

Yuba Feather F-CO Updates

Cale Nasca, PE

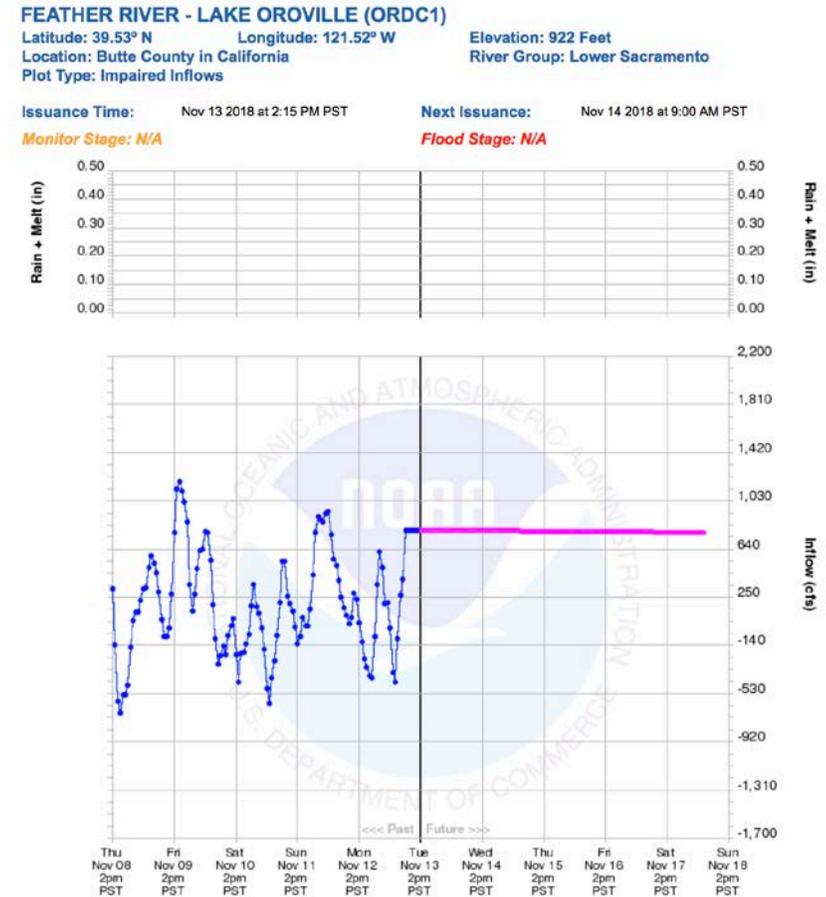
Reservoir Coordinated Operations Section

Hydrology and Flood Operations Office

Ensembles

Review of Yuba Feather F-CO Process

- CNRFC 5-day deterministic forecast
- Yuba Feather HEC-ResSim Model
 - Reservoir Routing
 - Downstream flows
- Final Result
 - Coordinated 5-day release schedule



But now, before committing...

