

GIS III: Web Applications Exercise



*** Files needed for exercise: “COVID-19 Testing Locations and SVI in NC” web map available at <http://arcg.is/1K4vKj>

Goals: The goal of this exercise is to create a data dashboard that quickly presents information on current COVID-19 testing locations.

Skills: After completing this exercise, you should have a basic familiarity with creating ArcGIS dashboards. You will be able to add items and configure interactive actions.

Create a Dashboard App from an existing web map

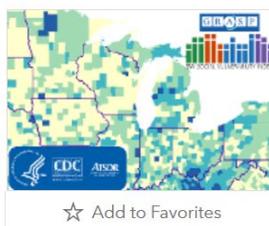
1. Open the “COVID-19 Testing Locations and SVI in NC” web map (<http://arcg.is/1K4vKj>) and click **Modify Map** in the top right.
2. Save a copy of the map to your ArcGIS Online account. Sign in if necessary.
3. In this scenario, we are interested in tracking COVID-19 testing locations and comparing them to populations who may be more vulnerable to severe illness from COVID-19. This map already includes CDC’s Social Vulnerability Index (SVI) 2018 by county and GIS Corp’s COVID-19 testing location layers from ArcGIS Online. They have been filtered to only display North Carolina data.



COVID-19 testing locations in U.S. states and territories compiled and updated by GISCorps volunteers. Information is sourced from public information shared by health departments, local governments, and healthcare providers.

Feature Layer by [htorpey_GC](#)

Created: Apr 30, 2020 Updated: May 22, 2020 View Count: 341,106

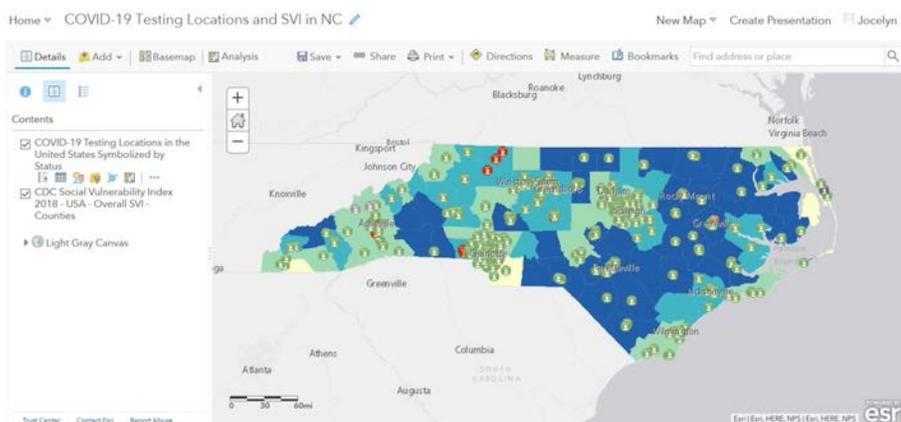


2018 Social Vulnerability Index (SVI). Created by the Centers for Disease Control and Prevention (CDC) / Agency for Toxic Substances and Disease Registry (ATSDR) / Geospatial Research, Analysis, and Services Program (GRASP).

Feature Layer by [data_cdc](#)

Created: Mar 16, 2020 Updated: Mar 18, 2020 View Count: 3,884,907

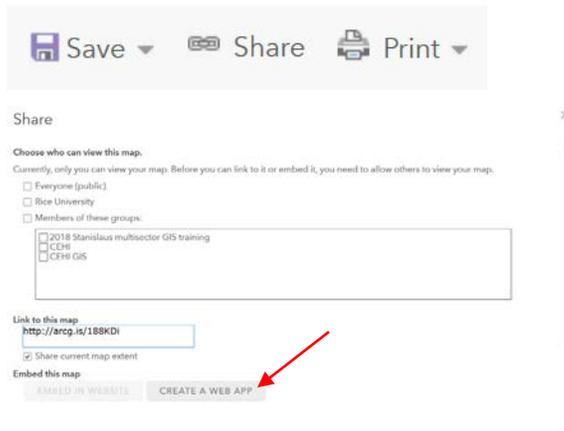
[Living Atlas](#)



