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ESS 162

Lab 1 write-up

**Include the three figures you created above (1 of eco regions and 2 of census)**

Ecoregions:

Map

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Population density by county

Map

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Population density by census tract

Map

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**What is the area of Aldrich Park?**

Diameter = 284.70 m

Aldrich Park has an area of roughly 63,660. m2, assuming that the surface of the park is perfectly horizontal.

**What county has the densest population, what county has the sparsest and where does Orange County rank?**

San Francisco County has the highest population density while Alpine County has the lowest. Orange County’s population density ranks 2nd; the county has the 2nd densest population compared to other counties in California.

**What county has the largest population, what county has the smallest and where does Orange County rank?**

Los Angeles County has the largest population while Alpine County has the smallest population. Orange County’s population is the 2nd largest in the state.

**LA has a huge population but doesn’t lead in density, why is this?**

The county has a very large area with almost all of its population concentrated in the southern half of the county. Because the northern half of the county is relatively sparsely-populated, this drives down density.

**What is the overall population and area of the state?**

The total land area of the state is approximately 403,466 km2 while the total population of the state is a little over 37 million.

**How many people would there be in Aldrich Park given the population density of the most dense county?**

Aldrich Park would have 42 people if it has the same population density as San Francisco County.

**How many people would there be in Aldrich Park given the population density of the least dense county?**

Aldrich Park would have 0.0004 people if it has the same population density as Alpine County. In other words, Aldrich Park would have no one.

**What does the least dense county look like? What do you think is one of the main types of employment in this county? Find an example of this business in Google Earth and include a figure. How might climate change impact this industry?**

The county looks fairly mountainous with very little signs of civilization (no monotonous, grey paved surfaces). One of the main forms of employment in the county is, perhaps, tourism. One of the impacts of climate change on California is a shift in precipitation from snow to rain. This decreased snowpack might cause a decline in skiing and other forms of recreation that relies on snow. Ski resorts in the county can adapt by generating snow using snow blowers, although this adds costs to the industry. In addition, this decreased snow pack means that less water is saved for the summer. As a result, summer stream flows will decrease, which can hamper forms of recreation that relies on streams.

A picture containing text, military vehicle

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**What does the third least dense county look like? What do you think is one of the main types of employment in this county? Find two examples of business in Google Earth and include a figure. How might climate change impact this industry?**

The topography of Modoc County (the 3rd least dense county) is characterized by foothills and is sandwiched by the Cascade Mountains to the southwest and the Northern Basin ecoregion to the east. Given the mountainous nature of the county, a major industry might be tourism and recreation. Another industry is agriculture, which is depicted below using an image of what appears to be crop circles.

A picture containing text

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As snowpacks decrease, the amount of water stored for agriculture decreases. Since the agricultural demand for water tends to peak over the summer, snowpack decreases will increase the water stress on agriculture in this county, which can drive up food costs and potentially drive some farmers to bankruptcy.