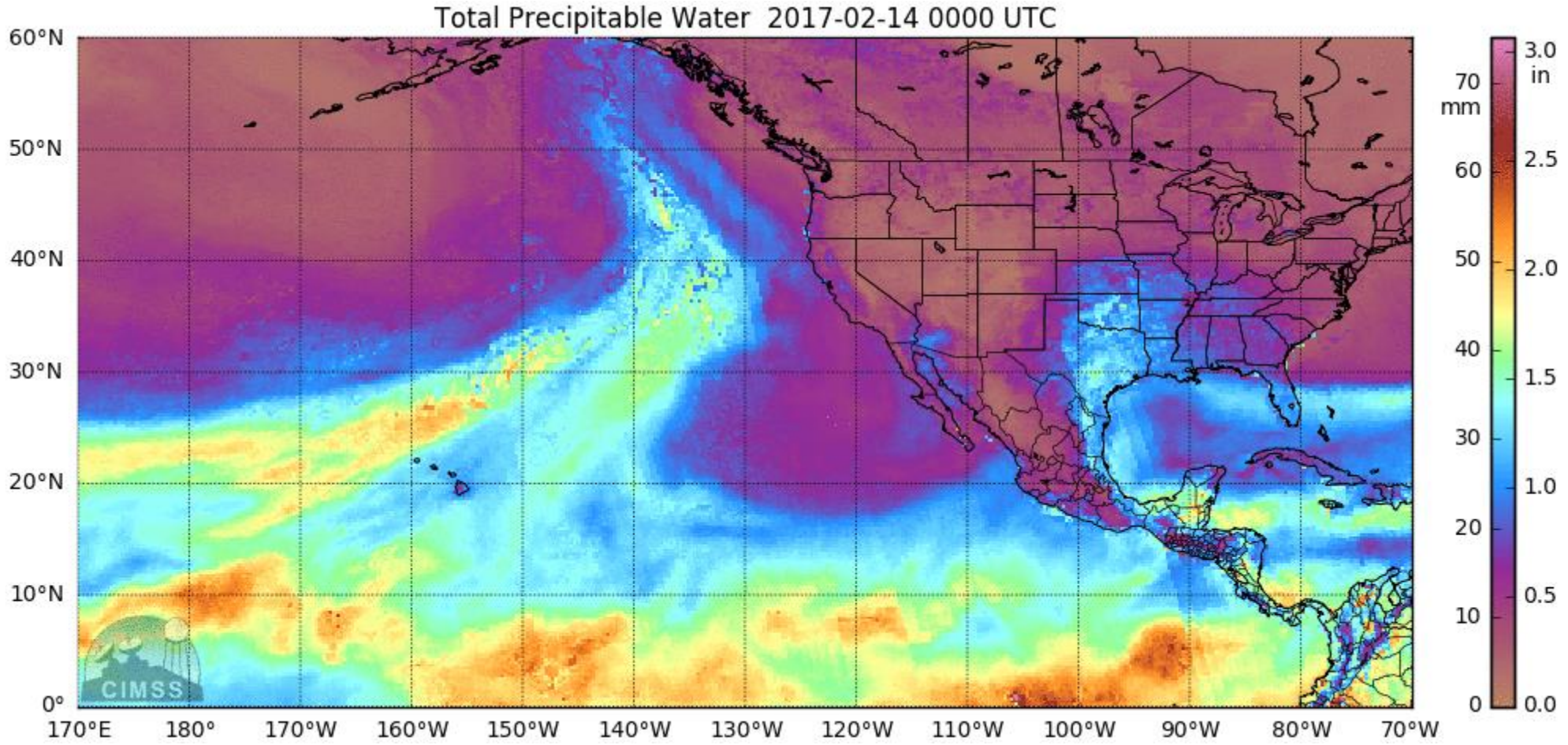
CW3E Post Event Summary

Center for Western Weather and Water Extremes
SCRIPPS INSTITUTION OF OCEANOGRAPHY AT UC SAN DIEGO

Summary of the ARs that impacted the West Coast over the Past Week

- Three separate ARs made landfall and impacted the U.S. West from 14–21 February 2017
- Over 20 inches of precipitation fell over some of the high elevations of the West Coast
- There were 291 total storms reports made to NOAA NWS during the three ARs
- A summary of the ARs and their impacts are discussed in this post event summary



