

Aligning C2VSimCG and CalSim Applications for Future Modeling Needs

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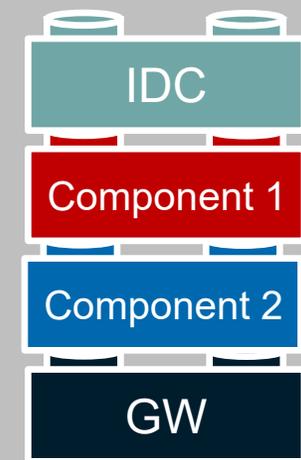
C2VSimCG-CalSim3 Model Alignment: Why Is It Relevant?

- Groundwater in Central Valley is predominantly driven by recharge and pumping
- Calibration of the groundwater component of C2VSimCG is directly influenced by the root zone and land surface (IDC) component

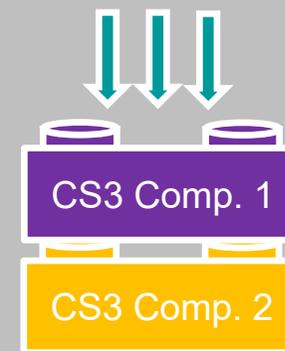


C2VSimCG-CalSim3 Model Alignment: Why Is It Relevant?

- **Desired** workflow to represent hydrology and groundwater system in CalSim3:
 1. Calibrate historical C2VSimCG
 2. Plug the GW component (GWDLL) of C2VSimCG into CalSim3
 3. Use IDC portion as a pre-processor



C2VSimCG



CalSim3

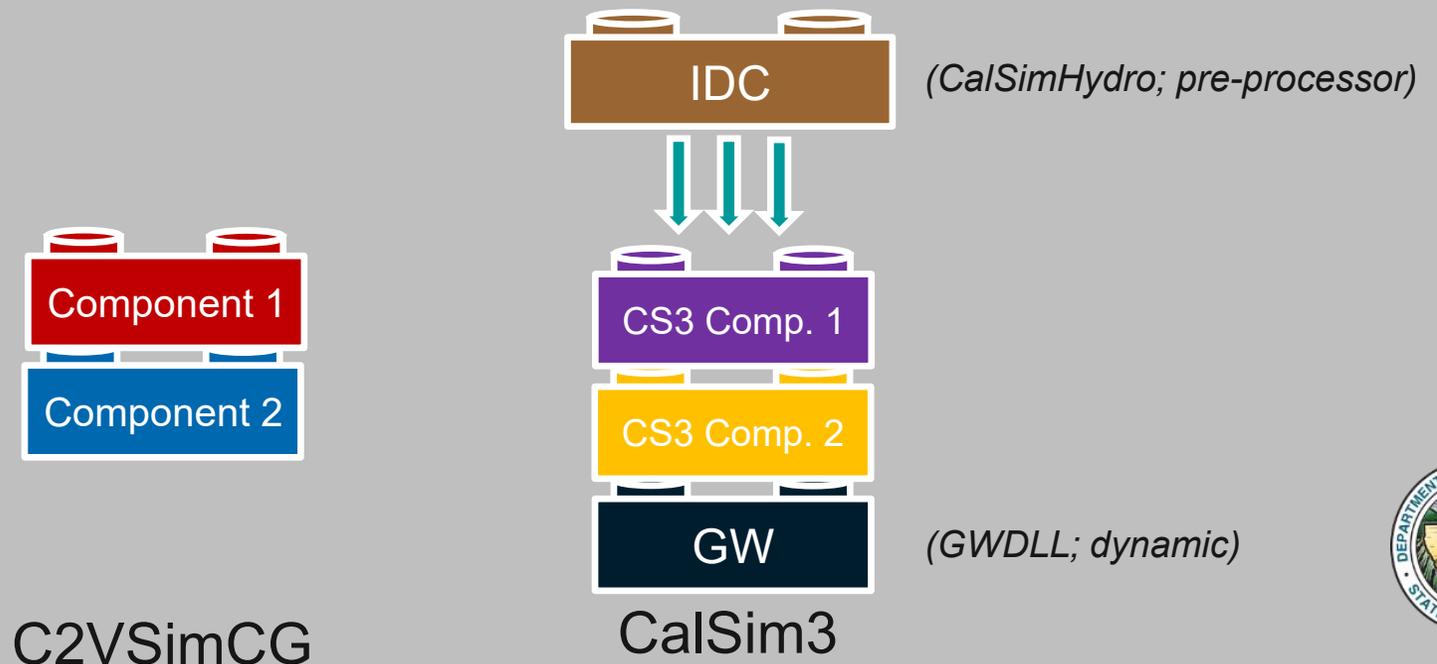
(CalSimHydro; pre-processor)

