

California Water Supply Outlook Report

April 2022



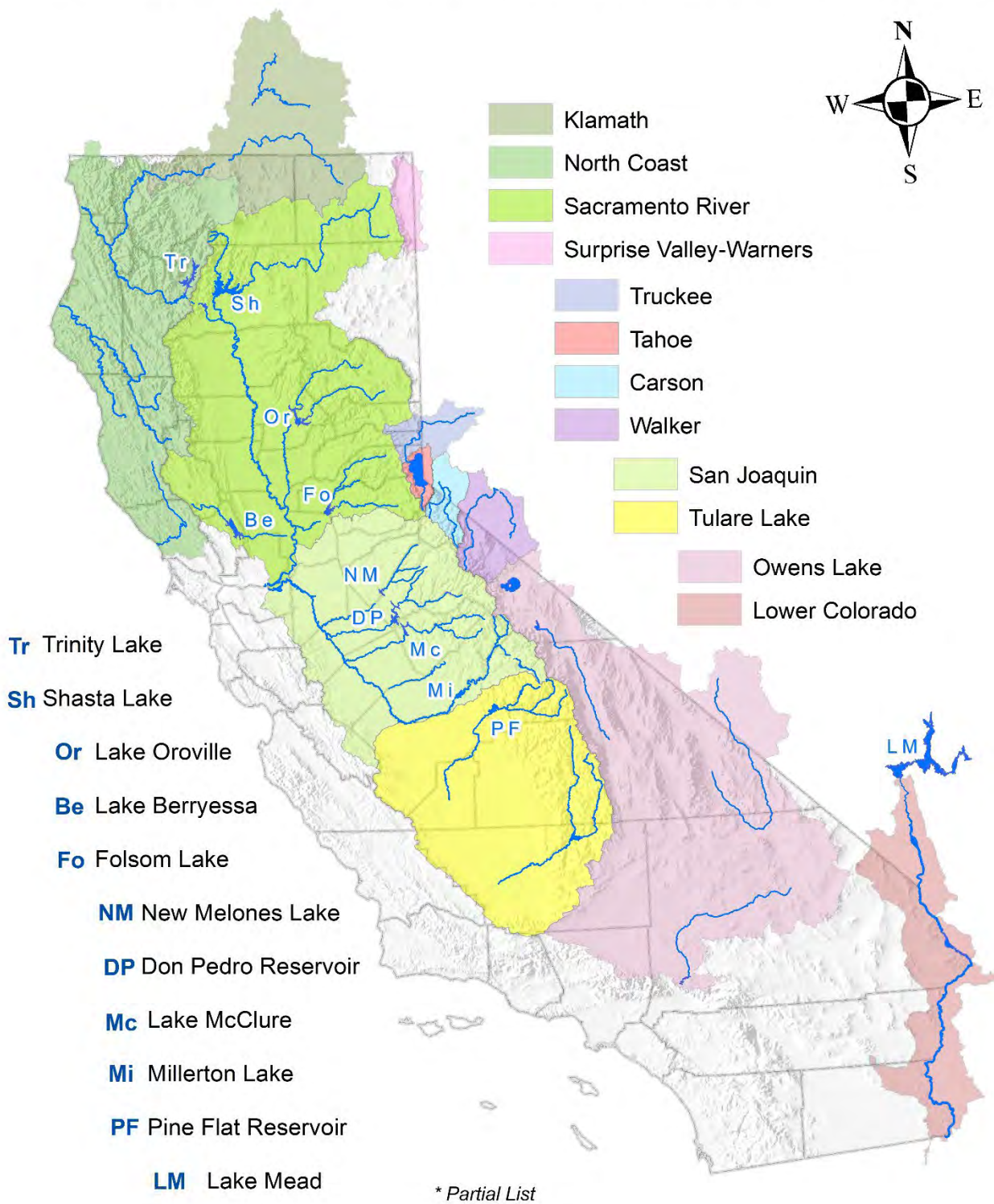
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Cover: NRCS Snow Surveyors near Mt Rose, Snow Course 3/31/22. Photo by NRCS