AR Summary: 22 February 2017

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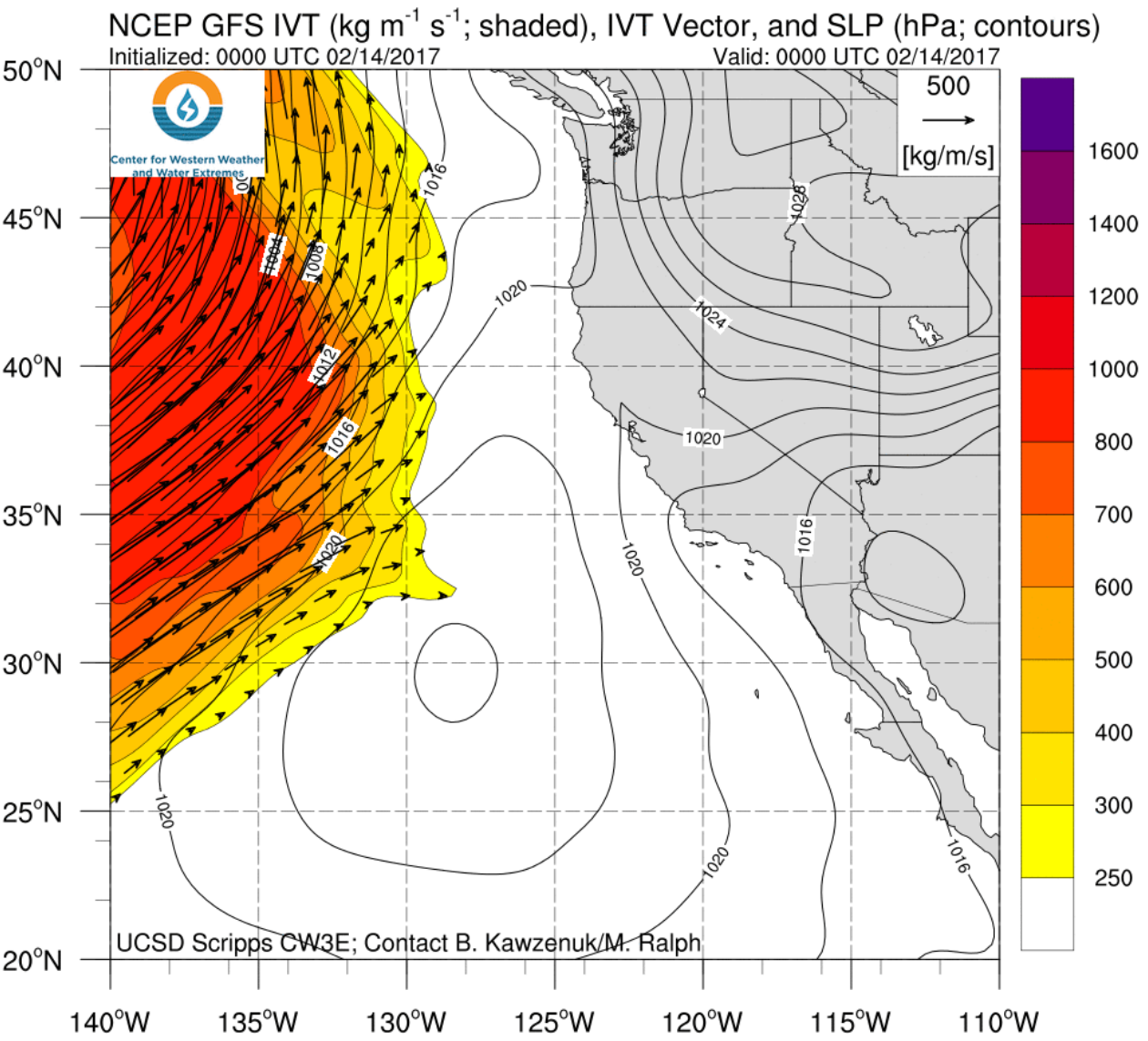

The first AR made landfall between 18 UTC (10 AM PST) 14 February and 00 UTC 15 February (4 PM PST 14 Feb) over the Pacific Northwest before propagating southward over California

Maximum IVT at the Coast was between 800 and 1000 kg/m/s, which is considered a strong AR

Some locations experienced AR conditions for up to 42 hours during this event

Note: The strength of AR conditions noted on this summary was determined based on 6-hourly NCEP GFS analysis periods and observed IVT magnitudes may have been higher at specific locations along the coast

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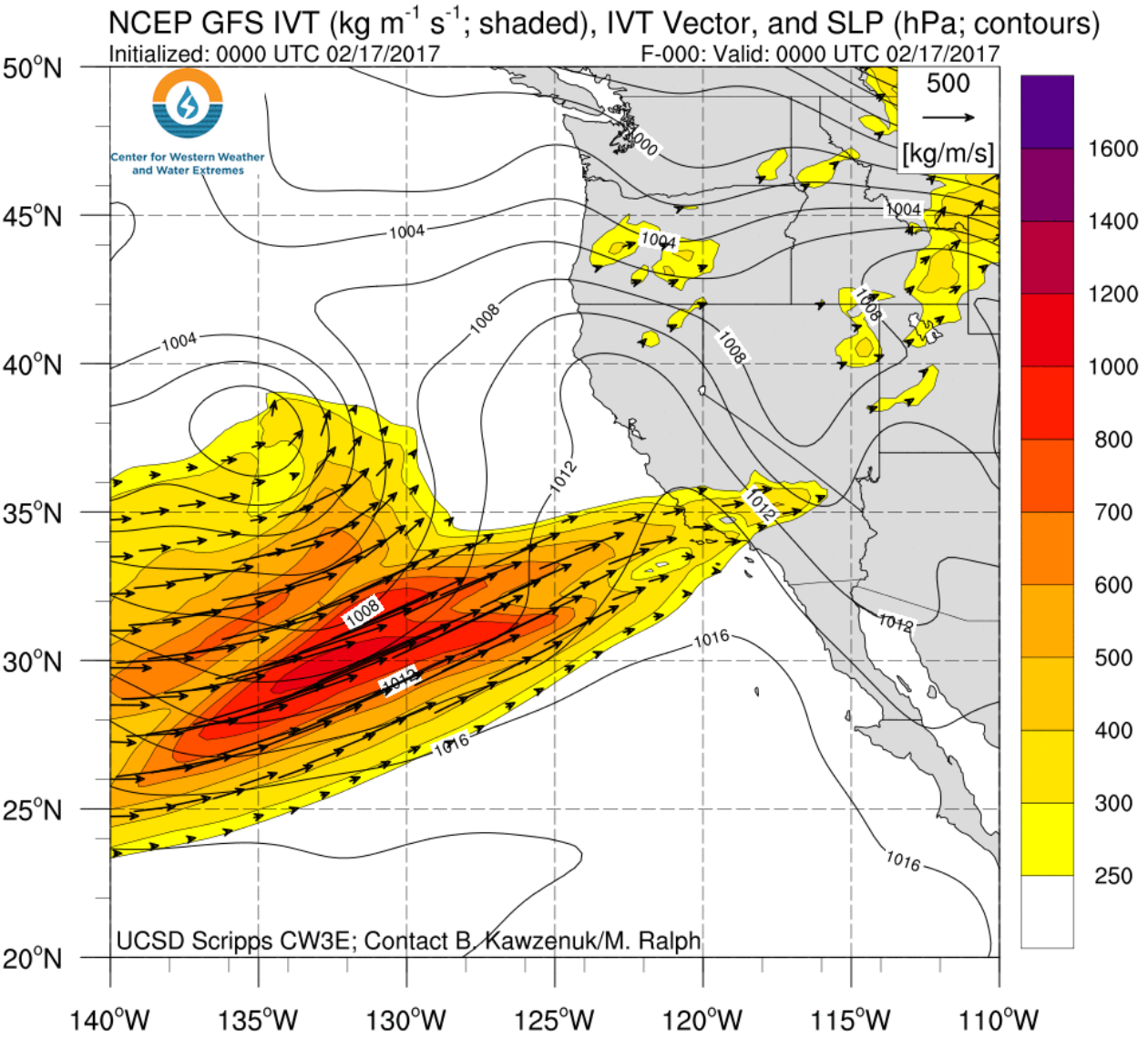

