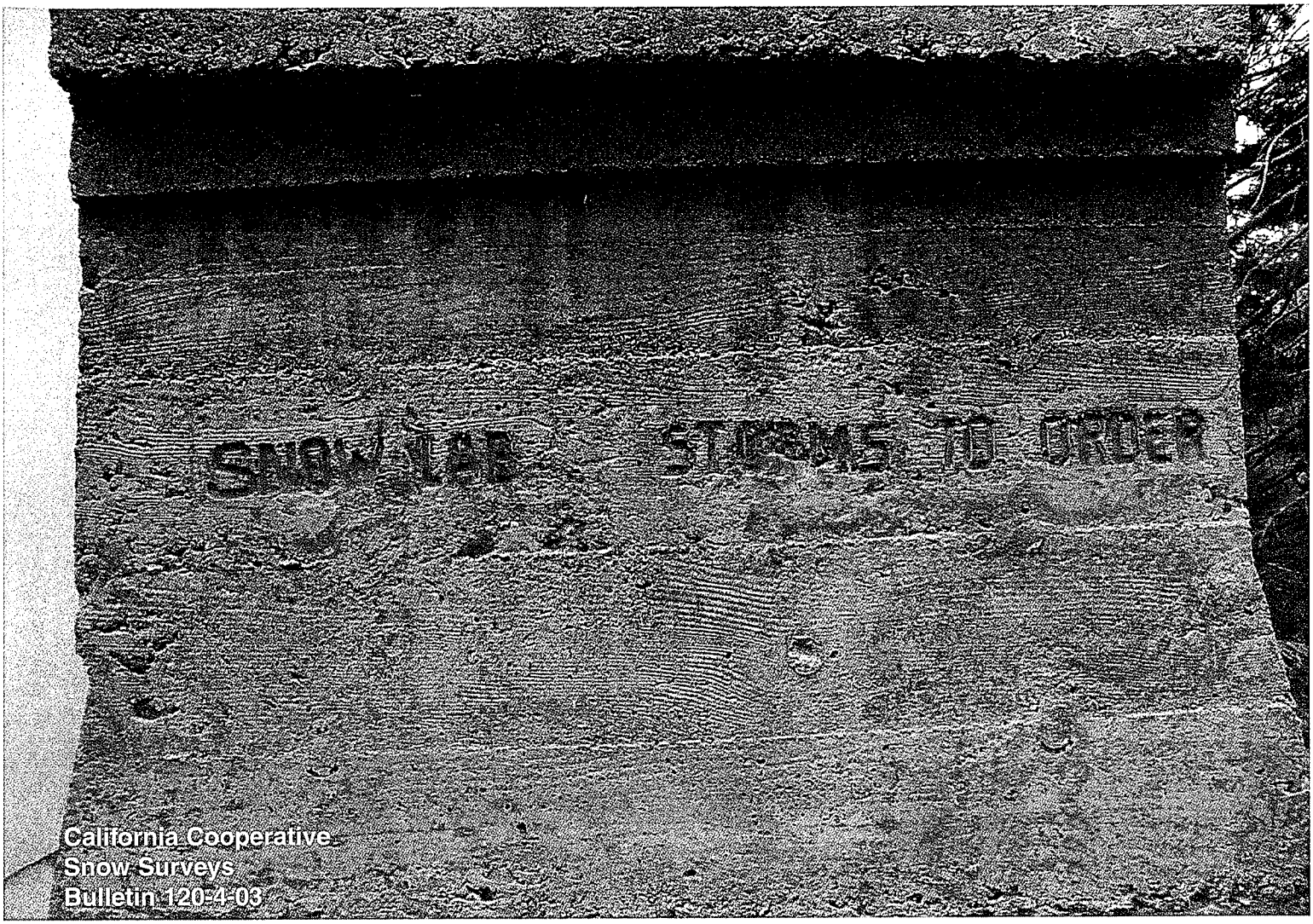


California Cooperative
Snow Surveys
Bulletin 120-4-03

State of California
The Resources Agency

Department of
Water Resources

# Water Conditions in California

## Report 4 May 1, 2003

**Gray Davis**
Governor
State of California

**Mary D. Nichols**
Secretary for Resources
The Resources Agency

**Thomas M. Hannigan**
Director
Department of Water Resources

# STATE OF CALIFORNIA
Gray Davis, Governor

# THE RESOURCES AGENCY
Mary D. Nichols, Secretary for Resources

## Department of Water Resources
Thomas M. Hannigan
Director

Tom Glover
Deputy Director

Stephen W. Verigin
Acting Chief Deputy Director

Jonas M. Minton
Deputy Director

L. Lucinda Chipponeri
Assistant Director for Legislation

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David Rizzardo.....Engineer, W.R.
Stephen Nemeth.....Assistant Engineering Specialist, W.R.
David M. Hart.....Water Resources Engineering Associate

## COOPERATING AGENCIES

**Public Agencies**
Buena Vista Water Storage District
East Bay Municipal Utility District
Eldorado Irrigation District
Friant Water Users Association
Kaweah Delta Water Conservation District
Kern Delta Water District
Kings River Conservation District
Lower Tule River Irrigation District
Merced Irrigation District
Modesto Irrigation District
Nevada Irrigation District
North Kern Water Storage District
Northern California Power Agency
Oakdale Irrigation District
Omochumne–Hartnell Water District
Oroville–Wyandotte Irrigation District
Placer County Water Agency
Sacramento Municipal Utility District
San Joaquin Exchange Contractors Water Association
South San Joaquin Irrigation District
Tri–Dam Project
Truckee River Basin Water Commission
Tulare Lake Basin Water Storage District
Turlock Irrigation District
Yuba County Water Agency

**Private Organizations**
J.G. Boswell Company
Kaweah and St. Johns River Association
Kings River Water Association
Tule River Association
State Water Contractors

**Municipalities**
City of Bakersfield Water Department
City of Los Angeles Department of Water and Power
City and County of San Francisco Hetch Hetchy Water and Power

**State Agencies**
University of California
Central Sierra Snow Laboratory
Scripps Institution of Oceanography
California Department of Forestry & Fire Protection
California Department of Water Resources

**Public Utilities**
Pacific Gas and Electric Company
Southern California Edison Company

**Federal Agencies**
U.S. Department of Agriculture
Forest Service(14 National Forests)
Natural Resource Conservation Service
U.S. Department of Commerce
National Weather Service
U.S. Department of Interior
Bureau of Reclamation
Geological Survey, Water Resources
National Park Service(3 National Parks)
U.S. Department of Army
Corps of Engineers

**Other Cooperative Programs**
Nevada Cooperative Snow Surveys
Oregon Cooperative Snow Surveys

# SUMMARY OF WATER CONDITIONS
# May 1, 2003

April 2003 was an impressive month for water supply with more than double average precipitation. Instead of the normal decrease of 20 percent as the snow melts, the pack gained about 15 percent in water content to end the month over average for May 1, insuring adequate supply for most users. Most major northern state reservoirs are now expected to fill this spring, with the notable exception of several of the larger reservoirs on the east side of the San Joaquin Valley.

***Forecasts*** of April through July runoff have been increased about 30 percent over those of last month because of the April storms. Statewide forecasts for snowmelt runoff are now 100 percent of average. Water year forecasts have also been increased to 100 percent of average. This is a substantial improvement over last year's actual statewide runoff for the water year of 75 percent.

***Snowpack*** water content on May 1 is about 105 percent of average and about 80 percent of the April 1 average, the normal date of maximum accumulation. Last year the water content was 60 percent of average. Northern regions are well above average and the southern Sierra pack is still significantly under average.

***Precipitation*** during April was about 230 percent of average statewide, far above average in all regions of the State but the Colorado Desert. Precipitation during the month in the northern Sierra was estimated at 270 percent of average, the third wettest April in 80 years of record, exceeded only in 1948 and 1963. Seasonal precipitation is now 110 percent of average compared to 80 percent last year.

***Runoff*** so far this water year has been about 100 percent of average, compared to last year's 80 percent. There is a pronounced north to south gradient, above average in the coastal areas north of San Francisco and in the northern Sacramento River region and below in the southern and eastern portions of California. Estimated runoff of the 8 major rivers of the Sacramento and San Joaquin River regions was 3.3 million acre-feet during April. The May estimate of the Sacramento River Index at the 90% exceedence level is 17.9 MAF. The May estimate of the San Joaquin Region 60-20-20 Index at the 75% exceedence level is 2.7.

***Reservoir storage*** increased slightly ahead of the normal pace to 105 percent of average on May 1. Most northern reservoirs are already full or at flood control limits. At this time last year storage was 100 percent of average overall.

## SUMMARY OF WATER CONDITIONS
## IN PERCENT OF AVERAGE

| HYDROLOGIC REGION | PRECIPITATION OCTOBER 1 TO DATE | MAY 1 SNOW WATER CONTENT | MAY 1 RESERVOIR STORAGE | RUNOFF OCTOBER 1 TO DATE | APR-JULY RUNOFF FORECAST | WATER YEAR RUNOFF FORECAST |
|---|---|---|---|---|---|---|
| NORTH COAST | 125 | 175 | 110 | 120 | 120 | 120 |
| SAN FRANCISCO BAY | 120 | -- | 95 | 105 | -- | -- |
| CENTRAL COAST | 95 | -- | 95 | 80 | -- | -- |
| SOUTH COAST | 105 | -- | 85 | 45 | -- | -- |
| SACRAMENTO RIVER | 110 | 115 | 110 | 95 | 110 | 100 |
| SAN JOAQUIN RIVER | 95 | 100 | 100 | 65 | 90 | 80 |
| TULARE LAKE | 100 | 70 | 95 | 80 | 75 | 75 |
| NORTH LAHONTAN | 100 | 90 | 50 | 75 | 85 | 80 |
| SOUTH LAHONTAN | 130 | 70 | 100 | 65 | 80 | 75 |
| COLORADO RIVER-DESERT | 75 | -- | -- | -- | -- | -- |
| **STATEWIDE** | 110 | 105 | 105 | 100 | 100 | 100 |