California Forecast Basins, Major Rivers, and Large Reservoirs*



STATE OF CALIFORNIA GENERAL OUTLOOK

April, 2022

NEW 1991-2020 MEDIANS

On October 1, 2021 the NRCS updated its 30-year normals period, shifting it from 1981-2010 to 1991-2020. The normals available from the National Water and Climate Center (NWCC) include the median and average for Snow Water Equivalent (SWE), snow depth (snow courses only), precipitation, volumetric streamflow, and reservoir storage. Values are calculated from data collected by NRCS-managed stations and external agencies such as the U.S. Geological Survey (USGS), National Weather Service (NWS), state agencies, and private organizations. Normals are calculated for various durations including daily, month-to-date, semi-monthly, monthly, seasonal, and annual based on the data type.

The 1991-2020 normals update may have shifted the reported median values compared to those in previous reports for one or both of the following reasons: 1) the underlying data used to compute the statistics are not the same between the two 30-year periods; and 2) Calculation methods for 1991-2020 have also been updated. Therefore, caution is recommended when making inferences from comparisons between the 1991-2020, 1981-2010, and 1971-2000 normals. More information is available online at <https://www.nrcs.usda.gov/wps/portal/wcc/home/snowClimateMonitoring/30YearNormals/>.

SNOWPACK

Snow gages in the northern-, central-, and southern mountains have seen a steady decrease in snow pack percent of normal. As of April 22, 2022, the snow water equivalent percent of normal for the three Sierra regions were 37-, 41-, and 23 percent, respectively. Since last month's report, the statewide average snowpack has continued to drop, from 57 percent on March 16th to 35 percent on April 22.

More information is available online at <http://cdec.water.ca.gov/snow/current/snow/index2.html>.

PRECIPITATION

After an up and down season to date, the Northern Sierra-, San Joaquin-, and Tulare Basin Index stations are currently at 83-, 68-, and 63 percent of their monthly averages as of April 22, 2022, with a downward trend for the rest of the month.

More information is available online at http://cdec.water.ca.gov/snow_rain.html

RESERVOIRS

Most reservoirs as of April 22 had storages below normal amounts. Several major reservoir storages were far below normal for this time of year, such as Shasta (47%), Oroville (68%), and San Luis (55%). In the Colorado River Basin, the reservoir storage in Lake Powell is 45 percent of historical average.

More information is available online at http://cdec.water.ca.gov/snow/reservoir_ss.html.

STREAMFLOW

NWS forecasts are both above and below the 1991-2020 average between April and July. However, at this point, there is no specific basin that is extremely low or high on the runoff forecast. Summaries for each basin are provided below.

**Sacramento River
Streamflow Forecasts - April 1, 2022**

| |
|---|
| Forecast Exceedance Probabilities For Risk Assessment Chance that actual volume will exceed forecast |
|---|

