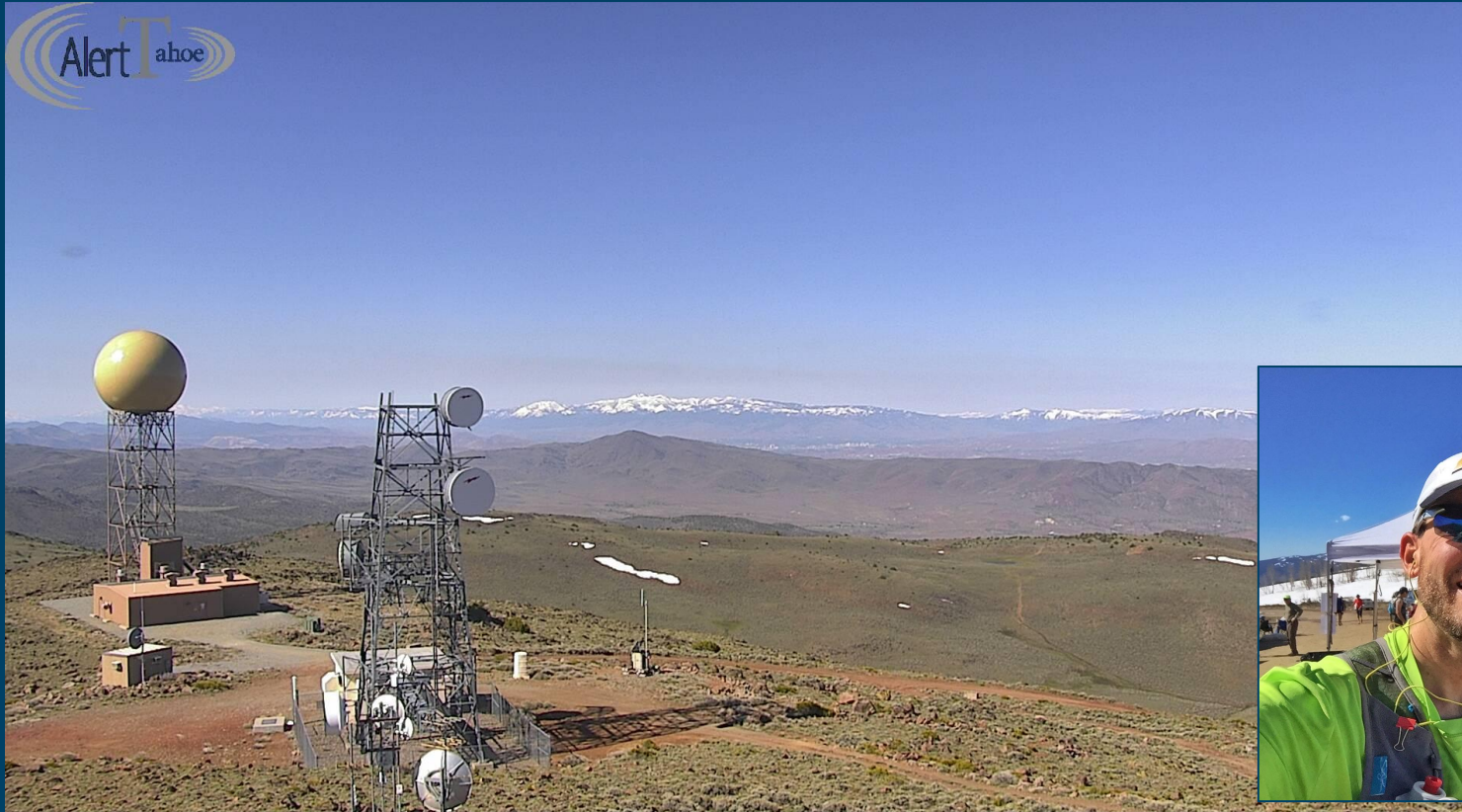


# Not a Cloud in the Sky



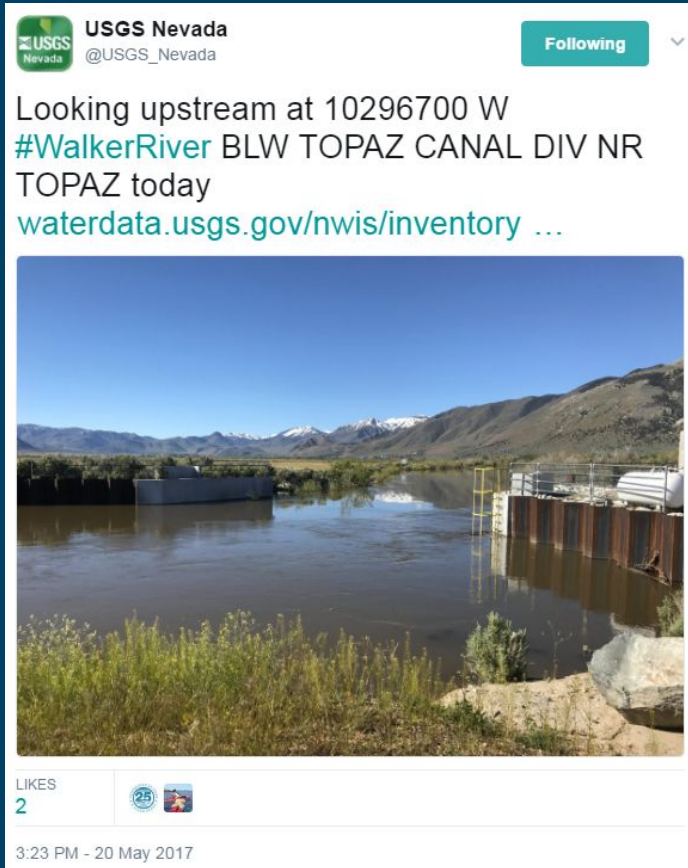
Axis-Virginia X:-135.31 Y:-1.51 Z:1.0 NSL:dslater: © 2017 Nevada Seismo Lab 2017/05/21 09:12:00.39



Still a bit of snow on top of Peavine! 5/20



# Breaking News Temporary Topaz Gauges Installed



**Big thanks to  
USGS team!!**

# Short Attention Span Brief

- **Weather:** Well above normal temperatures through Wednesday, then cooling to near normal late week with breezy periods. Trending back warmer for next week but magnitude low confidence. Buildups or very isolated thunderstorms each day, mainly mountains - less coverage than we thought earlier.
- **Walker River @ Mason/Yerington:** Peak flows delayed 12-24 hours in latest forecasts, but still **well above major flood stage**. Major flood starting Tuesday evening. Impacts leaning toward 1983/86 floods; 1997 level impacts would be seen if there's a channel/levee failure or other unforeseen issue.
- **Rest of the regional river and stream systems:** in the eastern Sierra, W Nevada will see minor to at times moderate flood impacts. Tributaries and smaller streams - flows generally 2-4 times what were observed going into this weekend.

# Situational Awareness - When Should I Freakout?

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

|                                                                                                                                      | Today <sup>5/21</sup>                                                                    | Monday <sup>5/22</sup> | Tuesday <sup>5/23</sup>                                                                                                                             | Wed. <sup>5/24</sup>                                                                                                                                        | Thursday <sup>5/25</sup> | Friday <sup>5/26</sup>             | Saturday <sup>5/27</sup>                                         |
|--------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|------------------------------------|------------------------------------------------------------------|
| Wind                                                                                                                                 | generally light winds under 10 mph                                                       |                        |                                                                                                                                                     | breezy W-SW winds, typical impacts                                                                                                                          |                          | generally light winds under 10 mph |                                                                  |
| Snow                                                                                                                                 | no snow                                                                                  |                        |                                                                                                                                                     |                                                                                                                                                             |                          |                                    |                                                                  |
