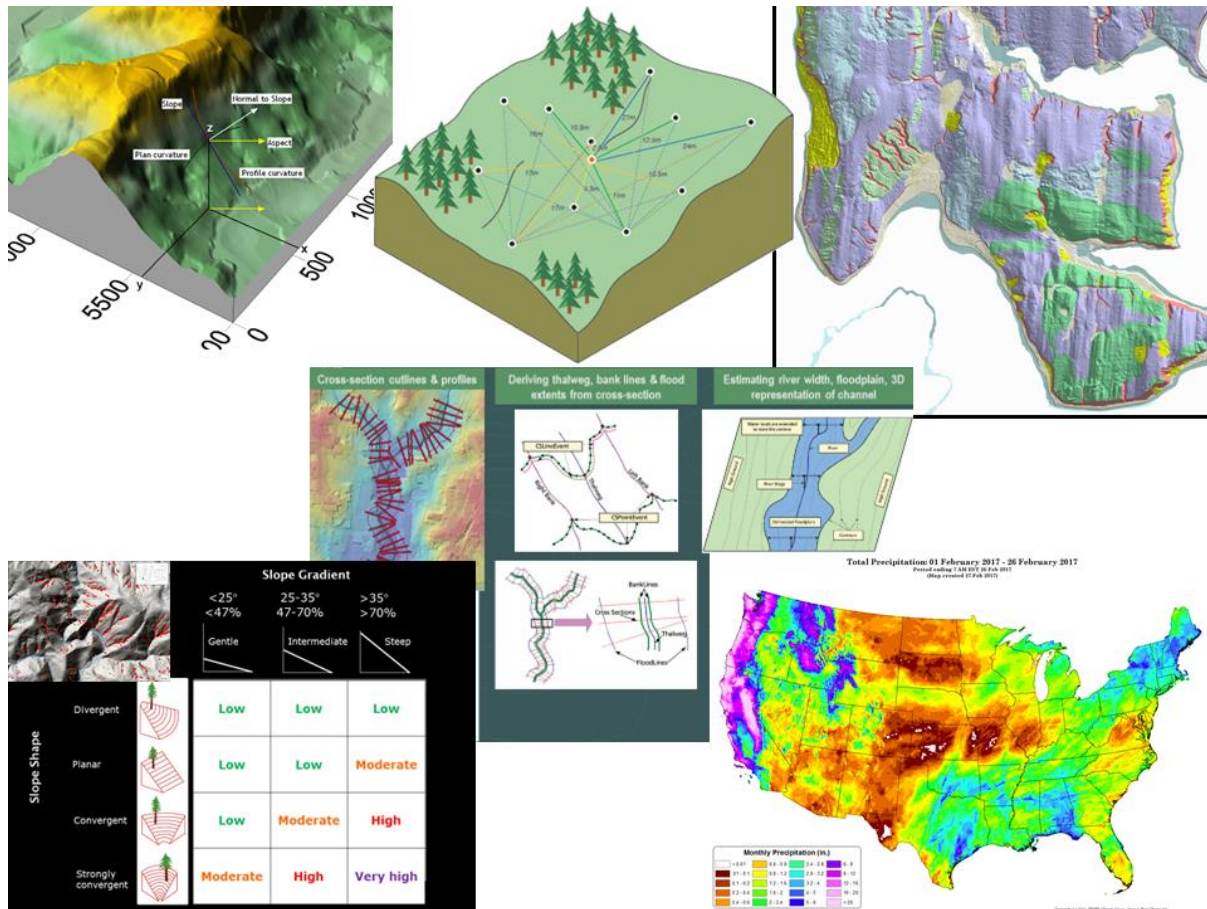


# ESS 520: Applications in Geographic Information Systems (GIS) for the Earth Sciences

Winter 2018

MWF 1:30-3:20, 4 credits



## Course Summary:

This course provides a survey of intermediate applied uses of GIS in the earth sciences. It builds upon skills and topics covered in introductory GIS courses for the earth sciences. We will examine and experiment with more detailed, complex analytic techniques using examples from the peer-reviewed literature. This will provide greater insight into how GIS analysis is put into practice in earth science research. Topics include the following: digitizing from DEM's, imagery and/or scanned maps and creating geodatabases; geologic/geomorphic mapping using production-level standards; interpreting terrain characteristics using hypsometric, curvature and morphometric analysis; using hydrologic flow patterns for river bank modeling; floodplain mapping and analysis; measuring and understanding implications of rainfall patterns; landslide forecasting and analysis; and analyzing other geomorphologic phenomena. Geospatial statistics, including interpolation methods and detection of scale dependence in geospatial phenomena, will also be covered.

**Intro-level GIS (e.g., ESS 420) required. For more information, contact Steven Walters, Senior Lecturer in ESS, [swalt826@u.washington.edu](mailto:swalt826@u.washington.edu)**