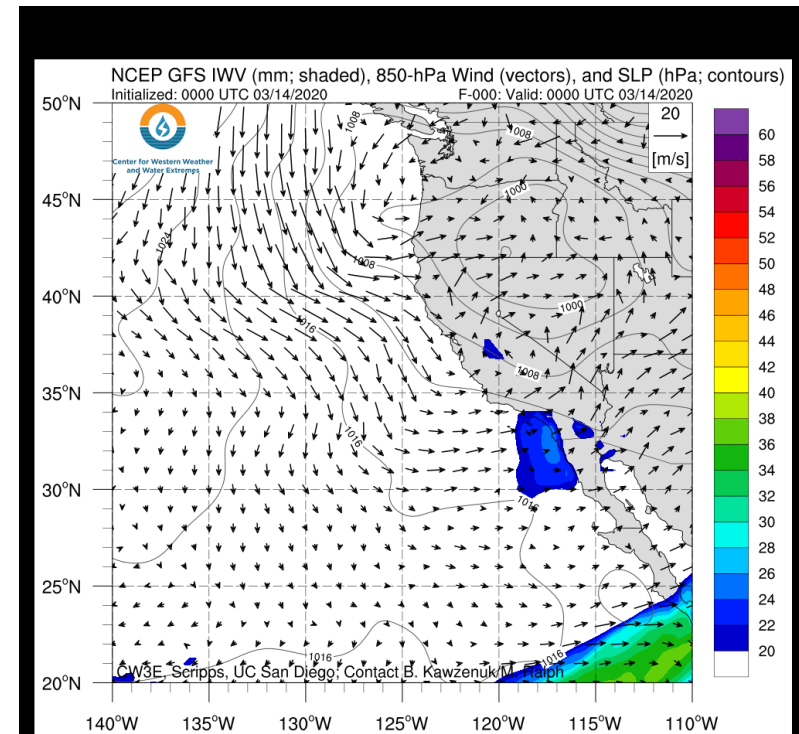
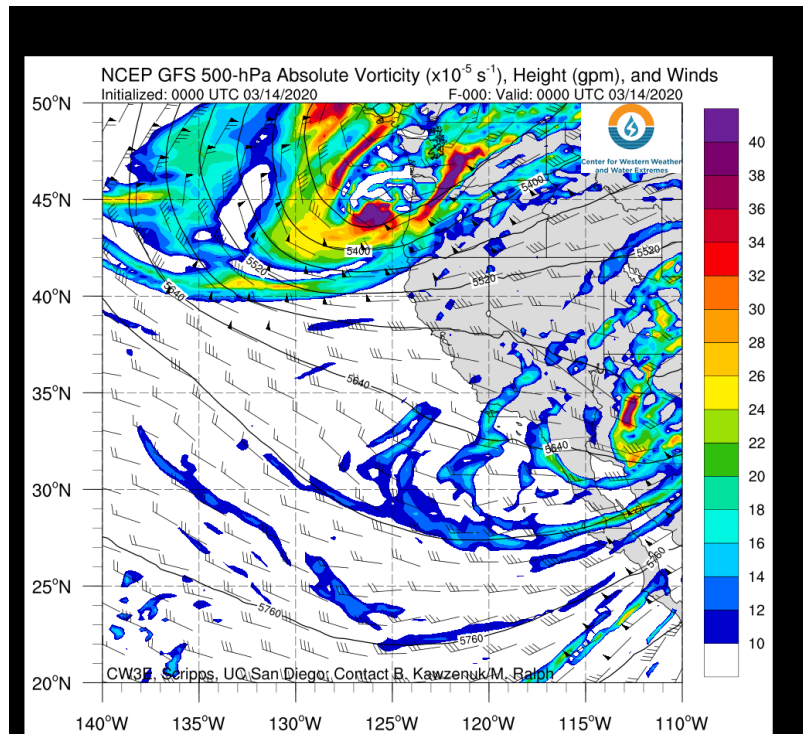


CW3E Event Summary: 14–17 Mar 2020



Cutoff low brings much-needed rainfall and mountain snowfall to California

- Heavy precipitation in Central and Northern California was associated with a slow-moving cutoff low near the U.S. West Coast
- More than 2 feet of snow fell across the Central and Northern Sierra Nevada, with the highest snowfall totals (> 4 feet) west of Lake Tahoe
- Sections of the Central California Coast Ranges and western Transverse Ranges received more than 3 inches of rainfall