The second AR, which developed in conjunction with a mesoscale frontal wave, made landfall ~6 UTC on 17 February (4 PM PST 16 Feb) over Southern CA

Maximum IVT at the Coast was between 700 and 800 kg/m/s, which is considered a moderate to strong AR

Some locations experienced AR conditions for up to 24 hours during this event

Note: The strength of AR conditions noted on this summary was determined based on 6-hourly NCEP GFS analysis periods and observed IVT magnitudes may have been higher at specific locations along the coast

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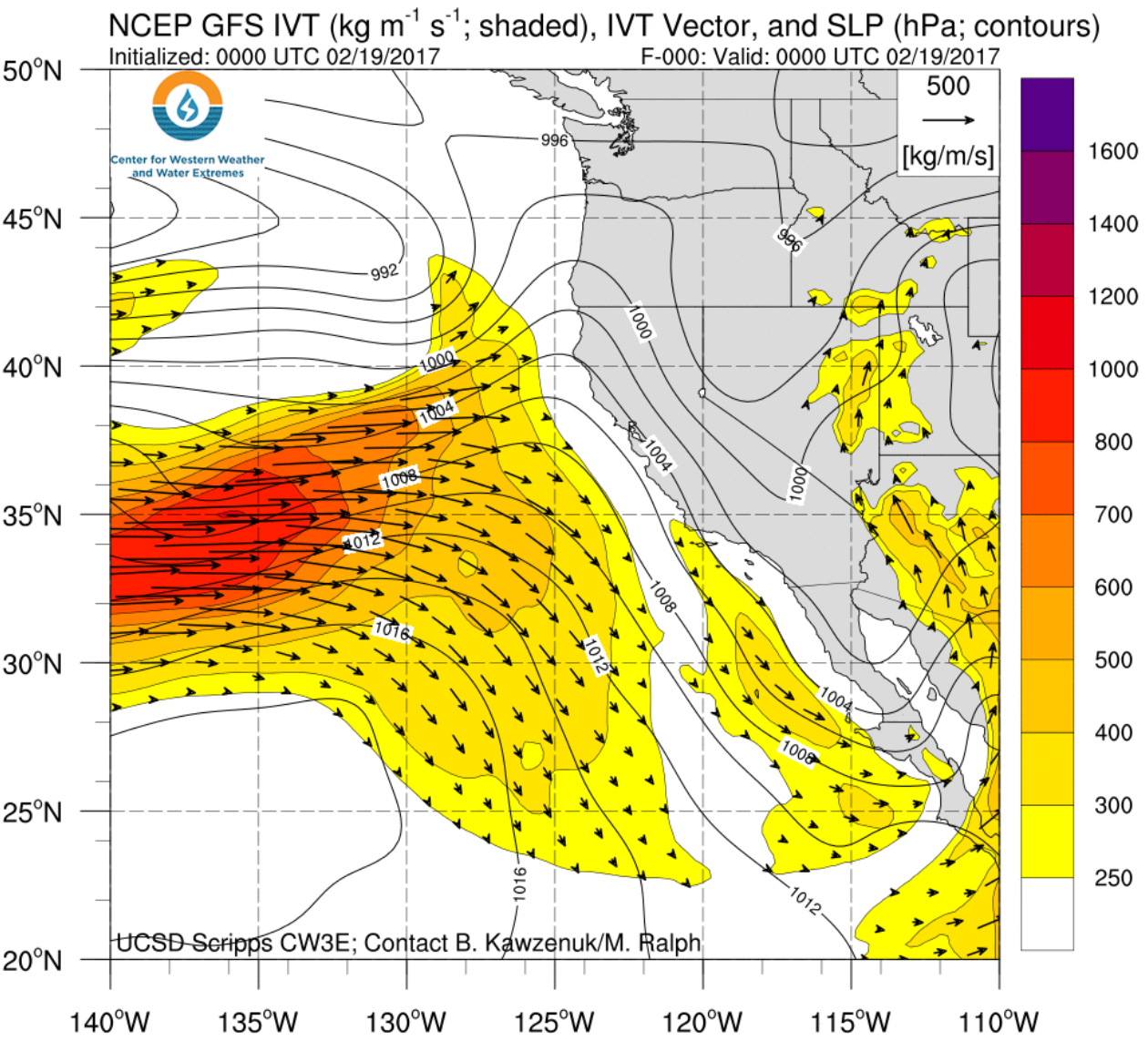