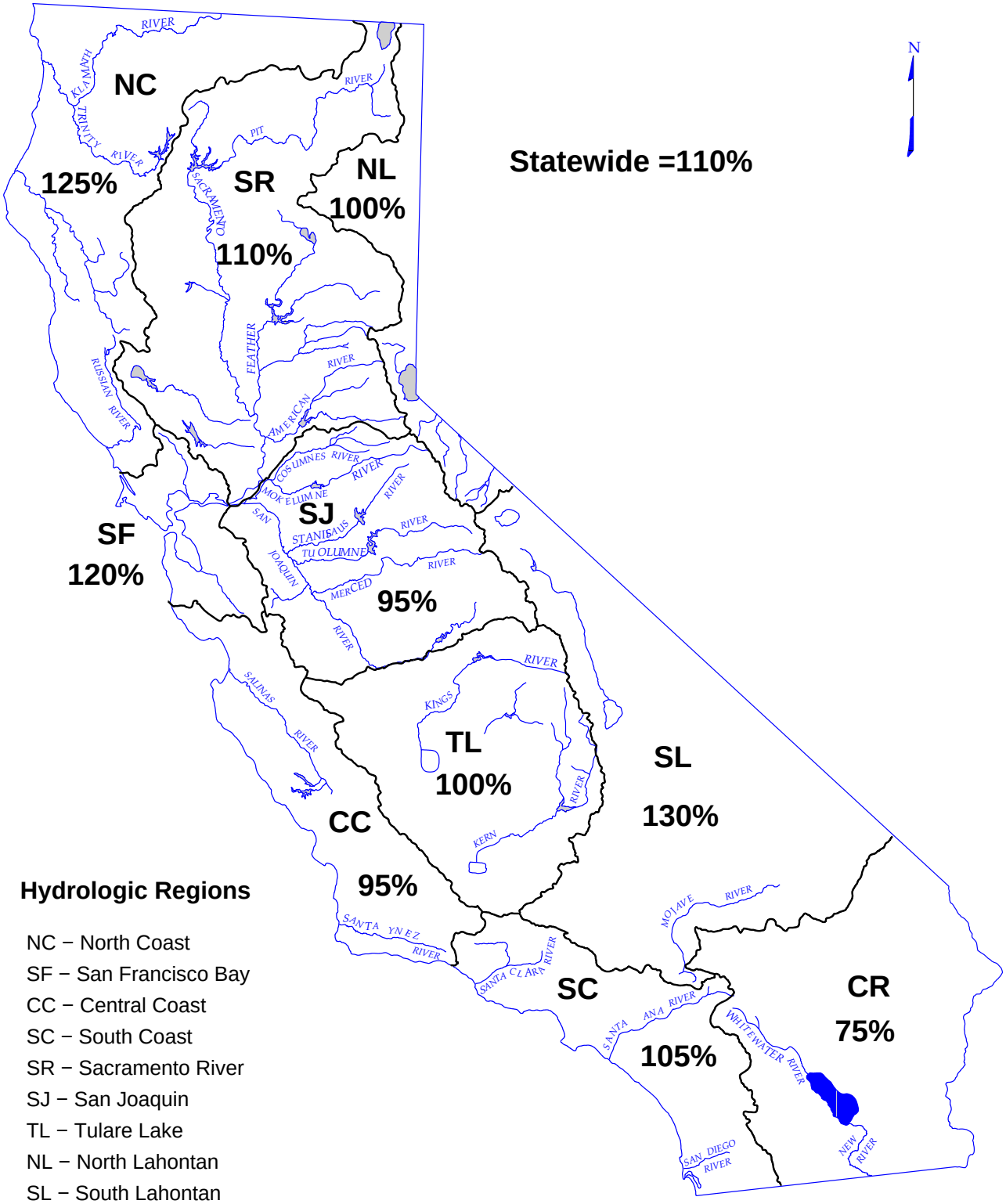
# DEPARTMENT OF WATER RESOURCES

## CALIFORNIA COOPERATIVE SNOW SURVEYS

## SEASONAL PRECIPITATION

IN PERCENT OF AVERAGE TO DATE

October 1, 2002 through April 30, 2003

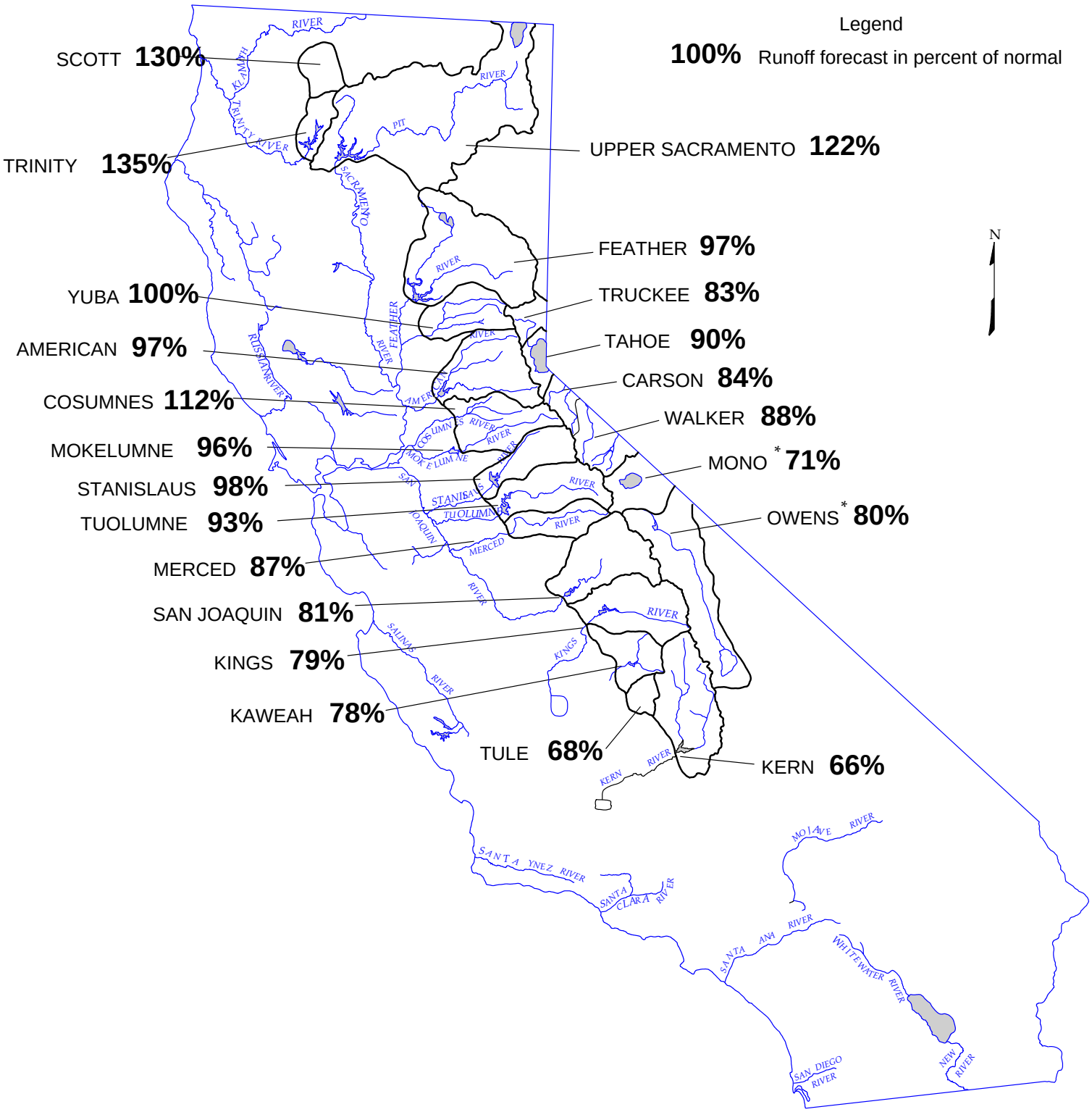



**Hydrologic Regions**

NC − North Coast
SF − San Francisco Bay
CC − Central Coast
SC − South Coast
SR − Sacramento River
SJ − San Joaquin
TL − Tulare Lake
NL − North Lahontan
SL − South Lahontan
CR − Colorado River−Desert

WATER YEAR IS OCTOBER 1 THROUGH SEPTEMBER 30

# DEPARTMENT OF WATER RESOURCES
# CALIFORNIA COOPERATIVE SNOW SURVEYS
## FORECAST OF APRIL – JULY
## UNIMPAIRED SNOWMELT RUNOFF
## April 1, 2003




