

Snowmelt has a long way to go!



20' of snow on
the Sonora
Pass 5/19/2017



South fork of Bishop Creek
5/20/2017 Photo: Sue Burak

Short Attention Span Brief

- **Weather:** Breezy today with a few showers/thunderstorms, “cooler” Thursday and Friday. Late spring heat returns Sunday to Wednesday. Some thunderstorm potential Monday-Wednesday of next week. **Main concern fast and cold creeks/rivers during the second half of Memorial Day weekend with “let’s cool off in the water” temperatures.**
- **Initial Analysis:** High Sierra snowpack is large, takes more heat/energy than usual to get a big melt off. It’s almost June, warm temperatures in the High Sierra are coming. Long range simulations not showing any big cool downs the next week or two. Favored scenarios: A steady rate of melting the next couple weeks, or **a lot more snowmelt response** and higher flows, flooding (especially on Walker Basin).

Short Attention Span Brief

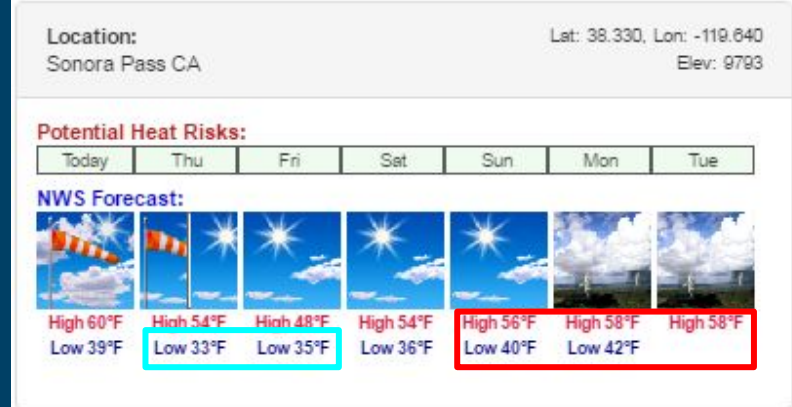
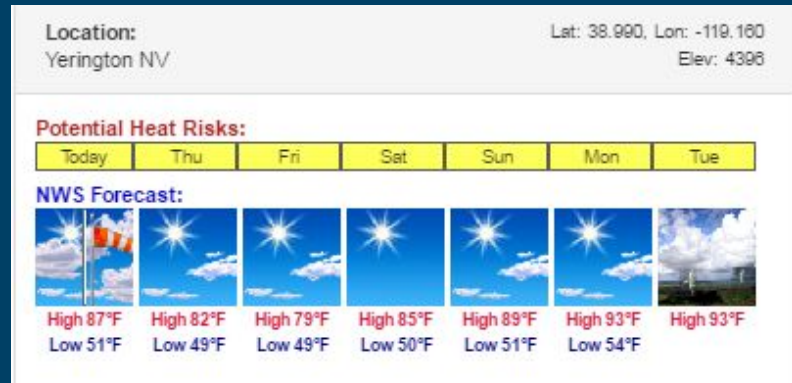
- **Walker River @ Mason/Yerington: Minor flood** impacts for main-stem Walker rest of this week. Impacts confined to mainly rural, agricultural areas. Any decrease in flows Thursday-Saturday are temporary. **Secondary peak in flows likely Memorial Day week - monitor for potential higher impacts.**
- **Rest of the regional river and stream systems:** in the eastern Sierra, W Nevada will see **mainly minor flood impacts**. Tributaries and streams - flows peaking early Wednesday and Thursday mornings. **Localized flooding impacts along these streams.** Humboldt is starting another slow rise, but only localized impacts.

Situational Awareness - When Should I Freakout?

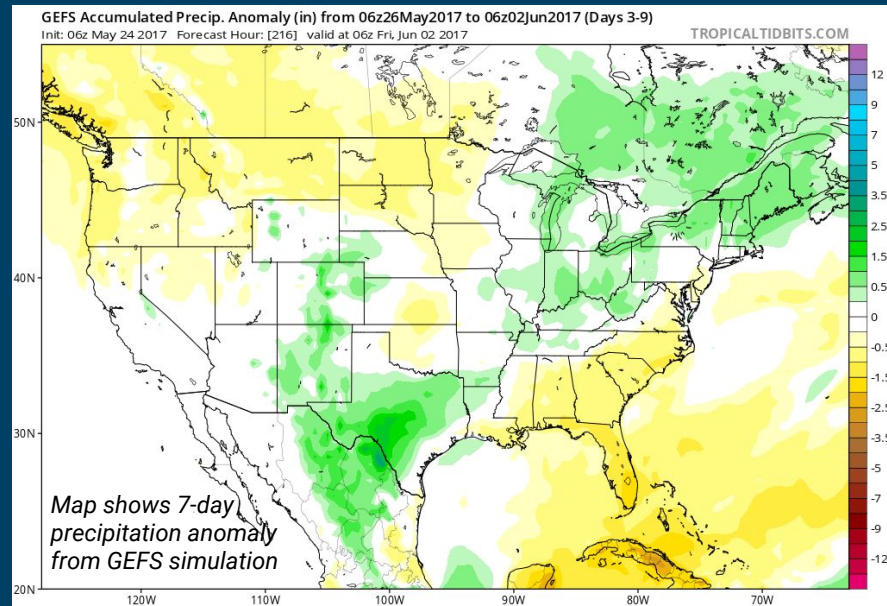
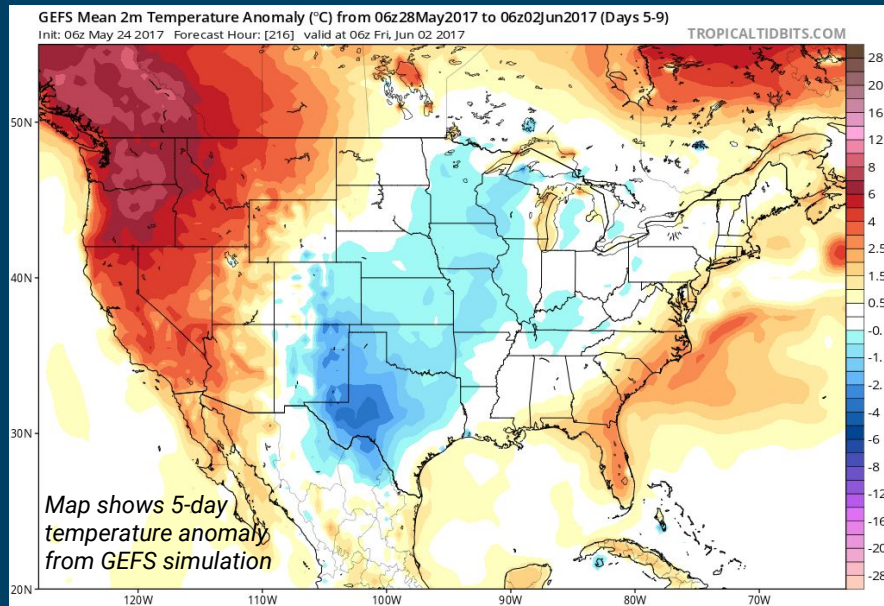
Chris' Brian's 7-Day Regional Freakout Forecast for the Sierra and western Nevada

	Wed. ^{5/24}	Thursday ^{5/25}	Friday ^{5/26}	Saturday ^{5/27}	Sunday ^{5/28}	Mem. Day ^{5/29}	Tuesday ^{5/30}
Wind	breezy W-SW winds, low-end impacts		generally light winds under 10-15 mph				
Snow	no snow						
River & Snowmelt Flooding	increased snowmelt flows with mainly minor flooding impacts late night into the morning hours each day		minor-moderate flood impacts on mainstem Walker, otherwise mainly minor snowmelt flood issues around the region		don't let your guard down period - increased heating will raise snowmelt and flood potential but severity low confidence; hot weather will lead to more water rescues		
Flash Flooding (fast paced flooding of streams, poor drainage and steep terrain areas, rock slides, burn scar runoff)	no heavy rainfall signals, thankfully						
Thunderstorms	isolated storms possible portions of Sierra, W Nev	buildups or isolated mountain storms possible each afternoon but no widespread storm signals					isolated storms possible portions of Sierra, W Nev
Unusual Cold or Heat	no widespread freezes or heat-health issues expected						
Fire Weather	carryover grasses could dry enough from heat to burn with gusty winds			Grasses drying out			
What Does This Mean? Integrates impacts and confidence	No worries 	Low freakoutness 	Moderate freakoutness 	High freakoutness 	End of this (aka really bad) 		

