ArcGIS Online Applications with IndianaMap

About

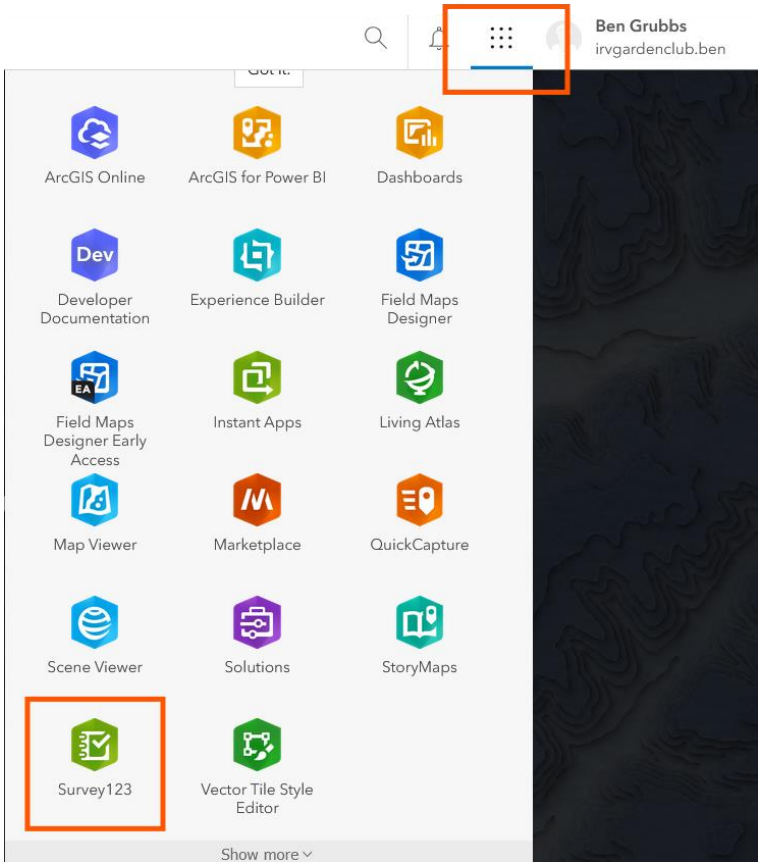
This handout builds on the AGOL items created in the previous lesson. These items include:

- Feature Layers
    - Points for trees
    - Lines for sidewalks
    - Polygons for tree canopy
    - A geocoded restaurant dataset for Bloomington IN
- A web map containing roads, flood zones, waterways, parcels, and more
    - Trees, Sidewalks, Canopy layers added

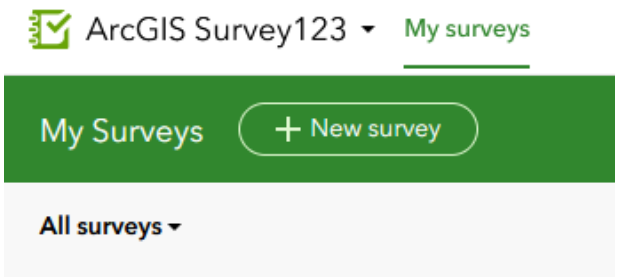
1. Survey123

Using the point, line, and polygon feature layers we previously defined, we can configure a Survey123 form to be used to add data/records to these layers. Survey123 data can be collected via mobile or desktop browser (this works well), or we can log in to our account in the Field Maps mobile application to collect our data there

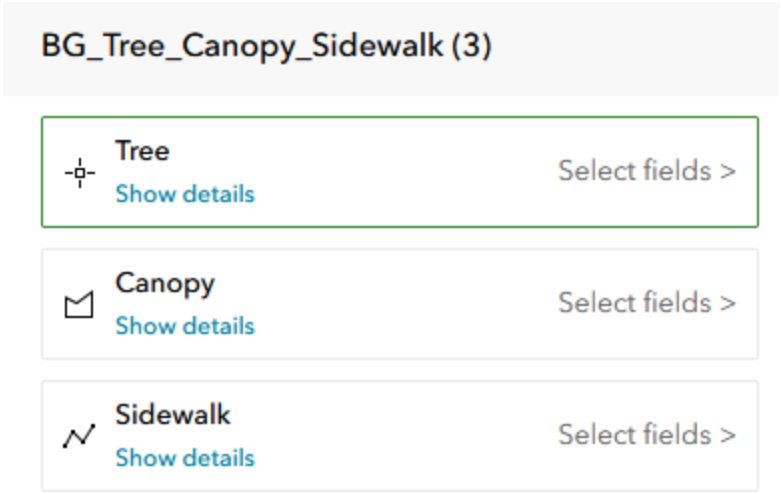
1. In AGOL, click on the “waffle icon” in the top-right (to the left of your username)
    a. Select Survey123