(GWDLL; dynamic)



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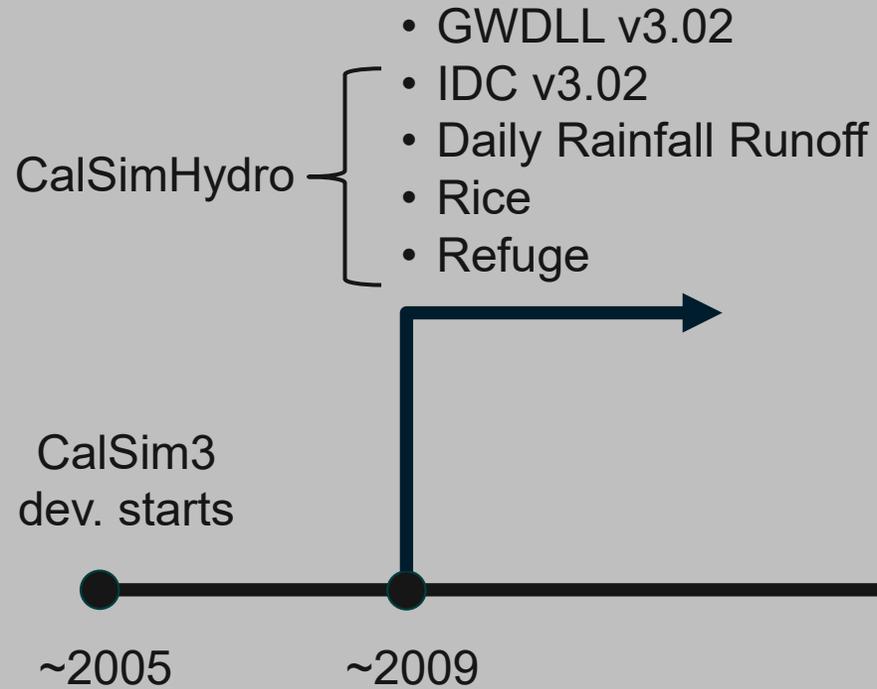
GWDLL, CalSimHydro and IWFM Timeline