Temperature Trends Cooling, then late spring heat for Memorial Day

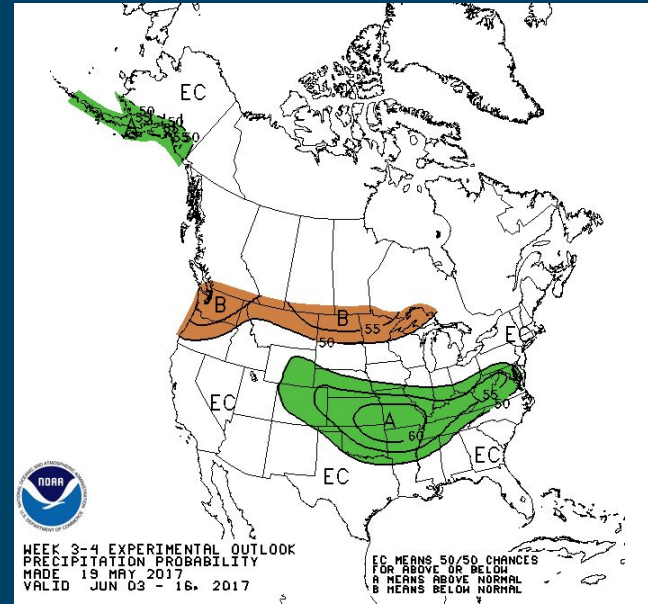
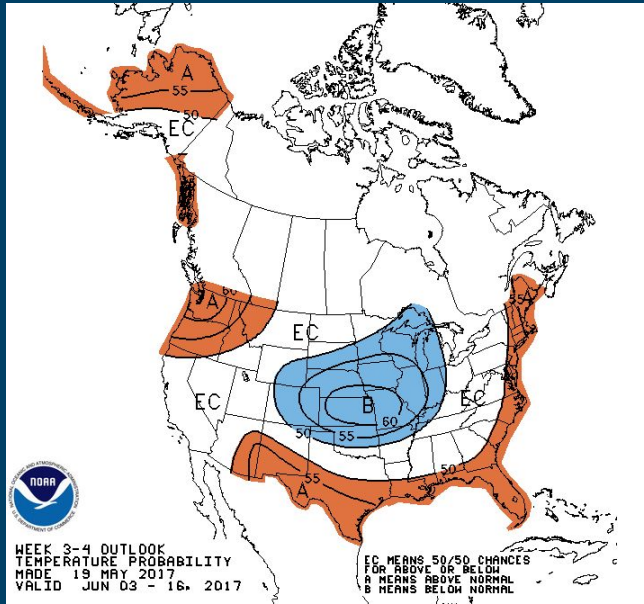


Next Week May 29 - June 3 Favoring Continued Warm but Intensity Uncertain



- Simulations favor warming through Memorial Day weekend and mid-next week. Some show low pressure offshore breaking down heat-ridge late next week - small decrease in temperatures with gusty winds.
- Plan for continued flooding impacts (eastern Sierra, Walker Basin), high flows. Severity remains low confidence but we **could see a surge in flows second half Memorial Day weekend into the middle of next week!**

June Heat? No Strong Signals Either Way June 3-16



- No favored temperature, precipitation scenario for our region first couple weeks of June. Sign of the transition to typical summer weather. Afternoon/evening breezes and start of thunderstorm season.
- Plan for continued high flows, possible flooding but little confidence in severity during this period.

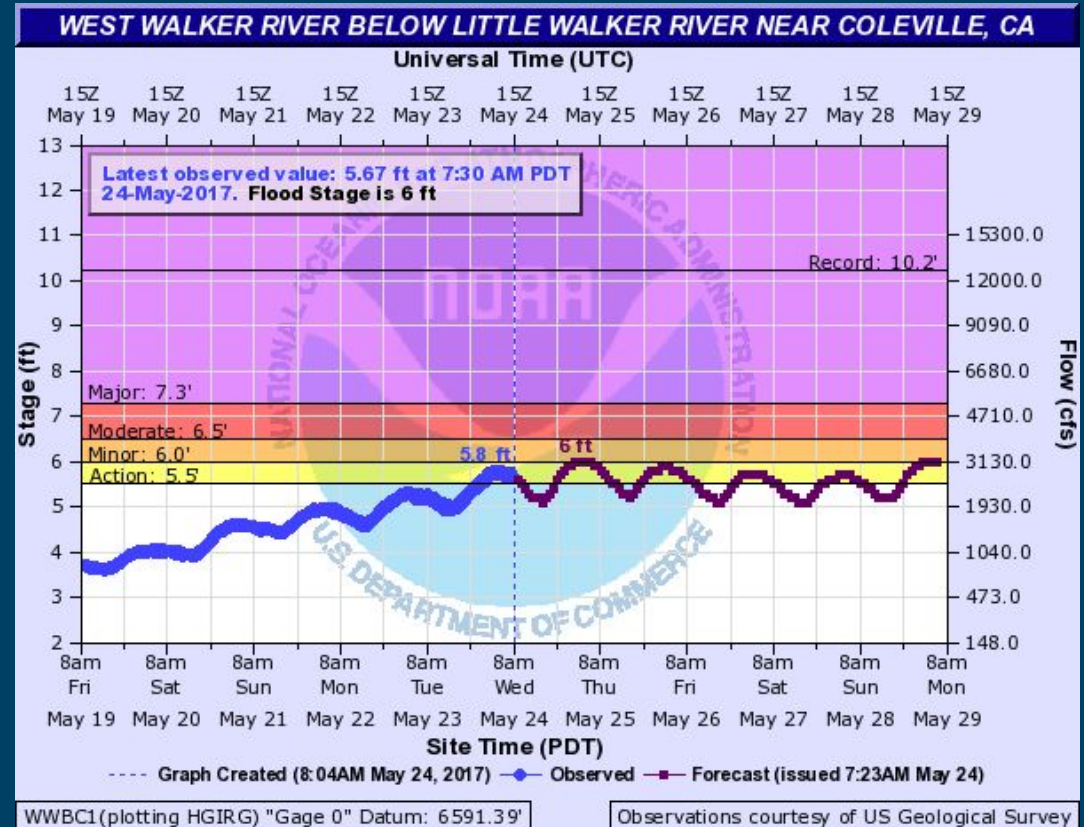
The Rivers

5-day forecasts

5 Day Forecast West Walker @ Sonora Junction

5-day official forecasts - [CNRFC](#) or [NWS Reno](#)

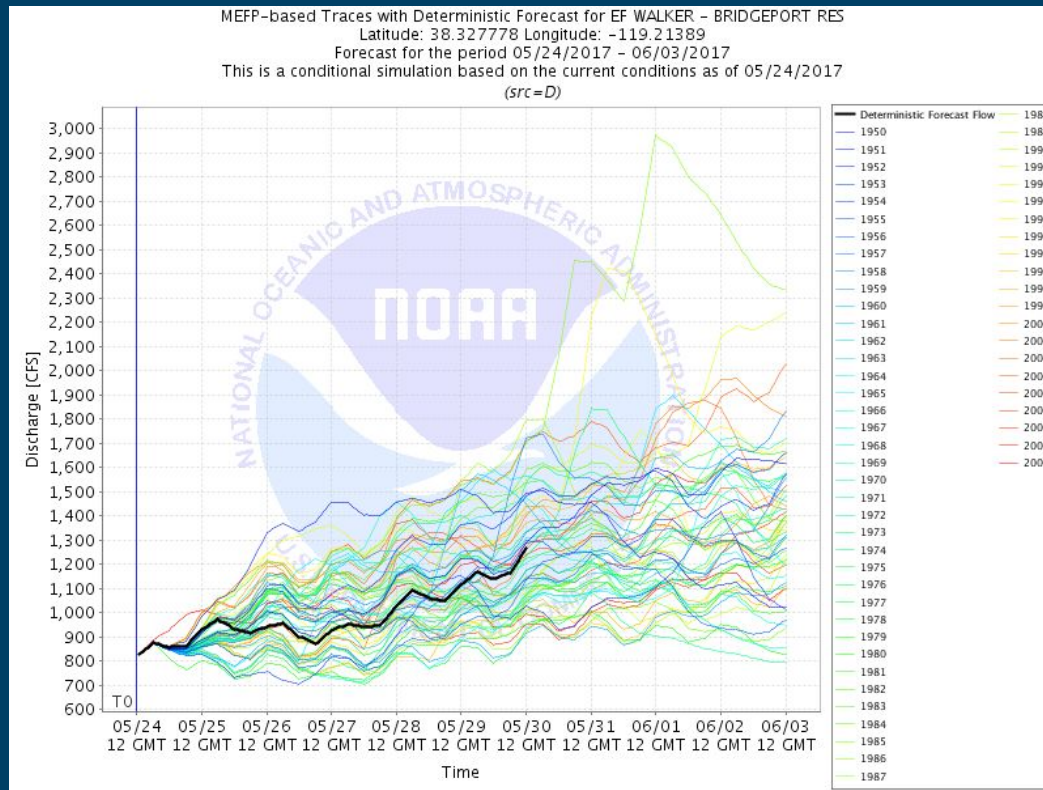
- Near minor flood stage Wednesday, Thursday, and perhaps Sunday nights. Remaining high with nighttime peaks each night. Watch for campers too close to river.
- Impacts - Minor flooding of pasture & rural roads in West Walker River Canyon and Antelope Valley, including Walker, Coleville, Topaz, and Smith Valley
- Strong diurnal signal with night-time peaks.



Ensemble Plot East Walker @ Bridgeport Inflow

5-day official forecasts - [CNRFC](#) or [NWS Reno](#)

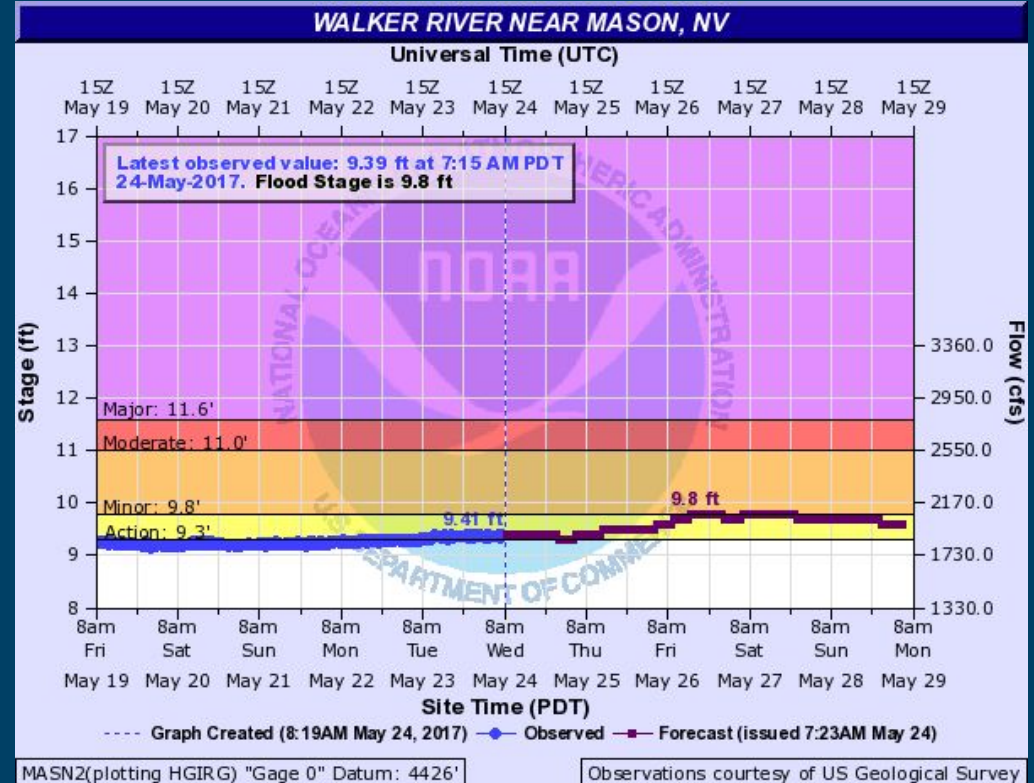
- **IMPORTANT:** These are estimated inflows, no gauging data to calibrate from so increased margin of error.
- Ensemble forecast product to represent uncertainty (59-years).
- 5-day deterministic forecast in black
- Increase in snowmelt flows into the reservoir. Most notably early next week.