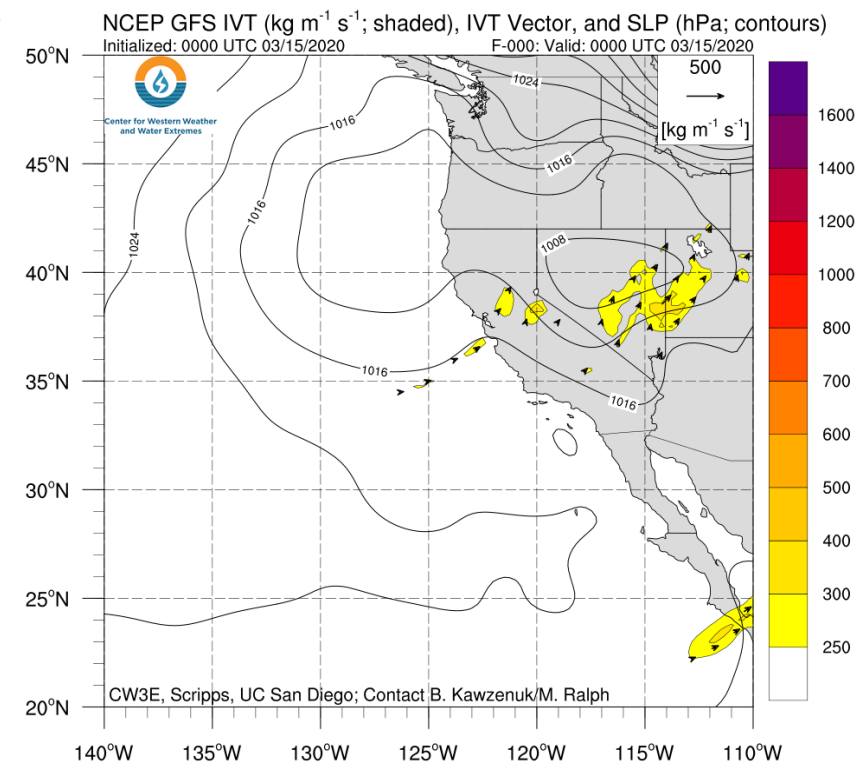
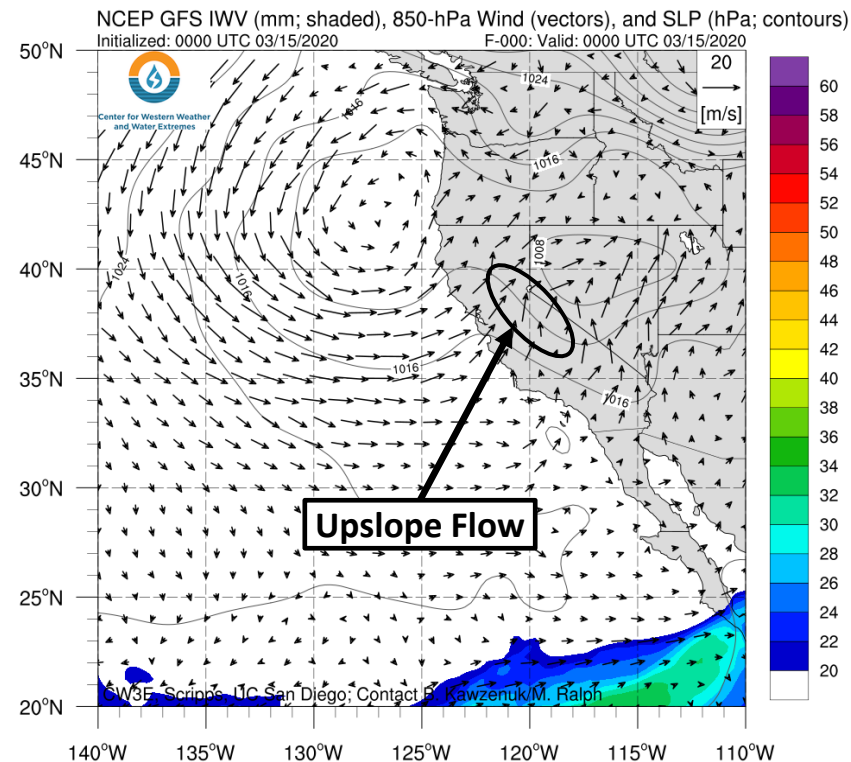
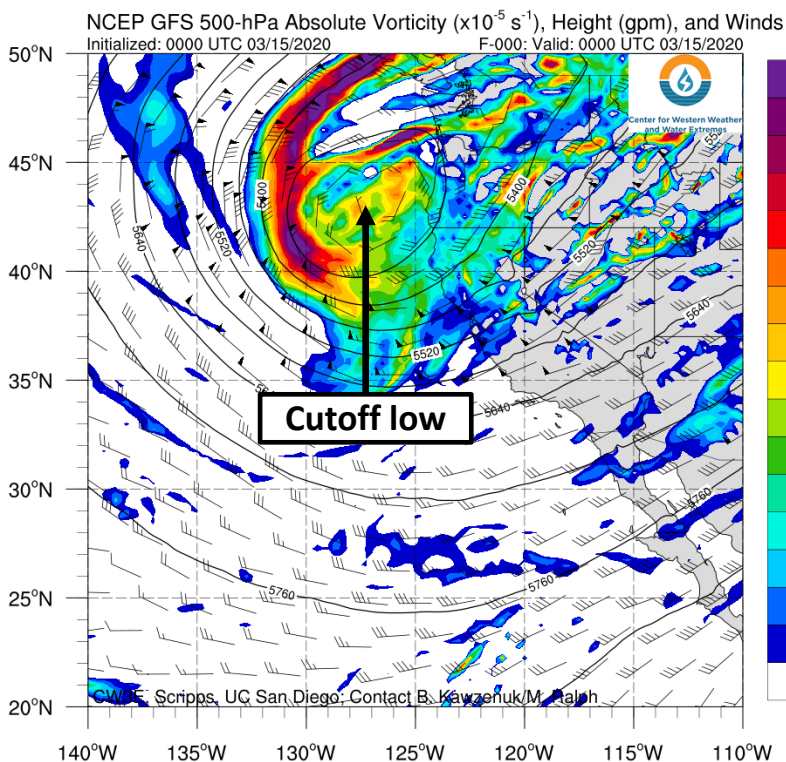
CW3E Event Summary: 14–17 Mar 2020



