

ArcGIS Online Tutorial

ArcGIS Online is a geospatial cloud platform where you can make, collaborate and share maps.

What we will learn

1. How to get started
2. How to find and upload a shape file

How to get started

To get started, type ArcGIS Online as a Google search and click the first link and navigate to the sign-in button.

Sign in with



ArcGIS login ^

 dmckiec_esri

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Keep me signed in

Sign In

[Forgot username?](#) or [Forgot password?](#)

Your ArcGIS organization's URL ∨

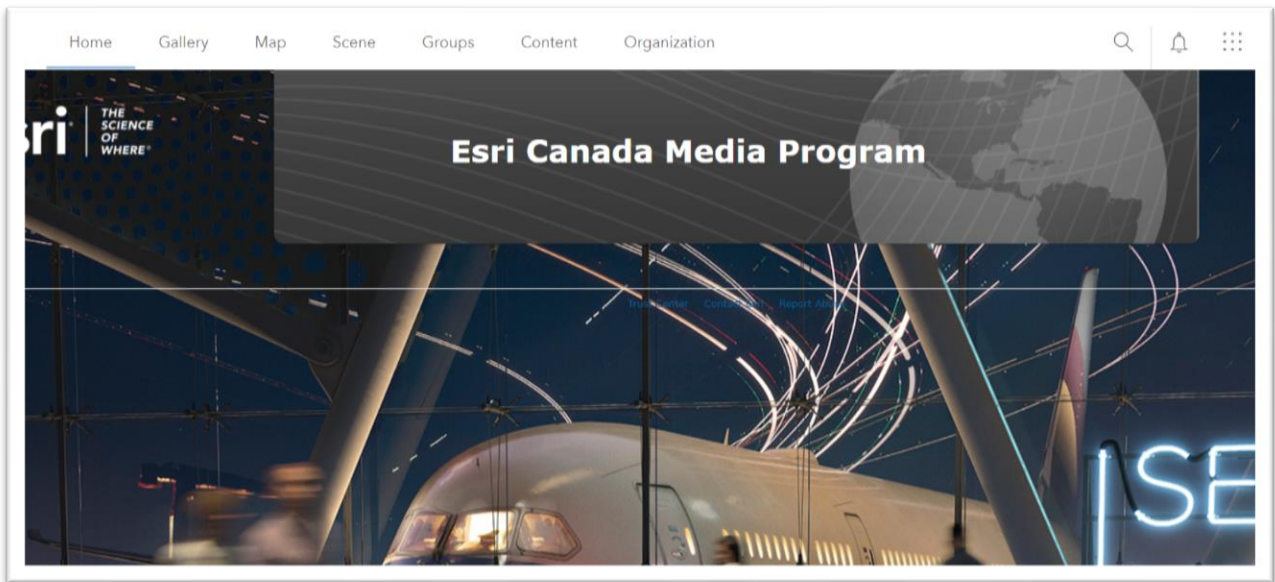


No account? [Create an account](#)

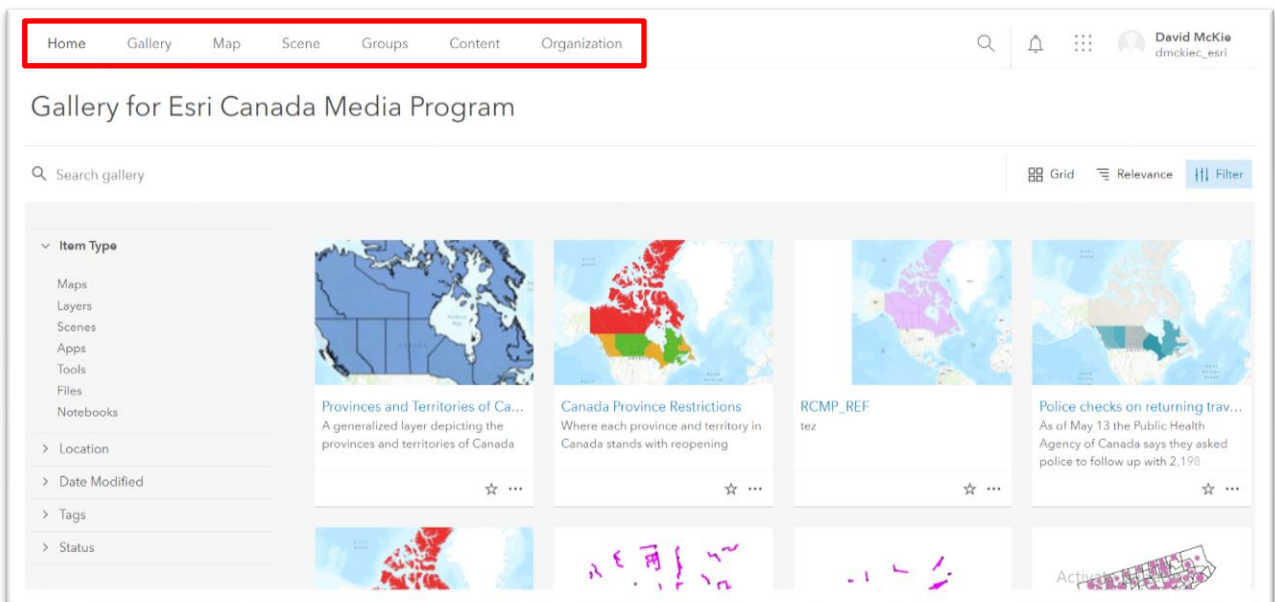
[Privacy](#)

Sign in with your credentials

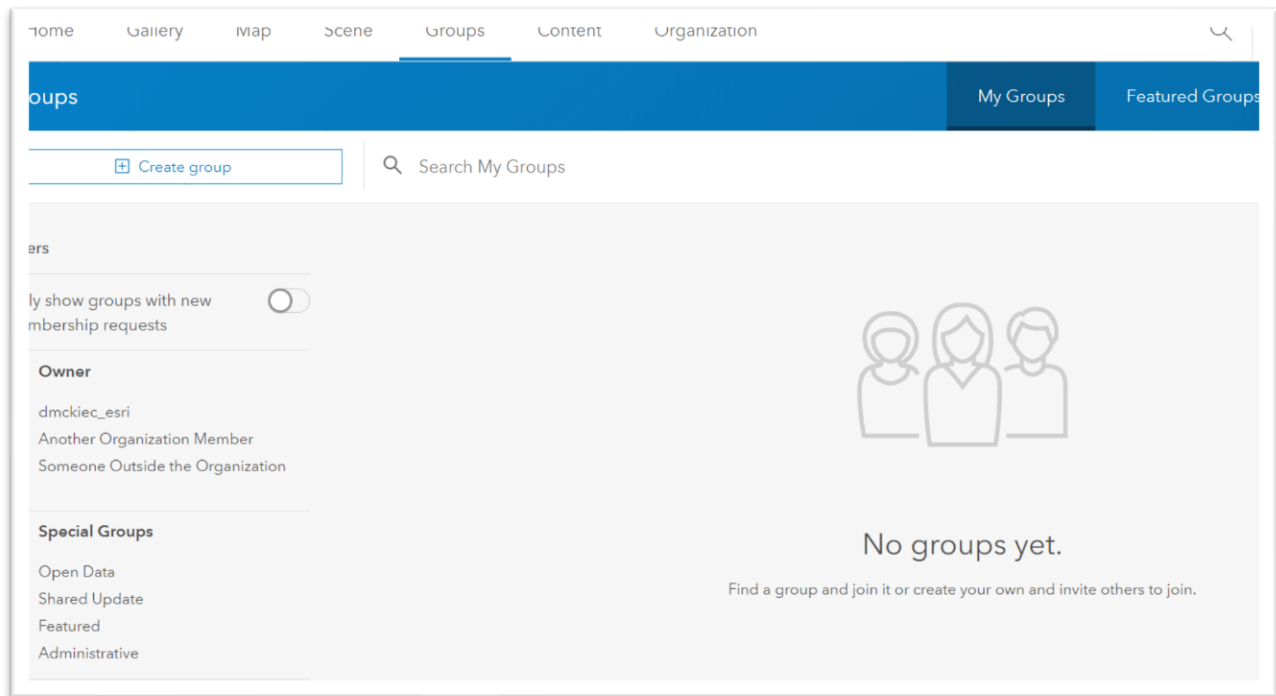
Once you are signed in, you'll arrive at the home page.



The white bar across the top contains pages you can visit in ArcGIS Online.



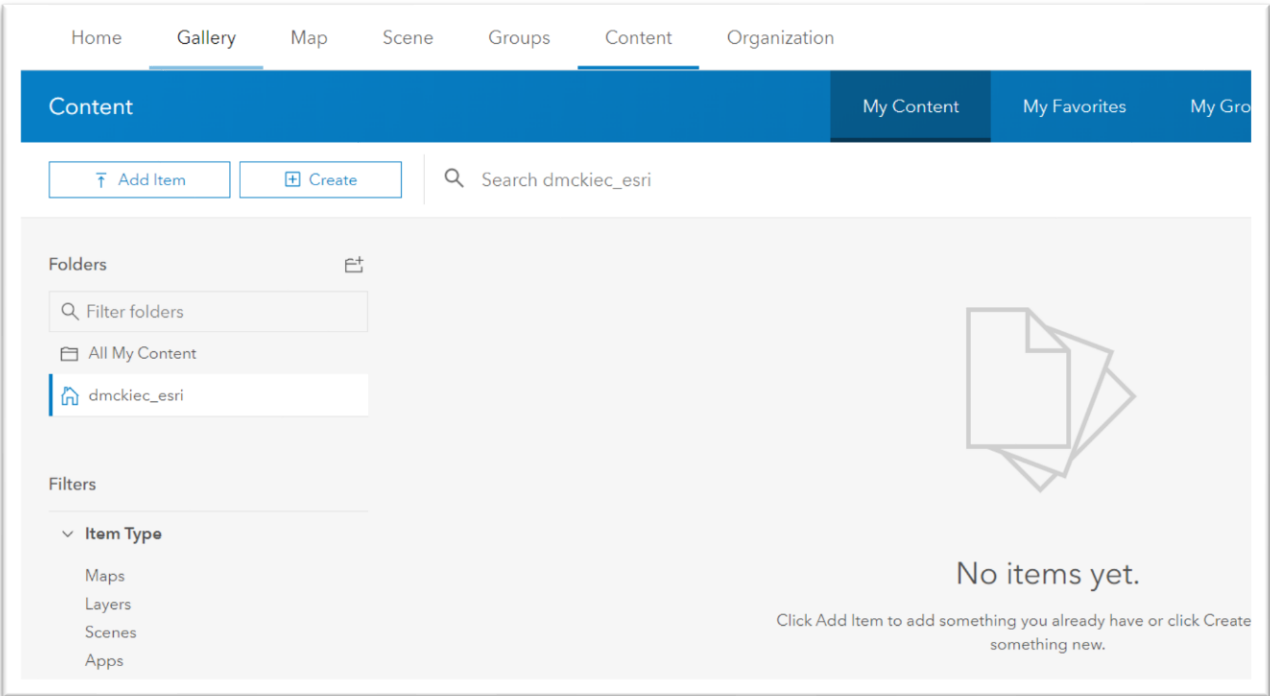
The "Gallery" page is for a person who works in an organization and wants access to the various maps and applications created by her colleagues.



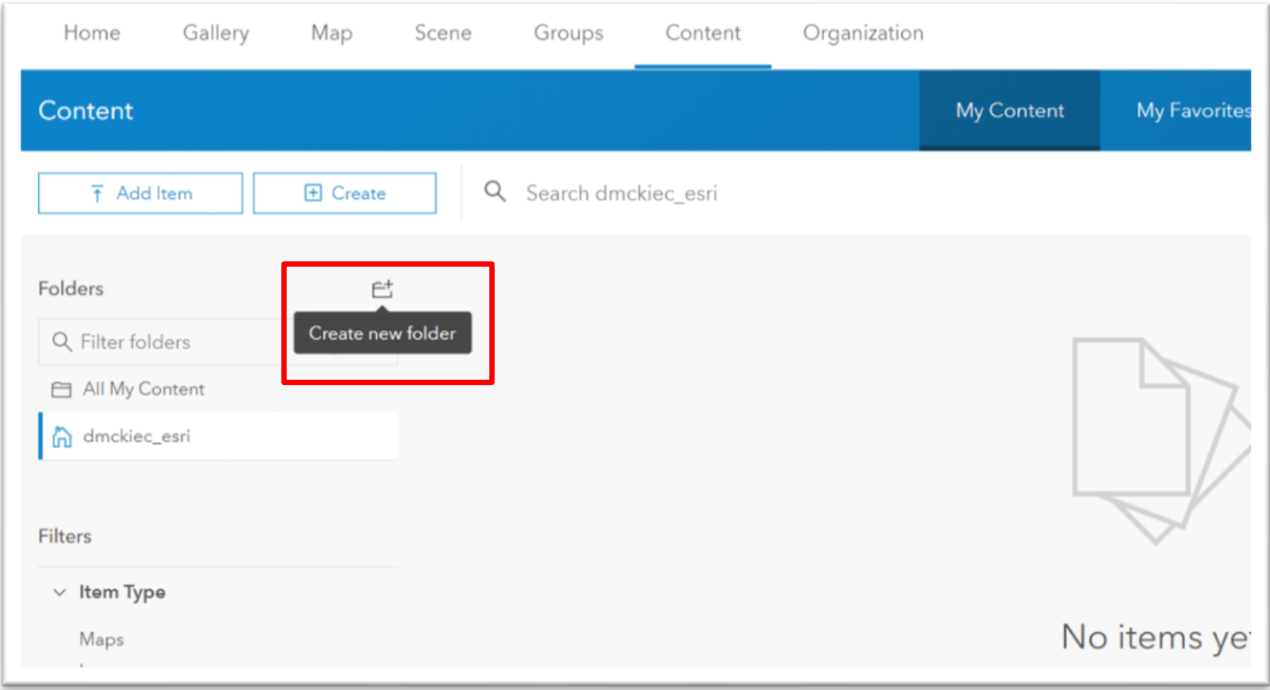
“Group” allows collaboration. For instance, if a data analyst uploads Excel files with COVID-19 data, and a geographic information system specialist uploads shape files with neighbourhood boundaries, a third colleague could use the data and shape file to recreate a colour map with the darker hues representing neighborhoods the highest number of deaths.



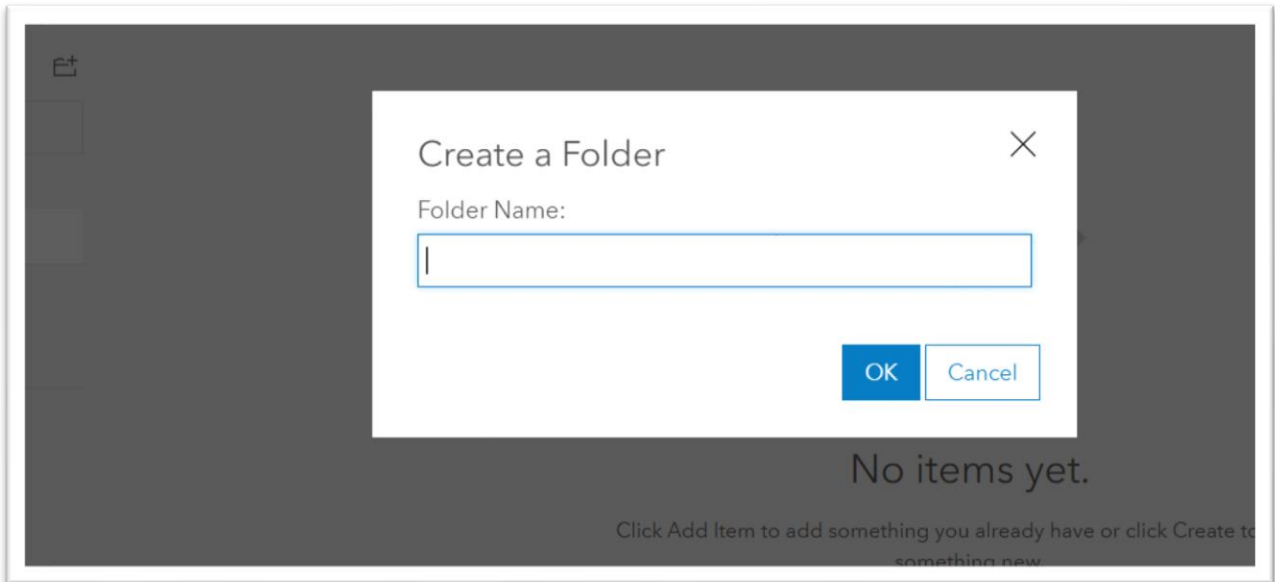
“Organization” is the general information about your account. For instance, the contacts for your account administrator, the individual you can contact with questions.



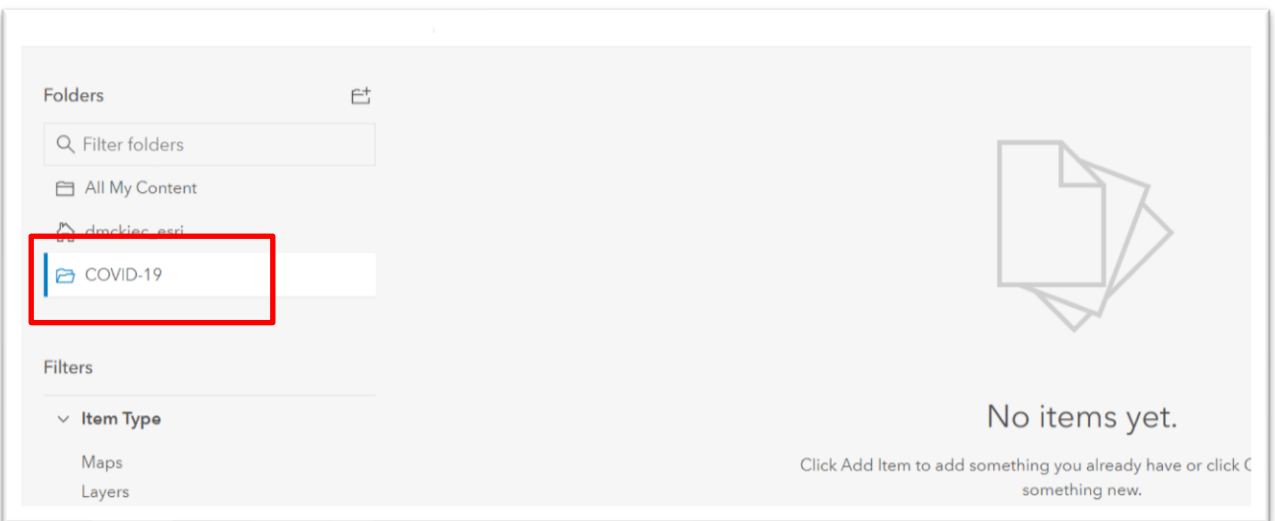
The “Content” page is where you can access your data, maps and applications. Within content, it’s advisable to create folders, just like you’ve been doing for the various projects in pervious exercises.



Once you have clicked the icon that looks like a folder, you'll be allowed to create a folder.