5 Day Forecast Walker River @ Mason/Yerington

5-day official forecasts - [CNRFC](#) or [NWS Reno](#)

- **Big update:** Minor flooding impacts this week. Lasting through Memorial Day weekend!
- Based on new water management on Topaz and Bridgeport reservoirs, new gauging around Topaz, and slower snowmelt response.
- **IMPORTANT:** This new forecast factors in latest water management scenario, which may change depending on later forecasts and stream response.



Reno National Weather Service

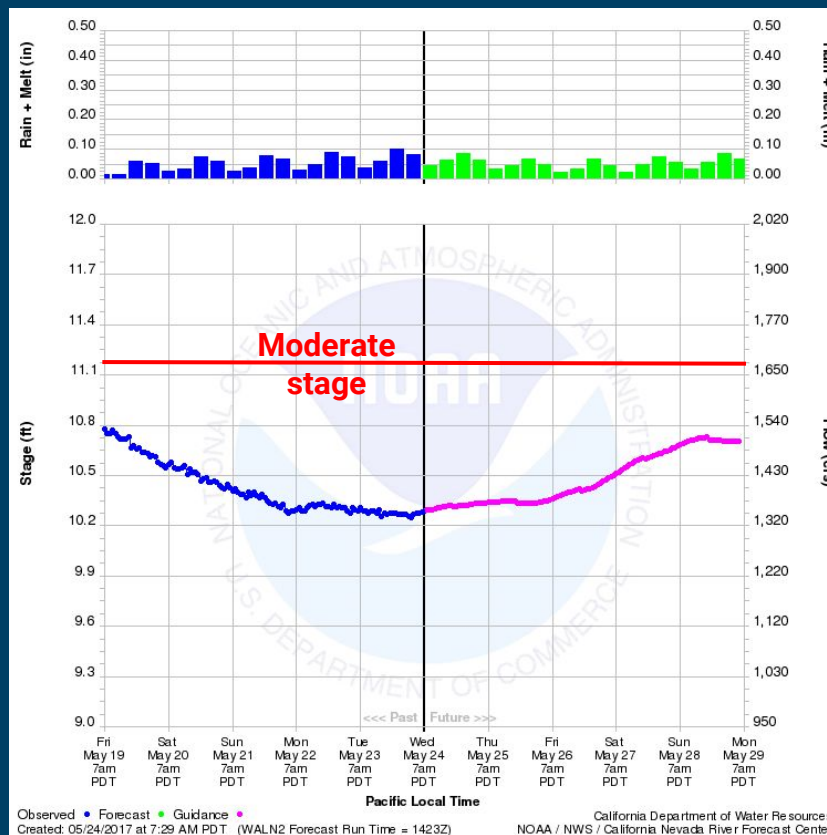
Forecasting for the Sierra and western Nevada since 1905



5 Day Forecast Walker River @ Wabuska

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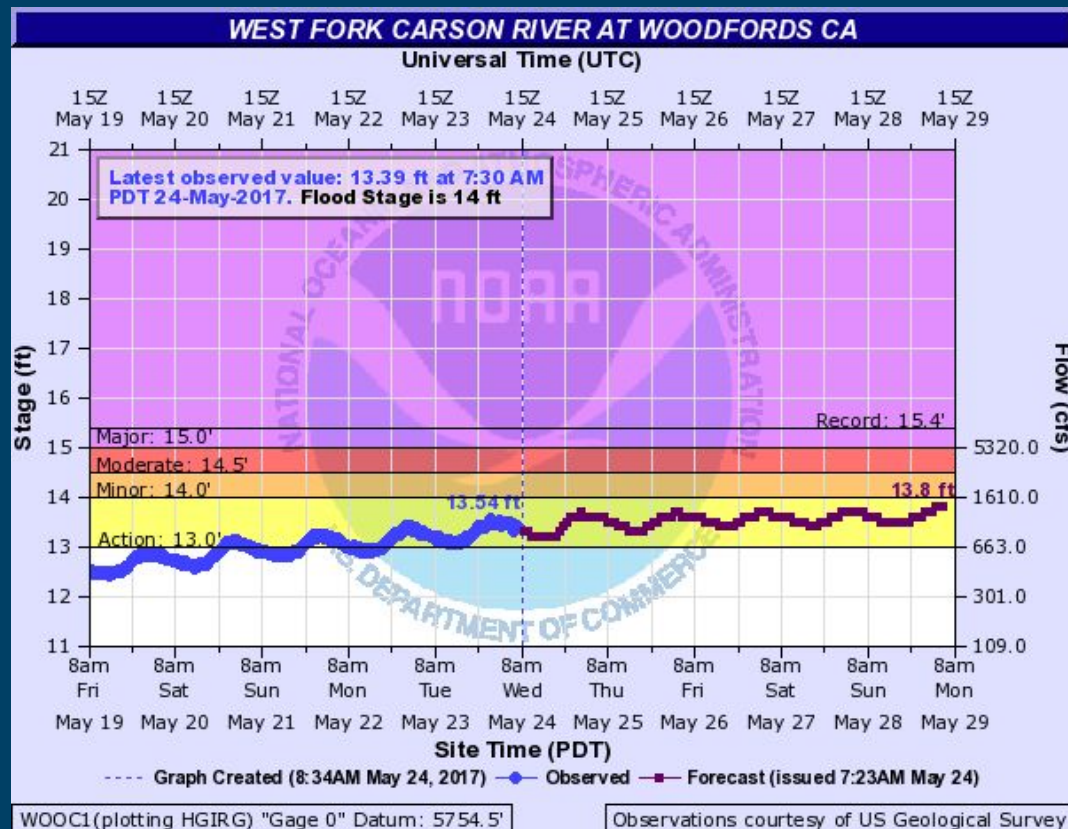
- High flows, with continued minor flooding expected.
- ~ 18 to 24 hour lag to Weber Reservoir.
- Long duration and high volume event. Higher rises likely in next few weeks.



5 Day Forecast West Carson @ Woodfords

5-day official forecasts - [CNRFC](#) or [NWS Reno](#)

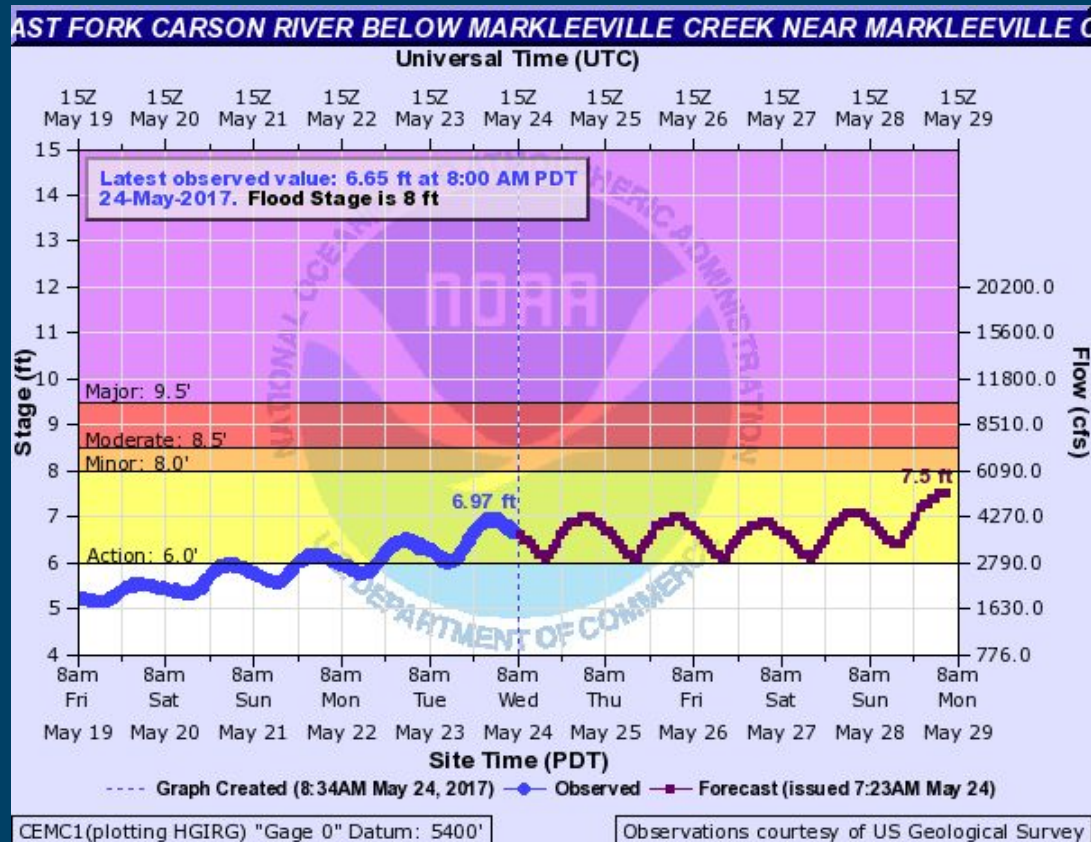
- Nearing minor flood stage every night.
- Impacts - possible minor flooding in the southwestern Carson Valley between Centerville and Genoa NV.
- Strong diurnal signal with night-time peaks.
- Somewhat higher flows early next week, but currently expected to be similar to earlier peak flows.
- Lots of snow gone below 7500 feet along Carson Pass.