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GFS Analysis: Valid 0000 UTC 15 Mar



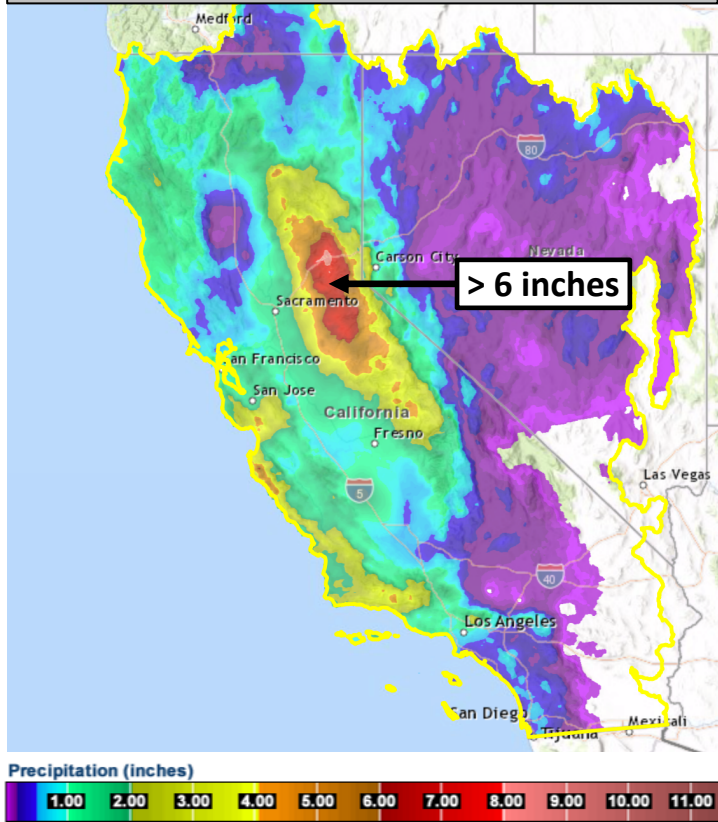
- This precipitation event was associated with a cutoff low that formed downstream of an omega block (not shown) and slowly moved southward along the U.S. West Coast
- Although moisture was rather limited, the 0000 UTC 15 Mar GFS analysis shows a region of low-level south-southwesterly winds on the western side of the Sierra Nevada, implying upslope flow and orographic enhancement of precipitation

CW3E Event Summary: 14–17 Mar 2020



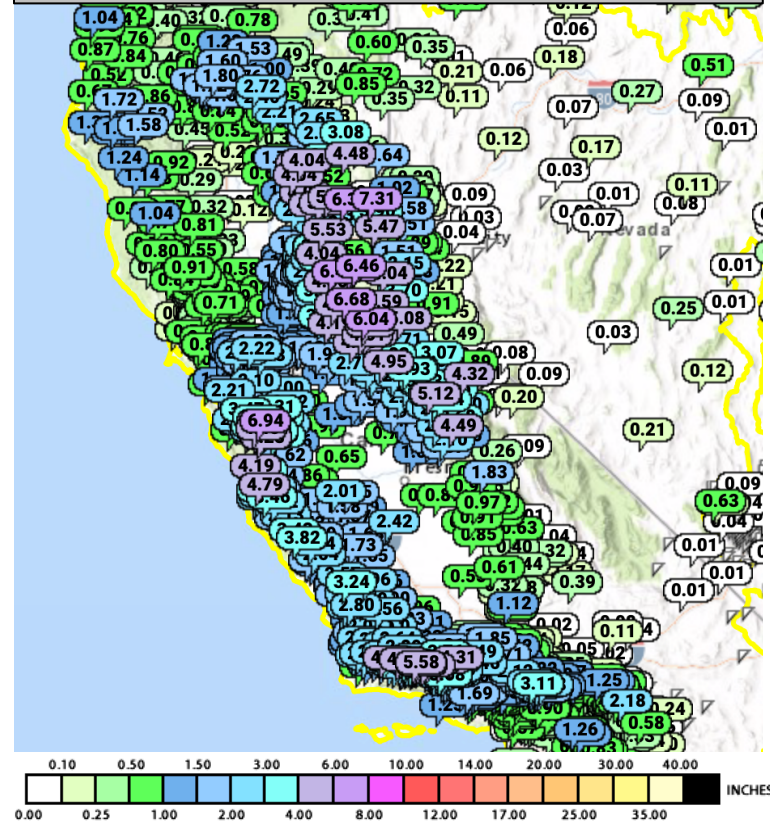
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CNRF 72-h Observed Precipitation:
 Valid 1200 UTC (5 AM PDT) 17 Mar