* FORECAST BY DEPARTMENT OF WATER AND POWER, CITY OF LOS ANGELES

## MAY 1, 2003 FORECASTS
## APRIL-JULY UNIMPAIRED RUNOFF

| HYDROLOGIC REGION and Watershed | Unimpaired Runoff in 1,000 Acre-Feet (1) HISTORICAL 50 Yr Avg (2) | Max of Record | Min of Record | FORECAST Apr-Jul Forecasts | Pct of Avg | 80 % Probability Range (1) |
|---|---|---|---|---|---|---|
| **SACRAMENTO RIVER** | | | | | | |
| **Upper Sacramento River** | | | | | | |
| Sacramento River at Delta above Shasta Lake (3) | 299 | 711 | 39 | 390 | 131% | |
| McCloud River above Shasta Lake | 400 | 850 | 185 | 480 | 120% | |
| Pit River near Montgomery Creek + Squaw Creek | 1,090 | 2,098 | 480 | 1,150 | 106% | |
| Total Inflow to Shasta Lake | 1,849 | 3,525 | 726 | **2,250** | 122% | 2,030 - 2,550 |
| **Sacramento River above Bend Bridge, near Red Bluff** | 2,521 | 5,075 | 943 | **3,120** | 124% | 2,820 - 3,560 |
| **Feather River** | | | | | | |
| Feather River at Lake Almanor near Prattville (3) | 333 | 675 | 120 | 320 | 96% | |
| North Fork at Pulga (3) | 1,028 | 2,416 | 243 | 990 | 96% | |
| Middle Fork near Clio (4) | 86 | 518 | 4 | 80 | 93% | |
| South Fork at Ponderosa Dam (3) | 110 | 267 | 13 | 105 | 95% | |
| Feather River at Oroville | 1,870 | 4,676 | 392 | **1,820** | 97% | 1,600 - 2,140 |
| **Yuba River** | | | | | | |
| North Yuba below Goodyears Bar (3) | 286 | 647 | 51 | 280 | 98% | |
| Inflow to Jackson Mdws and Bowman Reservoirs (3) | 112 | 236 | 25 | 110 | 98% | |
| South Yuba at Langs Crossing (3) | 233 | 481 | 57 | 220 | 94% | |
| Yuba River near Smartville plus Deer Creek | 1,044 | 2,424 | 200 | **1,040** | 100% | 930 - 1,180 |
| **American River** | | | | | | |
| North Fork at North Fork Dam (3) | 262 | 716 | 43 | 250 | 95% | |
| Middle Fork near Auburn (3) | 522 | 1,406 | 100 | 510 | 98% | |
| Silver Creek Below Camino Diversion Dam (3) | 173 | 386 | 37 | 170 | 98% | |
| American River below Folsom Lake | 1,282 | 3,074 | 229 | **1,250** | 97% | 1,120 - 1,420 |
| **SAN JOAQUIN RIVER** | | | | | | |
| **Cosumnes River at Michigan Bar** | 130 | 363 | 8 | **145** | 112% | 125 - 175 |
| **Mokelumne River** | | | | | | |
| North Fork near West Point (5) | 437 | 829 | 104 | 400 | 92% | |
| Total Inflow to Pardee Reservoir | 469 | 1,065 | 102 | **450** | 96% | 410 - 520 |
| **Stanislaus River** | | | | | | |
| Middle Fork below Beardsley Dam (3) | 334 | 702 | 64 | 320 | 96% | |
| North Fork Inflow to McKays Point Dam (3) | 224 | 503 | 34 | 210 | 94% | |
| Stanislaus River below Goodwin Reservoir (7) | 716 | 1,710 | 116 | **700** | 98% | 630 - 800 |
| **Tuolumne River** | | | | | | |
| Cherry Creek & Eleanor Creek near Hetch Hetchy (3) | 322 | 727 | 97 | 290 | 90% | |
| Tuolumme River near Hetch Hetchy (3) | 606 | 1,392 | 153 | 580 | 96% | |
| Tuolumne River below La Grange Reservoir (7) | 1,230 | 2,682 | 301 | **1,150** | 93% | 1,050 - 1,300 |
| **Merced River** | | | | | | |
| Merced River at Pohono Bridge (3) | 362 | 888 | 80 | 340 | 94% | |
| Merced River below Merced Falls (7) | 633 | 1,587 | 123 | **550** | 87% | 510 - 620 |
| **San Joaquin River** | | | | | | |
| San Joaquin River at Mammoth Pool (6) | 1,014 | 2,279 | 235 | 830 | 82% | |
| Big Creek below Huntington Lake (6) | 95 | 264 | 11 | 70 | 74% | |
| South Fork near Florence Lake (6) | 202 | 511 | 58 | 170 | 84% | |
| San Joaquin River inflow to Millerton Lake | 1,262 | 3,355 | 262 | **1,020** | 81% | 920 - 1,160 |
| **TULARE LAKE** | | | | | | |
| **Kings River** | | | | | | |
| North Fork Kings River near Cliff Camp (3) | 239 | 565 | 50 | 190 | 79% | |
| Kings River below Pine Flat Reservoir | 1,234 | 3,113 | 274 | **980** | 79% | 880 - 1,090 |
| **Kaweah River below Terminus Reservoir** | 290 | 814 | 62 | **225** | 78% | 200 - 265 |
| **Tule River below Lake Success** | 65 | 259 | 2 | **44** | 68% | 37 - 58 |
| **Kern River** | | | | | | |
| Kern River near Kernville (3) | 373 | 1,203 | 83 | 270 | 72% | |
| Kern River inflow to Lake Isabella | 470 | 1,657 | 84 | **310** | 66% | 280 - 360 |

(1) See inside back cover for definition
(2) All 50 year averages are based on years 1951-2000 unless otherwise noted
(3) 50 year average based on years 1941-90
(4) 44 year average based on years 1936-79
(5) 36 year average based on years 1936-72
(6) 45 year average based on years 1936-81

## MAY 1, 2003 FORECASTS
## WATER YEAR UNIMPAIRED RUNOFF

Unimpaired Runoff in 1,000 Acre-Feet (1)

| HISTORICAL | | | DISTRIBUTION | | | | | | | | FORECAST | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 Yr Avg (2) | Max of Record | Min of Record | Oct Thru Jan* | Feb * | Mar * | Apr * | May | Jun | Jul | Aug & Sep | Water Year Forecasts | Pct of Avg | 80 % Probability Range (1) | |
| 888 | 1,965 | 165 | | | | | | | | | | | | |
| 1,234 | 2,353 | 557 | | | | | | | | | | | | |
| 3,217 | 5,150 | 1,484 | | | | | | | | | | | | |
| 6,194 | 10,796 | 2,479 | 2,575 | 480 | 695 | 820 | 750 | 400 | 280 | 470 | **6,470** | 104% | 6,220 | - 6,830 |
| 8,990 | 17,180 | 3,294 | 4,385 | 750 | 1,015 | 1,225 | 1,040 | 500 | 355 | 600 | **9,870** | 110% | 9,520 | - 10,390 |
| 780 | 1,269 | 366 | | | | | | | | | | | | |
| 2,417 | 4,400 | 666 | | | | | | | | | | | | |
| 219 | 637 | 24 | | | | | | | | | | | | |
| 291 | 562 | 32 | | | | | | | | | | | | |
| 4,775 | 9,492 | 994 | 1,590 | 370 | 565 | 640 | 720 | 320 | 140 | 185 | **4,530** | 95% | 4,290 | - 4,890 |
| 564 | 1,056 | 102 | | | | | | | | | | | | |
| 181 | 292 | 30 | | | | | | | | | | | | |
| 379 | 565 | 98 | | | | | | | | | | | | |
| 2,459 | 4,926 | 369 | 675 | 175 | 265 | 340 | 470 | 190 | 40 | 35 | **2,190** | 89% | 2,070 | - 2,350 |
| 616 | 1,234 | 66 | | | | | | | | | | | | |
| 1,070 | 2,575 | 144 | | | | | | | | | | | | |
| 318 | 705 | 59 | | | | | | | | | | | | |
| 2,830 | 6,382 | 349 | 490 | 160 | 265 | 415 | 540 | 250 | 45 | 25 | **2,190** | 77% | 2,050 | - 2,370 |
| 409 | 1,253 | 20 | 43 | 17 | 25 | 68 | 56 | 18 | 3 | 2 | **232** | 57% | 210 | - 265 |
| 626 | 1,009 | 197 | | | | | | | | | | | | |
| 774 | 1,800 | 129 | 85 | 35 | 50 | 100 | 190 | 140 | 20 | 5 | **625** | 81% | 580 | - 700 |
| 471 | 929 | 88 | | | | | | | | | | | | |
| 1,196 | 2,952 | 155 | 140 | 55 | 95 | 155 | 320 | 190 | 35 | 10 | **1,000** | 84% | 930 | - 1,120 |
| 461 | 1,147 | 123 | | | | | | | | | | | | |
| 770 | 1,661 | 258 | | | | | | | | | | | | |
| 1,974 | 4,631 | 383 | 225 | 65 | 125 | 220 | 450 | 390 | 90 | 25 | **1,590** | 81% | 1,480 | - 1,770 |
| 461 | 1,020 | 92 | | | | | | | | | | | | |
| 1,014 | 2,787 | 150 | 105 | 35 | 65 | 110 | 230 | 170 | 40 | 15 | **770** | 76% | 720 | - 850 |
| 1,337 | 2,964 | 308 | | | | | | | | | | | | |
| 112 | 298 | 14 | | | | | | | | | | | | |
| 248 | 653 | 71 | | | | | | | | | | | | |
| 1,851 | 4,642 | 362 | 175 | 60 | 110 | 160 | 420 | 330 | 110 | 35 | **1,400** | 76% | 1,290 | - 1,560 |
| 284 | 607 | 58 | | | | | | | | | | | | |
| 1,736 | 4,287 | 386 | 175 | 55 | 105 | 145 | 405 | 330 | 100 | 35 | **1,350** | 78% | 1,240 | - 1,480 |
| 460 | 1,402 | 94 | 87 | 20 | 40 | 51 | 95 | 65 | 14 | 8 | **380** | 83% | 350 | - 430 |
| 153 | 615 | 16 | 43 | 8 | 16 | 18 | 18 | 6 | 2 | 2 | **113** | 74% | 105 | - 130 |
| 558 | 1,577 | 163 | | | | | | | | | | | | |
| 741 | 2,318 | 175 | 140 | 30 | 45 | 55 | 120 | 100 | 35 | 25 | **550** | 74% | 510 | - 610 |

* Unimpaired runoff in prior months based on measured flows

(7) Forecast point names based on USGS gage names. Stanislaus below Goodwin also known as inflow to New Melones, Tuolumne River below La Grange also known as inflow to Don Pedro, Merced River below Merced Falls also known as inflow to McClure.

## MAY 1, 2003 FORECASTS
## APRIL-JULY UNIMPAIRED RUNOFF

| HYDROLOGIC REGION and Watershed | Unimpaired Runoff in 1,000 Acre-Feet (1) HISTORICAL 50 Yr Avg (2) | Max of Record | Min of Record | FORECAST Apr-Jul Forecasts | Pct of Avg |
|---|---|---|---|---|---|
| **NORTH COAST** | | | | | |
| **Trinity River** | | | | | |
| Trinity River at Lewiston Lake | 660 | 1,593 | 80 | **890** | 135% |
| **Scott River** | | | | | |
| Scott River near Fort Jones | 200 | 400 | 30 | **260** | 130% |
| **Klamath River** | | | | | |
| Total inflow to Upper Klamath Lake (3) | 515 | 939 | 149 | **368** | 72% |
| **NORTH LAHONTAN** | | | | | |
| **Truckee River** | | | | | |
| Lake Tahoe to Farad accretions | 272 | 713 | 52 | **225** | 83% |
| Lake Tahoe Rise (assuming gates closed, in feet) | 1.4 | 5.4 | 0.2 | **1.3** | 90% |
| **Carson River** | | | | | |
| West Fork Carson River at Woodfords | 55 | 135 | 12 | **47** | 85% |
| East Fork Carson River near Gardnerville | 190 | 407 | 43 | **160** | 84% |
| **Walker River** | | | | | |
| West Walker River below Little Walker, near Coleville | 153 | 330 | 35 | **140** | 91% |
| East Walker River near Bridgeport | 65 | 209 | 7 | **52** | 80% |
| **SOUTH LAHONTAN** | | | | | |
| **Owens River** | | | | | |
| Total tributary flow to Owens River (4) | 235 | 579 | 96 | **188** | 80% |

(1) See inside back cover for definition

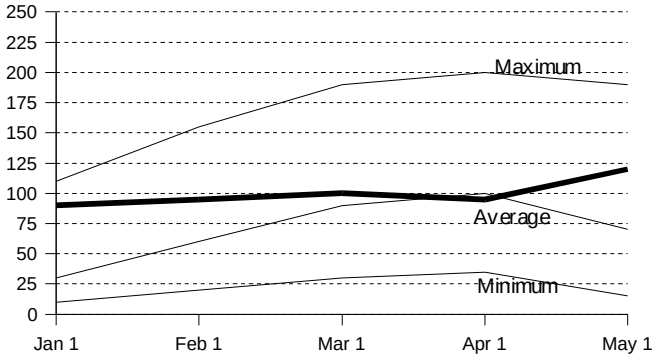
(2) All 50 year averages are based on years 1951-2000 unless otherwise noted

(3) Forecast by U.S. Natural Resources Conservation Service and National Weather Service California-Nevada River Forecast Center, April through September forecast, 30 year average based on years 1971-2000.

