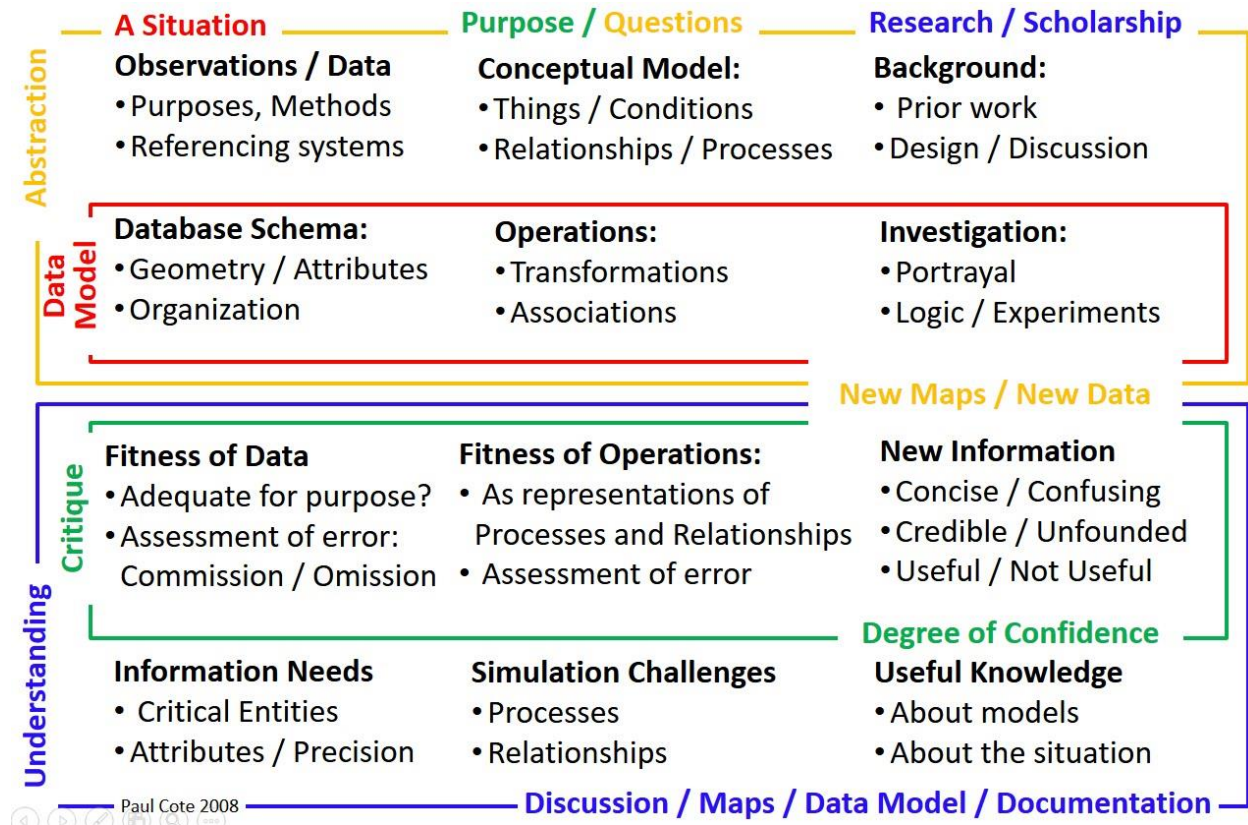**Part 1: Discussion of Last Week's Exercise.**

A well-conceived geographical question is requirement if we want to <u>understand if data and GIS are useful</u>, or how we might make them more useful. There is no point in discussing the "accuracy" of data or of a GIS model unless there is some actual thing or condition in the world that one has a need to represent for some purpose.

Understanding <u>how to develop a question that might be explored using GIS</u> is all about learning how to describe a situation of interest in conceptual terms – some narrow aspects of which might be represented with specific data-sets that are available and geographical mechanisms that can be represented with maps and GIS operations. Developing a good question is the key to understanding whether a GIS project is worthwhile, and how it might be improved.

 Hopefully, over the course of the next several assignments, we will all get good at formulating quesitons and evaluating GIS data and procedures with regard to their usefuleness for answering our questions.

Discuss last week's Exercise.   <u>Example.</u>   <u>MassGIS Oliver</u>.

- Who found some interesting data?
- Who had difficulty figuring out a decision-making situation?

Introducing the Term Project and Research Review: While we are on the subject, I'll describe the four-phases of the term project,. You can find the check-lists for these in Canvas in **Files/Term Project Installments**.

You should look through the documents to learn about what is expected for the following Term Project Phases:

1. GIS Project Review (written and in-class presentation)
2. Term Project Proposal
3. Draft Models
4. Term Project Poster

You can see due-Dates for Term Project Installments listed in a table on page 7 the course syllabus.

The first exercise and the associated readings should have given you a mind-set for how GIS projects begin as conceptual descriptions of situations, which use data to represent things and conditions of concern. This should be good background for exploring documented GIS applications in your specific area of interest. Starting now, you should be looking for well-documented descriptions of GIS applications and data that are related to decision-making scenarios that interests you. Here is a handy tip-sheet about looking for research on applications of GIS from the Tufts Data Lab. The Data-Lab's web site also has lots of tips on discovering data.

This week's subject: : Beginning a Data Collection for On-Going Research

As we discussed last week, a big theme of this course is that geography and GIS are about using and re-using data to inform decision making. Over the next several weeks we are going to create a collection of data about a place and its context and we are going to make several maps to demonstrate how we are able to use data as a framework for discussing a place in a decision-making context.

This week, we will learn some important concepts and techniques about

- How **observations are stored and shared** as data files.
- How ArcGIS uses Map Documents and **layer Files** to transform data by applying styling to the data.
- Map Documents and layers reference data stored in independent files. Keeping these together is tricky – until you know the secrets of relative vs absolute path references.
- How you can organize data, and metadata and layer files in your own compact collection that is easy to share, and re-use

- How to manage your data with data zip archives that are relatively secure against media failure and your own mistakes.

Once you understand these ideas and the techniques, you will be well equipped to move forward to make maps that you can revise each week. If you sneak through this week without learning this, a big part of your work each week will be in repeating tasks that you have already completed.

Outline

3. A folder-structure for [Organizing Data for Collaboration and Ongoing Research](#) .

Break

1. Talk through this week's exercise.
2. [ArcMap 101: Beginning a GIS Data Collection](#)