CALIFORNIA DEPARTMENT OF WATER RESOURCES

CalSim Results Processing & Communication

2025 CWEMF Annual Meeting, 13 May 2025

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Motivation

- Develop an intuitive, **interactive**, and easily accessible via **web browser** — one that helps stakeholders interpret modeling results.
- A tool to display the greatest “hits” of a CalSim study in **one click.**

Relationship with other tools

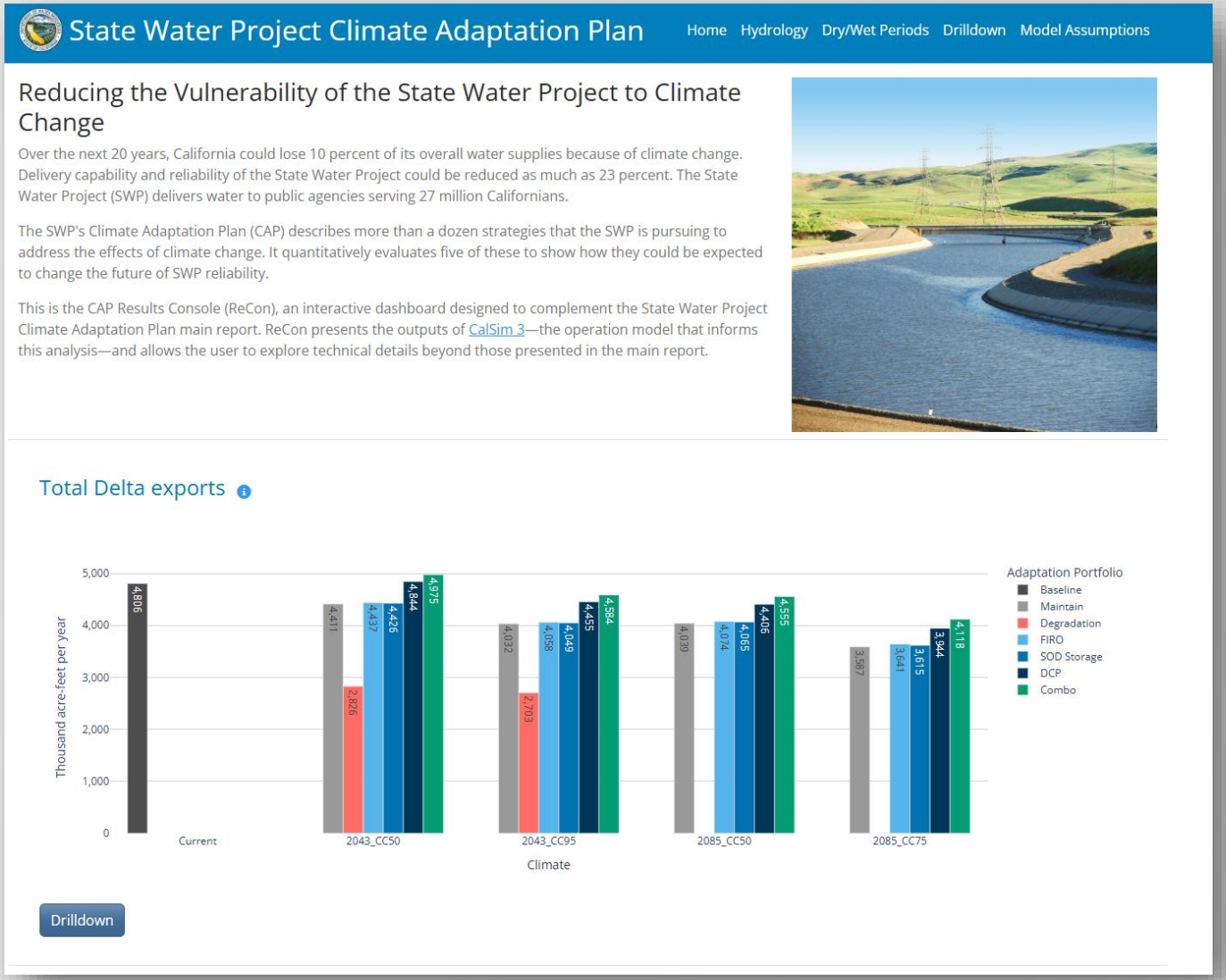
- Not a replacement for excel, or EPPT, Tableau, WRIMS GUI or custom scripts
- A virtual technical appendix to reports

