

## Setting the baseline: Central Valley hydrology study



### Overview of discussion

- Overview of the CVHS study
- Study procedures: How we establish the baseline
- Study products, and how they can be used
- Future phases: Climate variability

## Sacramento-San Joaquin watershed

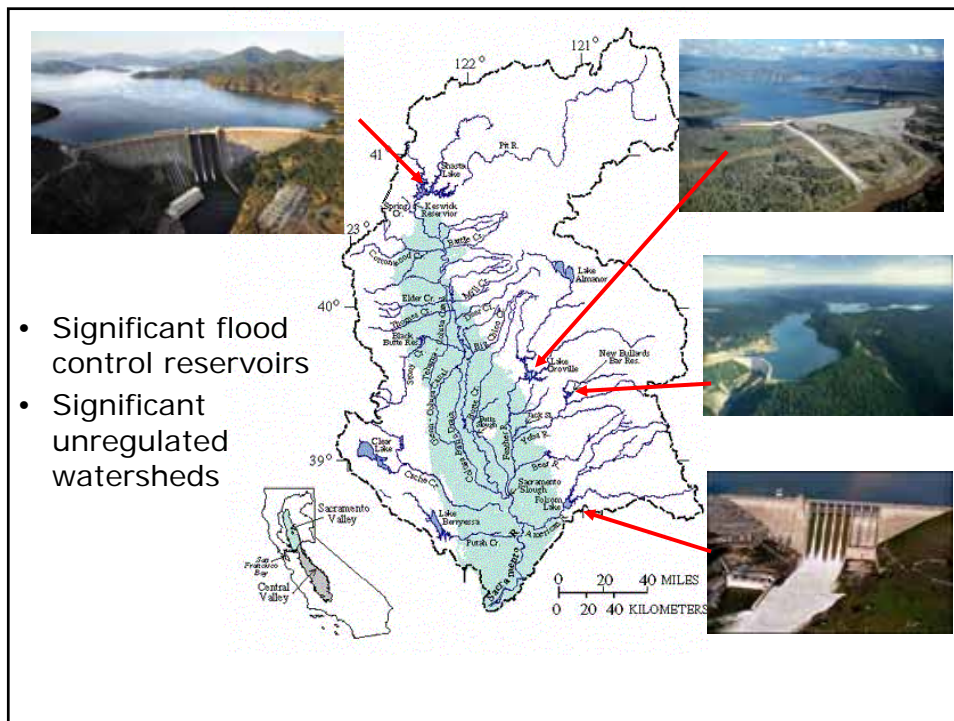


### Sacramento River

- At Rio Vista = 27,000 sq mi
- 37 reservoirs

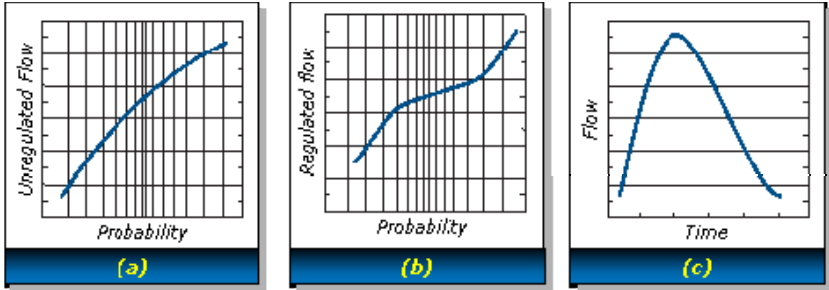
### San Joaquin River

- At Mokelumne River = 20,000 sq mi
- 36 reservoirs

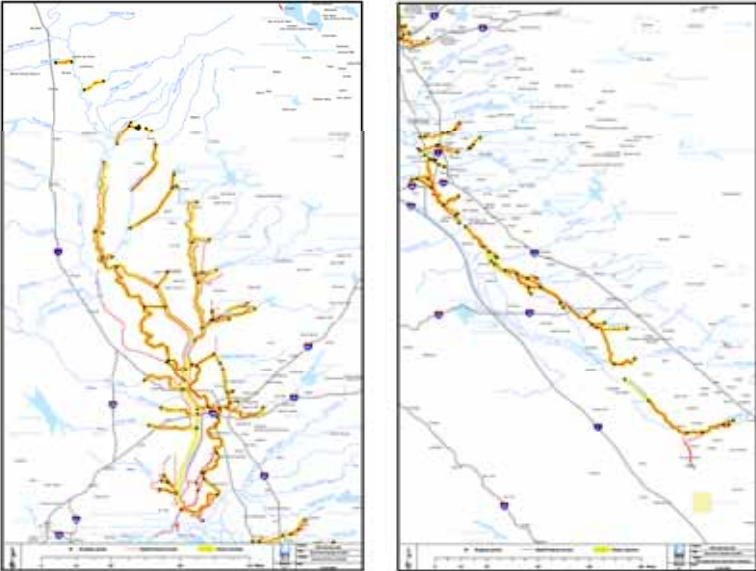