The third AR made landfall at ~6 UTC on 20 February (4 PM PST 19 Feb) over the Northern Ca

Maximum IVT at the Coast was between 700 and 800 kg/m/s, which is considered a moderate strength AR

Some locations experienced AR conditions for up to 42 hours during this event

Note: The strength of AR conditions noted on this summary was determined based on 6-hourly NCEP GFS analysis periods and observed IVT magnitudes may have been higher at specific locations along the coast

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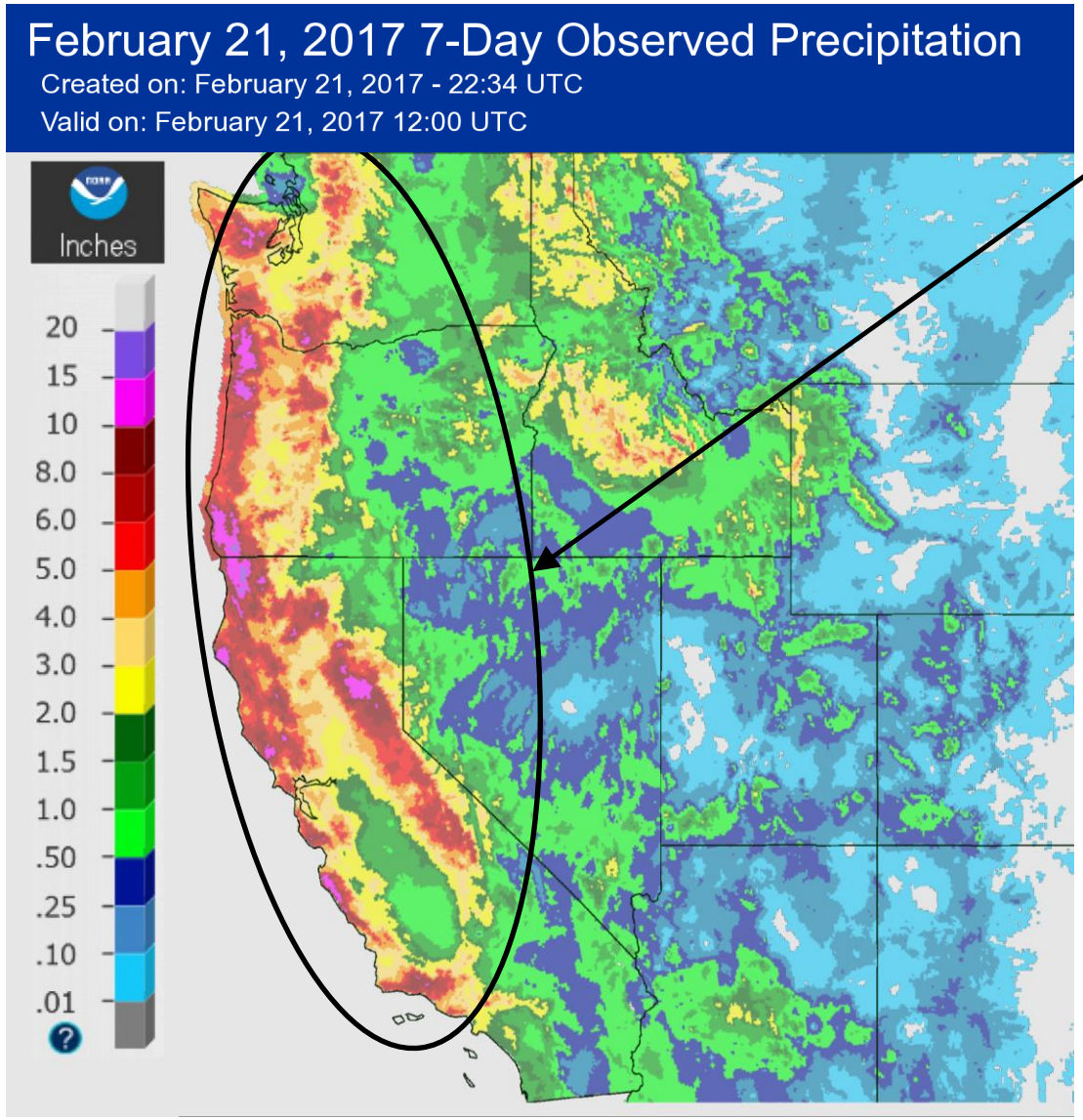

10 – 20 inches of precipitation fell over the higher elevations of the Coastal, Sierra Nevada, Olympic, and Transverse Mountains from 14 – 21 February 2017

Lower elevations across the western U.S. received precipitation accumulations ranging from 1 to 6 inches