Design considerations:

- Browser-based
- Open source
- Customizable
- Reusable
- Modular

Introducing the CalSim Results Console (ReCon)

- ReCon = Results Console
- Built in Python using Dash + Plotly
- Hosted in Azure for easy access



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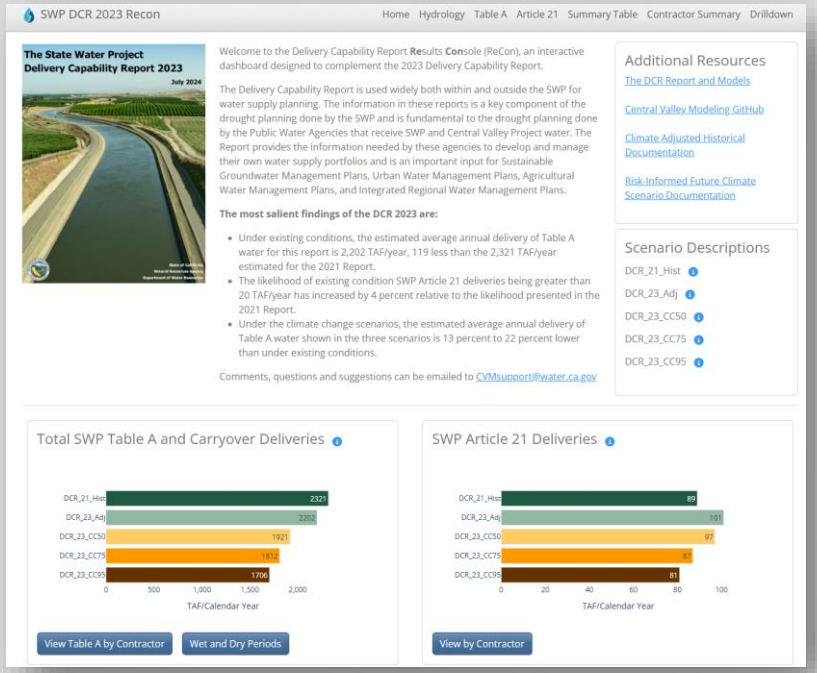
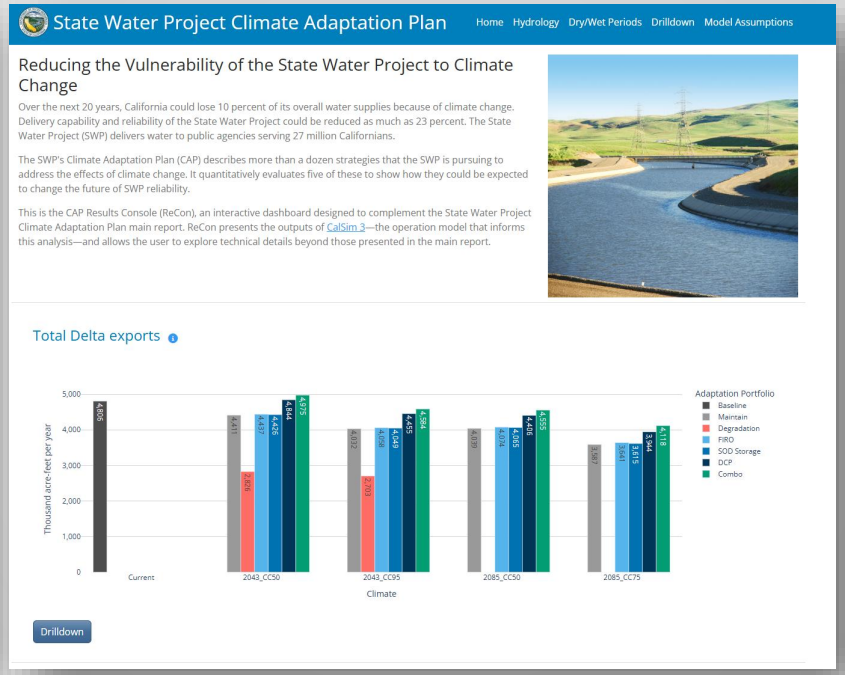
https://cap-recon.azurewebsites.net/

