

Incorporating Water Right Based Diversions Into CalSim

Presentation titles:

Session Introduction

Land Use Projection for CalSim

Water Rights Mapping into CalSim

CalSim Rim Inflow Projection

A CalSim Model for Water Rights Diversion in Sac Valley



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A Session Introduction

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California Water Rights and Drought

- California Water Rights
 - A water right is a legal entitlement authorizing water to be diverted from a specified source and put to beneficial, nonwasteful use. Water rights are property rights, but their holders do not own the water itself. They possess the right to use it. The exercise of some water rights requires a permit or license from the State Water Resources Control Board, whose objective is to ensure that the State’s waters are put to the best possible use, and that the public interest is served.
- Water Rights in Central Valley

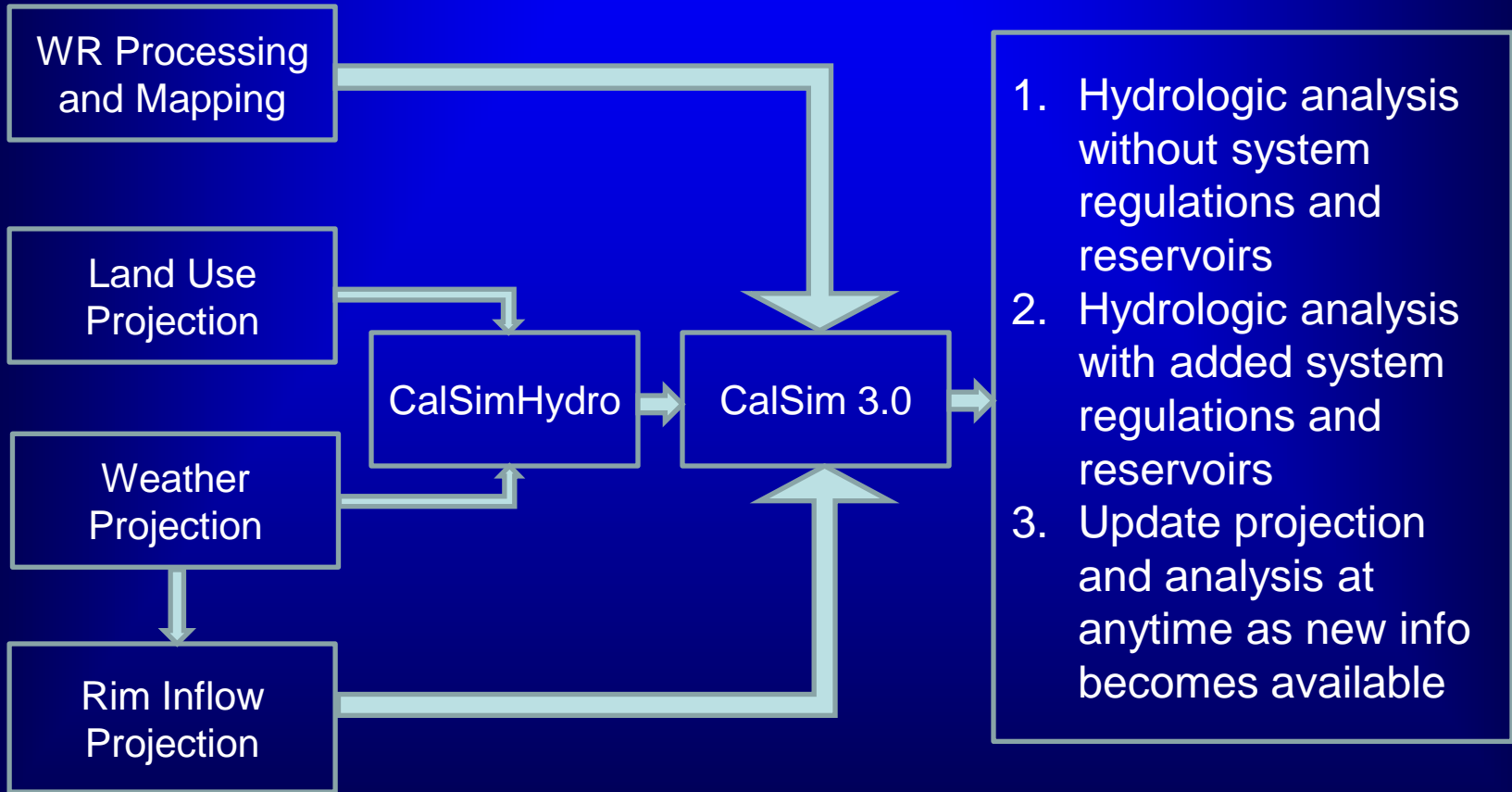
Water Rights Priority	Number of Water Rights			
	Sacramento Valley	San Joaquin Valley	Delta	Central Valley
Riparian and Pre-14	~3300	~1200	~3000	~7500
Post-14, Pre-SWP/CVP	~2400	~1100	~300	~3800
CVP/SWP & Post-SWP/CVP	~1300	~500	~30	~1800
Total	~7000	~2800	~3300	~13100

- Water Rights During Drought

Water Rights Modeling Using CalSim 3.0

- What is CalSim 3.0 model?
 - Water resources planning model that simulates SWP/CVP operations and other water infrastructures
 - Jointly developed by DWR & Reclamation
 - Monthly time-step
 - Will supercede CalSim-II once released
 - Minimal water rights being modeled
- Incorporating Water Right Based Diversions Into CalSim 3.0
 - Real-time projection
 - Long-term planning

Incorporating Water Right Based Diversions Into CalSim 3.0 for real-time projection



Next Steps

(How to Make the Model More Useful and Practical)

- Geo-reference POU and POD for all water rights
 - Attributes should include purpose of use, priority date, season/month of use, etc.
 - In case of multiple POD, develop proportions for each POD
- Identify land use (crop types) over time so that reasonable and beneficial uses can be estimated.
- Gather and estimate groundwater uses and recharges
- Develop estimates on the stream-aquifer interactions
- Develop forecasting capability in real-time land use