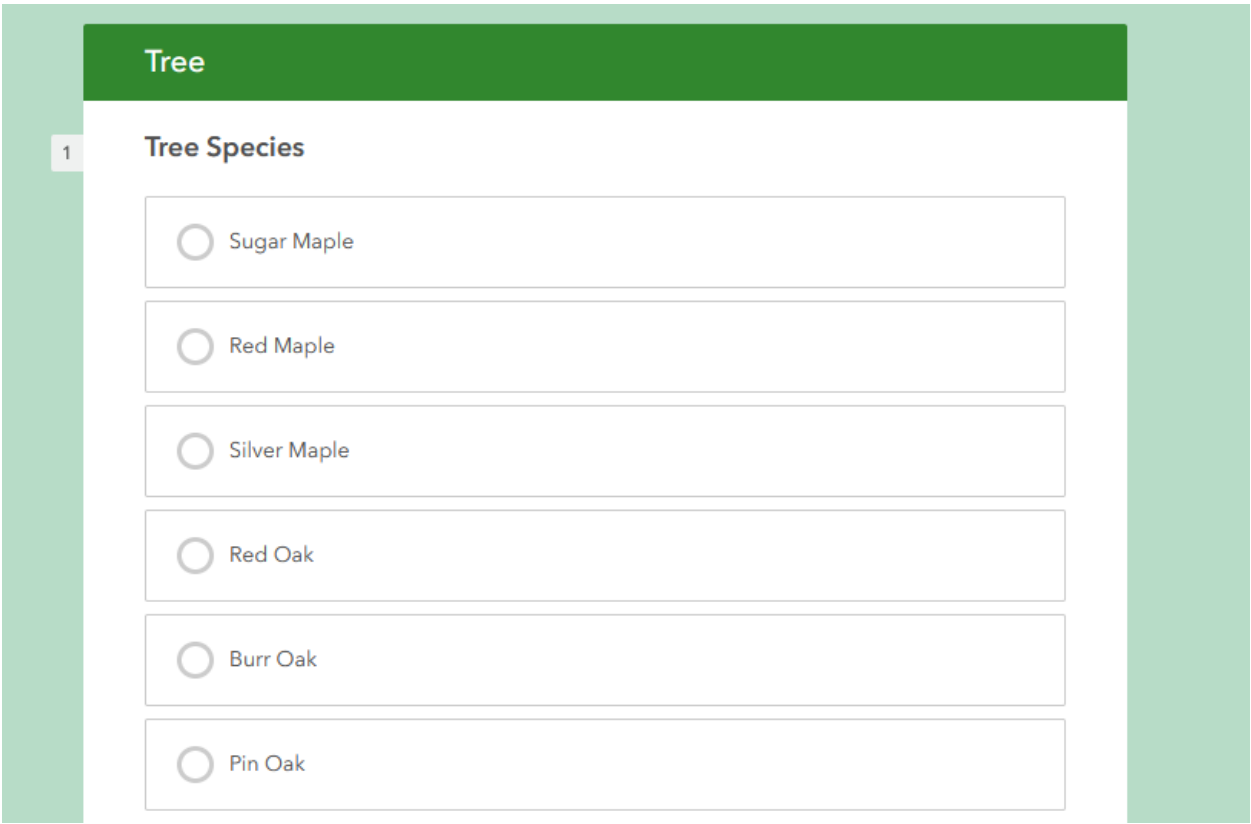


2. Click on “+ New survey” and select “Feature layer”

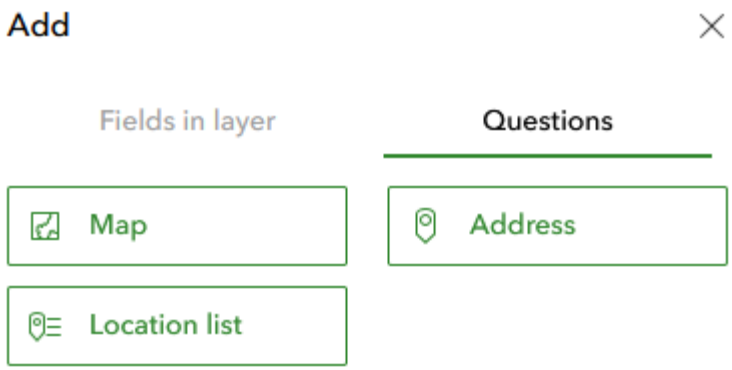


3. Select the “Tree_Canopy_Sidewalk” dataset we created previously. Select one of the layers (tree, canopy, sidewalk) Click “Create survey from layer”. Survey123 forms can only use one geometry type at a time. So, if we select the tree layer, we will be limited to collecting data for those point features
    a. As you can see, when we select the Tree layer to build a survey from, the survey form is auto-populated with the fields and values we previously defined





4. Add a map “question” to the survey so the user can add point features to go with the survey information

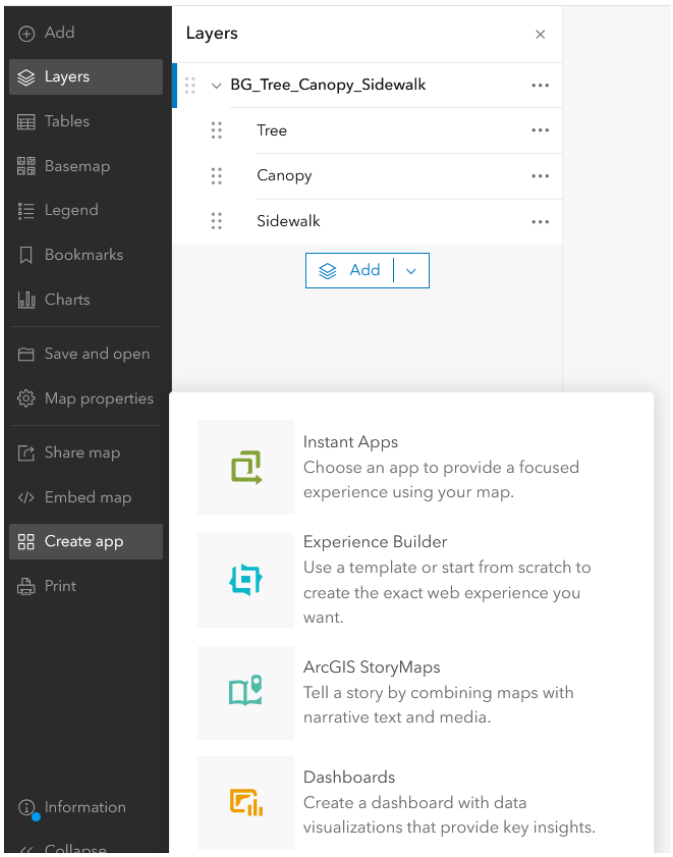


5. Check and update the name of the survey and the text for any new questions you added to the form
6. Once the survey is ready, save your work and click “Publish”. It is a good practice to let Survey123 create hosted feature layer views when publishing
7. Click on the “Collaborate” tab to configure the share settings. Survey123 works well both in the browser or field application. You can choose to share the survey publicly, your org members, or your groups
8. Repeat this process for the Canopy and Sidewalk layers (resulting in 3 surveys, each supporting a different geometry type)
9. Test adding some features using the survey forms. Then, check the associated feature layer in your AGOL content to confirm that new records were added