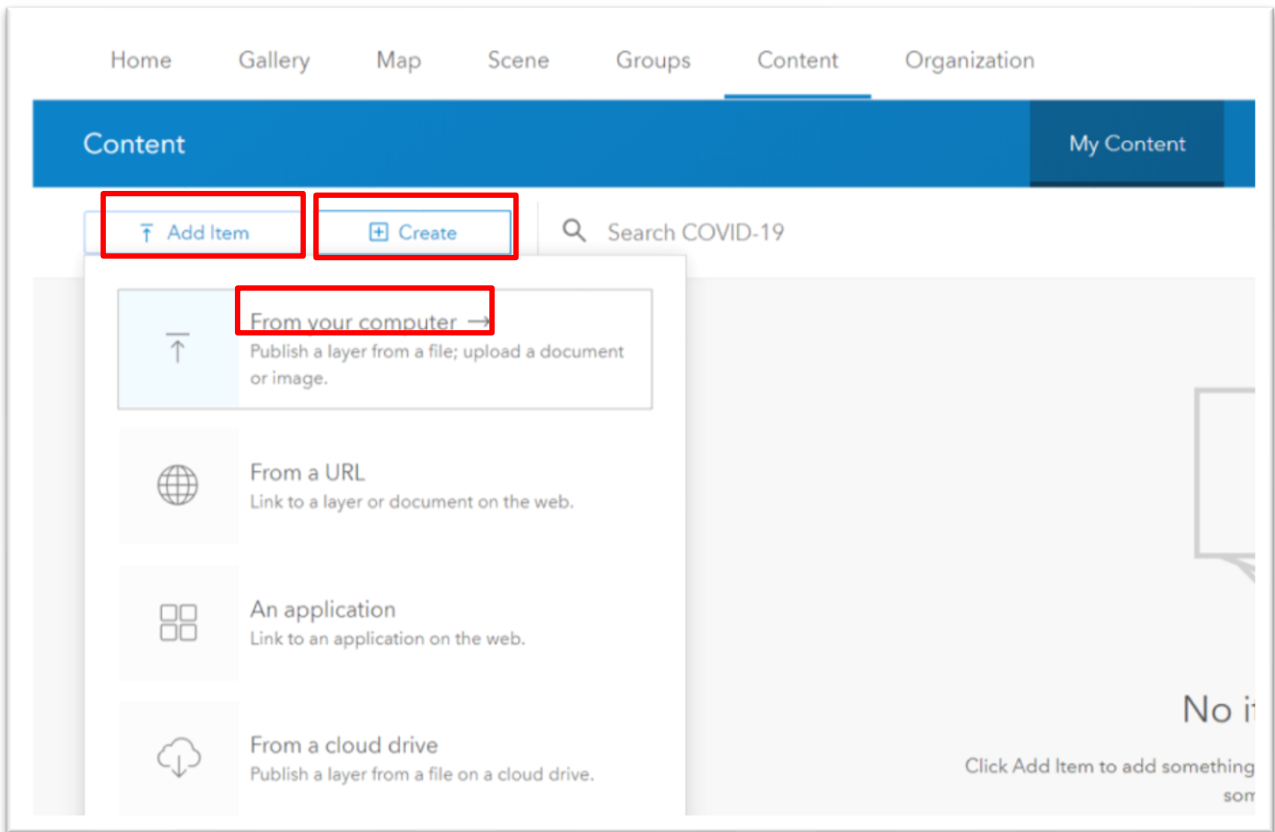
Call it COVID-19.



Once you begin creating projects, the area on the right will begin to fill up with the layers, maps and applications for each project. There's also a setting that allows for sharing each map or layer.

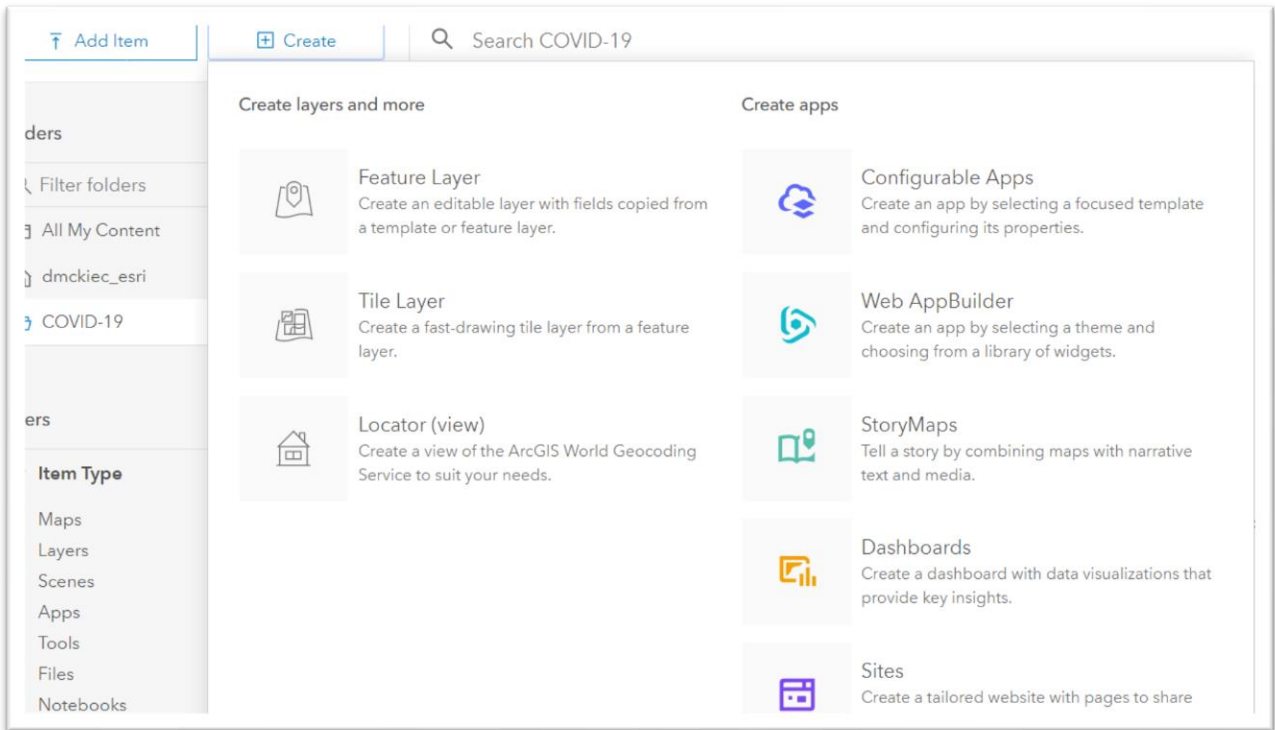
Now if we want to add files from your hard drive.

Click the “Add Item” tab



... and then “From your computer.”

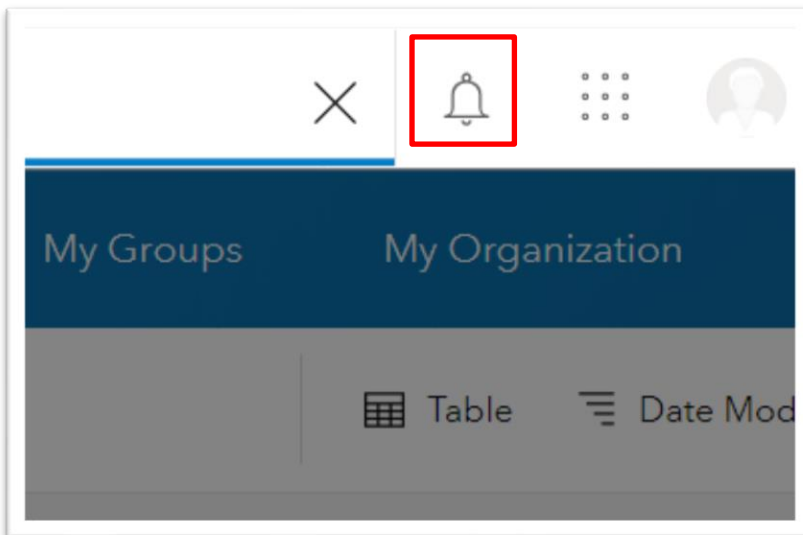
You can also create a layer by selecting the “Create” tab next to “Add Item.”



Here you can create layers or applications.

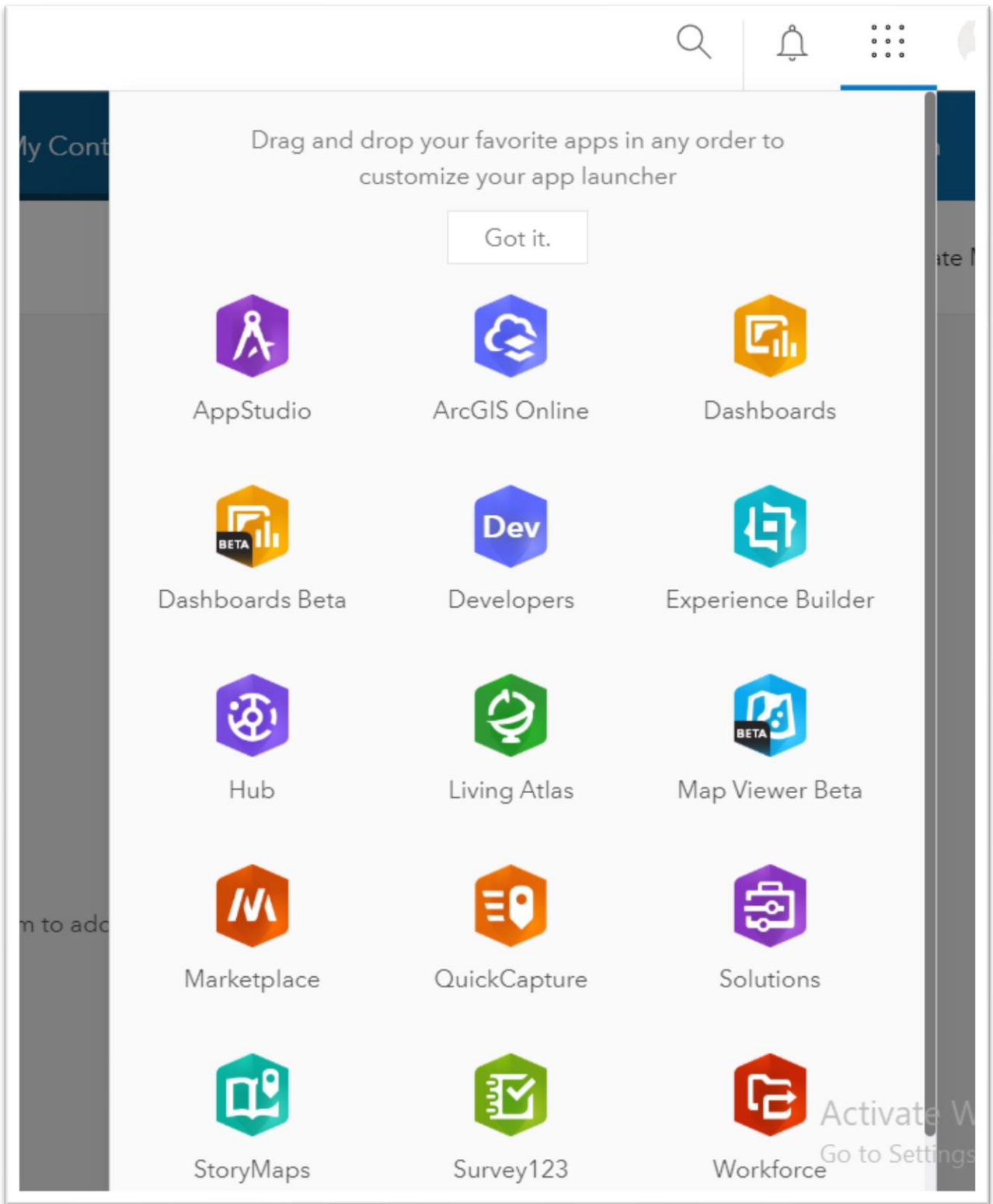
You can also search for other layers that you or other individuals may have created.

To the right of the search icon, is a notification button.

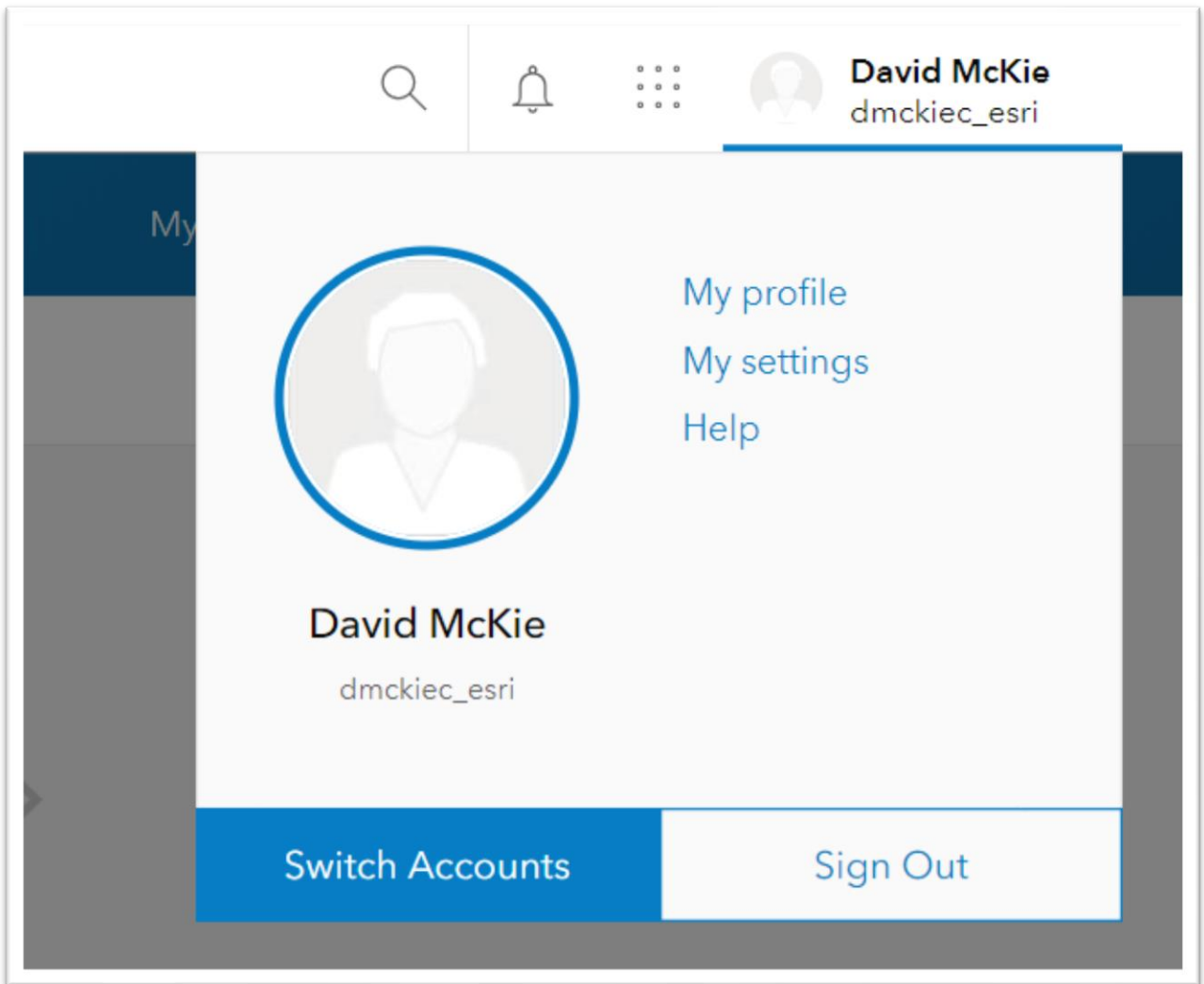


The notification button lets you know when you've been invited to a group. To the right of the notification icon is icon the produces the various applications you can

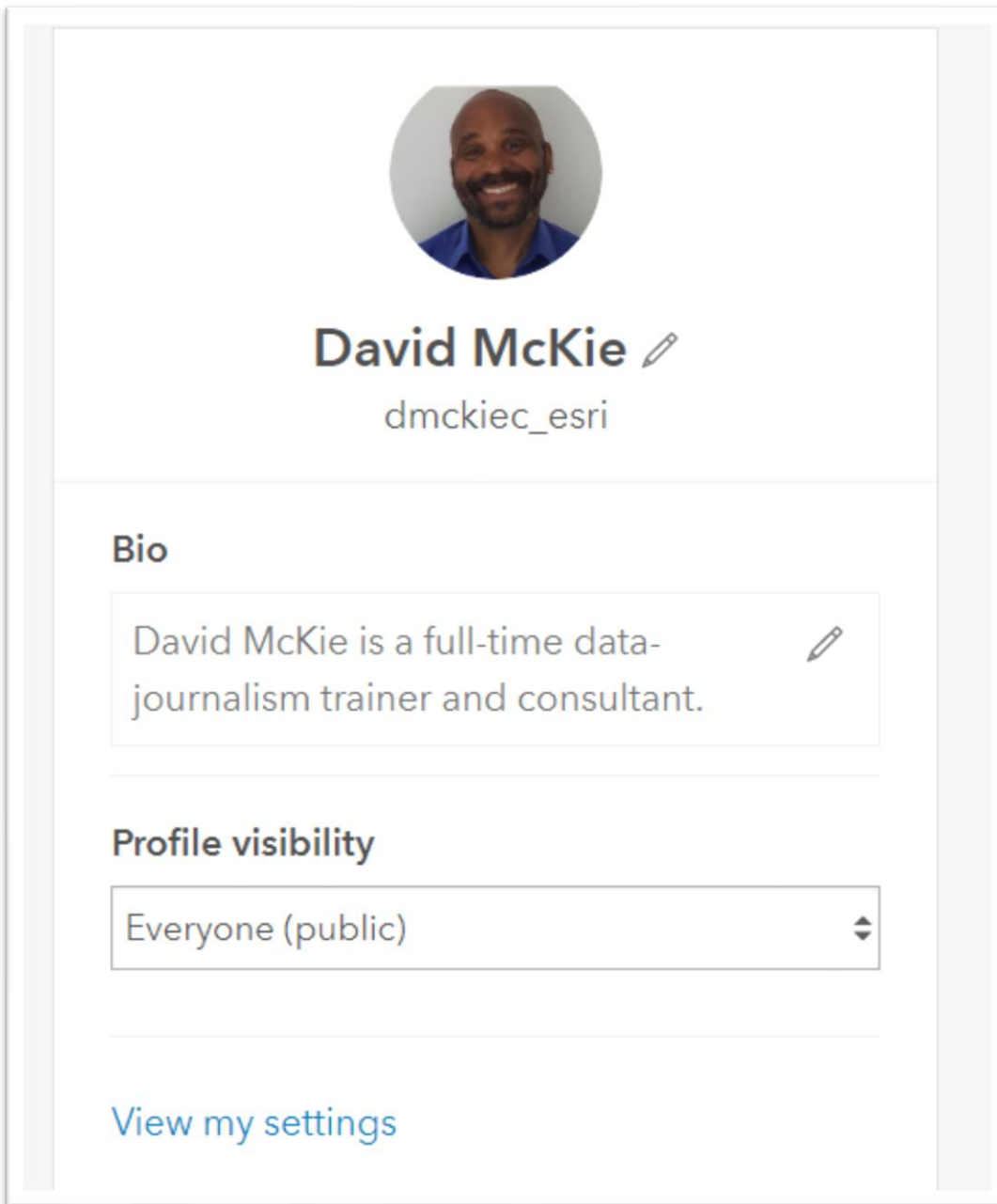
use, depending on the type of license you have.