| Sacramento River | Forecast Period | 90% (KAF) | 70% (KAF) | 50% (KAF) | % Median | 30% (KAF) | 10% (KAF) | 30yr Median (KAF) |
|--|-----------------|-----------|-----------|-----------|----------|-----------|-----------|-------------------|
| Inflow to Shasta Lk (NWS) | APR-JUL | 660 | 685 | 710 | 41% | 870 | 990 | 1738.5 |
| MF American R nr Auburn (DWR) | | | | | | | | |
| MF American R nr Auburn (NWS) | APR-JUL | 133 | 143 | 162 | 35% | 210 | 275 | 461.7 |
| Inflow to Shasta Lk (DWR) | OCT-SEP | 2740 | | 2950 | 52% | | 3650 | 5643 |
| | APR-JUL | 640 | | 790 | 45% | | 1400 | 1767 |
| Silver Ck bl Camino Div. Dam (DWR) | APR-JUL | | | 60 | 38% | | | 157 |
| McCloud R ab Shasta (DWR) | APR-JUL | | | 185 | 47% | | | 393 |
| Sacramento R nr Red Bluff (NWS) | APR-JUL | 950 | 980 | 1010 | 33% | 1220 | 1380 | 3026 |
| MF Feather R nr Clio (DWR) | | | | | | | | |
| NF Feather R at Pulga (DWR) | APR-JUL | | | 280 | 33% | | | 842 |
| Inflow Jackson Mdws & Bowman Res (DWR) | APR-JUL | | | 43 | 42% | | | 103 |
| Feather R at Lk Almanor (DWR) | APR-JUL | | | 80 | 33% | | | 241 |
| Inflow to Folsom Res (DWR) | OCT-SEP | 1360 | | 1590 | 59% | | 2120 | 2689 |
| | APR-JUL | 220 | | 450 | 36% | | 960 | 1247 |
| Pit R at Shasta Lk (NWS) | APR-JUL | 400 | 410 | 420 | 39% | 445 | 510 | 1080.2 |
| Silver Ck bl Camino Div. Dam (NWS) | APR-JUL | 47 | 51 | 59 | 34% | 75 | 94 | 171.6 |
| Pit R at Shasta Lk (DWR) | APR-JUL | | | 530 | 53% | | | 992 |
| Inflow to Oroville Res (NWS) | APR-JUL | 445 | 470 | 510 | 33% | 665 | 845 | 1533.3 |
| Inflow to Folsom Res (NWS) | APR-JUL | 335 | 360 | 395 | 33% | 495 | 650 | 1195.3 |
| Yuba R at Smartville (DWR) | OCT-SEP | 1760 | | 1340 | 59% | | 1180 | 2273 |
| | APR-JUL | 260 | | 400 | 40% | | 800 | 993 |
| N Yuba R bl Goodyears Bar (DWR) | APR-JUL | | | 110 | 41% | | | 271 |
| Yuba R at Smartville (NWS) | APR-JUL | 295 | 310 | 330 | 35% | 460 | 565 | 949.9 |
| Inflow to Union Valley Res (NWS) | APR-JUL | 28 | 30 | 35 | 36% | 46 | 56 | 97.5 |
| N Yuba R bl Goodyears Bar (NWS) | APR-JUL | 86 | 90 | 95 | 35% | 133 | 162 | 272.3 |
| Sacramento R at Shasta (NWS) | APR-JUL | 58 | 63 | 71 | 24% | 100 | 152 | 296.6 |
| Sacramento R nr Red Bluff (DWR) | OCT-SEP | 3920 | | 4160 | 50% | | 5600 | 8351 |
| | APR-JUL | 900 | | 1090 | 44% | | 2280 | 2474 |
| S Yuba R nr Langs Crossing (DWR) | APR-JUL | | | 100 | 42% | | | 237 |
| Cosumnes R at Michigan Bar (NWS) | APR-JUL | 27 | 29 | 33 | 27% | 45 | 60 | 121.5 |
| McCloud R ab Shasta (NWS) | APR-JUL | 149 | 151 | 155 | 41% | 179 | 205 | 374.5 |
| NF American R at N FK Dam (DWR) | APR-JUL | | | 90 | 38% | | | 240 |
| Sacramento R at Shasta (DWR) | APR-JUL | | | 100 | 32% | | | 309 |
| SF Feather R at Ponderosa Dam (DWR) | | | | | | | | |
| NF Feather R nr Prattville (NWS) | APR-JUL | 89 | 98 | 104 | 37% | 125 | 144 | 283.6 |
| Inflow to Oroville Res (DWR) | OCT-SEP | 2420 | | 2610 | 60% | | 3440 | 4341 |
| | APR-JUL | 395 | | 550 | 32% | | 1300 | 1710 |

1) 90% And 10% exceedance probabilities are actually 95% And 5%
 2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

| Watershed Snowpack Analysis April 1, 2022 | # of Sites | % Median | Last Year % Median |
|--|------------|----------|--------------------|
| Sacramento River | 85 | 40% | 77% |