2. Dashboards

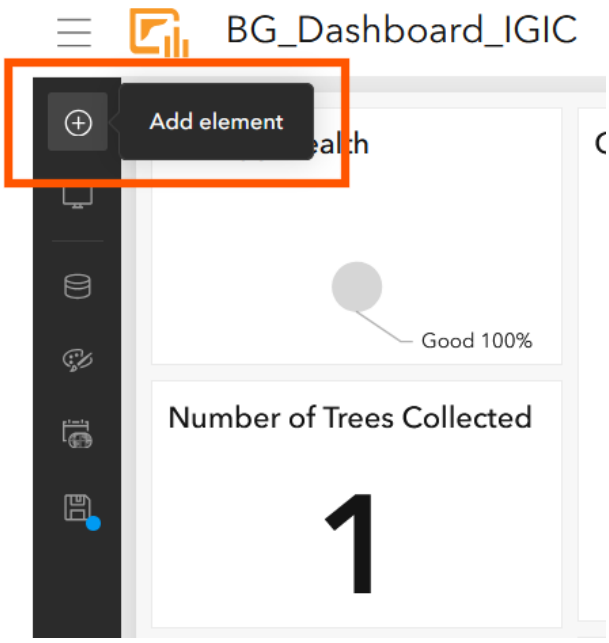
To continue building on this workflow, we will create a dashboard that can be configured to visualize the data for our layers of interest

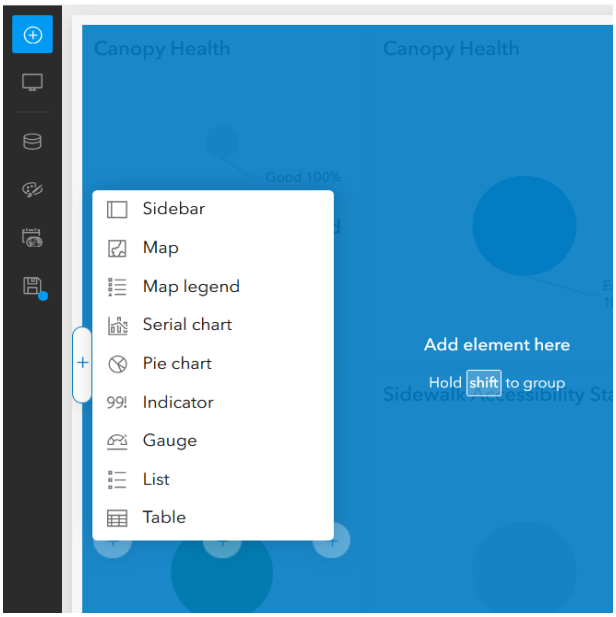
1. In AGOL, open the web map we created and click “create app”. select Dashboards.
    a. Alternatively, you can start with the waffle icon that we used to create the Survey123 forms in the previous step



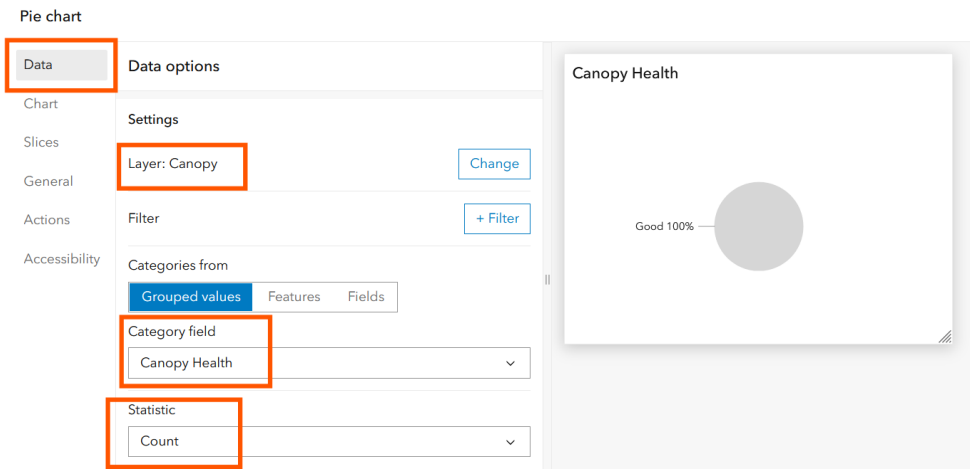
2. On the Dashboards page, select “Create new”
    a. Fill out the title and tags and then select “Create dashboard”
    b. This should automatically build the dashboard around the web map we are using. Alternatively, you can add a new map the same way we will add other dashboard features in the following steps

3. Now, we have a dashboard that incorporates our web map and the corresponding layers within the map. We can add elements to the dashboard and connect them with the layers. Click the “Add element” button