Finally, by clicking your name, you can fill in the details for your profile.



Also be sure to set your profile visibility to everybody.



The image shows a screenshot of a LinkedIn profile page. At the top, there is a circular profile picture of a man with a beard and a blue shirt. Below the picture, the name "David McKie" is displayed in a large, bold font, followed by a small pencil icon. Underneath the name is the username "dmckiec_esri".

The "Bio" section is titled "Bio" and contains a text box with the text "David McKie is a full-time data-journalism trainer and consultant." and a pencil icon to the right.

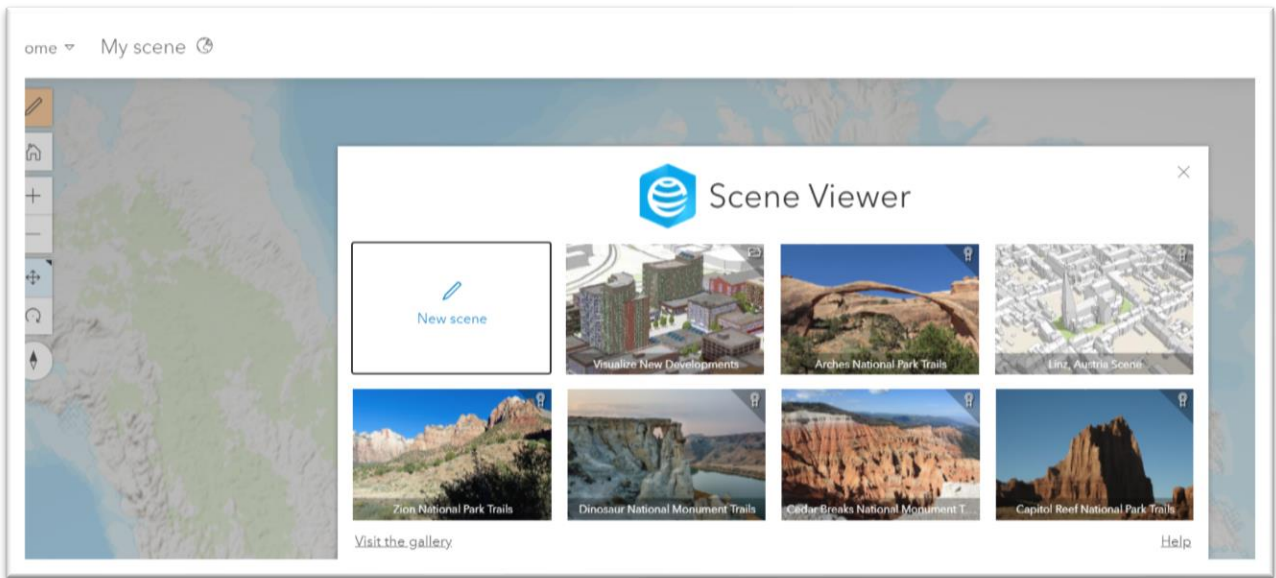
The "Profile visibility" section is titled "Profile visibility" and contains a dropdown menu with the text "Everyone (public)" and a downward-pointing arrow.

At the bottom of the profile, there is a link that says "View my settings" in blue text.

A visible profile allows colleagues to invite you to take part in a project.

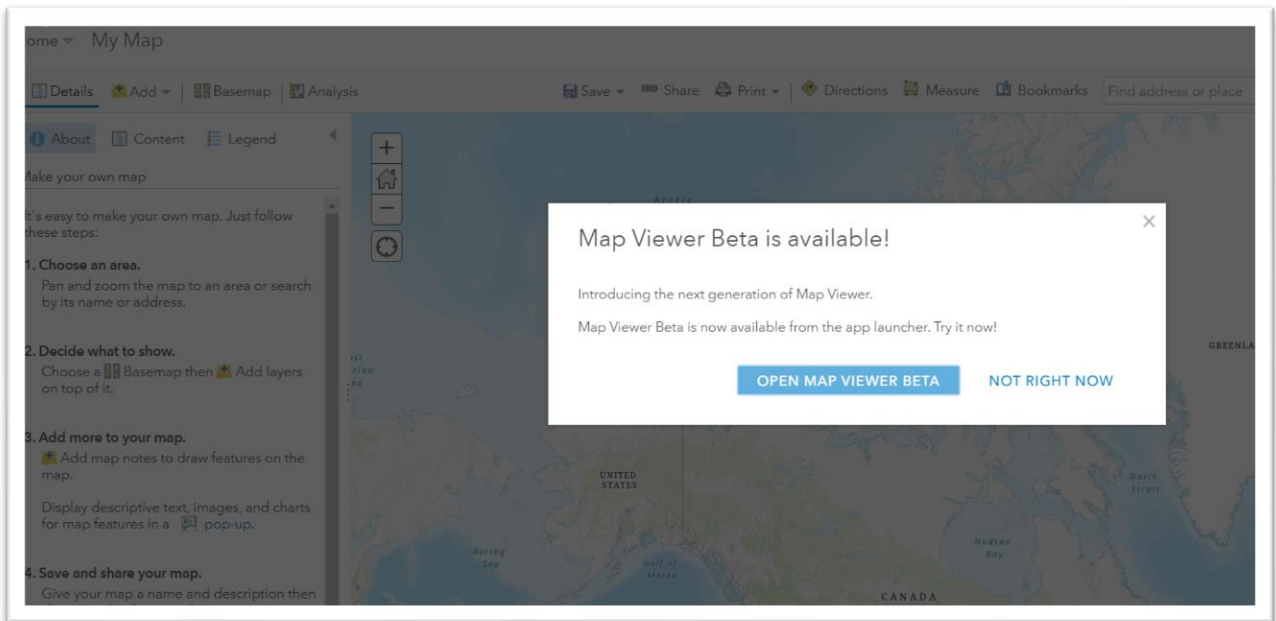
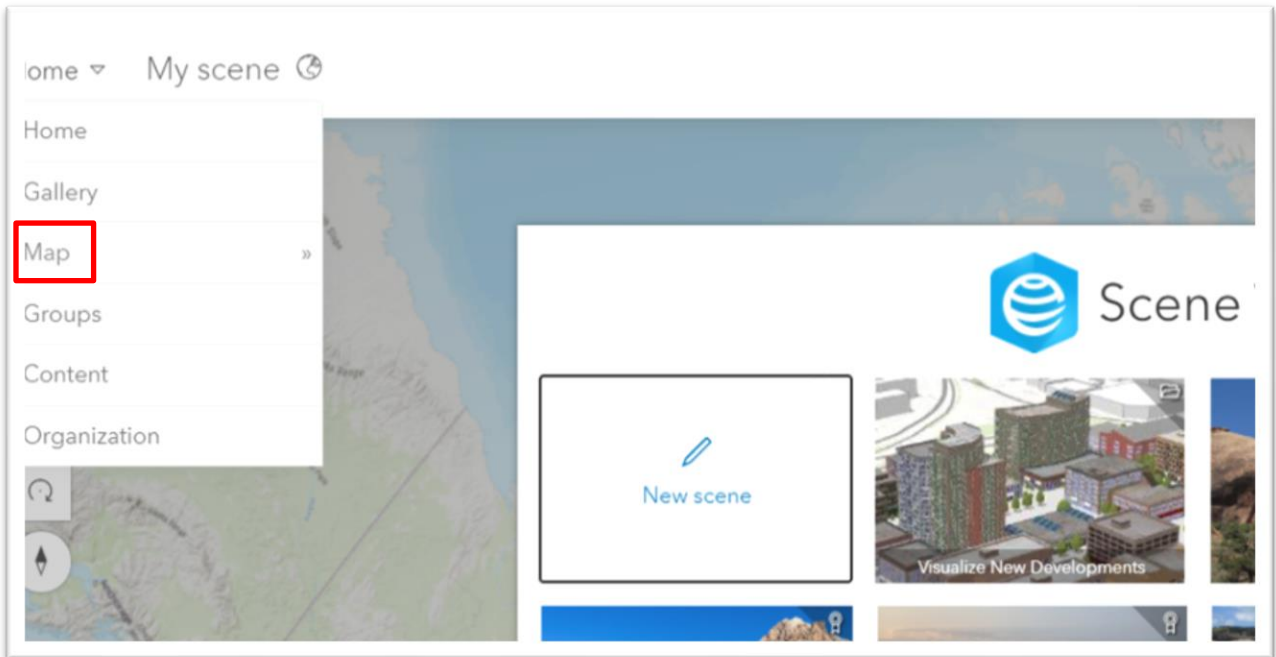
Let's return to the remaining two pages.

“Scene” allows you to create 3-D maps.



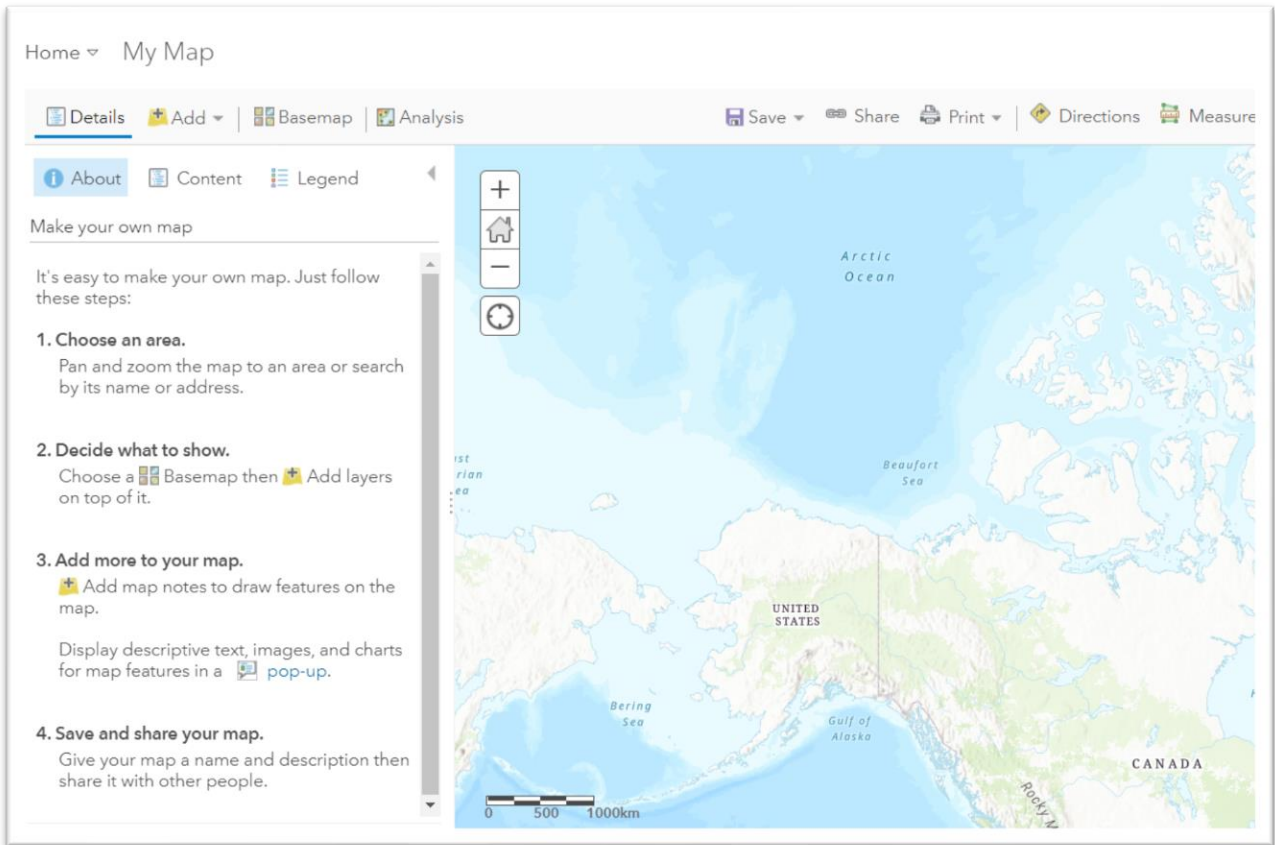
Our focus is two-dimensional maps, but this is a handy tool to be aware of.

We will focus on creating a map.

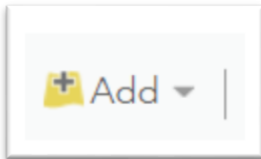


While the folks at ESRI assure us that the “Open Map Viewer Beta” is an exciting option, we won’t worry about it for now.

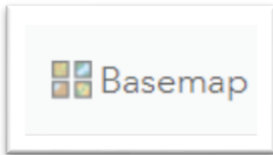
Select “Not Right Now.”



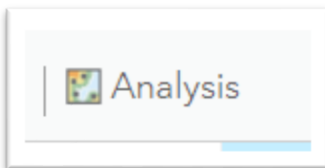
This is the interface where you'll be doing most of your work. You can add data.



Change the background or your map, or base map.



Perform analysis.



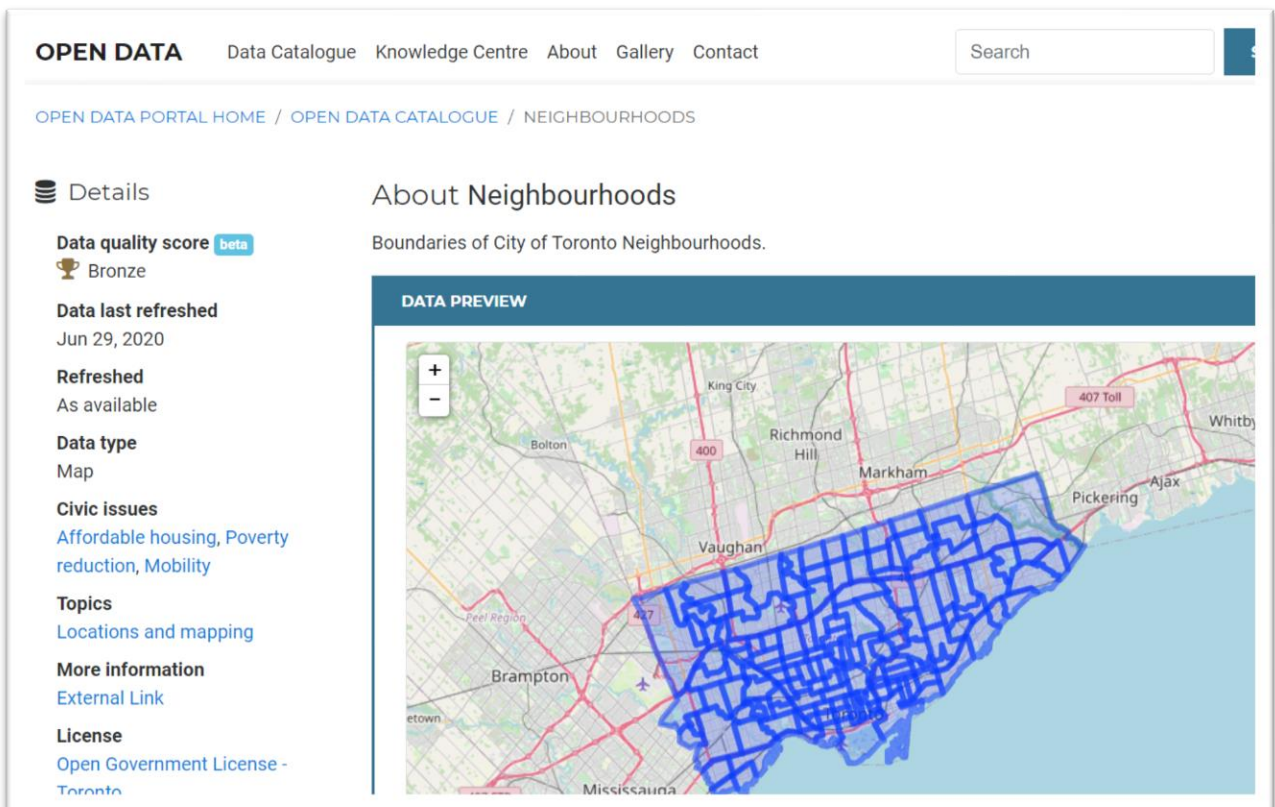
Now it's time to locate data

How to find and upload a shape file

In previous tutorials, we have been focusing on COVID-19 sites. For this tutorial, we want to see how the virus is playing out in the city of Toronto.

Let's visit the city's open-data site that contains a file with Toronto neighbourhoods.

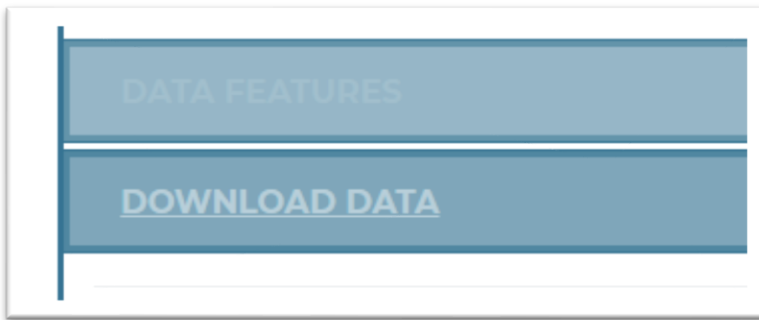
<https://open.toronto.ca/dataset/neighbourhoods/>



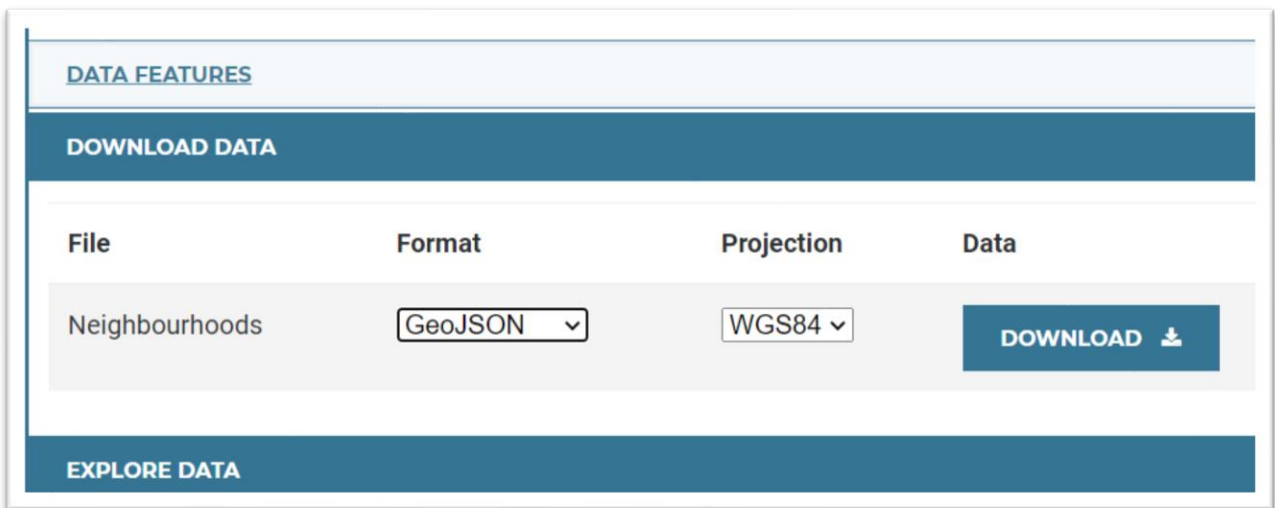
The screenshot shows the 'OPEN DATA' portal for Toronto. The main heading is 'About Neighbourhoods' with the subtitle 'Boundaries of City of Toronto Neighbourhoods.' A 'DATA PREVIEW' section features a map of the Greater Toronto Area with a blue-shaded area representing the city of Toronto's neighbourhood boundaries. The map includes labels for various cities and regions such as Bolton, King City, Richmond Hill, Markham, Vaughan, Brampton, Mississauga, Pickering, Ajax, and Whitby. Major highways like 400, 407, and 427 are also visible. On the left side, there is a 'Details' sidebar with the following information:

- Data quality score** beta
🏆 Bronze
- Data last refreshed**
Jun 29, 2020
- Refreshed**
As available
- Data type**
Map
- Civic issues**
[Affordable housing](#), [Poverty reduction](#), [Mobility](#)
- Topics**
[Locations and mapping](#)
- More information**
[External Link](#)
- License**
[Open Government License - Toronto](#)

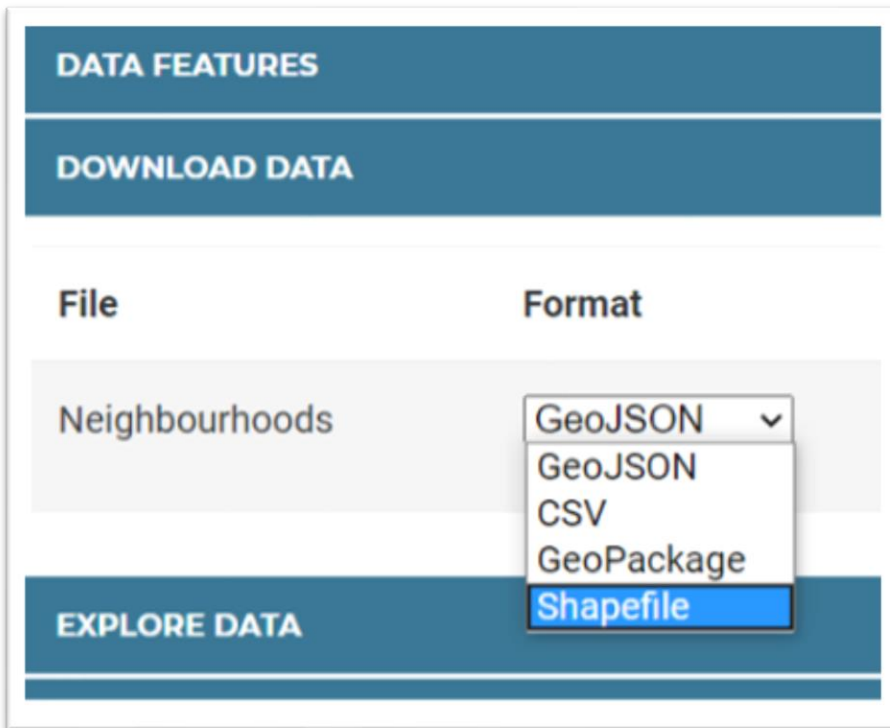
Scroll down to the “Download Data” tab.



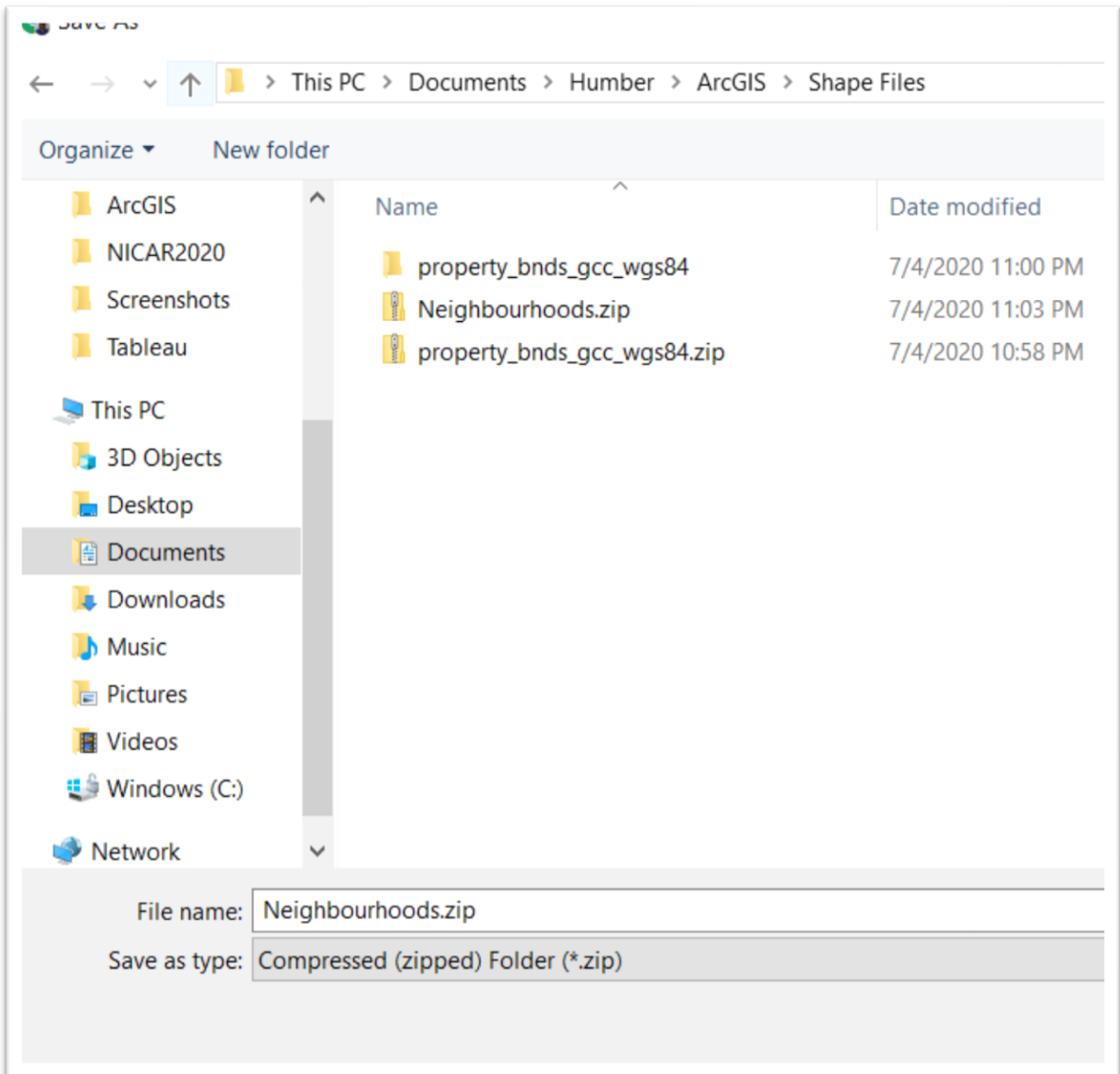
You should see an interface that looks like this.



Click the caret to the left of “GeoJSON”.



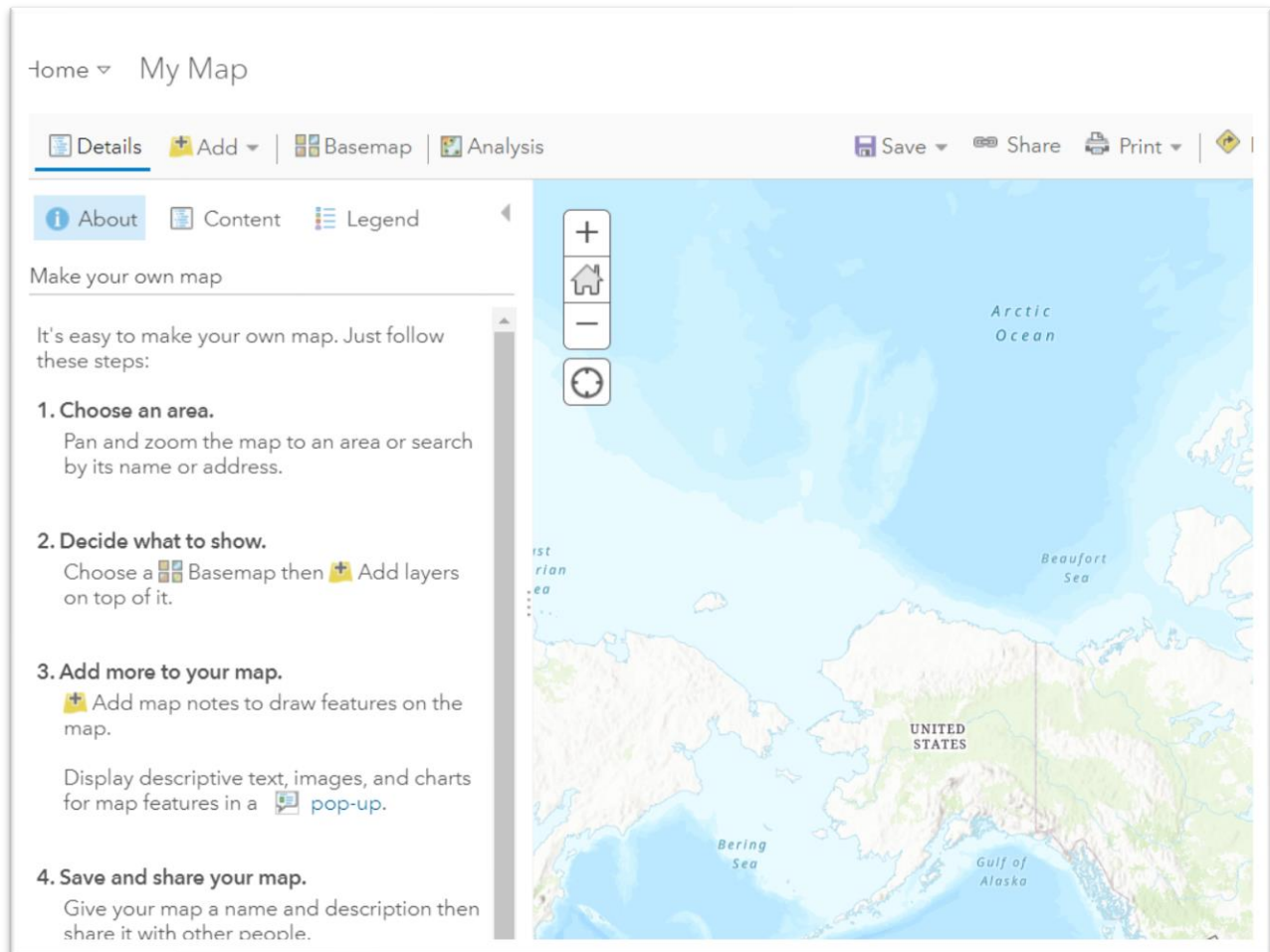
Select “Shapefile.” Save the zipped folder to the folder you’ve created for this tutorial.



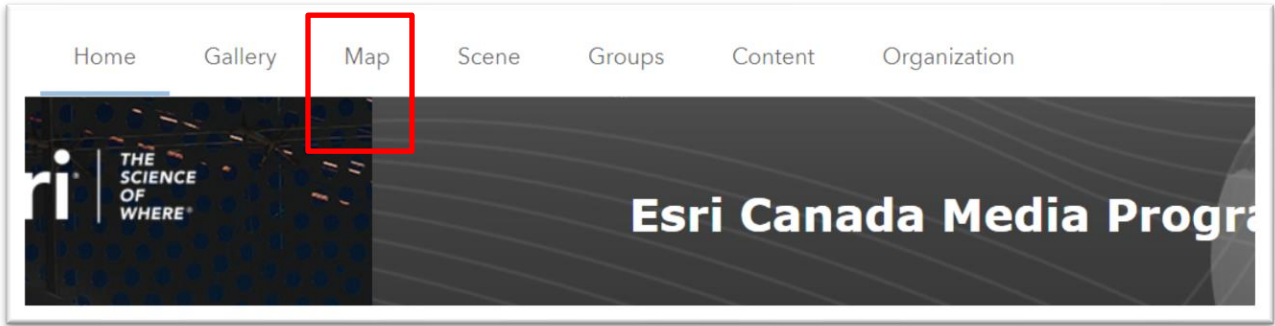
Before we go much further, a quick word about a shape file. As we explain on page 121 of *The Data Journalist*, a Shape file is a map file format developed by Esri, and it is made up of several files, including the ones with the extensions .shp, .shx and .dbf. The .shp file contains the geographical data; the .shx the index and the .dbf, the tabular data. A shape file **MUST** contain these and the other formats if

it is display the boundaries on a map. Therefore, all the files are contained in a zip folder, which will be uploaded to our map on ArcGIS Online.

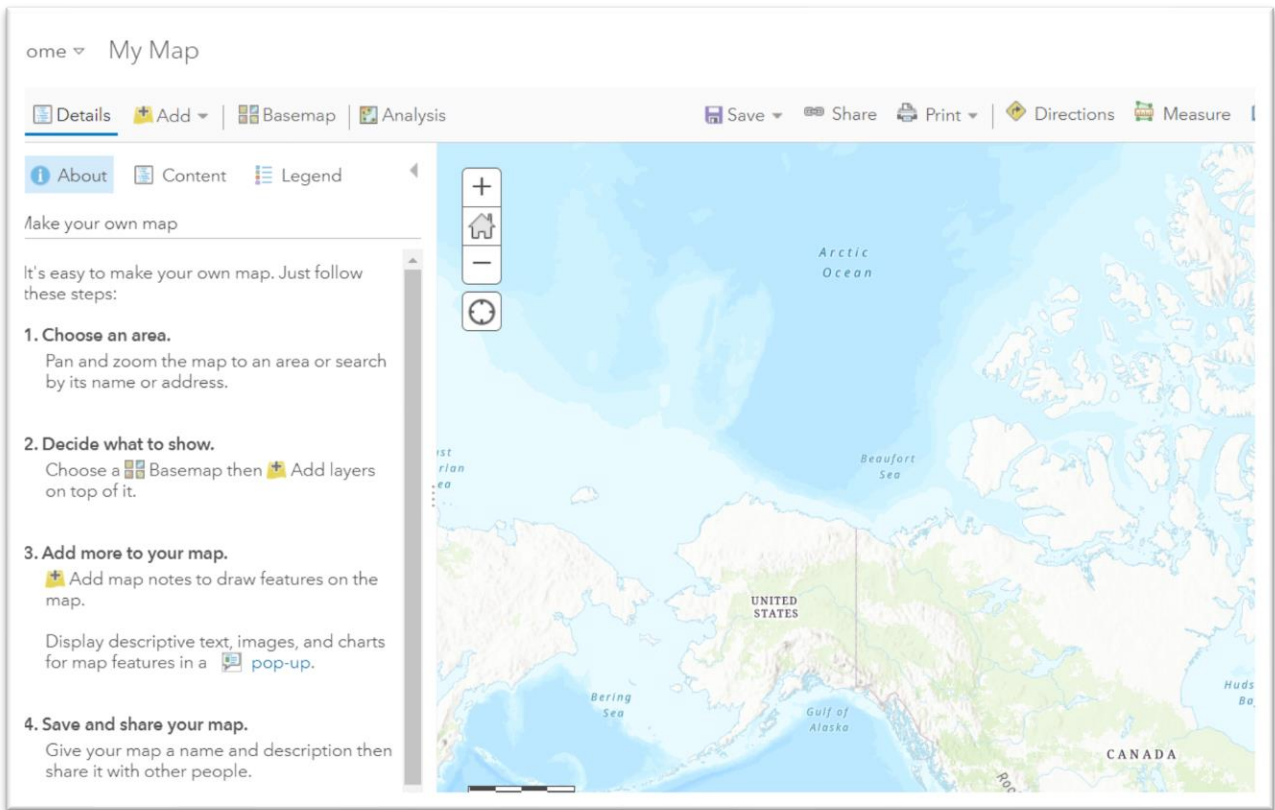
Once you've downloaded, return to the ArcGIS Online page. If you're still in the map view section. Stay there.



If you are not in the section pictured above, return to the home page, and select the Map option.



This will return you to the map viewer section.



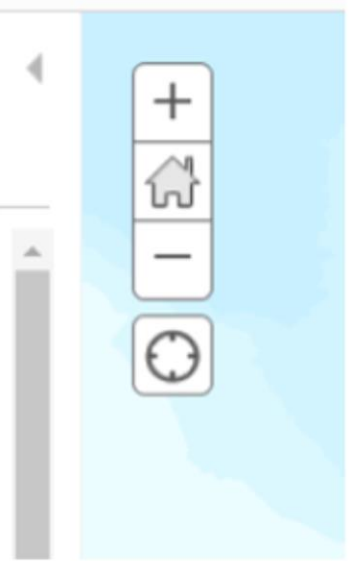
To import the City of Toronto shape file contained in that zip folder, click the “Add” icon and select the “Add Layer from File” option.

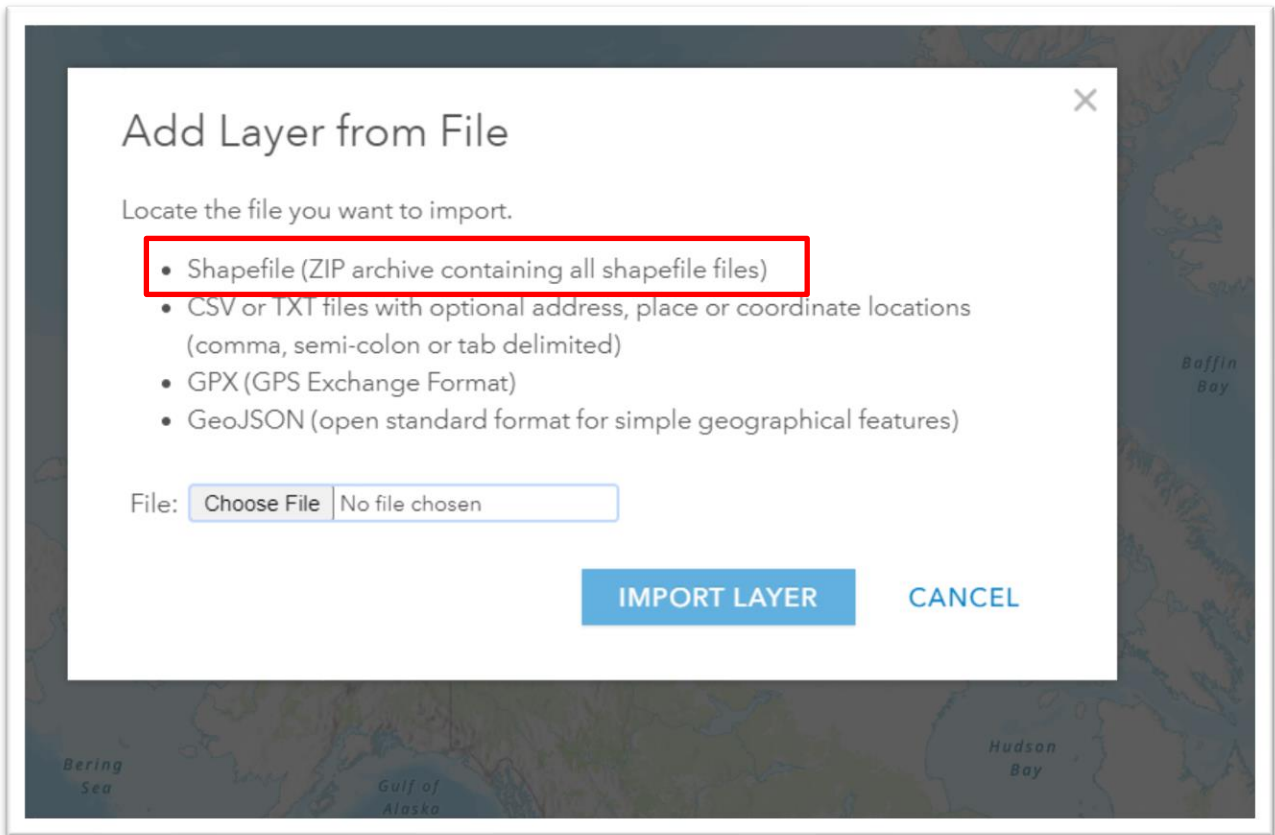
My Map

ails **+ Add** | Basemap | Analysis

- Search for Layers
- Browse Living Atlas Layers
- Add Layer from Web
- Add Layer from File**
- Add Map Notes

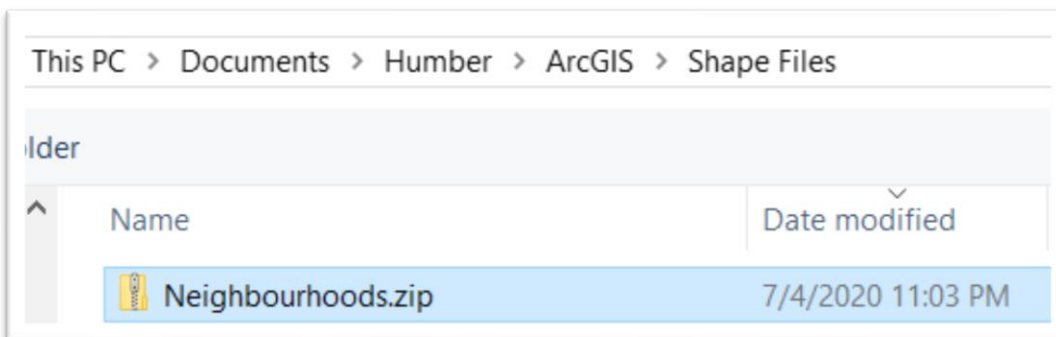
and zoom the map to an area or search
; name or address.