Sanjoaquin Streamflow Forecasts - April 1, 2022

Forecast Exceedance Probabilities For Risk Assessment
Chance that actual volume will exceed forecast

| SanJoaquin | Forecast Period | 90% (KAF) | 70% (KAF) | 50% (KAF) | % Median | 30% (KAF) | 10% (KAF) | 30yr Median (KAF) |
|--|-----------------|-----------|-----------|-----------|----------|-----------|-----------|-------------------|
| MF Stanislaus R bl Beardsley (DWR) | APR-JUL | | | 140 | 47% | | | 297 |
| Tuolumne R nr Hetch Hetchy (NWS) | APR-JUL | 305 | 315 | 350 | 58% | 380 | 440 | 605.2 |
| Big Ck bl Huntington Lk (DWR) | APR-JUL | | | 57 | 59% | | | 97 |
| Inflow to New Melones Res (NWS) | APR-JUL | 240 | 245 | 280 | 42% | 320 | 390 | 672.1 |
| Inflow to Millerton Lk (NWS) | APR-JUL | 530 | 575 | 625 | 50% | 735 | 825 | 1238.4 |
| NF Mokelumne R nr West Point (DWR) | | | | | | | | |
| Inflow to New Don Pedro Res (NWS) | APR-JUL | 480 | 505 | 570 | 47% | 650 | 750 | 1208.3 |
| Inflow to Millerton Lk (DWR) | OCT-SEP | 915 | | 1180 | 66% | | 1470 | 1775 |
| | APR-JUL | 410 | | 670 | 55% | | 940 | 1229 |
| Cherry & Eleanor CKs, Hetch Hetchy (DWR) | APR-JUL | | | 170 | 54% | | | 317 |
| Inflow to New Don Pedro Res (DWR) | OCT-SEP | 885 | | 1080 | 55% | | 1460 | 1954 |
| | APR-JUL | 380 | | 570 | 47% | | 940 | 1222 |
| Merced R at Pohono Bridge Yosemite (DWR) | APR-JUL | | | 175 | 47% | | | 369 |
| Cosumnes R at Michigan Bar (DWR) | OCT-SEP | 183 | | 205 | 53% | | 300 | 390 |
| | APR-JUL | 15 | | 39 | 29% | | 130 | 133 |
| SF San Joaquin R nr Florence Lk (DWR) | APR-JUL | | | 105 | 56% | | | 188 |
| Inflow to New Melones Res (DWR) | OCT-SEP | 550 | | 670 | 57% | | 910 | 1181 |
| | APR-JUL | 190 | | 310 | 44% | | 540 | 699 |
| Inflow to Pardee Res (DWR) | OCT-SEP | 360 | | 440 | 58% | | 590 | 764 |
| | APR-JUL | 110 | | 190 | 41% | | 340 | 469 |
| Merced R at Pohono Bridge Yosemite (NWS) | APR-JUL | 186 | 195 | 215 | 56% | 240 | 275 | 382.3 |
| Inflow to Lake McClure (NWS) | APR-JUL | 240 | 255 | 280 | 46% | 315 | 375 | 610.6 |
| Inflow to Lake McClure (DWR) | | | | | | | | |
| Inflow to Pardee Res (NWS) | APR-JUL | 150 | 166 | 189 | 43% | 220 | 265 | 443.5 |
| Tuolumne R nr Hetch Hetchy (DWR) | APR-JUL | | | 320 | 55% | | | 587 |

- 1) 90% And 10% exceedance probabilities are actually 95% And 5%
- 2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

| Watershed Snowpack Analysis April 1, 2022 | # of Sites | % Median | Last Year % Median |
|--|------------|----------|-----------------------|
| SanJoaquin | 83 | 47% | 66% |

