

C2VSim Fine Grid Overview and Updates

Craig Altare

California Department of Water Resources

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C2VSimFG

- **F**ine-**G**rid version of the **C**alifornia **C**entral **V**alley Groundwater-Surface Water **S**imulation Model
- Simulates water movement through the linked land surface, groundwater, and surface water flow systems in California's Central Valley
- All versions are based on the Integrated Water Flow Model (IWFM)
 - IWFM Resources:
 - Information: <https://www.water.ca.gov/Library/Modeling-and-Analysis/Modeling-Platforms/Integrated-Water-Flow-Model>
 - Code + Executables + Documentation: <https://data.cnra.ca.gov/dataset/iwfm-integrated-water-flow-model>
 - Support: IWFMtechsupport@water.ca.gov

C2VSim background

- C2VSimCG
 - Suitable for addressing broader water management questions in the Central Valley
 - Basis for groundwater component of CalSim3
 - Fast run time (<10 minutes)
- C2VSimFG
 - For use in the development of more detailed studies (e.g., subregional or subbasin level)
 - Longer run time (3-5+ hours)

C2VSim Coarse Grid



Number of Elements: 1,392
Average Area (acres): 9,190
Min Area (acres): 1,366
Max Area (acres): 21,379

C2VSim Fine Grid



Number of Elements: 32,537
Average Area (acres): 407
Min Area (acres): 4
Max Area (acres): 1,771

C2VSimFG Motivation

- Sustainable Groundwater Management Act (SGMA)
23 CCR § 354.18: The Department shall provide [C2VSim] and [IWFM] for use by Agencies in developing the [GSP's] water budget. Each Agency may choose to use a different groundwater and surface water model, pursuant to Section 352.4.
- Of the 36 groundwater subbasins within the Central Valley, 25 of them use C2VSimFG or local IWFM models to develop their Groundwater Sustainability Plans (GSP)