In the first option, you can see that the shape file will be accepted, only if it is a zip file. This is for the reasons we just explained.

Select the “Choose File” tab to browse for our zip folder.



Add Layer from File



Locate the file you want to import.

- Shapefile (ZIP archive containing all shapefile files)
- CSV or TXT files with optional address, place or coordinate locations (comma, semi-colon or tab delimited)
- GPX (GPS Exchange Format)
- GeoJSON (open standard format for simple geographical features)

File: Neighbourhoods.zip

- Generalize features for web display
 Keep original features

IMPORT LAYER

CANCEL

Bering
Sea

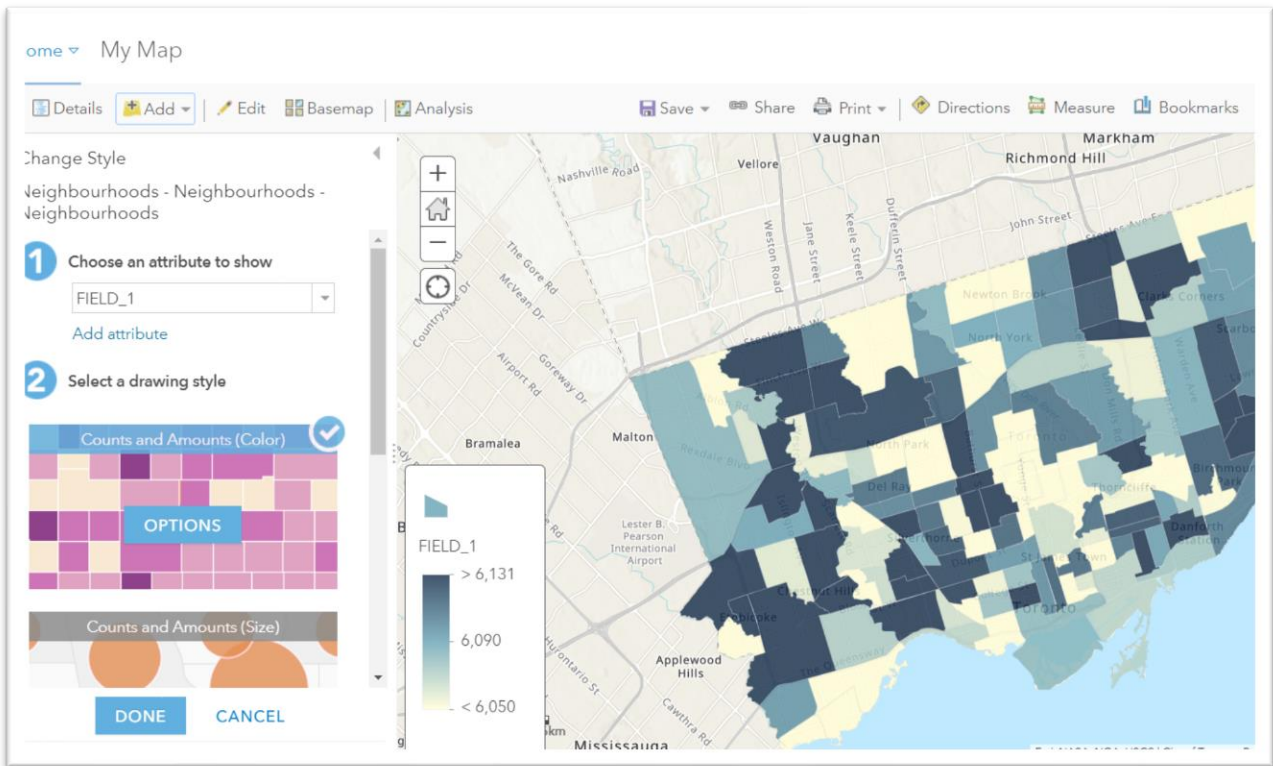
Gulf of
Alaska

Bay

CANADA

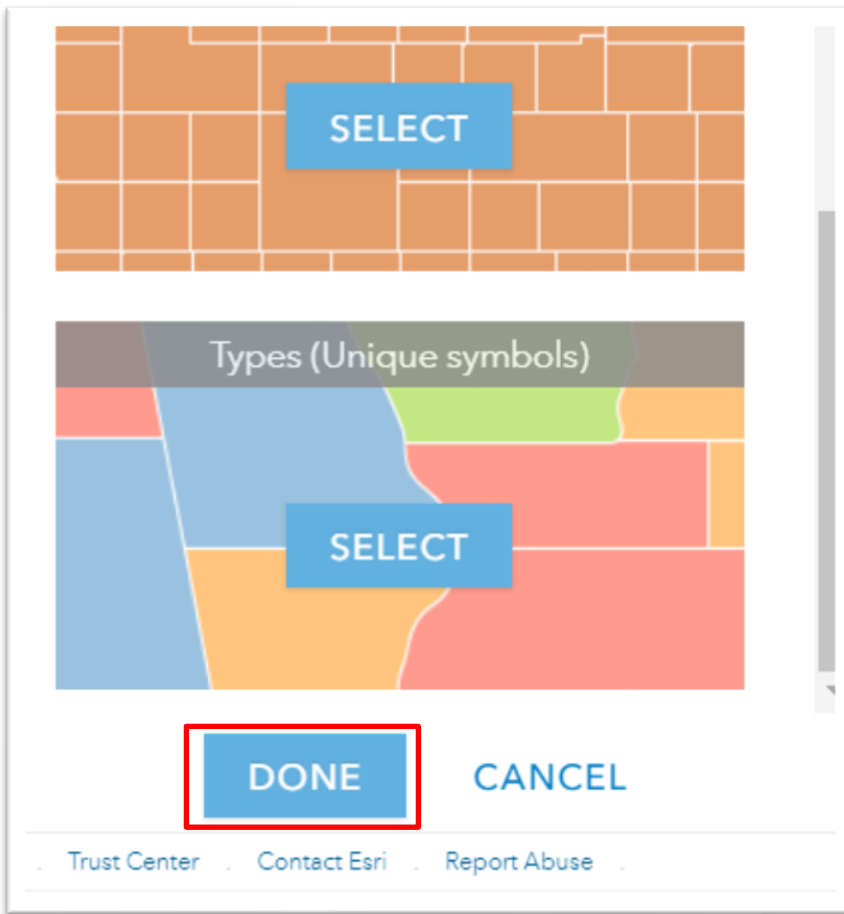
Baffin
Bay

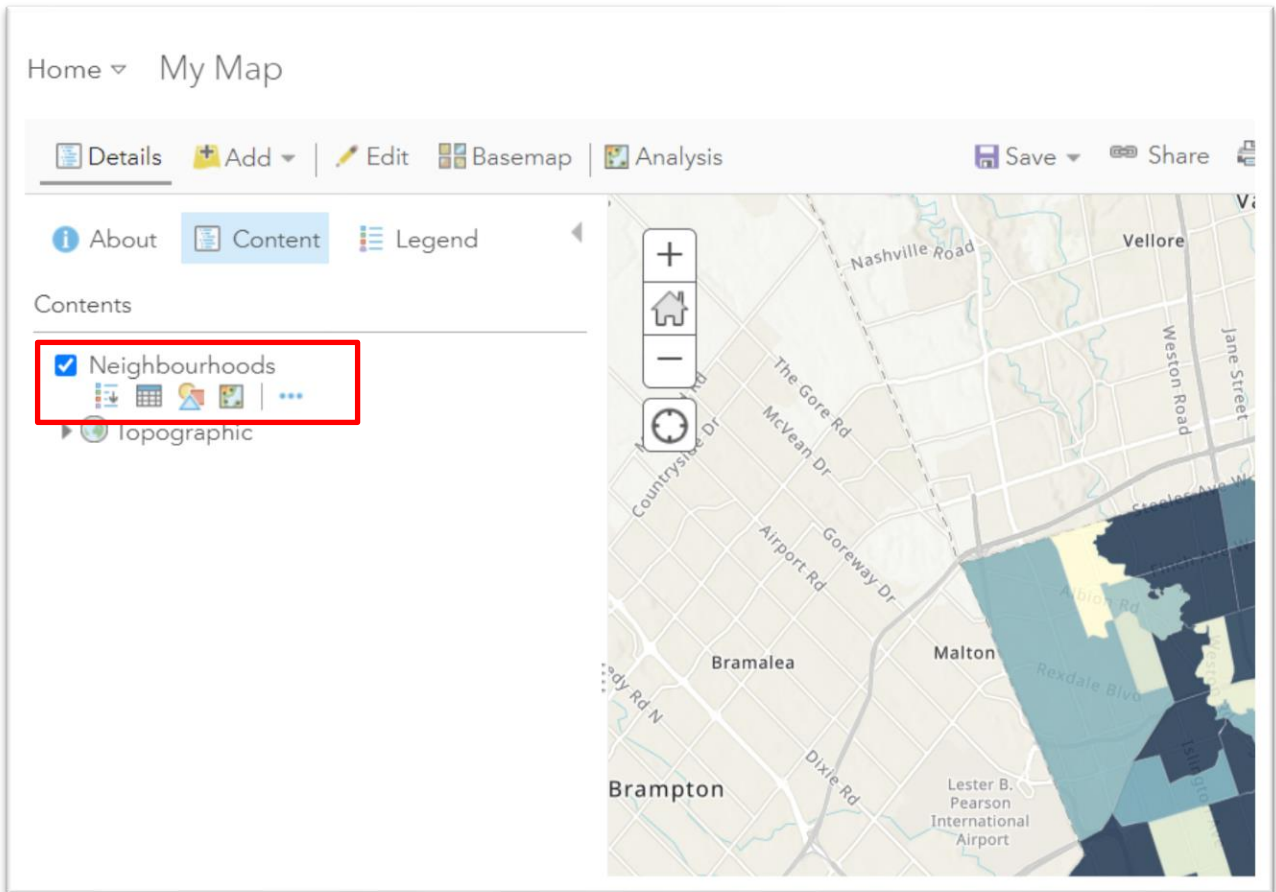
Select the defaulted option, “Generalized features for web display”, because it allows for a quicker display of your map.



Importing the data takes you to a styling panel on the left. The default option is the one we want because it uses shades of shades on a colour ramp to identify neighborhoods with the higher numbers. The darker the number, the higher the concentration. For now, leave it as it is.

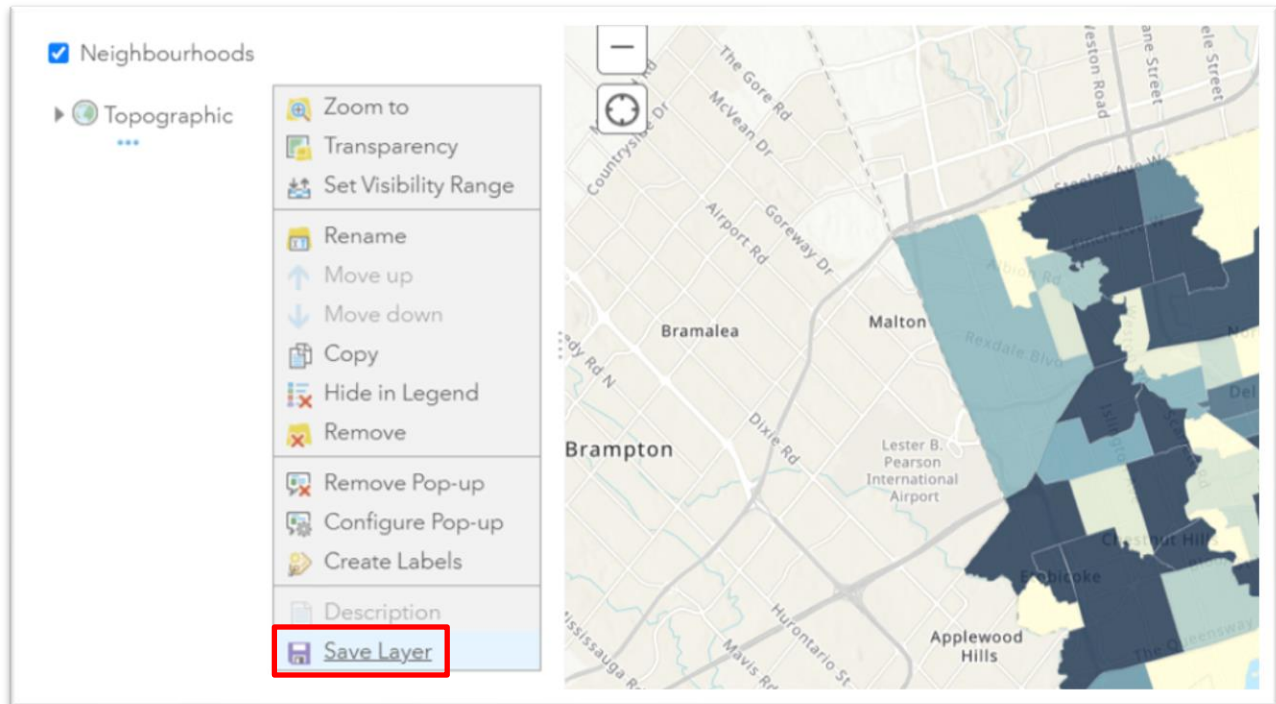
Select the “Done” tab at the bottom of your panel to the left.





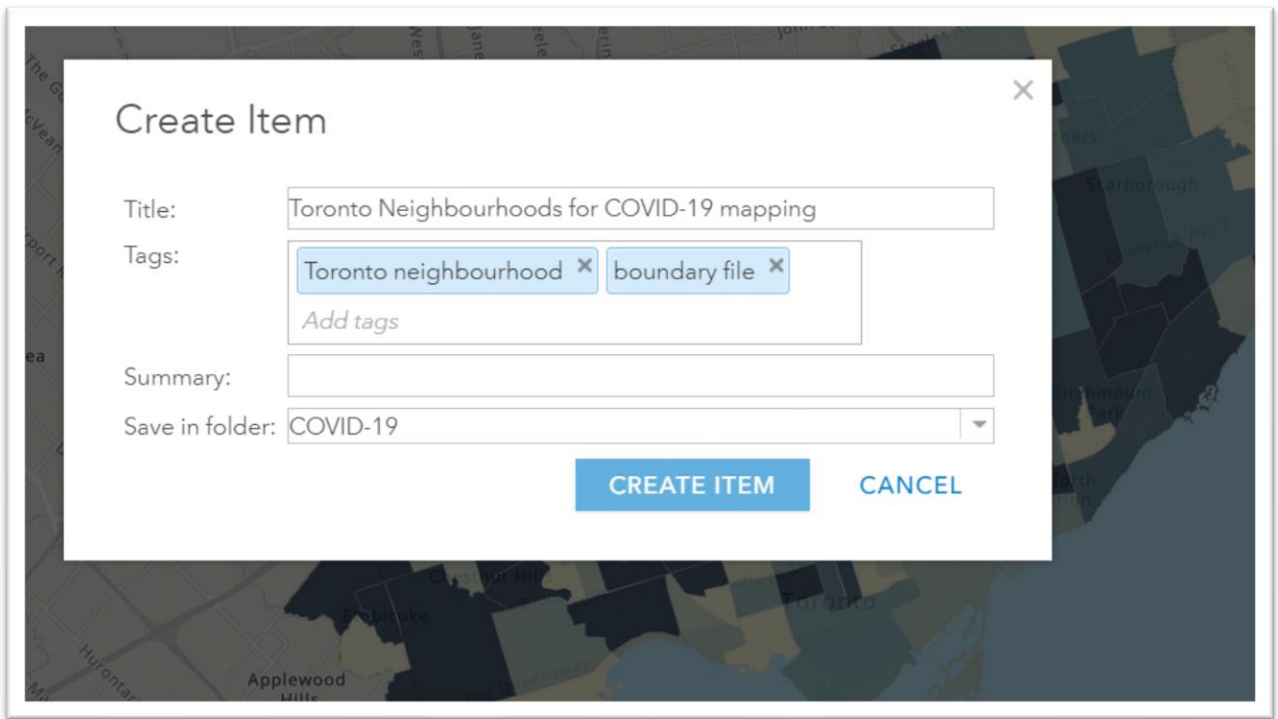
This temporary layer called “Neighbourhoods” is displayed on the map to the right. Layers are what make maps very powerful. Good maps display multiple layers, which is why they are more powerful than data visualization tools.

To save this layer to your ArcGIS account, click the three dots.