Tulare Lake Streamflow Forecasts - April 1, 2022

Forecast Exceedance Probabilities For Risk Assessment
Chance that actual volume will exceed forecast

| Tulare Lake | Forecast Period | 90% (KAF) | 70% (KAF) | 50% (KAF) | % Median | 30% (KAF) | 10% (KAF) | 30yr Median (KAF) |
|--------------------------------|-----------------|-----------|-----------|-----------|----------|-----------|-----------|-------------------|
| Kaweah R at Terminus Res (DWR) | OCT-SEP | 130 | | 177 | 42% | | 285 | 426 |
| | APR-JUL | 65 | | 110 | 40% | | 210 | 276 |
| Kaweah R at Terminus Res (NWS) | APR-JUL | 72 | 77 | 86 | 30% | 103 | 127 | 282.1 |
| | APR-JUL | 500 | 530 | 560 | 46% | 625 | 730 | 1222.8 |
| Inflow to Pine Flat Res (DWR) | OCT-SEP | 195 | | 235 | 35% | | 330 | 672 |
| | APR-JUL | 90 | | 125 | 29% | | 210 | 427 |
| Inflow to Pine Flat Res (NWS) | OCT-SEP | 635 | | 855 | 51% | | 1160 | 1671 |
| | APR-JUL | 350 | | 560 | 47% | | 850 | 1204 |
| Tule R at Success Res (DWR) | OCT-SEP | 30 | | 38 | 29% | | 65 | 132 |
| | APR-JUL | 4 | | 12 | 21% | | 35 | 56 |
| Tule R at Success Res (NWS) | APR-JUL | 10 | 10 | 12 | 20% | 14 | 17 | 60.3 |
| | APR-JUL | 103 | 112 | 123 | 27% | 142 | 157 | 455.3 |
| NF Kings R nr Cliff Camp (DWR) | APR-JUL | 103 | 112 | 123 | 27% | 142 | 157 | 455.3 |
| | APR-JUL | | | 115 | 30% | | | 379 |

1) 90% And 10% exceedance probabilities are actually 95% And 5%

2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

| Watershed Snowpack Analysis April 1, 2022 | # of Sites | % Median | Last Year % Median |
|--|------------|----------|-----------------------|
| Tulare Lake | 48 | 46% | 47% |

North Coast Streamflow Forecasts - April 1, 2022

Forecast Exceedance Probabilities For Risk Assessment
Chance that actual volume will exceed forecast

| North Coast | Forecast Period | 90% (KAF) | 70% (KAF) | 50% (KAF) | % Median | 30% (KAF) | 10% (KAF) | 30yr Median (KAF) |
|--------------------------------|-----------------|-----------|-----------|-----------|----------|-----------|-----------|-------------------|
| Trinity R at Lewiston (DWR) | OCT-SEP | 405 | | 485 | 37% | | 690 | 1322 |
| | APR-JUL | 80 | | 160 | 25% | | 360 | 648 |
| Inflow to Clair Engle Lk (NWS) | APR-JUL | 86 | 98 | 122 | 21% | 198 | 275 | 584.3 |
| Scott R nr Fort Jones (NWS) | APR-JUL | 18 | 24 | 34 | 20% | 47 | 68 | 167 |

- 1) 90% And 10% exceedance probabilities are actually 95% And 5%
- 2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

| Watershed Snowpack Analysis April 1, 2022 | # of Sites | % Median | Last Year % Median |
|--|------------|----------|-----------------------|
| North Coast | 21 | 16% | 67% |

Klamath Streamflow Forecasts - April 1, 2022

Forecast Exceedance Probabilities For Risk Assessment
Chance that actual volume will exceed forecast

| Klamath | Forecast Period | 90% (KAF) | 70% (KAF) | 50% (KAF) | % Median | 30% (KAF) | 10% (KAF) | 30yr Median (KAF) |
|---|-----------------|-----------|-----------|-----------|----------|-----------|-----------|-------------------|
| Sprague R nr Chiloquin | APR-SEP | 49 | 64 | 75 | 47% | 88 | 107 | 159 |
| Upper Klamath Lake Inflow ¹² | APR-SEP | 135 | 184 | 210 | 58% | 235 | 300 | 365 |
| Gerber Reservoir Inflow | | | | | | | | |
| Clear Lake Inflow ² | APR-JUN | -31 | -18.4 | -10 | 161% | -1.49 | 11 | -6.23 |
| Williamson R bl Sprague R nr Chiloquin | APR-SEP | 123 | 159 | 183 | 64% | 205 | 245 | 285 |

