Flood Forecasts and Inundation Mapping in Western Placer County

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Watershed Area
Current Forecast Process

- ALERT rain gage
- QPF from NWS
- Compute runoff
- Compute stages
- Provide to Emergency and City Services
Floodplain Maps

Roseville
Add Flood Inundation Maps

- Static flood map library
  - Specific index points
  - Public web access
- Dynamic mapping
  - Internal use
Inundation Mapping

No Flood

Moderate

Action

Major

Minor

Major
Map edge implies more confidence than warranted.
Flooding Highly Likely

Flooding Possible
Levee Failure Analysis

Worst case scenario
Probabilistic Flood Mapping
Levee Failure Analysis

- Probabilistic flood maps
  - Monte Carlo breach analysis
    - Variable side slopes, width, time
      - Parameter distribution
    - >10,000 runs
  - Rank peak discharges
- Downstream mapping
Summary

- Decision support tools
  - Flood forecasting
  - Static flood maps - Public
  - Dynamic flood forecast maps - Internal
  - Probabilistic flood maps