You can create a layer name and tags like the ones you see in the screen grab below. You may even want to add your initials at the end of the title, which comes in handy if you're part of a project. And be sure to save it in the folder you created

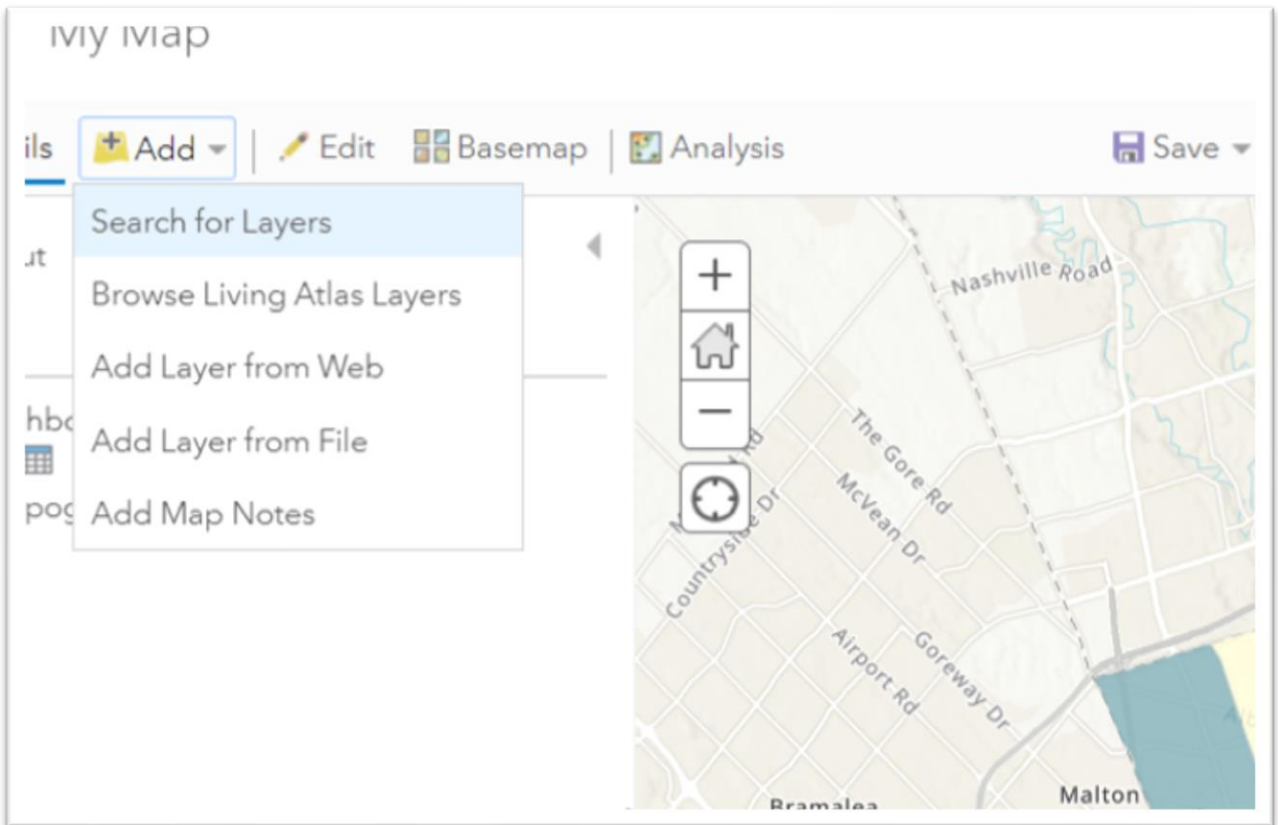
for this project, a step described in the first part of this tutorial.



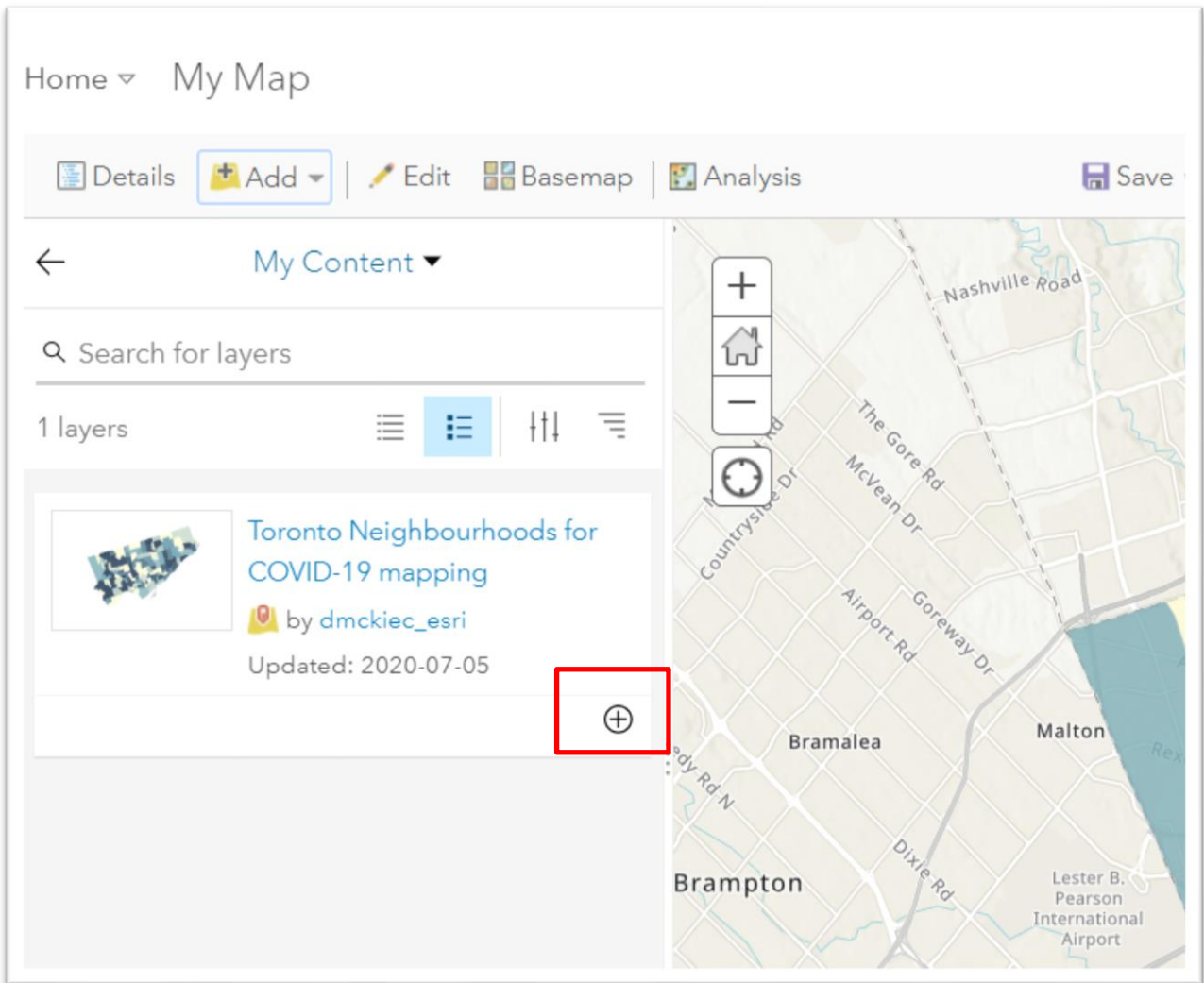
Select Create Item.

Now we can import this layer.

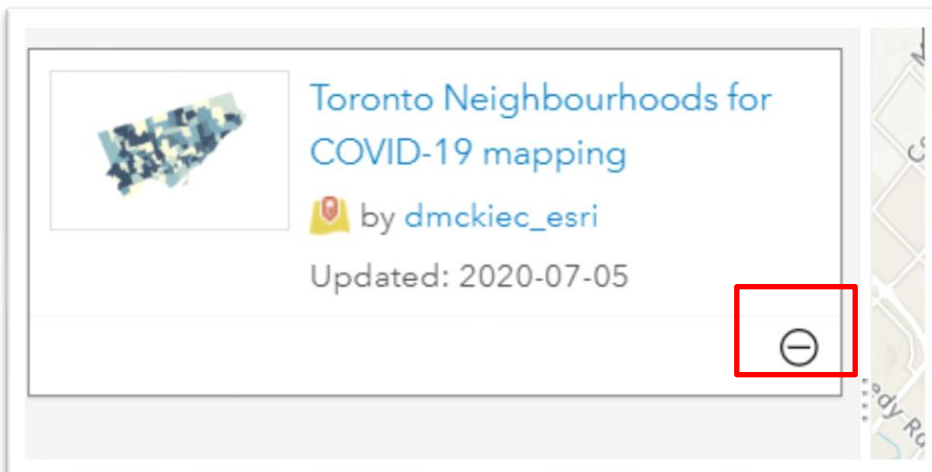
Return to the add button.



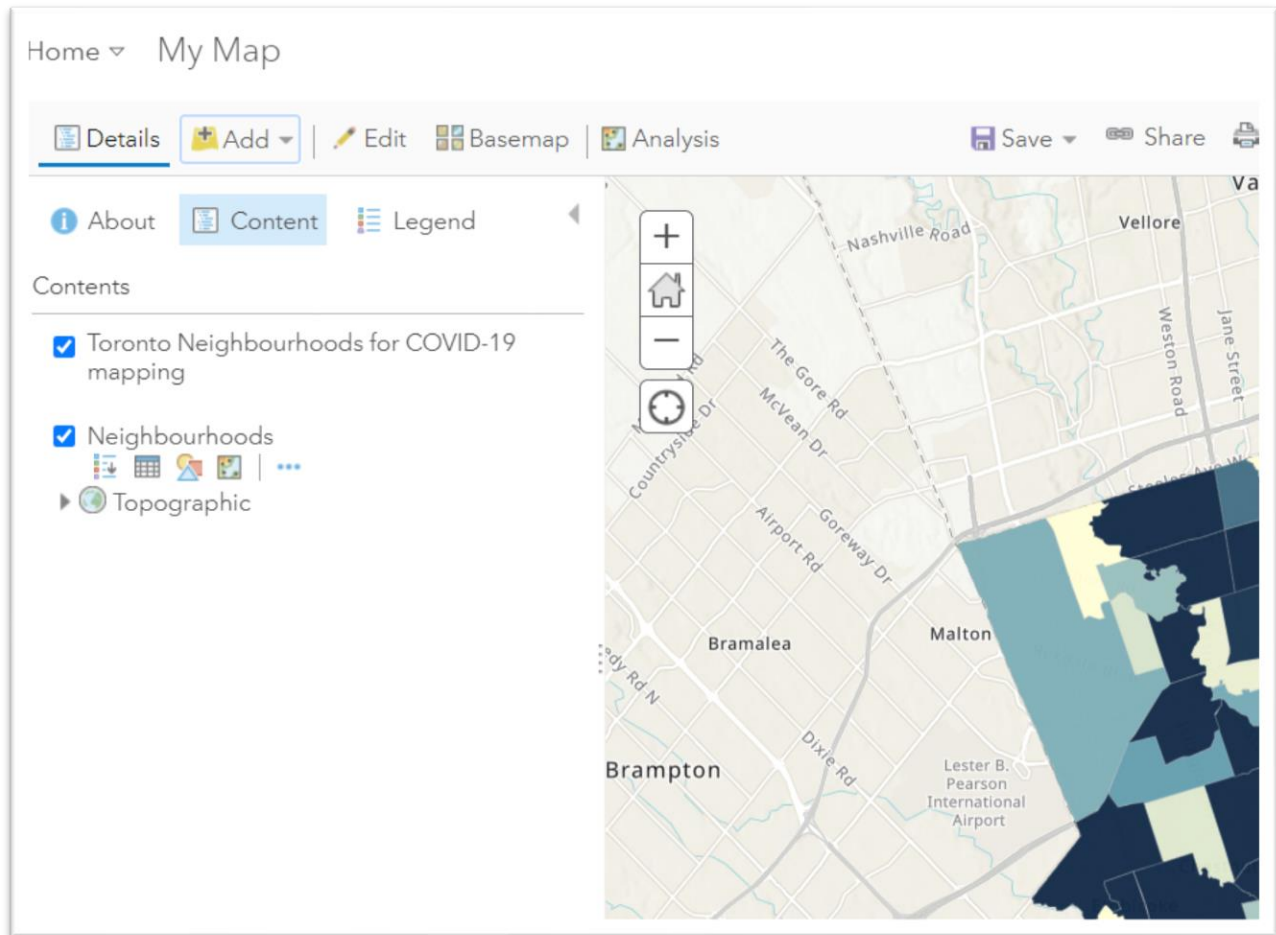
Your layer will appear as the first or most recent one.



Select the add “+” sign to the bottom left.

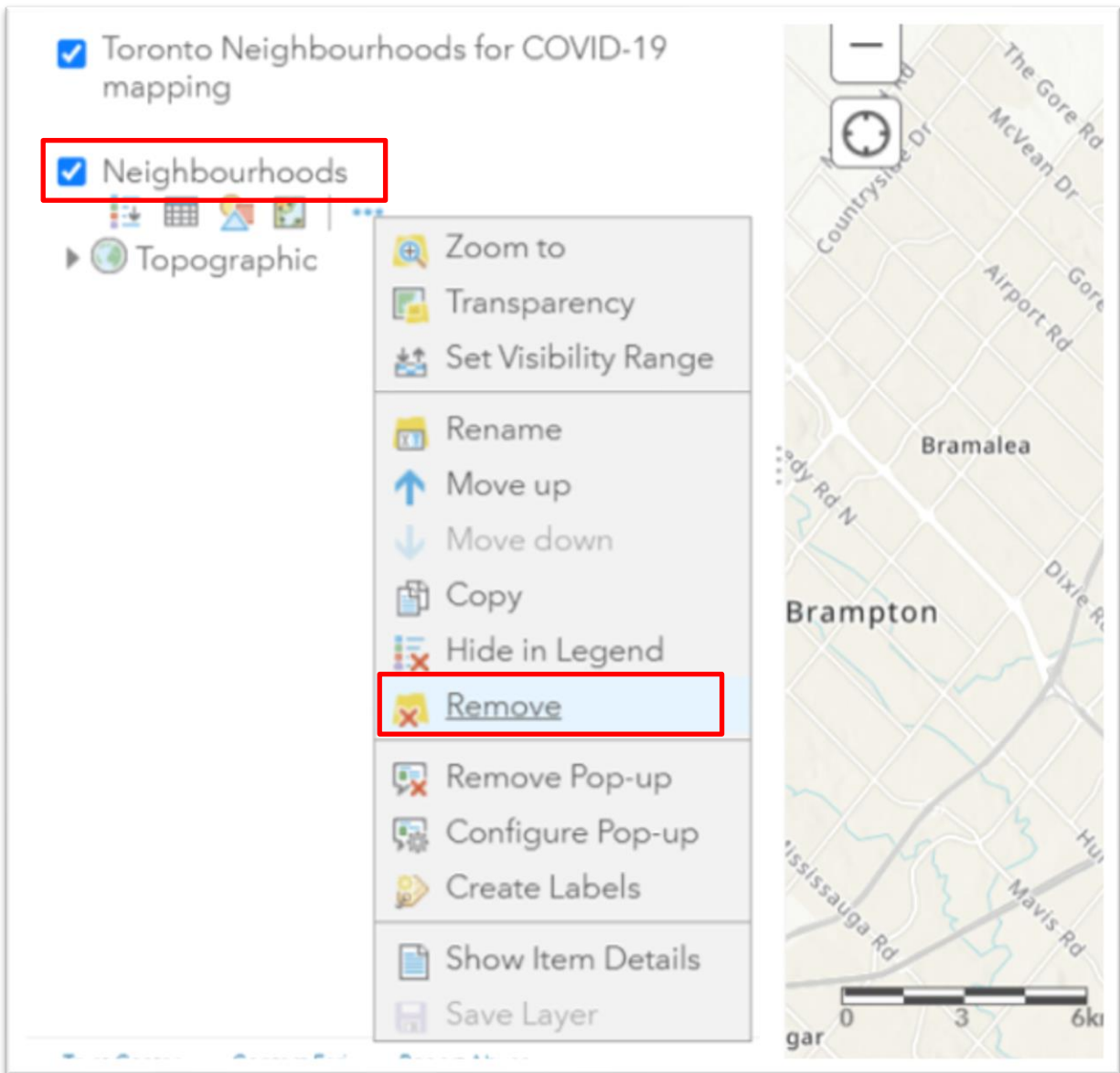


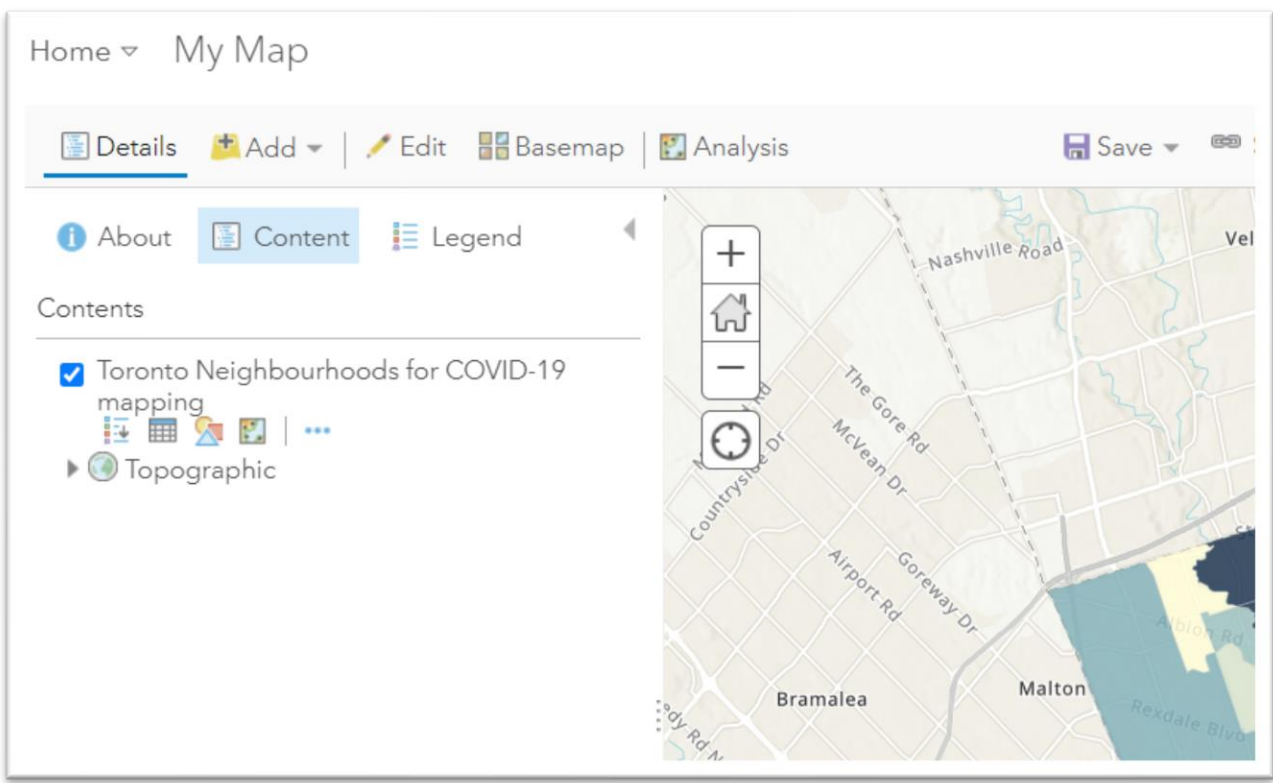
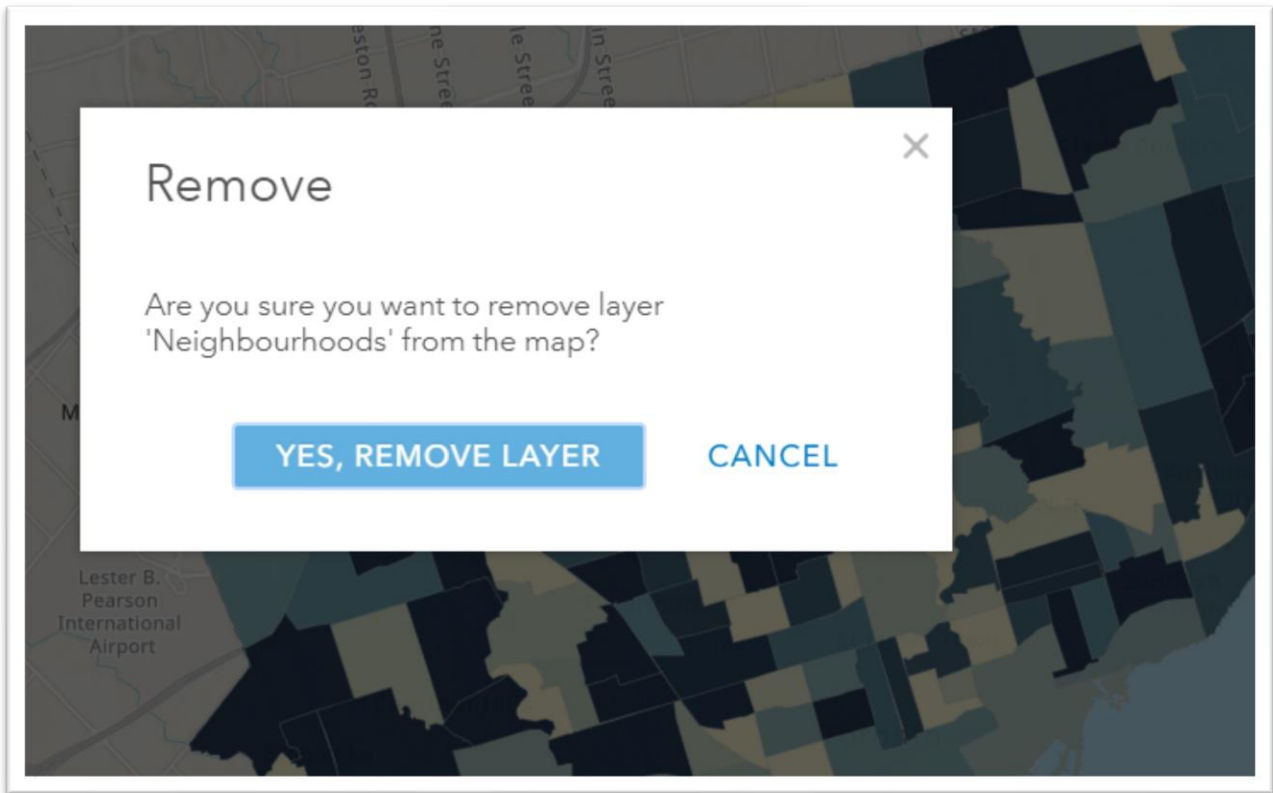
Return to your layer section to see the new layer.



