CALIFORNIA DEPARTMENT OF WATER RESOURCES

C2VSIM Coarse Grid Updates (California Central Valley Simulation Model)

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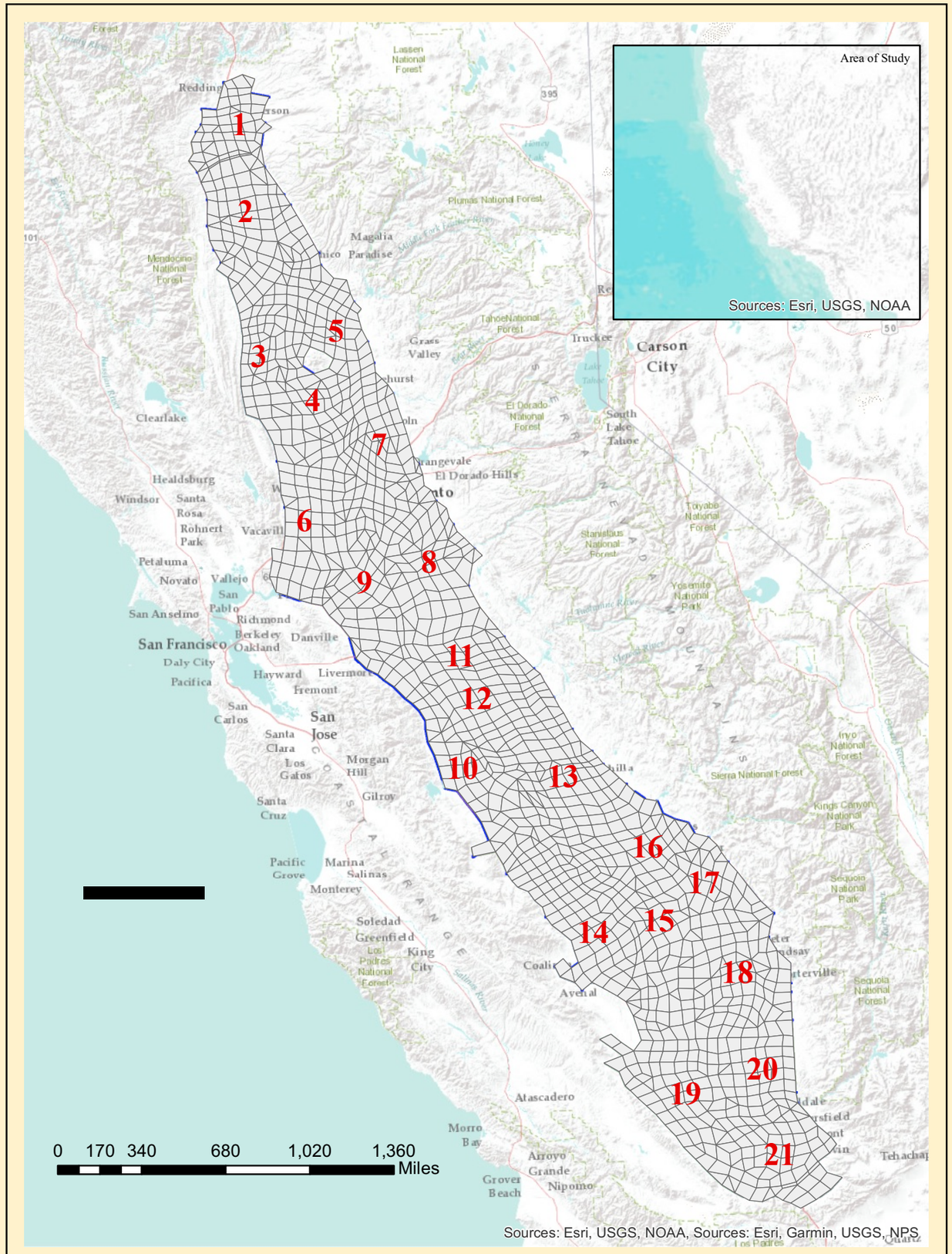
Disclaimer

The material presented represents ongoing Modeling Support Office (DWR) staff work to improve modeling of the Central Valley water resources system and operations. Results are based on the February 2022 deliverables (code and documentation) from consultants to DWR. The deliverables are still being QA/QC'd by DWR staff, and should be considered preliminary & subject to revision.



C2VSIM_CG: California Central Valley Simulation Model (Coarse Grid version)

<u>30⁺ years of track record</u>

Engine

IGSM → IGSM2 → IWFM →IWFM2015

Application

CVGSM → CVGSM2 → C2VSIM → C2VSIM v1.0

C2VSIM_CG v1.0

- Prior MSO “official” version in 2013 based on IWFM v3.02

- New version (February 2022):
  - Uses IWFM2015 engine
  - Input data updated through 2015
  - Compatibility with C2VSIM_FG v1.0
  - Compatibility with CalSim 3
  - Updated representation and simulation of Delta area
  - Recalibrated for WY1974-2015 period
  - Calibrate to observed stream flows, and GW elevations
  - Historical Run
  - Baseline Run (2018 land use): includes both pre-drought and post-drought GW elevations for simulations

Future Work

- QA/QC historical simulation WY1922-2015
- Extend simulation period through WY2020
- Incorporate Ag-Economics module to dynamically forecast annual crops and areas at beginning of a water year
- Include more operating rules (constrained GW operations) compatible with SGMA regulations
- Improve Daily Version of C2VSIM
- Replace current version of C2VSIM in CVSOM
- Include newer IWFM modules including stream routing for daily model, improved stream-aquifer interaction using SAFE methodology
- Improve modeling subsidence
- Modeling groundwater quality (salinity)
- Developing ANN's to dynamically estimate water supply adjustments (important for CVSOM)

Thank You

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