

## Glossary

**aggregated data:** data that are combined over time or space; for instance, we could aggregate annual data on the occurrence of homicide in the UK over a decade, or include UK homicide data in an aggregated pool of data from all countries in the European Union

**animated map:** a map animation that is often comprised of a series of maps to show change over time

**choropleth map:** a thematic map that displays information by shading administrative units according to the value of a variable

**continuous data:** data derived from phenomena that can be measured at all points on the earth's surface, such as temperature or elevation

**contour maps:** maps that contain isolines, which connect points of equal value; contour maps are ideal for representing continuous data

**covariates:** factors that may be related to the analysis in question, e.g., age, income, or race

**data aggregation:** the process of combining data, e.g., a morbidity rate for a county is an example of data aggregated from individuals; data can be aggregated over time or space

**data smoothing:** a technique for removing aberrations in the data in order to highlight regional patterns; this cartographic technique can serve to remove some “statistical noise” to more clearly represent patterns

**discrete data:** phenomena that exist in particular locations but not others, e.g., clinics or roads

**disease registry:** systematic collection of data about patients with a particular disease

**dot density map:** a map that uses points to visually represent the density of a phenomenon; points in these maps often do not represent the actual location of the mapped features

**flow maps:** maps that use line symbols to represent the flow of a phenomenon over space

**geographic scale:** the area encompassed by a topic or study; a global study is considered to be a “large scale” study and a study of a neighborhood is considered to be a “small scale” study

**global positioning system (GPS):** a system of satellites that enables one to record the coordinates of a given location using a GPS receiver

**graduated symbols:** symbols that are scaled according to data about the feature they represent

**interactive map:** a map that a user can alter by entering information

**interpolation:** a method for producing estimates for locations where no data were collected, using information collected at other locations

**isoline:** a line on a map that joins all points of equal value, e.g., contour lines

**level of measurement:** how information about a phenomenon is recorded; the scale that is used to record information (e.g., nominal, ordinal, and ratio)

**map symbol:** a graphical feature on a map that conveys meaning

**mental map:** an imagined map that exists in a person's mind

**modifiable areal unit problem:** the statistical effect that boundaries can have on results; the modifiable areal unit problem occurs when a result changes as a consequence of redrawn boundaries, even if the total area within those boundaries does not change

**nominal data:** data that are recorded qualitatively (e.g., language, type of healthcare system)

**ordinal data:** data that can be ranked, but which do not have a specific value that would enable mathematical operations (e.g., city, town, village)

**point distribution map:** a thematic map that uses points to symbolize the precise location of specific geographic features

**ratio data:** data with specific values that enable mathematical operations to be performed (e.g., income, mortality rates)

**reference map:** a map designed to show the geographic distribution of general features

**risk map:** a map that displays factors that increase the risk of disease incidence

**spatial autocorrelation:** the notion that points that are closer together are more likely to have similar characteristics than points that are further apart; the concept of spatial autocorrelation introduces special challenges when analyzing spatial features because nearby phenomena cannot be considered statistically independent

**spatial epidemiology:** analytical and statistical methods for the study of spatial patterns in disease incidence and mortality

**thematic map:** a map that depicts the spatial distribution of data on a particular theme or topic, e.g., infant mortality rates, location of hospitals