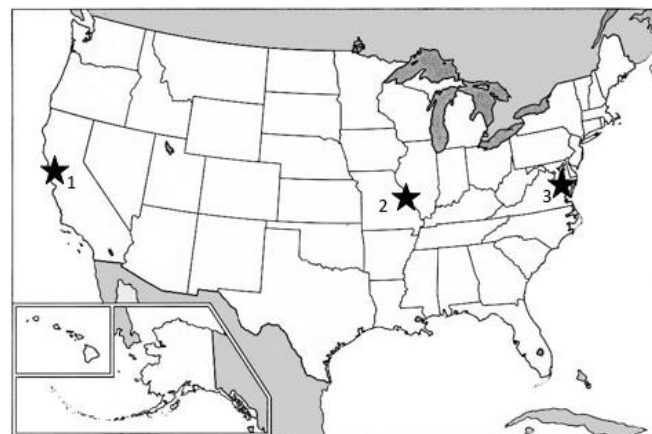


A Tale of Three Cities

In this activity, you will compare the average temperature and precipitation for three different cities: Hayward, CA, St. Louis, MO, and Washington DC. The map shows their locations. Note that all three cities are at about the same latitude ($\sim 38^\circ\text{N}$) and are at low elevation (less than 500 feet or 152 meters).

Your teacher will assign your group a data set for you to plot for one of the cities. Each group of students will complete a data plot so that all the data are analyzed. Then you will compare the plots for the three different cities and answer the questions on the following page.



1. Hayward, CA

Month	Ave. Temp. ($^\circ\text{C}$)	Ave. Precip. (mm)
January	10	132
February	11	122
March	12	108
April	13	44
May	15	18
June	17	4
July	18	2
August	19	3
September	19	9
October	17	39
November	12	94
December	10	98

2. St. Louis, MO

Month	Ave. Temp. ($^\circ\text{C}$)	Ave. Precip. (mm)
January	0	61
February	5	57
March	8	84
April	14	94
May	19	120
June	24	109
July	27	104
August	26	76
September	21	80
October	15	85
November	8	99
December	2	72

3. Washington DC

Month	Ave. Temp. ($^\circ\text{C}$)	Ave. Precip. (mm)
January	2	71
February	4	66
March	8	88
April	14	78
May	19	101
June	24	96
July	26	95
August	26	74
September	22	94
October	15	86
November	10	80
December	4	77

Questions

1. Compare the locations on the map. How are all three cities alike?
2. Compare their locations on the map.
 - How are Hayward CA and Washington DC similar?
 - How is St. Louis, MO different from the other two cities?
3. Compare the temperature plots for all three cities. Which two cities are similar? How are they similar?
4. Compare the precipitation plots for all three cities. Which two cities are similar? How are they similar?
5. Hayward, CA seems to be different than the other two cities in temperature and precipitation. Propose a reason why Hayward may be different.
6. At the latitude for these cities, the dominant wind direction is from the west (winds known as the westerlies). Even though Hayward and Washington DC are both located along the coast, the dominant west wind brings in different types of air masses.
 - Where does the air in Hayward come from?
 - Where does the air in Washington DC come from?
7. How are St. Louis and Washington DC similar in terms of where their air comes from?