

Updating California Precipitation Frequency Estimates

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BIOGRAPHICAL SKETCH

Geoff Bonnin is Chief of the Hydrologic Science and Modeling Branch of the U.S. National Weather Service, Office of Hydrologic Development. He manages science and technique development for flood and stream flow forecasting and water resources services provided by the National Weather Service. The work of the group includes development and maintenance of U.S. precipitation frequency estimates. Geoff initiated the development of NOAA Atlas 14 and was lead author for the first three volumes.

Geoff Bonnin graduated B.E. (Civil) from the University of Queensland, Australia and M.S. (Engineering Management) from the University of Kansas. He is a Chartered Member of the Institution of Engineers Australia and a member of the American Society of Civil Engineers. He has extensive experience in flood forecasting and flood forecast systems development with the U.S. National Weather Service and the Australian Bureau of Meteorology. He also has extensive experience in software engineering and systems integration in private industry. His primary areas of expertise are in data management as the integrating component of end-to-end systems, the science and practice of real time hydrologic forecasting, estimation of extreme precipitation climatologies, and the management of hydrologic enterprises. Mr. Bonnin is one of the developers, and the primary implementer, of Standard Hydrometeorological Exchange Format (SHEF).

ABSTRACT

The rainfall frequency atlases and technical papers published by the National Oceanic and Atmospheric Administration's (NOAA) National Weather Service (NWS) serve as de-facto national standards for rainfall intensity at specified frequencies and durations in the United States. This presentation reports on the status and schedule for updating frequency estimates for the part of California not currently included in NOAA Atlas 14 Volume 1. It includes a discussion of the user survey and decision to continue producing 1,000 year average recurrence interval estimates, the potential impact of climate change on the estimates, and a discussion of the status of Federal guidelines for probable maximum precipitation estimates for the United States.



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Topics

- **NOAA Atlas 14 Intro and Status**
- **California Schedule**
- **Data Collection**
- **1,000 Year Estimates**
- **What About Climate Change?**
- **PMP Issues**



Precipitation Frequency Estimates



- **Durations**
 - *5 minutes to 60 days*
- **Average Recurrence Interval**
 - *1 to 1,000 years*
- **High Resolution Spatial Estimates**
 - *30 arc second*
- **Confidence Limits**
 - *upper and lower 90%*



Web Based Products & Delivery



- **“Precipitation Frequency Data Server”**
 - www.nws.noaa.gov/ohd/hdsc
- **Interactive Tables and Charts**
- **High Quality Maps Produced Using GIS**
- **Base Grids**
 - *Shapefiles, ASCII Grids, ArcInfo & STDS compatible*
- **Areal Reduction Factors**
- **Temporal Distributions**
- **Documentation**



NOAA Atlas 14 Status