# Products

- Unregulated and regulated flow-frequency curves to describe flood risk
- Associated hydrographs for floodplain delineation
- System-wide historical hydrographs



# Where?



## Primary use

- Results characterize flood risk for:
  - Existing condition of system
  - Existing operation of system
- Set baseline for later alternative analysis (structural and non-structural)
- Tools/data available for alternative “baselines”



## Project team



## Review

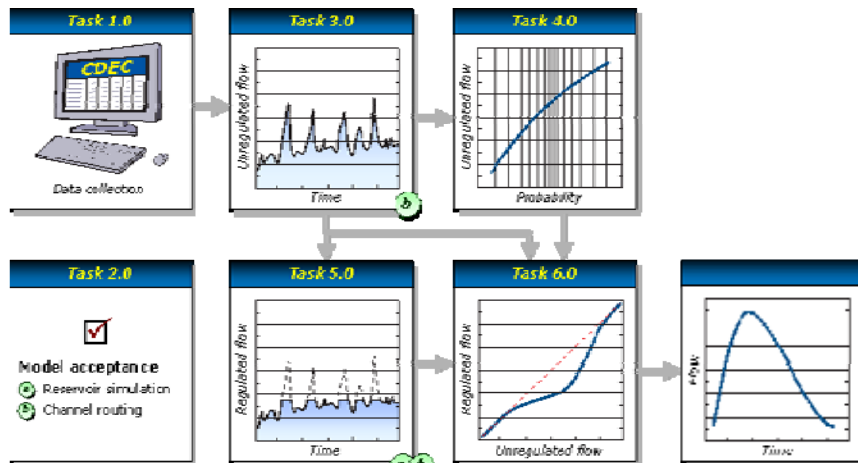
- Corps independent technical review
- Hydrologic advisory committee (HAC)

