurately and effectively displays your content, it is critical that you know and understand your data's attributes and values.

FEAM Status Values for the USNG 1KM grid cell layer:

1. **Incomplete** = Default value for grid cells with known damage.
2. **Complete** = Indicates that FEMA has completed outreach in this grid cell.
3. **Not Applicable** = Default Value for grid cells with no known damage.

Since this lecture is about building dashboards not webmaps, we've built a webmap for you "Hurricane Michael - FEMA Individual Assistance Outreach".

Instructions

Webmap

Getting Started:

1. Log in to ArcGIS Online
2. Being a member of an ArcGIS online Org is a pre-requisite for active participants in this lecture.

Open the webmap and save a copy:

1. Perform an ArcGIS Online Search for the term "FEMA individual assistance outreach Leon County" (Upper Right)
2. The initial search may return no results. If it does, don't panic, this means you are not a member of TLCGIS's ArcGIS Online Org. To get a positive search result simply toggle the little blue switch that allows you to search outside of your ArcGIS Online Org.
3. After successful search click the webmap's thumbnail image to "Open in Map Viewer".
4. Save a copy of the map to your local content. Click "Save" at the top of the webmap and choose "Save As"
5. Name your webmap "SHRUG Ops Dashboard Demo"
6. Use the Tag "SHRUG"
7. Click "Save Map"

Share your Webmap

1. Click "Share" at the top of the webmap.
2. Share the Webmap with "Everyone (public)".

Initialize Your Operations Dashboard

1. Click "Share" at the top of your webmap.
2. From the share dialog choose "CREATE A WEB APP" to launch the Create a New Web App Dialog
3. From the Create a new web app dialog click the "Operations Dashboard" tab at the top.
4. Accept the default title and tags and add a summary.
5. Click "Done"
6. The Dashboard Configuration page should appear on your screen with your webmap displayed. You are ready to start configuring your Dashboard!

Configuring your dashboard

Operations Dashboard combines your map with a series of widgets that you select and configure to consume layers or tables included in your webmap. Since our time for this lecture is somewhat limited, we will focus on a subset of the widgets.

Adding widgets

Widgets are added from a picklist deployed by the "+" (plus sign) at the top right of the configuration page. After selecting a widget from the list, a configuration page for the widget will automatically appear. When you are satisfied with your widgets clicking "Done" will show you the results.

The Blue Biscuit!

Once deployed, each widget will display a small blue rectangle in its top left corner. For the purposes of this lecture, we will refer to it as the "Blue Biscuit". Clicking the Blue Biscuit will deploy a pick list of

options for interacting with the widget. You can reopen a widget's configuration, duplicate a widget, delete a widget, and drag or move a widget.

Header Widget

Description: The header widget displays text information at the top of the dashboard it is typically used as a title section.

1. Select "Header" from the widget pick list (plus sign at top right)
2. In the Title Block enter "My SHRUG Dashboard"
3. Click done

List Widget

Description: This widget displays a running list of individual item form a layer or table in your webmap. The list content can be ordered and displayed based on attribute queries from the map content. Add a List Widget to your Dashboard and follow the instructions below to configure it.

Adding the Widget

1. Select "List" from the widget pick list (plus sign at top right)
2. From the Select a Layer page choose "FEMA Individual Assistance Outreach Grids"

DATA Tab

1. Under Filter Choose "FEMA_Status"
2. For Value choose "Complete"
3. Under "Sort By " choose "Date Completed FEMA" in Descending order

LIST Tab

1. In the "Line Item Text" section you will build the content for your list.
2. Note that this section includes a myriad of text editing tools.
3. Use the pick list marked by curly brackets {} to select the attribute fields {Label} and {Date_Complete_FEMA}.
4. Fill in the text around your attribute fields as shown below
5. Grid Cell: {LABEL}
Date Completed: {Date_Completed_FEMA}
6. Click Done

GENERAL Tab

1. Title = "FEMA Completed Grids"
2. Make the text bold, centered, and style it as "Heading 2"

ACTIONS Tab

1. Add Action
2. Action Type "Flash"
3. Add Target "Map1"
4. Selection Mode "Multiple"

Indicator Widget

Description: This widget will display a running count of specified content from a layer in your webmap.