CalSim3
dev. starts

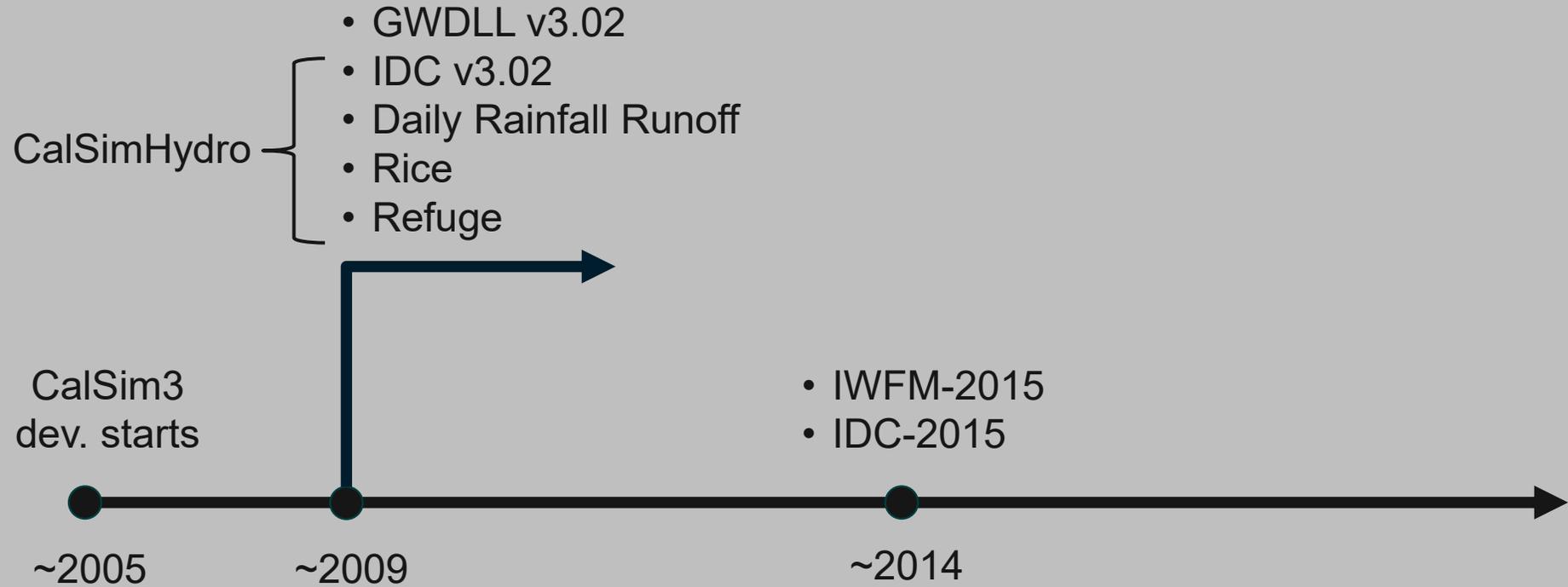
~2005



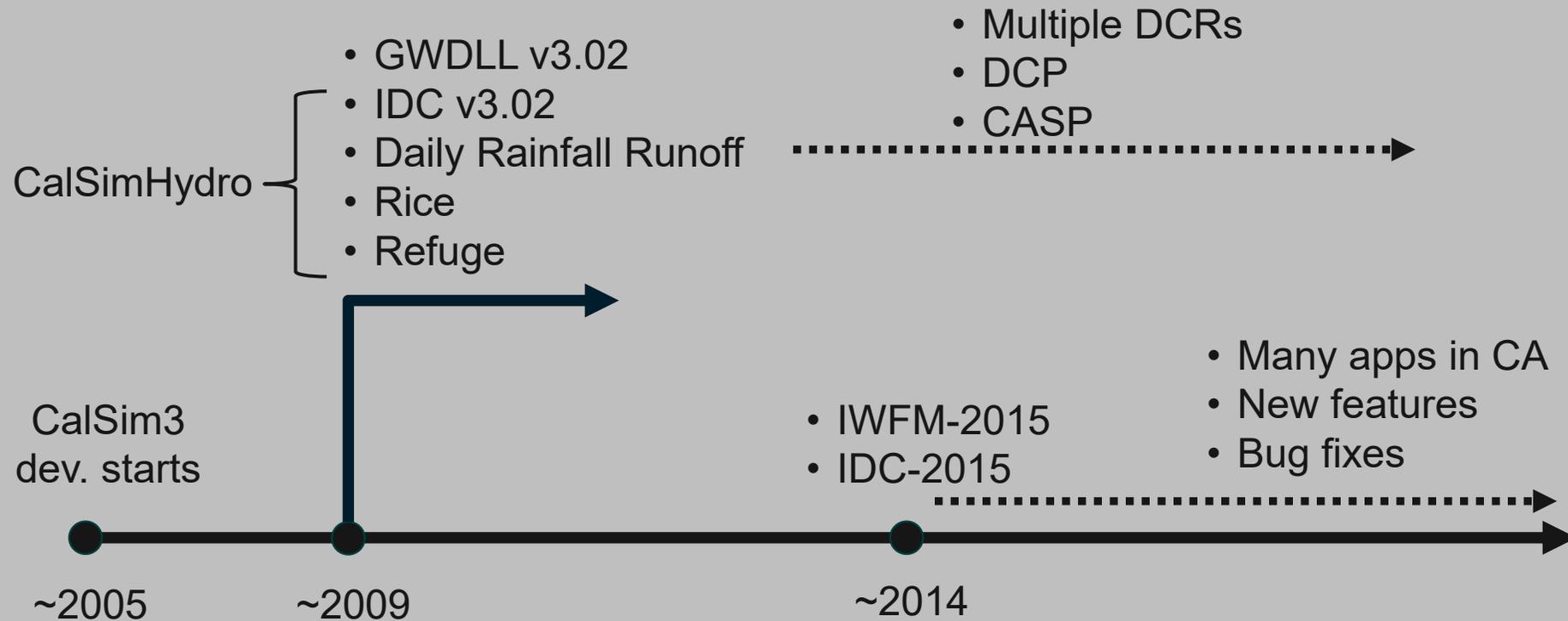
GWDLL, CalSimHydro and IWFM Timeline



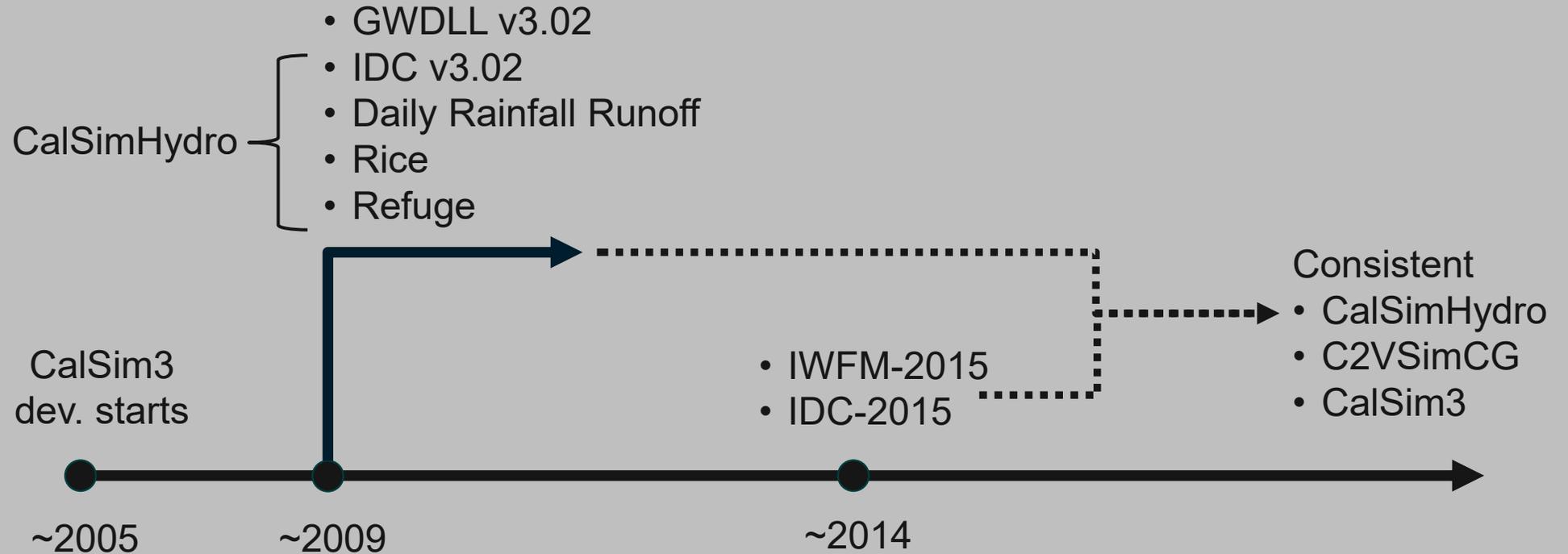
GWDLL, CalSimHydro and IWFM Timeline



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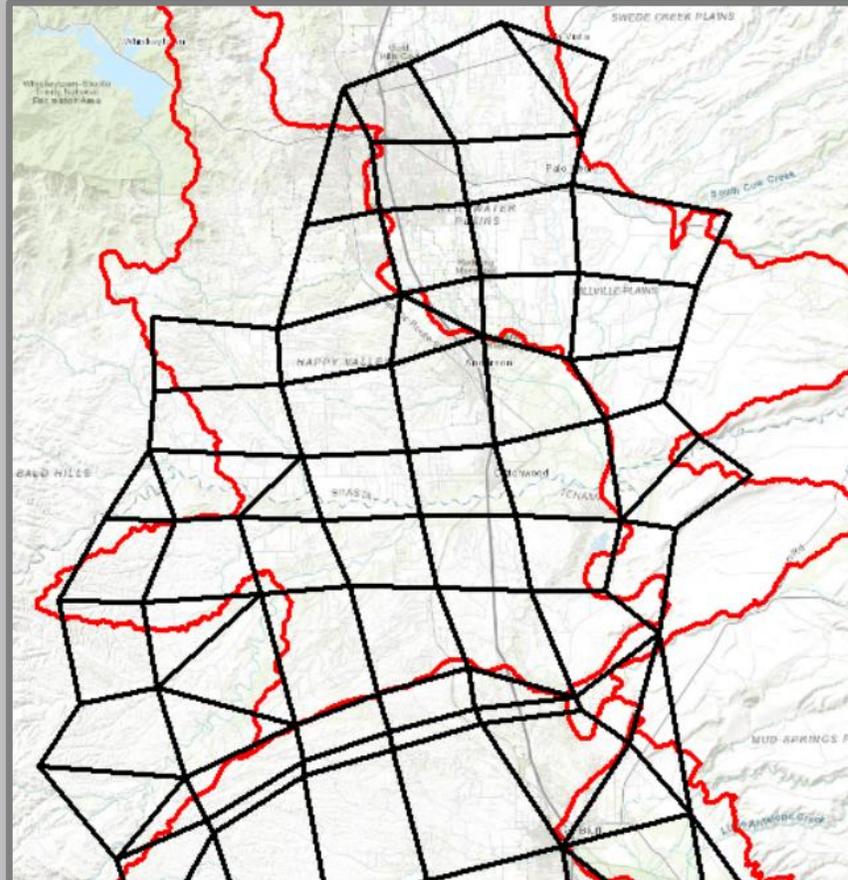
C2VSimCG-CalSim3 Model Alignment: Phase 1 – Alignment of Numerical Engines

- Completed
- A new GWDLL has been developed from the latest IWFM code
 - The new GWDLL has been populated with data from the latest C2VSimCG v1.0 model, linked to CalSim3 and is in testing phase
- CalSimHydro v2.0 engine has been developed using the latest IDC code
 - Data from original CalSimHydro have been used to populate CalSimHydro v2.0
 - CalSimHydro v2.0 has been calibrated to replicate water demands, percolation and surface flows from original CalSimHydro as best as possible
- In the process of QA/QC'ing and testing



