

Sampling

- Sample survey (some members of population selected as representative of the entire population)
- Types:
 - Convenience
- vs.
 - Random
 - SRS ('simple random sample')
 - CS ('cluster sample')

- Accessibility Sample
 - Examples: a hospital, market women, senior housing
 - Not able to calculate confidence intervals
 - Useful for many purposes
- Random Sampling
 - Involves creation of a "Sampling frame" (list of members of group to be sampled).
 - Assures equal probability of selection for all members of the population.
 - Estimates will be "unbiased" (precise statistical meaning: average of multiple samples will have population mean)
 - Remember, random does not mean "haphazard"

Probability-based sampling

- Equal probability of selecting each and every unit with the sampling body

(Simple) Random

- Design a way to randomly collect data
 - Remove bias from selection
- Examples:
 - Physical environment
 - While standing with your back to area, throw a pen
 - Human world
 - Pick human subjects based on numbers selected randomly

(Simple) Random

- Disadvantage: data may not be representative of the population
- Advantage: if done correctly, it removes bias from sampling

Systematic

- Method to collect representative samples from population
- Examples
 - Physical environment
 - Measure the physical characteristics of every X plant
 - Measure the water depth at every X meter
 - Human world
 - Ask every X person to take survey
 - Go to every X house

Stratified

- Take systematic sampling one step further by choosing units within a subset of the population
 - Ensures a representative sample
 - More efficient
 - May want to compare the subset of the population to each other

Stratified

- Still random (sometimes called “Stratified random”), just within a subset of the population
- Physical geography example:
 - Measure the sizes of pebbles in 3 areas of the river (cut bank, center channel, point bar)
- Human geography example:
 - Break the student population down by class and survey X students in each class

Stratified

- Still random (sometimes called “Stratified random”)