*Lowering
of GW Levels*



*Reduction of
GW Storage*



*Seawater
Intrusion*



*Degraded
Water Quality*

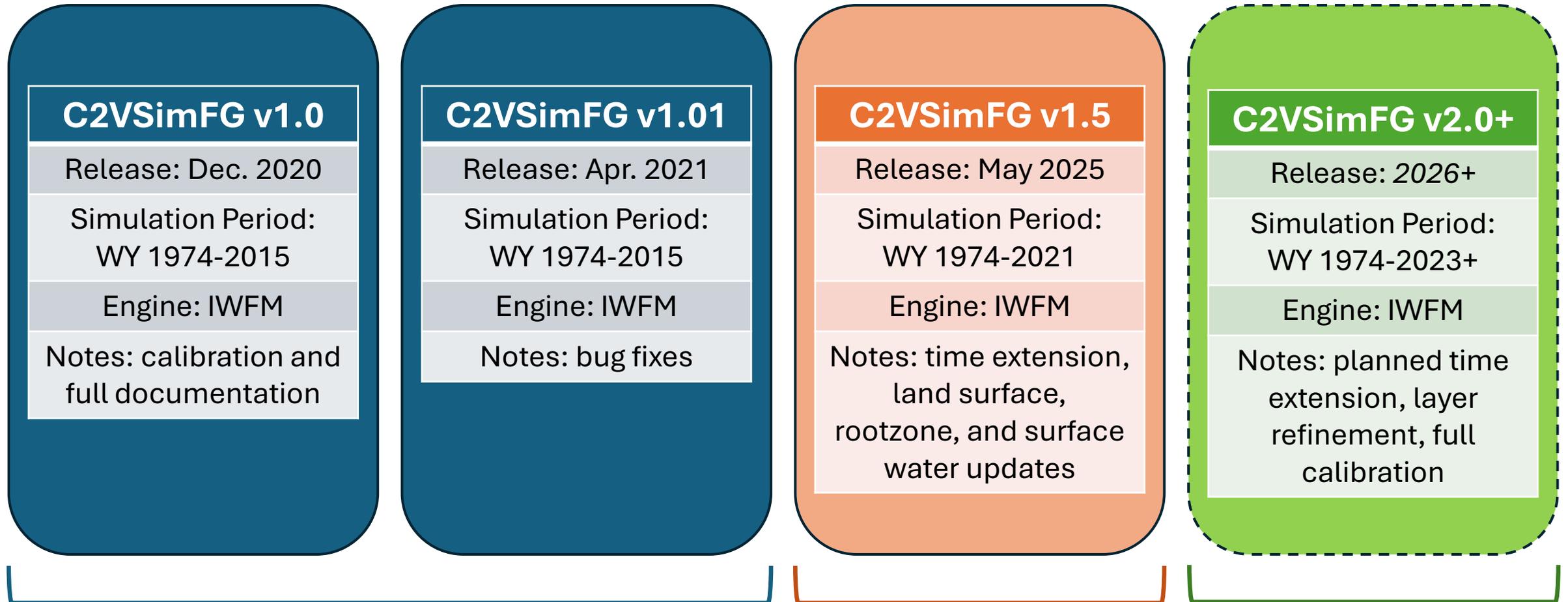


*Land
Subsidence*



*Depletion of
Interconnected
Streams*

Recent and Upcoming Versions of C2VSimFG



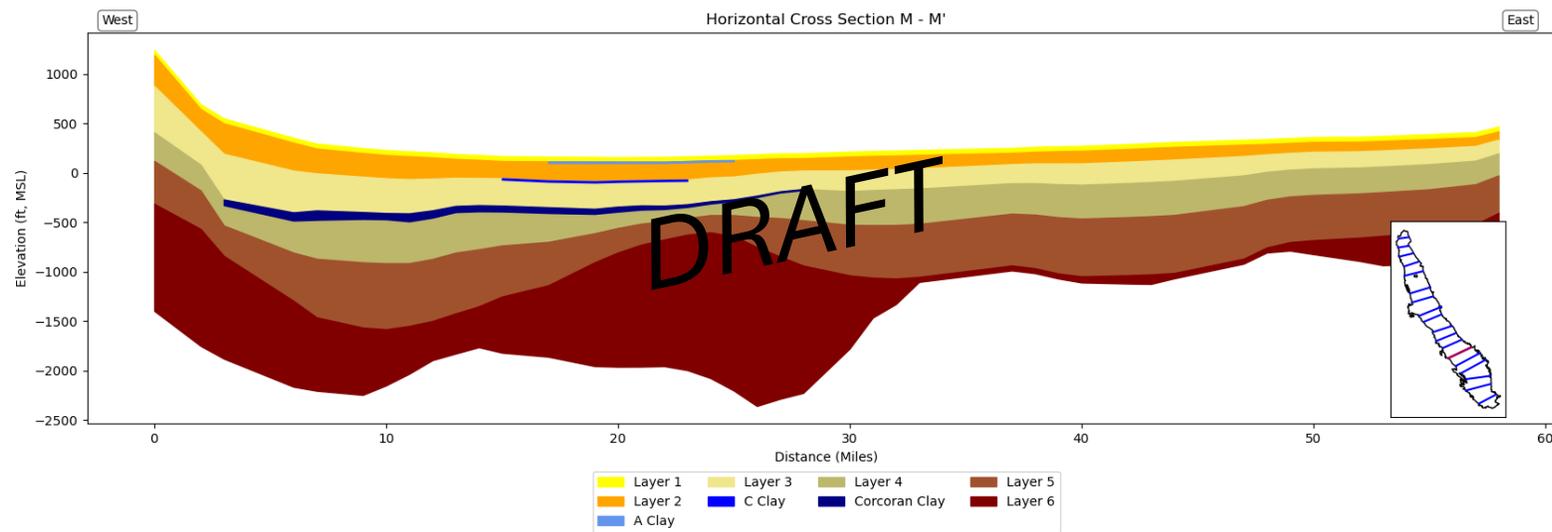
Old Versions

Current Version

Future Versions

Future Updates – Version 2.0 and beyond

- Improvements to take advantage of new, high-quality data (e.g., AEM surveys and Basin Characterization studies, other remote sensing data)
- Structural improvements
- Updates to enhance capabilities related to SGMA requirements (e.g., increased focus on subsidence)



C2VSimFG Resources

- Model files and documentation:
<https://data.cnra.ca.gov/dataset/c2vsimfg>
- Support: c2vsimfgtechsupport@water.ca.gov