ReCon Applications

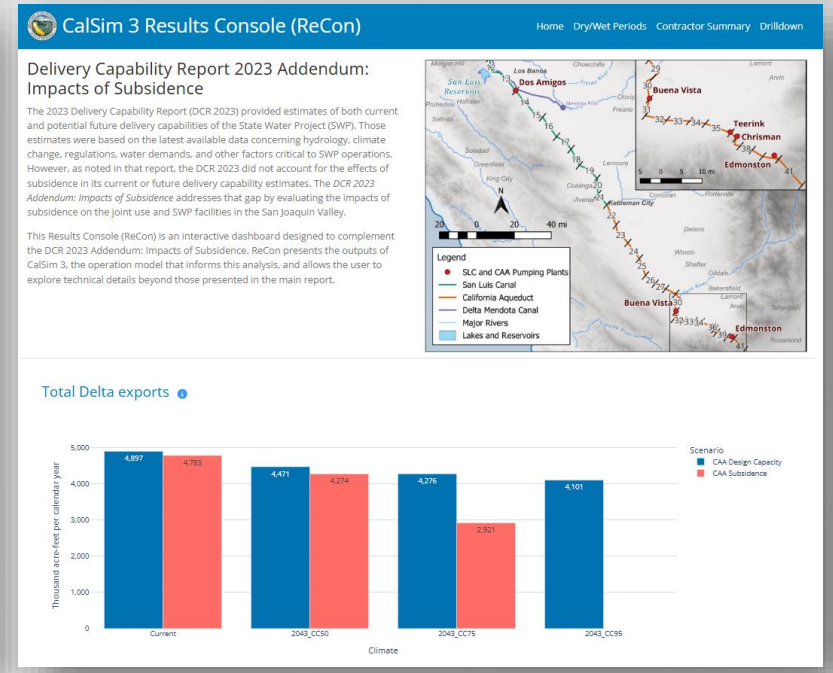
DCR 2023



SWP Climate Adaptation Plan



DCR Subsidence Addendum



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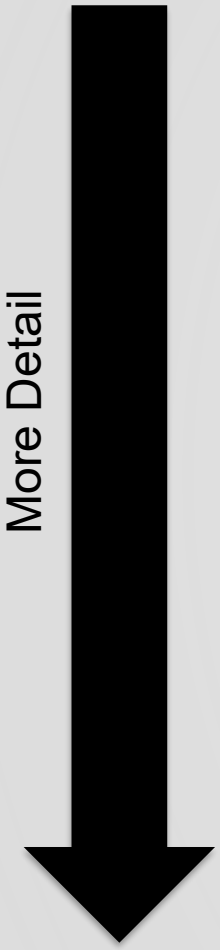
An Example ReCon Layout



Landing Page (Narrative, background, key findings)