(4) Forecast by Department of Water and Power, City of Los Angeles, average based on years 1951-2000.

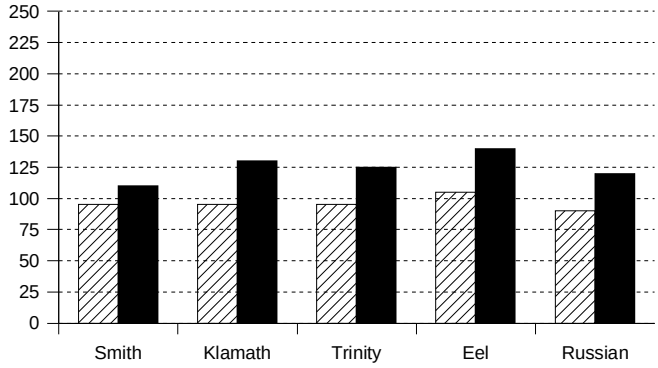
## Snowpack Accumulation

Water Content in % of April 1 Average



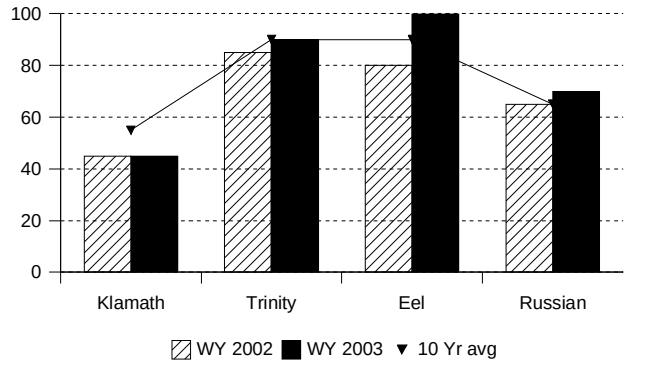

## Precipitation

October 1 to date in % of Average



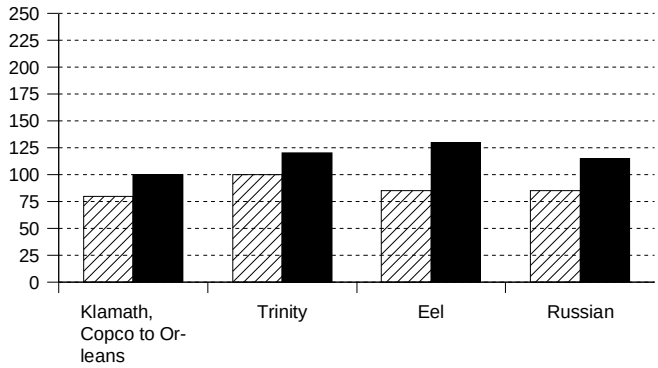

## Reservoir Storage

Contents of major reservoirs in % of capacity




## Runoff

October 1 to date in % of average




# NORTH COAST REGION

***SNOWPACK***- First of the month measurements made at 10 snow courses indicate an area wide snow water equivalent of 43.3 inches. This is 120 percent of the seasonal April 1 average and 175% of the May 1 average. Last year at this time the pack was holding 17.3 inches of water.

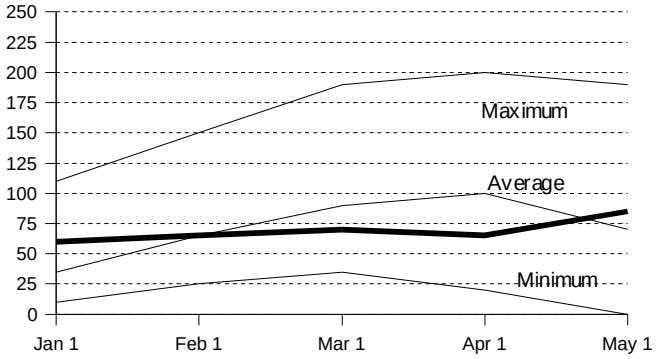
***PRECIPITATION*** - Seasonal precipitation (October 1 through the end of last month) on this area was 125 percent of normal. Precipitation last month was about 290 percent of the monthly average. Seasonal precipitation at this time last year stood at 95 percent of normal.

***RESERVOIR STORAGE***- First of the month storage in 7 reservoirs was 2.7 million acre-feet which is 110 percent of average. About 85 percent of available capacity was being used. Storage in these reservoirs at this time last year was 100 percent of average.

***RUNOFF*** -Seasonal runoff of streams draining the area totaled 13.6 million acre-feet which is 120 percent of the average for this period. Last year, runoff for the same period was 85 percent of average.

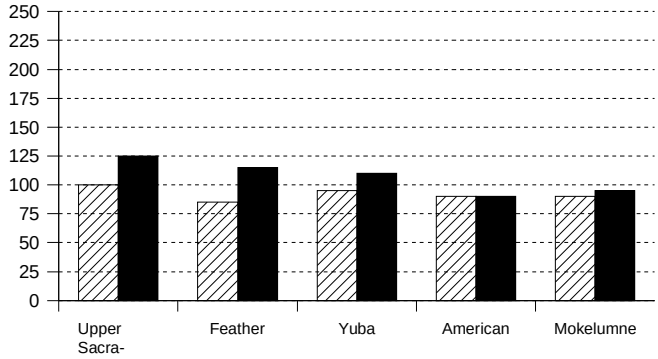
## Snowpack Accumulation

Water Content in % of April 1 Average



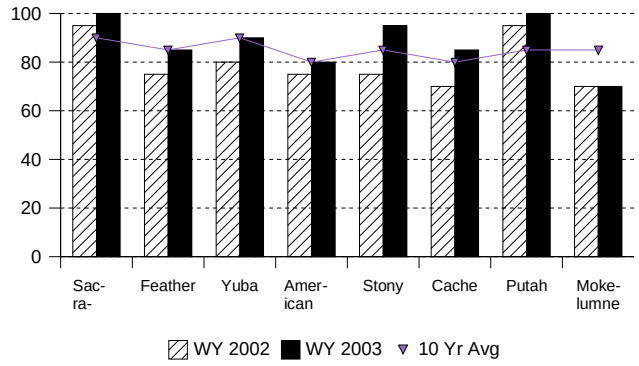

## Precipitation

October 1 to date in % of Average



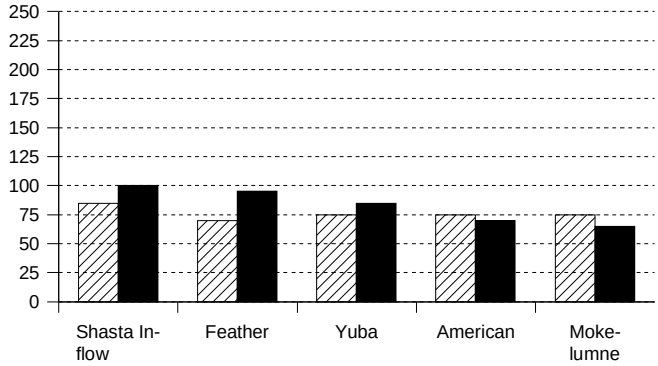

## Reservoir Storage

Contents of major reservoirs in % of capacity




## Runoff

October 1 to date in % of average




# SACRAMENTO RIVER REGION

***SNOWPACK***- First of the month measurements made at 66 snow courses indicate an area wide snow water equivalent of 29.4 inches. This is 85 percent of the seasonal April 1 average and 115 percent of the May 1 average. Last year at this time the pack was holding 17.4 inches of water.

***PRECIPITATION*** - Seasonal precipitation (October 1 through the end of last month) on this area was 110 percent of normal. Precipitation last month was about 250 percent of the monthly average. Seasonal precipitation at this time last year stood at 95 percent of normal.

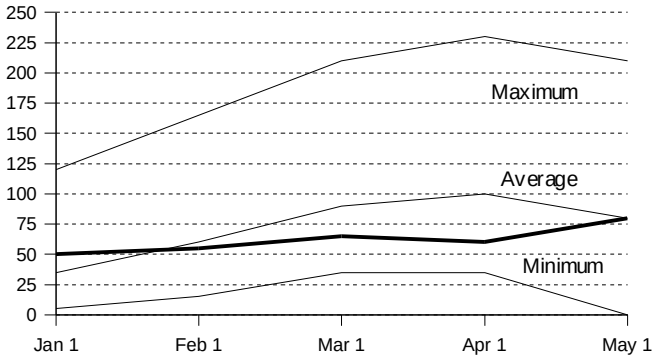
***RESERVOIR STORAGE***- First of the month storage in 43 reservoirs was 14.6 million acre-feet which is 110 percent of average. About 90 percent of available capacity was being used. Storage in these reservoirs at this time last year was 100 percent of average.

***RUNOFF*** - Seasonal runoff of streams draining the area totaled 13.3 million acre-feet which is 95 percent of average for this period. Last year, runoff for the same period was 80 percent of average.

The **Sacramento Region 40-30-30 Water Supply Index** is forecast to be 8.0 assuming median meteorological conditions for the remainder of the year. This classifies the year as " above normal" in the Sacramento Valley according to the State Water Resources Control Board.

