



# **Google Earth Activity Part 1: Identifying Arroyos:**

Now that you have learned the importance of arroyos as natural streams to channel water into the Rio Grande, lets explore where the arroyos are in the El Paso area.

#### Materials:

- · Computer, Chromebook or other internet connected device (tablet)
- · Google Earth: https://earth.google.com/web/
- · Printer
- Marker
- · Screen capture program such as Screencastify or Screencast-O-Matic

#### Procedure:

- 1. Go to the link for Google Earth: earth.google.com
- 2. In the search bar, type in El Paso, Texas
- 3. Once the map for El Paso has loaded, locate the following map feature:
  - The Franklin Mountains
  - The east and west side of the Franklin Mountains
  - The Rio Grande River and the river channel from the west side to the east side of El Paso
- 4. Locate Transmountain Road and Interstate 10, making sure to click 2D
- 5. Zoom the scale to 3000 m (Use the scale at the bottom of the page. Zoom in until it says 3000) Identify the areas where you see arroyos
- 6. Zoom in further until the scale says 1000
- 7. Identify the arroyos that flow from the Franklin Mountains

# Activity 1: Check for Understanding:

- 1. Describe what an arroyo looks like from a satellite image. How do you know it is an arroyo?
- Using a screen capture tool, capture the 1000 scale image from Activity 1. Trace over 5 arroyos south of Transmountain Road and where neighborhoods begin by either printing the image and using a marker or tracing over the screen image digitally.
- 3. Count the number of arroyos in this area using the image from Activity 1.
- 4. Trace over the path of the Rio Grand river. If the label were not there, how would you know that a river was there?
- 5. Describe the direction that water would flow in an arroyo if there were a rainstorm on the Franklin Mountains. Using arrows show the direction on the image.
- 6. On the west side of the Franklin Mountains, where do the arroyos in general lead to?

# Google Activity Part 2: Identify the Vanishing Arroyos

For this exploration you are going to see how El Paso has changed over a period of time (specifically looking for arroyos) and compare today to several decades in the past.

### Procedure:

- 1. On your computer, open Google Earth. (earth.google.com)
- 2. On the left, click the Voyager icon (looks like a ships wheel).
- 3. On the bottom of the screen click Layers
- 4. Click Timelapse slide
- 5. On the right side of the screen next to the magnifying glass icon, Search for Interstate 10 and Transmountain Road where it says "Search the Planet"
- 6. Press enter
- 7. Try to align this map as best you can to the map you were viewing in Part 1, zooming in first to 3000 m then to 1000 m on the scale.
- 8. View the Timelapse from 1986 to the present. You may pause/play the Timelapse at any time on any of the years.
- 9. Can you locate the place on your map from Activity 1 in 2020 in the year 1986?
- 10. Using a screen capture and the timelapse pause button, capture 5 different satellite images from the earliest available to the latest available. Compare and contrast the 5 images.
- 11. Using Screen recording software, record the timelapse footage
- 12. Click on the 3D option to see the changes from different angles or views

# Check for understanding Part II

- 1. Using a screen capture tool, capture the 1000 scale image from the 1986 timelapse in step 8.
- 2. Count the number of arroyos south of Transmountain Road using that image. Are there more or less arroyos in the 1986 image compared to your image from Activity 1?
- 3. What explains the change in the number of natural arroyos?
- 4. Is the loss of natural arroyos a good or bad thing? Explain your answer.