5 Day Forecast East Carson @ Markleeville

5-day official forecasts - [CNRFC](#) or [NWS Reno](#)

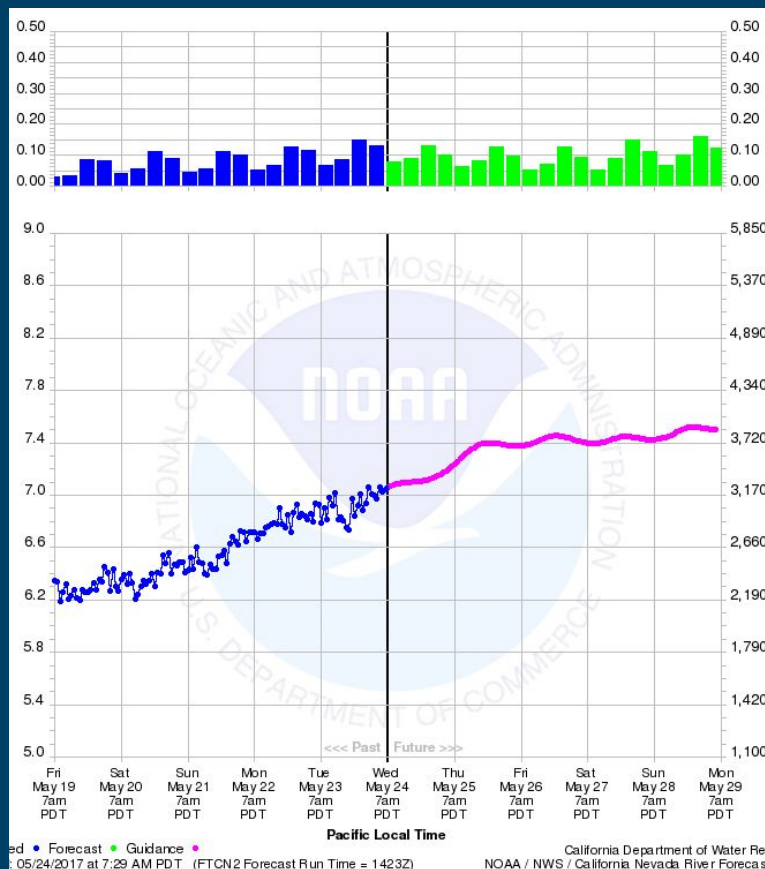
- Well into monitor stage all week, possibly approaching flood stage Saturday night.
- Impacts - Broad minor flooding in lowest, flood prone portions of Carson Valley.
- Strong diurnal signal with night-time peaks.
- Odds increasing that snowmelt peak flows may be experienced this weekend or early next week, but prolonged high flows still expected.



5 Day Forecast Carson River @ Ft. Churchill

5-day official forecasts - [CNRFC](#) or [NWS Reno](#)

- Slowly increasing flows, expected to increase more significantly next week.
- Well below flood stage.
- Short range peak ~ mid-next week.



5 Day Forecast Truckee River @ Truckee

5-day official forecasts - [CNRFC](#) or [NWS Reno](#)

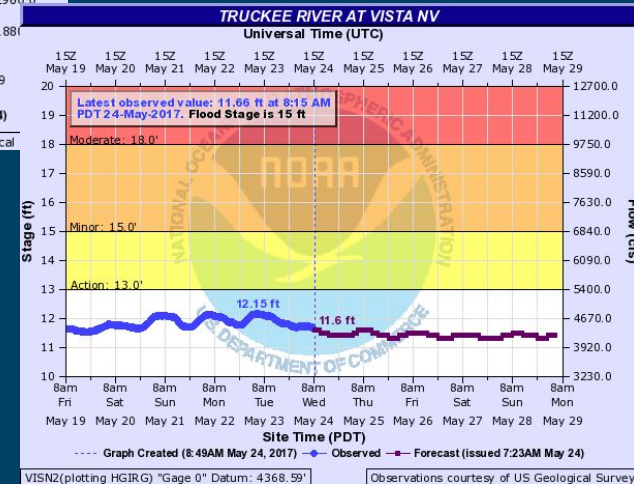
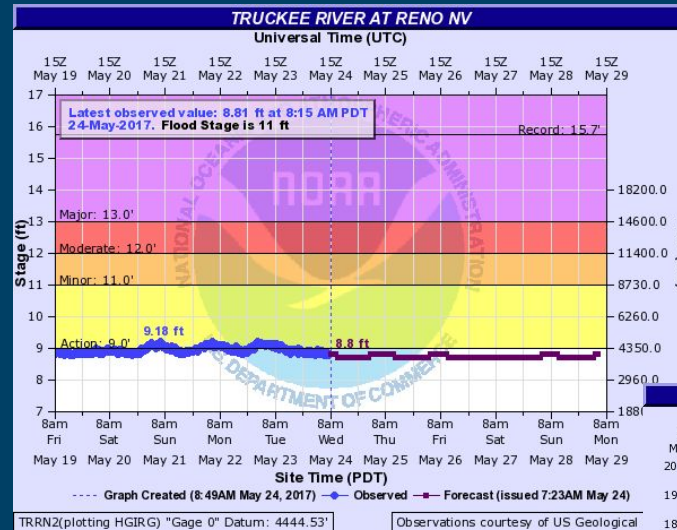
- **IMPORTANT:** Simulation assumes status quo water management, which may change depending on later weather forecasts.
- Decrease in Tahoe release will **reduce and possibly eliminate** flood impacts.
- Nightly increasing, mainly due to increased snowmelt flows from tributaries.
- Odds increasing that we are near or just past peak flows for spring-summer.



5 Day Forecast Truckee River @ Reno/Sparks

5-day official forecasts - [CNRFC](#) or [NWS Reno](#)

- **IMPORTANT:** Simulation assumes status quo water management, which may change depending on later river/weather forecasts.
- Snowmelt increases offset by changes in reservoir management. Resulting in slight decreases in flow.
- Minimal to no remaining impacts, but.. **Fast, cold water = increased rescue incidents when it gets warm out.**

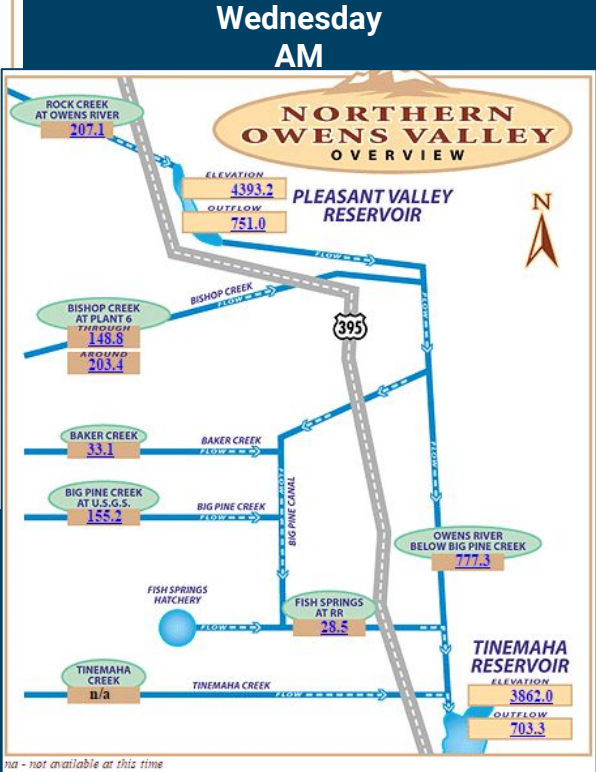


Eastern Sierra Outlook

General Guidance



Sunday AM



Wednesday AM



Monday AM

Sunday AM



not available at this time

Eastern Sierra Outlook General Guidance

- Best estimate -- flows this week coming out of the unregulated eastern Sierra mountain streams and creeks are likely to continue to increase. **~ 2 times current flows. Smaller creeks likely ~ 3 times current flows.**
- **Peak flows from this heat episode likely Wednesday or Thursday nights. Higher Peak flows likely still to come.**
- Flood impacts - most likely minor to moderate impacts for areas near creeks/streams. Areas that have flooded already this spring likely to see flooding, perhaps longer and more widespread.

