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Week 2 Reading Questions

1) The dichotomy continuous in the technical details category, these dichotomies are used to show time, space, and people/species. This dichotomy is used to represent continuous variables and are real or rational numbers that are used to show time or space. These models are built using a continuous scale, an example of something this dichotomy could be used to represent would be continuous population densities. A research interest I could use this for would be studying different wildfires to view the density of the pollution that is released and factors that may cause the different data.

2) In testimony 1 when asked to testify the results of the scatter plot and state the claim concluded, one can consider a scientific bias in this testimony. Scientific bias can be found in this testimony because the creator of the information created a scatter plot from observations of birds nesting in high elevations. The creator of this testimony should have weighed other potential reasons into the testimony to provide other statistical data on what could cause the nesting elevation change (like testimony 4). When testifying the people learning about the observations could give little regard to the information for not testing other reasons. Another issue this could create from scientific bias is, say the spruce budworm is the real catalyst in nesting elevation, this study could overlook this issue. Scientific bias in research could cause significant overlook of other detrimental factors.

3) The two primary components of a dual model paradigm are deterministic models and stochastic models. A deterministic model is the average or expected value in the absence of randomness or errors. Deterministic models define the environmental interest. It yields the same solution each time. Stochastic models are used to show the variation of the expected values, they point out probability distribution for the variations of the expect outcome. It yields a different solution each time. A stochastic model would be good for studying different wildfires and how much pollution they create. A deterministic model would be good to be used when doing a statistic on how to reduce greenhouse gas emissions.

4) Statistical population are the collection of all possible outcomes, this study also needs data on multiple variables that include independent and dependent variables. This type of study also needs a scale for the dependent variable. A biological population can use a statistical population but also may not. Biological population won't use statistical populations if the population is larger than just the study area. Biological populations are populations that vary depending on the spatial and temporal scale (may or may not use statistical populations).

5)
   In this question the variable I'm selecting is elevation. This is an independent variable. Elevation would be a numeric variable on an interval scale. This is because the elevation would be measurable quantity as a number, it would also be measured on an interval scale because ordering the elevation from lowest to highest would help study the snow melt from determining the "above tree line" elevation.
   The next data type/scale I'm choosing is continuous variable on a ratio scale. This variable would be precipitation. This is a continuous variable because it can assume any value on a specified rainfall interval. It can also be measured on a ratio scale because it is quantitative in nature and the data's intervals can be compared to different areas or different years.