5-day Releases schedule



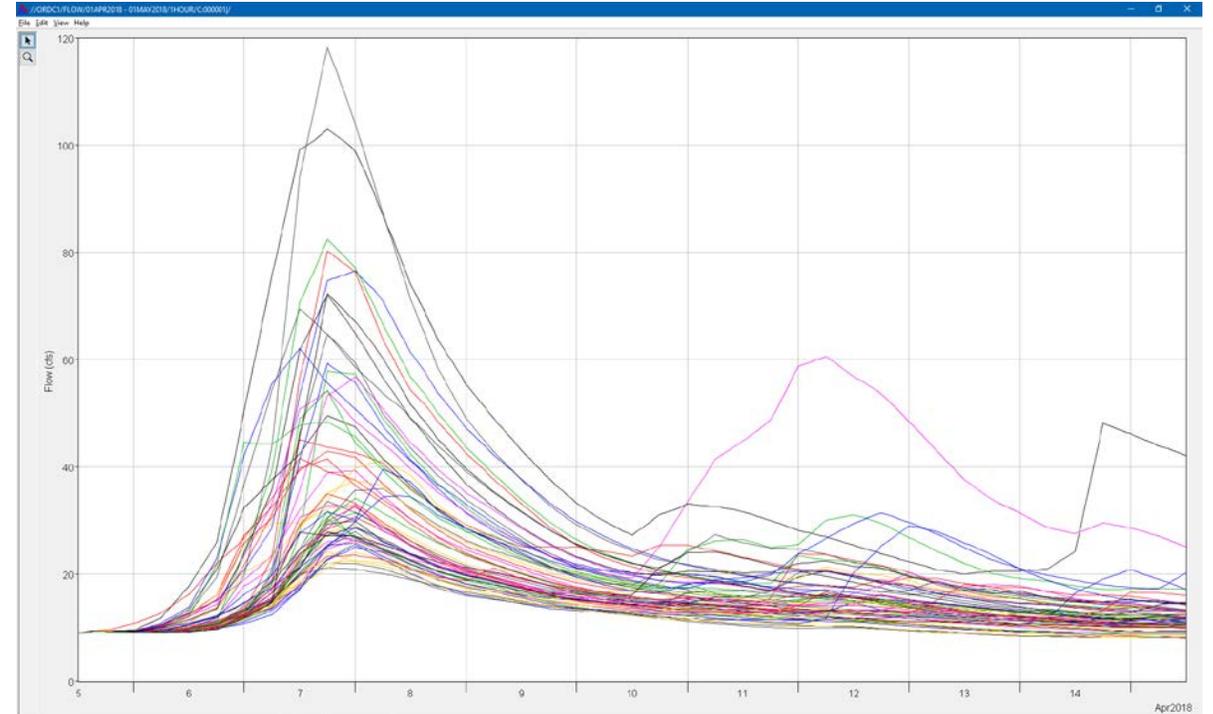
CNRFC Ensembles Forecast



Exceedance Probability

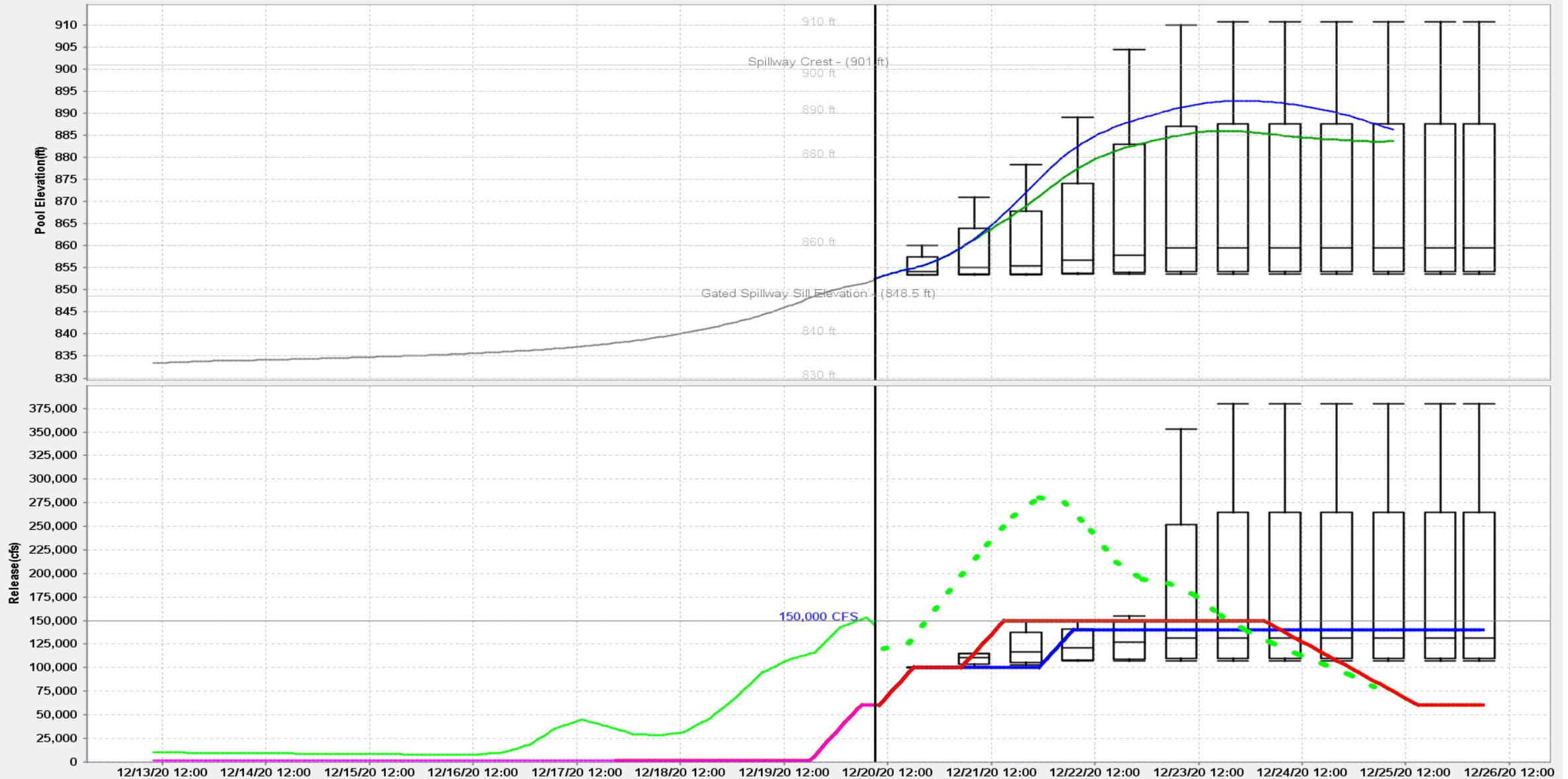
Reservoirs

Critical downstream locations



Oroville Dam Complex Ensemble Results Flow - Training Mode

Simulation was executed on: 11/13/2018 09:46