For official NOAA-NWS observed precipitation see water.weather.gov

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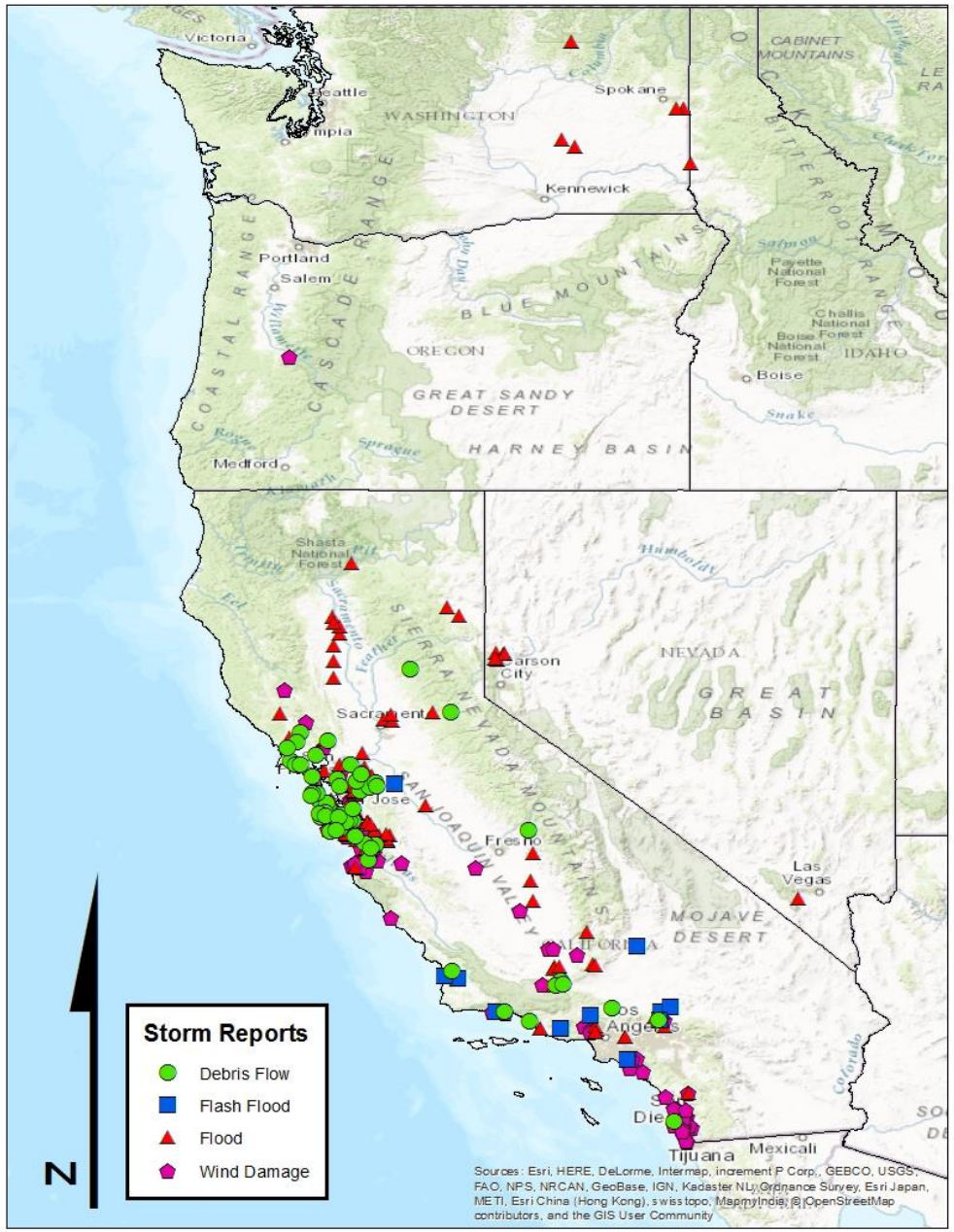

There were 291 total storm reports to the NWS from 14 to 21 February on the West Coast (majority in CA) due to the ARs that made landfall

- 61 Debris Flow Reports
- 12 Flash Flood Reports (Primarily Southern California)
- 112 Flood Reports
- 106 Non-Thunderstorm Wind Damage Reports

There were also two Avalanches reported in Central Washington and Western Nevada

NOAA NWS Storm Report Data can be accessed at https://mesonet.agron.iastate.edu/request/gis/lsrs.phtml