You can see the new layer.

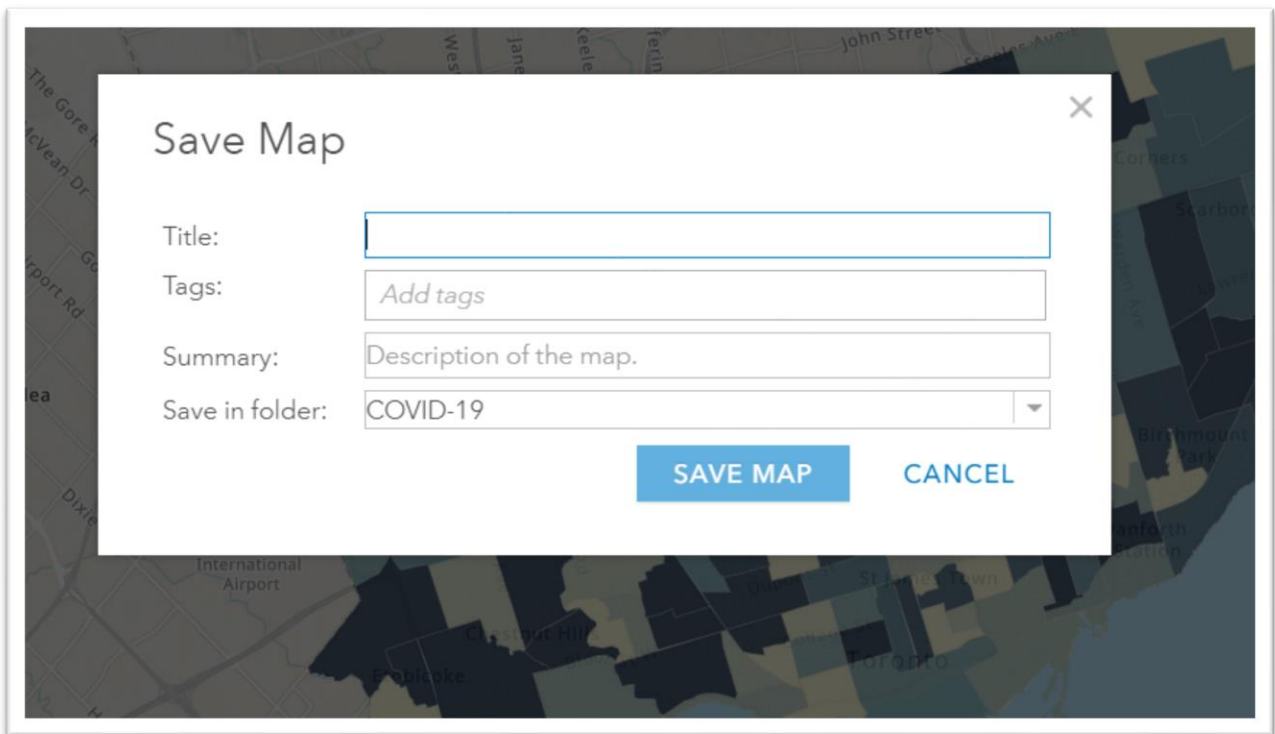
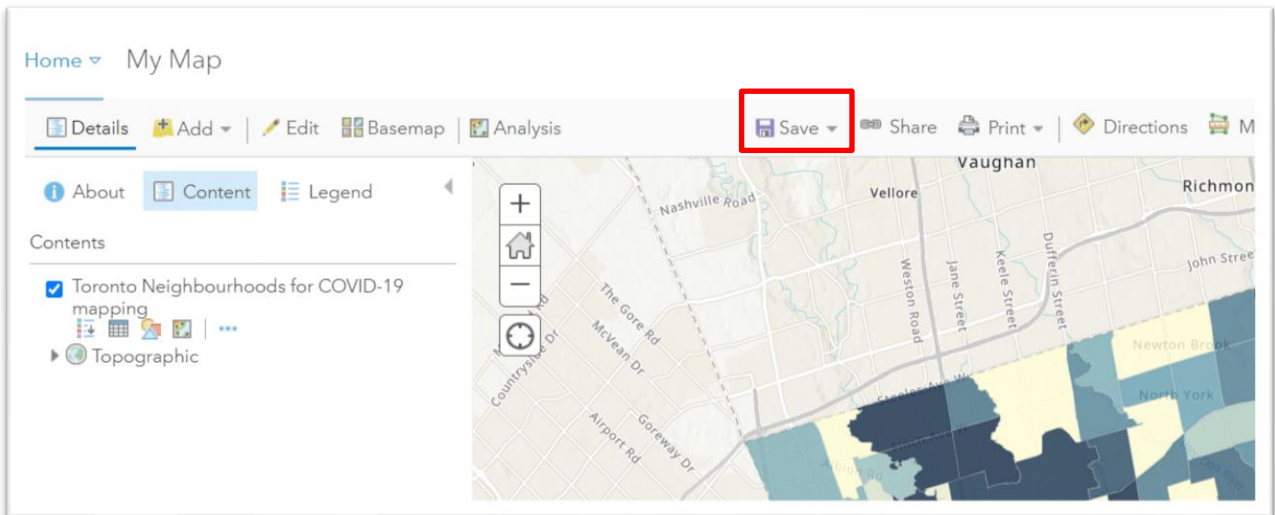
Remove the temporary neighbourhood layer.



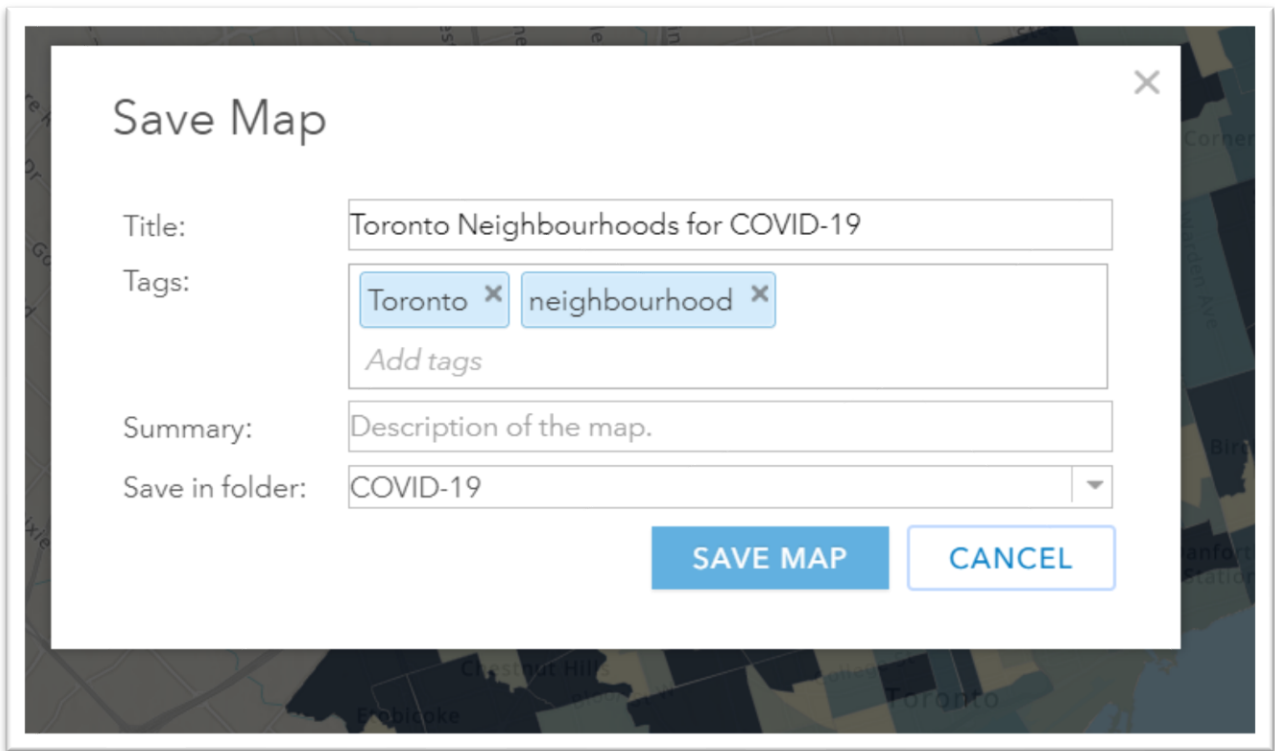


Now it's time to save the map.

Select the save icon in the menu above the map.



Give it a name, tags and make sure the proper project folder is selected.



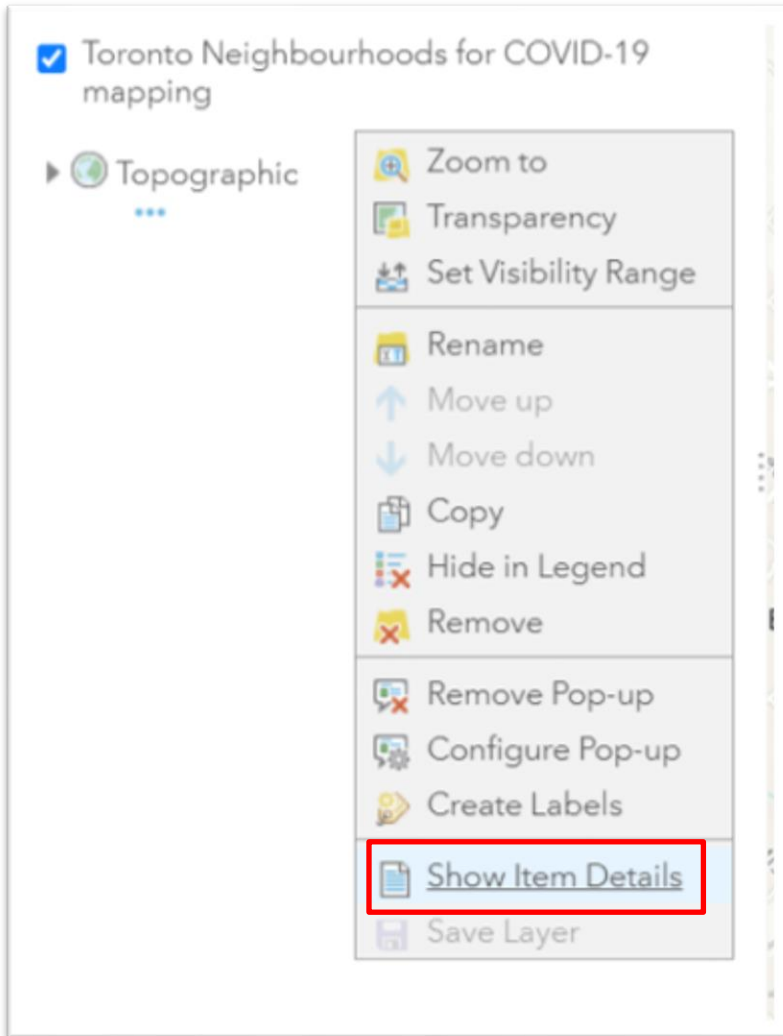
The image shows a 'Save Map' dialog box with the following fields and options:

- Title:** Toronto Neighbourhoods for COVID-19
- Tags:** Toronto, neighbourhood (with 'Add tags' link below)
- Summary:** Description of the map.
- Save in folder:** COVID-19
- Buttons:** SAVE MAP, CANCEL

I neglected to provide details in the summary section. No problem. Return to the layer.



Hover your cursor over the layer until more options button (the three dots) appears, select the “Show Item Details” option.



This will take you to the neighbourhood layer's item page which opens in a new tab.

The screenshot shows the ArcGIS Online interface for an item titled "Toronto Neighbourhoods for COVID-19 mapping". The page is divided into several sections:

- Navigation:** Home, Gallery, Map, Scene, Groups, Content, Organization.
- Item Title:** Toronto Neighbourhoods for COVID-19 mapping
- Overview Tab:** Overview, Data, Visualization, Usage, Settings.
- Thumbnail:** A map thumbnail showing Toronto neighborhoods with a color-coded overlay. Below it is an "Add to Favorites" button.
- Summary:** "Add a brief summary about the item." It identifies the item as a "Feature Layer by dmckiec_esri", created and updated on Jul 5, 2020, with a view count of 0.
- Description:** "Add an in-depth description of the item."
- Layers:** A list containing "Neighbourhoods".
- Terms of Use:** "Add any special restrictions, disclaimers, terms and conditions, or limitations on using the item's content."
- Actions:** "Open in Map Viewer", "Open in ArcGIS Pro", "Publish", and "Share" buttons.
- Item Information:** A progress bar showing the item's quality, currently at "Low". A "Top Improvement" section suggests "Add a summary".
- Details:** Source: Feature Collection, Size: 185 KB, and a 5-star rating.
- Footer:** Social media icons (Facebook, Twitter, LinkedIn) and an "Activate Windows" notification.

Description

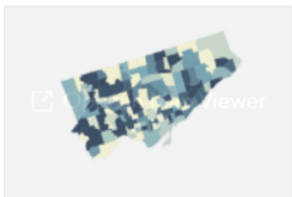
Add an in-depth description of the item.

Edit Description



Empty text area for editing the description.

Edit Thumbnail



Add to Favorites

Add a brief summary about the item.

Feature Layer by [dmckiec_esri](#)

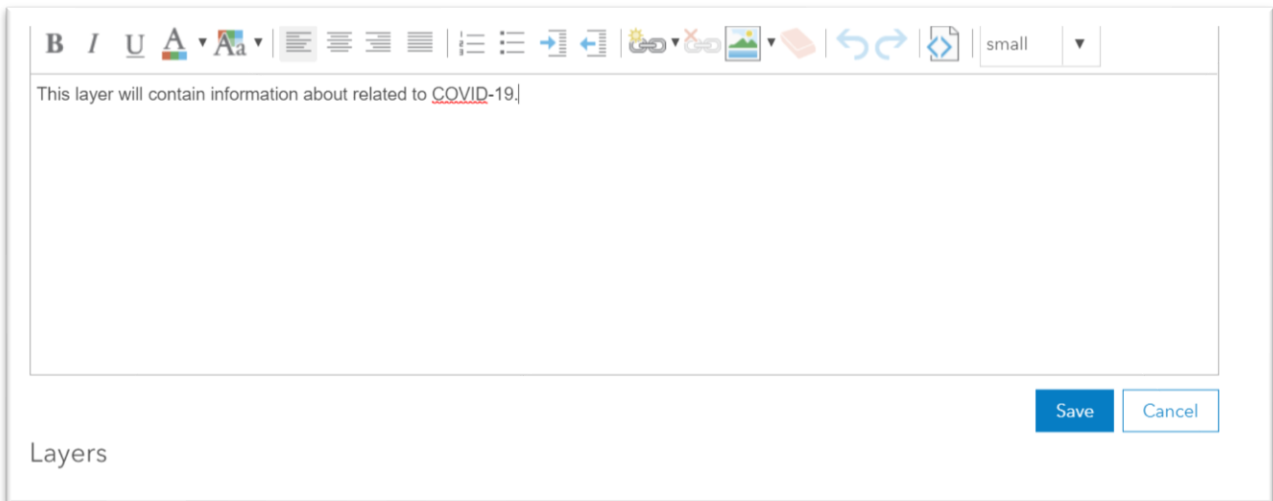
Created: Jul 5, 2020 Updated: Jul 5, 2020 View Count: 2

Edit Description



This layer will contain information about related to [COVID-19](#)!

Save the addition.



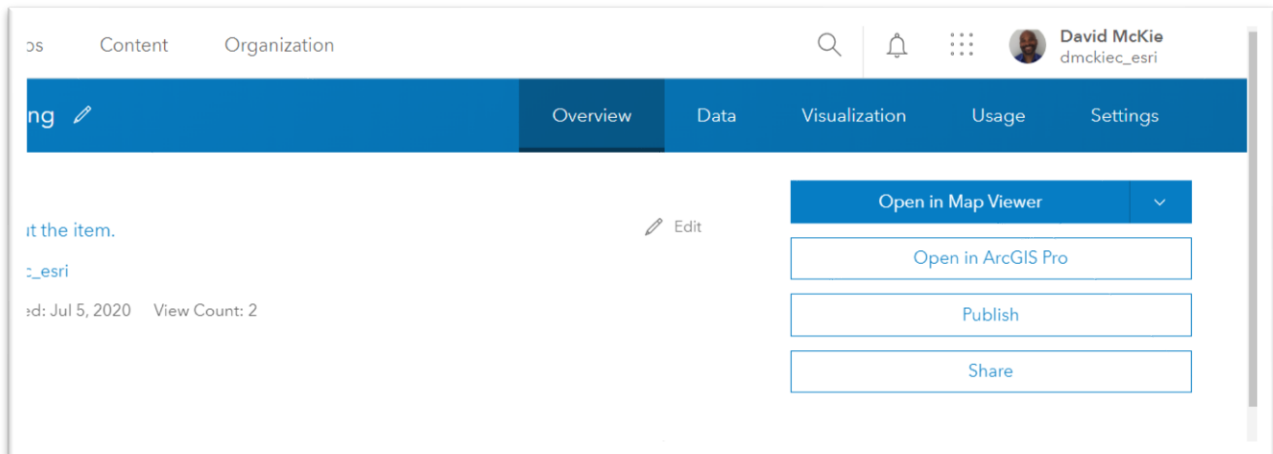
This layer will contain information about related to COVID-19.

