

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 ∨

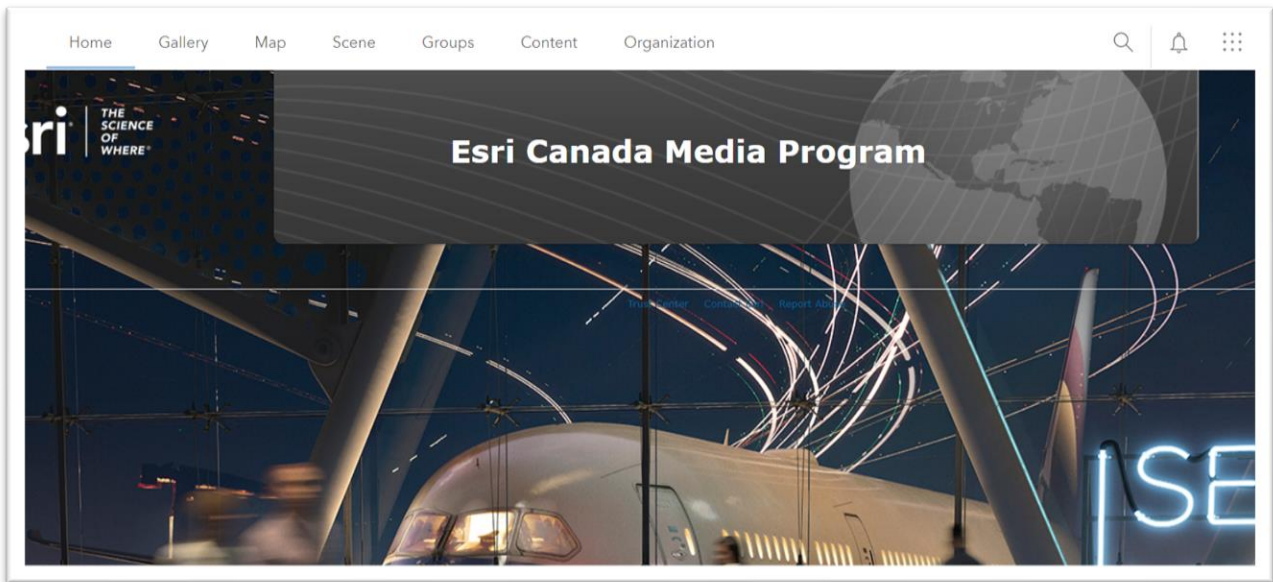


No account? [Create an account](#)

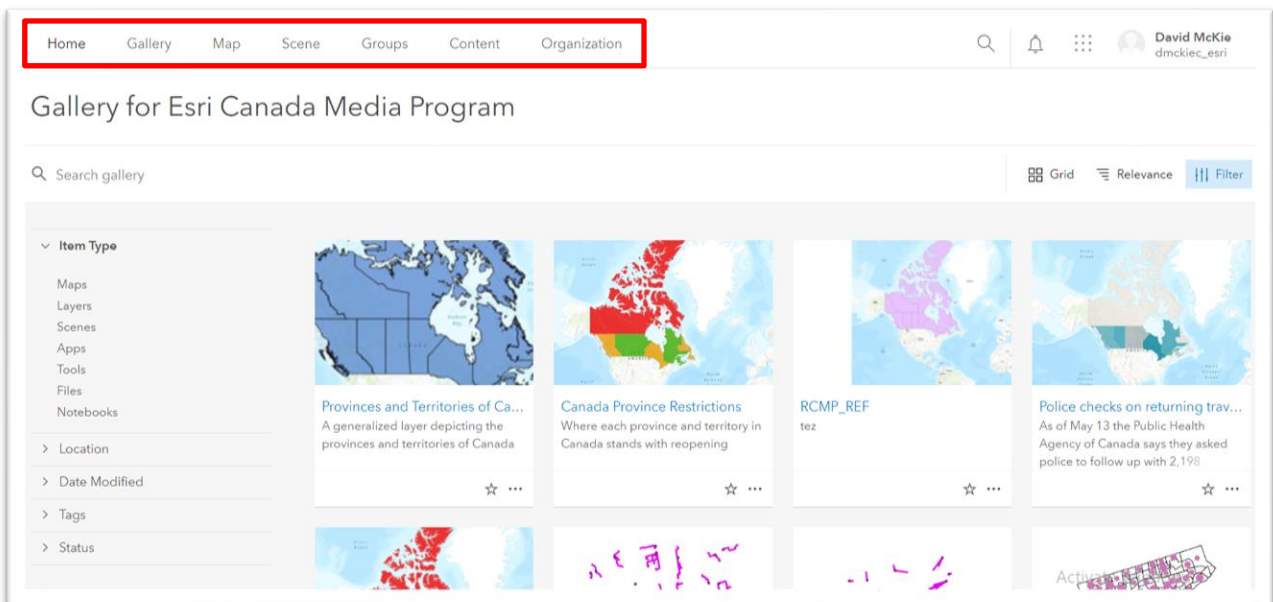
[Privacy](#)

Sign in with your credentials

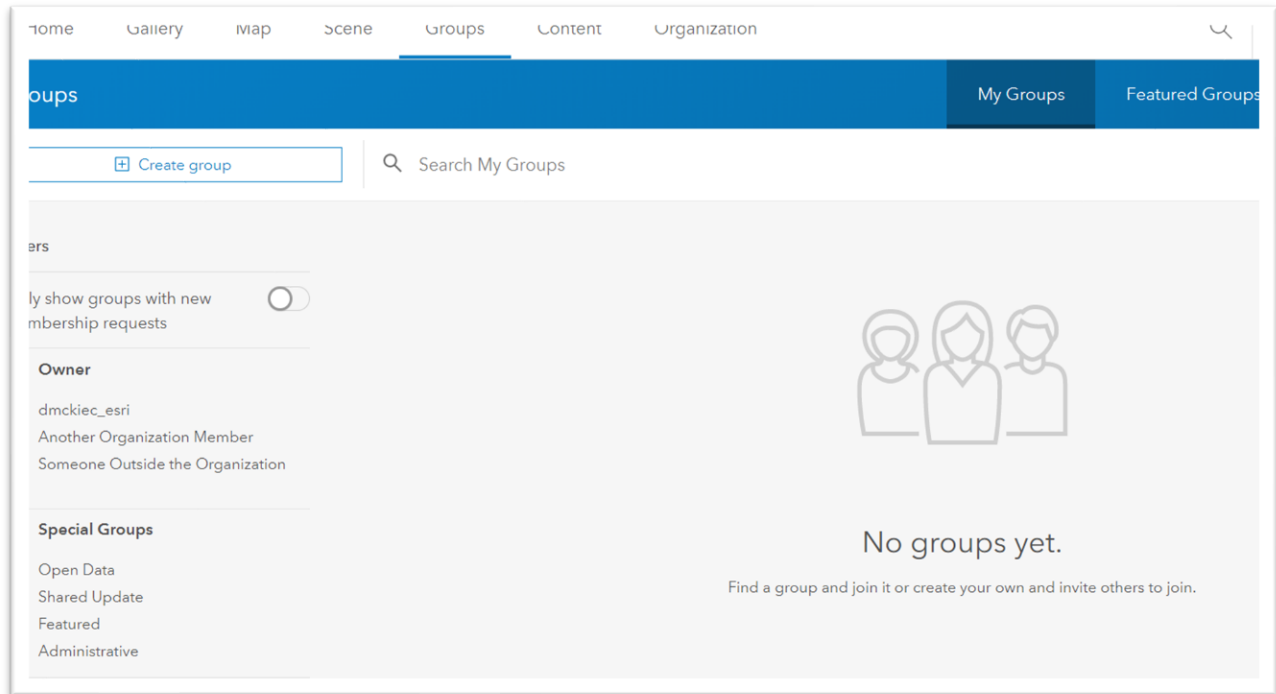
Once you are signed in, you'll arrive at the home page.



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



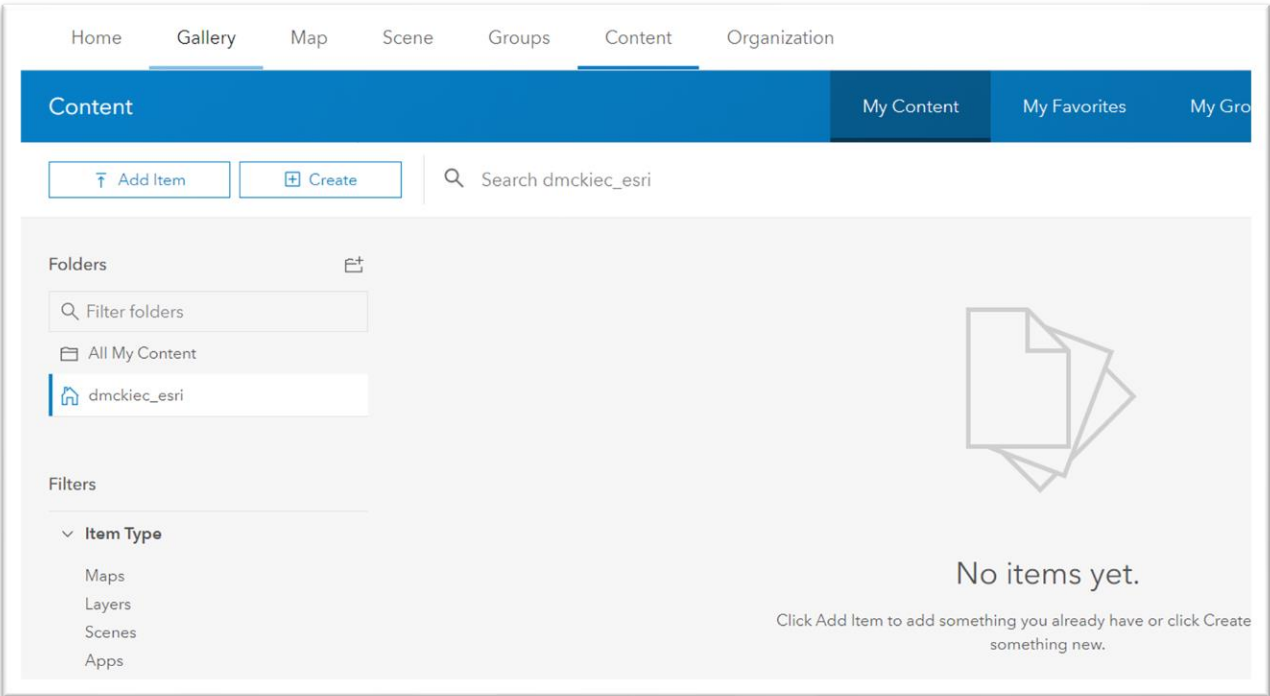
The "Gallery" page is for a person who works in an organization and wants access to the various maps and applications created by her colleagues.



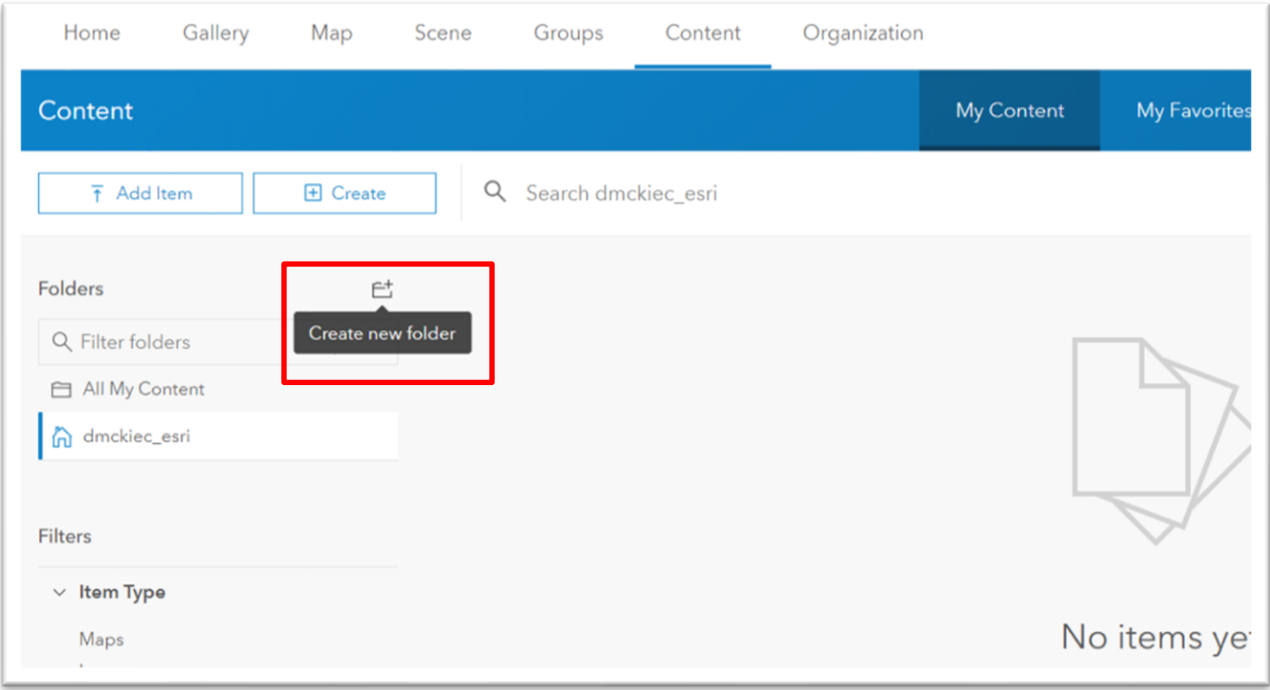
“Group” allows collaboration. For instance, if a data analyst uploads Excel files with COVID-19 data, and a geographic information system specialist uploads shape files with neighbourhood boundaries, a third colleague could use the data and shape file to recreate a colour map with the darker hues representing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



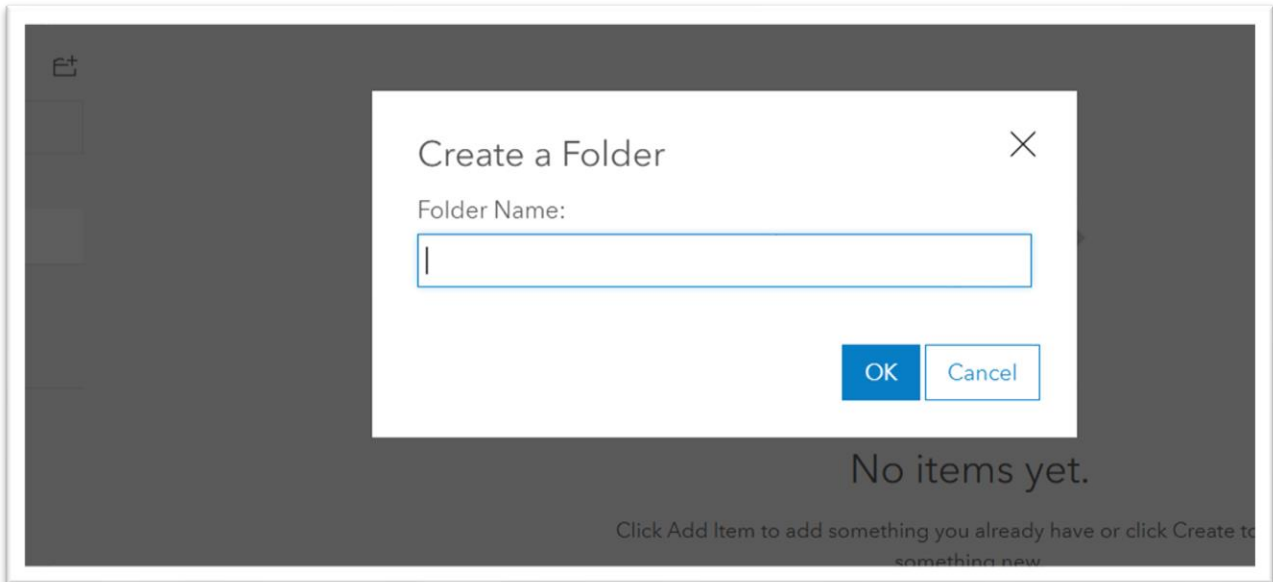
“Organization” is the general information about your account. For instance, the contacts for your account administrator, the individual you can contact with questions.



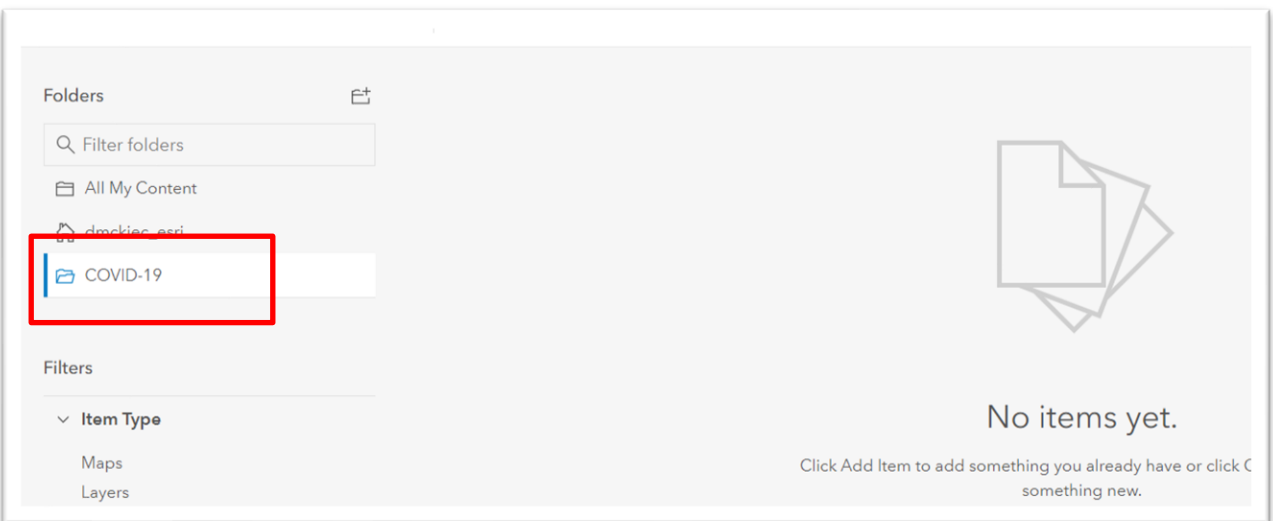
The “Content” page is where you can access your data, maps and applications. Within content, it’s advisable to create folders, just like you’ve been doing for the various projects in pervious exercises.