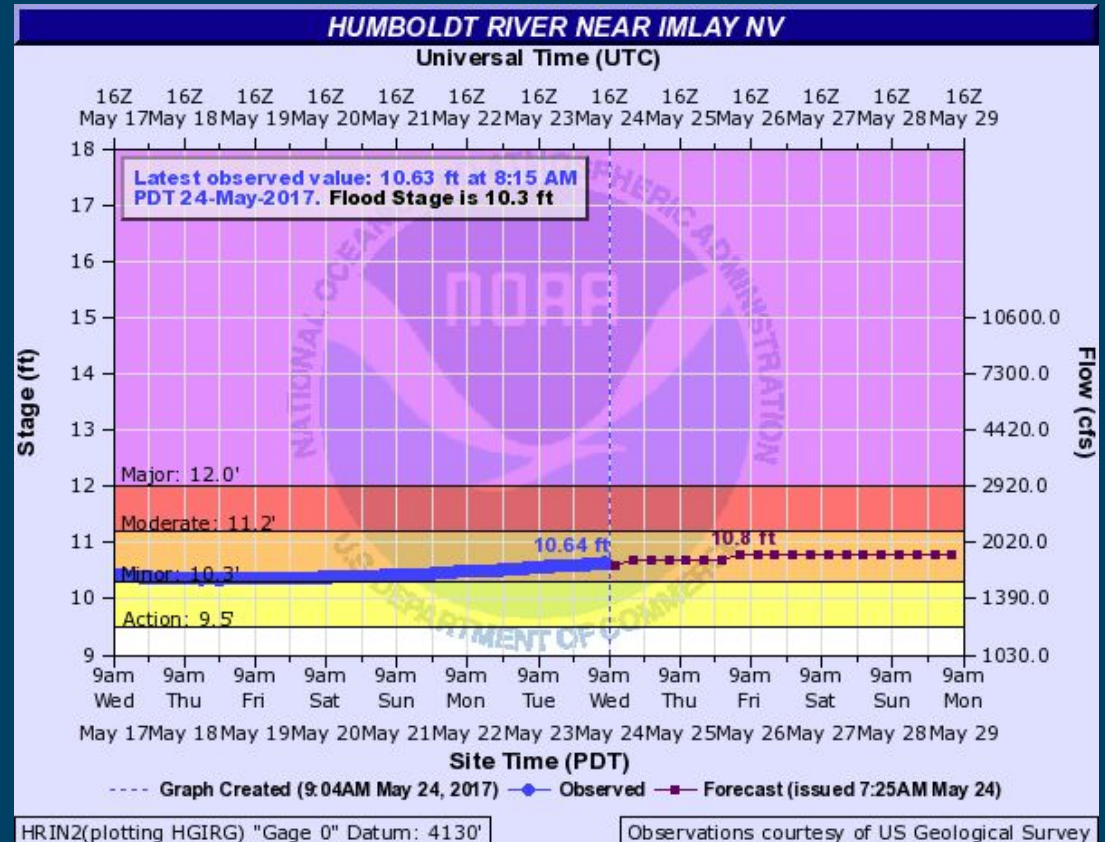
NWS does not have specific river simulations in the eastern Sierra, aside from Walker River basin. So we use projected rises on the Walker River and internal (highly) experimental National Water Model guidance.



5 Day Forecast Humboldt River @ Imlay/Rye Patch

5-day official forecasts - [CNRFC](#) or [NWS Reno](#)

- Currently in minor flood stages with localized impacts to rural roads upstream of Rye Patch.
- Upstream, Comus has crested, but will likely rise again.
- Slight rise for next few days, with continued high flows. Impacts remain localized to rural roads in Pershing County.
- More water into Humboldt Sink.



Bonus Materials

including 10-day simulations

Situational Awareness - When Should I Freakout?

Chris & Tim's Rough Sketch on Timing the Highest Risks of Snowmelt Flooding

	Next Two Weeks	Rest of June	July	August
Walker, East & West Forks	minor to moderate flooding as snowmelt accelerates	mainly minor-moderate flood issues	mainly minor-moderate flood issues	high water but likely on downward trend
Walker, Mainstem	mainly minor-moderate flooding but concern for sudden increases during heatwaves - remain alert	basin and timeframe of highest risk - good confidence of seeing major flooding at some point in June	likely on a downward trend but uncertain how quickly, still prone to big heatwave melt-offs of high snowpack	high water but likely on downward trend
Carson, East & West Forks	peak risk of seeing minor to moderate flooding as snowmelt accelerates	mainly minor flood issues but risk of more significant flooding lessening	mainly minor flood issues, flows likely on downward trend	
Carson, Mainstem	minimal issues unless we have a big heatwave	potential for minor-moderate flooding with prolonged heatwave overwhelming inflows/capacity to/of Lahontan	mainly minor flood issues, flows likely on downward trend	
Truckee, Entire Reach	heavily regulated system; minor flood issues above Truckee, CA	strong, cold flows persist into mid-summer; more widespread flooding requires heavy rain or prolonged big heatwave trigger		
E Sierra, Tahoe Creeks	minor-moderate flooding during warm periods; highest risk for Tahoe	minor-moderate flooding during warm periods; highest risk for E Sierra	mainly minor flood issues, flows likely on downward trend	
NE California Creeks, Rivers	low risk of significant flooding, most snow has melted; strong, cold flows continue in larger streams, rivers.			
Humboldt, Entire Reach	slow moving flood; impacts most substantial Winnemucca eastward			

What Does This Mean?
Integrates impacts and confidence

No worries



Low freakoutness



Moderate freakoutness



High freakoutness



End of this (aka really bad)



Reno National Weather Service

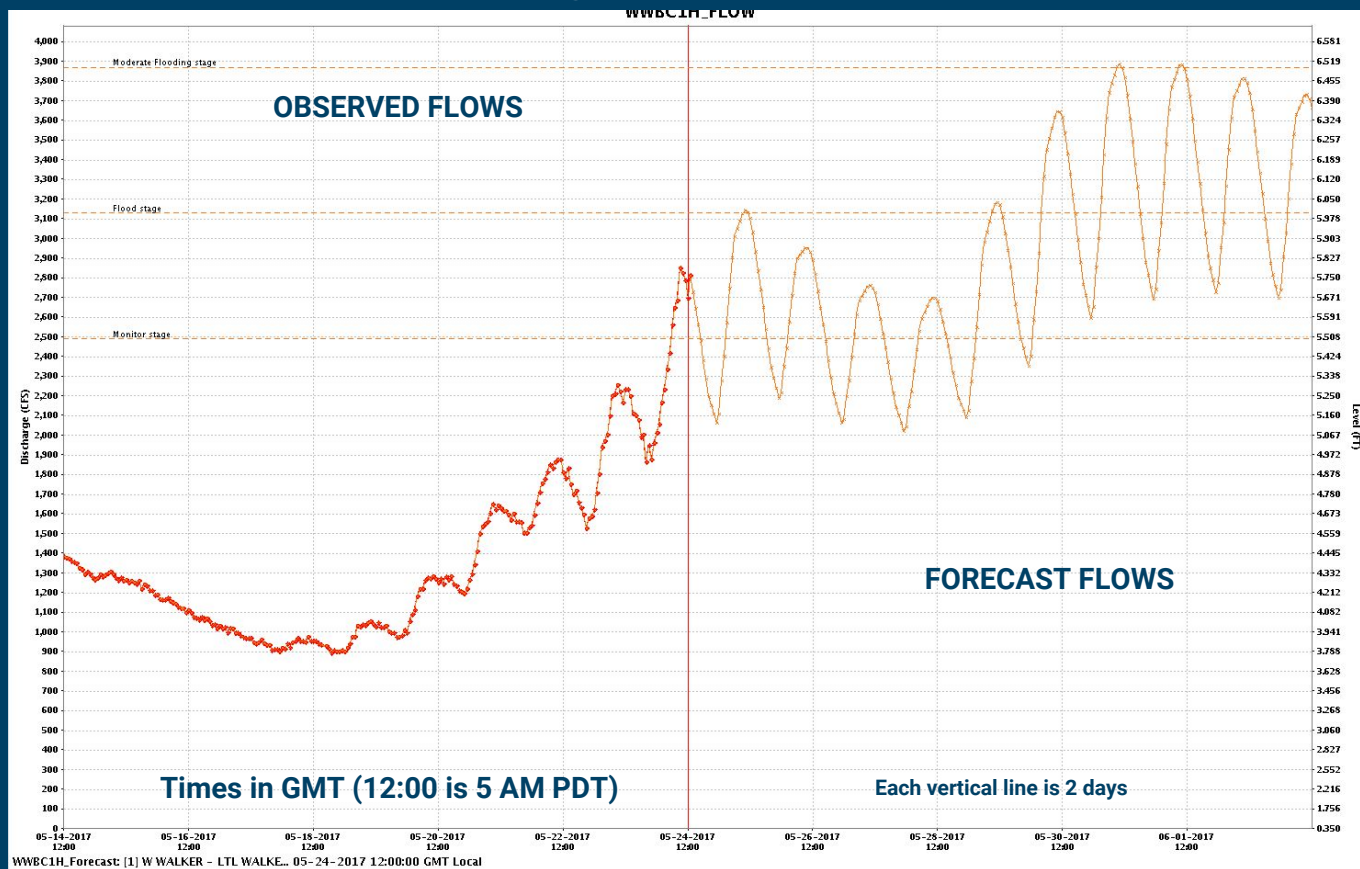
Forecasting for the Sierra and western Nevada since 1905



10 Day Simulation West Walker @ Sonora Jct

5-day official forecasts - [CNRFC](#) or [NWS Reno](#)

