Account not required

Lesson 1-3: Symbolization and classification

Nepal Earthquake Epicenters

Find the Nepal earthquake epicenters map for this lesson in the first chapter of the thearcgisbook.com. Under the ArcGIS information items heading, locate it beneath the subhead Layers.

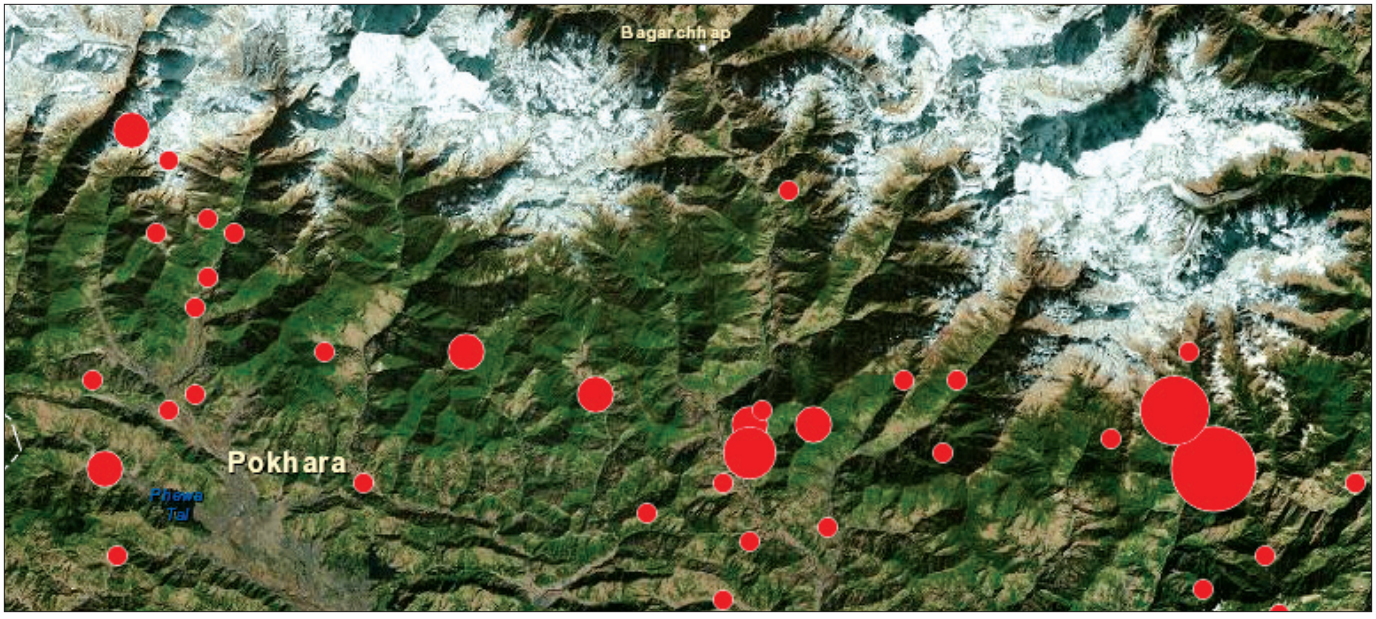
This is a map of epicenters of the earthquakes that occurred in and around Nepal. The year of the earthquake, its epicenter, and magnitude can be viewed by clicking the points on the map. The points are also symbolized by the magnitude of the earthquake. The district divisions can be seen on the map as outlines. Now you will see how the data can be displayed differently by changing the symbolization of the map, which will allow the viewer to visualize and observe even more information.

Build skills in these areas

- Opening and modifying an existing online map
- Changing transparency
- Changing style to unique values
- Changing style to Counts and Amounts
- Changing size and color of symbols

What you need

- Account not required
- Estimated time: 30 minutes



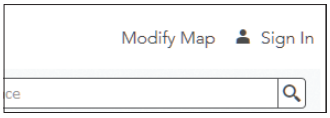
Nepal Earthquake Epicenters

Scenario

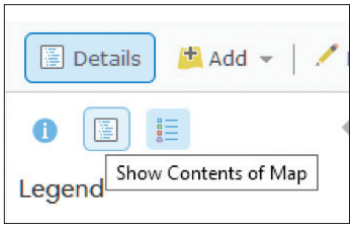
The United Nations Disaster Assessment and Coordination (UNDAC) team needs an emergency response system map to respond to the Nepal earthquake. They have seen the original Nepal Earthquake Epicenter Locations map and are impressed. However, for their immediate need, they have asked that the map be altered to show the following:

- The epicenters of the 2015 earthquakes must be seen at all scales.
- All of the 75 districts should be shown by population.
- All recorded earthquakes with a magnitude of 5 and above should be shown. On the Richter scale, earthquakes above 5 can be felt by everyone and can cause slight damage to all buildings.

1. Click the Nepal earthquake epicenters map.
2. In the upper right corner, click Modify Map.

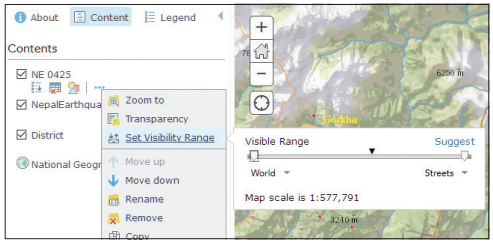


3. Click Show Contents of Map under Details

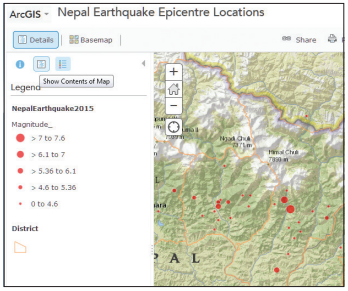


As you zoom in and out of the map you can see that the NepalEarthquake 2015 layer disappears and appears according to the scale of the map. The UNDAC wants this layer visible at all times.

