

TOPOGRAPHIC CRITERIA FOR RECOGNIZING FAULTS AND VOLCANIC CENTERS

description of criteria	sketch of contour pattern(s)
VOLCANIC CENTER (VOLCANO, VENT, OR FISSURE SOURCE OF FLOWS)	
FAULT	
VOLCANIC CENTER CUT BY A FAULT	
VOLCANIC FLOW (ESP. ON SIDE OF A VOLCANO)	

PART II: MAPPING AND INTERPRETATION (please turn in only this part of the lab)

1. (60) MAPPING THE FAULTS AND VOLCANIC CENTERS

Fold over the right edge of the Modoc Point map and carefully align it against the Swan Lake map; tape the two maps to each other at the top and bottom taking care not to disturb their alignment. Now carefully tape both maps to the light table. Place the tracing-paper overlay on the maps and tape it down at one side.

Mark the corners of the map area *carefully* on the overlay so that you can realign the overlay with the maps. **DO NOT MARK ON THE TOPOGRAPHIC MAPS; WORK ONLY ON THE OVERLAY!**

- a. On your overlay, carefully map *all* the faults you can recognize in the topography. Show faults by heavy black lines; dash line where the position of the fault is uncertain. Remember that the fault line is the intersection of the fault plane with the ground surface; **thus fault lines should be drawn at the *base*, not top of the fault scarp.**
- b. Show on your overlay all the volcanic centers you can detect by marking the eruptive center with a star (*). This should include both recognizable vents along fissures as well as isolated vents and volcanos.

2. (20) Based on your map and the criteria you developed in Part I, what *general* relations are there, if any, between volcanism and faulting in this area? Consider both space (position) and time (relative age) relations. Support your answer by citing specific examples from the map which exemplify the space/time relations.
- a. Describe **spatial** relations between volcanism and faulting (please use list format). Be sure to mention any preferred orientations of faults or volcanos.

Examples to back up your statements. Group the examples by what they show. Please number each example and show its position boldly and clearly on your map.

- b. Describe inferred **time** relations between volcanism and faulting. (This should be a generalization about whether volcanism mostly preceded, followed, or was contemporaneous with faulting. It should not be simply a listing of all possibilities.)

Examples to back up your statements. Group the examples by what they show. Please number each example and show its position boldly and clearly on your map.