Page 1

Narrative Support

Page 2

Narrative Support

Page 3

Narrative Support

Page 4

Drilldown

Page 5

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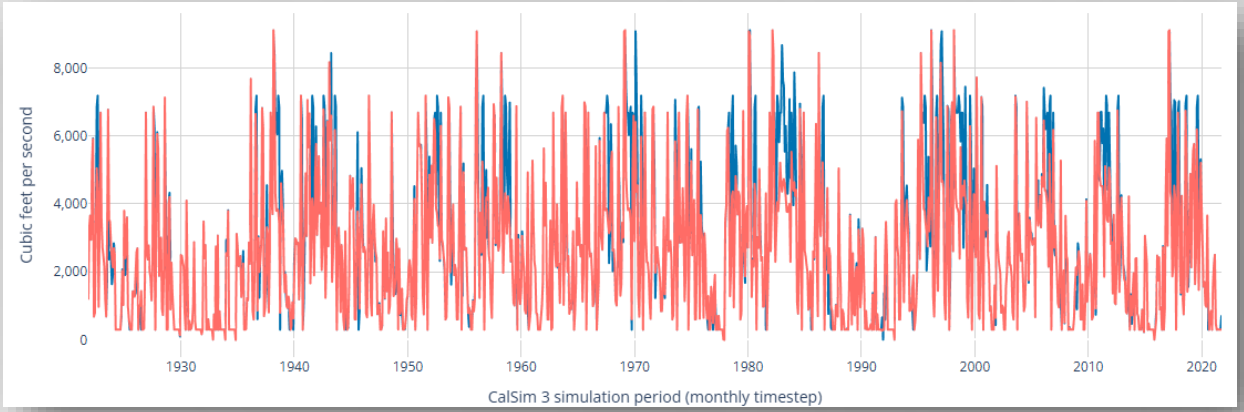
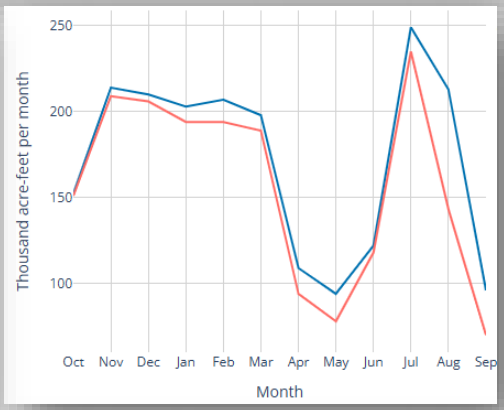
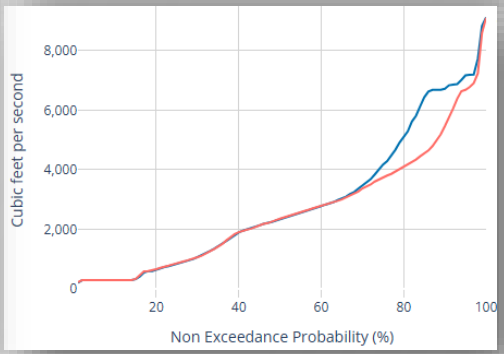
Features

- Timeseries
- Averages
- Exceedance Plots
- Summary Tables
- Variable Search



Type	Description	B-Part	Existing_Design
CAA	Dos Amigos Pumping Plant	C_CAA087	3,107
CAA	Pool 15 (SLC)	C_CAA095	3,107
CAA	Pool 16 (SLC)	C_CAA109	2,871
CAA	Pool 19 (SLC)	C_CAA143	2,537
CAA	Pool 20 (SLC)	C_CAA155	2,382
CAA	Pool 20 (SLC) Delivery to Avenal, Coalinga, Huron	C_CAA156	2,380
CAA	Pool 21 (SLC)	C_CAA165	2,377
CAA	Pool 22	C_CAA172	2,230
CAA	Pool 22, SWP Reach 8C	C_CAA173	2,228
CAA	Pool 22, SWP Reach 8C County Of Kings	C_CAA181	2,220
CAA	Pool 22, 8C-8D Tulare Lake Basin Wsd	C_CAA183	2,157
CAA	Pool 22, SWP Reach 8D Dudley Ridge WD	C_CAA184	2,130
CAA	Pool 22, SWP Aqueduct Downstream of Bifurcation To Coastal Br	C_CAA185	2,034
CAA	Pool 23, SWP Reach 9-13B KCWA	C_CAA194	1,569
CAA	Pool 24, KWB Semitropic Element Diversion	C_CAA207	1,569
CAA	Pool 25, KCWA & KWB Semitropic Return	C_CAA210	1,569
CAA	Pool 26	C_CAA220	1,557
CAA	Pool 29, CVP Cross Valley Canal AG Diversion	C_CAA238	1,497
CAA	Pool 29, CVP Cross Valley Refuge Diversion	C_CAA239	1,483
CAA	Pool 29, KWB Fan Element Diversion	C_CAA240	1,483
CAA	Pool 29, KWB Local Element Diversion	C_CAA241	1,483
CAA	Pool 29, SWP KCWA & KWB Local Elmnt Rtrn	C_CAA242	1,375
CAA	Pool 30, Buena Vista Pumping Plant	C_CAA245	1,396
CAA	Pool 33, SWP Reach 14A-14C KCWA	C_CAA262	1,396
CAA	Pool 36, Wheeler Ridge Pumping Plant	C_CAA278	1,393
CAA	Pool 36, SWP Reach 15A-16A KCWA	C_CAA279	1,350
CAA	Pool 37, Chrisman Pumping Plant	C_CAA280	1,348
CAA	Pool 41, Edmondston Pumping Plant	C_CAA293	1,348





