

Elevation profiles

An elevation profile is a depiction of a two-dimensional cross sectional view of a landscape. It provides a side view of a terrain's elevation along a line drawn between locations on a map. ArcGIS Online displays an elevation profile for a selected feature or a measure line along a web map.

Build skills in these areas:

- ▶ Using the image service Terrain to show elevation profiles
- ▶ Showing change in elevation using an elevation profile
- ▶ Describing landscape of the United States using an elevation profile
- ▶ Identifying physical features using an elevation profile

What you need:

- ▶ Account required
- ▶ Estimated time: 30 minutes to 1 hour

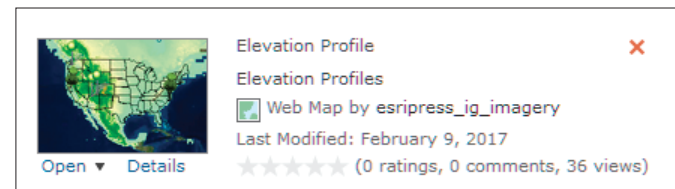
Scenario

Elevation profiles provide understanding of elevation and landforms. You have been asked as an instructor to provide your students with material that expands their knowledge of elevation and landform features through using elevation profiles.

USA profile

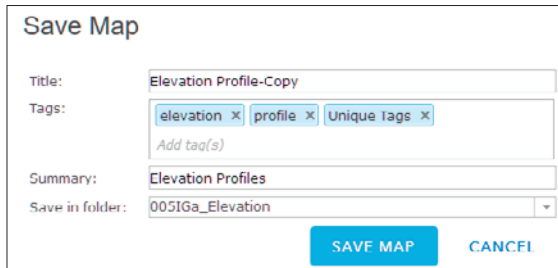
1. Sign in to your account at [ArcGIS Online](#).
2. In the top right corner, search for esripress_ig_imagery group.
3. Uncheck Only search in Participants and Resources.
4. Click the esripress_ig_imagery group.

5. Click Elevation Profile Map.



6. Click on the map.

7. Save the map in your organization. When you save the map, be sure to remove the IGIMG tag and the LearnResourceIMG tag. Put in specific tags to your organization and membership.



Save Map

Title:

Tags:
Add tag(s)

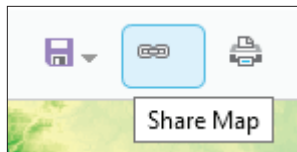
Summary:

Save in folder:

Examine the layers. Notice that you have a Ground Surface Elevation model, with states and two map notes representing a United States Profile to be drawn, and Features representing various land forms.

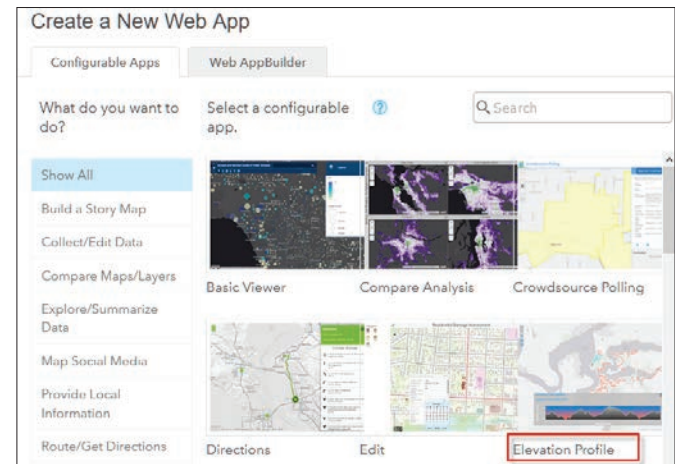
To use the Elevation Profile you need to share this map and Create the web app named Elevation profile. This web app generates an elevation profile for line feature drawn on the map using the measuring tool.

8. Click Share Map on the top ribbon.



9. Click CREATE A WEB APP.

10. Select the Elevation Profile app.

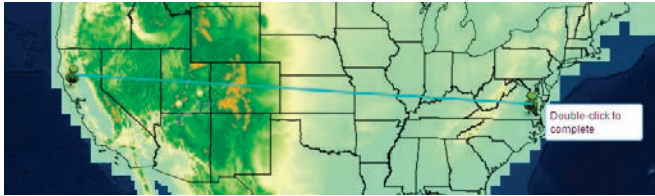


11. Click CREATE WEB APP.
12. Document your web app. Remember to delete the IGIMG and the LearnResourceIMG tags and specific tags for your organization.
13. Click DONE.
14. Click Launch.
15. Click the pencil icon to draw a line on the map that generates a profile.

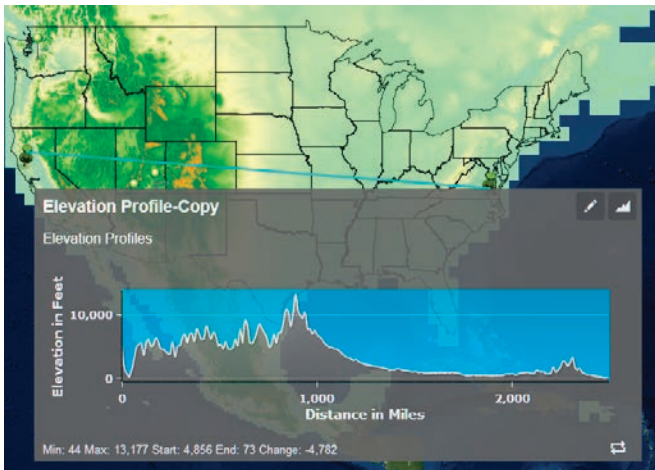
This first profile gives a view of the conterminous United States.

16. Click the large green map note on the Pacific Coast and draw the profile line to the large green map note on the Atlantic Coast.

17. Double-click to stop drawing the line. It will take several seconds for the elevation profile to draw.



18. Move the pencil to hover over the line in the profile pane and move your mouse to view the numeric values of the elevations of the transect.



Q1 What are the units for the x-axis and y-axis?

Q2 On the profile and the map, try to identify the elevations of the following features:

- San Joaquin Valley
- Rocky Mountains
- Appalachian Mountains
- Great Plains

Landform profiles

Different land forms have different profiles. Draw a profile through each of the following landforms. The landforms are designated by stick pins. Sketch a picture of the profile and write a definition of the landform and how it relates to the profile. The landforms are each represented by a unique map note.

Point 1 Mount Rainier

Point 2 Grand Canyon

Point 3 Merrick Butte

Landform	Sketch	Elevation	Definition
Mount Rainier			
Grand Canyon			
Merrick Butte			