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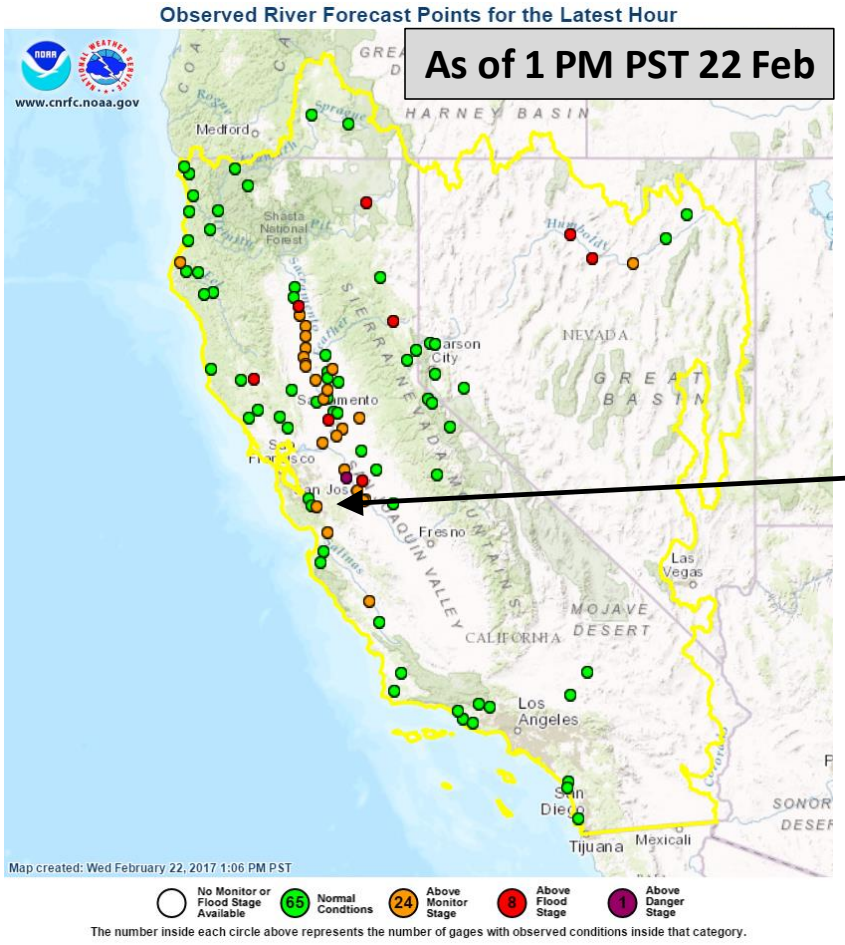
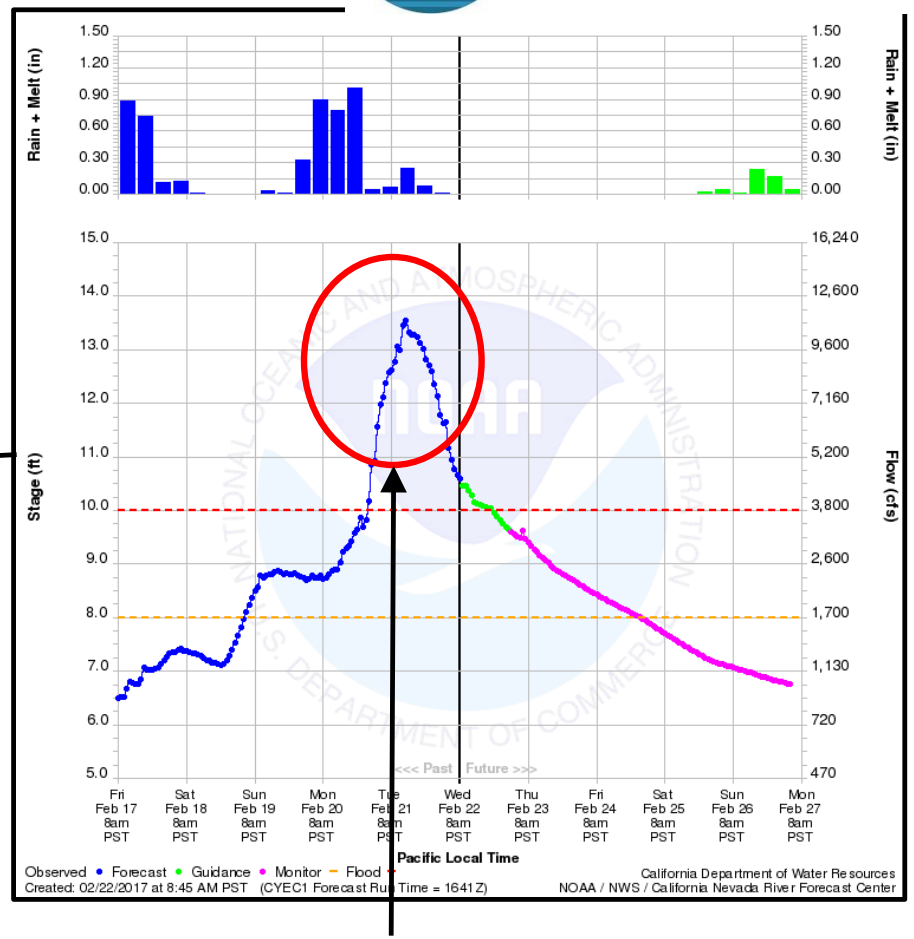
There are currently 9 river gauges that are currently at or above flood stage in California and Nevada, one of which is in danger stage

There are an additional 24 gauges that are currently at or above monitor stage

For official NOAA-NWS CNRFC Streamflow Forecasts see cnrfc.noaa.gov/rfc_guidance.php





The Coyote Creek in Edenvale, CA (south of San Jose) rose to 13.6 at 1 PM on 21 February, which is 3.6 feet above flood stage

There are currently ~14,000 people being evacuated in San Jose due to flooding of the Coyote Creek. Visit sanjose.gov for more information

