NS481/581 Week 1 Geomorphology Module
Checklist of Class Materials Due Monday July 2, 2001 8:00 AM

Note: Please organize your work in the following order.

(1) Introduction to Topographic Maps Exercise (Monmouth Quad)
(2) Strahler Stream Ordering Exercise
(3) GIS Introduction to Raster / Vector Exercise
(4) Field Hydrology Exercise - Data and Methodology for Measuring Stream Discharge at Helmick Park
(5) Field Hydrology Exercise Part 2 - Determination of River Discharge and Recurrence Interval
(6) In-Class GIS Exercises
   - "Luckiamute GIS Exercise / Precipitation Project"
   - "Surficial Geology Project"
   - "GIS Background Exercise - Fieldtrip to Lewisburg Area"
   - "GIS Background Exercise - Fieldtrip to Black Rock / Falls City Area"
(7) Photocopied / Organized Sections of Week 1 Field Notebook
   (A) Helmick State Park Field Trip
      - Field Hydrologic Measurements of Stream Discharge (Day 1)
      - Alluvial Sediment Coring and Grain Size Analysis (Day 1)
      - Techniques in Calculation of Stream Discharge and Recurrence Interval (Day 1)
      - Landforms: channel, terraces, floodplains, and Spencer Formation hillslopes (Day 2)
   (B) Lewisburg / Sulfer Springs Field Trip (Day 2)
      - Coast Range geology / tectonic setting (accretionary tectonics)
      - Bedrock geology of the Siletz River Volcanics
      - pillow basalts
      - regolith development
      - colluvium vs. residuum
      - landforms: side slopes, hollows, channels, floodplains
      - Sulfer Springs landslide site
         (system feedback, geomorphic process-response, landslides, road construction / anthropogenic influences, hollow hydrologic processes, triggering mechanisms for shallow landslides, forest canopy impacts, faunal response / beaver dams, stream hydrology response / change in gradient, landslide constriction of valley)
   (C) Black Rock / Upper Luckiamute Fieldtrip (Day 3)
      - Bedrock channel systems, knickpoints / waterfalls, knickpoint migration, "tools", erosional processes in bedrock channel systems
      - Stream equilibrium, sediment load vs. stream power, under capacity vs. over capacity channel systems
      - Stream discharge measurement techniques
      - Gravel clast measurement techniques
      - Rudimentary geomorphic mapping (channels, floodplains, terraces, hillslopes)
      - Gravel clast fabric and texture (rounding / angularity, colluvium vs. alluvium)
      - Gravel clast size / shape measurement techniques
      - Bedrock geology of the Yamhill sedimentary rocks
      - Spheroidal weathering patterns in residuum of Tertiary intrusive rocks
      - residuum
      - relative geomorphic dating, terrace development, gravel clast weathering rinds
      - summary of relative geomorphic variation between headwater-mouth of the Luckiamute