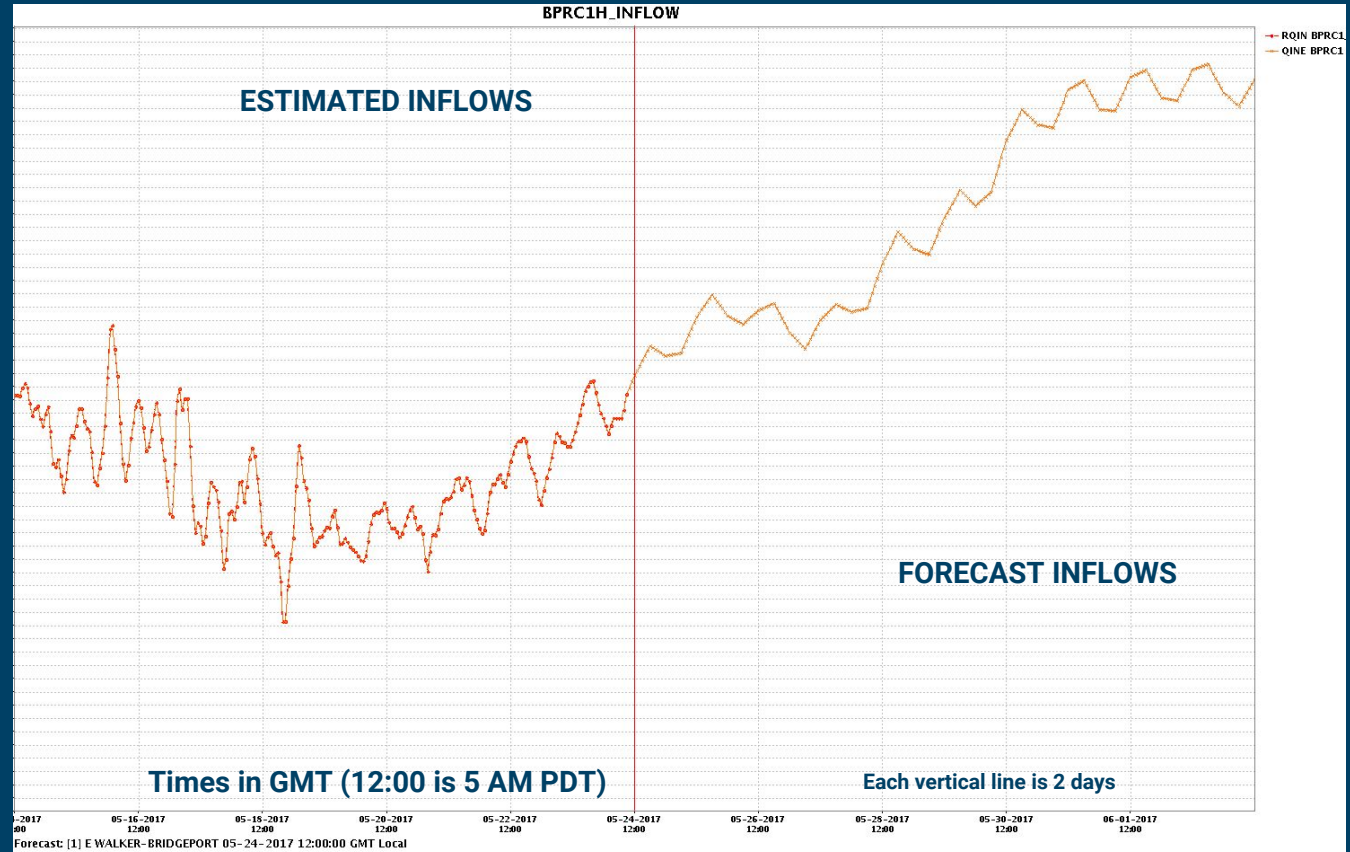
10-day simulations are experimental and provide rough long-range guidance for our public safety partners. For many rivers, this assumes status-quo water management on reservoirs and releases.



10 Day Simulation Bridgeport Inflow

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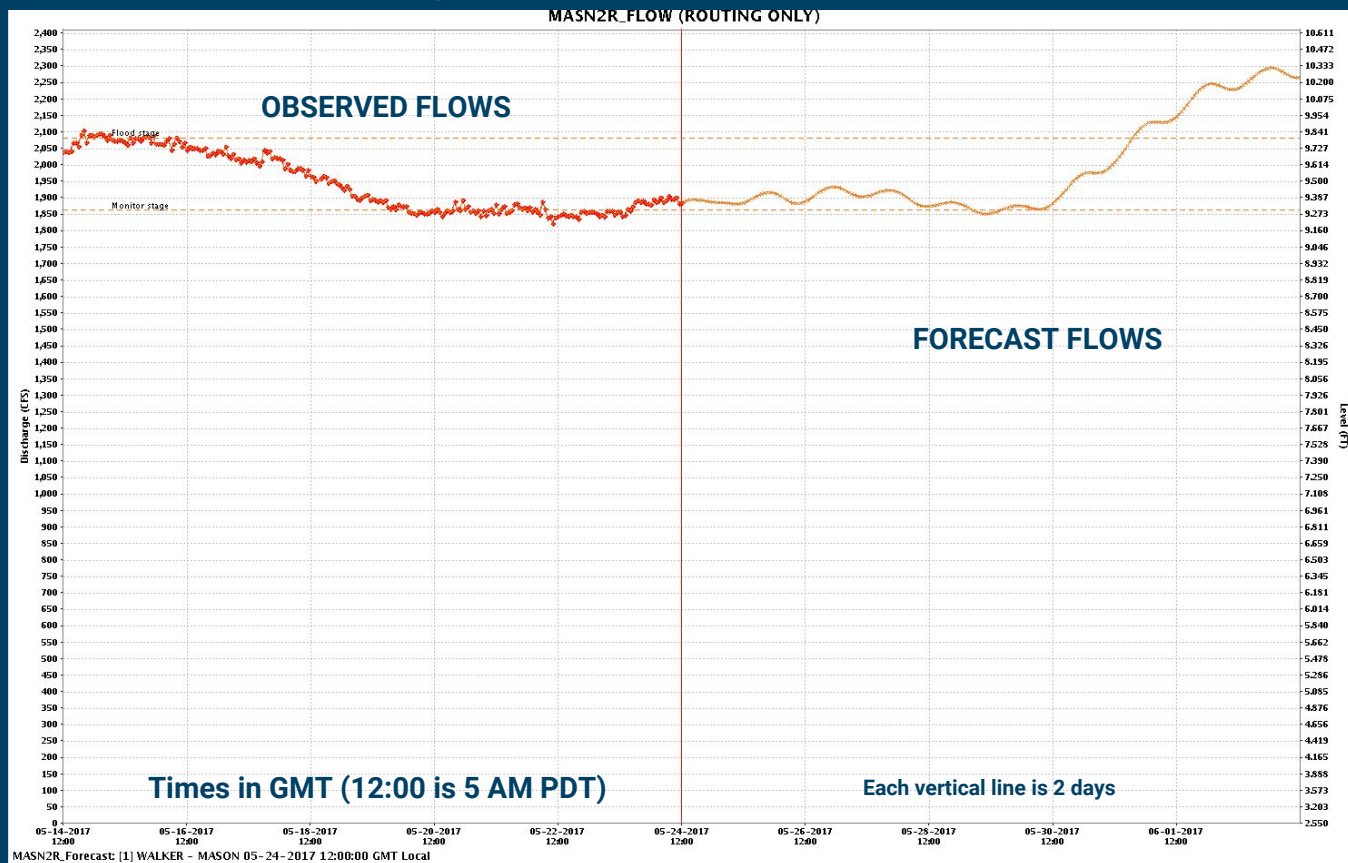
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10 Day Simulation Walker @ Mason

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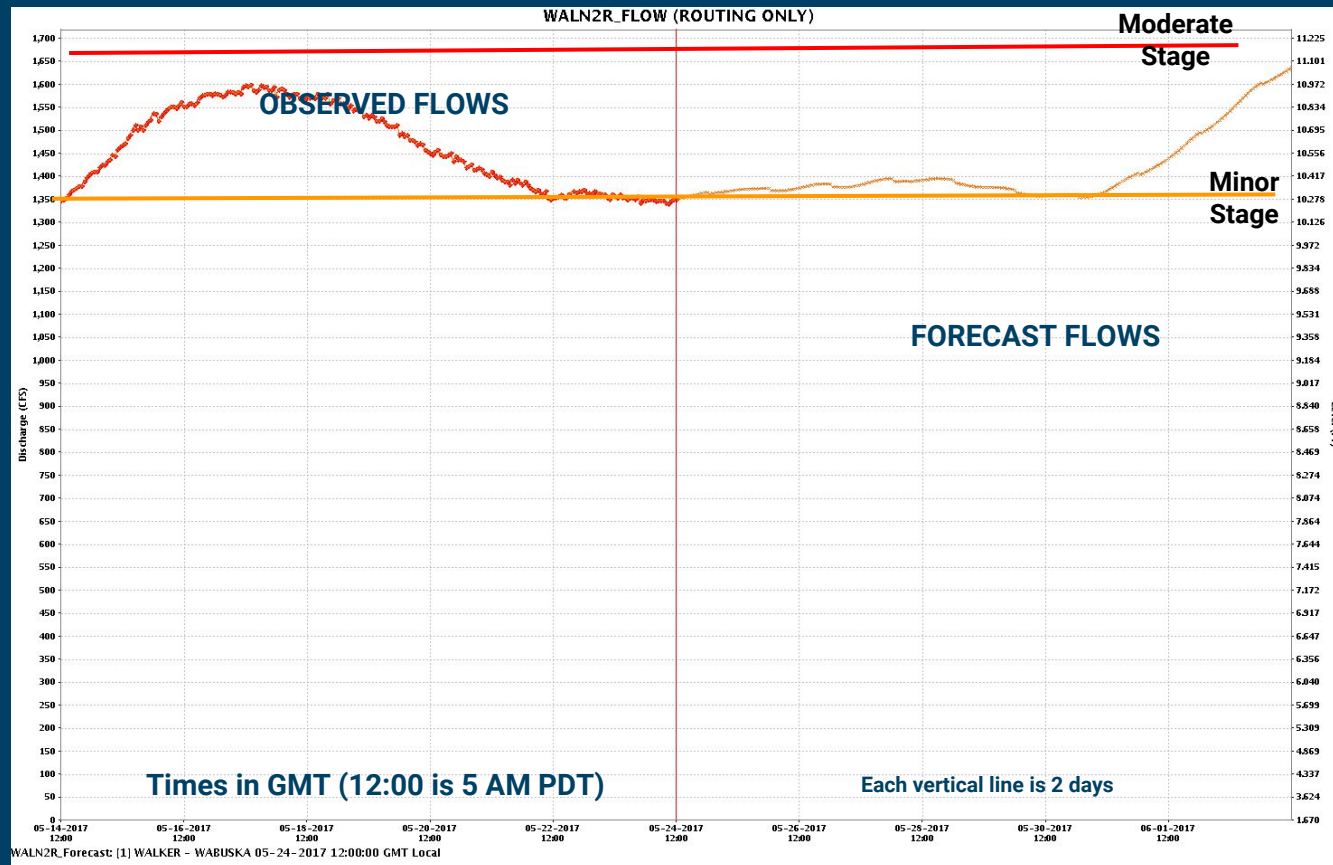
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10 Day Simulation Walker @ Wabuska