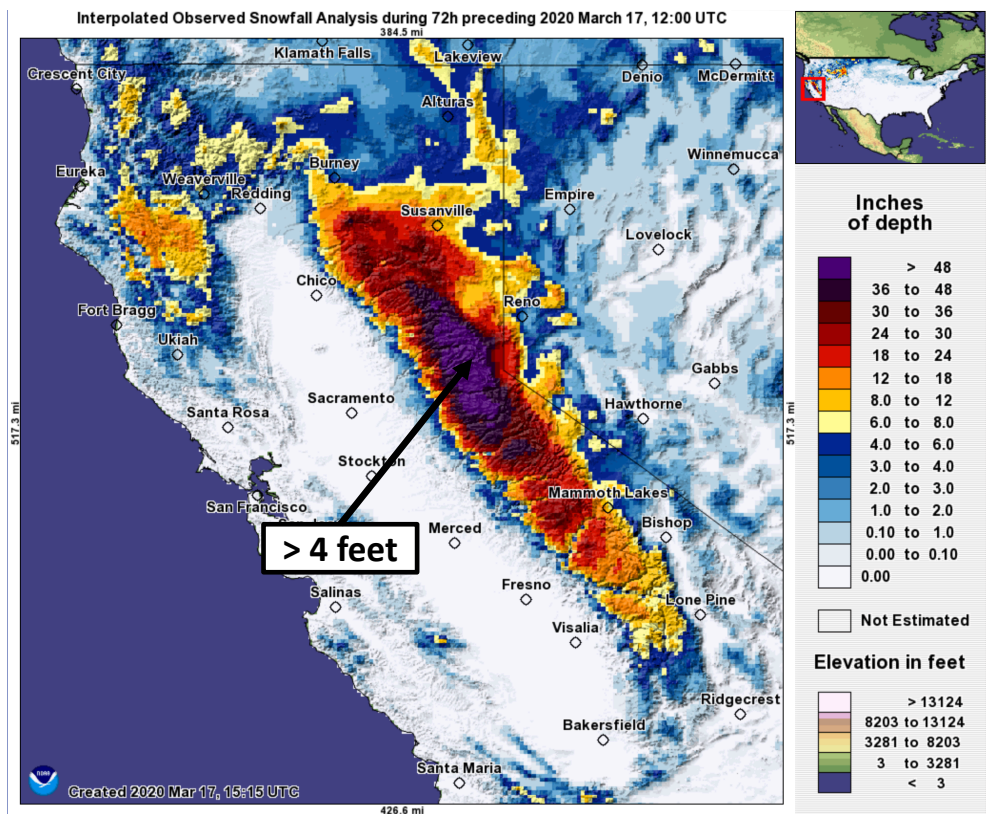


Source: NOAA/NWS CNRFC, <https://www.cnrfc.noaa.gov/>

CNRF 72-h Observed (Raw) Precipitation:
 Valid 9 AM PDT 17 Mar



72-h Interpolated Snowfall: Valid 1200 UTC 17 Mar



Source: NOAA/NWS NOHRSC, <https://www.nohrsc.noaa.gov/>

- The heaviest precipitation (3–8 inches) fell over the Central and Northern Sierra Nevada
- Heavy rainfall (2–6 inches) also occurred over Central California Coast Ranges and western Transverse Ranges
- At least 2 feet of snow fell over the Central and Northern Sierra Nevada, with the highest estimated snowfall (> 4 feet) west of Lake Tahoe

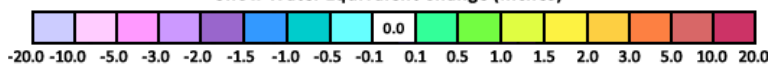
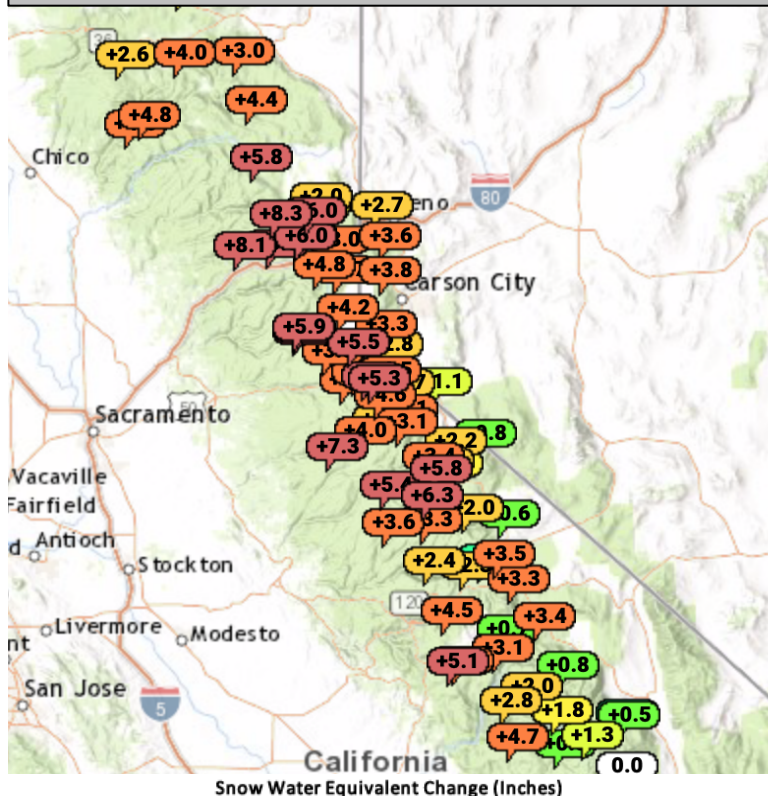
CW3E Event Summary: 14–17 Mar 2020