 Run Configuration: Release Override for both ORO & NBB



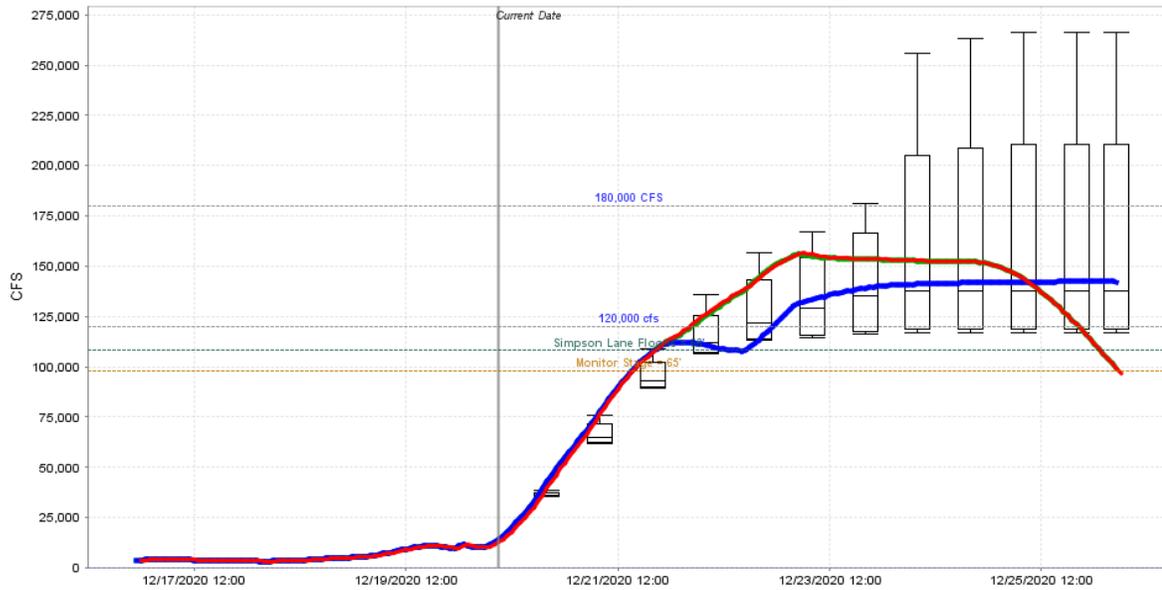
— Reservoir Elevation
 — Candidate
 — Projected
 — Alternative
 ■ Ensemble Pool Elevation
 — Inflow
 — Outflow
 ● Forecasted Inflow
 — Candidate
 — Projected
 — Alternative
 — Sim Alternative
 ▲ Ensemble Period Maxima