1) 90% And 10% exceedance probabilities are actually 95% And 5%

2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

| Reservoir Storage End of March, 2022 | Current (KAF) | Last Year (KAF) | Median (KAF) | Capacity (KAF) |
|---|---------------|-----------------|--------------|----------------|
| Upper Klamath Lake | 346.5 | 341.5 | 441.9 | 523.7 |

Basin Index
of reservoirs

| Watershed Snowpack Analysis April 1, 2022 | # of Sites | % Median | Last Year % Median |
|--|------------|----------|--------------------|
| Klamath | 32 | 35% | 88% |

Tahoe Streamflow Forecasts - April 1, 2022

Forecast Exceedance Probabilities For Risk Assessment
Chance that actual volume will exceed forecast

| Tahoe | Forecast Period | 90% (KAF) | 70% (KAF) | 50% (KAF) | % Median | 30% (KAF) | 10% (KAF) | 30yr Median (KAF) |
|---|-----------------|-----------|-----------|-----------|----------|-----------|-----------|-------------------|
| Lake Tahoe Net Inflow | APR-JUL | 1.01 | 11.1 | 28 | 28% | 55 | 96 | 101 |
| | MAY-JUL | -43 | 6.6 | 11.8 | 25% | 22 | 52 | 47 |
| Lake Tahoe Rise Gates Closed ¹ | APR-HIGH | 0.1 | 0.25 | 0.55 | 46% | 0.7 | 1 | 1.19 |
| | MAY-HIGH | 0.023 | 0.129 | 0.3 | 39% | 0.52 | 0.93 | 0.76 |

1) 90% And 10% exceedance probabilities are actually 95% And 5%

2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

| Reservoir Storage End of March, 2022 | Current (KAF) | Last Year (KAF) | Median (KAF) | Capacity (KAF) |
|---|---------------|-----------------|--------------|----------------|
| Lake Tahoe | 121.4 | 292.9 | 289.3 | 744.5 |

Basin Index
of reservoirs

| Watershed Snowpack Analysis April 1, 2022 | # of Sites | % Median | Last Year % Median |
|--|------------|----------|--------------------|
| Tahoe | 26 | 55% | 70% |

Truckee Streamflow Forecasts - April 1, 2022

Forecast Exceedance Probabilities For Risk Assessment
Chance that actual volume will exceed forecast

| Truckee | Forecast Period | 90% (KAF) | 70% (KAF) | 50% (KAF) | % Median | 30% (KAF) | 10% (KAF) | 30yr Median (KAF) |
|--|-----------------|-----------|-----------|-----------|----------|-----------|-----------|-------------------|
| L Truckee R ab Boca Reservoir ² | APR-JUL | 16 | 29 | 38 | 53% | 42 | 52 | 72 |
| | MAY-JUL | 2.2 | 11 | 22 | 50% | 33 | 49 | 44 |
| Independence Lk Inflow ² | APR-JUL | 4.7 | 6 | 6.8 | 65% | 7.6 | 8.9 | 10.5 |
| | MAY-JUL | 1.51 | 3 | 4 | 55% | 5 | 6.5 | 7.32 |
| Donner Lake Inflow ² | APR-JUL | 2 | 4.7 | 6.6 | 44% | 8.5 | 11.2 | 15 |
| | MAY-JUL | 0.49 | 2.3 | 4.3 | 52% | 6.3 | 9.2 | 8.2 |
| Truckee R ab Farad Sidewater ² | APR-JUL | 37 | 52 | 62 | 69% | 72 | 87 | 90 |
| | MAY-JUL | 15.3 | 30 | 40 | 63% | 50 | 65 | 63 |
| Boca Res Local Inflow ² | APR-JUL | -0.93 | 0.27 | 1.2 | 79% | 1.69 | 2.9 | 1.52 |
| | MAY-JUL | -0.41 | 0.09 | 0.3 | 71% | 0.68 | 0.92 | 0.42 |
| Stampede Res Local Inflow ² | APR-JUL | 16.7 | 28 | 36 | 61% | 44 | 55 | 59 |
| | MAY-JUL | 2.2 | 11.4 | 21 | 58% | 31 | 45 | 36 |
| Martis Ck Res Inflow ² | APR-JUL | 0.3 | 2.4 | 3.8 | 67% | 5.2 | 7.3 | 5.7 |
| | MAY-JUL | 0.03 | 0.44 | 1.6 | 62% | 2.5 | 4.1 | 2.6 |
| Sagehen Ck nr Truckee | APR-JUL | 1.22 | 2.2 | 2.8 | 68% | 3.4 | 4.4 | 4.1 |
| | MAY-JUL | 0.13 | 0.67 | 1.4 | 64% | 2.1 | 3.2 | 2.2 |
| Prosser Ck Res Inflow ² | APR-JUL | 12.4 | 16.9 | 20 | 57% | 23 | 28 | 35 |
| | MAY-JUL | 2.6 | 8.2 | 12 | 55% | 15.8 | 21 | 22 |
| Truckee R at Farad ² | APR-JUL | 74 | 104 | 125 | 56% | 146 | 170 | 225 |
| | MAY-JUL | 15.8 | 50 | 74 | 53% | 98 | 132 | 139 |

