GTECH 709 Cartographic studio

The GIS process
What makes it geographic?

Geographic questions
Studio examples
GIS as a Process

1. Ask a geographic question
2. Acquire geographic data
3. Explore geographic data
4. Analyze geographic information
5. Act on geographic knowledge

Which brings us to your cartographic studio project
What Makes it Geographic?
What Makes it Geographic?

• Locational reference
What Makes it Geographic?

• Locational reference
  – Somewhere on or near surface of the Earth
What Makes it Geographic?

• Locational reference
  – Somewhere on or near surface of the Earth
  – Direct or indirect
What Makes it Geographic?

• Locational reference
  – Somewhere on or near surface of the Earth
  – Direct or indirect
  – Qualitative or quantitative
What Makes it Geographic?

- Locational reference
  - Somewhere on or near surface of the Earth
  - Direct or indirect
  - Qualitative or quantitative
  - Point, line, area, field foot print
What Makes it Geographic?

• Locational reference
  – Somewhere on or near surface of the Earth
  – Direct or indirect
  – Qualitative or quantitative
  – Point, line, area, field footprint

• Temporal reference
What Makes it Geographic?

• Locational reference
  – Somewhere on or near surface of the Earth
  – Direct or indirect
  – Qualitative or quantitative
  – Point, line, area, field footprint

• Temporal reference
  – Explicitly recorded
What Makes it Geographic?

• Locational reference
  – Somewhere on or near surface of the Earth
  – Direct or indirect
  – Qualitative or quantitative
  – Point, line, area, field footprint

• Temporal reference
  – Explicitly recorded
  – Metadata about recording time and validity
What Makes it Geographic?

• Locational reference
  – Somewhere on or near surface of the Earth
  – Direct or indirect
  – Qualitative or quantitative
  – Point, line, area, field footprint

• Temporal reference
  – Explicitly recorded
  – Metadata about recording time and validity

• Geographic question
Geographic Questions

• Where is what?
Geographic Questions

- Where is what?
- What is where?
Geographic Questions

• Where is what?
• What is where?
• Why do we observe something here and not there?
Geographic Questions

• Where is what?

• What is where?

• Why do we observe something here and not there?
  – To answer that, we need to look into
  Spatial Relationships
Basic GIS Analyses

- Neighborhood relationships
Basic GIS Analyses

• Neighborhood relationships
  – Contiguity
Basic GIS Analyses

• Neighborhood relationships
  – Contiguity

• Spatial coincidence relationships
Basic GIS Analyses

- Neighborhood relationships
  - Contiguity

- Spatial coincidence relationships
  - Combining information between/across layers
Basic GIS Analyses

• Neighborhood relationships
  – Contiguity

• Spatial coincidence relationships
  – Combining information between/ across layers
  – E.g., which areas have a VA hospital?
Basic GIS Analyses

• Neighborhood relationships
  – Contiguity

• Spatial coincidence relationships
  – Combining information between/across layers
  – E.g., which areas have a VA hospital?
    • Combining neighborhood layer (polygons) with hospital locations (points)
      – Marking up neighborhoods that fulfill the condition
Basic GIS Analyses

• Neighborhood relationships
  – Contiguity

• Spatial coincidence relationships
  – Inside (/outside) aka containment
  – Intersect
Project Examples

• Fall 2013 projects
  • Christine, Ross, Marufa

• Fall 2012 projects
  • Marat, Maxim

• Spring 2014
  • Catherine, Priyanka, Iwata