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



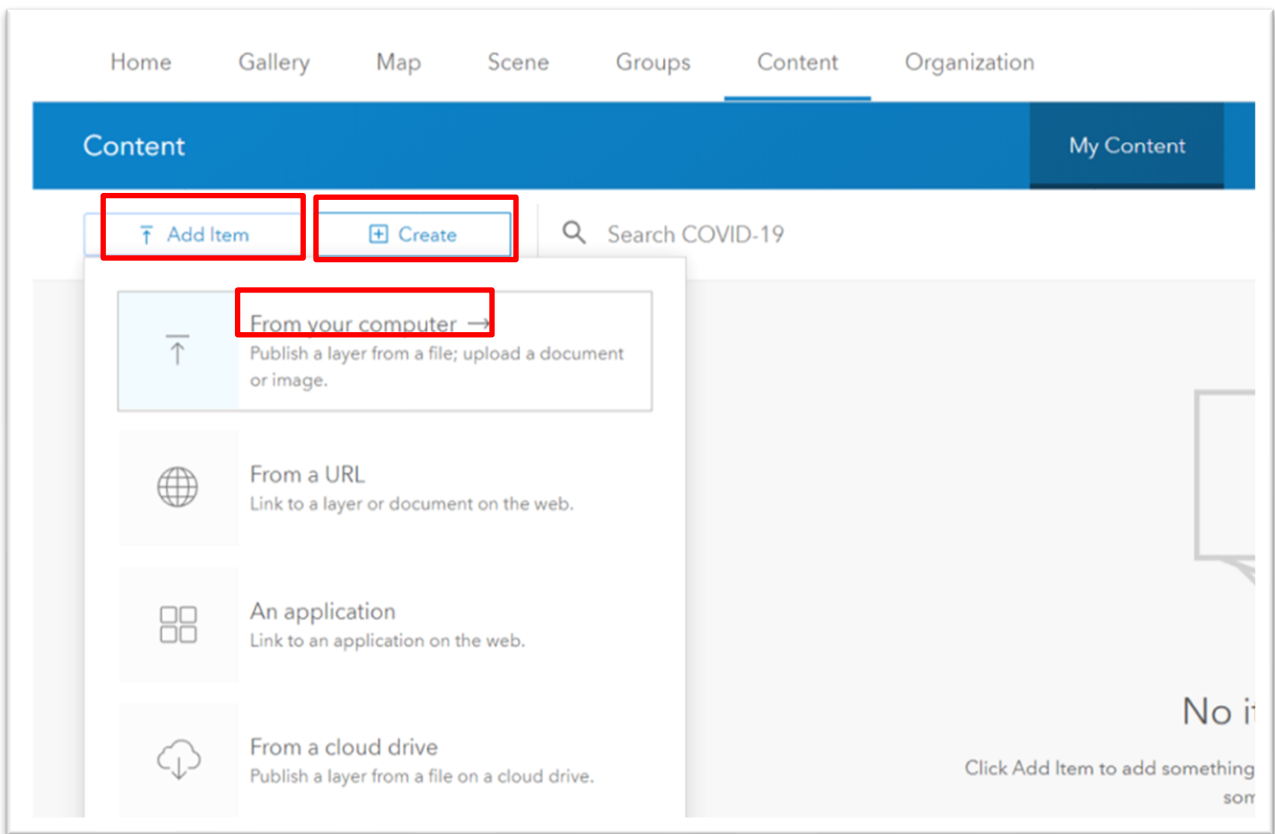
Call it COVID-19.



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.

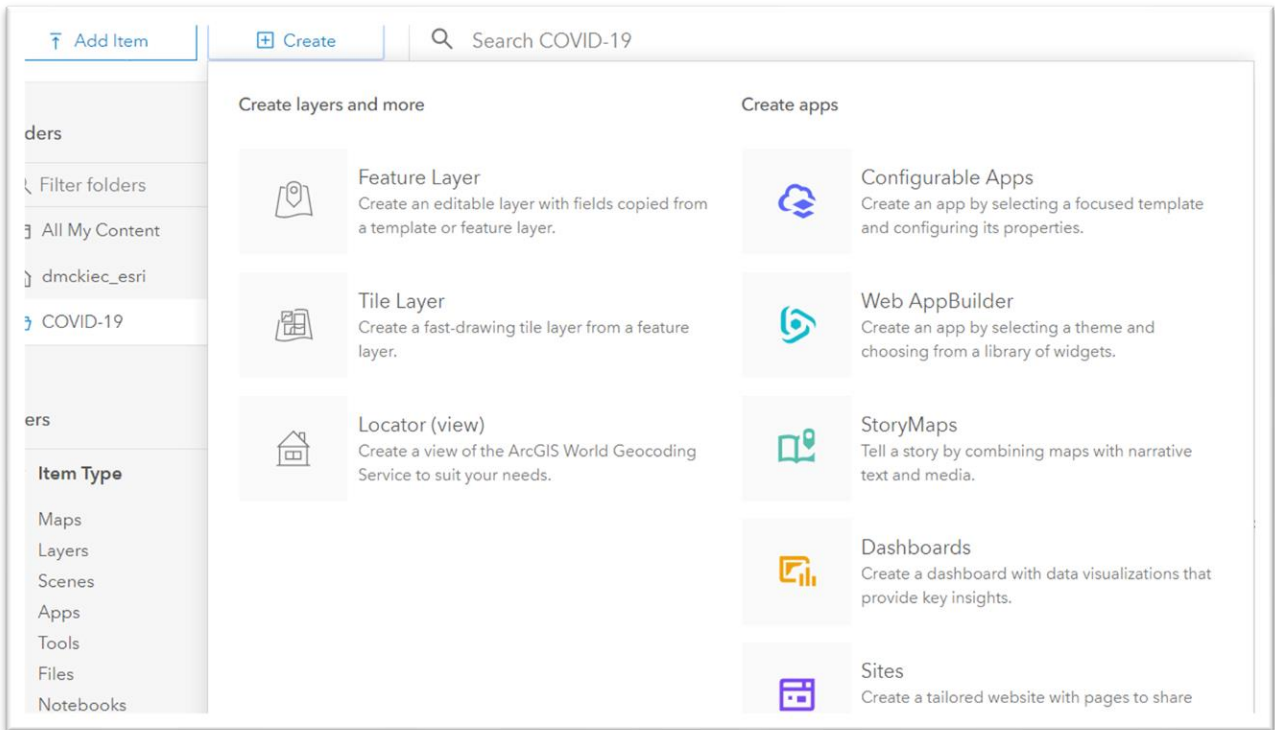
Now if we want to add files from your hard drive.

Click the “Add Item” tab



... and then “From your computer.”

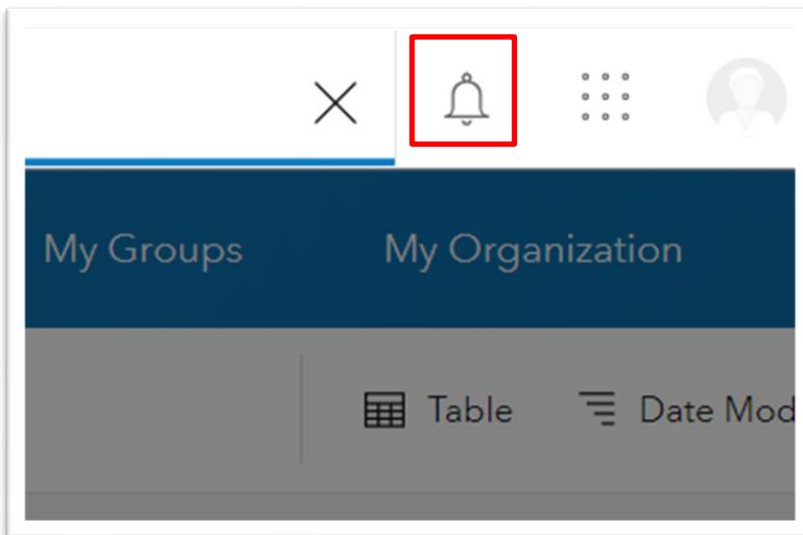
You can also create a layer by selecting the “Create” tab next to “Add Item.”



Here you can create layers or applications.

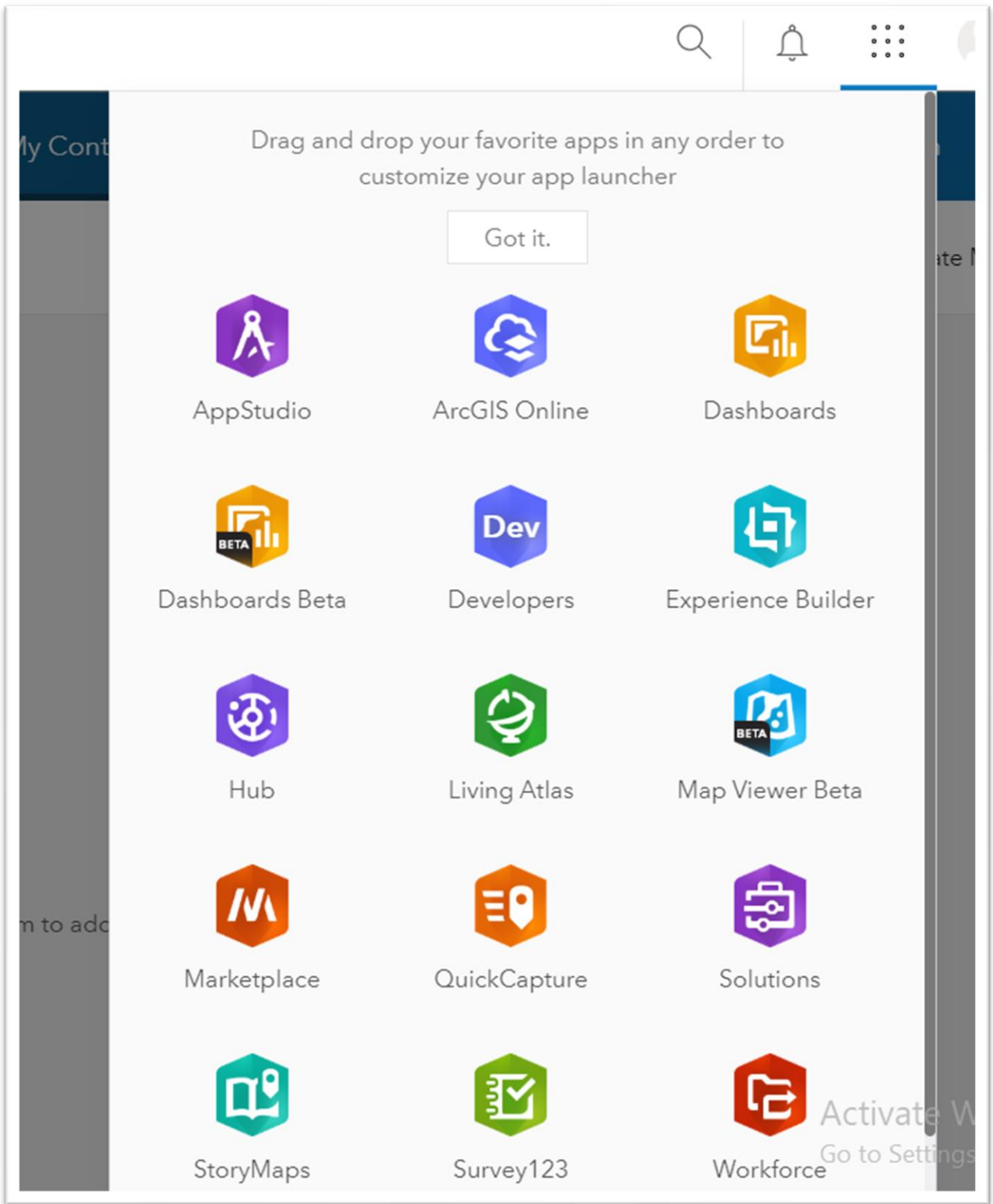
You can also search for other layers that you or other individuals may have created.

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

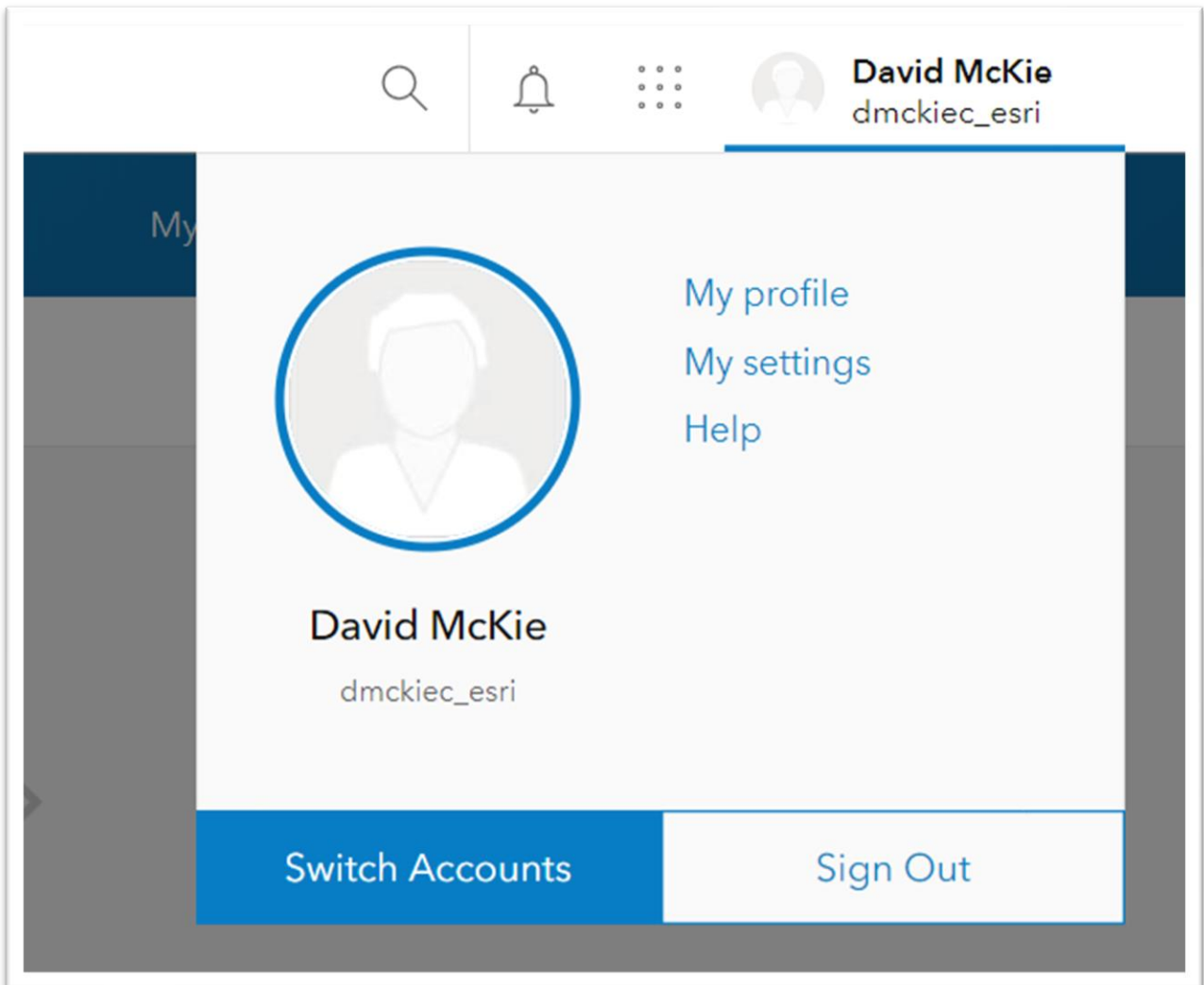


The notification button lets you know when you've been invited to a group. To the right of the notification icon is icon the produces the various applications you can

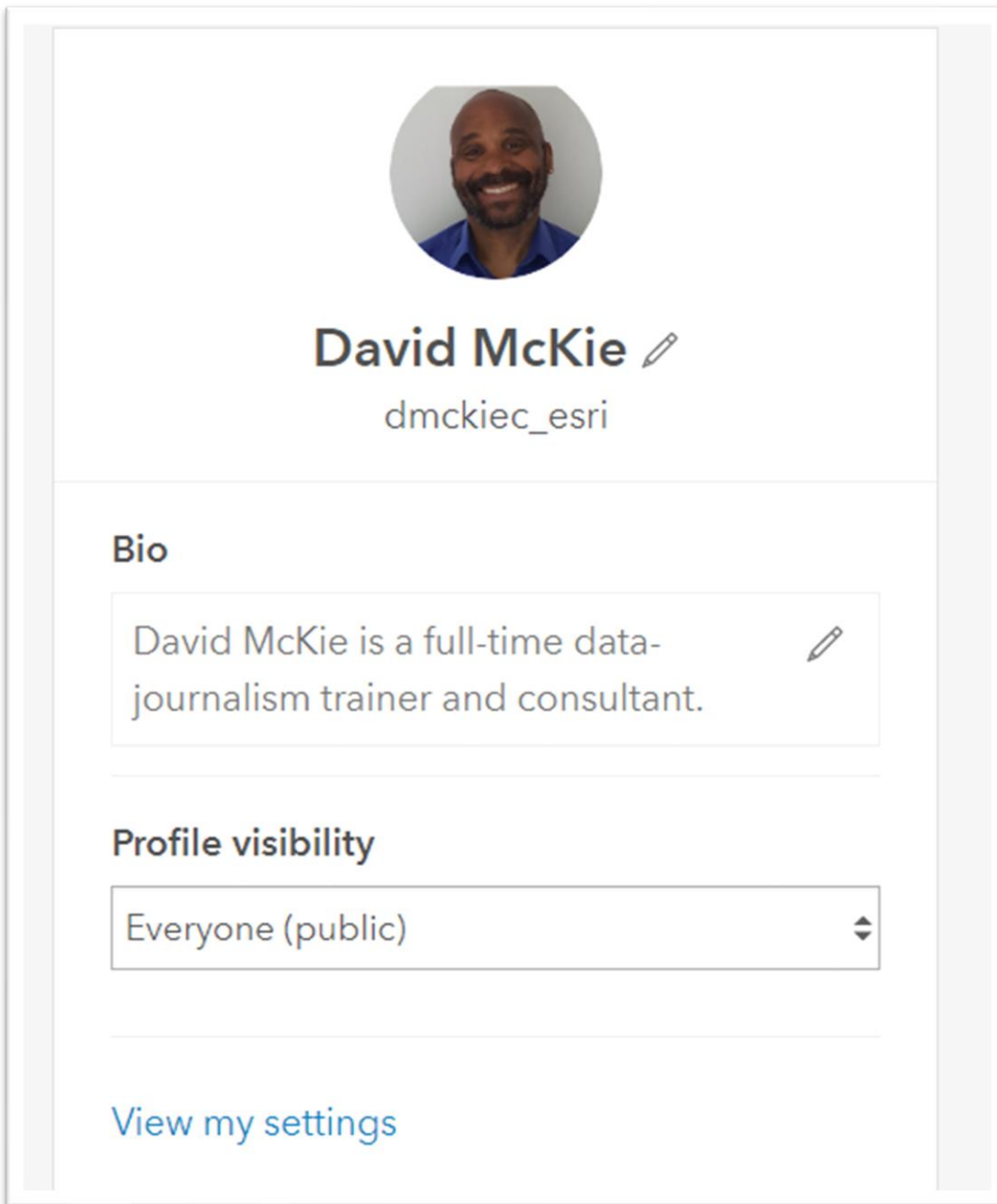
use, depending on the type of license you have.



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 user 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".

Below the name and username, there is a section titled "Bio". The bio text reads: "David McKie is a full-time data-journalism trainer and consultant." To the right of the bio text is a small pencil icon.

