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.

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.

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 – 1 hour

Publication date: March 14, 2019

esri THE SCIENCE OF WHERE

1. USA profile

1. Sign in to your ArcGIS online organizational account.
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.

Open ▾ Details

Elevation Profile

Elevation Profiles

Web Map by esripress_ig_imagery

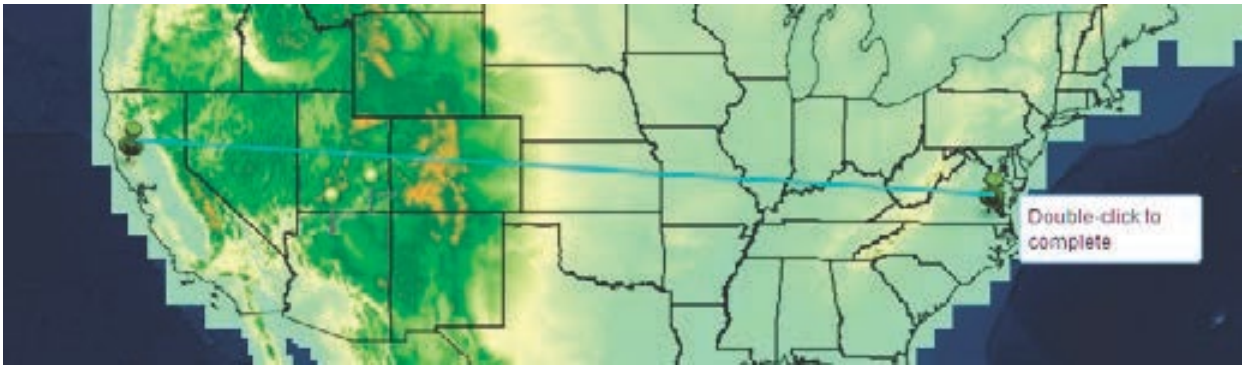
Last Modified: February 9, 2017

(0 ratings, 0 comments, 36 views)

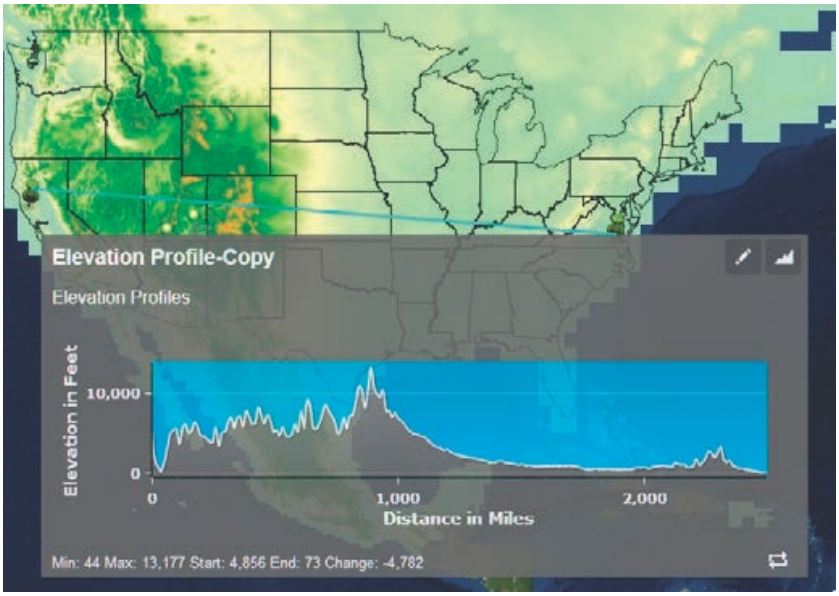
6. Click the pencil icon to draw a line on the map that generates a profile.

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

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



8. 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*

2. 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 Rainer
Point 2 Grand Canyon
Point 3 Merrick Butte

Landform	Sketch	Elevation	Definition
Mount Rainier			
Grand Canyon			
Merrick Butte