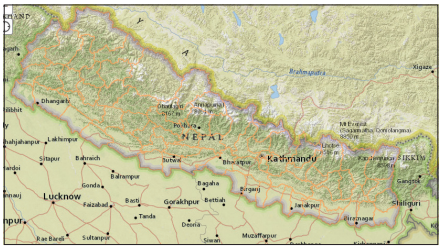
4. Click the three dots at the end of the NE 0425 layer.
5. Go to Set Visibility Range.
6. Move the slider to World. This makes this layer visible at all scales.



7. Again, click Contents under Details.

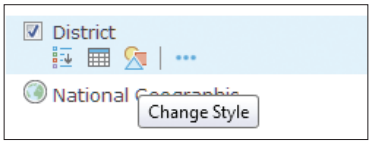


8. Zoom out to see the entire country of Nepal with the outlines of districts shown. The 75 districts are shown, but only their outlines are visible. All of the values of the districts look the same, which means they are classified on the map as location and only shows you the distribution of the data.

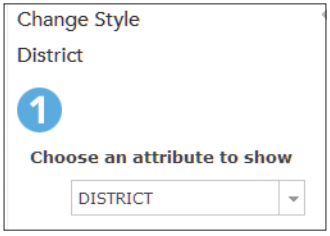


When you classify or style data, you have many options. The Change Style menu is your gateway to changing the look of your data.

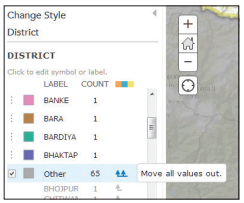
9. Click Change Style under the District layer.

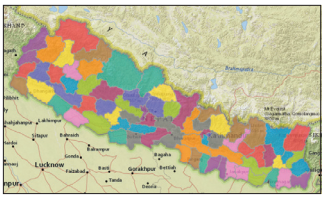


10. The individual districts can be seen more distinctly if you choose DISTRICT as the attribute. A single symbol will give you a unique symbolization by the district name.



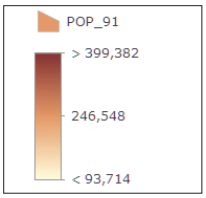
11. All of the districts are not displayed in a unique color on the map. Click Options.
    a. Use the top slider to scroll down until you see the double arrow pointing up. Click the double arrow to Move all values out.
    b. Click Ok.
    c. Click Done. All the districts are now displayed on the map and in the Contents pane as unique values. It is now much easier to see the unique district.

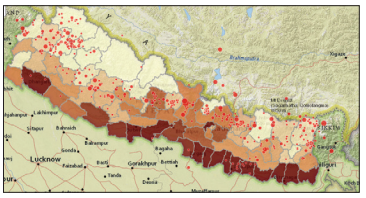




You have displayed the districts by a unique value, NAME; however, the UNDAC wants the districts displayed by population. Seeing the districts displayed in a choropleth map by population would provide the responders with information about districts that would need the most resources during an earthquake. Numeric data can be displayed with counts and colors that display the features on the map as a color gradient.

12. Click District and click Change Style.
    - Select POP_91.
    - Click Done.
13. Uncollapse the District layer to see the legend.
14. Write a brief explanation of how the legend helps you understand the map.
    a. What does the legend show about the population?

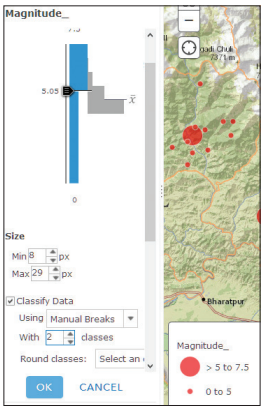




Your last task for the UNDAC is to show only the earthquakes with a magnitude of 5 and above. You want only the values of 5 and above to be shown on the map.

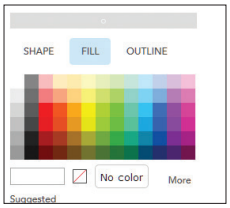
15. Click NepalEarthquake2015 and go to Change Style.
16. Click the Counts and Amounts (Size) options.
    - Scroll down and change the classes to 2.
    - Move the slider to 5.

This shows values 0-5 in one class and 5 and above in the Other class.



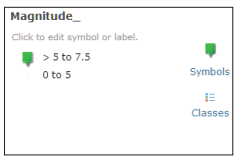
17. Click Legend.
    You might have to expand the style pane to see legend.
18. Click 0 to 5.
19. Click Fill and choose No Color.
20. Click Outline and choose No Color.

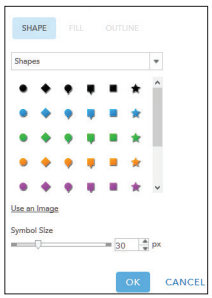
21. Click OK.



This leaves only the earthquakes with a magnitude of above 5 shown on the map.

22. Click 5 to 7.5.
23. Click Symbol, change the size of the symbol to 30, and choose a distinct symbol.





24. Click OK.
    a. Where on the map are the earthquakes with a high magnitude in relationship to a district with a high population?
    b. Turn off the District layer and observe the basemap layer. What would make rescue efforts difficult in the northern districts?