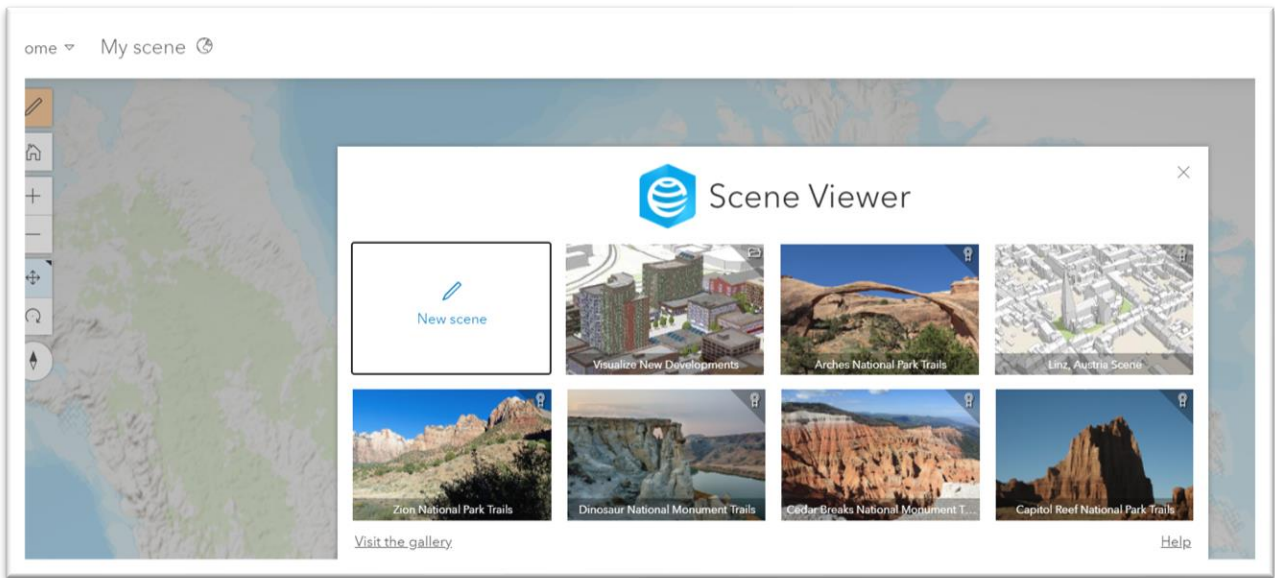
Below the bio, there is a section titled "Profile visibility". Below this title is a dropdown menu that currently shows "Everyone (public)" with a small downward-pointing arrow on the right side.

At the bottom of the profile page, 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.

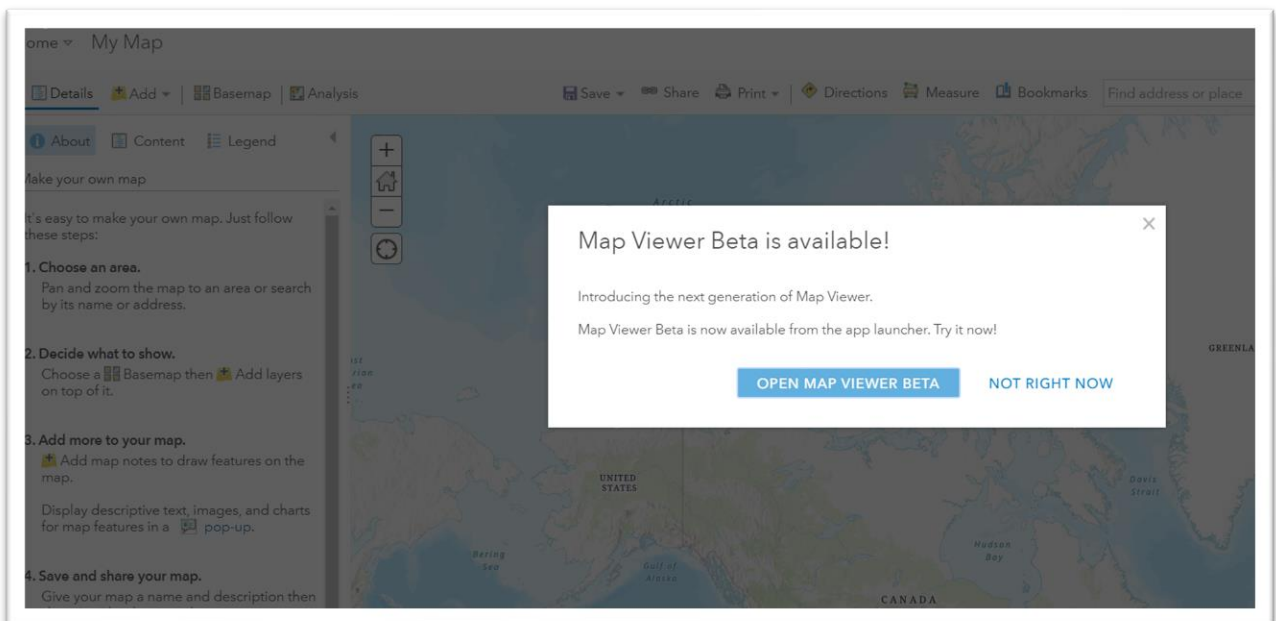
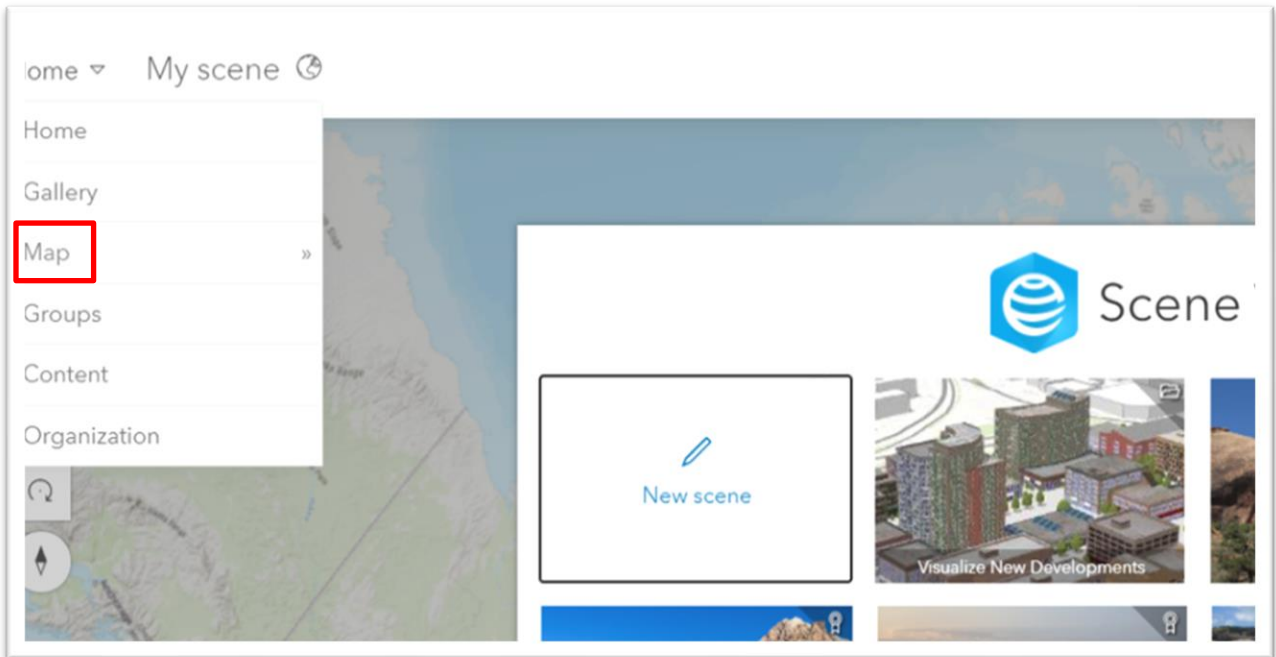
Let's return to the remaining two pages.

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



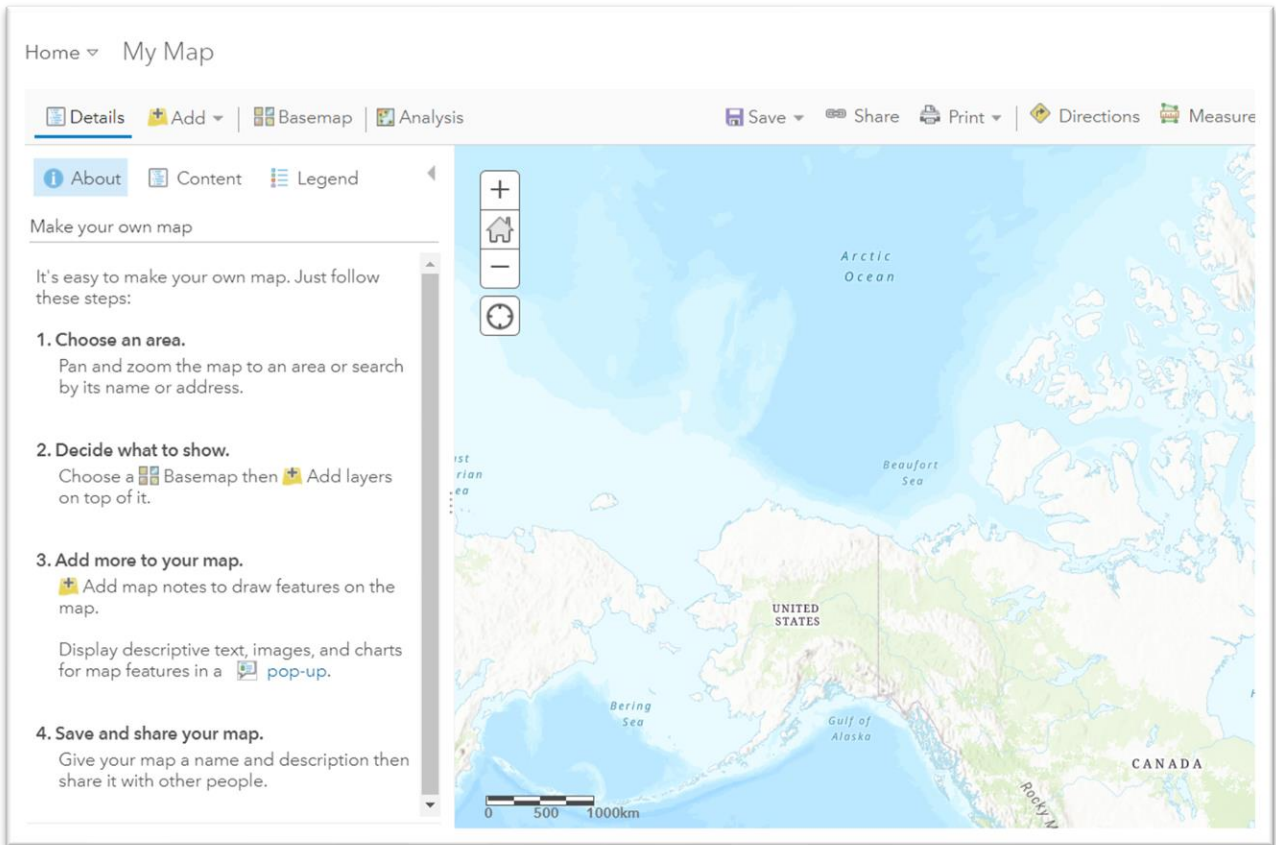
Our focus is two-dimensional maps, but this is a handy tool to be aware of.

We will focus on creating a map.

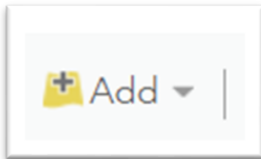


While the folks at ESRI assure us that the “Open Map Viewer Beta” is an exciting option, we won’t worry about it for now.

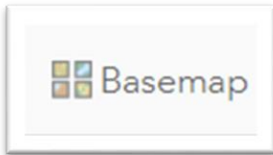
Select “Not Right Now.”



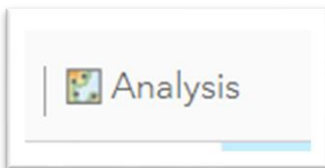
This is the interface where you'll be doing most of your work. You can add data.



Change the background or your map, or base map.



Perform analysis.



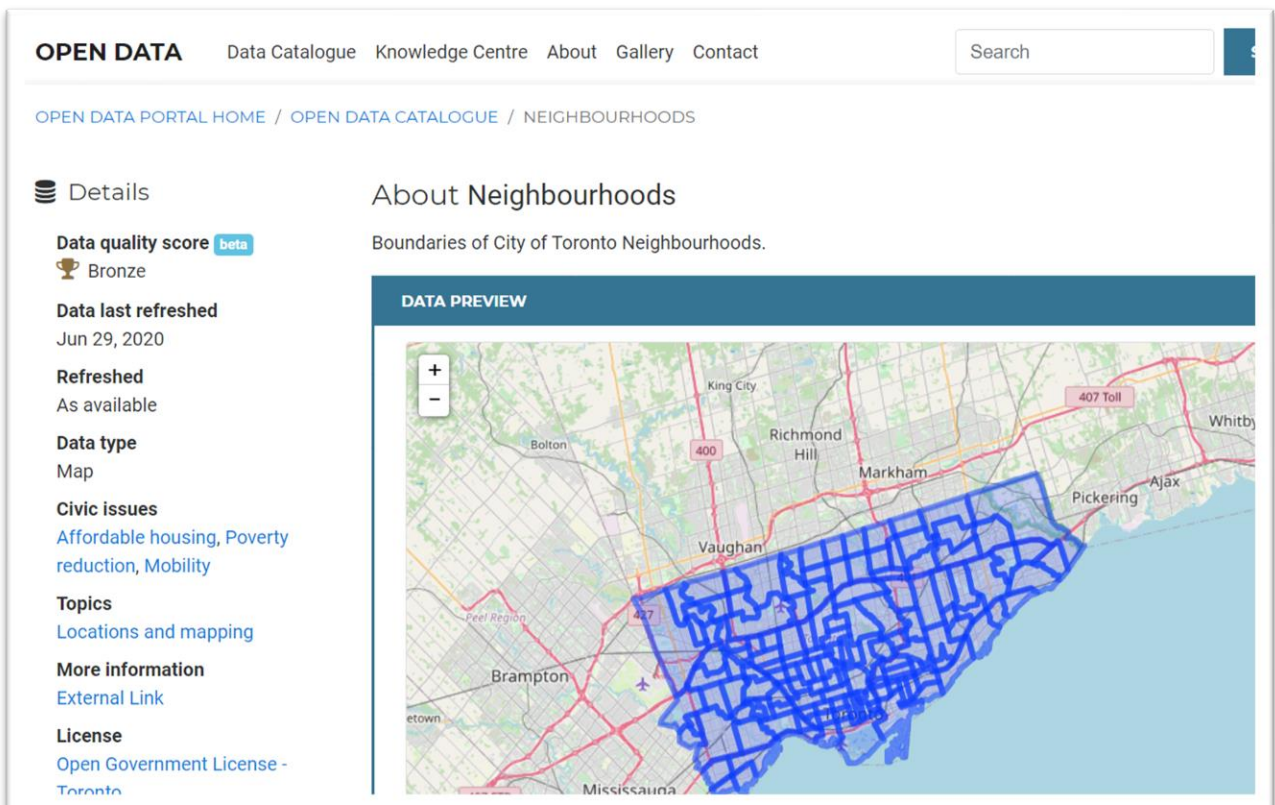
Now it's time to locate data

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/>



OPEN DATA Data Catalogue Knowledge Centre About Gallery Contact Search

OPEN DATA PORTAL HOME / OPEN DATA CATALOGUE / NEIGHBOURHOODS

Details

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

About Neighbourhoods

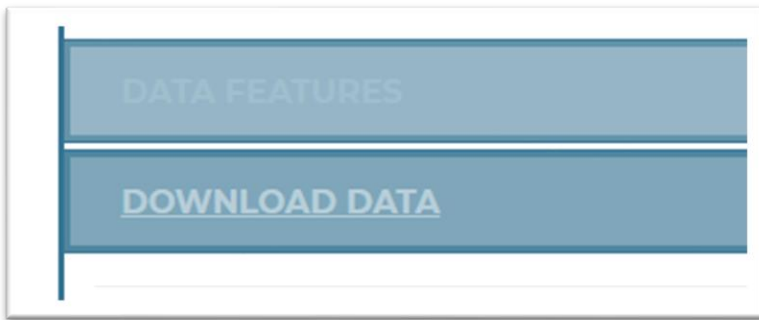
Boundaries of City of Toronto Neighbourhoods.

DATA PREVIEW

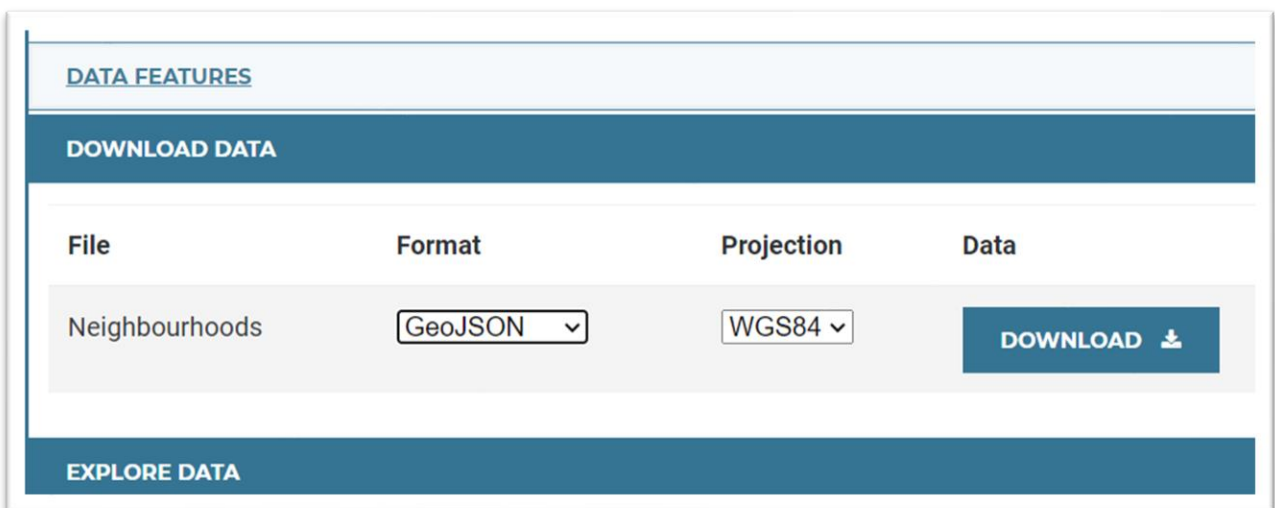


The map shows the geographical boundaries of Toronto's neighbourhoods, with the city's core and surrounding areas highlighted in blue. Labels on the map include King City, Richmond Hill, Markham, Vaughan, Brampton, Mississauga, Pickering, Ajax, and Whitby. Major roads like the 400 and 407 are also visible.

Scroll down to the “Download Data” tab.



You should see an interface that looks like this.

