Organization, Information, and Learning Sciences (OILS) 515 Goals, Objectives and Reading Assignments

An understanding of core spatial data concepts and principles is increasingly important in the current world of collaborative, spatially enabled research and applications. We are no longer working in a vacuum as individual researchers that only need to understand and use the data that we create and use in our separate research projects. Successful research depends upon being able to integrate data generated by others with our own and by extension being able to share our data with others, both during our research projects and also for posterity (and to meet the requirements of funding agencies). This class will focus on the following aspects of spatial data management that relate to this need for effective integration, use, collaboration and sharing:

- The *Research* and *Data Lifecycles*
- Types of spatial data
- Spatial database design and management
- Working with and managing gridded data
- Spatial data documentation standards and practices
- Ethical, legal and privacy issues as they relate to spatial data
- Data management planning
- Emerging topics

Upon completion of the course students will have improved their knowledge and skills in the following areas:

- Locating and evaluating spatial data based upon knowledge of formats, content models and documentation standards
- Structuring data (both in terms of format selection and content) from a variety of sources to enable integrated research
- Evaluate data products to determine which elements of a dataset might raise ethical, legal or privacy issues if released or shared with others
- Documenting data as an ongoing process throughout the research cycle
- Producing machine- and human-readable documentation for data to support discovery, understanding, and use of data that they produce

Week 1 - Introductions, Course Overview and Introduction to the Research and Data Lifecycles

This week's required "collaboratory" session (Tuesday afternoon, 5:00-6:30 - method TBA) will allow us to share some background about each other, review the class structure and objectives and have a brief overview of the research and data lifecycles and the linkages beween them. While this week's lecture will be done "live" during our collaboratory session, future lectures will be pre-recorded and accessible at the beginning of each class week.

Reading

Piwowar, Heather A., Roger S. Day, and Douglas B. Fridsma. 2007 "Sharing Detailed Research Data Is Associated with Increased Citation Rate." Plos One 2, no. 3: Science Citation Index, EBSCOhost (accessed January 20, 2014). link

Tenopir, Carol, Suzie Allard, Kimberly Douglass, Arsev Umur Aydinoglu, Lei Wu, Eleanor Read, Maribeth Manoff, and Mike Frame. 2011. "Data Sharing by Scientists: Practices and Perceptions." *Plos ONE* 6, no. 6: 1-21. Academic Search Complete, EBSCOhost (accessed January 19, 2014). link