**GLG 494/598 Seattle fault mapping**

1. Produce a base map over Bainbridge Island near Seattle using GoogleEarth Imagery. Include a screenshot.
2. Load the bainbridge\_2015\_dtm.tif product. The digital terrain model is shared in Google Drive. It is also available from the Washington Department of Natural Resources lidar portal (https://lidarportal.dnr.wa.gov). Include a screenshot of the DTM plotted in QGIS.
3. Calculate a slope shade. Include a screenshot. What is the dominant orientation and principal morphological characteristics of the topographic features?
4. Calculate hillshades. Include a screenshot. What angle(s) did you choose and why?
5. Optional: Calculate and describe any additional GIS products that you make to visualize the landscape.
6. Spend one hour mapping the landforms. Using the explanation and feature types from the previous homework, map landform morphology including, as appropriate, ridges, sharp and gentle convex and concave slope breaks, trough and ridge on slopes, topographic flats, and drainages. Include your map and legend.

For the mapping, you can either use shapefiles in QGIS, map in Illustrator or a different graphics program, or by hand with colored pencils. You should concentrate on the mapping, not on the technology.

1. Write a one page summary: The first paragraph should be a description of the observed landforms; their sizes, shapes, orientations, and other characteristics. The second paragraph should be an interpretation (only based on your mapping, no need to look anything up). What do you think the main processes were that formed the mapped features? What are the relative ages of the mapped features?