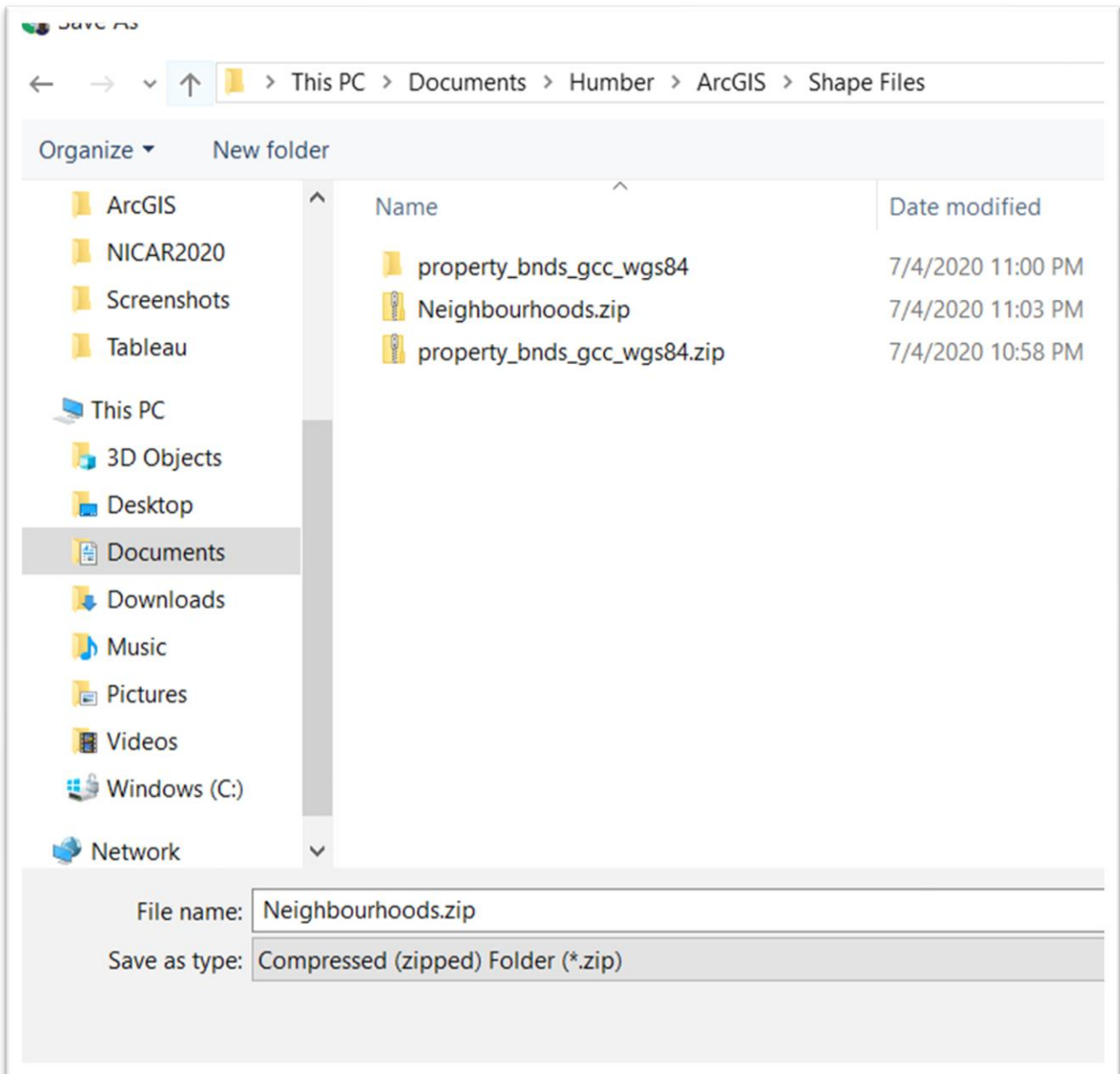


Click the caret to the left of “GeoJSON”.

The image shows a web interface with a blue header bar containing the text "DATA FEATURES". Below this is another blue bar with "DOWNLOAD DATA". The main content area has two columns: "File" and "Format". Under "File", the text "Neighbourhoods" is visible. Under "Format", a dropdown menu is open, showing the following options: "GeoJSON" (with a small downward arrow to its right), "GeoJSON", "CSV", "GeoPackage", and "Shapefile". The "Shapefile" option is highlighted with a blue background. At the bottom of the interface is a blue bar with the text "EXPLORE DATA".

File	Format
Neighbourhoods	GeoJSON ▾ GeoJSON CSV GeoPackage Shapefile

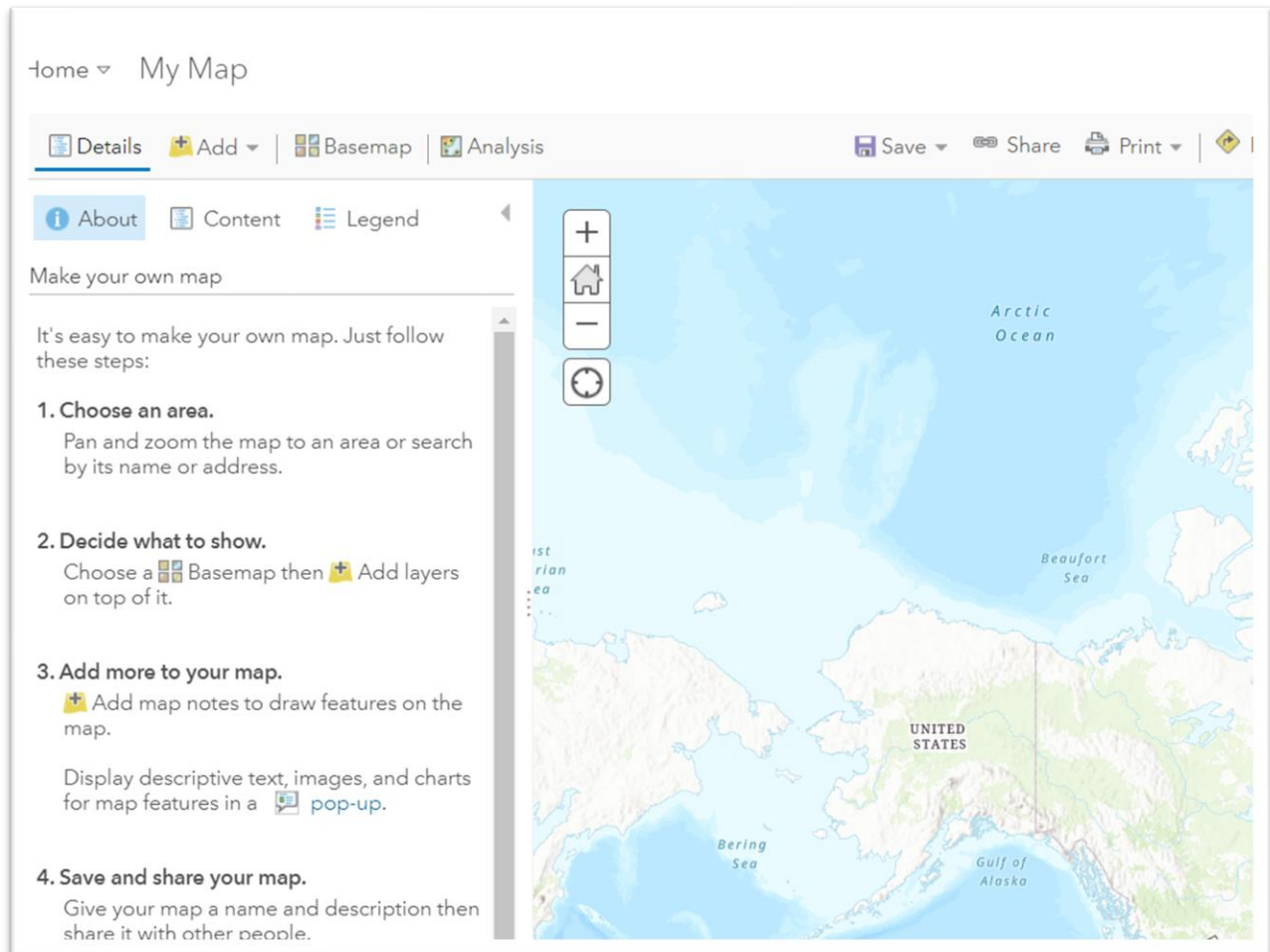
Select “Shapefile.” Save the zipped folder to the folder you’ve created for this tutorial.



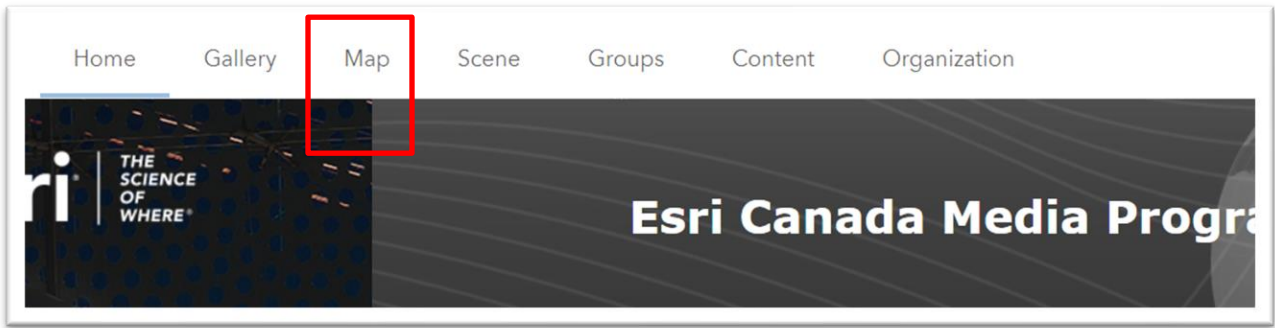
Before we go much further, a quick word about a shape file. As we explain on page 121 of *The Data Journalist*, a Shape file is a map file format developed by Esri, and it is made up of several files, including the ones with the extensions .shp, .shx and .dbf. The .shp file contains the geographical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

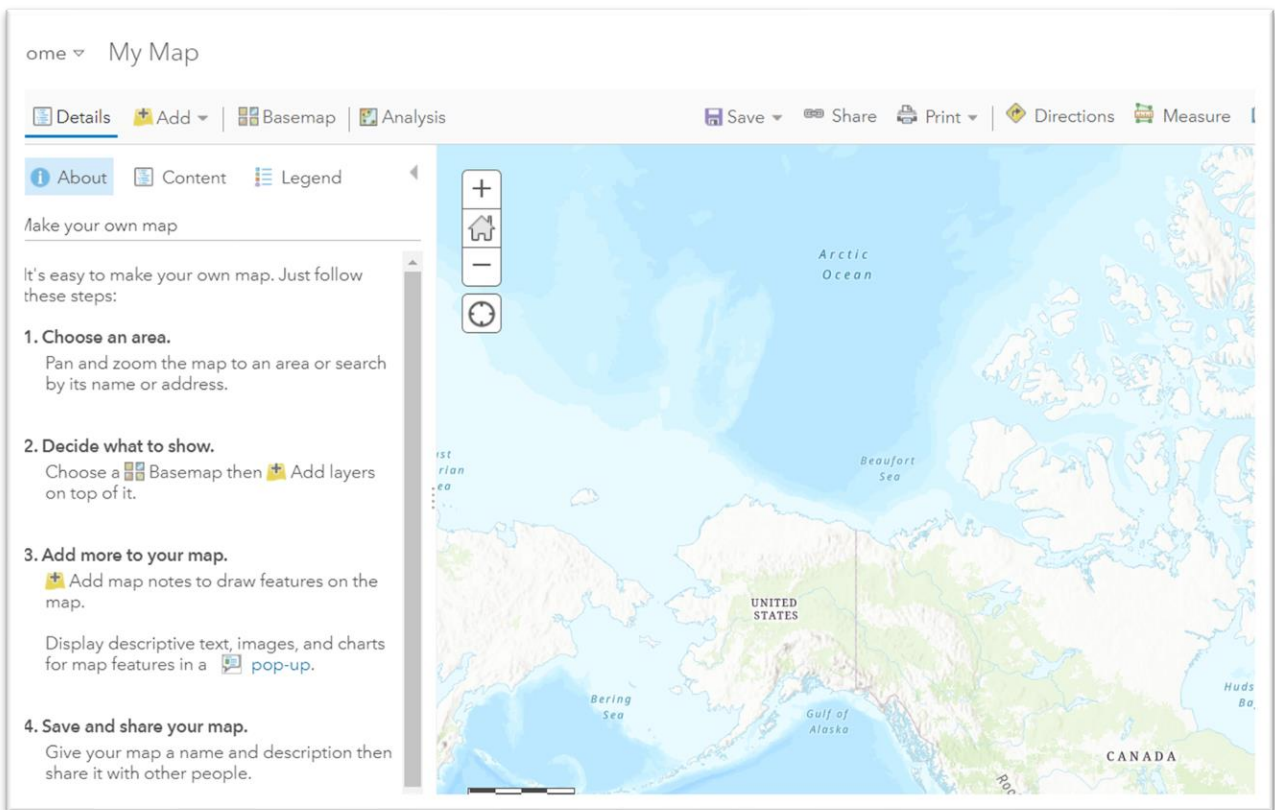
Once you've downloaded, return to the ArcGIS Online page. If you're still in the map view section. Stay there.



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.

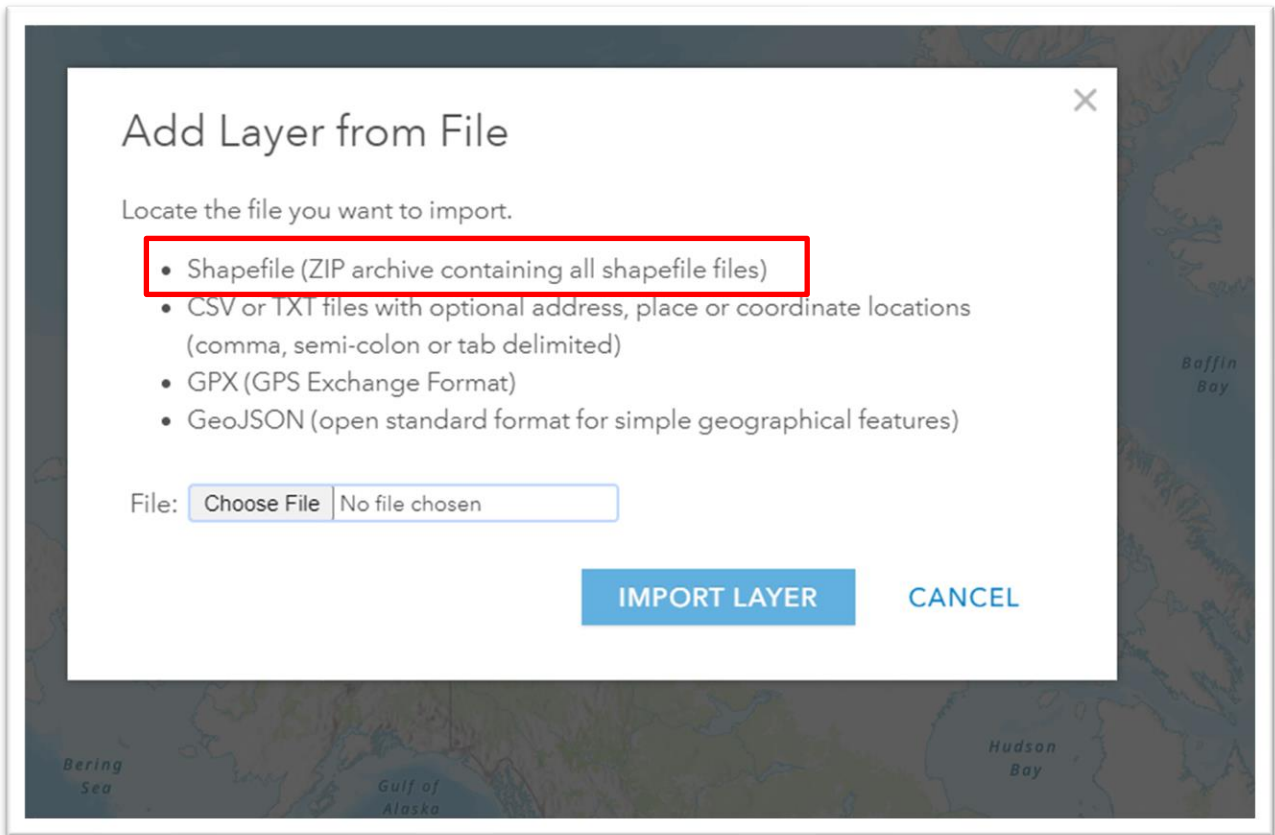
My Map

ails **+ Add** | Basemap | Analysis

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

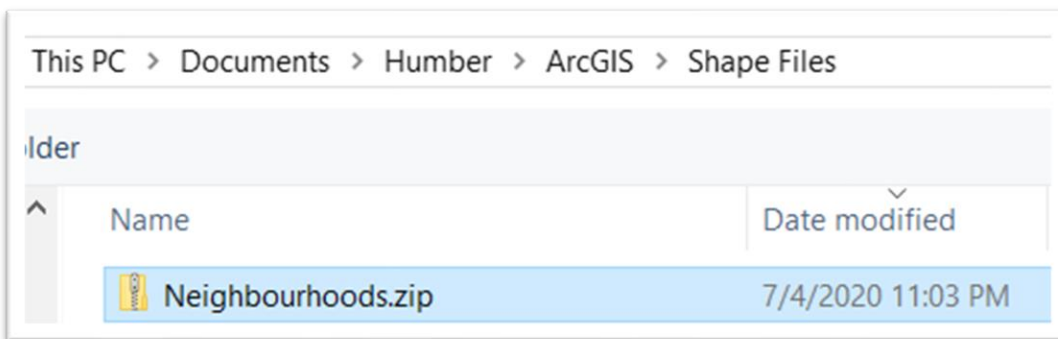
and zoom the map to an area or search
; name or address.





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

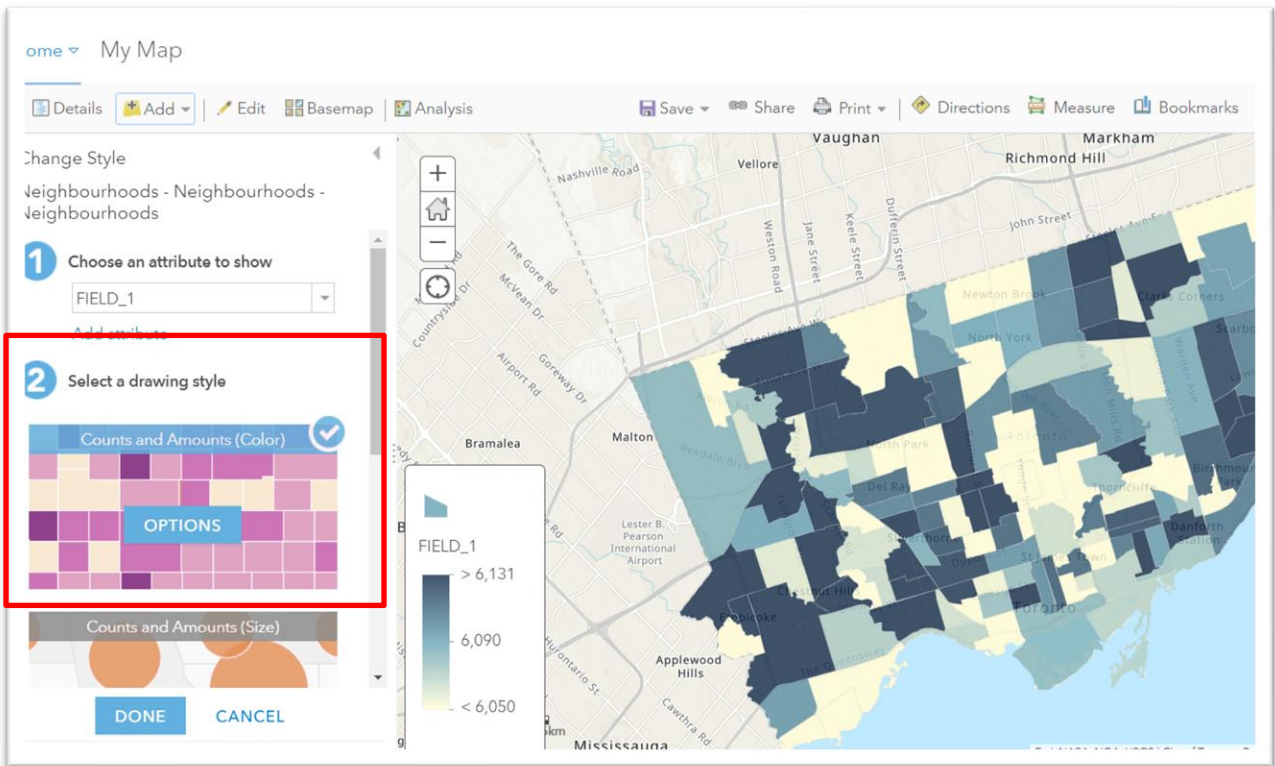
Gulf of
Alaska

Bay

CANADA

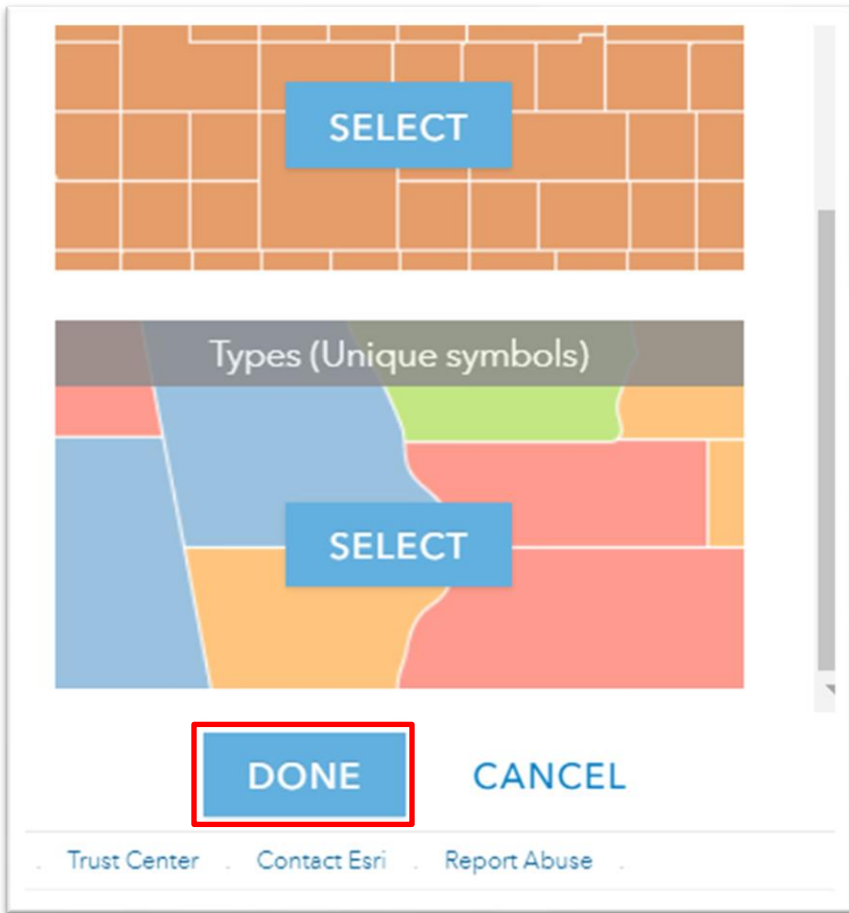
Baffin
Bay

Select the defaulted option, “Counts and Amounts (Color)”, because it allows for a quicker display of your map.