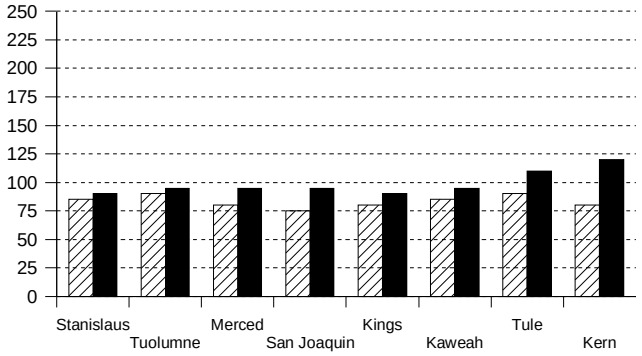
## Snowpack Accumulation

Water Content in % of April 1 Average



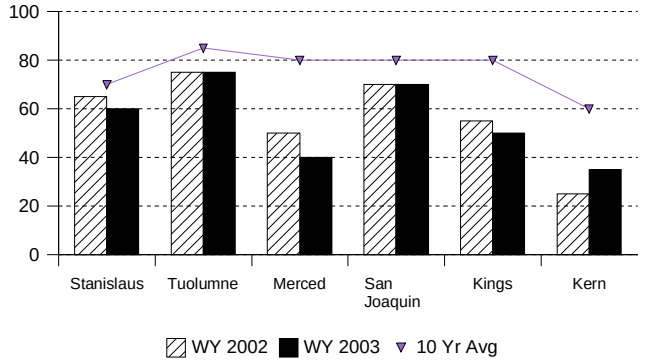

## Precipitation

October 1 to date in % of Average



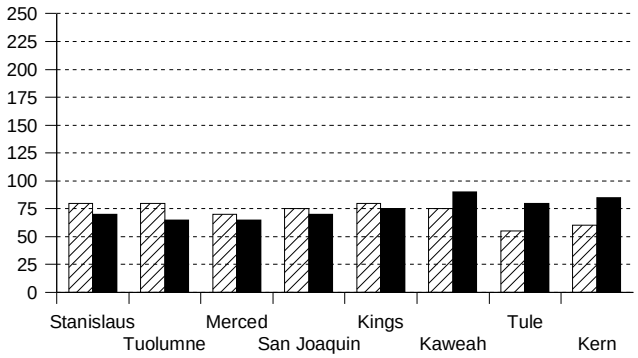

## Reservoir Storage

Contents of major reservoirs in % of capacity




## Runoff

October 1 to date in % of average




# SAN JOAQUIN RIVER AND TULARE LAKE REGIONS

***SNOWPACK***- First of the month measurements made at 58 **San Joaquin Region** snow courses indicate an area wide snow water equivalent of 27.9 inches. This is 80 percent of the seasonal (April 1) average and100 percent of the May 1 average. Last year at this time the pack was holding 18.2 inches of water.
At the same time 26 **Tulare Lake Region** snow courses indicated a basin-wide snow water equivalent of 16.2 inches which is 55 percent of the average for April 1 and 70 percent of May 1. Last year at this time the basin was holding 10.0 inches of water.

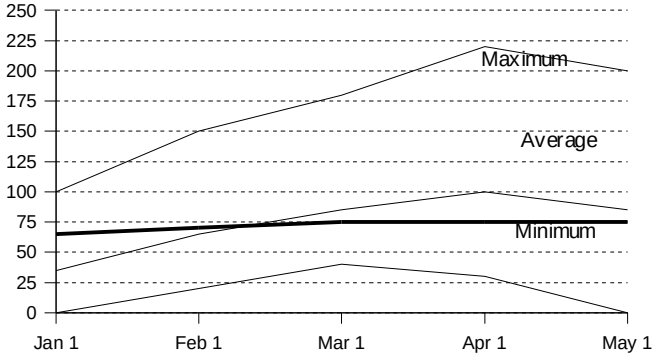
***PRECIPITATION*** - Seasonal precipitation (October 1 through the end of last month) on the **San Joaquin Region** was 95 percent of normal. Precipitation last month was about 220 percent of the monthly average. Seasonal precipitation at this time last year stood at 85 percent of normal.
Seasonal precipitation on the **Tulare Lake Region** was 100 percent of normal. Precipitation last month was about 170 percent of the monthly average. Seasonal precipitation at this time last year stood at 80 percent of normal.

***RESERVOIR STORAGE***- First of the month storage in 34 **San Joaquin Region** reservoirs was 7.7 million acre-feet which is 100 percent of average. About 70 percent of available capacity was being used. Storage in these reservoirs at this time last year was 105 percent of average.
First of the month storage in 6 **Tulare Lake Region** reservoirs was 974 thousand acre-feet which is 95 percent of average and about 50 percent of available capacity. Storage in these reservoirs at this time last year was 90 percent of average.

***RUNOFF***- Seasonal runoff of streams draining the **San Joaquin Region** totaled 2.3 million acre-feet which is 65 percent of average for this period. Last year, runoff for the same period was 75 percent of average. Seasonal runoff of streams draining the **Tulare Lake Basin** totaled 1 million acre-feet which is 80 percent of average for this period. Last year runoff for this same period was 70 percent of average.
The **San Joaquin Region 60-20-20 Water Supply Index** is forecast to be 2.8 assuming median meteorological conditions. This classifies the year as "below normal" in the San Joaquin River Region according to the State Water Resources Control Board.

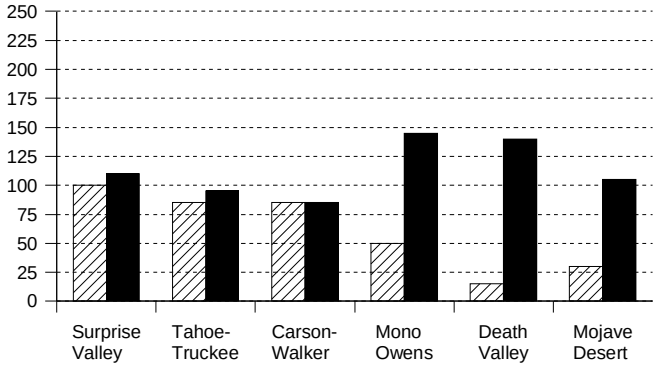
## Snowpack Accumulation

Water Content in % of April 1 Average



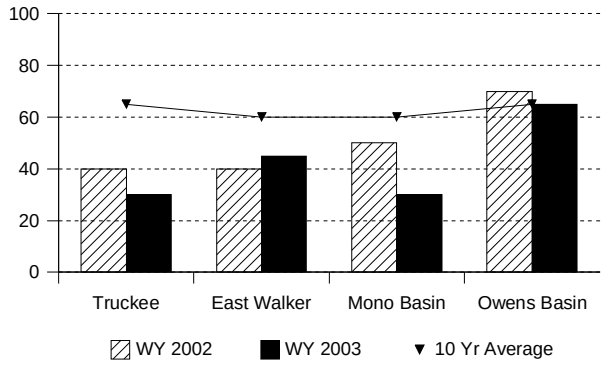

## Precipitation

October 1 to date in % of Average



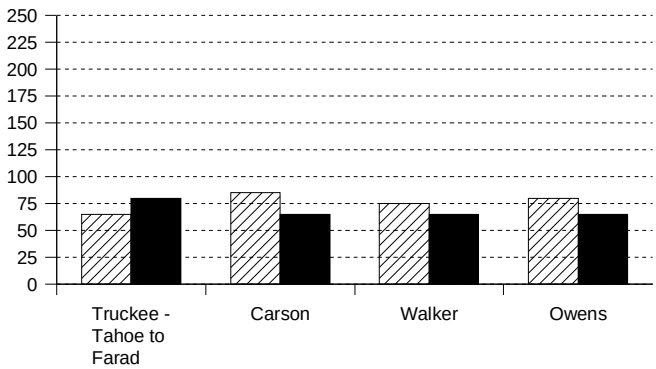

## Reservoir Storage

Contents of major reservoirs in % of capacity




## Runoff

October 1 to date in % of average




# NORTH AND SOUTH LAHONTAN REGIONS

***SNOWPACK***- First of the month measurements made at 5 **North Lahontan Region** snow courses indicate an area wide snow water equivalent of 20.5 inches. This is 80 percent of the seasonal (April 1) average and 90 percent of the May 1 average. Last year at this time the pack was holding 14.1 inches of water. At the same time 2 **South Lahontan** snow courses indicated a basin-wide snow water equivalent of 8.2 inches which is 60 percent of the seasonal (April 1) average and 70 percent of the May 1 average. Last year at this time the basin was holding 2.5 inches of water.

***PRECIPITATION*** - Seasonal precipitation (October 1 through the end of last month) on the **North Lahontan Region** was 100 percent of normal. Precipitation last month was about 220 percent of the monthly average. Seasonal precipitation at this time last year stood at 90 percent of normal.
Seasonal precipitation on the **South Lahontan** was 130 percent of normal. Precipitation last month was about 240 percent of the monthly average. Seasonal precipitation at this time last year stood at 35 percent of normal.

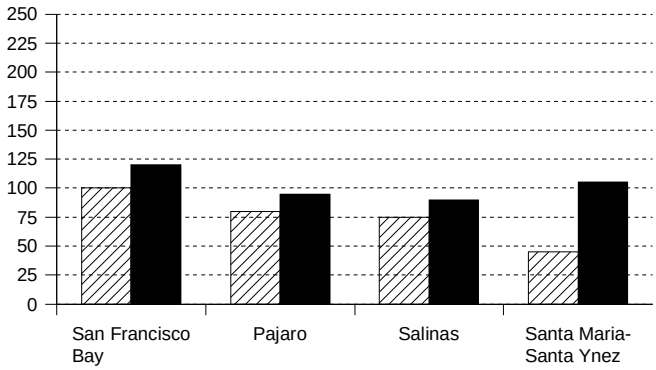
***RESERVOIR STORAGE***- First of the month storage in 5 **North Lahontan** reservoirs was 322 thousand acre-feet which is 50 percent of average. About 30 percent of available capacity was being used. Storage in these reservoirs at this time last year was 65 percent of average. Lake Tahoe was 1.1 feet above its natural rim on May 1.
First of the month storage in 8 **South Lahontan** reservoirs was 256 thousand acre-feet which is 100 percent of average and about 65 percent of available capacity. Storage in these reservoirs at this time last year was 110 percent of average.