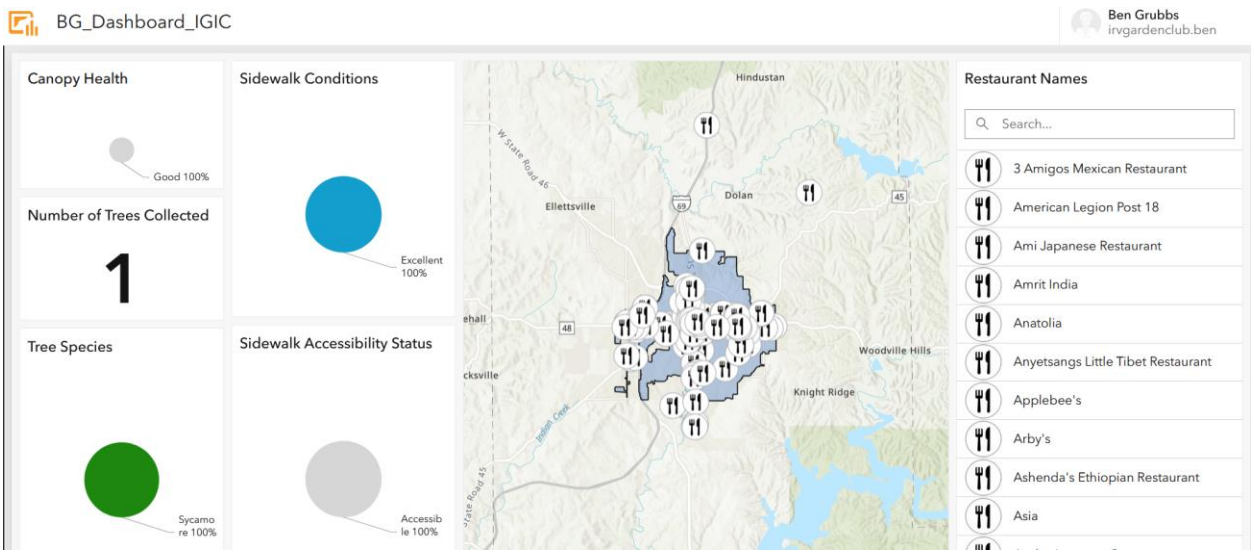




4. Add these elements:
    a. A pie chart that uses the canopy health field
        i. Tree canopy layer

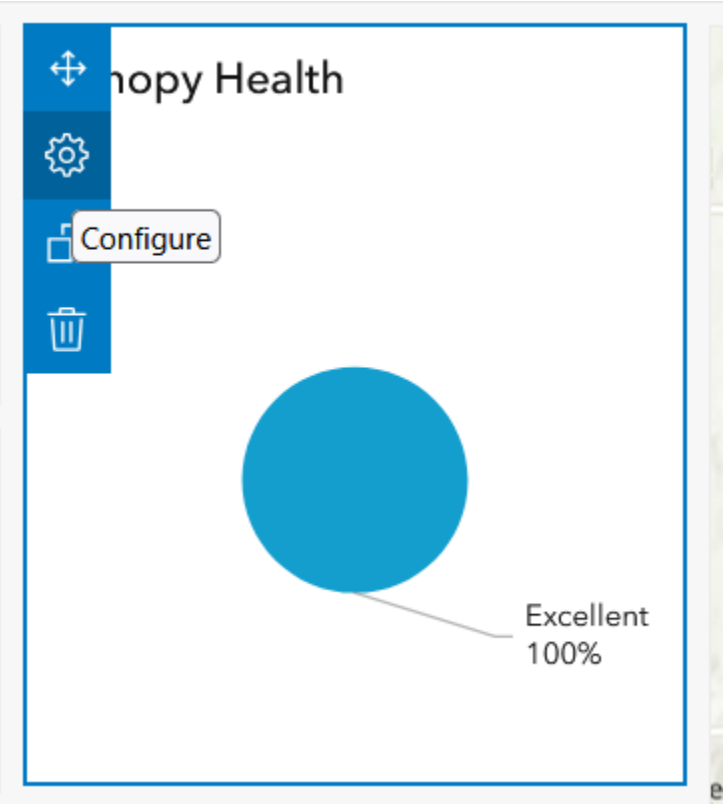


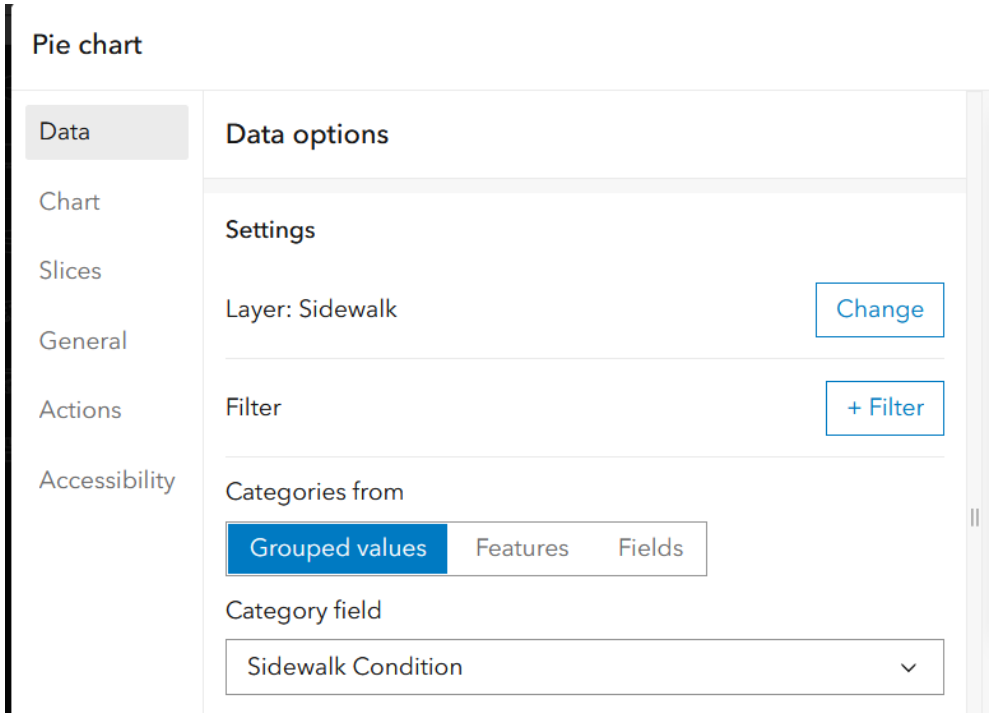
b. A pie chart that uses the Tree Species field
    i. Tree point layer
c. A pie chart that uses the Evergreen or Deciduous field
    i. Tree point layer
d. An indicator that counts the number of tree records using Tree Species field
    i. Tree point layer
e. A list of restaurants
    i. Restaurant layer