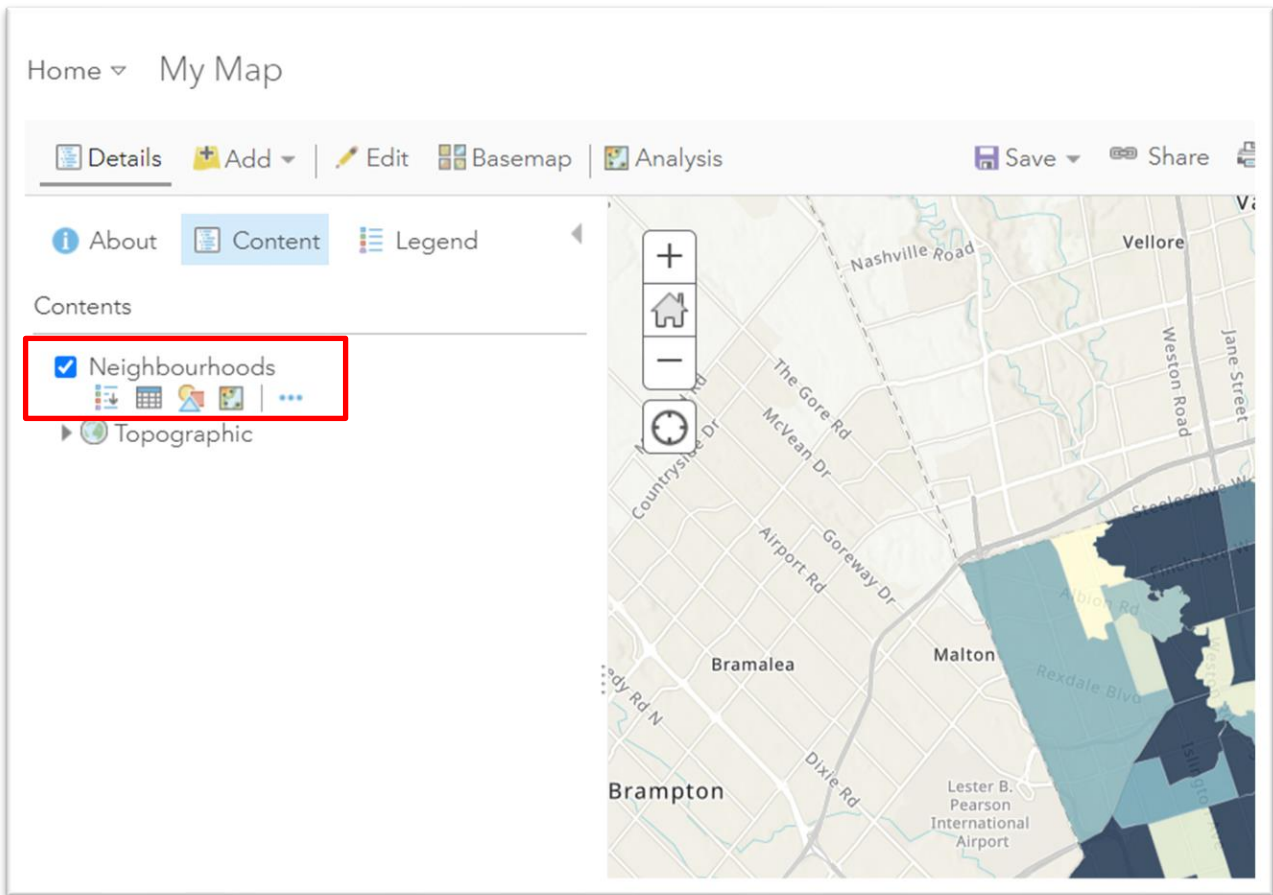


Importing the data takes you to a styling panel on the left. The default option is the one we want because it uses shades of shades on a colour ramp to identify neighborhoods with the higher numbers. The darker the number, the higher the concentration. For now, leave it as it is.

We don't want the “Counts and Amounts (Size)” or the “Location (Single symbol)” option.

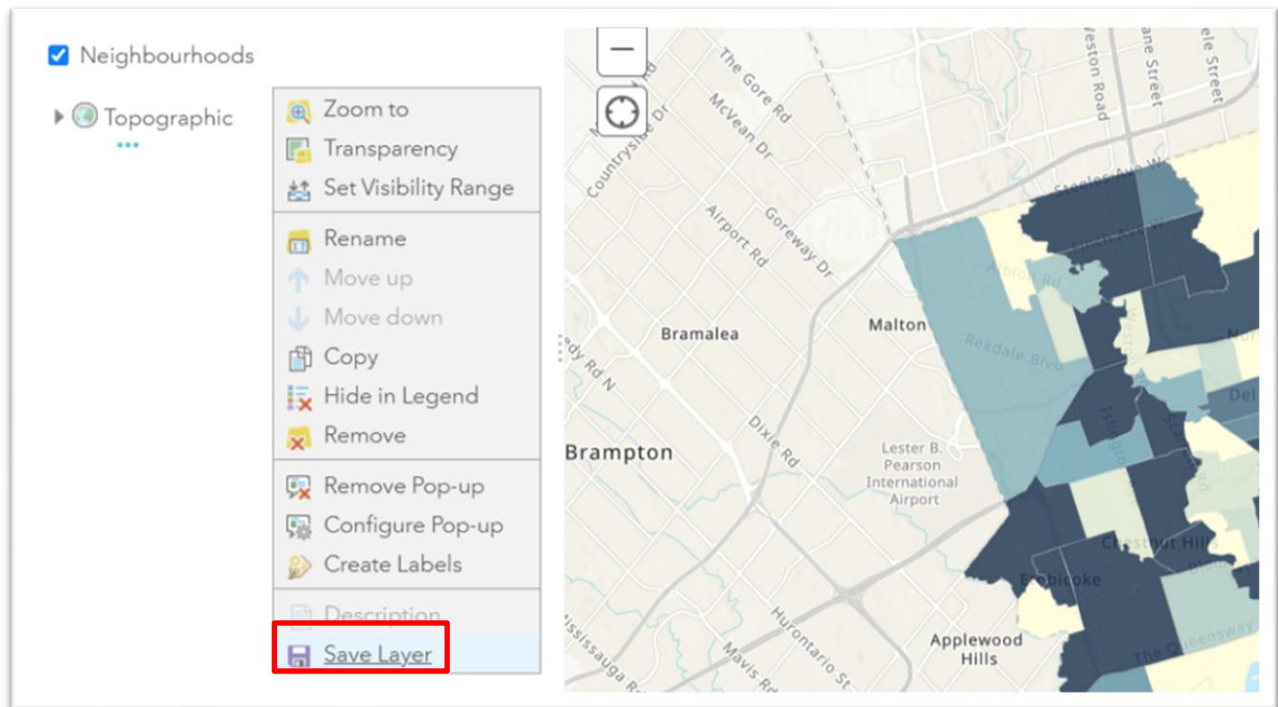


Select the “Done” tab at the bottom of your panel to the left.



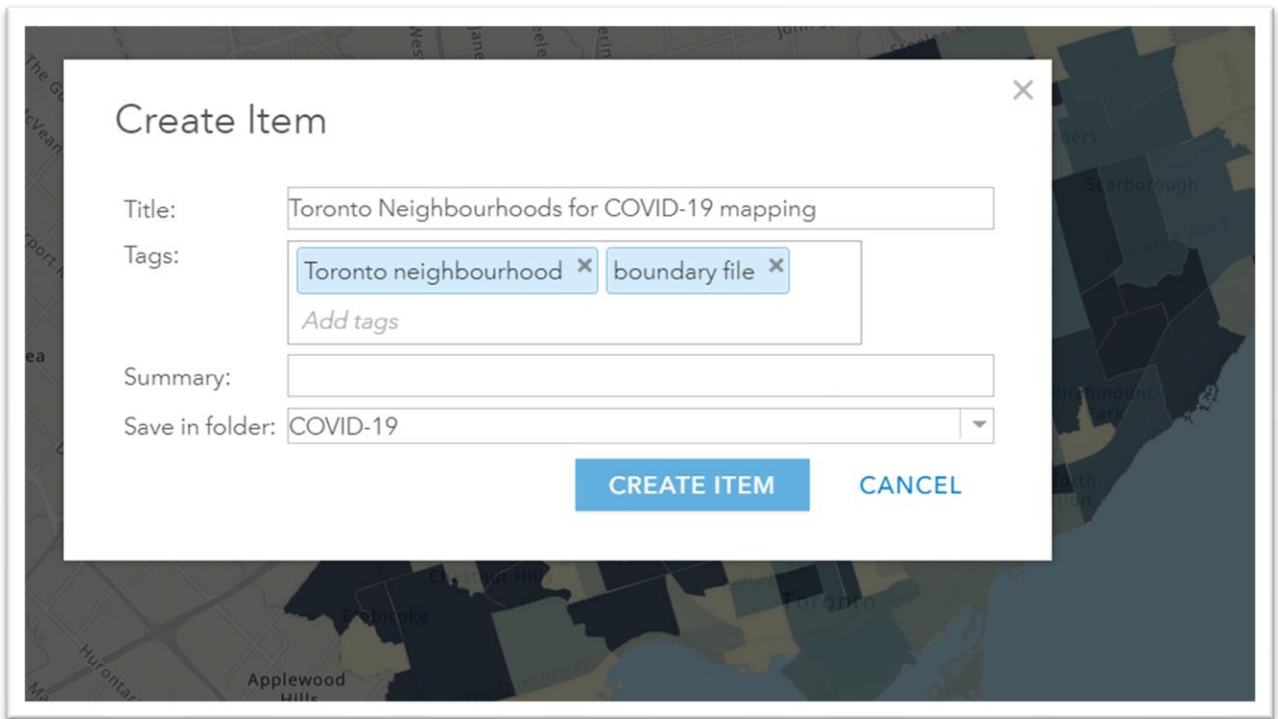
This temporary layer called “Neighbourhoods” is displayed on the map to the right. Layers are what make maps very powerful. Good maps display multiple layers, which is why they are more powerful than data visualization tools.

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.



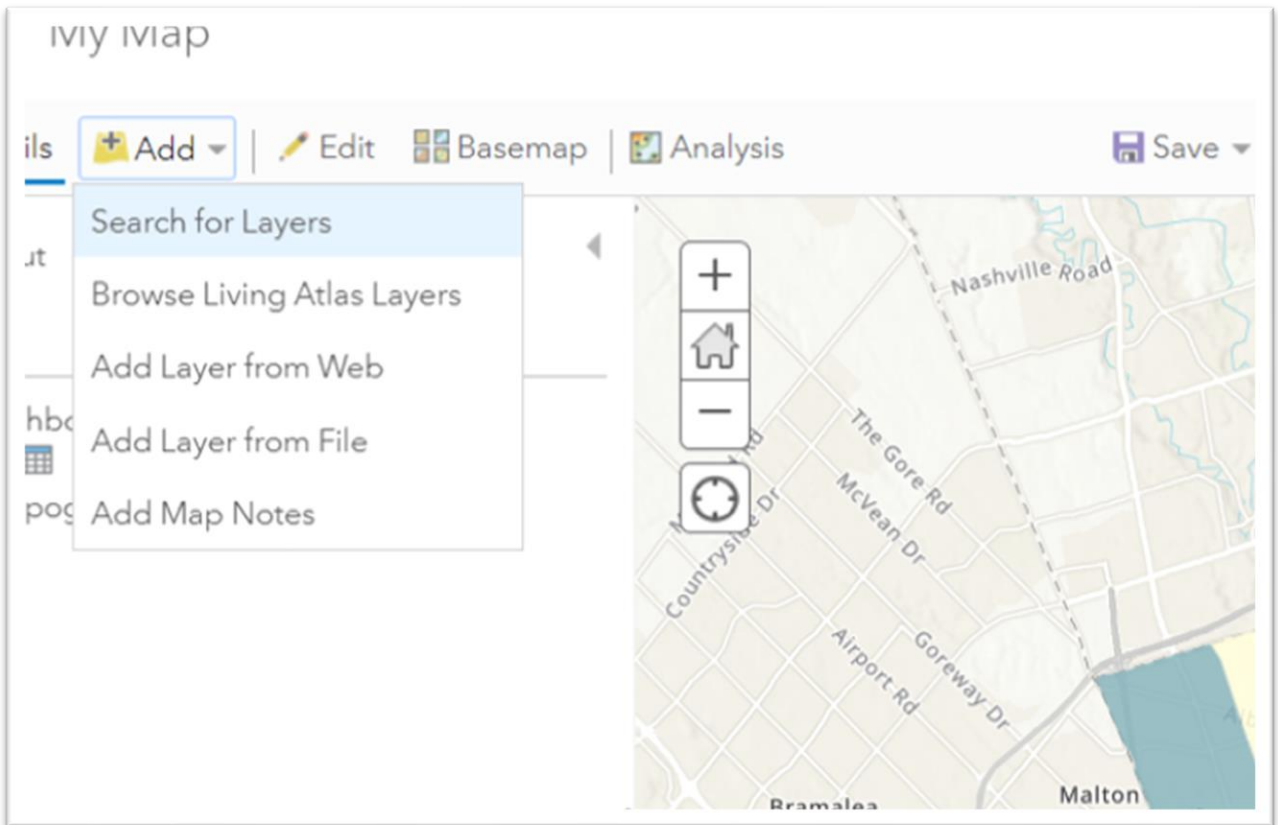
The image shows a 'Create Item' dialog box overlaid on a map of Toronto. The dialog box has a title bar with a close button (X) in the top right corner. It contains the following fields and controls:

- Title:** A text input field containing 'Toronto Neighbourhoods for COVID-19 mapping'.
- Tags:** A container with two tag boxes: 'Toronto neighbourhood' and 'boundary file', each with a close button (X). Below the tags is a link that says 'Add tags'.
- Summary:** An empty text input field.
- Save in folder:** A dropdown menu currently showing 'COVID-19'.
- Buttons:** Two buttons at the bottom: 'CREATE ITEM' (highlighted in blue) and 'CANCEL'.

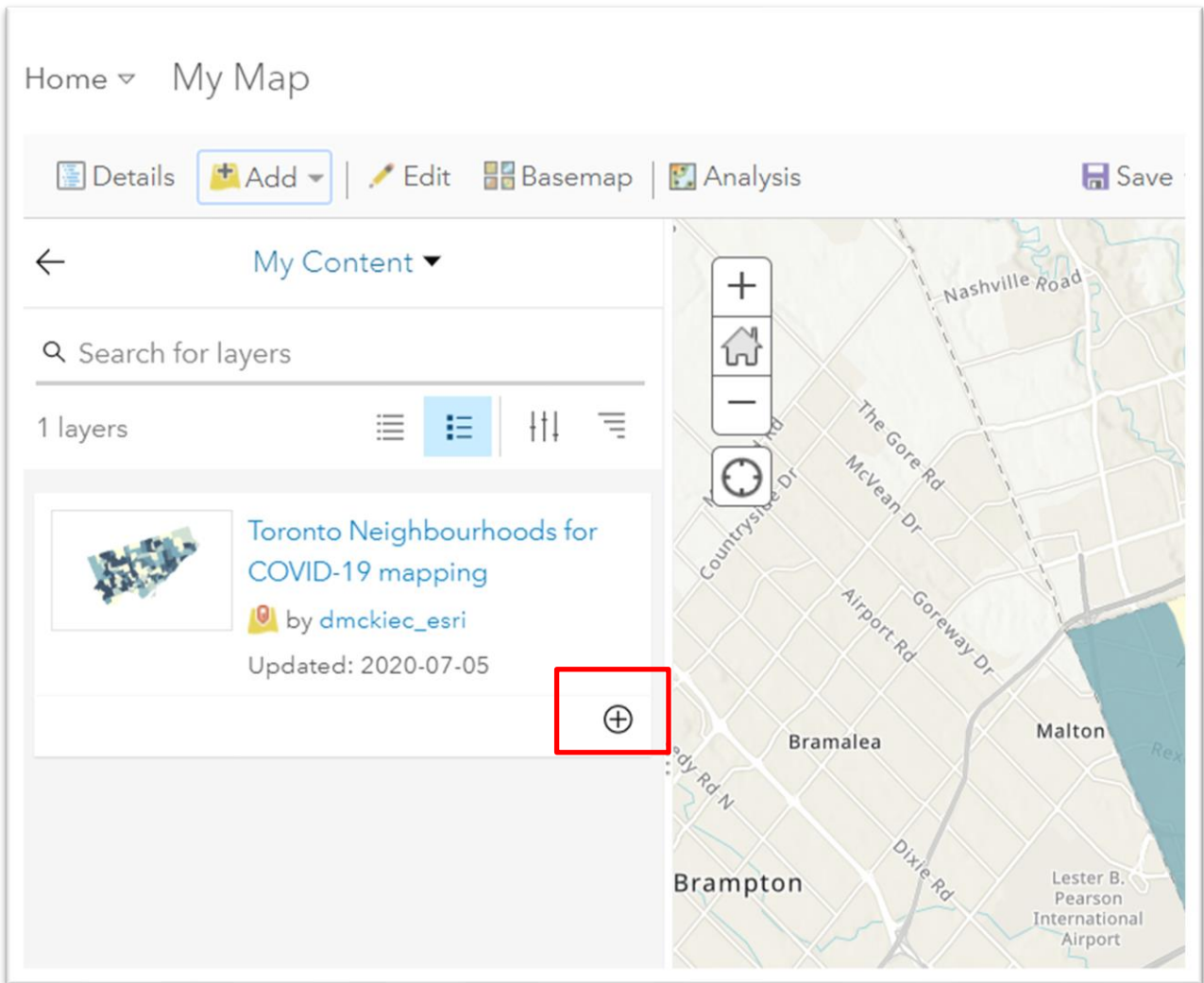
Select Create Item.