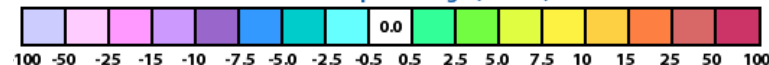
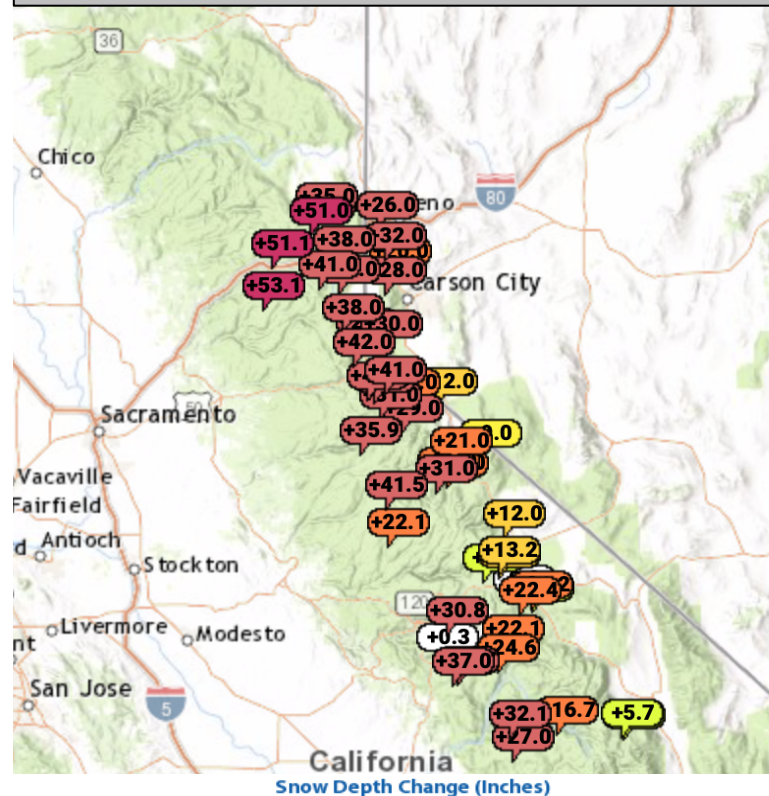
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CNRFC 5-day SWE Change:
Valid 1200 UTC 17 Mar



CNRFC 5-day Snow Depth Change:
Valid 1200 UTC 17 Mar



Source: NOAA/NWS CNRFC, <https://www.cnrfc.noaa.gov/>

Squaw Valley G.C. (784) SNOTEL - 8013 ft

Date	Snow Water Equivalent (in) Start of Day Values	Change In Snow Water Equivalent (in)	Snow Depth (in) Start of Day Values	Change In Snow Depth (in)
2020-03-12	16.5	0.0	35	-2
2020-03-13	16.5	0.0	34	-1
2020-03-14	16.6	0.1	34	0
2020-03-15	19.3	2.7	55	21
2020-03-16	20.2	0.9	62	7
2020-03-17	21.6	1.4	77	15

Carson Pass (1067) SNOTEL - 8360 ft

Date	Snow Water Equivalent (in) Start of Day Values	Change In Snow Water Equivalent (in)	Snow Depth (in) Start of Day Values	Change In Snow Depth (in)
2020-03-12	15.6	0.0	36	-1
2020-03-13	15.5	-0.1	35	-1
2020-03-14	15.4	-0.1	35	0
2020-03-15	17.3	1.9	53	18
2020-03-16	19.6	2.3	74	21
2020-03-17	21.0	1.4	80	6