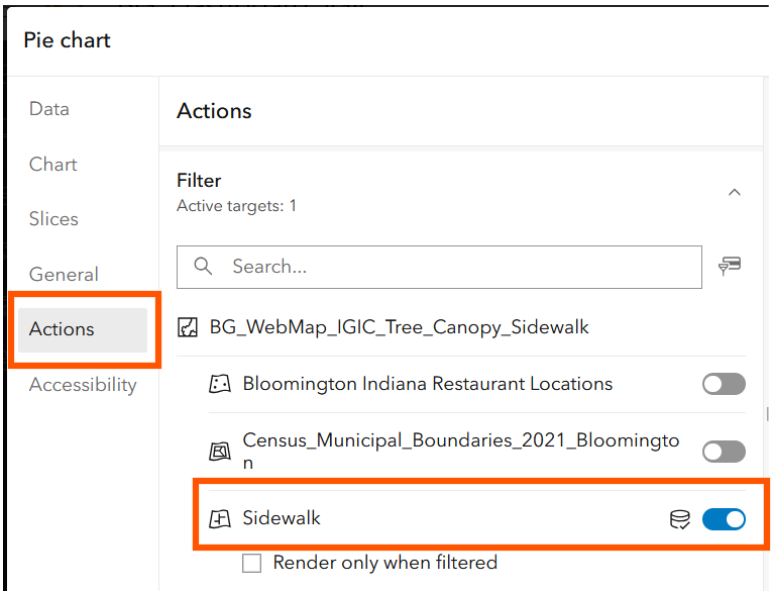


5. We can configure the different elements to filter and zoom with the corresponding records in the web map

a. Configure the restaurant list to zoom to the map and filter the map attributes
b. Configure the canopy health, sidewalk health, and accessibility status to filter the map records when the pie charts are selected



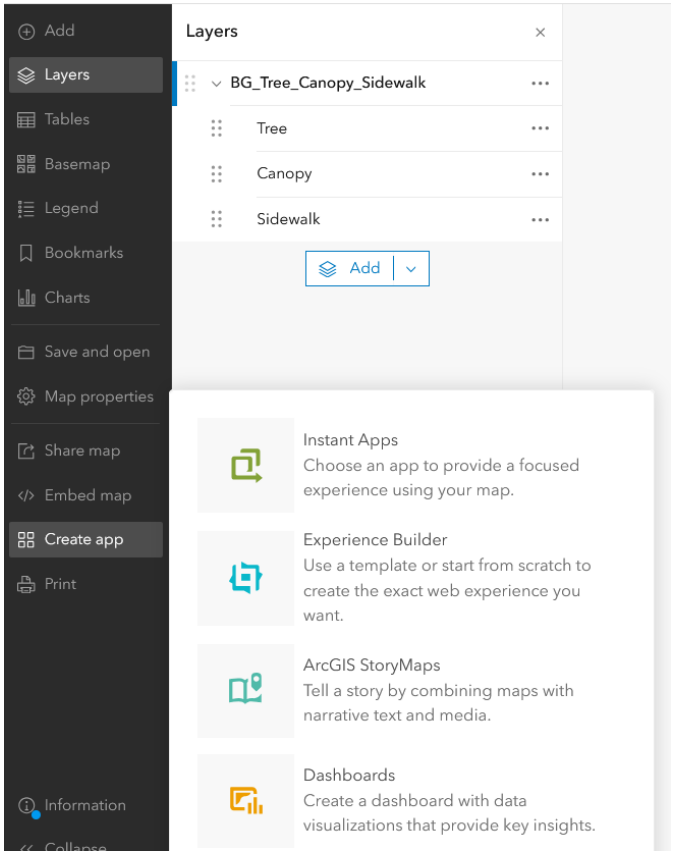




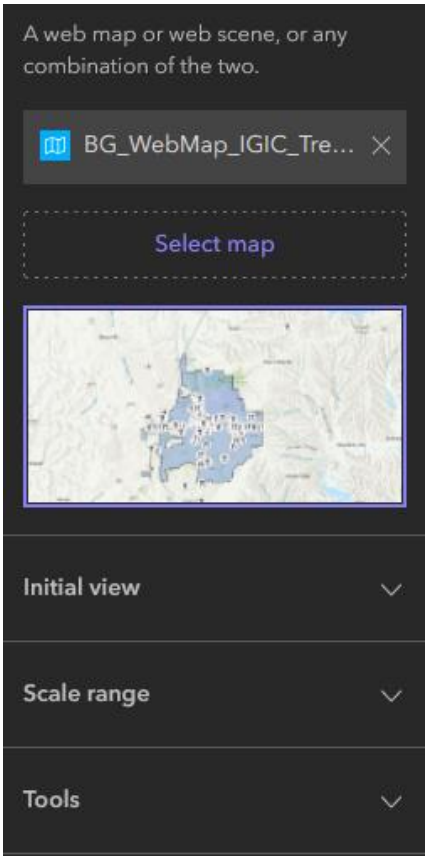
6. Save and publish

3. Experience Builder

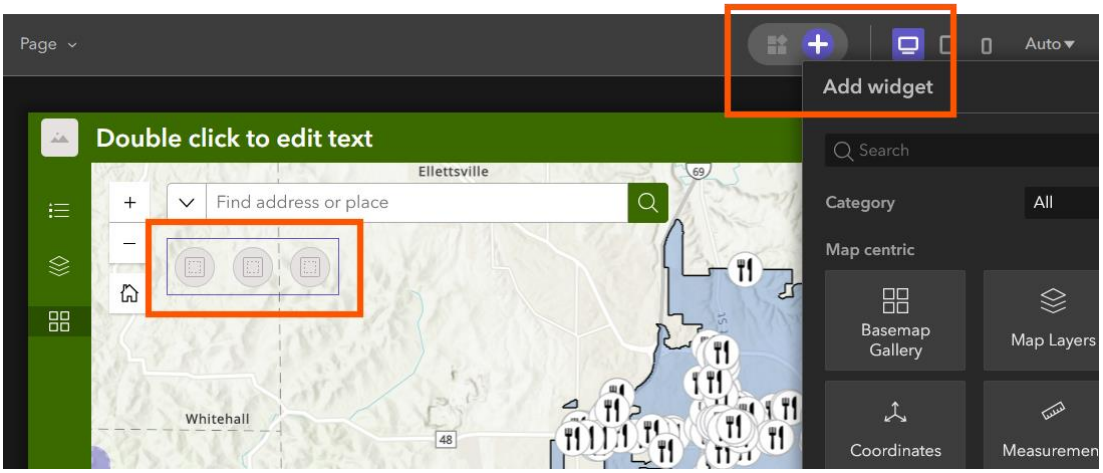
1. Open your web map with the layers of interest
2. Select Create App and choose Experience Builder



