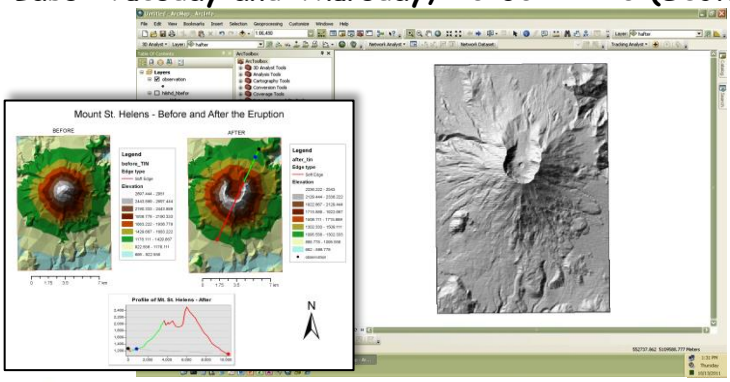
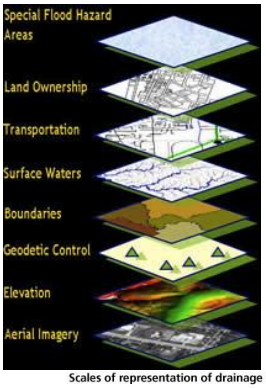
Autumn Quarter 2023
ESS 420: Introduction to GIS for the Earth Sciences

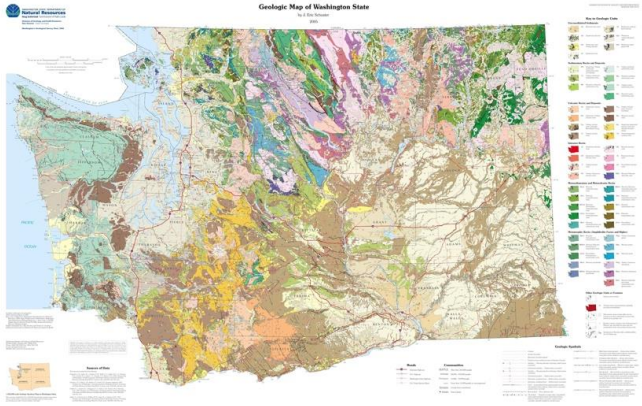
5 credits

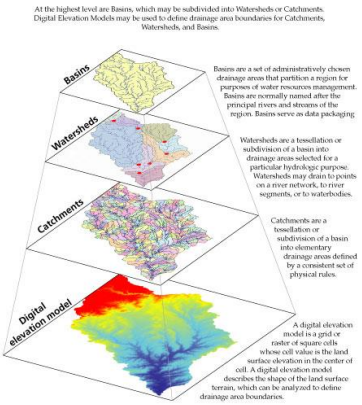
Lectures: Monday and Wednesday, 2:30-3:50PM

Labs: Tuesday and Thursday, 10:30-12:20 (Section A)/2:30-4:20PM (Section B)









Course Overview:

Earth surface phenomena generally do not occur in uniform patterns, but are instead heterogeneously distributed across space. Hence, the ability to examine and analyze these spatial patterns is an incredibly useful tool for earth scientists – and one such analytic tool at our disposal is the use of geographic information systems (GIS). This hands-on computer lab and lecture course provides an introduction to the use of GIS in the earth sciences. We begin by covering the fundamentals of GIS, including the way spatial data are represented and stored, the software tools available (with a focus on Esri ArcGIS), and many of the fundamental methods of analysis. This introduction also includes some of the theoretical aspects of GIS. The course covers these fundamentals through examples in the earth sciences and beyond, and then explores various earth science applications of GIS in greater depth. Topics include discussion of imported data for GIS analysis, introductions to analyses of topography and hydrologic flow, mapping and analysis, and a brief overview of other geomorphologic phenomena for which GIS can serve as a useful if not essential tool.

For more information, contact Steven Walters, swalt826@uw.edu

Note: This course (or equivalent) is required for "ESS 401: Field Geology with GIS"