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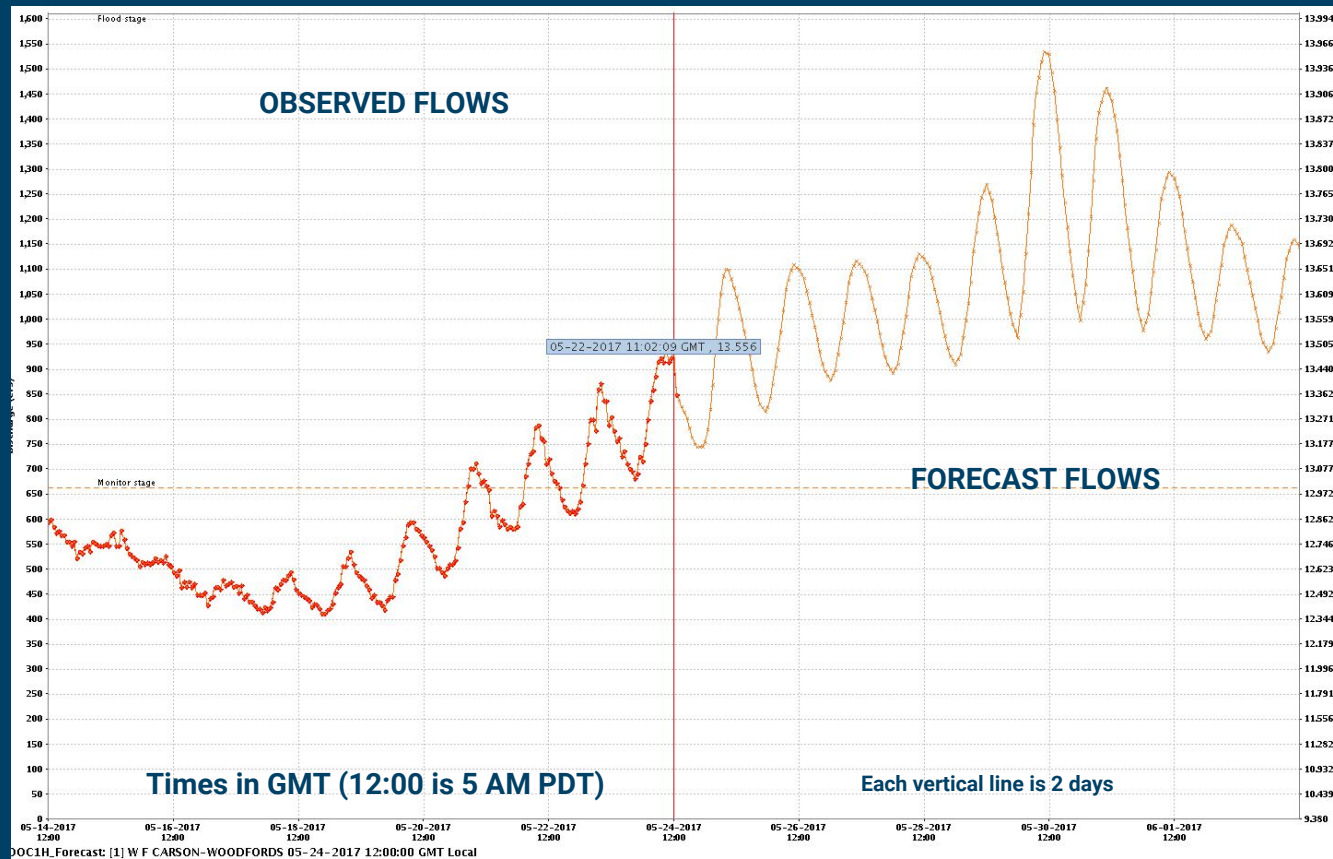
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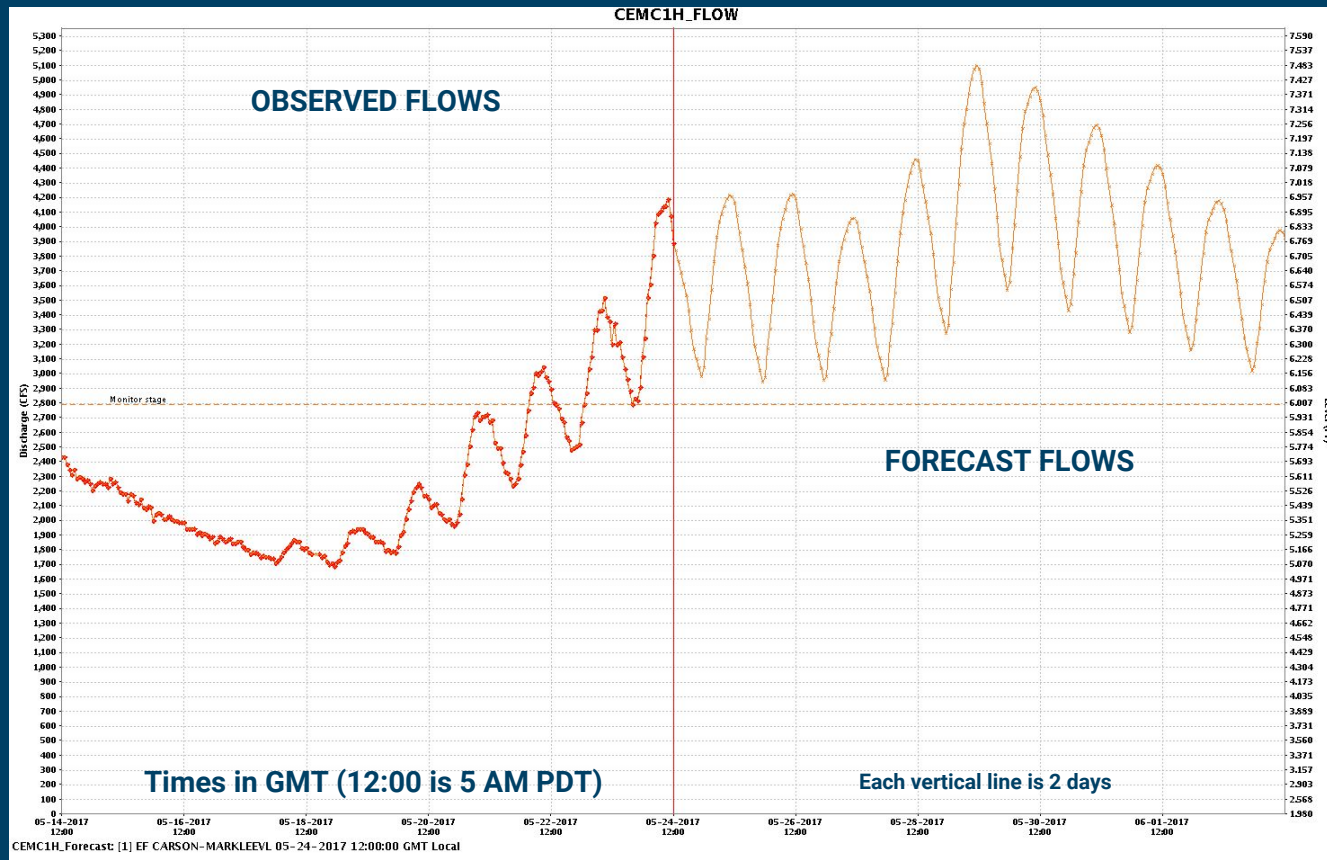
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10 Day Simulation East Carson @ Markleeville