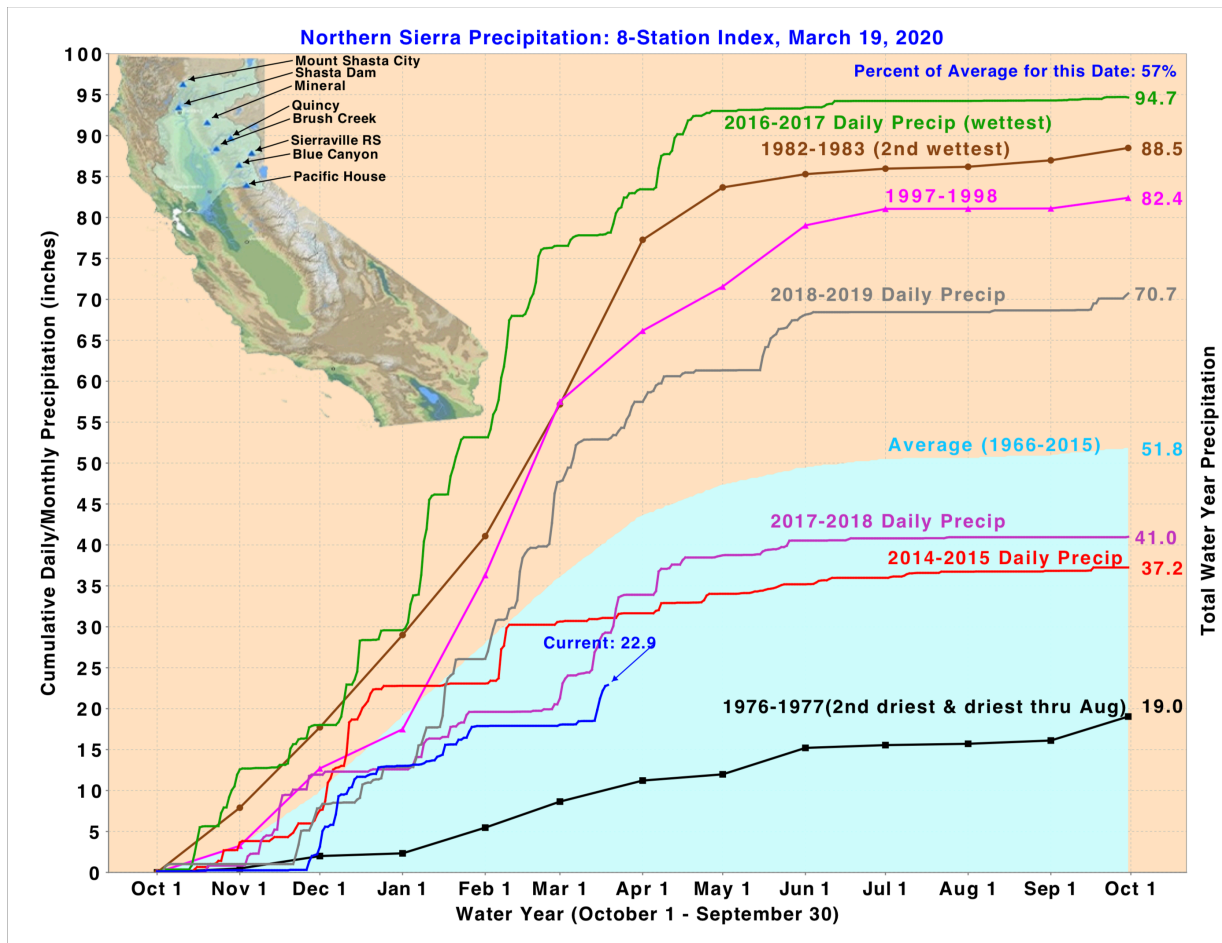
Source: USDA|NRCS|NWCC, <https://www.wcc.nrcs.usda.gov/>

- Snow water equivalent (SWE) increased by 4–8 inches over the Central and Northern Sierra Nevada between 12 Mar and 17 Mar
- Snow depth in these areas increased by 2–4 feet during the same period
- Squaw Valley and Carson Pass SNOTEL sites recorded SWE increases of 5 inches (9% of average annual maximum SWE) and 5.6 inches (16% of average annual maximum SWE), respectively, between 14 Mar and 17 Mar

CW3E Event Summary: 14–17 Mar 2020

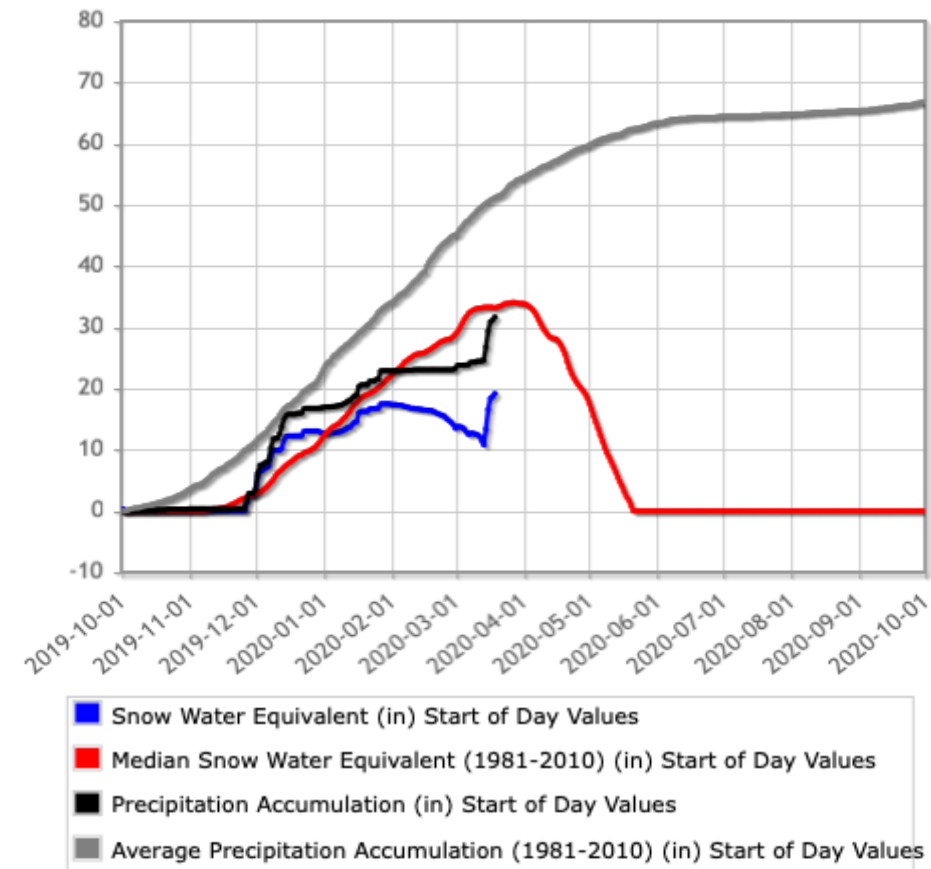


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Source: California Department of Water Resources, <https://water.ca.gov/>

