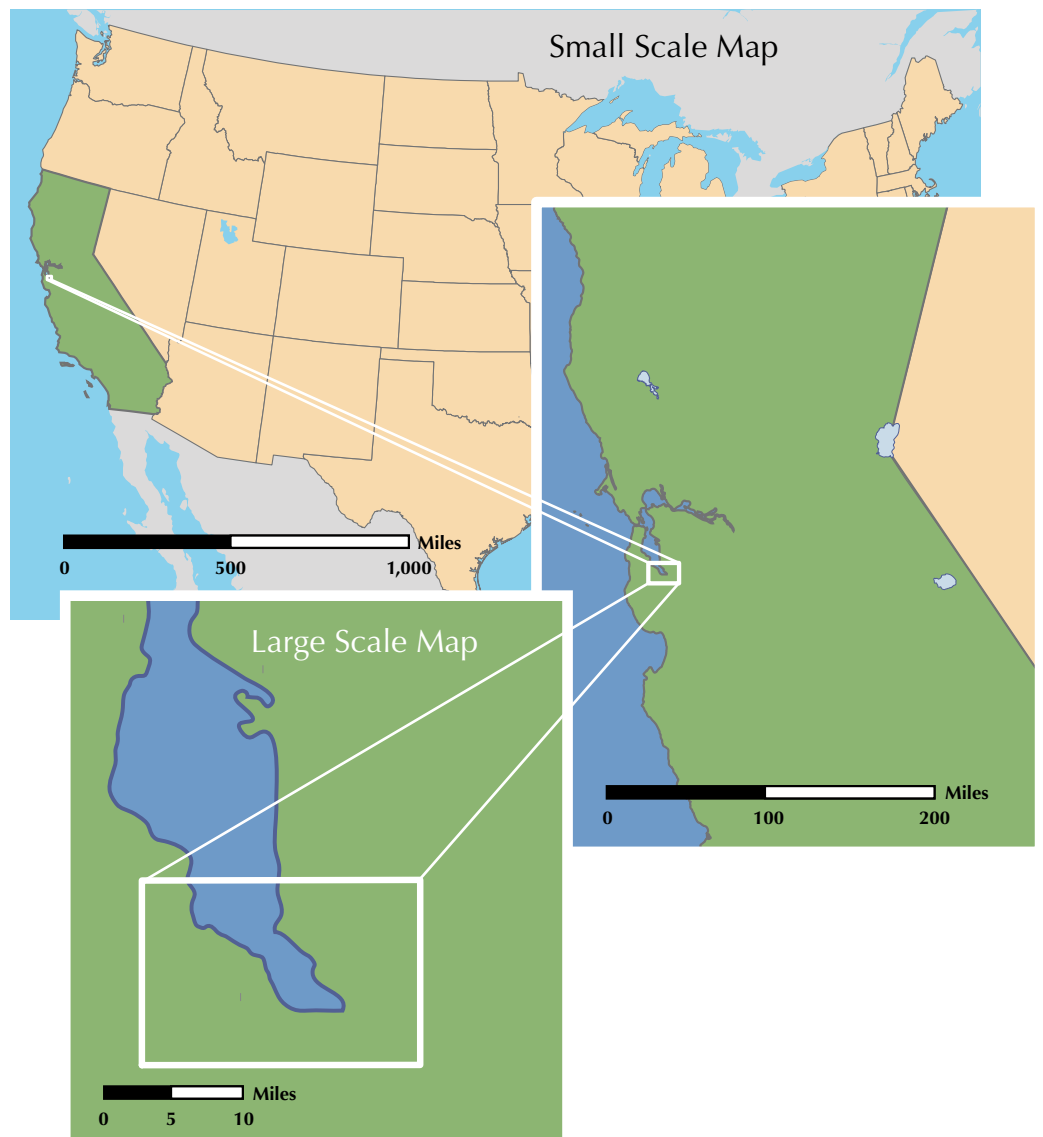


# Map Scale

Map scale is the ratio, or comparison, of distances on the map to actual distances on the ground. When you change the scale of your map from a smaller scale to a larger scale, it is the same as “zooming in.” Cartographers can show more detail on large scale maps than small scale maps because one unit on the map equals fewer units in the real world. Cartographers can show more area on a small scale map than a large scale map, however. So if you want your map to show the details of your school or town, you would choose a large scale map. If, on the other hand, you want to show the distribution of features across the whole country, you would need a small scale map.



## Using Scale Bars

Using the map scale to measure the distance from San Francisco, CA to Denver, CO:

1. Use a straight edge of a piece of paper laid on top of the map to connect the two cities.
2. Draw lines along the edge of the paper to mark where the dots for San Francisco and Denver are.
3. Move the paper edge to the bar scale and compare to estimate the distance. You can use a ruler to measure and write down the measurement.



## Ways to Represent Scale

**Graphic Scale**  Miles

You can use the scale bar to measure distances on the map.

### Verbal Scale

**1 centimeter equals 1,000 meters**

You can use a ruler to measure distances on the map and then multiply the distance by 1,000 to find out the distance on the ground.

### Representative Fraction

**1:100,000**

This ratio tells you that one unit (inch, centimeter, meter, etc.) on the map is equal to 100,000 of the same units on the ground. So if you found a distance of 5 centimeters on the map, you would know that it is equal to 500,000 centimeters on the ground.