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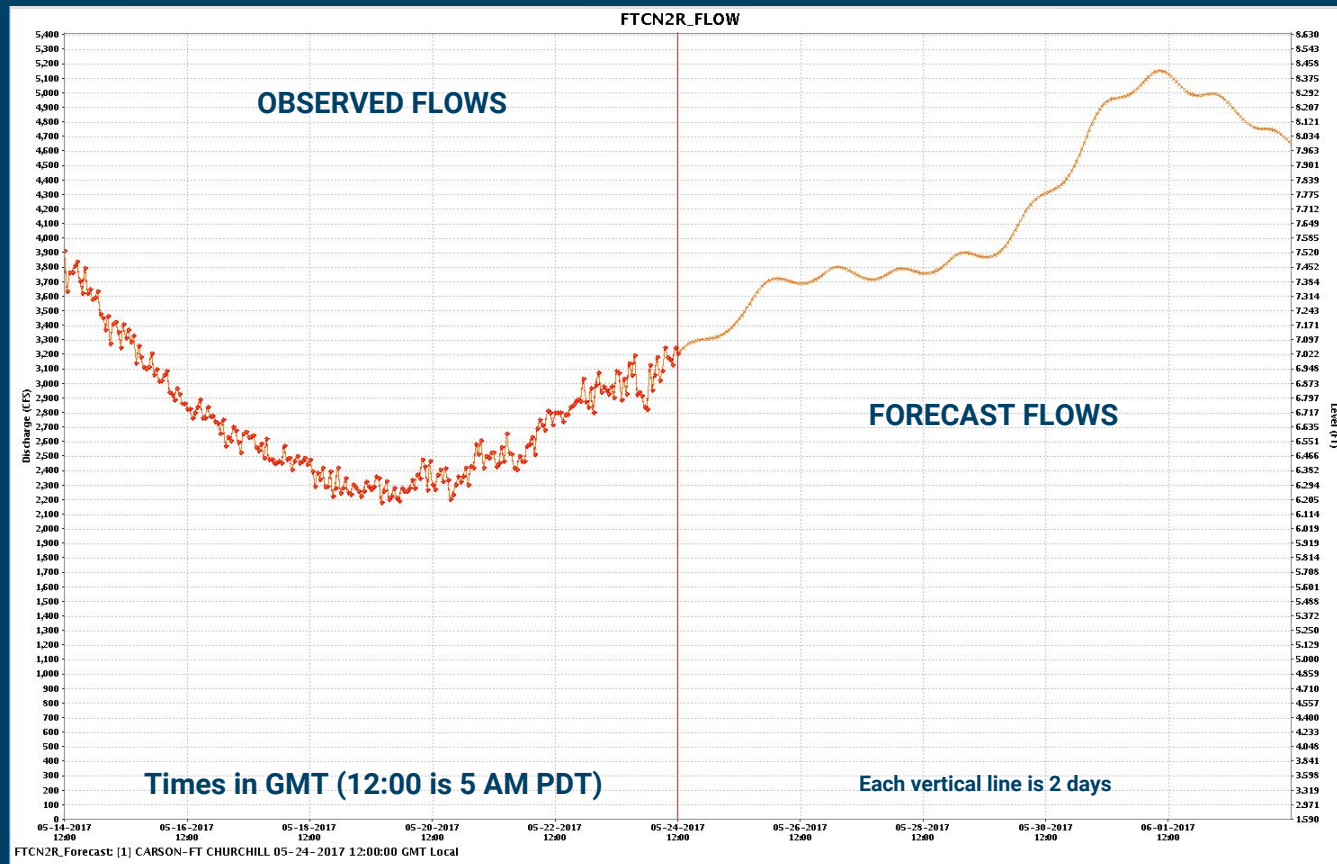
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10 Day Simulation Carson @ Ft Churchill

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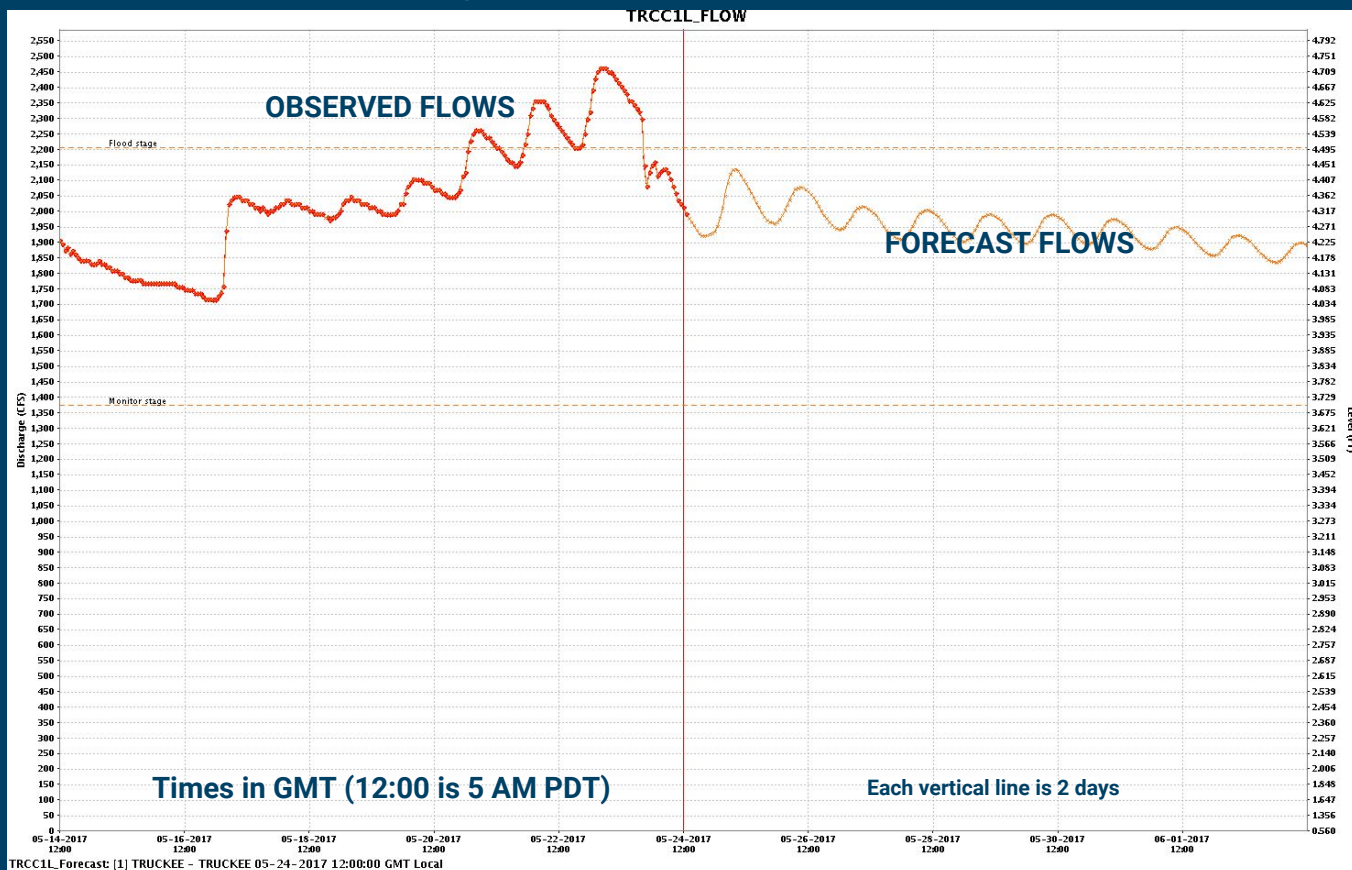
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10 Day Simulation Truckee @ Truckee

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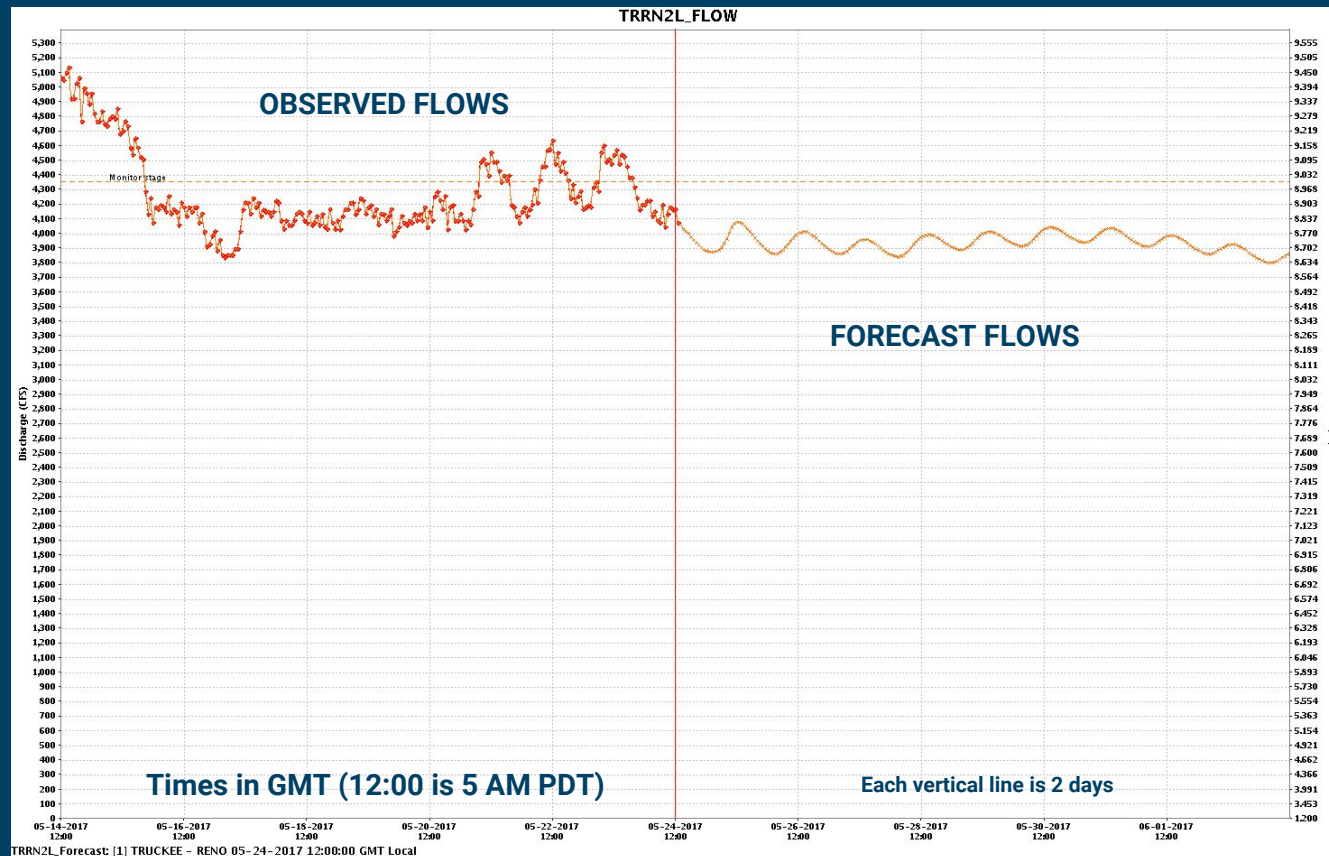
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10 Day Simulation Truckee @ Reno

5-day official forecasts - [CNRFC](#) or [NWS Reno](#)

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10 Day Simulation Humboldt @ Imlay

5-day official forecasts - [CNRFC](#) or [NWS Reno](#)

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