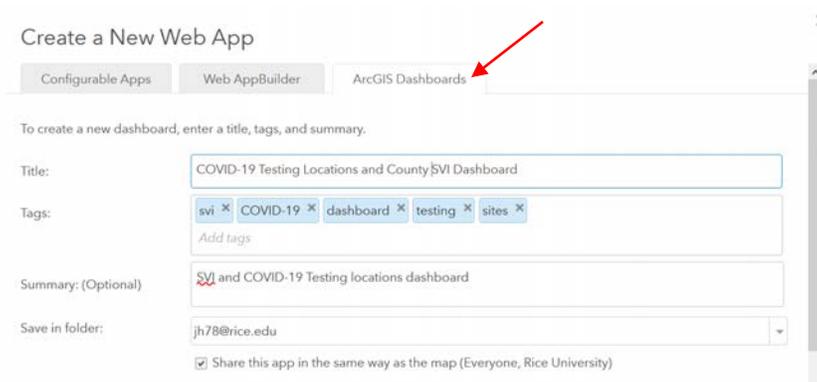
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- Click the share icon and then select **Create a web app**.



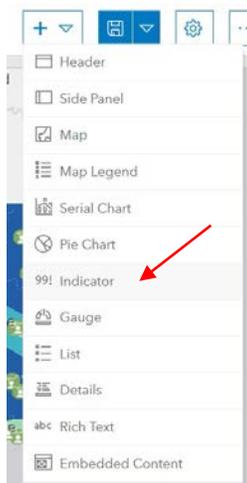
- Select the **ArcGIS Dashboards** tab and fill in with the appropriate metadata.



- When finished, click **Done** at the bottom of the page. You will be taken to the dashboard builder, already populated with your map.

Add an Indicator

- First, we can add an Indicator that displays the total count of operational testing locations.
- In the top right, click the + icon and choose to add an **Indicator**.



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3. Select “COVID-19 Testing Locations in the United States Symbolized by Status” as the source layer for the indicator.
4. Under **Filter**, click the +Filter button to create the query: “Status equal Operational”.

Filter

Status	coded string	🗑️
equal		▼
Value	Field	
Operational		▼
AND OR		

5. On the left, switch to the **Indicator** tab. Add “Operational Testing Sites” to the **Top Text**.
6. Click **Done**.

Add Serial Chart

1. We can use a Serial Chart panel to show tests offered by type in a bar chart.
2. In the top right, click the + icon and choose to add **Serial Chart**.
3. Select “COVID-19 Testing Locations in the United States Symbolized by Status” as the source layer for the chart.
4. In the **Category Field**, use the dropdown menu to select “Kind of test”.
5. Under **Sort By**, click the +Sort button and select “Statistic” and descending.
6. Add 3 to the **Maximum Categories** to eliminate the “not specified” and “null” bars.

Categories From	Grouped Values	Features	Fields
Category Field	Kind of test		▼
Parse Dates	<input type="checkbox"/>		
Split By Field			▼
Statistic	Count		▼
Sort By	Statistic	Ascending	Descending
		+ Sort	
Maximum Categories	3		▼

7. On the left, switch to the **Category Axis** tab. Change the **Placement** of labels to “Staggered”.
8. Switch to the **Series** tab. Change the **Bar Colors** to “By Category”. Feel free to adjust the default assigned colors.
9. Switch to the **General** tab. Edit the **Title** to “Type of Tests Offered”. Center and bold it.
10. Click **Done**.

Add a List with an action

1. We can use a List to prioritize and rank each county according to overall SVI.
2. In the top right, click the + icon and choose to add **List**.
3. Select “CDC Social Vulnerability Index 2018 - USA - Overall SVI - Counties” as the source layer.
4. Change the **Maximum Features Displayed** to 101, or a number suitable for your area of interest.
5. Under **Sort**, click the +Sort button and use the dropdown menu to present features in the order of descending “Overall percentile ranking”.

Maximum Features Displayed

Sort By Overall percentile ranking Ascending Descending

6. On the left, switch to the **List** tab. Edit the **Line Item Text** to display the county name and its SVI percentile ranking. Use the {.} icon to add fields.

Line Item Text

B I U A- A- 

Normal - Default - **Ix** { } Source

{COUNTY} County, {ST_ABBR}
{RPL_THEMES}

div p

Line Item Icon None Symbol

7. On the left, switch to the **General** tab. Edit the **Title** to display “Overall SVI Percentile by County”.
8. Adding actions enable greater interactivity between the sections of the dashboard. We will customize the List to filter the Indicator and Serial Chart, as well as navigate in the map.
9. On the left, switch to the **Actions** tab. Next to “When Selection Changes”, click on **Add Action**, and select **Pan**.