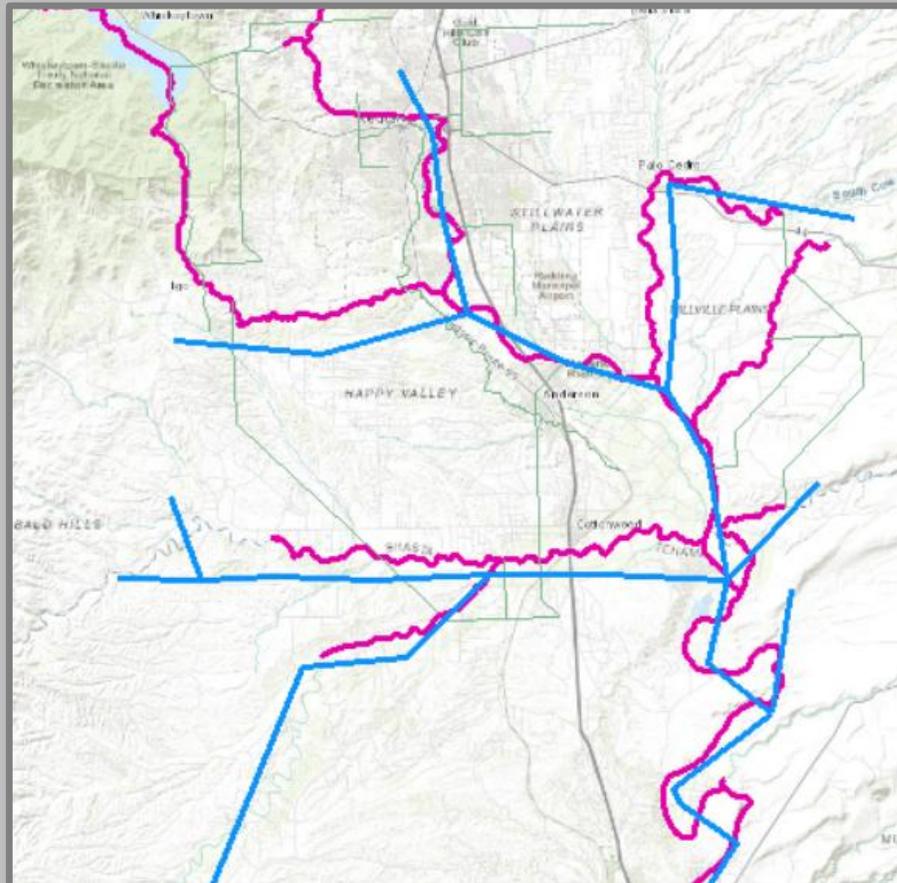
C2VSimCG-CalSim3 Model Alignment: Phase 2 – Alignment of Applications

- Develop consistent groundwater and surface flow boundaries recognized by both models



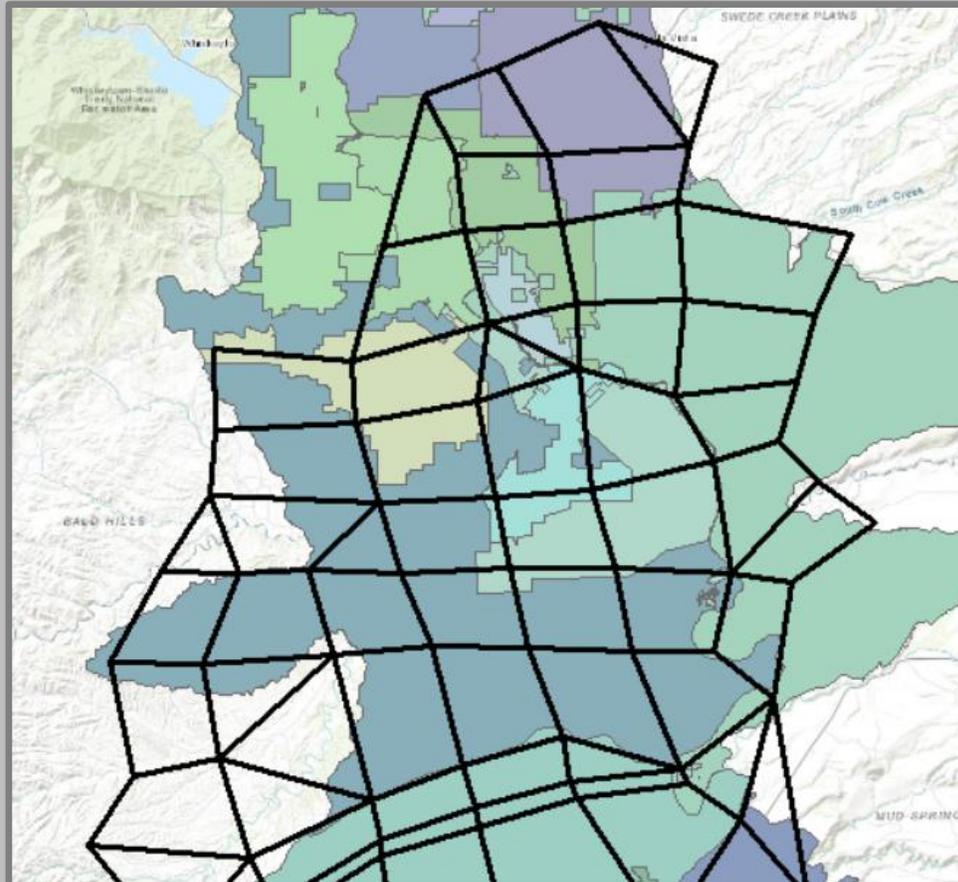
C2VSimCG-CalSim3 Model Alignment: Phase 2 – Alignment of Applications

