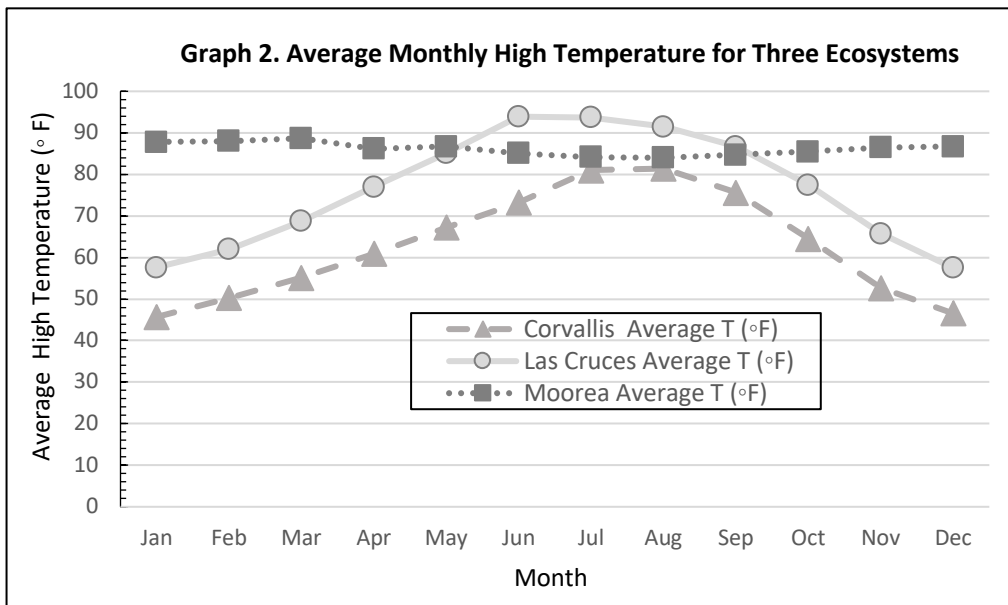
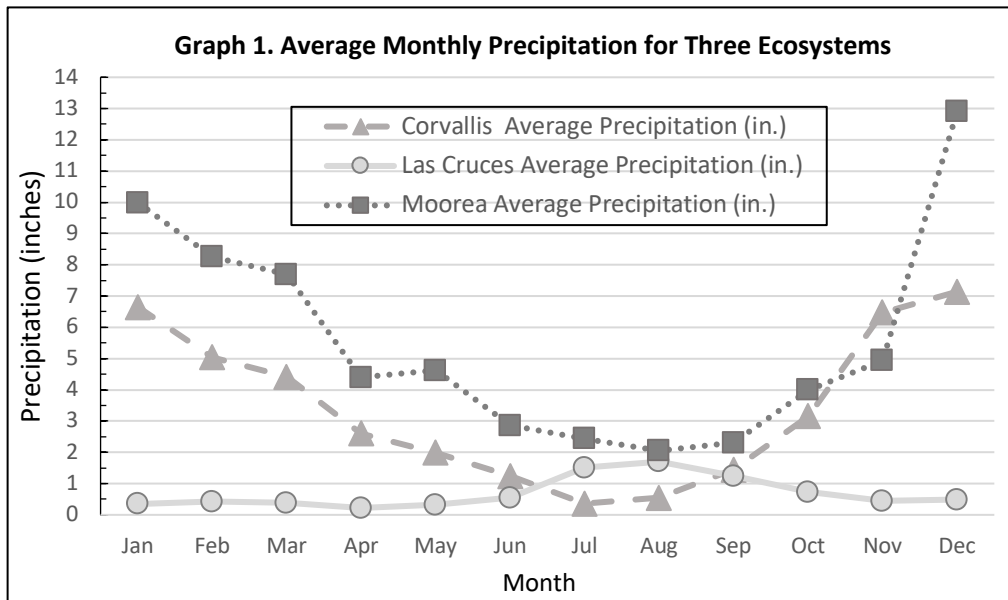


Analyzing Precipitation and Temperature Data

In the book *One Day in the Desert* by Anna Keener, Pen Pals Mariana, Kupe, and Ellie, live in three very different ecosystems. Mariana lives in a desert ecosystem in Las Cruces, New Mexico. Kupe lives in Moorea, French Polynesia, a tropical volcanic island. Ellie lives in Corvallis, Oregon, an evergreen pine forest ecosystem in the Pacific Northwest.



Examine the precipitation and temperature graphs from the locations where Mariana, Kupe, and Ellie live and answer the questions on pages 2-3.



Precipitation and temperature data are from the National Oceanic and Atmospheric Administration's (NOAA) Climate at a Glance website (www.ncdc.noaa.gov/cag/city/time-series) and Weather-and-climate.com.