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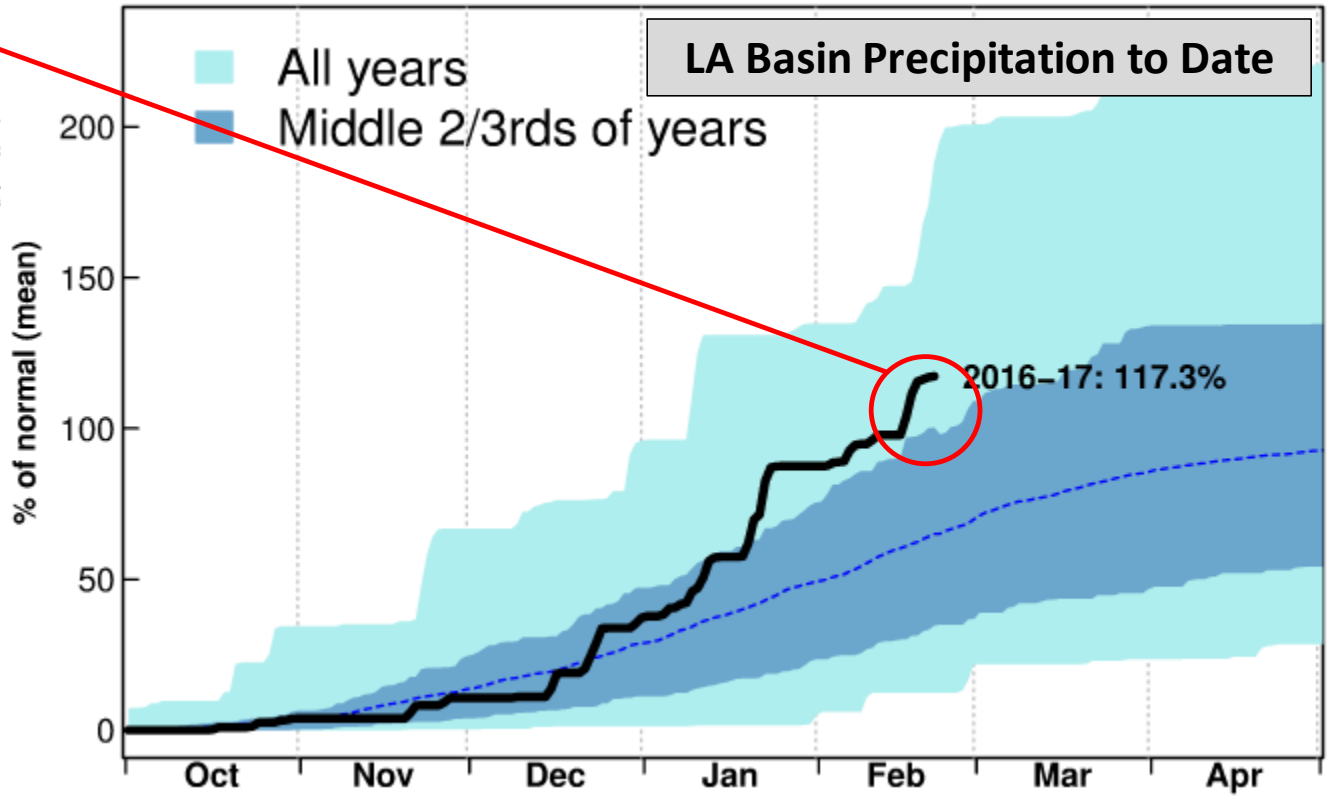
Current:	113.9%	1-day Δ:	15.86%	2-day Δ:	16.10%	3-day Δ:	16.10%
	(2014/02/17)						
Rec_low:	12.5%	50-ptile:	0.38%	50-ptile:	0.59%	50-ptile:	0.88%
Typ_low:	31.4%	90-ptile:	4.75%	90-ptile:	7.22%	90-ptile:	8.86%
Mean:	61.7%	95-ptile:	7.16%	95-ptile:	11.02%	95-ptile:	13.90%
Typ_high:	97.1%	99-ptile:	13.22%	99-ptile:	20.24%	99-ptile:	26.51%
Rec_high:	148.5%	Record:	23.26%	Record:	42.55%	Record:	49.46%
	(2005/02/17)		(1956/01/26)		(1943/01/23)		(1943/01/24)

- The LA Basin saw the Percentage of total Water Year precipitation increase to 113.9% from 98.04% in one day
- This 1-day increase of 15.86% is well within the 99th percentile across all years
- The 2-day increase was 16.1%, which is within the 95th percentile
- Total increase over this 7-day period was ~20%



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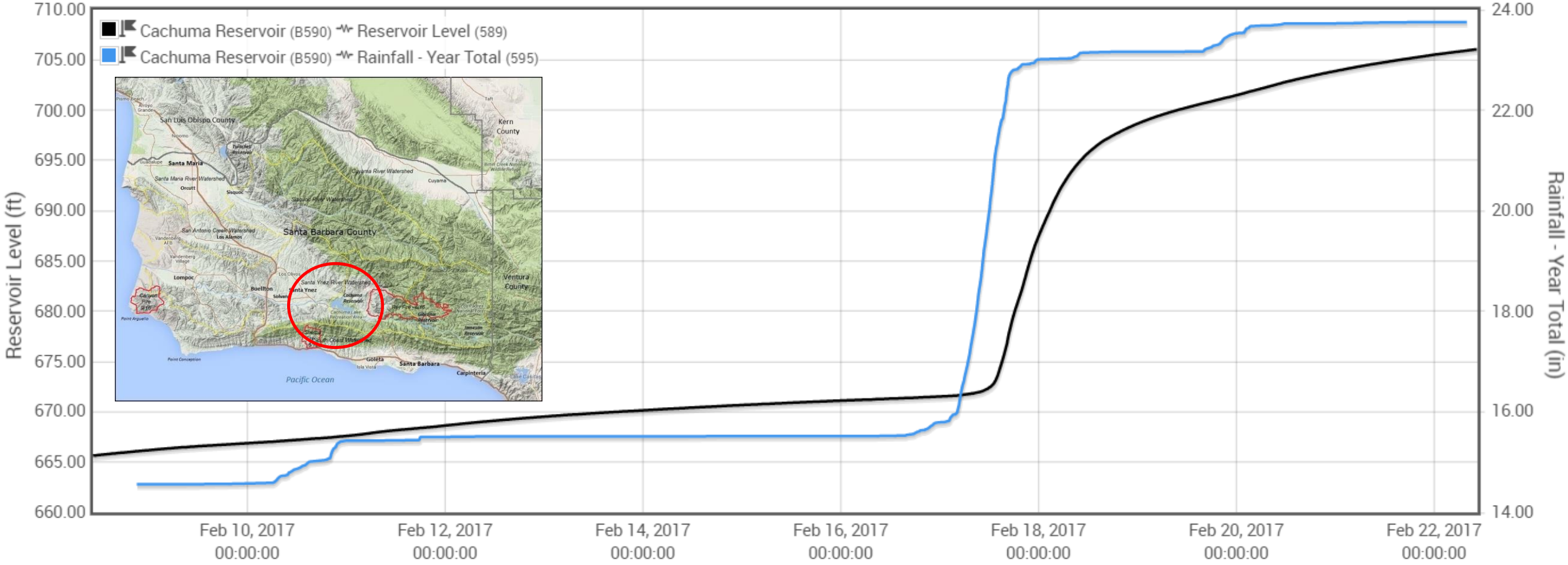

The total water year precipitation near Cachuma Reservoir (North of Santa Barbara) rose from 15.5 inches to ~24 inches from 16 to 20 Feb.

