

OBJECTIVE

Become familiar with topographic maps, aerial photos and soil surveys.

EXERCISES

1. Using the Coloma 7.5 min quadrangle, determine:
 - a. Legal description of Perry Mtn.
 - b. Maximum elevation of Perry Mtn. in feet and meters
 - c. Distance from Perry Mtn. to the Uniontown Cemetery in miles and kilometers.
 - d. Average slope gradient (%) of line segments A in section 6 and B in section 12.
 - e. The general direction (N, E, W, S) of flow of the main stream on the map.
 - f. The area in acres and hectares of the delineated area C in the NE corner of section 7, R10E, T11N.
 - g. The year in which historically significant activity took place in section 17.
 - h. Rounded to the nearest whole mile, the number of miles Murphy Mtn. is north of the Mt. Diablo baseline and the number of miles east of the Mt. Diablo meridian.

As the crow flies?

2. Using the El Dorado soil survey determine:
 - a. Total area of the survey and general location of the survey with respect to Sacramento.
 - b. The map unit with the greatest area.
 - c. Highest and lowest air temperatures (° C and ° F) and mean annual precipitation in the survey area.
 - d. Find the parcel of land from 1f, above, and determine:
 - i. Which map units are included in the parcel.
 - ii. Which soils are included with the soils for which the map units are named.
 - iii. The family classification of each named soil in these map units.
 - iv. Parent materials from which these soils formed.
 - v. Kinds of vegetation present when the survey was made.
 - vi. Suitability for use of soils in these map units as sources of topsoil.

e. Which soils occur in the following areas:

| | <u>Map Symbol</u> | <u>Dominant Soil</u> |
|----------------------------|-------------------|----------------------|
| SW 1/4, Sec. 8, R11E, T13N | _____ | _____ |
| SE 1/4, Sec. 19, R9E, T10N | _____ | _____ |

3. Aerial Photos

If you have never seen in stereo, try this before completing the exercise. If you know how to use a stereoscope, skip to the next exercise. Get a stereoscope and two small pieces of white paper. On one sheet, about one inch from the right edge, draw a short vertical line with a dot in the center. On the other sheet, draw a similar line horizontally about one inch from the left edge of the sheet. Place the sheets so the vertical line is under the left eye-piece and the horizontal line is under the right eye-piece. Look through the eye-pieces, touching your forehead gently to the frame of the stereoscope. Relax your eye muscles as if you were viewing a distant scene. Move the sheets slowly toward or away from each other until you see the image of a cross merging at the dots. If seen properly, you will be conscious of three images: a vertical line to your left, a horizontal line to your right (both seen indistinctly), and a clear image of the cross in the center. Follow a similar procedure with the photographs. Look for two identical points on the two photographs and position the stereoscope above them.

a. Get a copy of the ESCP stereo atlas and look at some landscapes with maximum relief. See p. III, then plate 27. Look for: the glaciers on Mt. Rainier, plate 9, old Lake Bonneville shoreline, plate 10 and the Coors beer factory in Golden, CO, plate 20.

b. Get a copy of "Aerial-Photo Interpretation in Classifying and Mapping Soils". Using the stereo pair on p. 21, determine relative elevations (higher, lower, about the same) of fields:

A and B

B and C

A and C

Which general direction is the main stream running?

c. Examine photos on pages 22 to 54, noting the relationships among landforms, vegetation and soils. Identify by state name where the following features are observed:

Sand mound micro-relief

Gully erosion

Bogs (high water table)