Downstream Target Locations Ensemble Results Flow - Training Mode

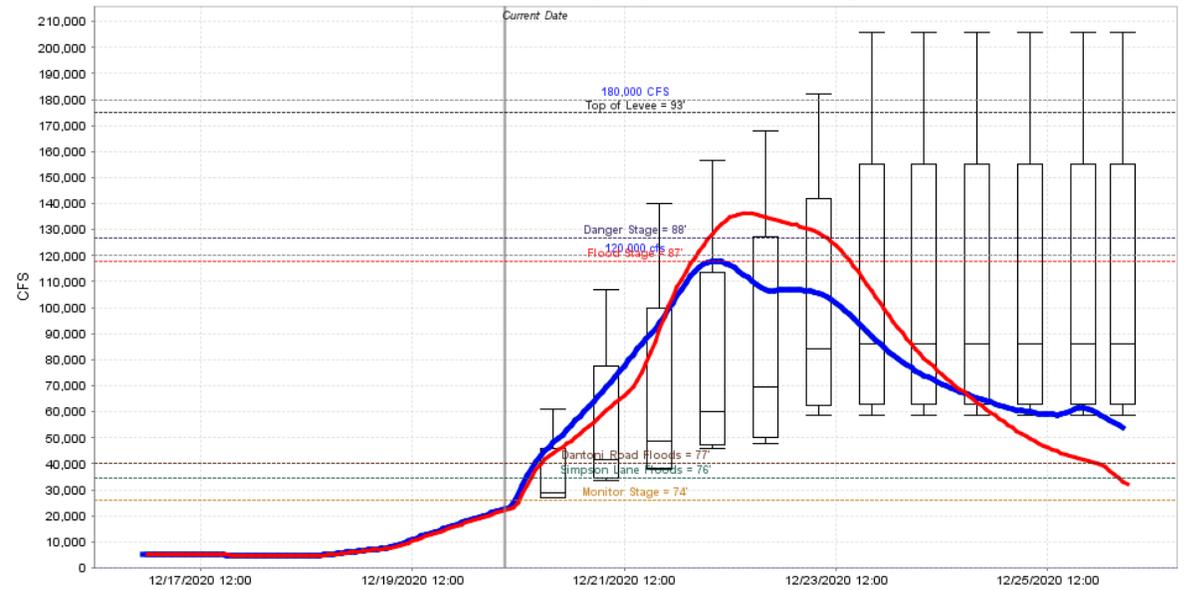
Simulation was executed on: 11/13/2018 09:46

Run Configuration: Release Override for both ORO & NBB

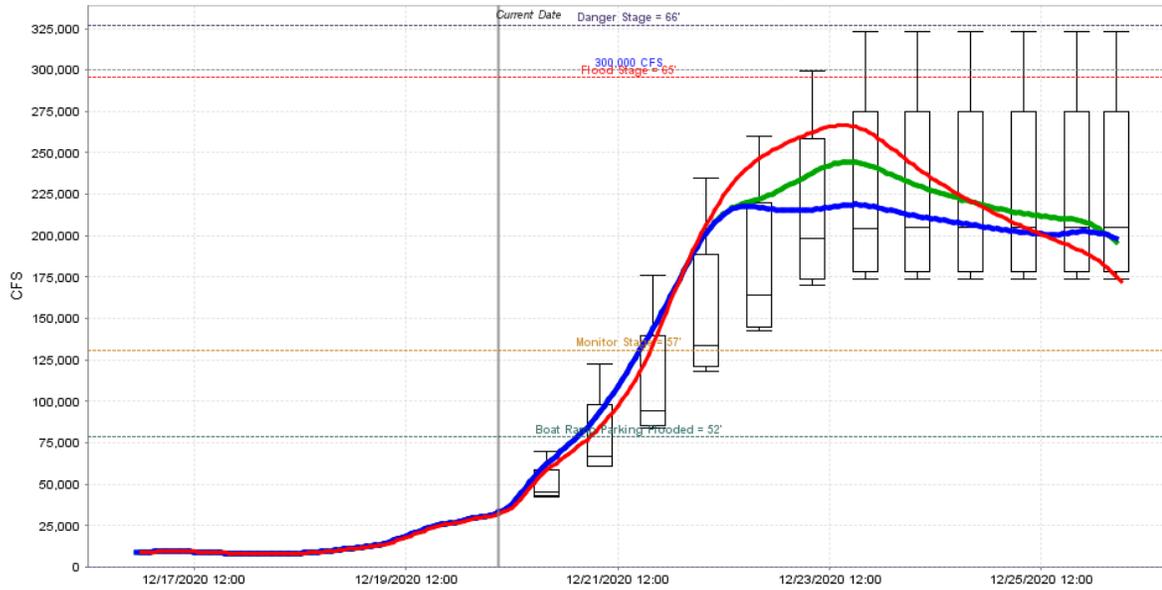
FEATHER RIVER AT YUBA CITY (YUB) ENSEMBLE - Training Mode