3. Select a template. We will use the “Tab” template for this workshop. Click Create app and the page will reload into edit mode for this template using the web map we started with
4. Notice that when the map is selected, there is a Map toolbar on the right-hand side that allows you to configure the map
    a. Adjust the initial view to a custom view
    b. Toggle on these tools:
        i. Search
        ii. Basemap
        iii. Layers

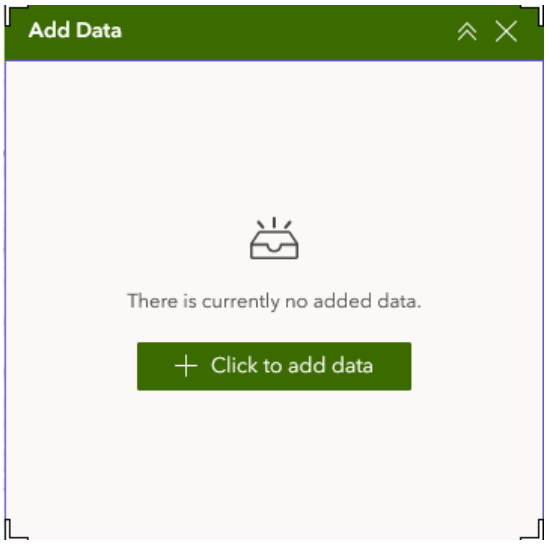


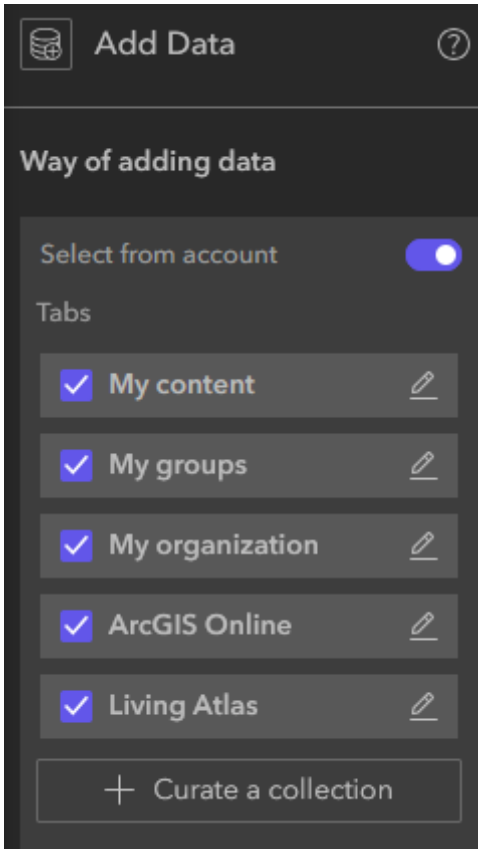
5. Let's add some widgets to increase functionality of the application
    a. Be sure to select the empty widget box within the application, otherwise, the add widget option will not be visible
    b. Once the widget box is selected, click on the + icon to Add widget



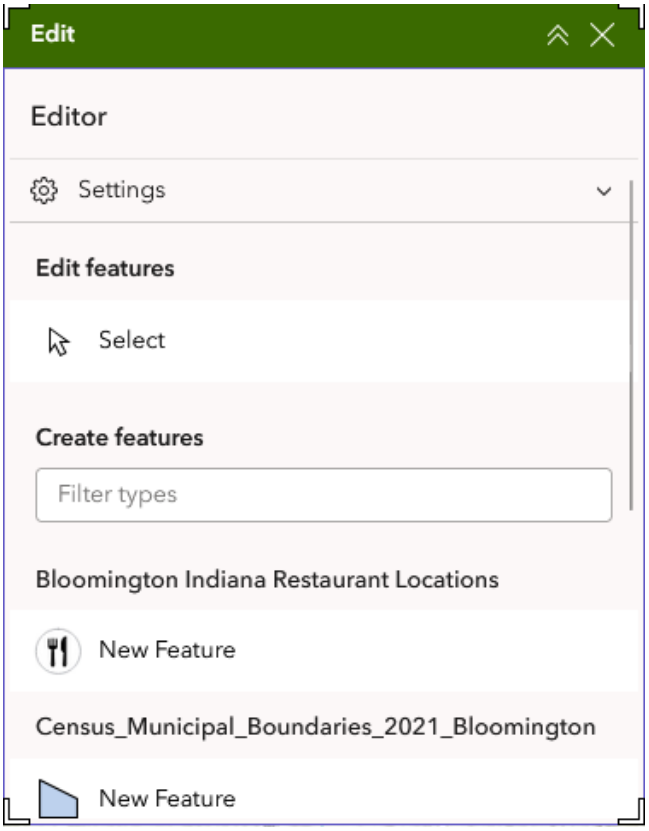
    c. Add the following widgets:

i. Add data
    1. Configure where the data will come from (your content, your org, groups, AGOL, living atlas)