***RUNOFF***- Seasonal runoff of streams draining the **North Lahontan Region** totaled 324 thousand acre-feet which is 75 percent of average for this period. Last year, runoff for the same period was 75 percent of average.

Seasonal runoff of the Owens River in the **South Lahontan** totaled 53 thousand acre-feet which is 65 percent of average for this period. Last year runoff for this same period was 80 percent of average.

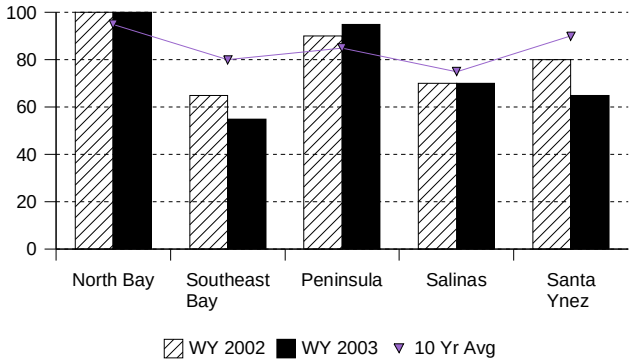
## Precipitation

October 1 to date in % of Average




## Reservoir Storage

Contents of major reservoirs in % of capacity




## Runoff

October 1 to date in % of average


# SAN FRANCISCO BAY AND CENTRAL COAST REGIONS

***PRECIPITATION*** - Seasonal precipitation (October 1 through the end of last month) on the **San Francisco Bay Region** was 120 percent of normal. Precipitation last month was about 220 percent of the monthly average. Seasonal precipitation at this time last year stood at 105 percent of normal.

Seasonal precipitation on the **Central Coast Region** was 95 percent of normal. Precipitation last month was about 145 percent of the monthly average. Seasonal precipitation at this time last year stood at 70 percent of normal.

***RESERVOIR STORAGE***- First of the month storage in 14 **San Francisco Bay Region** reservoirs was 380 thousand acre-feet which is 95 percent of average. About 70 percent of available capacity was being used. Storage in these reservoirs at this time last year was 90 percent of average.

First of the month storage in 6 **Central Coast Region** reservoirs was 675 thousand acre-feet which is 95 percent of average and about 70 percent of available capacity. Storage in these reservoirs at this time last year was 100 percent of average.

***RUNOFF***- Seasonal runoff of the Napa River in the **San Francisco Bay Region** totaled 78 thousand acre-feet which is 105 percent of average for this period. Last year, runoff for the same period was 90 percent of average.

Seasonal runoff of streams draining the **Central Coast Region** totaled 250 thousand acre-feet which is 80 percent of average for this period. Last year runoff for this same period was 35 percent of average.

# SOUTH COAST AND COLORADO RIVER REGIONS

***PRECIPITATION*** - October through April (seasonal) precipitation on the **South Coast Region** was 105 percent of normal. April precipitation was 140 percent of the monthly average. Seasonal precipitation at this time last year was 30 percent of normal. Seasonal precipitation on the **Colorado River-Desert Region** was 75 percent of normal. Precipitation during April was 10 percent of average. Seasonal precipitation at this time last year stood at 5 percent of average.

***RESERVOIR STORAGE*** - May 1 storage in 29 major **South Coast Region** reservoirs was 1.3 million acre-feet or 85 percent of average. About 65 percent of available capacity was being used. Storage in these reservoirs at this time last year was 80 percent of average.
On May 1 combined storage in Lakes Powell, Mead, Mohave and Havasu was about 31 million acre-feet or about 75 percent of average. About 55 percent of available capacity was in use. Last year at this time, these reservoirs were storing 90 percent of average.

***RUNOFF*** - Seasonal runoff from selected **South Coast Region** streams totaled 22 thousand acre-feet which is 45 percent of average. Seasonal runoff from these streams last year was 10 percent of average.

# COLORADO RIVER

The April July inflow to Lake Powell is forecast to be 4.5 million acre-feet, which is 57 percent of average. The May 1 snowpack in the Colorado River basin above Lake Powell was 78 percent of average, highest in the Upper Colorado at 100 percent and lowest in the Dolores at 40 percent.

# CENTRAL VALLEY PROJECT

As of April 30, 2003, CVP storage was 9.9 million acre-feet, which is an increase of 0.3 million acre-feet compared to one year ago and is approximately 115% of normal for that date.

The Bureau of Reclamation announced updated water year 2003 supply allocations for the CVP contractors on April 23, 2003. Based on a conservative water supply forecast prepared from information available April 1, 2003, and a water year inflow into Shasta Reservoir of 5.3 million acre-feet, CVP water supplies were: Agricultural contractors North of Delta 100% and South of Delta 65%; Urban contractors North of Delta 100% and South of Delta 90%; Sacramento River water rights and San Joaquin Exchange Contractors 100%; Wildlife Refuges100%; East Side Division Contractors (Stanislaus River) 0%; Friant Contractors 100% of Class 1 and 0% of Class 2. Updated allocations will be announced in mid-May. The forecast of CVP operations is available on the Mid-Pacific Region's website at www.mp.usbr.gov.

# STATE WATER PROJECT

Total storage in the major SWP reservoirs was about 4.65 MAF on April 30, 2003, compared with 4.26 MAF at this time in 2002. On April 30, storage at Lake Oroville was about 3.07 MAF as compared to about 2.66 MAF last year. The State's share of San Luis Reservoir storage at the end of April was 920 TAF, as compared to about 912 TAF at this time last year. The combined storage of SWP's southern reservoirs was about 658 TAF on April 30 as compared to 617 TAF at this time last year.

SWP water deliveries through April 2003 were about 750 TAF. This is a combination of project, transfer, and exchange waters. This was about 62 TAF less than through April 2002. Due to exceptionally wet conditions in April the Department increased its 2003 allocation from 50% (2.06 MAF) to 70% (2.89 MAF) on April 24, 2003.

**MAJOR WATER DISTRIBUTION PROJECTS**

**RESERVOIR STORAGE**

(AVERAGES BASED ON 1951-2000 OR PERIOD RECORD)

| RESERVOIR | CAPACITY 1,000 AF | AVERAGE STORAGE 1,000 AF | STORAGE AT END OF April 2002 1,000 AF | 2003 1,000 AF | PERCENT AVERAGE | PERCENT CAPACITY |
|---|---|---|---|---|---|---|
| *STATE WATER PROJECT* | | | | | | |
| Lake Oroville | 3,538 | 2,967 | 2,659 | 3,073 | 104% | 87% |
| San Luis Reservoir (SWP) | 1,062 | 983 | 973 | 920 | 94% | 87% |
| Lake Del Valle | 77 | 39 | 35 | 41 | 105% | 53% |
| Lake Silverwood | 73 | 68 | 73 | 72 | 105% | 98% |
| Pyramid Lake | 171 | 163 | 163 | 162 | 99% | 94% |
| Castaic Lake | 324 | 286 | 263 | 298 | 104% | 92% |
| Perris Lake | 132 | 117 | 117 | 126 | 108% | 96% |
| *CENTRAL VALLEY PROJECT* | | | | | | |
| Trinity Lake | 2,448 | 2,045 | 2,049 | 2,216 | 108% | 91% |
| Lake Shasta | 4,552 | 3,950 | 4,297 | 4,537 | 115% | 100% |
| Whiskeytown Lake | 241 | 231 | 240 | 248 | 107% | 103% |
| Folsom Lake | 977 | 728 | 759 | 831 | 114% | 85% |
| New Melones Reservoir | 2,420 | 1,446 | 1,589 | 1,427 | 99% | 59% |
| Millerton Lake | 520 | 352 | 470 | 502 | 143% | 96% |
| San Luis Reservoir (CVP) | 971 | 880 | 871 | 898 | 102% | 93% |
| *COLORADO RIVER PROJECT* | | | | | | |
| Lake Mead | 26,159 | 20,374 | 18,539 | 16,287 | 80% | 62% |
| Lake Powell | 25,002 | 19,267 | 16,705 | 12,243 | 64% | 49% |
| Lake Mohave | 1,810 | 1,672 | 1,682 | 1,686 | 101% | 93% |
| Lake Havasu | 619 | 588 | 584 | 592 | 101% | 95% |
| *EAST BAY MUNICIPAL UTILITY DISTRICT* | | | | | | |
| Pardee Res | 198 | 182 | 174 | 189 | 104% | 96% |
| Camanche Reservoir | 417 | 258 | 296 | 312 | 121% | 75% |
| East Bay (4 res.) | 147 | 136 | 138 | 139 | 102% | 94% |
| *CITY AND COUNTY OF SAN FRANCISCO* | | | | | | |
| Hetch-Hetchy Reservoir | 360 | 157 | 180 | 238 | 151% | 66% |
| Cherry Lake | 268 | 145 | 224 | 204 | 141% | 76% |
| Lake Eleanor | 26 | 15 | 22 | 10 | 66% | 37% |
| Souty Bay/Peninsula (4 res.) | 225 | 182 | 149 | 162 | 89% | 72% |
| *CITY OF LOS ANGELES (D.W.P.)* | | | | | | |
| Lake Crowley | 183 | 124 | 139 | 128 | 103% | 70% |
| Grant Lake | 48 | 26 | 32 | 18 | 68% | 37% |
| Other Aqueduct Storage (6 res.) | 95 | 75 | 67 | 64 | 85% | 67% |