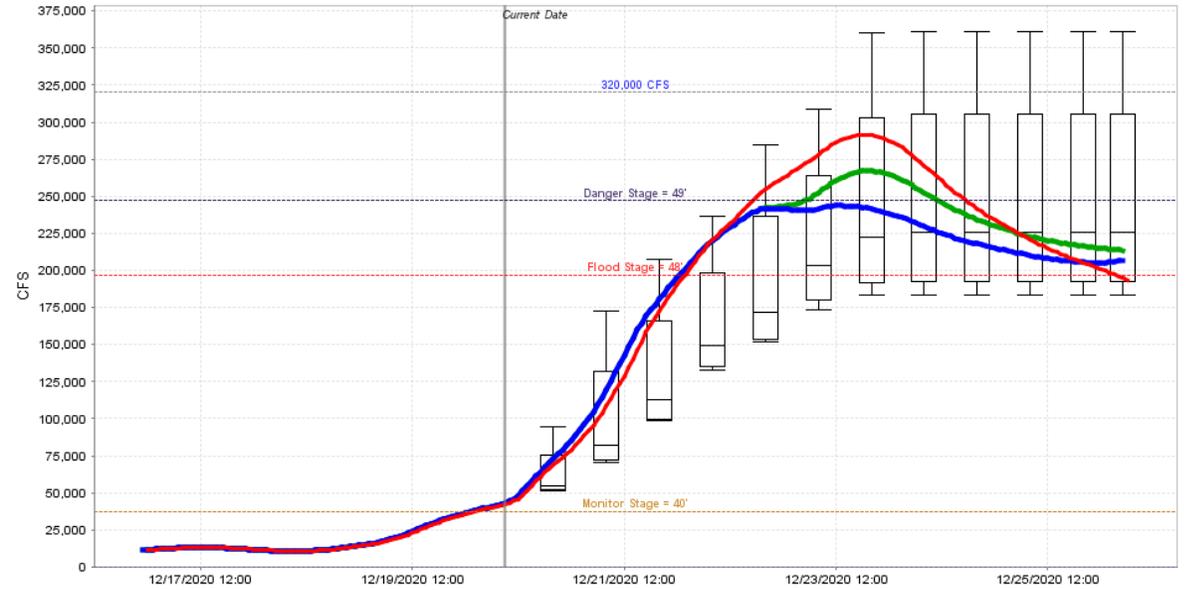
YUBA RIVER NEAR MARYSVILLE (MRY) ENSEMBLE - Training Mode



FR + YR JUNCTION (FYC) ENSEMBLE - Training Mode



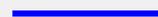
FEATHER RIVER NEAR NICOLAUS (NIC) ENSEMBLE - Training Mode