Layers

Save Cancel

The screenshot shows a text editor window with a rich text toolbar at the top. The toolbar includes icons for bold, italic, underline, text color, background color, bulleted list, numbered list, indent, outdent, link, unlink, insert image, insert video, undo, redo, and a font size dropdown set to 'small'. The text area contains the sentence 'This layer will contain information about related to COVID-19.' with 'COVID-19' underlined. At the bottom left, the word 'Layers' is visible. At the bottom right, there are two buttons: 'Save' (highlighted in blue) and 'Cancel'.

Once we have saved, scrolled back to the top and check out the different options for viewing the data.



Content Organization

ng Edit

Overview Data Visualization Usage Settings

Open in Map Viewer

Open in ArcGIS Pro

Publish

Share

David McKie dmckiec_esri

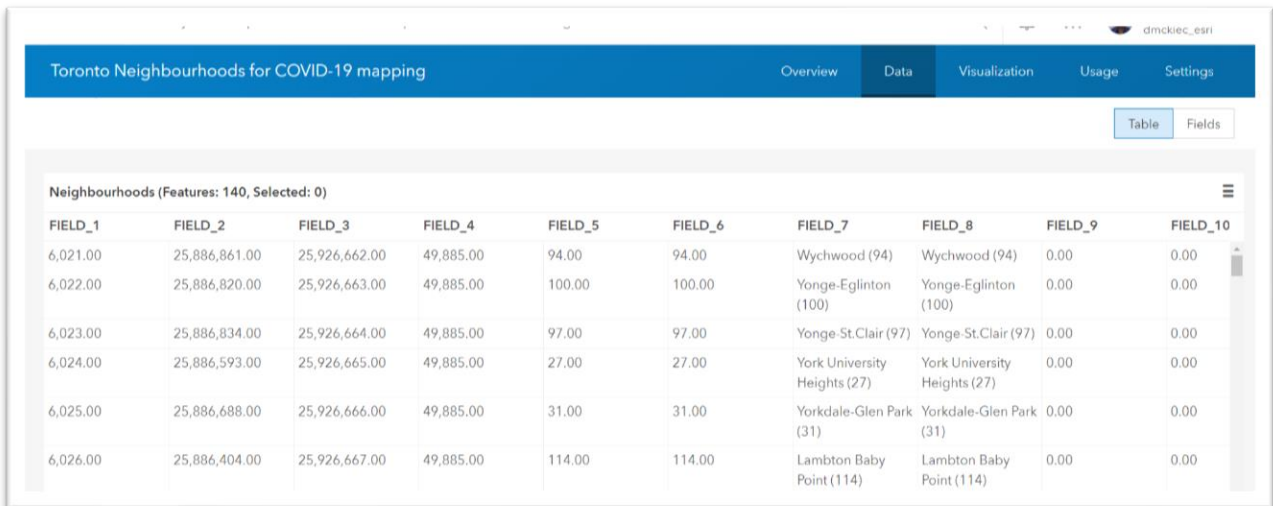
it the item. Edit

:_esri

id: Jul 5, 2020 View Count: 2

The screenshot shows a web application interface. At the top, there are navigation links for 'Content' and 'Organization', and a user profile for 'David McKie dmckiec_esri'. Below this is a blue navigation bar with tabs for 'Overview', 'Data', 'Visualization', 'Usage', and 'Settings'. The 'Overview' tab is active. On the left, there is a text area with 'ng Edit' and 'it the item. Edit'. Below this, there is a link ':_esri' and a date 'id: Jul 5, 2020 View Count: 2'. On the right, there is a vertical menu with buttons for 'Open in Map Viewer', 'Open in ArcGIS Pro', 'Publish', and 'Share'. The 'Open in Map Viewer' button is highlighted in blue.

“Data” allows for a tabular view of data, that is, the data contained in the .dbf file.



Toronto Neighbourhoods for COVID-19 mapping

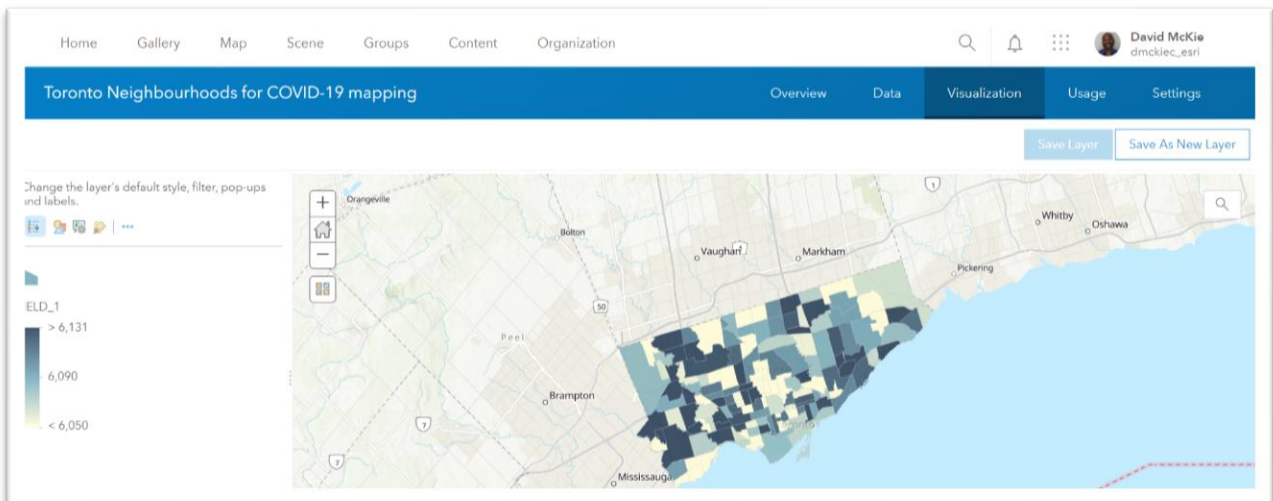
Overview Data Visualization Usage Settings

Table Fields

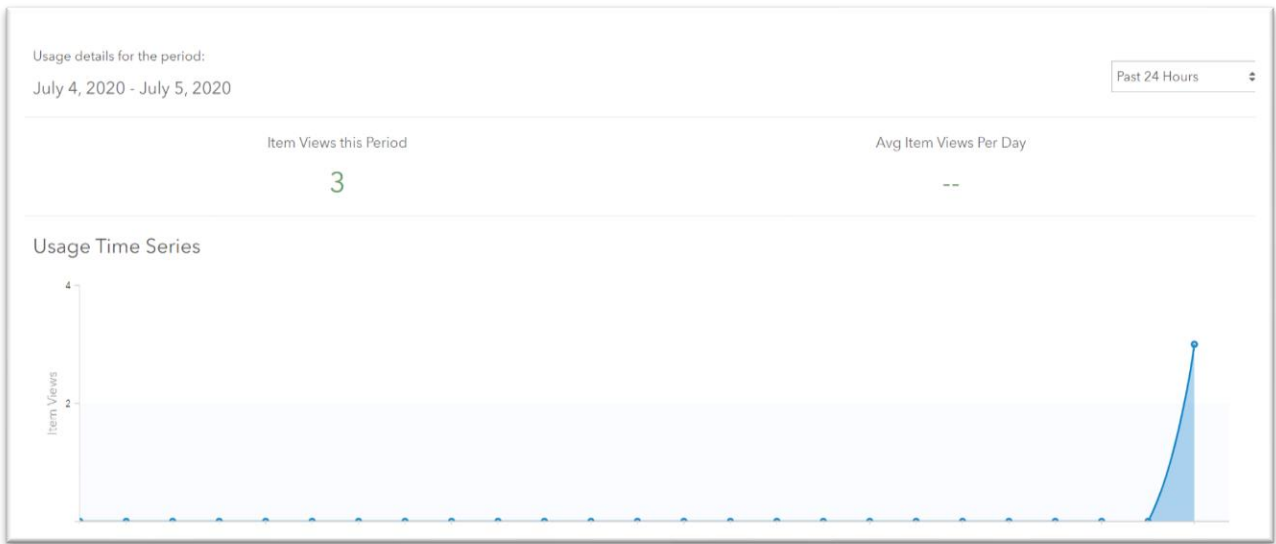
Neighbourhoods (Features: 140, Selected: 0)

FIELD_1	FIELD_2	FIELD_3	FIELD_4	FIELD_5	FIELD_6	FIELD_7	FIELD_8	FIELD_9	FIELD_10
6,021.00	25,886,861.00	25,926,662.00	49,885.00	94.00	94.00	Wychwood (94)	Wychwood (94)	0.00	0.00
6,022.00	25,886,820.00	25,926,663.00	49,885.00	100.00	100.00	Yonge-Eglinton (100)	Yonge-Eglinton (100)	0.00	0.00
6,023.00	25,886,834.00	25,926,664.00	49,885.00	97.00	97.00	Yonge-St.Clair (97)	Yonge-St.Clair (97)	0.00	0.00
6,024.00	25,886,593.00	25,926,665.00	49,885.00	27.00	27.00	York University Heights (27)	York University Heights (27)	0.00	0.00
6,025.00	25,886,688.00	25,926,666.00	49,885.00	31.00	31.00	Yorkdale-Glen Park (31)	Yorkdale-Glen Park (31)	0.00	0.00
6,026.00	25,886,404.00	25,926,667.00	49,885.00	114.00	114.00	Lambton Baby Point (114)	Lambton Baby Point (114)	0.00	0.00

Visualization allows us to see the map.



Usage reveals the number of people who have seen the layer.



Let's return to the data tab to replace the generic column titles with better names.

Overview

Data

Visualization

Usage

Settings

Table

Fields



FIELD_7

FIELD_8

FIELD_9

FIELD_10

Wychwood (94)

Wychwood (94)

0.00

0.00

Yonge-Eglinton
(100)

Yonge-Eglinton
(100)

0.00

0.00

Yonge-St.Clair (97)

Yonge-St.Clair (97)

0.00

0.00

York University
Heights (27)

York University
Heights (27)

0.00

0.00

Yorkdale-Glen Park
(31)

Yorkdale-Glen Park
(31)

0.00

0.00

Lambton Park

Lambton Park

0.00

0.00

Select the “Fields” tab.

The screenshot shows a software interface for 'ID-19 mapping'. At the top, there are navigation tabs: 'Overview', 'Data', 'Visualization', 'Usage', and 'Settings'. Below these, there are two buttons: 'Table' and 'Fields', with 'Fields' being the active tab. Underneath, there are three icons: a table icon labeled 'Table', a list icon labeled 'Order in Table', and a filter icon labeled 'Filter'. The main content area shows a table with 16 rows, with the first row expanded. The table has three columns: 'Display Name', 'Field Name', and 'Type'. The data is as follows:

Display Name	Field Name	Type
FID	FID	ObjectID
FIELD_1	FIELD_1	Double
FIELD_2	FIELD_2	Double
FIELD_3	FIELD_3	Double
FIELD_4	FIELD_4	Double
FIELD_5	FIELD_5	Double

Click a column or field name, in this case “FIELD_1”.

The screenshot shows the details panel for 'FIELD_1'. On the left, there is a search bar labeled 'Search Fields' and a list of fields from 'FID' to 'FIELD_10'. 'FIELD_1' is selected and highlighted. The main panel displays the following information:

- FIELD_1**
- Description**: A brief summary of the item is not available.
- Field Value Type** ⓘ: Field Value type is not available.
- Settings**

Setting	Value
Allows Null Values	Yes
Editable	Yes
Default Value	None
Length	None

To edit, we must first publish the layer.

Select “Overview.”

Overview Data Visualization Usage Settings

View Count: 2

Edit

Open in Map Viewer

Open in ArcGIS Pro

Publish

Share

Edit

Item Information [Learn more](#)

Low High

Top Improvement: [Add a summary](#)

Details

Source: [Feature Collection](#)

Size: 185 KB

Click “Publish.”

Publish

Publish this item as a hosted layer.

Title:

Toronto Neighbourhoods for COVID-19 mapping

Tags:

Toronto neighbourhood X boundary file X

Add tags

Publish Cancel

If your title is too long, you may have to shorten it.

Publish [Close]

Publish this item as a hosted layer.

Title:

Toronto Neighbourhoods_COVID_19

Tags:

Toronto neighbourhood × boundary file ×

Add tags

Publish Cancel


Publishing means authorizing the data on the cloud

Now we can return to the data page, and to “Fields.”

Table Fields

16 of 16

Display Name	Field Name
FID	FID
FIELD_1	FIELD_1
FIELD_2	FIELD_2
FIELD_3	FIELD_3

FIELD_1 

Description

A brief summary of the item is not available.

Field Value Type

Field Value type is not available.

Settings

Allows Null Values	Yes
Editable	Yes

The pencil icon means you can edit the generic name by inserting a new one.

Because I don't know the names of the fields. I have to return to the City of Toronto [website](#) that contains the neighbourhood data and copy and paste the names, a much easier task with two screens.

DATA FEATURES	
Column	Description
_id	Unique row identifier for Open Data database
AREA_ID	
AREA_ATTR_ID	
PARENT_AREA_ID	
AREA_SHORT_CODE	
AREA_LONG_CODE	
AREA_NAME	
AREA_DESC	
X	
Y	

it.						Data Last Upd
i: 0)						
D_4	FIELD_5	FIELD_6	AREA-NAME	FIELD_8	FIELD_9	FIELD
85.00	94.00	94.00	Wychwood (94)	Wychwood (94)	0.00	0.00
85.00	100.00	100.00	Yonge-Eglinton (100)	Yonge-Eglinton (100)	0.00	0.00
85.00	97.00	97.00	Yonge-St.Clair (97)	Yonge-St.Clair (97)	0.00	0.00
85.00	27.00	27.00	York University Heights (27)	York University Heights (27)	0.00	0.00
85.00	31.00	31.00	Yorkdale-Glen Park (31)	Yorkdale-Glen Park (31)	0.00	0.00
85.00	114.00	114.00	Lambton Baby	Lambton Baby	0.00	0.00

For the purposes of this tutorial, I have been a little selective, in labeling one of the most meaningful columns – the one with the neighbourhood names.

You can now add this lawyer to your map by clicking the Map tab at the top left.

Toronto Neighbourhoods_COVID_19

Overview Data Visualization Usage

Edit Thumbnail

Add a brief summary about the item.

Feature Layer (hosted) by dmckiec_esri

Created: Jul 5, 2020 Updated: Jul 6, 2020 View Count: 14

Add to Favorites

Description

This layer will contain information about related to COVID-19.

Layers

Open in Map Viewer

Open in Scene Viewer

Open in ArcGIS Desktop

Publish

Create View Layer

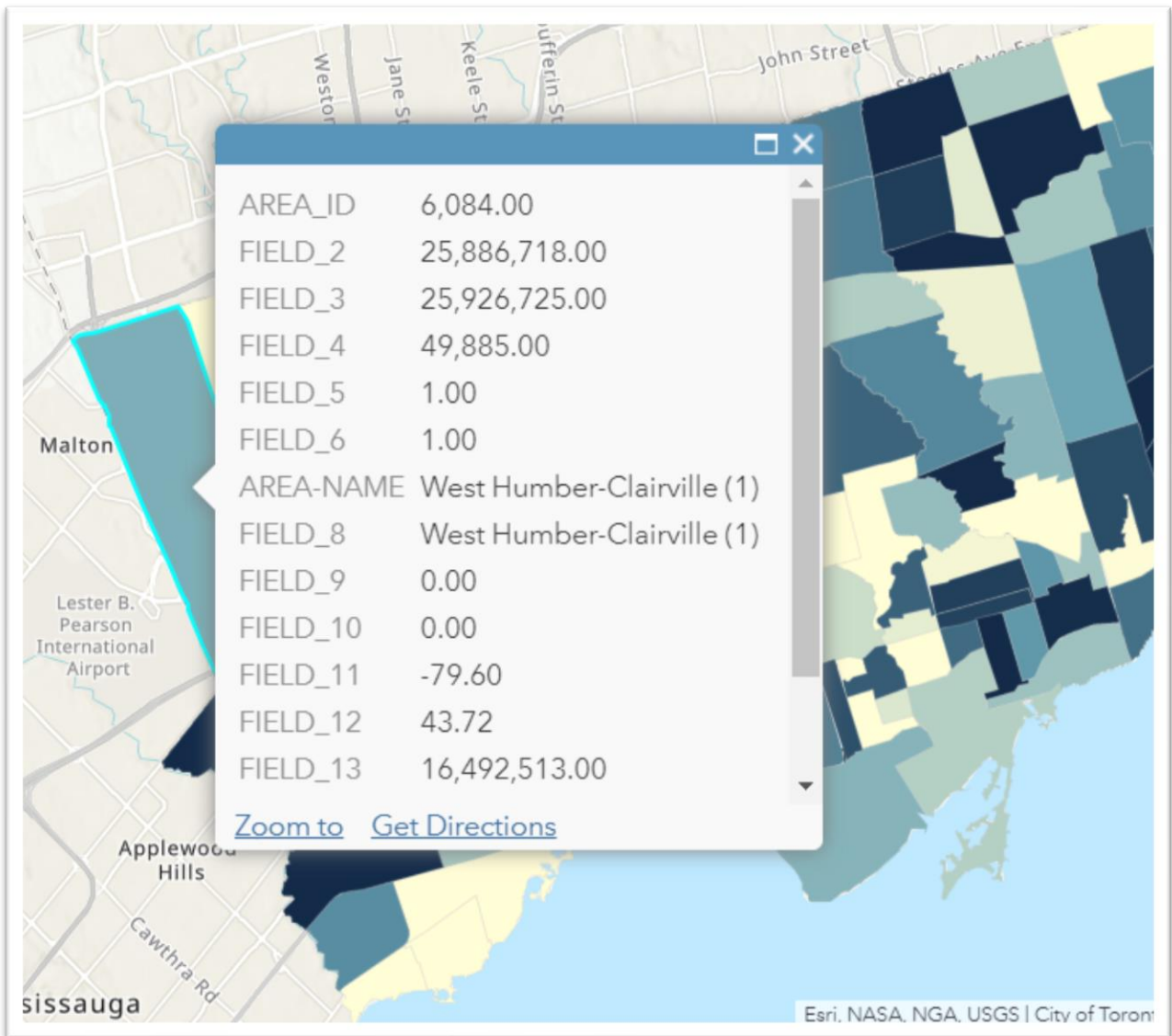
Export Data

Update Data

Share

Once you have opened the map, save it again with a new title and tags.

Click a neighbourhood to obtain a pop-up box with the new column titles.



In the follow up tutorial, we will use techniques to population these neighbourhoods with data.