Read Chapter 2 Bolstad text

Introduction activity: Internet search for What3Words answer these questions and be ready for a short discussion:

1. How is this application different from a regular GPS location?
2. Is a 3 meter square accurate enough for agriculture?
3. How much data space would a three-meter square versus an inch by inch location require?

Vocabulary: Spatial object, Spatial Data Model, Vector, Raster, Attributes,

Lecture outline

Data Models: show a photo of a field edge that includes crop, side ditch. Draw the edge, question: can we include every distinct plant? How much data will this produce? TOO MUCH

Trade-off between detail and volume of data. Redraw rate

Spatial Data Model, Polygon that represents object and data that describes this polygon stored as LAYERS of data

Coordinate Data, usually in Cartesian coordinates (X,Y) but often in three dimensions (X,Y,Z)

Attributes, items or variables.

Attributes record variables related to data points often referenced in

      Nominal- info about the point (names of things) no implied order, size or quantitative information might be image or film (like in a real estate advertisement) sometimes called BLOBS (Binary Large Objects)

      Ordinal- rank ordered information- 1st, 2nd, 3rd or 1,2,3,4,…10

      Interval Ratio- numbers related to the attribute

Demo: Visit the tree line, each student team of two gets a flag and a "secret mission" (all are the same!) to flag the "edge" of the woods. Discuss how each team interpreted the edge differently and why this matters.

Vector or Raster Models

Vector = Points, Polygons or lines

Vectors are discrete objects

      Review page 42 Figure 2-21

Single and multipart features

Problems with "Polygon Inclusion and Boundary generalization"

Topological models