Hydroinformatics
Individual Learning Opportunity 1

Metadata and the Data Lifecycle

Due Date: September 13th

Learning Objectives
1. Describe the data life cycle
2. Determine the dimensionality of a dataset, including the scale triplet of support, spacing extent for both space and time
3. Generate metadata and describe datasets to support data sharing and interpretation

Computer and Data Requirements
1. Detailed descriptions of the source data for this ILO are available at http://www.mrlc.gov.
2. If you would like to download and examine the data, ArcGIS is available in the open-access computer lab on the 3rd floor of the new engineering building. Installation media for ArcGIS is also available from the instructors if you want to install it on your personal computer.

The Problem
Your employer is developing a hydrologic model for the Little Bear River in Cache Valley and wants to model the impact of changes in land cover on hydrology in this watershed between 2002 and 2012. Your boss has asked you whether s/he can use the United States Geological Survey (USGS) National Land Cover Dataset (available for 1992, 2001, and 2006) in the study. Submit a 1-page briefing sheet to your boss that offers your recommendation on whether s/he should use the National Land Cover data for the study.

In making your recommendation, you should consider:

1. What does the data represent?
2. How were the data created, collected, and/or observed?
3. What was the source of the data?
4. What is the format or syntax of the data?
5. What manipulations, transformations, or derivations have been performed to produce the data?
6. What are the spatial and temporal support, spacing, and extent for these datasets?
7. What are appropriate uses for the dataset that you have selected?
8. What are the limitations to the data?
9. Are there differences in the way the data for the different years were produced that make them incompatible?

Deliverable

Submit a one-page briefing sheet that introduces the problem, answers the above questions, and recommends whether your employer should use the National Land Cover dataset for the proposed modeling study.