1) 90% And 10% exceedance probabilities are actually 95% And 5%

2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

| Reservoir Storage End of March, 2022 | Current (KAF) | Last Year (KAF) | Median (KAF) | Capacity (KAF) |
|---|---------------|-----------------|--------------|----------------|
| Independence Lake | 12.5 | 11.4 | 14.8 | 17.3 |
| Martis Reservoir | | 0.9 | 0.9 | 35.8 |
| Stampede Reservoir | 109.9 | 91.7 | 164.2 | 226.5 |
| Donner Lake | 5.3 | 3.5 | 4.3 | 9.5 |
| Boca Reservoir | 29.2 | 11.0 | 19.0 | 40.9 |
| Prosser Reservoir | 10.2 | 7.2 | 9.7 | 29.8 |

Basin Index
of reservoirs

| Watershed Snowpack Analysis April 1, 2022 | # of Sites | % Median | Last Year % Median |
|--|------------|----------|--------------------|
| Truckee | 19 | 60% | 72% |

Carson Streamflow Forecasts - April 1, 2022

Forecast Exceedance Probabilities For Risk Assessment
Chance that actual volume will exceed forecast

| Carson | Forecast Period | 90% (KAF) | 70% (KAF) | 50% (KAF) | % Median | 30% (KAF) | 10% (KAF) | 30yr Median (KAF) |
|-----------------------------|-----------------|-----------|-----------|-----------|----------|-----------|-----------|-------------------|
| EF Carson R nr Gardnerville | | | | | | | | |
| | APR-JUL | 61 | 84 | 100 | 61% | 116 | 139 | 164 |
| | MAY-JUL | 26 | 52 | 70 | 60% | 88 | 114 | 116 |
| | 200 cfs | 21 Jun | 01 Jul | 08 Jul | | 15 Jul | 25 Jul | 14 Jul |
| | 500 cfs | 31 May | 10 Jun | 16 Jun | | 22 Jun | 02 Jul | 20 Jun |
| WF Carson R nr Woodfords | | | | | | | | |
| | APR-JUL | 15.7 | 23 | 28 | 62% | 33 | 40 | 45 |
| | MAY-JUL | 1.98 | 11.5 | 18 | 60% | 24 | 34 | 30 |

1) 90% And 10% exceedance probabilities are actually 95% And 5%

2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

| Watershed Snowpack Analysis April 1, 2022 | # of Sites | % Median | Last Year % Median |
|--|------------|----------|-----------------------|
| Carson | 16 | 51% | 76% |