# TELEMETERED SNOW WATER EQUIVALENTS

May 1, 2003

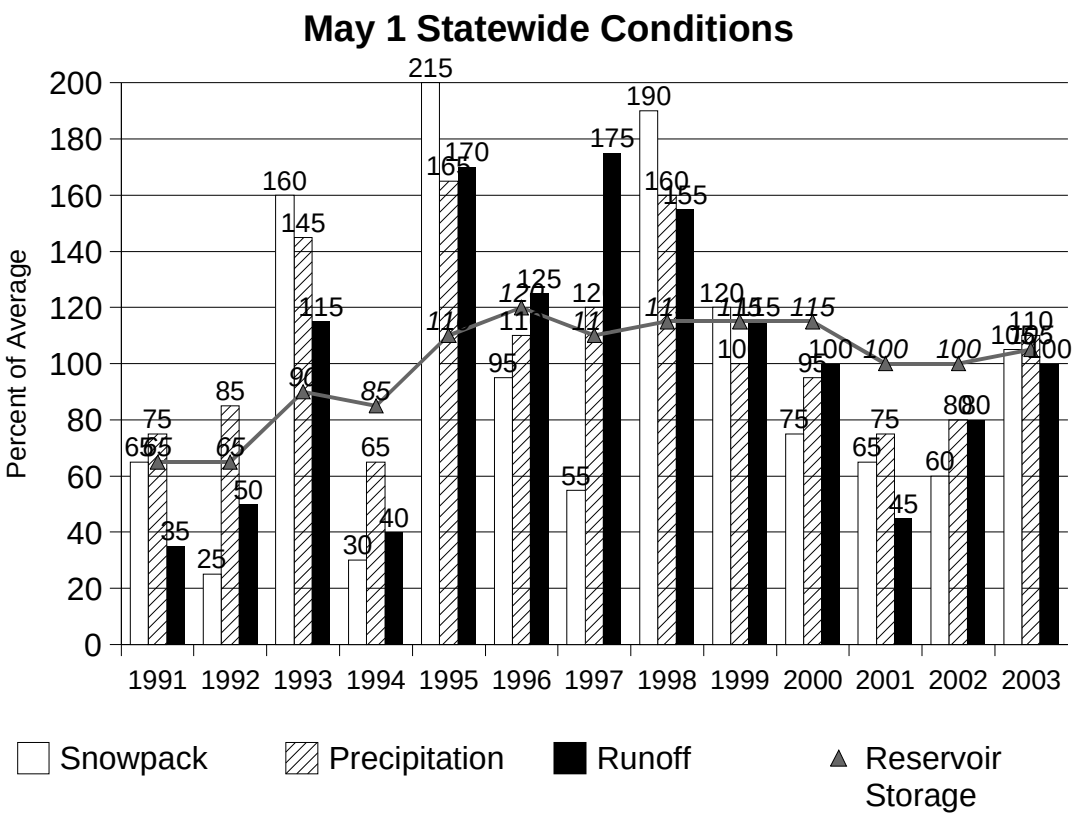
(AVERAGES BASED ON PERIOD RECORD)

| BASIN NAME / STATION NAME | ELEV | APRIL 1 AVERAGE | INCHES OF WATER EQUIVALENT May 1 | PERCENT OF AVERAGE | 24 HRS PREVIOUS | 1 WEEK PREVIOUS |
|---|---|---|---|---|---|---|
| **TRINITY RIVER** | | | | | | |
| Peterson Flat | 7150’ | 29.2 | 39.3 | 134.6 | 38.8 | 35.3 |
| Red Rock Mountain | 6700’ | 39.6 | 72.1 | 182.0 | 71.4 | 63.6 |
| Bonanza King | 6450’ | 40.5 | 44.0 | 108.6 | 42.9 | 38.6 |
| Shimmy Lake | 6400’ | 40.3 | 89.8 | 222.7 | 89.0 | 78.1 |
| Middle Boulder 3 | 6200’ | 28.3 | — | — | — | — |
| Highland Lakes | 6030’ | 29.9 | 30.4 | 101.5 | 30.1 | 22.4 |
| Scott Mountain | 5900’ | 16.0 | 25.2 | 157.5 | 24.7 | 19.4 |
| Mumbo Basin | 5650’ | 22.4 | 33.7 | 150.5 | 33.5 | 26.4 |
| Big Flat | 5100’ | 15.8 | 19.7 | 124.4 | 19.7 | 15.9 |
| **SACRAMENTO RIVER** | | | | | | |
| Cedar Pass | 7100’ | 18.1 | 17.4 | 96.1 | 17.3 | 15.4 |
| Blacks Mountain | 7050’ | 12.7 | — | — | — | — |
| Sand Flat | 6750’ | 42.4 | 62.0 | 146.3 | 61.5 | 57.0 |
| Medicine Lake | 6700’ | 32.6 | 42.5 | 130.3 | 42.2 | 38.9 |
| Adin Mountain | 6200’ | 13.6 | 6.3 | 46.3 | 6.3 | 3.9 |
| Snow Mountain | 5950’ | 27.0 | 33.8 | 125.3 | 33.0 | 27.1 |
| Slate Creek | 5700’ | 29.0 | 20.3 | 70.0 | 19.7 | 15.5 |
| Stouts Meadow | 5400’ | 36.0 | 31.3 | 86.9 | 30.8 | 22.6 |
| **FEATHER RIVER** | | | | | | |
| Kettle Rock | 7300’ | 25.5 | 25.3 | 99.3 | 25.1 | 21.2 |
| Grizzly Ridge | 6900’ | 29.7 | 27.4 | 92.1 | 27.2 | 23.5 |
| Pilot Peak | 6800’ | 52.6 | 24.1 | 45.9 | 23.5 | 15.1 |
| Gold Lake | 6750’ | 36.5 | 41.5 | 113.8 | 41.5 | 37.9 |
| Humbug | 6500’ | 28.0 | 50.1 | 178.9 | 49.6 | 43.4 |
| Rattlesnake | 6100’ | 14.0 | 15.1 | 108.0 | 15.2 | 11.0 |
| Bucks Lake | 5750’ | 44.7 | 46.2 | 103.4 | 45.4 | 38.9 |
| Four Trees | 5150’ | 20.0 | 9.8 | 49.2 | 9.7 | 4.7 |
| **EEL RIVER** | | | | | | |
| Noel Spring | 5100’ | — | 0.6 | — | 1.2 | 0.0 |
| **YUBA & AMERICAN RIVERS** | | | | | | |
| Lake Lois | 8600’ | 39.5 | 51.1 | 129.4 | 51.0 | 45.2 |
| Schneiders | 8750’ | 34.5 | 48.9 | 141.7 | 48.8 | 44.2 |
| Caples Lake | 8000’ | 30.9 | 28.2 | 91.2 | 27.9 | 25.5 |
| Alpha | 7600’ | 35.9 | 31.9 | 88.9 | 31.8 | 27.9 |
| Meadow Lake | 7200’ | 55.5 | 62.8 | 113.1 | 62.7 | 55.8 |
| Silver Lake | 7100’ | 22.7 | 19.7 | 86.6 | 19.7 | 17.0 |
| Central Sierra Snow Lab | 6900’ | 33.6 | 37.0 | 110.1 | 37.2 | 32.5 |
| Huysink | 6600’ | 42.6 | 34.9 | 82.0 | 34.7 | 29.9 |
| Van Vleck | 6700’ | 35.9 | 39.1 | 109.0 | 39.4 | 32.8 |
| Robbs Saddle | 5900’ | 21.4 | 14.4 | 67.3 | 14.8 | 11.4 |
| Greek Store | 5600’ | 21.0 | 20.4 | 97.1 | 20.0 | 16.8 |
| Blue Canyon | 5280’ | 9.0 | 5.6 | 62.6 | 6.0 | 2.9 |
| Robbs Powerhouse | 5150’ | 5.2 | 1.8 | 34.6 | 2.7 | 0.0 |
| **MOKELUMNE & STANISLAUS RIVERS** | | | | | | |
| Deadman Creek | 9250’ | 37.2 | 29.3 | 78.8 | 29.2 | 28.7 |
| Highland Meadow | 8700’ | 47.9 | 46.7 | 97.4 | 46.4 | 44.0 |
| Gianelli Meadow | 8400’ | 55.5 | 44.4 | 80.0 | 44.3 | 41.3 |
| Lower Relief Valley | 8100’ | 41.2 | 46.2 | 112.2 | 46.2 | 42.3 |
| Blue Lakes | 8000’ | 33.1 | 30.1 | 90.9 | 30.1 | 27.8 |
| Mud Lake | 7900’ | 44.9 | 50.7 | 113.0 | 50.7 | 44.0 |
| Stanislaus Meadow | 7750’ | 47.5 | 46.2 | 97.2 | 45.7 | 42.0 |
| Bloods Creek | 7200’ | 35.5 | 25.9 | 73.0 | 25.9 | 23.6 |
| Black Springs | 6500’ | 32.0 | 29.4 | 91.9 | 29.2 | 25.8 |
| **TUOLUMNE & MERCED RIVERS** | | | | | | |
| Tioga Pass Entrance | 9945’ | — | — | — | — | — |
| Dana Meadows | 9800’ | 27.7 | — | — | — | — |
| Slide Canyon | 9200’ | 41.1 | 42.5 | 103.5 | 41.9 | 40.6 |
| Lake Tenaya | 8150’ | 33.1 | 33.4 | 101.0 | 33.8 | 32.9 |
| Tuolumne Meadows | 8600’ | 22.6 | 14.5 | 64.2 | 14.4 | 15.4 |
| Horse Meadow | 8400’ | 48.6 | 44.5 | 91.6 | 44.5 | 42.5 |
| Ostrander Lake | 8200’ | 34.8 | 34.0 | 97.6 | 34.0 | 32.6 |
| Paradise Meadow | 7650’ | 41.3 | 33.8 | 81.8 | 33.8 | 31.8 |
| Gin Flat | 7050’ | 34.2 | 26.9 | 78.5 | 26.6 | 25.4 |
| Lower Kibbie Ridge | 6700’ | 27.4 | 10.5 | 38.2 | 10.7 | 8.4 |