1. Use Graph 1 to estimate the total precipitation received in one year for each location.

Las Cruces receives a total of 9 inches of precipitation per year.

Corvallis receives a total of 41 inches of precipitation per year.

Moorea receives a total of 67 inches of precipitation per year.

2. Which location has the most total precipitation? MOOREA

3. What is the driest month for each location? What is the wettest month for each location?

Las Cruces Driest Month APRIL Wettest Month AUGUST

Corvallis Driest Month JULY Wettest Month DECEMBER

Moorea Driest Month AUGUST Wettest Month DECEMBER

4. What is the hottest month for each location? What is the coolest month for each location?

Las Cruces Hottest Month JUNE Coolest Month DECEMBER

Corvallis Hottest Month JULY/AUGUST Coolest Month JANUARY

Moorea Hottest Month MARCH Coolest Month AUGUST

5. What pattern do you notice in the temperature data for Moorea? How does this pattern compare to the temperature data for Las Cruces and Corvallis?

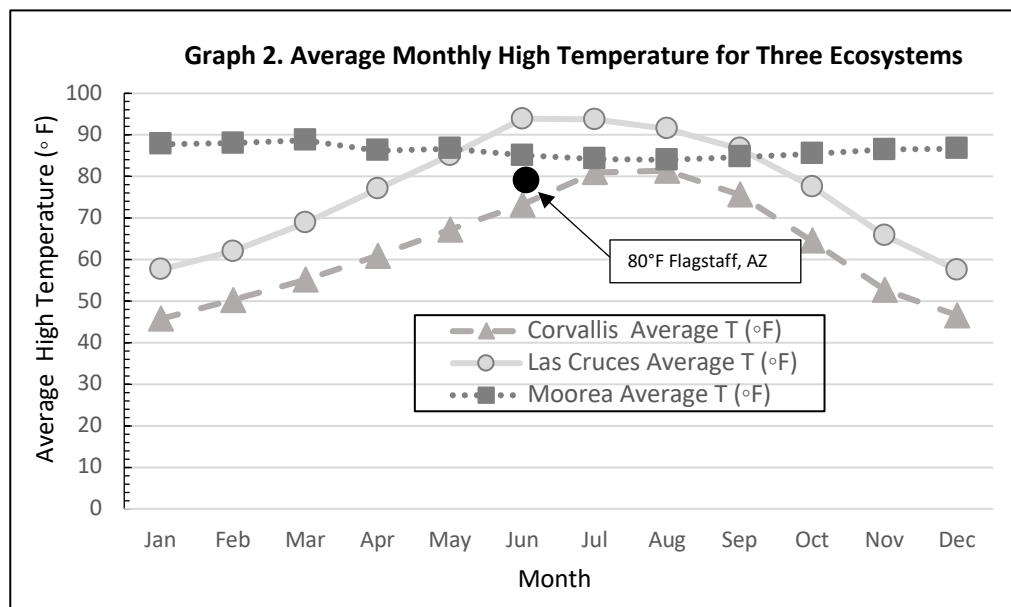
Moorea's temperature data shows little change over the year – the average temperature remains between approximately 85 – 90 °F over the course of the 12 months. However, in Las Cruces and Corvallis, there are significant temperature differences over the year. In Las Cruces, the temperature ranges between a low of 55 °F in Jan/Dec to a high of 95 °F in Jun. In Corvallis, the temperature ranges between a low of 45 °F in Jan/Dec, and a high of 80-82 °F in Jul/Aug.

6. You are planning a May vacation to go visit either Mariana, Kupe, or Ellie. Based on the types of temperatures and precipitation levels you like, where would you go? Use the data from the graphs to explain your answer.

ANSWERS WILL VARY- make sure students explain their answers using data from the graphs

7. Mariana and Ellie would love to meet each other in person over the summer. They would like to visit the Grand Canyon and stay in Flagstaff, Arizona where the average high temperature in June is 80 degrees F.

- a. Plot the Flagstaff, Arizona July temperature on Graph 2.



- b. Based on the graph, answer the following questions:

The temperature in Flagstaff is **colder** (hotter or colder) than Las Cruces in June.

The temperature in Flagstaff is **hotter** (hotter or colder) than Corvallis in June.

8. Based on the graphs, what would you expect the average high temperature will be this month in Las Cruces, New Mexico? How much rain would you expect this month in Las Cruces?

Answers will vary depending on the specific month. Possible answers given below are for September and October.

<i>Average High Temperature</i>	<i>September – 86°F</i>	<i>October – 78 °F</i>
<i>Monthly Precipitation</i>	<i>September – 1.25 inches</i>	<i>October – 1.0 inches</i>