Walker Streamflow Forecasts - April 1, 2022

Forecast Exceedance Probabilities For Risk Assessment
Chance that actual volume will exceed forecast

| Walker | Forecast Period | 90% (KAF) | 70% (KAF) | 50% (KAF) | % Median | 30% (KAF) | 10% (KAF) | 30yr Median (KAF) |
|---------------------------------------|-----------------|-----------|-----------|-----------|----------|-----------|-----------|-------------------|
| E Walker R nr Bridgeport ² | APR-AUG | 1.76 | 12.3 | 22 | 50% | 32 | 46 | 44 |
| | MAY-AUG | 2 | 11 | 20 | 49% | 29 | 42 | 41 |
| W Walker R nr Coleville | APR-JUL | 41 | 59 | 71 | 48% | 83 | 101 | 147 |
| | MAY-JUL | 30 | 49 | 62 | 51% | 75 | 94 | 122 |
| W Walker R bl L Walker R nr Coleville | APR-JUL | 41 | 61 | 74 | 48% | 87 | 107 | 153 |
| | MAY-JUL | 33 | 52 | 65 | 52% | 78 | 97 | 126 |

1) 90% And 10% exceedance probabilities are actually 95% And 5%

2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

| Reservoir Storage End of March, 2022 | Current (KAF) | Last Year (KAF) | Median (KAF) | Capacity (KAF) |
|---|---------------|-----------------|--------------|----------------|
| Bridgeport Reservoir | 18.8 | 14.8 | 25.1 | 42.5 |

Basin Index
of reservoirs

| Watershed Snowpack Analysis April 1, 2022 | # of Sites | % Median | Last Year % Median |
|--|------------|----------|--------------------|
| Walker | 10 | 61% | 74% |

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Surprise Valley-Warners - April 1, 2022

| Watershed Snowpack Analysis April 1, 2022 | # of Sites | % Median | Last Year % Median |
|--|------------|----------|-----------------------|
| Surprise Valley-Warners | 4 | 60% | 87% |

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Colorado Streamflow Forecasts - April 1, 2022

Forecast Exceedance Probabilities For Risk Assessment
Chance that actual volume will exceed forecast

| Colorado | Forecast Period | 90% (KAF) | 70% (KAF) | 50% (KAF) | % Median | 30% (KAF) | 10% (KAF) | 30yr Median (KAF) |
|---------------------------------|-----------------|-----------|-----------|-----------|----------|-----------|-----------|-------------------|
| Lake Powell Inflow ² | APR-JUL | 2690 | 3660 | 4400 | 72% | 5210 | 6530 | 6130 |

- 1) 90% And 10% exceedance probabilities are actually 95% And 5%
- 2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

| Reservoir Storage End of March, 2022 | Current (KAF) | Last Year (KAF) | Median (KAF) | Capacity (KAF) |
|---|---------------|-----------------|--------------|----------------|
| Lake Powell | 5812.4 | 8843.8 | 12880.0 | 24322.0 |

Basin Index
of reservoirs

| Watershed Snowpack Analysis April 1, 2022 | # of Sites | % Median | Last Year % Median |
|--|------------|----------|--------------------|
| Colorado | 232 | 88% | 90% |

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Owens Lake Streamflow Forecasts - April 1, 2022

Forecast Exceedance Probabilities For Risk Assessment
Chance that actual volume will exceed forecast

| Owens Lake | Forecast Period | 90% (KAF) | 70% (KAF) | 50% (KAF) | % Median | 30% (KAF) | 10% (KAF) | 30yr Median (KAF) |
|---------------|-----------------|-----------|-----------|-----------|----------|-----------|-----------|-------------------|
| Owens R (DWR) | APR-JUL | | | 90 | 39% | | | 231 |

- 1) 90% And 10% exceedance probabilities are actually 95% And 5%
- 2) Forecasts are For unimpaired flows. Actual flow will be dependent On management of upstream reservoirs And diversions

| Watershed Snowpack Analysis April 1, 2022 | # of Sites | % Median | Last Year % Median |
|--|------------|----------|--------------------|
| Owens Lake | 17 | 52% | 60% |

HOW FORECASTS ARE MADE

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snowcourses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

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