This precipitation caused the height of the Cachuma Reservoir to rise from ~672 feet to ~706 feet from 17 to 22 Feb.

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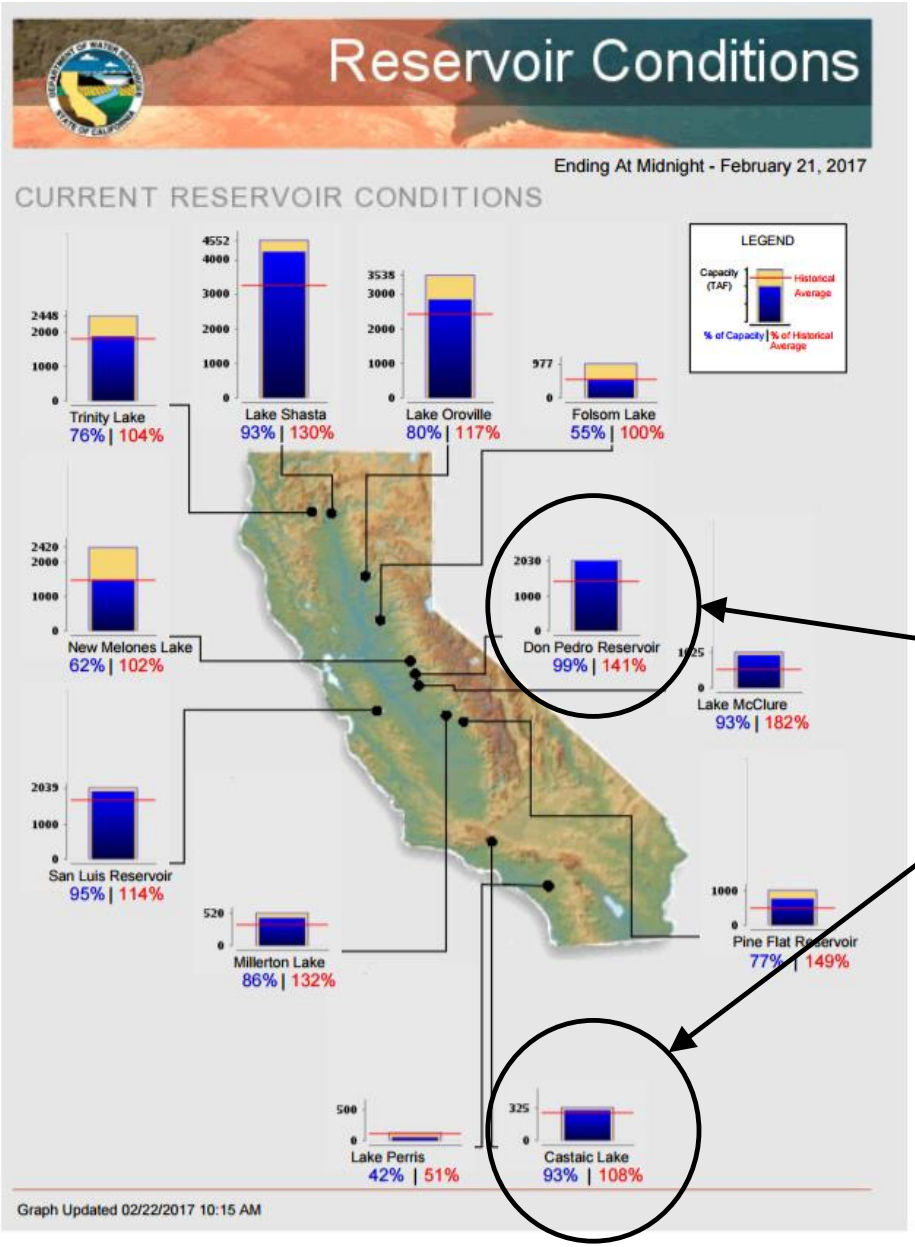

A majority of the reservoirs across CA are at 100% or above the historical average with several at or above 90% of capacity

All major reservoirs (shown in figure), with the exception of Lake Perris, are >100% of historical average and >60% of capacity

- The Don Pedro Reservoir is currently at 141% of the historical average and at 99% capacity
- Castaic Lake in Southern CA is currently at 108% of the historical average and at 93% capacity

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In San Jose, dramatic rescues as hundreds flee rising floodwaters

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John Bacon and Chelcey Adami, USA TODAY NETW

Rescue workers brought boats full of people, some with b
San Jose, California. At least 225 people were taken to dr

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Storm Alert: Atmospheric river renews flood fears across Bay Area

By Aaron Pero
Published: February 19, 2017, 3:59 pm | Updated: February 20, 2017, 5:13 am

Los Angeles Times

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LOCAL / L.A. Now

'Atmospheric river' slams California again as state decides whether to keep drought restrictions

The impacts of this past weeks ARs were heavily covered by both national and local news outlets, bringing the term Atmospheric River to the public's attention