CSS Lab (428) SNOTEL - 8013 ft



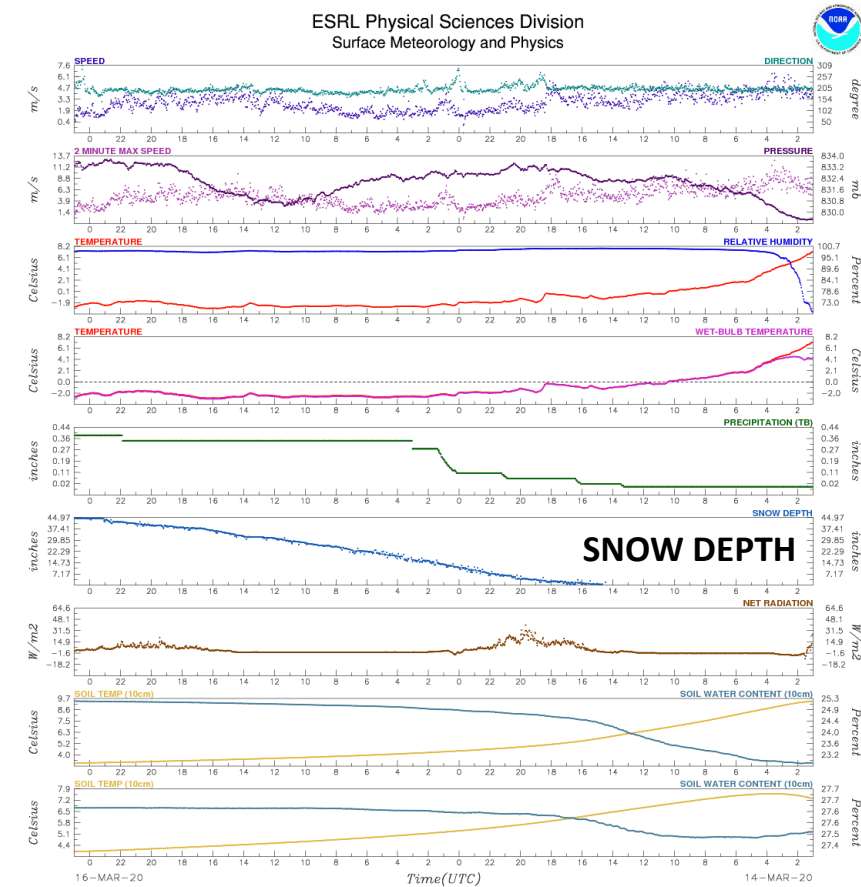
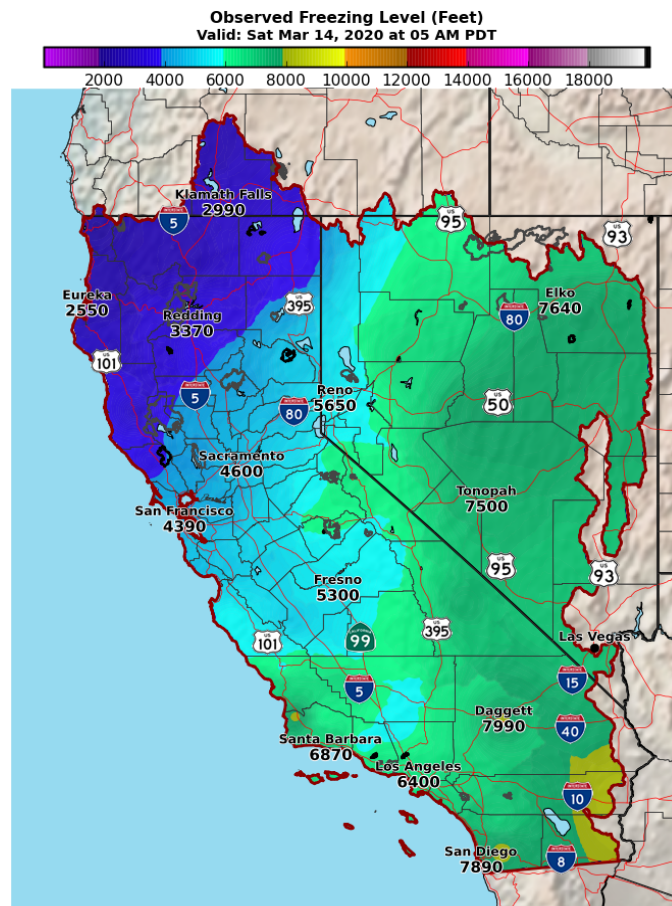
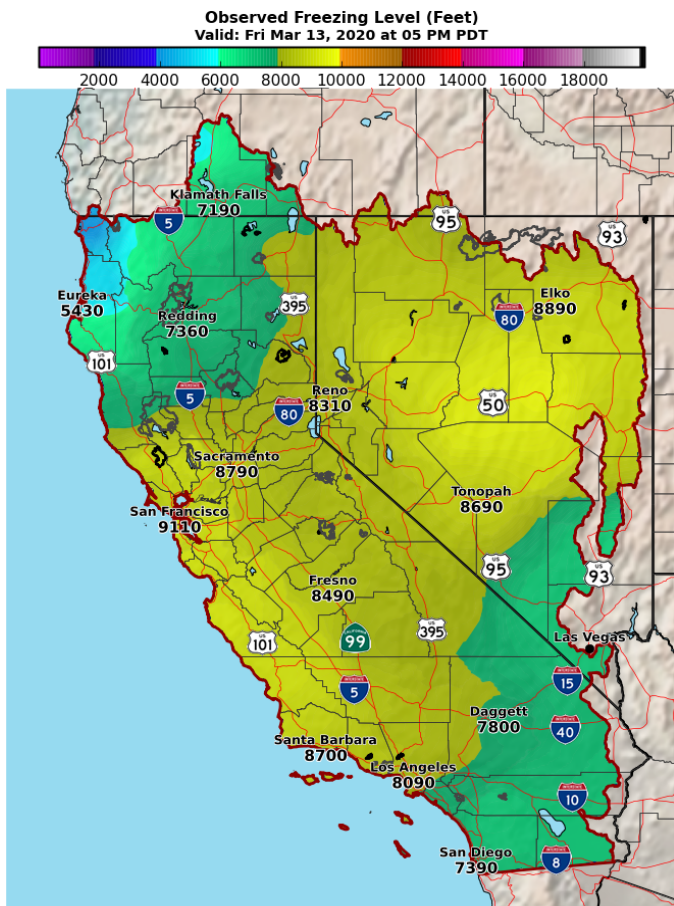
Source: USDA|NRCS|NWCC, <https://www.wcc.nrcs.usda.gov/>