Candidate



Projected



Alternative



Ensemble Period Maxima



Ensemble Results Summary Table

Ensemble Run Date: 12/20/2020 09:03

Training scenario - Functional Exercise 2018(3) - Active

| 59 | | Members that exceed target | | | | | | | | | |
|----------------------------------|-------------------------------------|----------------------------|------|-------------------|------|-------------------|------|--------------------|------|--------------------|------|
| Location | Target value | In first 24 hours | | In first 48 hours | | In first 72 hours | | In first 120 hours | | In forecast period | |
| | | # | % | # | % | # | % | # | % | # | % |
| Oroville Reservoir (ORO) | Objective release = 150,000 cfs | 0 | 0 | 2 | 3.2 | 5 | 8.1 | 5 | 8.1 | 5 | 8.1 |
| | Ungated spillway elevation = 901 ft | 0 | 0 | 2 | 3.2 | 5 | 8.1 | 6 | 9.7 | 6 | 9.7 |
| | ESRD violation | 2 | 3.2 | 5 | 8.1 | 9 | 14.5 | 10 | 16.1 | 10 | 16.1 |
| Feather River at Yuba City (YUB) | Flow Split = 120,000 cfs | 0 | 0 | 27 | 43.5 | 56 | 90.3 | 61 | 98.4 | 61 | 98.4 |
| | Flow Split = 180,000 cfs | 0 | 0 | 0 | 0 | 1 | 1.6 | 4 | 6.5 | 4 | 6.5 |
| | Monitor Stage = 65 ft | 0 | 0 | 62 | 100 | 62 | 100 | 62 | 100 | 62 | 100 |
| | Flood Stage = 80.2 ft | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Danger Stage = 81.2 ft | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Top of Levee = 83.5 ft | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NBB Reservoir | Objective release = 50,000 cfs | 0 | 0 | 0 | 0 | 2 | 3.2 | 2 | 3.2 | 2 | 3.2 |
| | Normal Full Gross Pool = 1,956 ft | 0 | 0 | 1 | 1.6 | 4 | 6.5 | 4 | 6.5 | 4 | 6.5 |
| | ESRD violation | 0 | 0 | 3 | 4.8 | 6 | 9.7 | 7 | 11.3 | 7 | 11.3 |
| Yuba River near Marysville (MRY) | Flow Split = 120,000 cfs | 1 | 1.6 | 9 | 14.5 | 18 | 29 | 19 | 30.6 | 19 | 30.6 |
| | Flow Split = 180,000 cfs | 0 | 0 | 0 | 0 | 3 | 4.8 | 4 | 6.5 | 4 | 6.5 |
| | Monitor Stage = 74 ft | 61 | 98.4 | 62 | 100 | 62 | 100 | 62 | 100 | 62 | 100 |
| | Flood Stage = 87 ft | 1 | 1.6 | 9 | 14.5 | 18 | 29 | 19 | 30.6 | 19 | 30.6 |
| | Danger Stage = 88 ft | 0 | 0 | 6 | 9.7 | 17 | 27.4 | 17 | 27.4 | 17 | 27.4 |
| | Top of Levee = 93 ft | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| FY + YR Junction (FYC) | Target Flow = 300,000 cfs | 0 | 0 | 0 | 0 | 3 | 4.8 | 6 | 9.7 | 6 | 9.7 |
| | Monitor Stage = 57 ft | 1 | 1.6 | 36 | 58.1 | 62 | 100 | 62 | 100 | 62 | 100 |
| | Flood Stage = 65 ft | 0 | 0 | 1 | 1.6 | 13 | 21 | 20 | 32.3 | 20 | 32.3 |

Coming attractions

- Web Version F-CO Release change interface
 - All the same features
- No Need to download app
 - No JAVA
- Releases get incorporated into CNRFC forecast

The image displays two screenshots of a web-based interface for managing releases at Oroville Dam. The top screenshot shows a login page titled "Scheduled Release Login" with a "Welcome" message and a "Login" button. The bottom screenshot shows the main interface for "OROVILLE DAM - ORO" with a "Release Selection" dropdown set to "OROVILLE CAN - ORO". Below this is a table of scheduled releases with columns for RowID, Date/Time, Scheduled Release, Release, Edit, and Delete.

| RowID | Date/Time | Scheduled Release | Release | Edit | Delete |
|--------|------------------|-------------------|--------------------|--------|----------|
| 136166 | 11/01/2018 12:00 | 1,750 | Storage Management | [Edit] | [Delete] |
| 136165 | 10/31/2018 12:00 | 1,850 | Storage Management | [Edit] | [Delete] |
| 136161 | 10/30/2018 12:00 | 2,050 | Storage Management | [Edit] | [Delete] |
| 136231 | 10/29/2018 12:00 | 2,250 | Storage Management | [Edit] | [Delete] |
| 136655 | 10/11/2018 12:00 | 2,450 | Fishery Related | [Edit] | [Delete] |
| 136687 | 10/07/2018 12:00 | 2,800 | Fishery Related | [Edit] | [Delete] |
| 136686 | 10/06/2018 12:00 | 3,000 | Fishery Related | [Edit] | [Delete] |
| 136685 | 10/06/2018 12:00 | 3,500 | Fishery Related | [Edit] | [Delete] |
| 136638 | 10/04/2018 12:00 | 4,000 | Fishery Related | [Edit] | [Delete] |
| 136531 | 10/03/2018 12:00 | 4,500 | Fishery Related | [Edit] | [Delete] |
| 136484 | 10/02/2018 12:00 | 5,000 | Fishery Related | [Edit] | [Delete] |
| 136483 | 10/01/2018 12:00 | 5,500 | Fishery Related | [Edit] | [Delete] |
| 134375 | 08/22/2018 15:00 | 6,000 | Delta Requirements | [Edit] | [Delete] |
| 134374 | 08/03/2018 12:00 | 6,500 | Delta Requirements | [Edit] | [Delete] |
| 134373 | 08/02/2018 06:00 | 6,000 | Delta Requirements | [Edit] | [Delete] |

Questions?

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