Lab 0: Using Arc GIS Online to Perform an Identical Buffer Analysis as ArcPro GUI

Introduction

The purpose of this notebook is to use ArcGIS Online Jupyter Notebook to perform an identical buffer function as Arc Pro GUI. First I will import the necessary packages and data. Then, I will visualize the data using "gis.map". Fianlly, I will run the "create buffer" tool and view the results.

Getting Started

First, I will import arcgis.gis and set my credentials. Then, I used at "add" from the panel to add the feature layer collection.

Welcome to your notebook.

Run this cell to connect to your GIS and get started:

In [1]:
```
from arcgis.gis import GIS
gis = GIS("home")
```

```
/opt/conda/lib/python3.6/site-packages/arcgis/gis/__init__.py:407: UserWarning: You are logged on as rosen656_UMN with an administrator role, proceed with caution.
  self.users.me.username)
```

Now you are ready to start!

In [3]:
```
# Item Added From Toolbar
# Title: Lab0_Webmap_WFL1 | Type: Feature Service | Owner: rosen656_UMN
item = gis.content.get("c8acecc102654416a4345b478777146c")
item
```

Out[3]:

Lab0_Webmap_WFL1 (https://www.arcgis.com/home/item.html?id=c8acecc102654416a4345b4787771
uploaded map to the web for GIS 5572

Feature Layer Collection by rosen656_UMN
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(https://www.arcgis.com/home/item.html?id=c8acecc102654416a4345b478777146c)

In [8]:
```
item.layers ## viewing the laters
```

Out[8]:
```
[<FeatureLayer url:"https://services.arcgis.com/8df8p0NlLFEShl0r/arcgis/rest/services/Lab0_Webmap_WFL1/FeatureServer/0">,
 <FeatureLayer url:"https://services.arcgis.com/8df8p0NlLFEShl0r/arcgis/rest/services/Lab0_Webmap_WFL1/FeatureServer/1">,
 <FeatureLayer url:"https://services.arcgis.com/8df8p0NlLFEShl0r/arcgis/rest/services/Lab0_Webmap_WFL1/FeatureServer/2">]
```

Visualizing Data

The next few cells will show a topographic map with the original SNA Layer.

In [4]:
```
MN_Map = gis.map('Minnesota') ##showing a map of Minnesota

MN_Map
```

In [15]:
```
MN_Map.add_layer(item.layers[2]) ## had to go to content to see which layer is the original layer I want. In this case, it is the third (second?) layer.

MN_Map ##Now it will show the original layer
```

In [16]:
```
MNSNA = item.layers[2] ## creating a variable for the original layer
```

In [17]:
```
MNSNA ##making sure it worked.
```

Out[17]:
```
<FeatureLayer url:"https://services.arcgis.com/8df8p0NlLFEShl0r/arcgis/rest/services/Lab0_Webmap_WFL1/FeatureServer/2">
```

Performing a Buffer Analysis and Visualizing the Result.

The next cells will show a 5 mile buffer analysis around the SNAs. Then it will be retrieved and visualized.

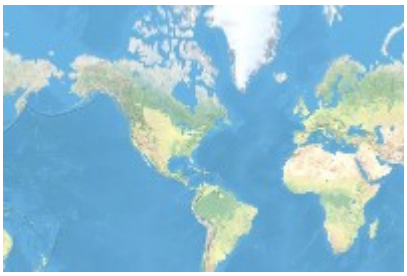
A note on Create_Buffer.

"Create Buffer" in AGOL is not the same as "Buffer_Analysis" in Arcpy and Pro. I had to look up the documentation to figure out how to use it.

In [27]:
```
from arcgis import features
features.use_proximity.create_buffers(MNSNA, distances = [5], units = '
Miles', output_name = "SNABuff_AGOL") ## Input Data, Distance, Units, a
nd Output name.

## The output is a feature layer collection that can be found in Conten
t
```

Out[27]:



SNABuff_AGOL (https://www.arcgis.com/home/item.html?id=6c4beeee25664331bffe308ac33748

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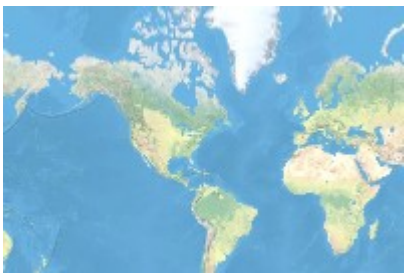
0 comments, 0 views

(https://www.arcgis.com/home/item.html?id=6c4beeee25664331bffe308ac33748b0)

In [2]:
```
# Item Added From Toolbar
# Title: SNABuff_AGOL | Type: Feature Service | Owner: rosen656_UMN
output = gis.content.get("db4fe681a71f48f2a61920442fbc2cf4") ## Creatin
g a variable to retrieve the new data.
output
```

Out[2]:



SNABuff_AGOL (https://www.arcgis.com/home/item.html?id=db4fe681a71f48f2a61920442fbc2cf

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(https://www.arcgis.com/home/item.html?id=db4fe681a71f48f2a61920442fbc2cf4)

In [3]:
```
output.layers ## viewing the layers. Since there is only one layer, I d
on't need to find it.
```

Out[3]:
```
[<FeatureLayer url:"https://services.arcgis.com/8df8p0NlLFEShl0r/arcg
is/rest/services/SNABuff_AGOL/FeatureServer/0">]
```

In [6]:
```
MN_Map.add_layer(output.layers[0]) ##Visualizing the output.

MN_Map
```

Success! The output shows a five mile radius around all the SNAs. This concludes the notebook.