When Selection Changes

No actions defined

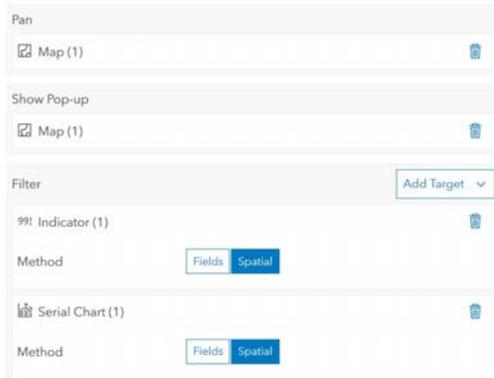
-  Filter
-  Flash
-  Show Pop-up
-  **Pan**
-  Zoom

10. For **Pan**, click on **Add Target** and select Map (1).
11. Again, click on **Add Action**, then select **Show Pop-up**. It should already target Map (1).
12. Once more, click on **Add Action**, then select **Filter**.

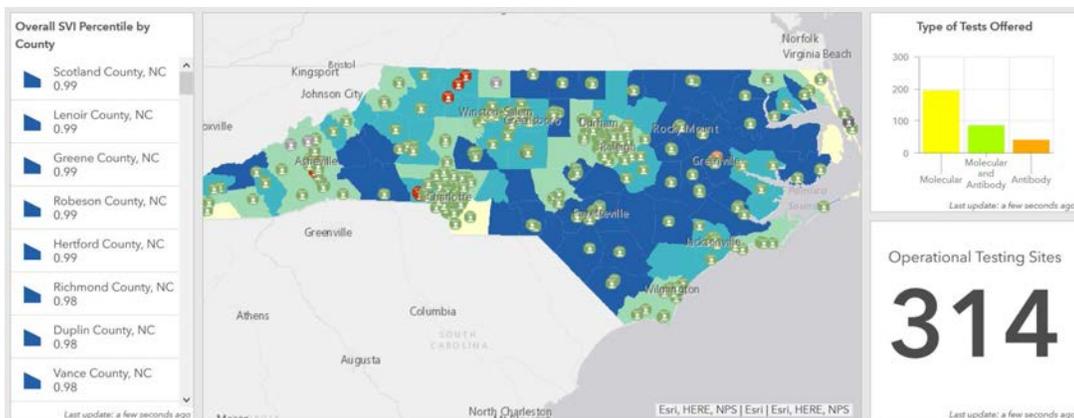
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- For **Filter**, click on **Add Target** and select the Indicator (1) and repeat for Serial Chart (1). For both targets, change the **Method** to **Spatial**.
- The actions should look like the following then click **Done**.

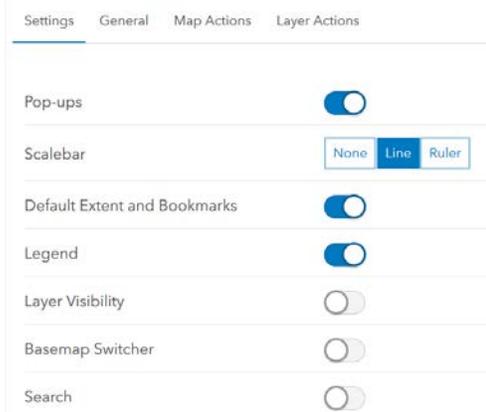


- By now there are many panels in the dashboard. Hover over the top left corner of each panel to drag and move each item. Change the size of each panel by hovering over the edges and dragging to resize. Click on a county in the List to see how the other panels respond.



Add map tools and filters

- Hover over the top left corner of the map and select the **Configure** gear icon.
- Under **Settings**, toggle on the Default Extent and Bookmarks, Legend, and Line Scalebar.



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3. We can also use the map selection and extent to influence the previously created panels.
4. On the top, switch to the **Map Actions** settings. Next to “When Map Extent Changes”, click on **Add Target**, and select List (1).



5. Switch to the **Layer Actions** settings. Below “When Selection Changes for”, for CDC Social Vulnerability Index 2018 - USA - Overall SVI – Counties, click on **Add Action**, and select **Filter**.
6. For **Filter**, click on **Add Target** and select the Indicator (1). Repeat for Serial Chart (1) and List (1). For both Indicator and Serial Chart targets, change the **Method** to **Spatial**.



7. Click **Done**.

Add a Header

1. Finally, add a Header panel to present the dashboard with a clear title.
2. In the top right, click the + icon and choose to add **Header**.
3. Add the title “COVID-19 Testing Locations in NC”.
4. Click **Done**.

Save and share your dashboard

1. In the top right, click the save icon to save your work.
2. Use the ... icon to find the Share Link for the dashboard.