Adding the Widget

1. Select "Indicator" from the widget pick list (plus sign at top right)
2. From the Select a Layer page choose "FEMA Individual Assistance Outreach Grids"

DATA Tab

1. Under Filter Choose "FEMA_Status"
2. For Value choose "Complete"

INDICATOR Tab

1. Under = Left
2. Choose the Clipboard Icon

GENERAL Tab

1. Title = "FEMA Completed Grids"
2. Make the text bold, centered, and style it as "Heading 2"
3. Click Done

Bonus 1: Make the text label and Icon colors match the map symbology

Bonus 2: Let duplicate the FEMA Completed Grids widget

1. From the Dashboard click the Blue Biscuit and select "Duplicate". A new copy of the widget will appear at the far left.
2. Update the Filter to display incomplete grid cells
3. Update the Title to say "FEMA Incomplete Grids"
4. Change the Icon to Do Not Enter Symbol
5. Update Text Labels and Icon colors to match the map symbology colors

Pie Chart Widget

Description: Displays a Pie Chart of the data

Adding the Widget

1. Select "Pie Chart" from the widget pick list (plus sign at top right)
2. From the Select a Layer page choose "FEMA Individual Assistance Outreach Grids"

DATA Tab

1. For Category Field Choose "FEMA_Status"
2. For Statistic choose "Count"

GENERAL Tab

1. Title = "FEMA Outreach By Status"
2. Make the text bold, centered, and style it as "Heading 2"
3. For Labels choose "Percentage"
4. For Legend choose "Value"
5. Click Done

SLICES Tab

1. Chose a color scheme for the slices that matches the map symbology as closely as possible

ACTIONS Tab

1. Add Action
2. Action Type "Filter"
3. Add Target "FEMA Individual Assistance Outreach Grids"
4. Selection Mode "Single"

Gauge Widget

Displays a gauge showing statistics for a layer

Adding the Widget

1. Select the "Gauge" from the widget pick list
2. From the Select a Layer page choose "FEMA Individual Assistance Outreach Grids"

Data Tab

1. Value
 - a. Filter - Add a filter for the "FEMA Status"
 - b. Filter Condition - FEMA Status equal Complete
 - c. Value Type = Statistic
 - d. Statistic = Count
2. Minimum Value
 - a. Value Type = Fixed Value
 - b. Value = 0
3. Maximum Value
 - a. Value Type = Statistic
 - b. Statistic = Count

Gauge Tab

1. Style = Progress
2. Shape = Try all three and choose the one you like.
3. Text = Use a Blue color similar to the completed symbol on the map.
4. Band = Use a Blue color similar to the completed symbol on the map.
5. Band Background = Use a Red color similar to the incomplete symbol on the map.

Map Widget

Allows the map to control and interact with the other widgets.

Open then Map Settings

1. To open the map widget settings hover over map frame until the blue biscuit appears in the top left corner of the map frame.
2. Hover over the blue biscuit and click the map setting gear icon.

SETTINGS Tab

1. Pop-ups = ON
2. Scalebar = Line

3. Default Extent and Bookmarks = ON
4. Legend = ON
5. Zoom In/Out = On

GENERAL Tab

1. Title = "FEMA Outreach Tracking"
2. Description = "This map displays the completion status of FEMA individual assistance outreach based on USNG 1KM grid cells."

MAP ACTIONS Tab

1. Add Action = Filter
2. Add Target = List(1), Indicator(1), Indicator(2), Pie Chart(1), Gauge(1) Value, and Gauge(1) Max Value

LAYER ACTIONS Tab

1. Add Action = "Filter" for FEMA Individual Assistance Outreach Grids
2. Add Target = List(1), Indicator(1), Indicator(2), Pie Chart(1), Gauge(1) Value, and Gauge(1) Max Value