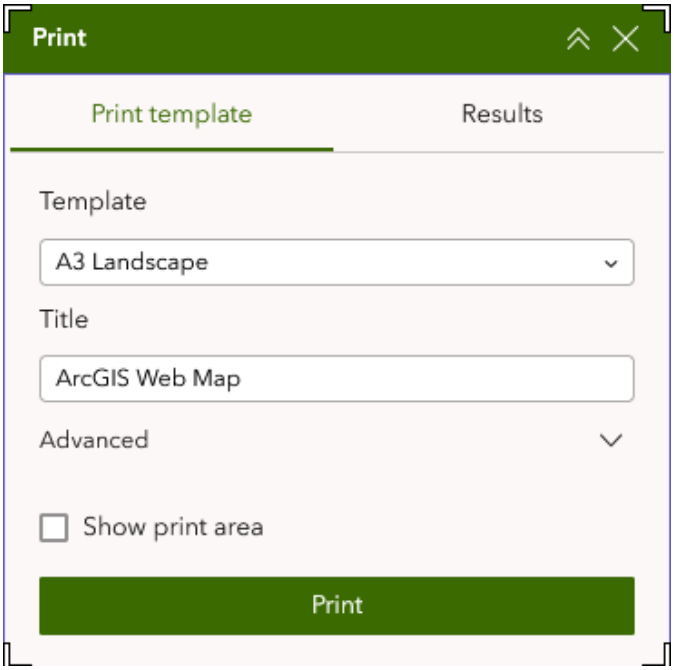




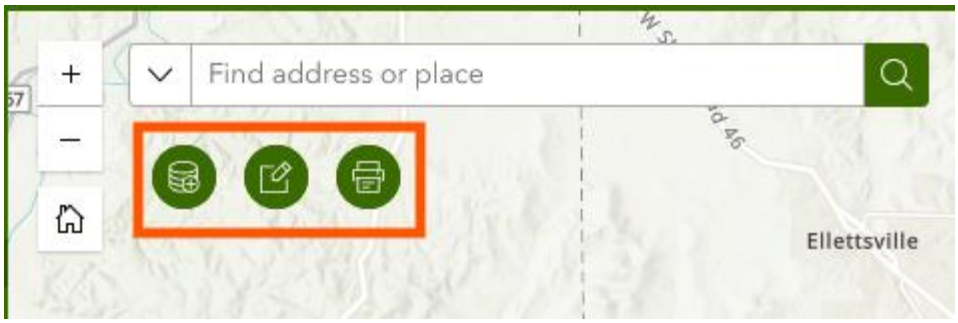
ii. Edit data



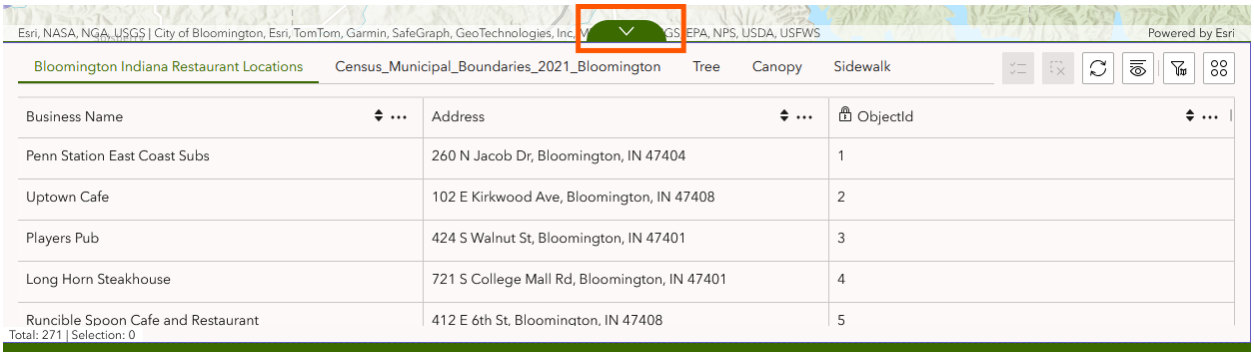
iii. Print



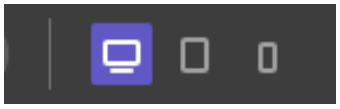
iv. Take note of the widgets that now have clickable icons



6. Take note that this template comes with a table widget that allows us to view the attribute data for each of our layers. Since editing is enabled on these layers, you can edit the values directly in the table. Be careful with this. We could also configure the feature layers to not allow editing



7. Be sure to evaluate your application for different screen sizes. We can do this by toggling the different screen icons in the top-right

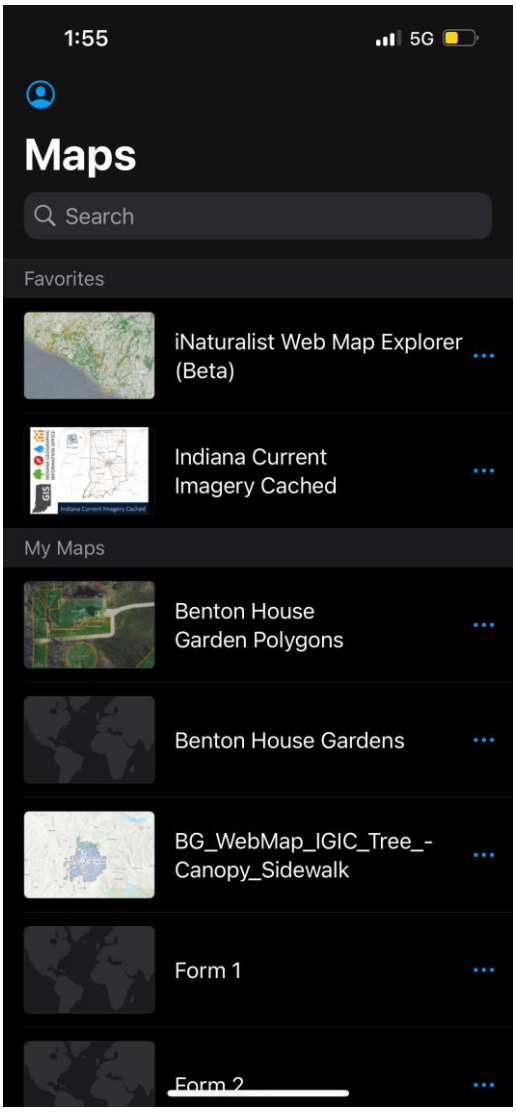


8. Save and publish. Be sure to update your share settings for the application and all items within it (feature layers, web maps) if you wish to share this with others