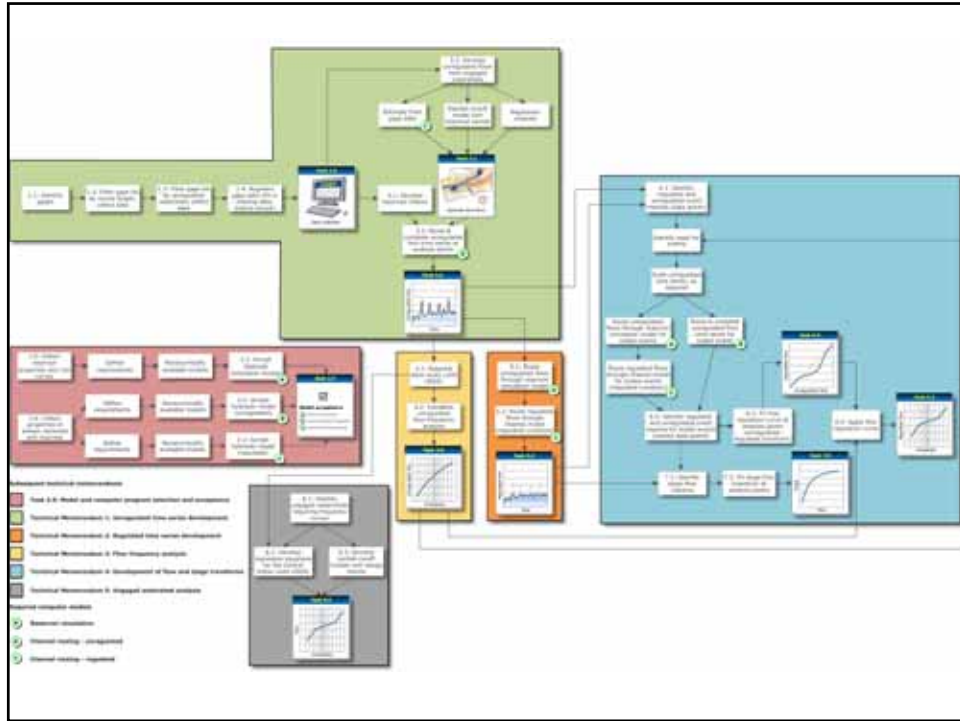


- Reviewers from CV floodplain evaluation and delineation (CVFED) teams

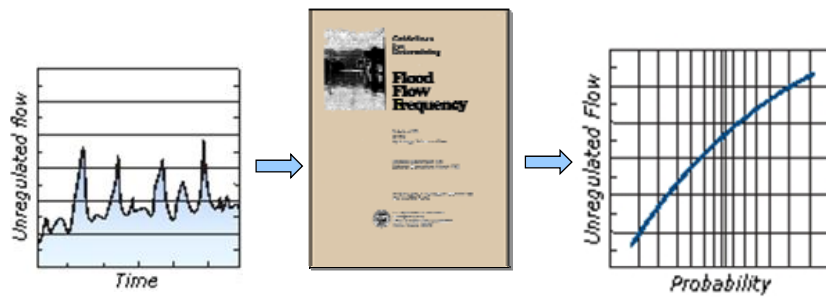


## Analysis procedure

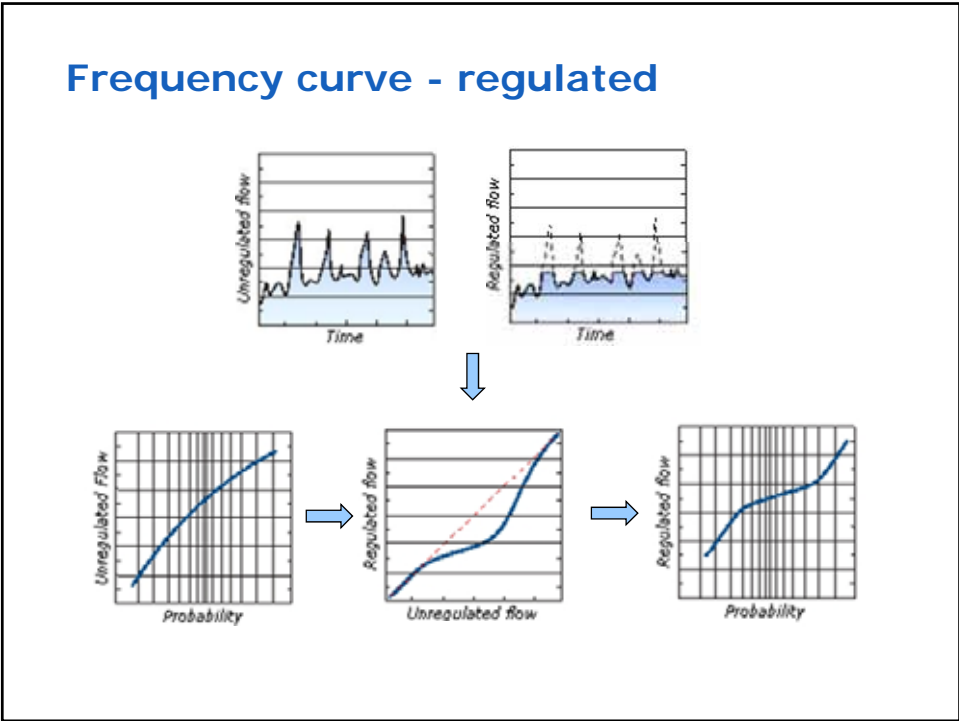




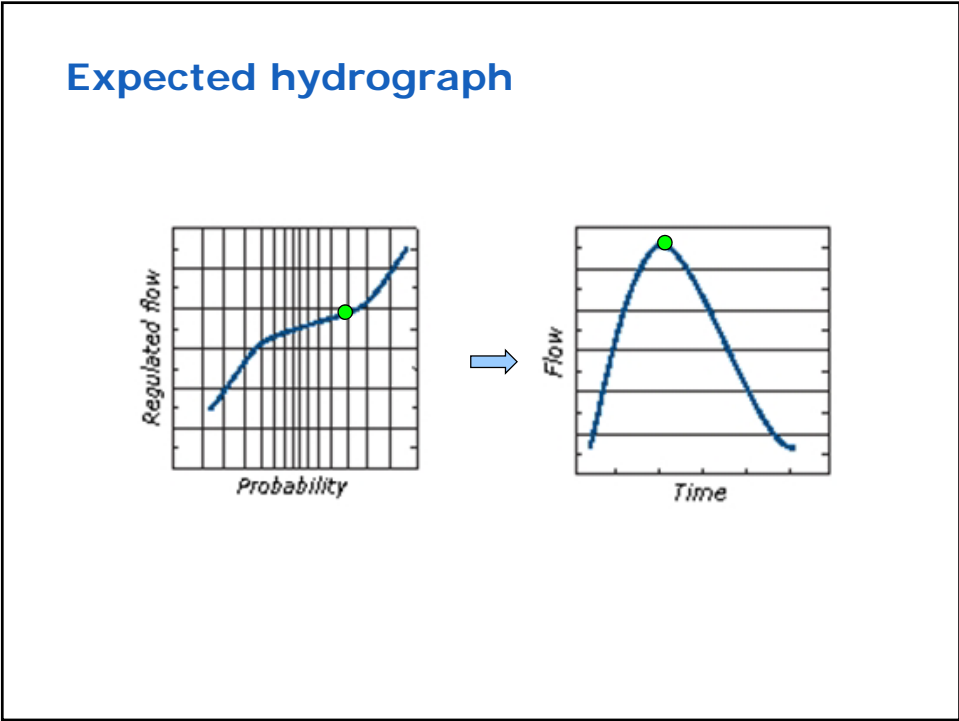
## Frequency curve - unregulated



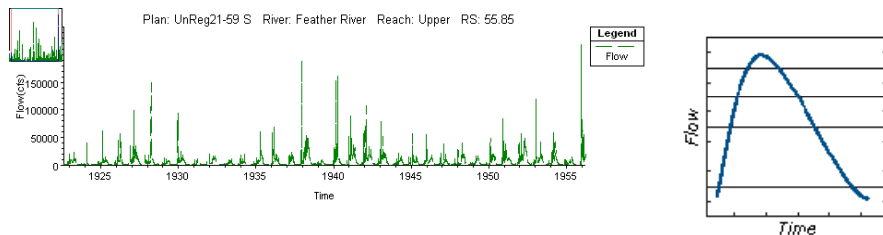
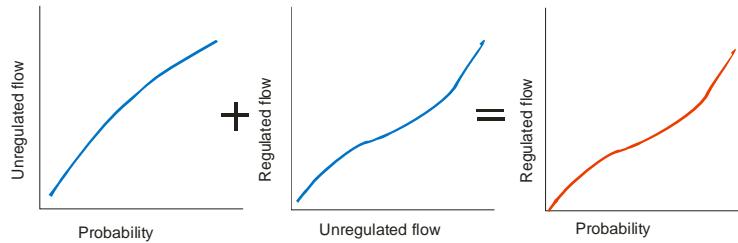
# Frequency curve - regulated



# Expected hydrograph

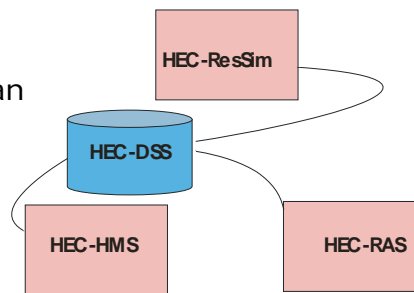


## Products at a given analysis point



## Analysis tools that we will use

- Flood flow frequency application = HEC-SSP
- Reservoir routing application = HEC-ResSim
- Channel routing application = HEC-RAS/UNET
- Watershed runoff modeling application = HEC-HMS (as needed)
- Miscellaneous computations = HEC-DSS applications, Excel
- Data management plan already in place



## Then what?

- Models and data available for other studies
  - Alternative analysis
  - Scenario analysis
- Climate change analysis. Sensitivity analysis on the effects of climate change using credible assumptions.