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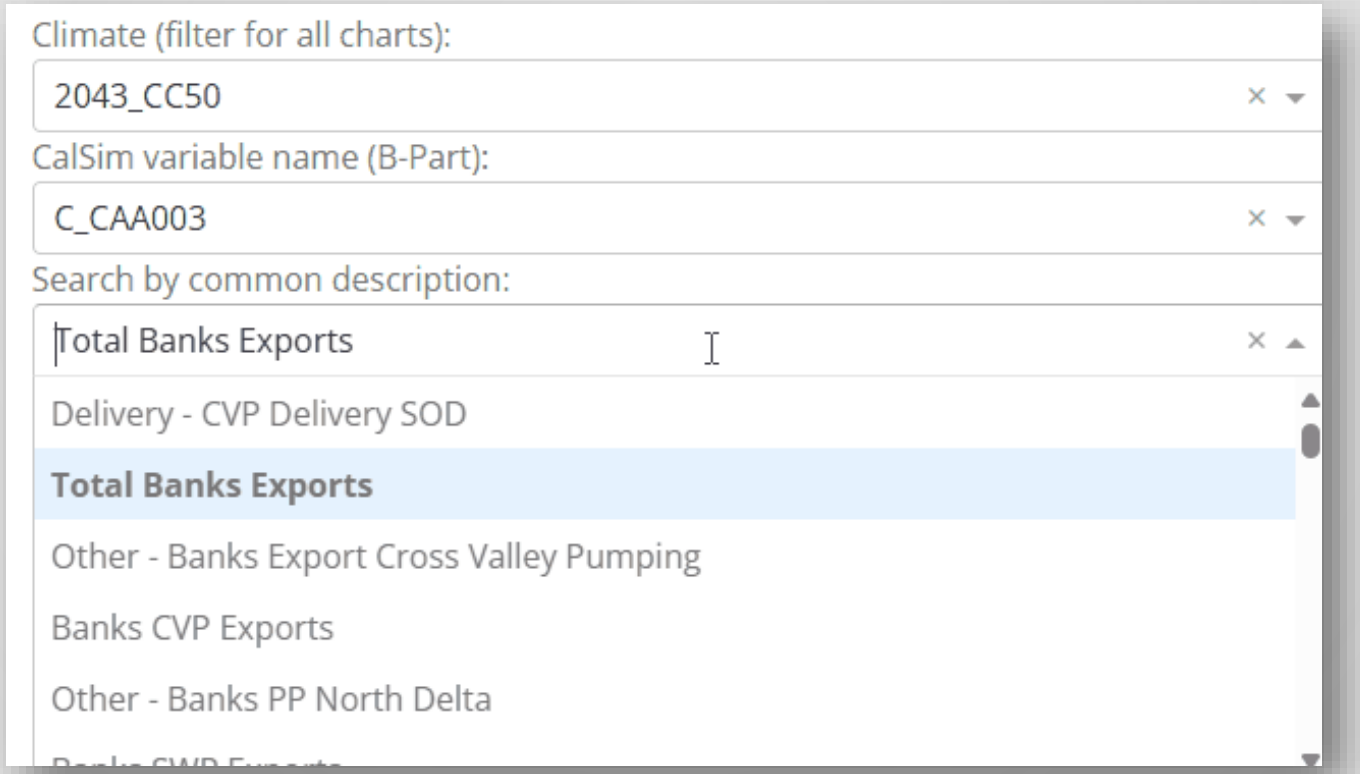
Filters

- Filter by: climate, time periods, water year types, months, year ranges
- Variable search



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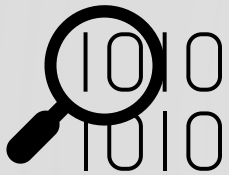
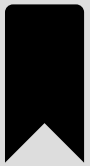
Use Cases

A data narration tool for presentation



A drilldown tool



Quick reference: a place to capture key assumptions and results.