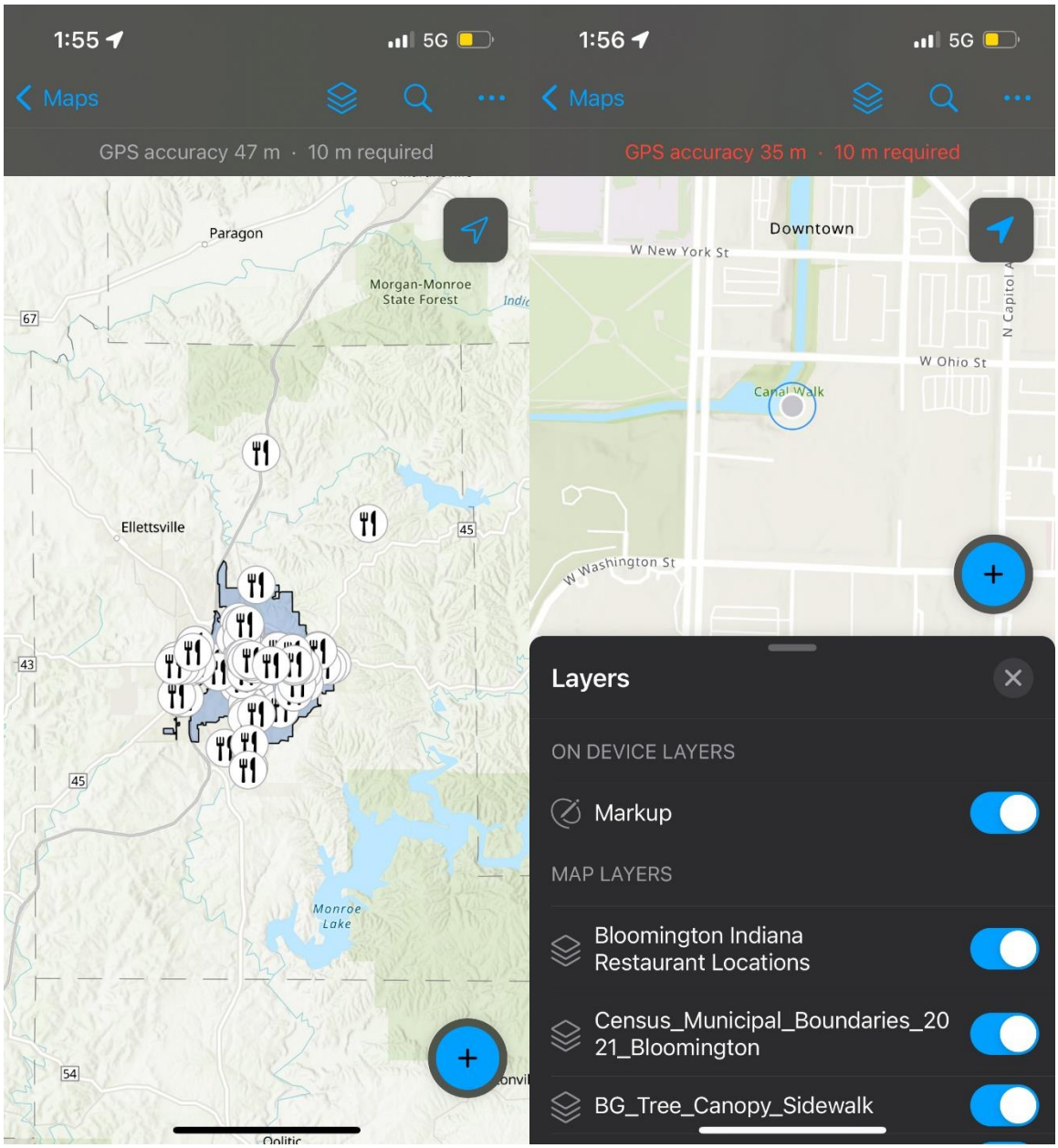
4. Field Maps

Another way to add records to your dataset in the field (or to access your web maps and other items from your account on mobile), is to use the Field Maps application (can be downloaded through most app stores)

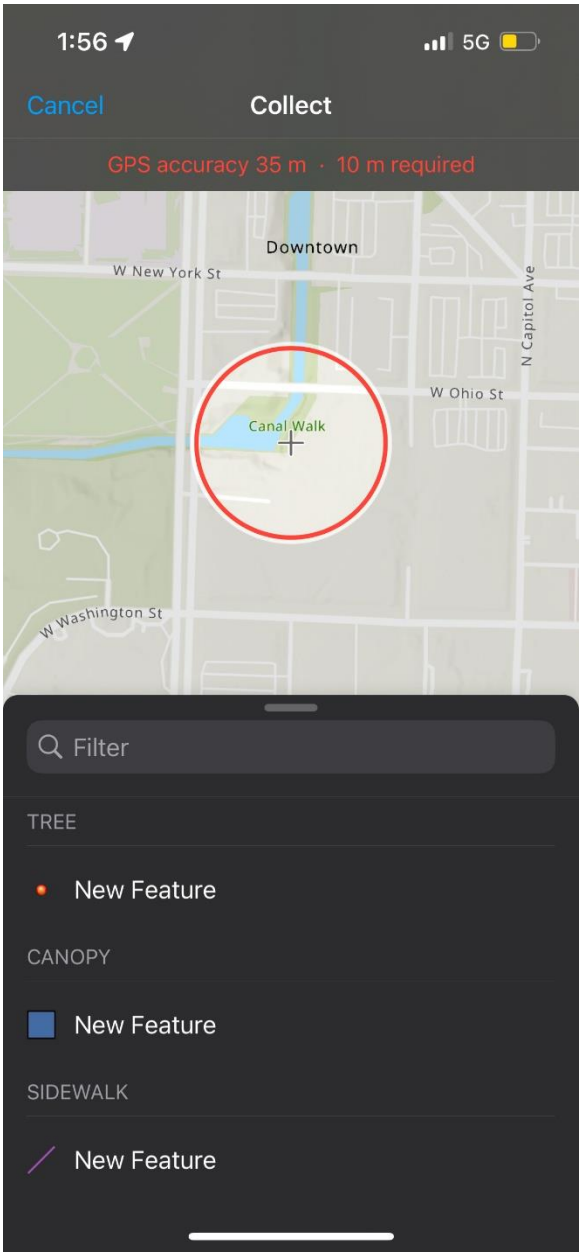
1. Download ArcGIS Field Maps from an app store on your mobile device
2. Open Field Maps on your mobile device and log in with your community account
3. Search for and select the web map that we created



4. View the web map. Toggle off and on the layers to make data collection less messy



5. Test adding:
    a. A new tree record
    b. A sidewalk assessment
    c. A canopy health status



6. Submit your records and go view the results in the feature layer in AGOL