Now we can import this layer.

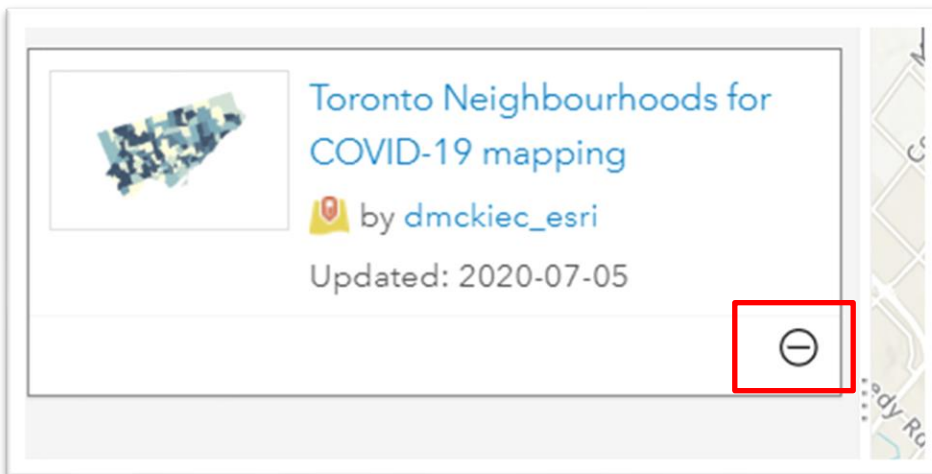
Return to the add button.



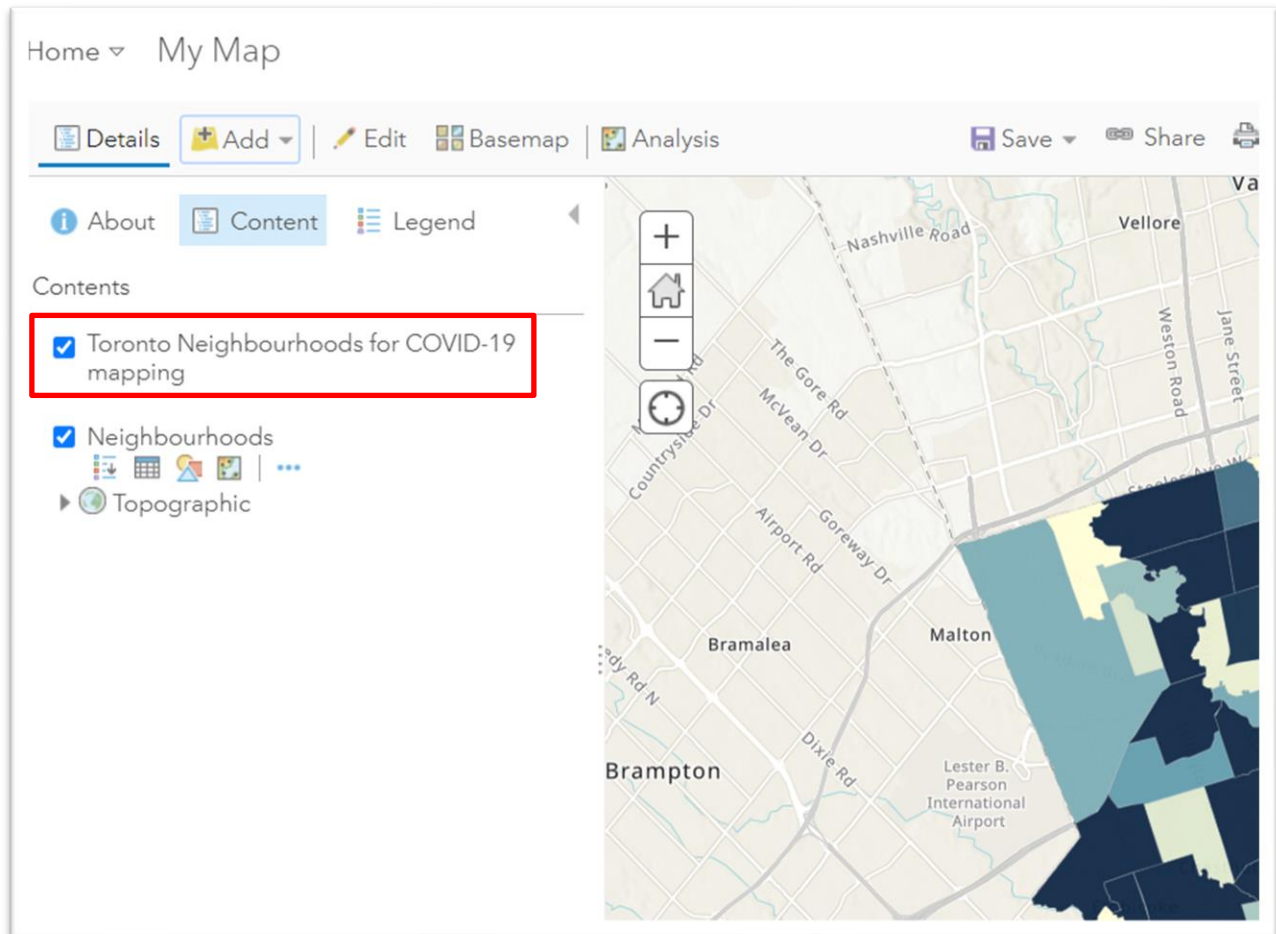
Your layer will appear as the first or most recent one.



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

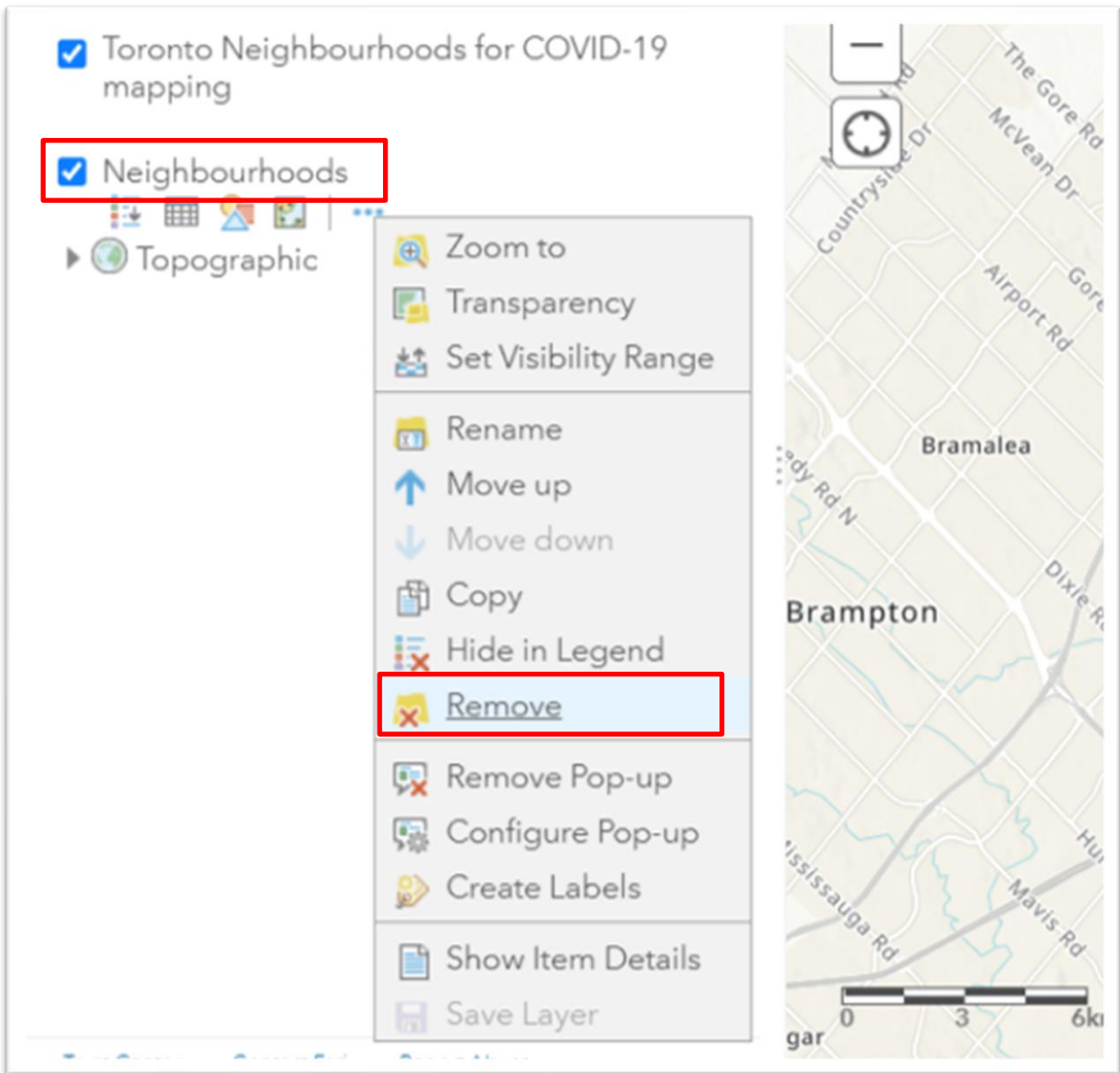


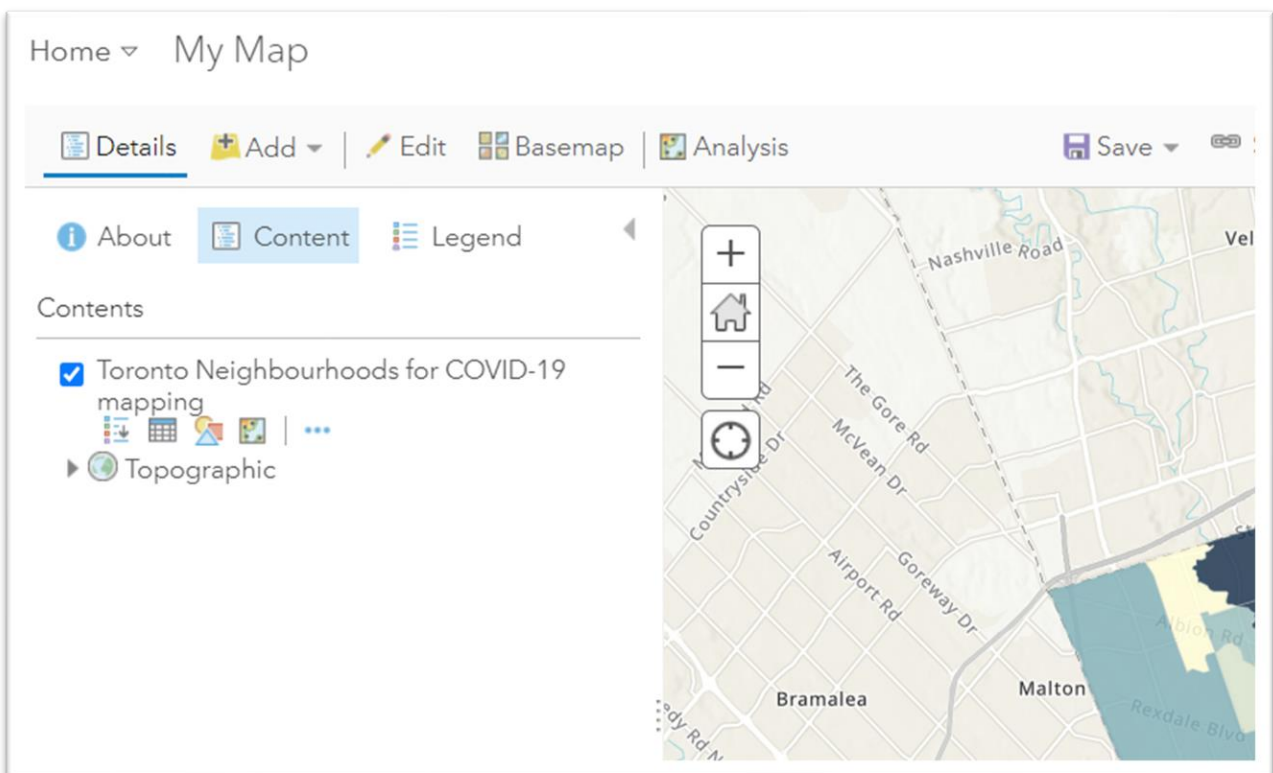
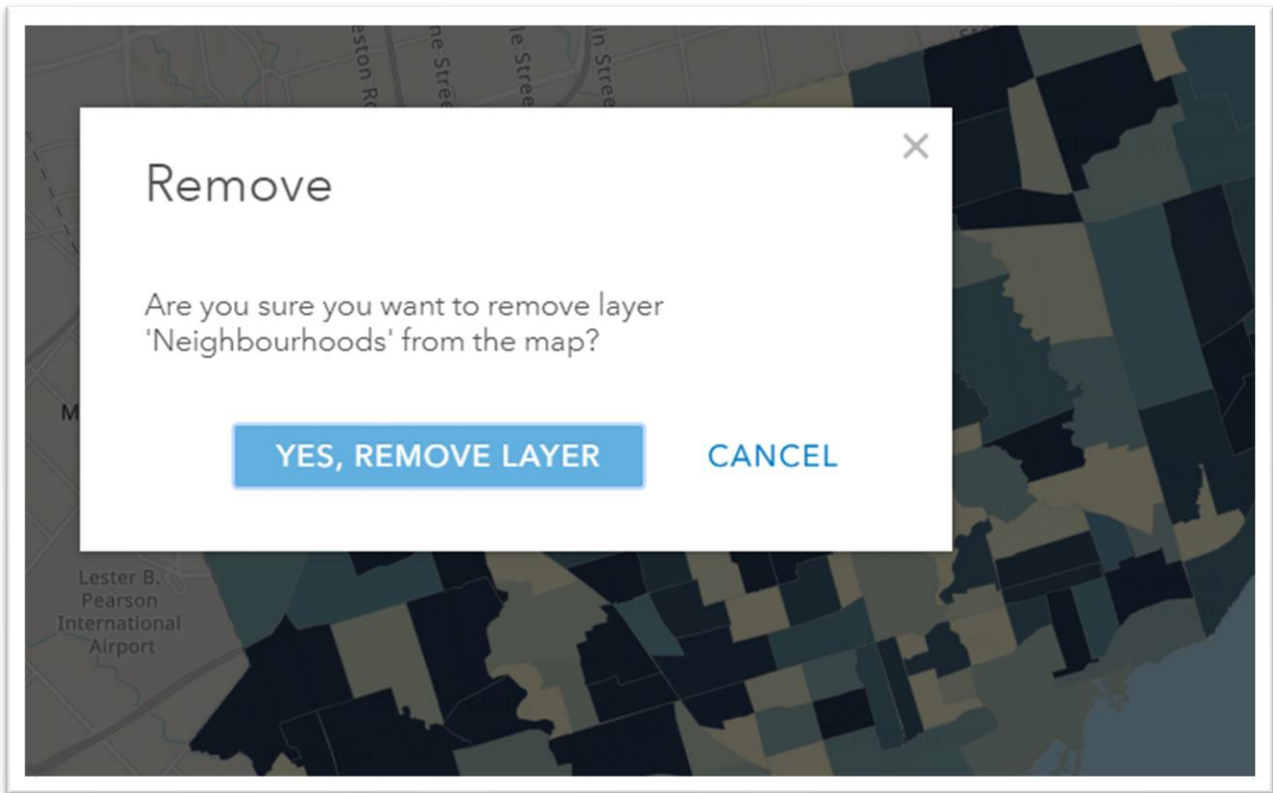
Return to your layer section (by clicking the arrow pointing to the left) that contained the temporary layer we first created to see the additional, new layer.



You can see the new layer.

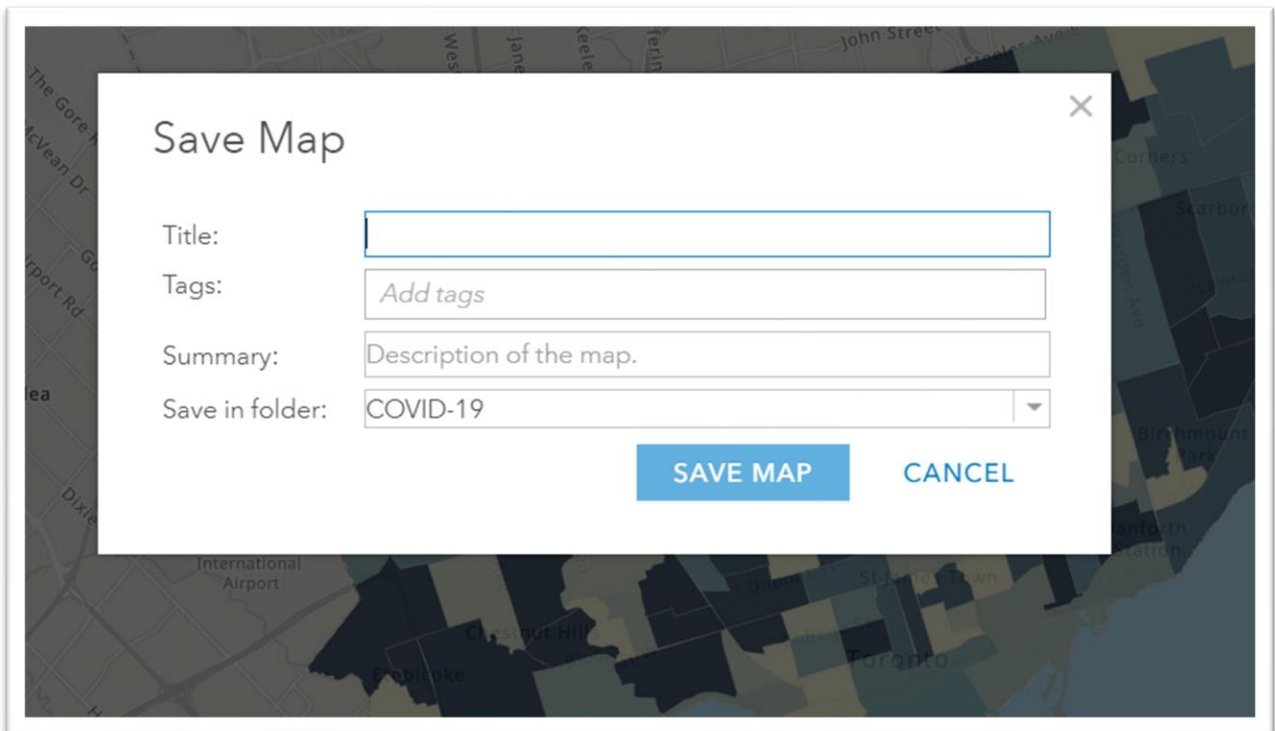
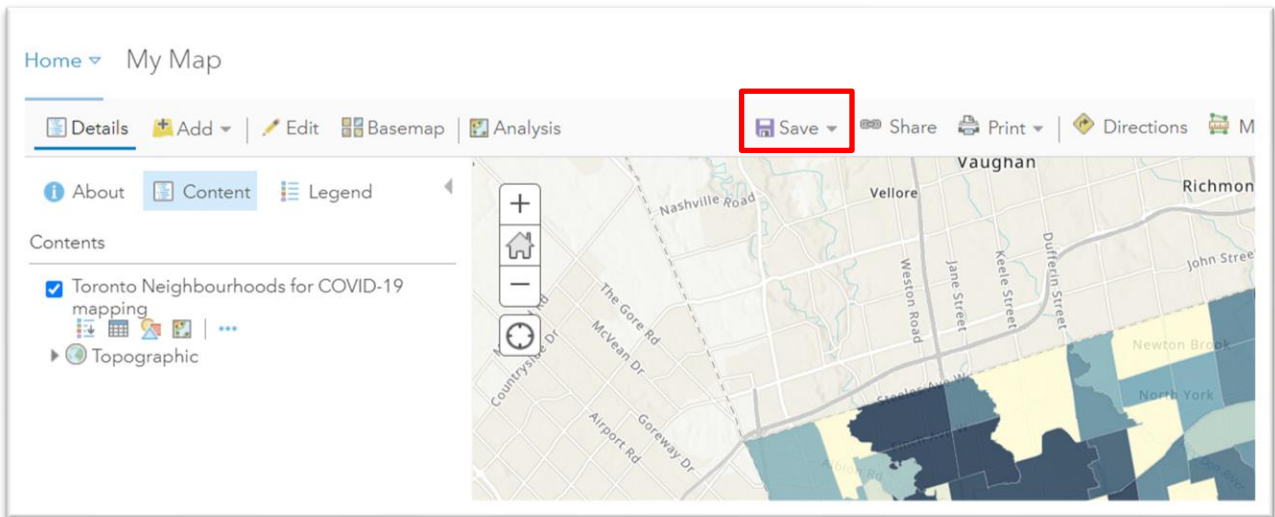
Remove the temporary neighbourhood layer.



