

The Sierra Nevada

Purpose: To acquaint the student with the region called the Sierra Nevada (Snowy Range).

I. Location

A. Trending from the S.E. to the N.W. a single rotated fault block mountain range over 430 miles long and about 70 miles wide.

B. Its boundaries are indistinct

usually drawn from the Transverse ranges (Garlock Fault or Tejon Pass) in the south to the beginnings of recent Volcanics (usually the N. Fork of the Feather River, the escarpment overlooking Honey Lk. and lake Almanor) in the north.

The Sierras are made of intrusive igneous and metamorphic rock as well as to extrusive igneous (andesites around Tahoe and Devil's Postpile) but little sedimentary rock.

II. Physical Geography

A. Elevations up to 14,495' Mt. Whitney;

B. Sierras are the single most impressive landform in the state

C. Geologic History

1. Refer to early lectures.

2. Most important facts.

a. Granitic intrusions about 130 million years ago, metamorphosed earlier sedimentary cover. Heat also concentrated gold called loading = mother load etc, and other valuable minerals in the rock.

b. In the last 10 or so million years uplift has produced today's sierra and the overburden has been eroded away revealing the granites which were originally buried over 7 miles beneath the earth when they cooled.

c. This recent uplift caused the land to rise like a trap door opening with the hinge on the west.= gentle western escarpment when compared to the steep eastern.

d. Erosion of metamorphics caused the separation of heavier gold from lighter silicas in stream beds (placer deposition) and thus the ancient and current stream bed deposits became rich in gold bearing ores.

e. Other than gold there is silver, tungsten and molybdenum. (Nation's largest Moly-Tung. mine is near Pine Creek, west of Bishop.

f. Erosion also caused V shaped valleys and Pleistocene Glaciation left glacial landforms in the Sierras which are well preserved in the hard granites esp. around Yosemite. SLIDES

g. Sediments washed into the central valley make good soils and today the slow melting of sierra snow provides water for irrigation and storage for the state.

h. Time permitting talk about glacial landforms.

III. Cultural Geography

A. Most of Sierra Nevadas are not habitable.

B. Great place to play. i.e. ride, hike, fish, ski etc.

C. Foothills are well developed. Towns like Auburn, and the numerous towns of the gold mining days are fun to visit, being mainly tourist attractions today. SLIDES

D. The 2nd largest Indian reservation (54,116 acre Tule River Indian Res. southwest of Sequoia Pk.) in Calif. is in the western foothills. There are several small Rancheria's (small reservations) also in western sierran foothills.

E. There are resort areas (like Mammoth, and National Parks and Monuments like Sequoia, Yosemite, Devil's Postpile as well as other private and local i.e. S.F and Oakland's city Camps north of Yosemite, Red's Meadows Pack station in Devils Post Pile and etc.) to attract the tourist.

F. A 200 mile stretch from Walker Pass (Rt. 178) to Tioga Pass (Rt. 120) = no vehicle passage, and many days of the winter roads across the sierra are not passable. The sierras are as formidable a geographic barrier for people as they are for water.

G. Some livestock ranching takes place in western sierra.

H. Dams on several of the major rivers produce hydroelectric power and water storage for the various Ca. water projects. See previous lectures for more.

I. Many retirement communities dot the western foothills. Notably the town of Paradise is a recent popular retirement community. Ample development of cabins in the mountains and condos. as second homes for affluent Californians has taken place. The latest scam is time sharing purchases.

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