Paleoflood Perspectives on Flood Hazards in Western United States

by

Dean A. Ostenaa
Geologist
Geophysics, Paleohydrology, & Seismotectonics Group
U.S. Bureau of Reclamation
Denver, Colorado

This paper is not available. The essence of the paper will be included in the Folsom Dam Paleoflood Study being conducted by the Bureau of Reclamation. This Study is designed to assess the flood hazard posed to Folsom Dam by large and extremely rare floods. The paleoflood information will be used to characterize the probabilities of flood magnitudes greater than those represented by the historical record.

Draft findings of the Folsom Dam Paleoflood Study were released in July 1998. Two pages of the draft findings are included in order to give you some idea of the kind of information the final report will contain.

The Study is expected by be available by the end of 1999. If you would like a copy when it is available, please contact the author at the address below:

Dean A. Ostenaa
Geologist
Geophysics, Paleohydrology, & Seismotectonics Group
U.S. Bureau of Reclamation
P.O. Box 25007, D-8330
Denver, CO 80225

DRAFT

Folsom Dam Paleoflood Study Findings

January 1997 flood is an excellent analogy for extreme floods. In the region, over the past few hundred years, similar floods are recorded repeatedly.

Flood experience of the past 50 years on the American River is not anomalous compared to the paleoflood record.

Downstream of Folsom Dam, a discharge of 300,000 ft^3/s to 400,000 ft^3/s has not been exceeded on the American River in 1500 to 3500 years.

Regional paleoflood data are consistent with the regional historical peak discharge envelope curve.

DRAFT

Folsom Dam Paleoflood Study Findings

- The regional peak discharge envelope curve with paleohydrologic data indicates that downstream of Folsom Dam a peak discharge of 445,000 ft^3/s has not been exceeded in 10,000 years.
- Paleohydrologic bounds demonstrate that there have not been significantly larger floods in the past several thousand years.
- Paleohydrologic bounds substantially impact flood frequency estimates for extreme floods.
- Paleohydrologic bounds constrain frequency estimates for one-, three-, and five-day flows.