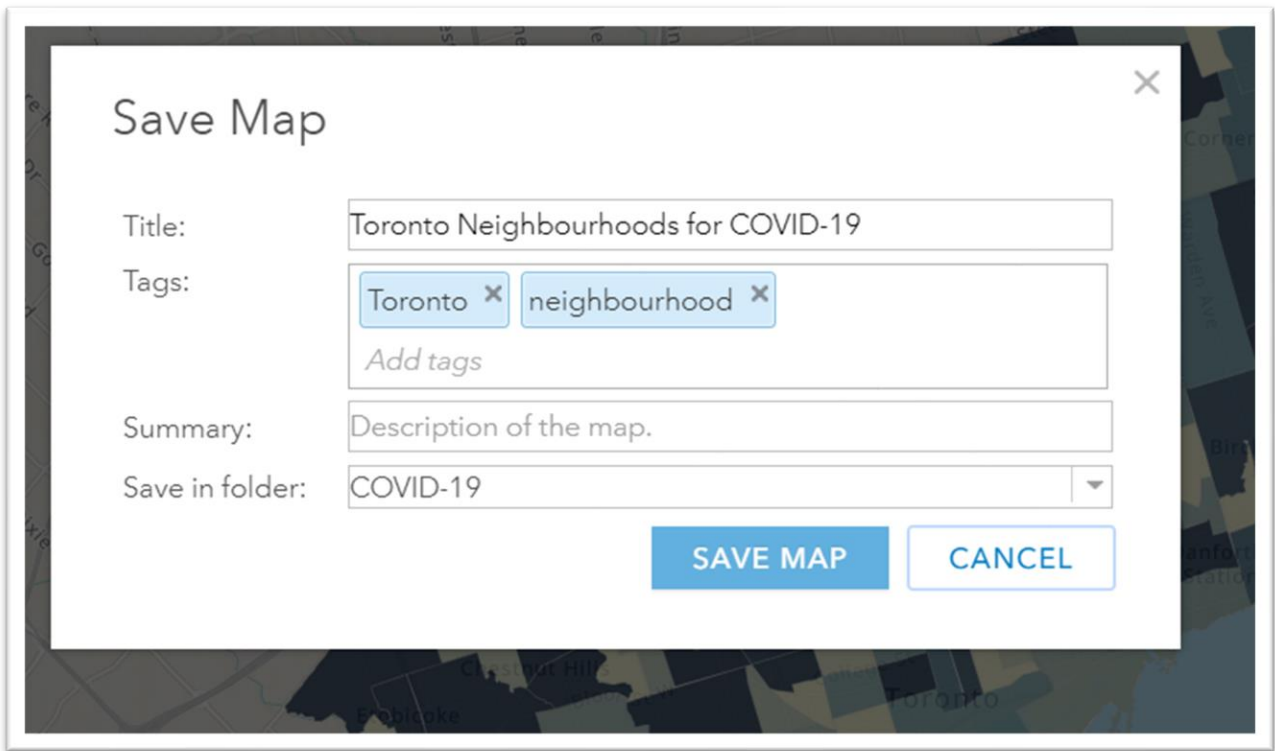


Now it's time to save the map.

Select the save icon in the menu above the map.



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

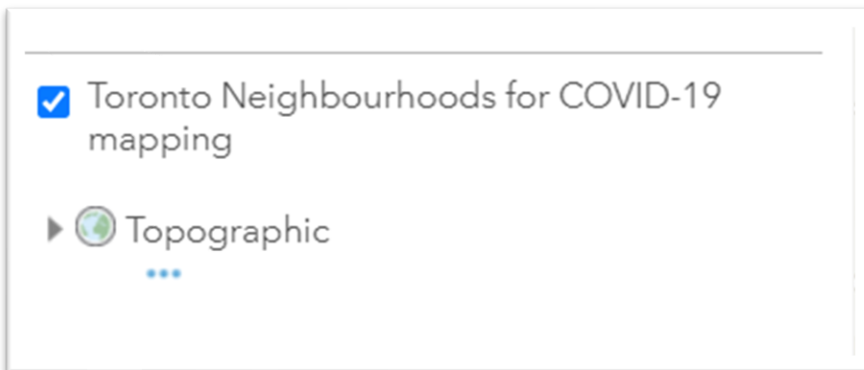


The image shows a 'Save Map' dialog box with the following fields:

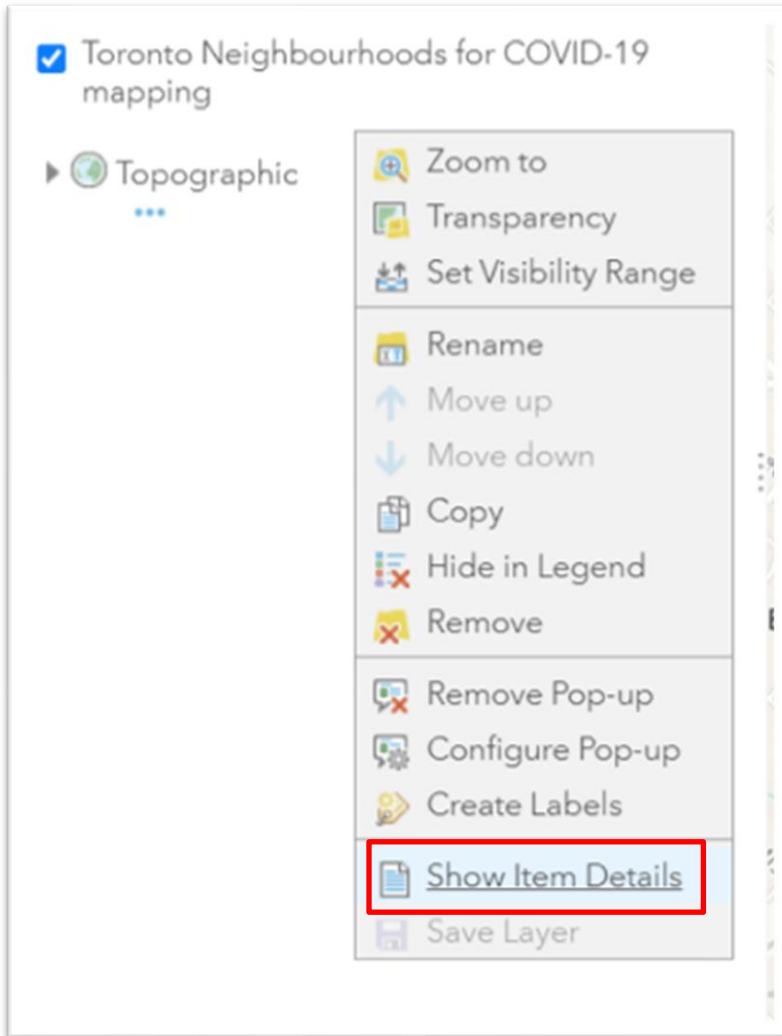
- Title: Toronto Neighbourhoods for COVID-19
- Tags: Toronto, neighbourhood
- Summary: Description of the map.
- Save in folder: COVID-19

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.
- User Profile:** David McKie (dmckiec_esri).
- Item Title:** Toronto Neighbourhoods for COVID-19 mapping.
- Overview Tab:** Overview, Data, Visualization, Usage, Settings.
- Thumbnail:** A map thumbnail showing Toronto neighborhoods. Below it is an "Add to Favorites" button.
- Summary:** "Add a brief summary about the item." It includes a "Feature Layer by dmckiec_esri" badge, creation and update dates (Jul 5, 2020), and 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, with a "Top Improvement: Add a summary" prompt.
- Details:** Source: Feature Collection, Size: 185 KB, and a 5-star rating.
- Footer:** Social media icons and an "Activate Windows" notification.

Description


Add an in-depth description of the item.

Edit Description



A large, empty text area for editing the description, with a vertical cursor at the top left.

✎ Edit Thumbnail



Add a brief summary about the item.

📍 Feature Layer by [dmckiec_esri](#)

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

☆ Add to Favorites

Edit Description

B *I* U **A** ▾ **Aa** ▾ | [List Icons] | [Link Icon] [Unlink Icon] [Image Icon] [Map Icon] | [Undo] [Redo] [Code Icon] | sm

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

Save the addition.

B *I* U **A** ▾ **Aa** ▾ | [List Icons] | [Link Icon] [Unlink Icon] [Image Icon] [Map Icon] | [Undo] [Redo] [Code Icon] | small ▾

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

Save Cancel

Layers

Once we have saved, scrolled back to the top and check out the different options for viewing the data. (You must still be in the “Show Item Details” in your drop-

down menu)

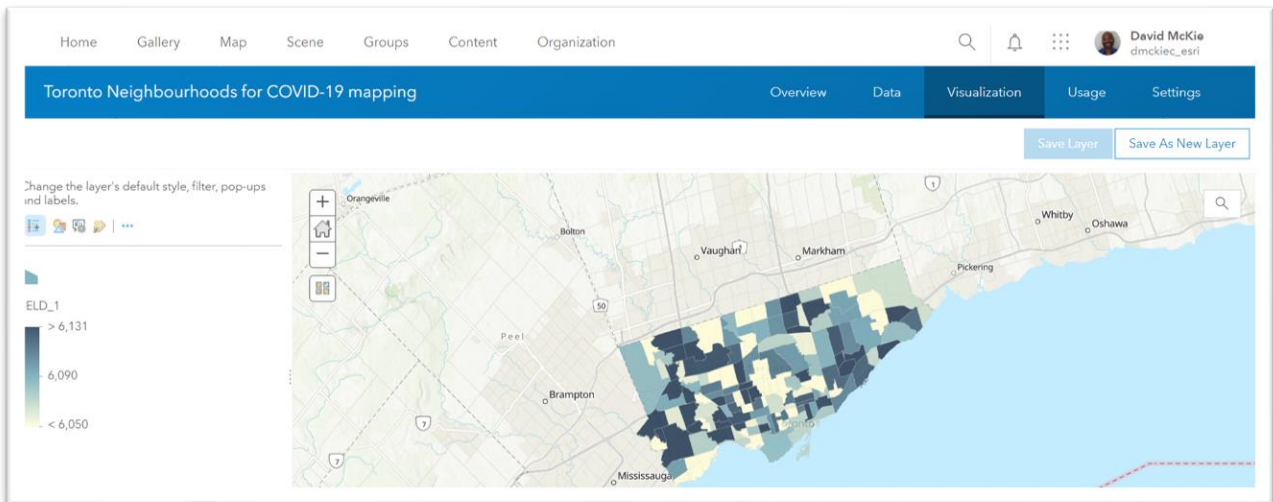
The screenshot shows the ArcGIS Online interface. At the top, there are navigation tabs: 'Content', 'Organization', and a user profile for 'David McKie' (dmckiec_esri). Below this is a blue navigation bar with tabs: 'Overview', 'Data', 'Visualization', 'Usage', and 'Settings'. The 'Overview' tab is active. On the left, there is a description of the item: 'it the item.', 'dmckiec_esri', and 'Created: Jul 5, 2020 View Count: 2'. On the right, there is a dropdown menu with the following options: 'Open in Map Viewer', 'Open in ArcGIS Pro', 'Publish', and 'Share'.

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

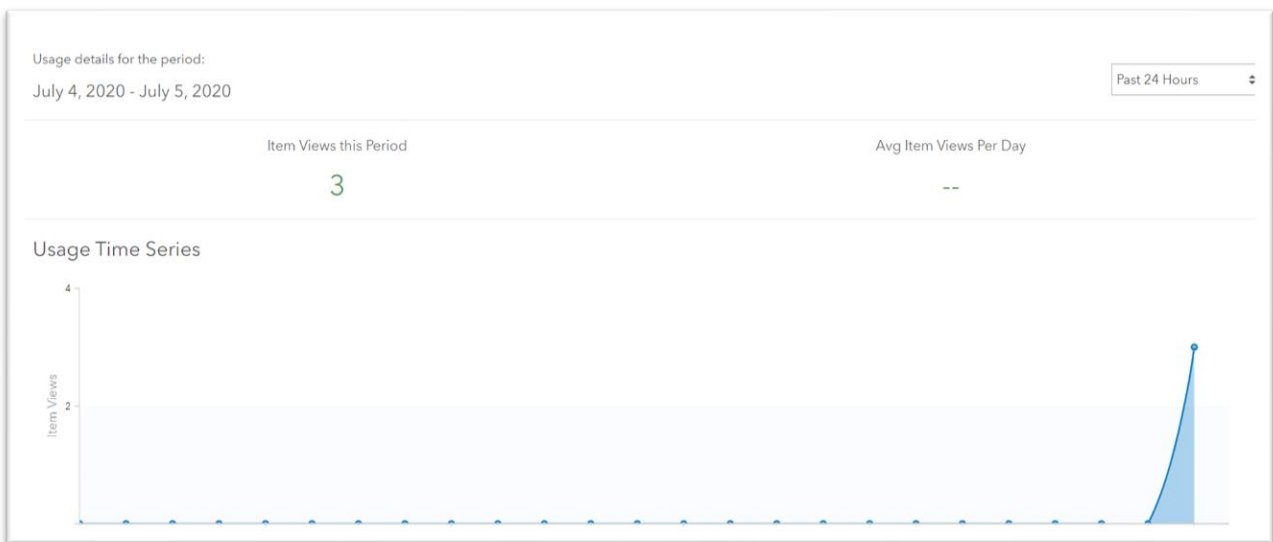
The screenshot shows the 'Data' view of the 'Toronto Neighbourhoods for COVID-19 mapping' dataset. The interface includes a blue header with the dataset name and navigation tabs: 'Overview', 'Data', 'Visualization', 'Usage', and 'Settings'. Below the header, there are 'Table' and 'Fields' buttons. The main content area displays a table with the following data:

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 Baby

Lambton Baby

0.00

0.00

Select the “Fields” tab.

The screenshot shows a web 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 menu 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 highlighted. 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 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 content area is titled 'FIELD_1' and contains the following sections:

- Description:** A brief summary of the item is not available.
- Field Value Type:** Field Value type is not available.
- Settings:** A table with the following data:

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

To edit, we must first publish the layer.

Select “Overview.”

The screenshot shows the ArcGIS Online interface with the 'Overview' tab selected. The top navigation bar includes 'Overview', 'Data', 'Visualization', 'Usage', and 'Settings'. On the left, there is a 'View Count: 2' indicator. The main content area features an 'Edit' icon and a 'Publish' button. Below the 'Publish' button, there is an 'Item Information' section with a progress bar and a 'Learn more' link. The 'Details' section shows the source as 'Feature Collection' and the size as '185 KB'.

Click “Publish.”

The 'Publish' dialog box is shown, titled 'Publish' with a close button (X) in the top right corner. The instruction reads 'Publish this item as a hosted layer.' Below this, there is a 'Title:' label followed by a text input field containing 'Toronto Neighbourhoods for COVID-19 mapping'. Underneath, there is a 'Tags:' label followed by a tag input field containing two tags: 'Toronto neighbourhood' and 'boundary file', each with a close button (X). Below the tag input field, there is a placeholder text 'Add tags'. At the bottom right of the dialog, there are two buttons: 'Publish' and 'Cancel'.

If your title is too long, you may have to shorten it. You can't have a hyphen (as in "COVID-19") in the title.

Publish

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. Once you're finished renaming your column, click the "X" to the far right of the new

title to return to your field name list.

The screenshot shows a data management interface for a table named 'DVID19'. The 'Fields' tab is selected and highlighted with a red box. Below the tab, there is a search bar and a table of fields. The table has three columns: 'Display Name', 'Field Name', and 'Type'. The field 'AREA-NAME' is highlighted with a red box.


Display Name	Field Name	Type
<input type="checkbox"/> FID	FID	ObjectID
<input type="checkbox"/> FIELD_1	FIELD_1	Double
<input type="checkbox"/> FIELD_2	FIELD_2	Double
<input type="checkbox"/> FIELD_3	FIELD_3	Double
<input type="checkbox"/> FIELD_4	FIELD_4	Double
<input type="checkbox"/> FIELD_5	FIELD_5	Double
<input type="checkbox"/> FIELD_6	FIELD_6	Double
<input type="checkbox"/> AREA-NAME	FIELD_7	String
<input type="checkbox"/> FIELD_8	FIELD_8	Double


I obtained the name by returning to the City of Toronto [website](#) that contains the neighbourhood data, and copying and pasting the name for “field 7” which is


“AREA-NAME”, a more formal title neighbourhood.

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	



Copy “AREA_NAME”, return to the field list in your “Data” tab, select “FIELD_7”, and replace that generic title with the new one you have just copied.

AREA-NAME 



Description  Edit


A brief summary of the item is not available. [Create List](#)

Field Value Type   Edit

Field Value type is not available. [Delete](#)

Settings

Allows Null Values	Yes
Editable	Yes
Default Value	None
Length	80
Unique	No

 Edit

Details

Type: String
Name: FIELD_7

Once you've completed this task, click the "X" to the far right of the new title.
NOTE: We can also rename fields from within the pop-up menus. So, if you find the last few steps too confusing, not to worry. The main task for this tutorial is simply creating a published layer with Toronto neighbourhoods.

Let's continue.

Select the "Overview" tab.

19

Overview Data Visualization Usage Settings

Table Fields

Search Fields

Table Order in Table Filter


1 - 16 of 16

<input type="checkbox"/>	Display Name	Field Name	Type
<input type="checkbox"/>	FID	FID	ObjectID
<input type="checkbox"/>	FIELD_1	FIELD_1	Double
<input type="checkbox"/>	FIELD_2	FIELD_2	Double
<input type="checkbox"/>	FIELD_3	FIELD_3	Double
<input type="checkbox"/>	FIELD_4	FIELD_4	Double
<input type="checkbox"/>	FIELD_5	FIELD_5	Double
<input type="checkbox"/>	FIELD_6	FIELD_6	Double
<input type="checkbox"/>	AREA-NAME	FIELD_7	String
<input type="checkbox"/>	FIELD_8	FIELD_8	String

Toronto Neighbourhoods_COVID_19

Overview Data Visualization Usage

Edit Thumbnail

 Add to Favorites

Add a brief summary about the item.

