



Geographic Information Systems (GIS)

New Mexico Airports




Name: _____

Section: _____


Score: ____/5

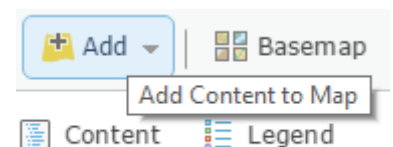
Directions: Follow the directions below to make a map of the different types and locations of different airports in the state of New Mexico. Once you are finished answer the thought questions at the end.

Step 1: Preparing your Data

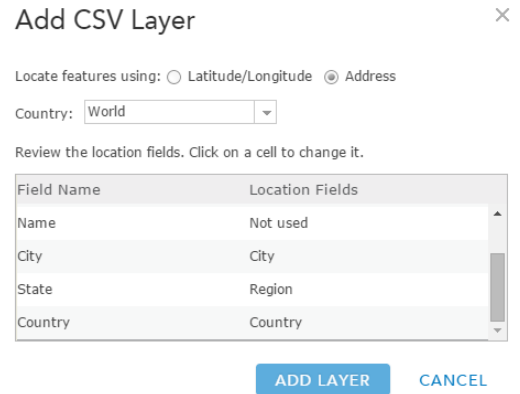
- Download the data
 - Navigate to the United States Government's open source database by typing in the url www.data.gov
 - In the search bar type in "New Mexico Public Airports"
 - The dataset should be the first option, but to make sure check to see that the dataset was created by the *Earth Data Analysis Center* at the *University of New Mexico*
 - Open up the link and scroll down the datasets to the Comma Separated Values File by clicking on   **Comma Separated Values File**  [tra2shp.derived.csv](#)
 - The file will download directly to your computer's **My Downloads** directory which you can navigate to and find the file titled `tra2shp_csv.zip`.
 - Right-click on the file and select **Extract All** and choose a folder to extract the files to so they can actually be uploaded to ArcGIS
- Reviewing the Data
 - Open up the excel spreadsheet and make sure the data is formatted correctly. If you would like you can add another row labeled "STATE" next to the "City" Row and write in New Mexico for all of the airports
 - This will make it easier for ArcGIS to correctly place the airports into New Mexico when automatically populating the map, otherwise when you upload the data to ArcGIS you will have to select that you would like to **Locate Features using Latitude and Longitude** instead of by **Address**
 - Make a new row next to **Notes** titled "**Airport Role**". For each of the airports use the internet to research to find out if the airport is a **Primary Service (PS)**, **Commercial Service (CS)**, **Reliever (RE)**, or **General Aviation Airport (GA)**.
 - Save the dataset as New Mexico Airports and close it out

Step 2: Setting Up Your Map

- Importing the Data
 - Sign in as normal
 - Once in click on the **Map** option along the top bar
 - On the default map screen left click the **Add** button to add content to your map and select **Add Layer From File**
 - In the window that pops up it will ask you to search for the file you would like to import. Find the **New Mexico Airports** file you created and select it.
 - Make sure the file name reads Spring 2015 GIS Students.csv. As long as that is correct press the  button.
- Formatting the Data
 - On the pop up screen that comes up called **Add CVS Layer** make sure that you are using the **Address Location Feature**




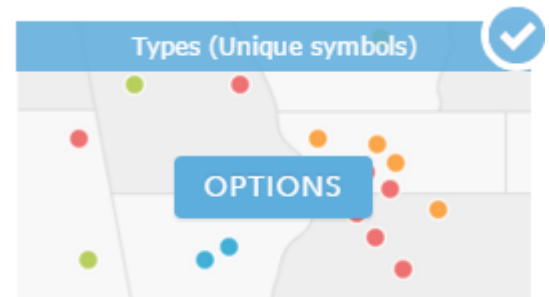
- You will only be able to do it this way if you created a STATE row in your dataset, otherwise you will need to Locate features using **Latitude** and **Longitude** and then selecting those in the **Location Fields** selections
- b. For **Country** make sure that **United States** is selected if using Address to locate features on the map
- c. Make sure that the **Field Names** and **Location Fields** match up
 - Select Region to represent State
 - Student Name should not be used
- d. Once all of that is done click the **Add Layer** button in the bottom of the window





Step 3: Configuring Your Map

1. Change the Style

- a. For Option One choose that the **Attribute** you want to display is Airport Role
- b. For Option Two scroll down and select **Types (Unique symbols)**
- c. The dots should now have changed so that there will now be multiple styles of dots
- d. Click  the button to configure your dots

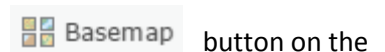


2. Formatting your Dots


- a. For each of the different roles click on each of their symbols to bring up the menu that allows you to configure how they are represented on the map.
- b. Use the Transportation drop down selection to find a symbol for an airport and make each of the following selections for the different airports
 - i. General Aviation (19 px – Red Airport Symbol)
 - ii. Commercial Service (19 px – Green Airport Symbol)
 - iii. Primary Service (25 px – Blue Airport Symbol)
 - iv. Reserve Airport (19 px – Yellow and Black Airport Symbol)
- c. Once you have completed all that click the  button to accept your changes
- d. If everything is set click the  button to move on

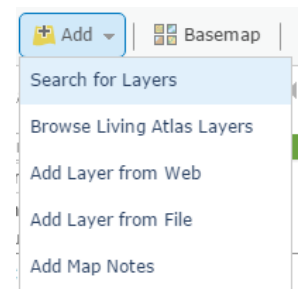
3. Change the Basemap

- a. Change to an **Open Streetmap** basemap by clicking on the




4. Add a state mask

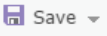

- a. Add a new layer by using the top bar and then selecting that you would like to **Search for Layers**
- b. Select that you would like to **Find** a “state mask” in the **ArcGIS Online** Server
- c. Scroll down and add the layer created by the New Mexico Department of Transportation (nmdot)
- d. Once you have added the layer to your map use the symbology option to change the color of the OUT part of the layer to light gray (#D6D6D6)
- e. Once you have configured this layer click the  button to close out the editing on this layer



Step 4: Configure your Pop-Up

1. Using the contents side bar navigate to the **More Options** menu of your **New Mexico Airports** layer and select that you would like to **Configure Pop-ups**
2. **Configure Attribute** so that only the following selections show up in your Pop-up
 - a. Name
 - b. Longitude
 - c. Latitude
 - d. City
 - e. County
 - f. Owner
 - g. Elevation
 - h. Airport Role
 - i. Telephone Number
 - j. Abbreviation
 - k. Communication
3. Make sure that each of the categories will show up on the pop-up like they are listed above
4. Once you have completed all that left-click the  button to accept your changes

Step 5: Saving Your Map

1. In the top bar left click  the button and select **Save As**
2. Make the Title **New Mexico Airports <Name>**
3. Add the **Tags** New Mexico, Aviation, and Airports
4. And make the **Summary** "Location of airports in New Mexico"
5. Once you are ready click  the button

Note: It is always a good idea to save your maps periodically as you go along

Thought Questions

1. What are some of the potential uses for this map? List and explain two different types or groups of people that may use this map and how.

2. What types of information might be included in the dataset that would make this map even more helpful to each particular group of people listed in question 1? For each group explain 2 pieces of information to include and how it would make the map more helpful.