| BASIN NAME | | APRIL 1 | INCHES OF WATER EQUIVALENT | PERCENT | 24 HRS | 1 WEEK |
|---|---|---|---|---|---|---|
| STATION NAME | ELEV | AVERAGE | May 1 | OF AVERAGE | PREVIOUS | PREVIOUS |
| **SAN JOAQUIN RIVER** | | | | | | |
| Volcanic Knob | 10050’ | 30.1 | 28.1 | 93.5 | 28.1 | 28.1 |
| Agnew Pass | 9450’ | 32.3 | 21.8 | 67.4 | 22.4 | 23.1 |
| Kaiser Point | 9200’ | 37.8 | 22.0 | 58.2 | 21.9 | 22.2 |
| Green Mountain | 7900’ | 30.8 | 16.6 | 53.8 | 16.6 | 17.0 |
| Tamarack Summit | 7550’ | 30.5 | 13.0 | 42.5 | 13.1 | 13.6 |
| Chilkoot Meadow | 7150’ | 38.0 | 25.8 | 67.8 | 25.7 | 24.5 |
| Huntington Lake | 7000’ | 20.1 | 11.3 | 56.1 | 11.3 | 11.5 |
| Graveyard Meadow | 6900’ | 18.8 | 6.6 | 35.1 | 6.6 | 7.1 |
| Poison Ridge | 6900’ | 28.9 | 6.6 | 22.7 | 6.6 | 5.8 |
| **KINGS RIVER** | | | | | | |
| Bishop Pass | 11200’ | 34.0 | 23.3 | 68.4 | 23.3 | 23.9 |
| Charlotte Lake | 10400’ | 27.5 | 28.6 | 103.9 | 28.9 | 29.3 |
| State Lakes | 10300’ | 29.0 | 32.5 | 112.1 | 32.7 | 33.2 |
| Mitchell Meadow | 9900’ | 32.9 | 33.6 | 102.1 | 33.7 | 34.0 |
| Blackcap Basin | 10300’ | 34.3 | 29.9 | 87.1 | 30.2 | 30.2 |
| Upper Burnt Corral | 9700’ | 34.6 | 33.2 | 95.8 | 33.2 | 33.2 |
| West Woodchuck Meadow | 9100’ | 32.8 | 22.5 | 68.6 | 22.7 | 23.1 |
| Big Meadows | 7600’ | 25.9 | 9.0 | 34.7 | 9.4 | 11.4 |
| **KAWEAH & TULE RIVERS** | | | | | | |
| Farewell Gap | 9500’ | 34.5 | 31.2 | 90.6 | 31.2 | 31.0 |
| Quaking Aspen | 7200’ | 21.0 | 4.1 | 19.4 | 5.2 | 7.1 |
| Giant Forest | 6650’ | 10.0 | 1.9 | 19.0 | 1.9 | 2.4 |
| **KERN RIVER** | | | | | | |
| Upper Tyndall Creek | 11400’ | 27.7 | 21.0 | 75.8 | 21.4 | 21.6 |
| Crabtree Meadow | 10700’ | 19.8 | 13.2 | 66.6 | 13.3 | 15.2 |
| Chagoopa Plateau | 10300’ | 21.8 | 13.7 | 62.9 | 13.7 | 15.0 |
| Pascoes | 9150’ | 24.9 | 17.6 | 70.7 | 18.3 | 18.8 |
| Tunnel Guard Station | 8900’ | 15.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| Wet Meadows | 8950’ | 30.3 | — | — | — | — |
| Casa Vieja Meadows | 8300’ | 20.9 | 5.3 | 25.3 | 5.9 | 9.8 |
| Beach Meadows | 7650’ | 11.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **SURPRISE VALLEY AREA** | | | | | | |
| Dismal Swamp | 7050’ | 29.2 | 29.6 | 101.4 | 29.5 | 26.9 |
| **TRUCKEE RIVER** | | | | | | |
| Mount Rose Ski Area | 8900’ | 38.5 | 45.0 | 116.9 | 44.9 | 43.4 |
| Independence Lake | 8450’ | 41.4 | 55.2 | 133.3 | 55.2 | 51.3 |
| Big Meadows | 8700’ | 25.7 | 20.8 | 80.9 | 20.7 | 19.2 |
| Squaw Valley | 8200’ | 46.5 | 63.3 | 136.1 | 62.8 | 58.1 |
| Independence Camp | 7000’ | 21.8 | 8.8 | 40.4 | 8.8 | 7.5 |
| Independence Creek | 6500’ | 12.7 | 6.7 | 52.8 | 7.0 | 7.2 |
| Truckee 2 | 6400’ | 14.3 | 12.6 | 88.1 | 13.1 | 12.8 |
| **LAKE TAHOE BASIN** | | | | | | |
| Heavenly Valley | 8800’ | 28.1 | 26.5 | 94.3 | 26.3 | 25.2 |
| Hagans Meadow | 8000’ | 16.5 | 10.9 | 66.1 | 11.1 | 11.2 |
| Marlette Lake | 8000’ | 21.1 | 17.6 | 83.4 | 17.6 | 16.7 |
| Echo Peak 5 | 7800’ | 39.5 | 39.3 | 99.5 | 39.2 | 35.3 |
| Rubicon Peak 2 | 7500’ | 29.1 | 25.0 | 85.9 | 24.9 | 22.3 |
| Tahoe City Cross | 6750’ | 16.0 | 2.4 | 15.0 | 2.3 | 1.3 |
| Ward Creek 3 | 6750’ | 39.4 | 30.3 | 76.9 | 30.3 | 26.3 |
| Fallen Leaf Lake | 6250’ | 7.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **CARSON RIVER** | | | | | | |
| Ebbetts Pass | 8700’ | 38.8 | 38.8 | 100.0 | 38.7 | 37.6 |
| Poison Flat | 7900’ | 16.2 | 10.0 | 61.7 | 10.4 | 12.0 |
| Monitor Pass | 8350’ | — | 11.9 | — | 12.0 | 12.7 |
| Spratt Creek | 6150’ | 4.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| **WALKER RIVER** | | | | | | |
| Leavitt Lake | 9600’ | — | 64.5 | — | 64.5 | 61.3 |
| Virginia Lakes | 9300’ | 20.3 | 19.0 | 93.6 | 19.1 | 19.2 |
| Lobdell Lake | 9200’ | 17.3 | 20.2 | 116.8 | 20.6 | 19.9 |
| Sonora Pass Bridge | 8750’ | 26.0 | 27.3 | 105.0 | 27.2 | 26.3 |
| Leavitt Meadows | 7200’ | 8.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **OWENS RIVER/MONO LAKE** | | | | | | |
| Gem Pass | 10750’ | 31.7 | 37.0 | 116.9 | 37.0 | 35.6 |
| Sawmill | 10200’ | 19.4 | 15.3 | 79.0 | 16.0 | 14.0 |
| Cottonwood Lakes | 10150’ | 11.6 | 6.3 | 54.1 | 7.1 | 10.0 |
| Big Pine Creek | 9800’ | 17.9 | 12.3 | 68.7 | 12.3 | 14.3 |
| South Lake | 9600’ | 16.0 | 12.8 | 79.9 | 13.4 | 15.4 |
| Mammoth Pass | 9300’ | 42.4 | 33.4 | 78.7 | 33.4 | 32.3 |
| Rock Creek Lakes | 10000’ | 14.0 | 4.8 | 34.6 | 5.1 | 7.2 |

NORMAL SNOWPACK ACCUMULATION EXPRESSED AS A PERCENT OF APRIL 1ST AVERAGE

| AREA | JANUARY | FEBRUARY | MARCH | APRIL | MAY |
|---|---|---|---|---|---|
| Central Valley North | 45% | 70% | 90% | 100% | 75% |
| Central Valley South | 45% | 65% | 85% | 100% | 80% |
| North Coast | 40% | 60% | 85% | 100% | 80% |




## SNOWLINES

**This year's** annual meeting of the Western Snow Conference at Phoenix, AZ was an unqualified success. Given that next year's meeting will be held in British Columbia it might be good to start getting those travel approvals going right now. The meeting will be held April 20-22, 2004.

**April** provided some impressive increases in the April through July forecasts. Precipitation ranged from 120% to 290% of average in mountain basins and this coupled with the coldest April since the mid-70's delayed the snowmelt which had started the end of March. Keep an eye on http://www.wrh.noaa.gov/cnrfc/snowmelt.pdf for the latest 5 to 20 day spring snowmelt forecasts.

**An early motto** cast in stone, well concrete, of the Central Sierra Snow Lab is depicted on this month's cover. Considering the amount of snow that fell at the lab this past month, an impressive 10 feet perhaps they're on to something.

***SNOWPACK*** – Snow data is a major index of spring and summer runoff from Sierra Nevada watersheds. April 1 data historically reflects the magnitude of the snowpack at or near the maximum seasonal accumulation. Averages are based on April 1 data for the period 1951–2000 (50 years, except for data sites established after 1951).

***PRECIPITATION*** – Averages are based on April 1 data for the period 1941–1990 (50 years, except for data sites established after 1941). These averages are in the process of being updated.

***RUNOFF AND FORECASTS*** – Runoff data and runoff forecasts are shown as unimpaired values. Unimpaired runoff represents the natural water production of a river basin, unaltered by upstream diversions, storage, or by export or import of water to or from other watersheds. Forecast of runoff assumes median conditions subsequent to the date of forecast.

Runoff probability ranges are statistically derived from historical data. The 80 percent probability range is comprised of the 90 percent exceedence level value(dry) and the 10 percent exceedence level value(wet). This means that actual runoff should fall within the stated limits eight times out of ten.

Runoff averages for most streams are based on the period 1951–2000.

Reservoir storage averages are based on the period from 1951(or beginning of operation) to 2000.

For more details contact California Cooperative Snow Surveys, P.O. Box 942836, Sacramento, CA 94236–0001, (916) 574–2635 or gridley@water.ca.gov.

***INDICES OF WATER AVAILABILITY***

The Sacramento River water year unimpaired runoff is the sum of: Sacramento River above Bend Bridge, Feather River Inflow to Lake Oroville, Yuba River near Smartville and American River Inflow to Folsom Lake.

The Sacramento Valley Water Year Hydrologic Classification (40–30–30 Index). The values *40–30–30* represent the percentage weight given to the three variables in the formula for the index. The first variable is the forecasted unimpaired runoff from April through July (*40 Percent*). The second variable is the forecasted unimpaired runoff from October through March (*30 Percent*). The third variable is the previous year's index with a cap to account for required flood control releases during wet years. The basins used in this computation are those used in the Sacramento River water year unimpaired runoff.

The San Joaquin Valley Water Year Hydrologic Classification (60–20–20 Index). In a similar manner, the values *60–20–20* represents the percentage weights on April through July runoff, October through March runoff and previous year's index. The San Joaquin River unimpaired runoff is the sum of: Stanislaus River Inflow to New Melones Lake, Tuolumne River Inflow to New Don Pedro Reservoir, Merced River Inflow to Lake McClure and San Joaquin River Inflow to Millerton Lake.

Runoff of the eight major rivers of the Sacramento and San Joaquin Regions is the sum of the runoff in the eight major rivers used in the two above indices.

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# First Class