Feature Layer (hosted) by dmckiec_esri

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

Edit

Open in Map Viewer

Open in Scene Viewer

Open in ArcGIS Desktop

Publish

Create View Layer

Export Data

Update Data

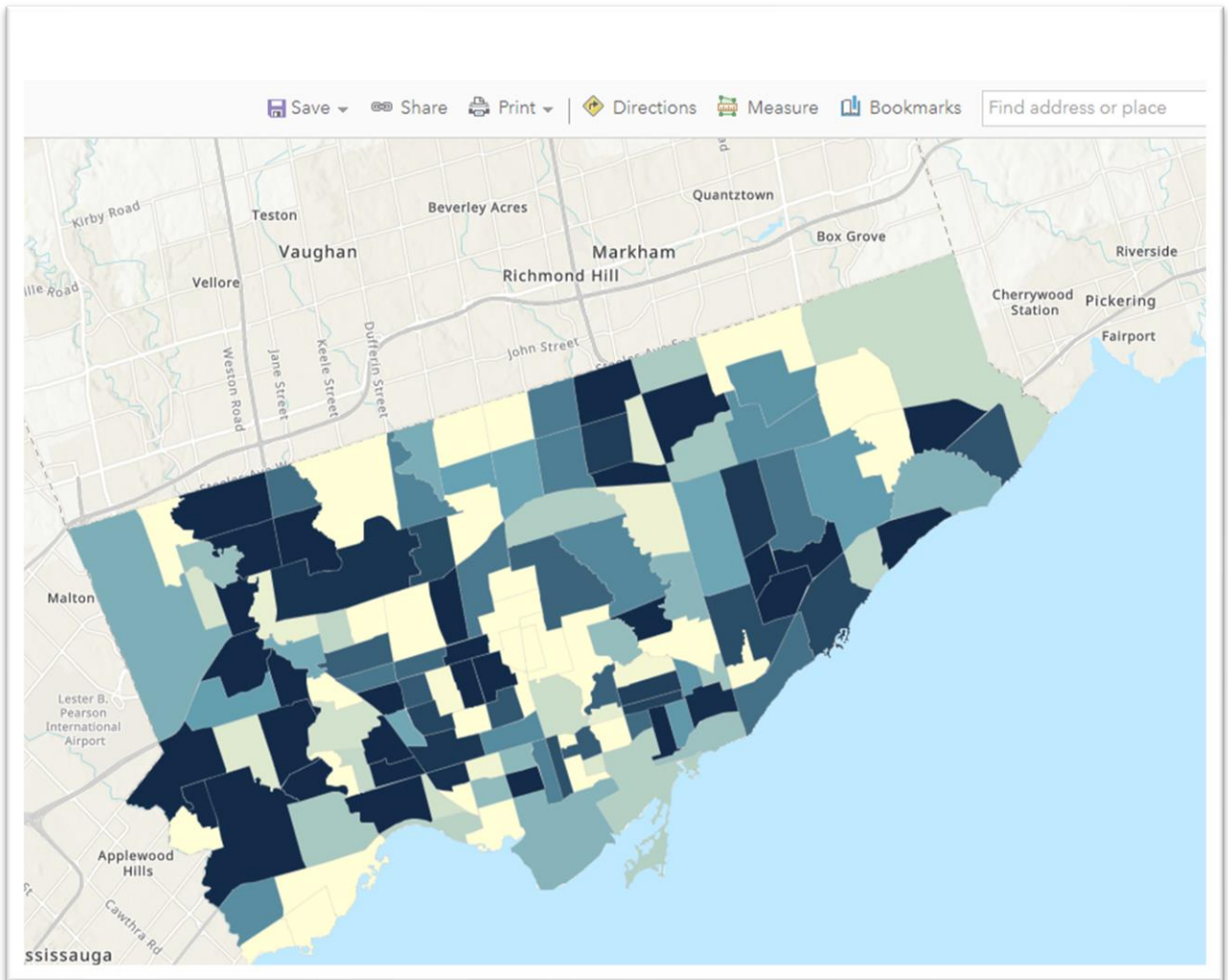
Share

Description

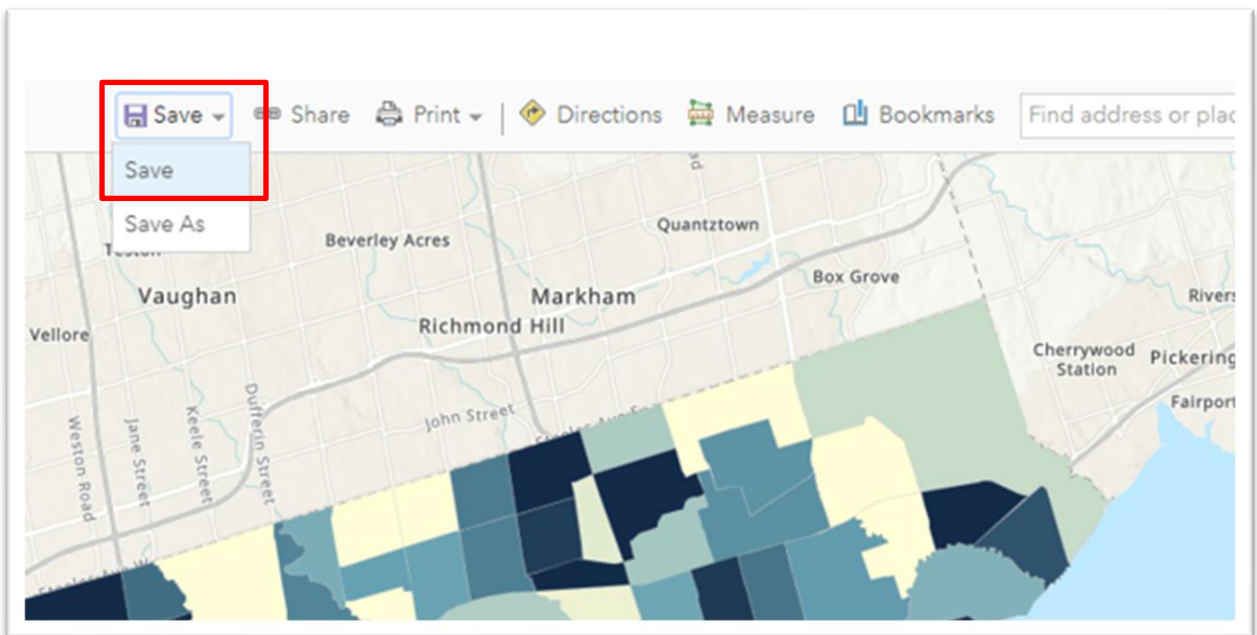
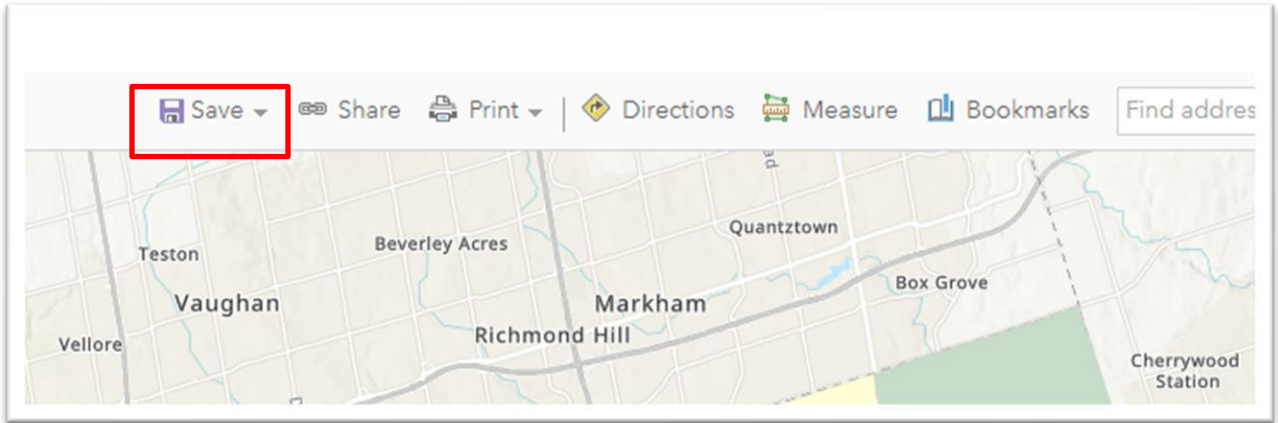
This layer will contain information about related to COVID-19.

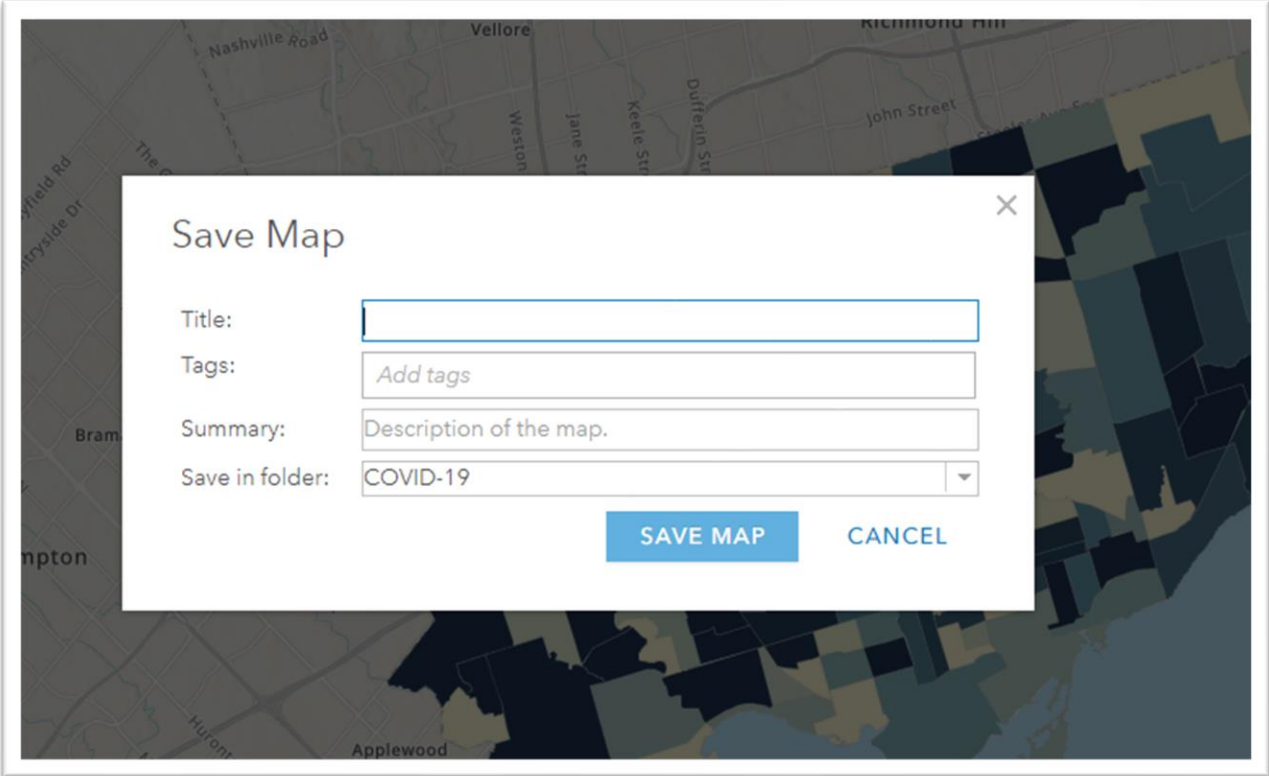
Layers

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

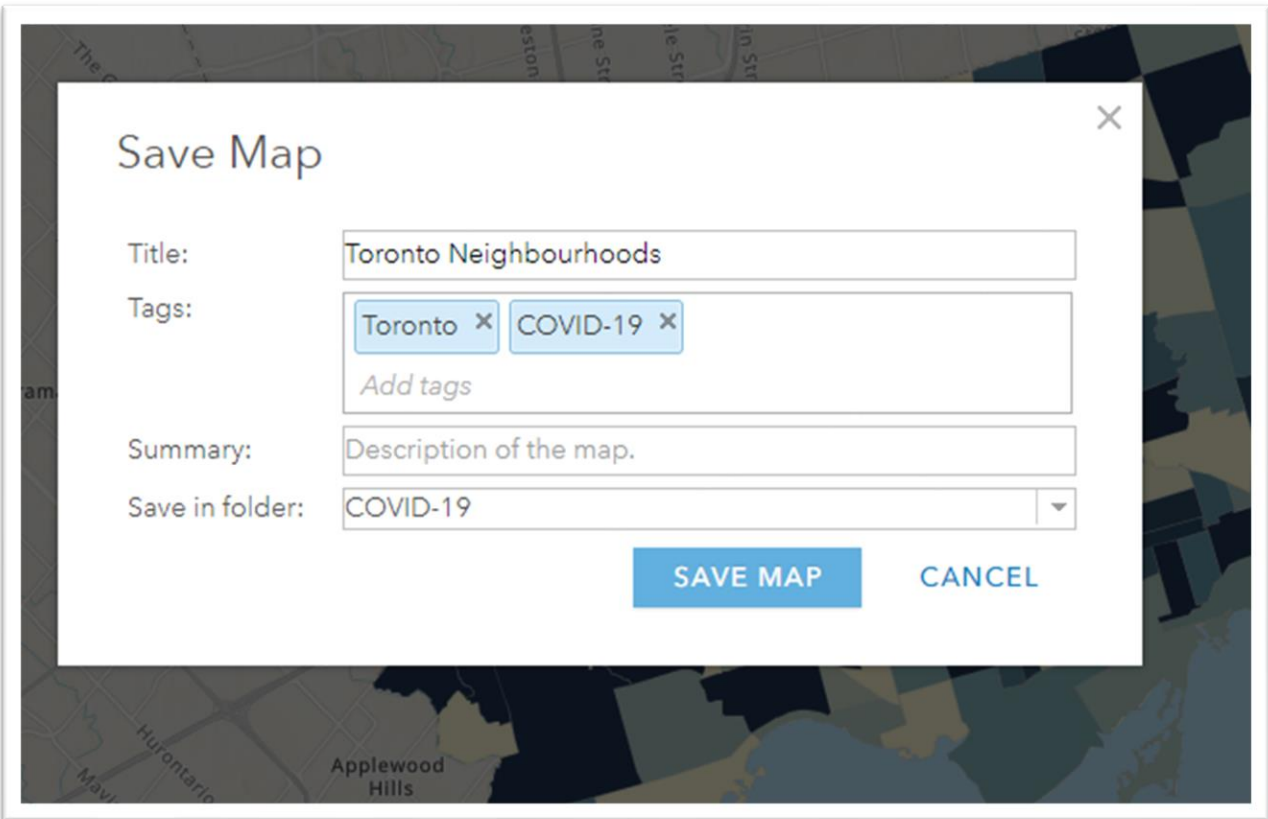


Once you have opened the map, save it again by selecting the “Save” icon from the menu above the map.





Enter a new title and tags for this published layer.

A dialog box titled "Save Map" with a close button (X) in the top right corner. It contains four input fields: "Title" with the text "Toronto Neighbourhoods"; "Tags" with two tags "Toronto" and "COVID-19" and a link "Add tags"; "Summary" with the text "Description of the map."; and "Save in folder" with a dropdown menu showing "COVID-19". At the bottom are two buttons: "SAVE MAP" and "CANCEL".

Save Map

Title: Toronto Neighbourhoods

Tags: Toronto COVID-19
[Add tags](#)

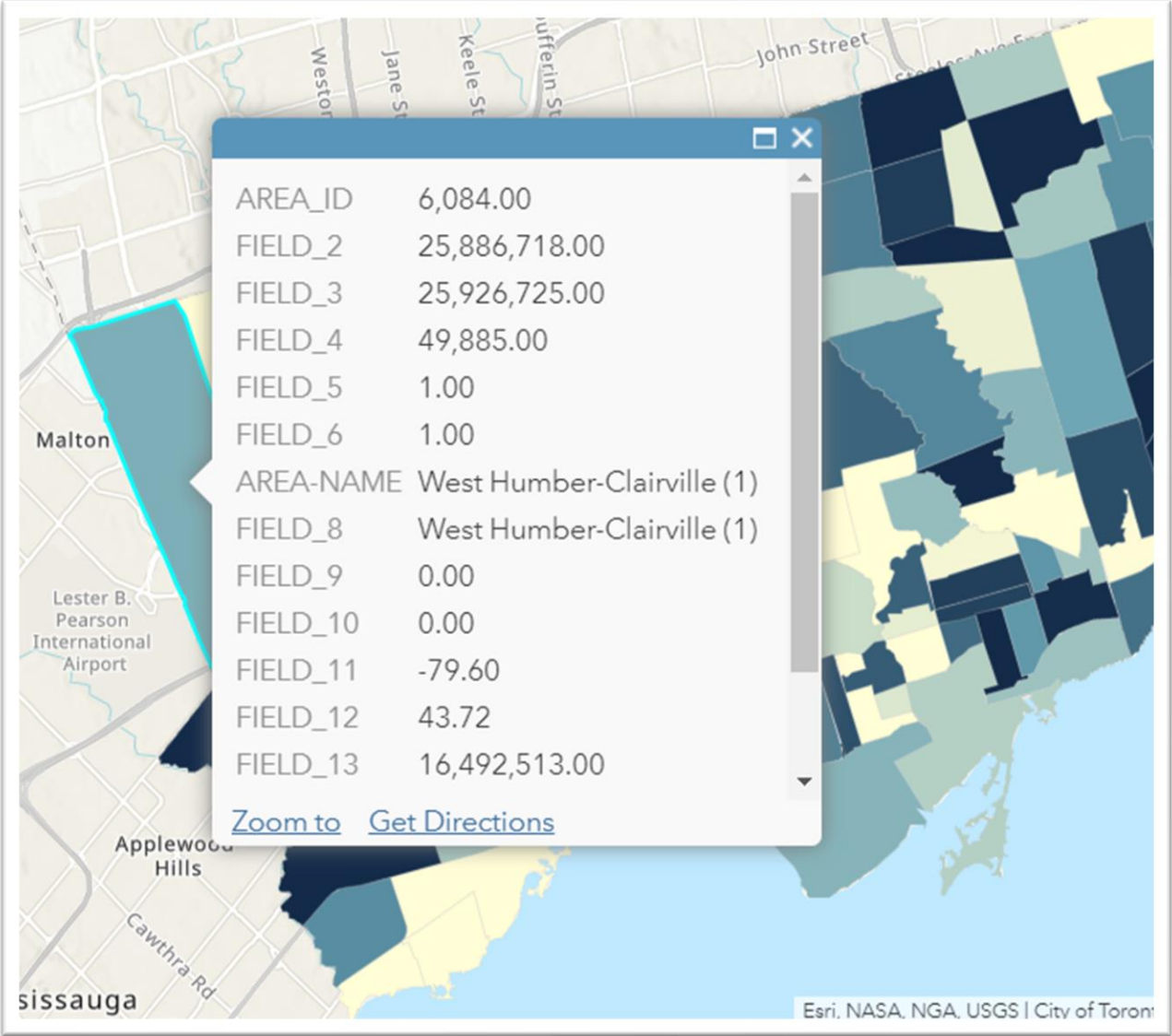
Summary: Description of the map.

Save in folder: COVID-19

SAVE MAP CANCEL

Save the map.

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



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