Demo: SWP Climate Adaptation Plan

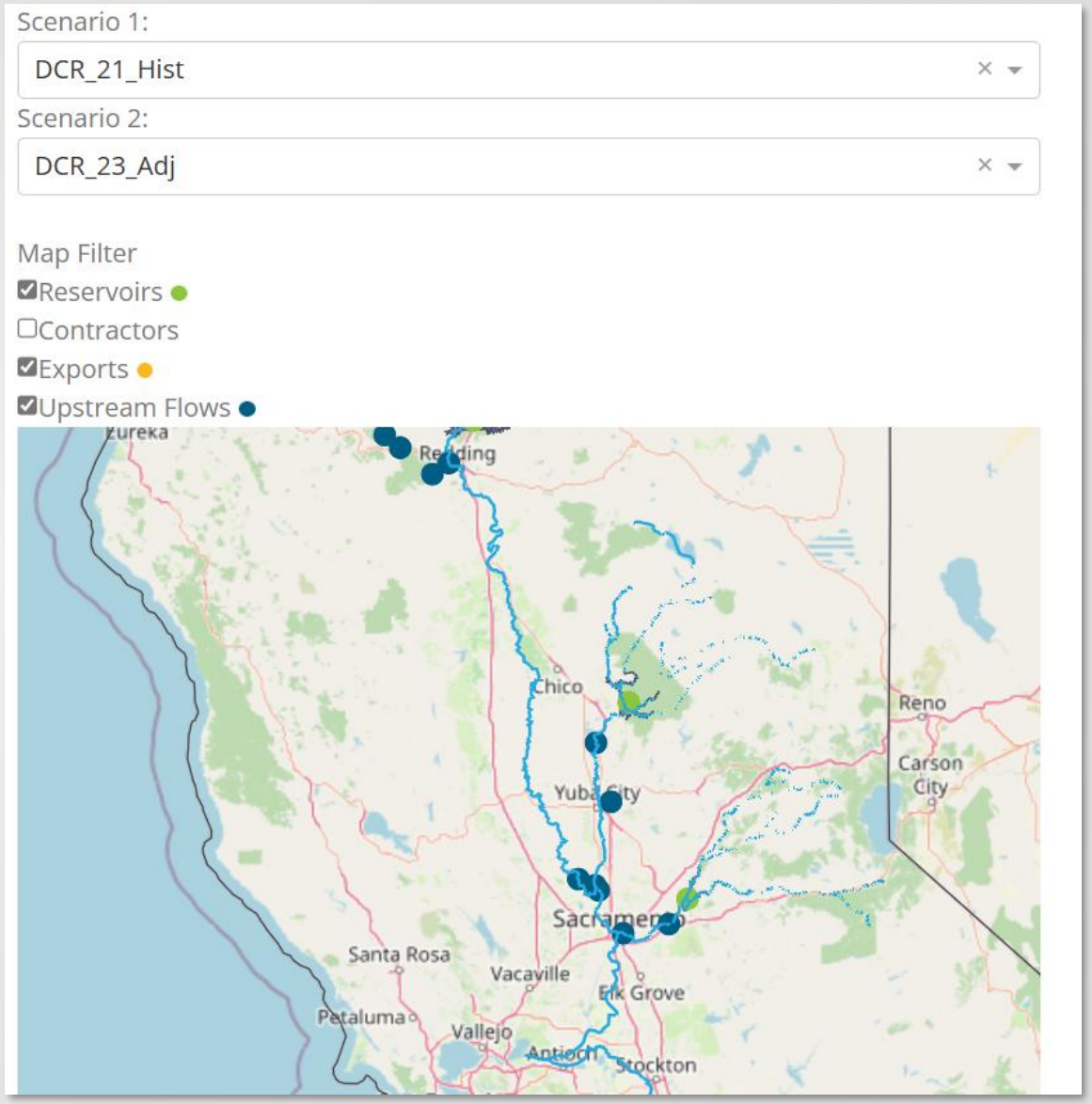
CAP Results Console

Technology Stack and Architecture

panDSS API for ingesting .dss files

Ongoing Efforts

- Report Generation
- Map View
- User-Loaded DSS Files
- Controls Analysis



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Building Your Own

[CentralValleyModeling/calsim-recon: Results Console (ReCon) for CalSim 3 Studies]

THANK YOU

QUESTIONS?