- Develop consistent stream network and diversions



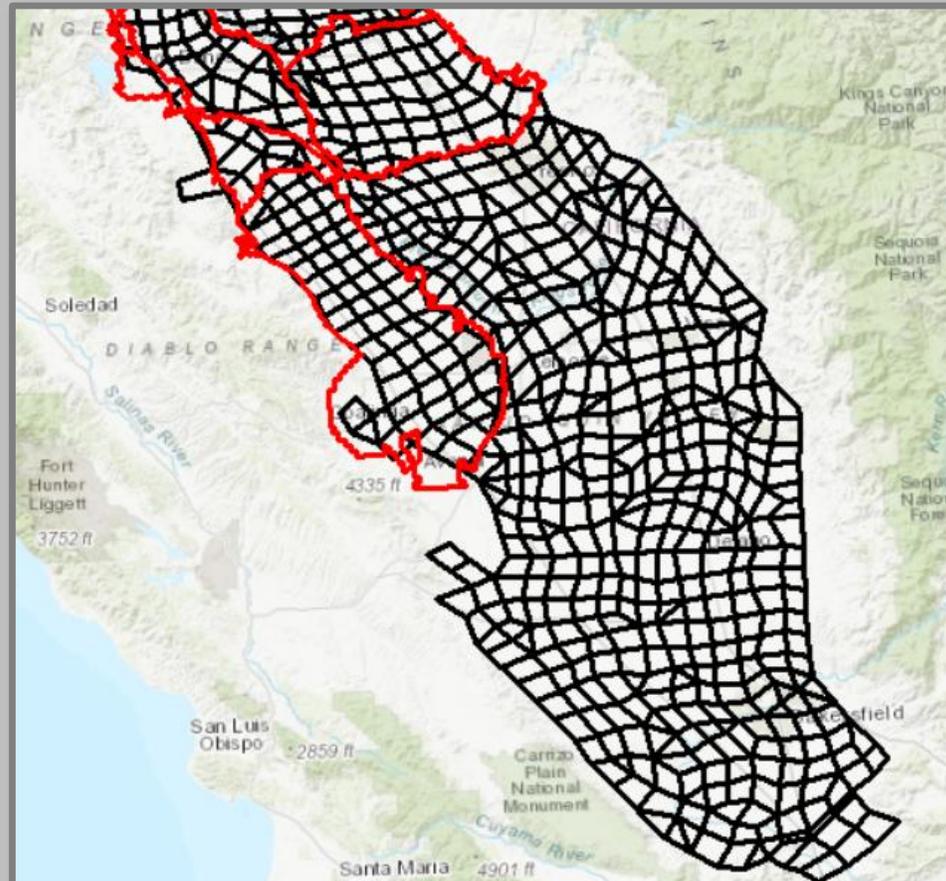
C2VSimCG-CalSim3 Model Alignment: Phase 2 – Alignment of Applications

- Allow CalSimHydro to recognize C2VSimCG grid and C2VSimCG to recognize Demand Units



C2VSimCG-CalSim3 Model Alignment: Phase 2 – Alignment of Applications

- Include Tulare Basin in CalSim3





C2VSimCG-CalSim3 Model Alignment: Phase 2 – Alignment of Applications

- Phase 2 desired outcomes:
 - A better streamlined C2VSimCG-CalSim3 workflow
 - Calibration of only one model, C2VSimCG
 - Ability to use IDC portion of the C2VSimCG for CalSim 3 hydrology development (i.e. as CalSimHydro)
 - Develop closure terms using C2VSimCG
 - Pave the path for more rigorous C2VSimCG-CalSim3 linkage similar to CVSOM (application of IWFM-Ops to Central Valley) to support simulation of SGMA-related constraints





Questions?