- The Northern Sierra 8-station precipitation index increased by about 4 inches (8% of average annual precipitation) between 14 Mar and 17 Mar, but still remains well-below normal for this time of year (57% of normal as of 19 Mar)
- CSS Lab SNOTEL reported a SWE increase of 7.6 inches (22% of the typical annual maximum SWE) between 14 Mar and 17 Mar

CW3E Event Summary: 14–17 Mar 2020



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Blue Canyon, CA (BLU)
 39.2759 N, 120.7090 W, 1604 m

Source: NOAA ESRL PSD, <https://www.esrl.noaa.gov/psd/>

- A rapid drop in freezing level heights between 0000 UTC 14 Mar and 1200 UTC 14 Mar helped set the stage for significant snowfall accumulations above 4,000 feet
- Time series from Blue Canyon, CA (elevation 1604 m) shows a period of intense snowfall accumulation between 1500 UTC 14 Mar and 0000 UTC 16 Mar (snow depth increased more than 40 inches)

CW3E Event Summary: 14–17 Mar 2020



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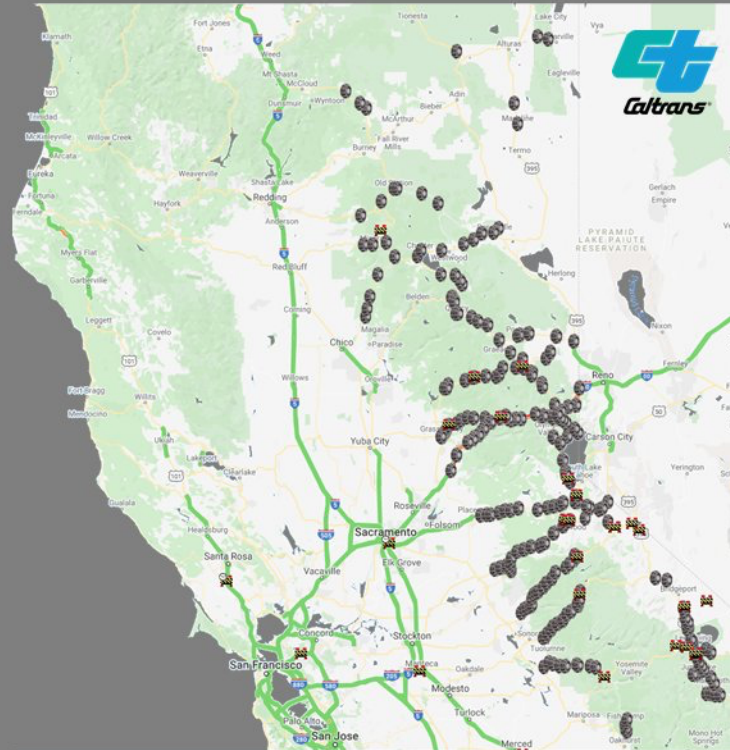
Mountain Travel Impacts Continue

Valid: 10:30 am March 16, 2020

- Chain controls
- Significant travel delays
- Drive slow on snow & rain slick roads
- Travel is **HIGHLY DISCOURAGED!**

Road Conditions:

quickmap.dot.ca.gov
or 1-800-427-7623



NWS Sacramento

Source: NOAA/NWS Sacramento, <https://www.weather.gov/sto/>

Downed Tree on Highway 20



Source: Caltrans, <https://dot.ca.gov/>

- Heavy snow created extremely hazardous travel conditions and resulted in several road closures over the Central and Northern Sierra Nevada
- Highway 20 was closed between Nevada City, CA, and Interstate 80 due to numerous downed and leaning trees