| River & Snowmelt Flooding                                                                                                            | snowmelt flows gradually increasing as temps warm; mainly minor flooding impacts overall |                        | much warmer temps, rapid increase in flows especially Walker                                                                                        | for most areas - widespread minor to maybe moderate flooding issues as temperatures continue to warm; <b>main-stem Walker likely to see major flooding!</b> |                          |                                    | likely still major on main Walker but less confidence on impacts |
| Flash Flooding <small>(fast paced flooding of streams, poor drainage and steep terrain areas, rock slides, burn scar runoff)</small> | no heavy rainfall signals, thankfully                                                    |                        |                                                                                                                                                     |                                                                                                                                                             |                          |                                    |                                                                  |
| Thunderstorms                                                                                                                        | thunderstorm signals have faded; very isolated cells over the mountain areas possible    |                        | a few thunderstorms, mainly mountains but can't rule out valleys; no severe storms but could see localized heavy rain, gusty winds, lightning, hail |                                                                                                                                                             |                          |                                    |                                                                  |
| Unusual Cold or Heat                                                                                                                 | no widespread freezes expected                                                           |                        |                                                                                                                                                     |                                                                                                                                                             |                          |                                    |                                                                  |
| Fire Weather                                                                                                                         |                                                                                          |                        | carryover grasses could dry enough from heat to burn with gusty winds                                                                               |                                                                                                                                                             |                          |                                    |                                                                  |

**What Does This Mean?**  
Integrates impacts and confidence

No worries



Low  
freakoutness



Moderate  
freakoutness



High  
freakoutness



End of this (aka  
really bad)



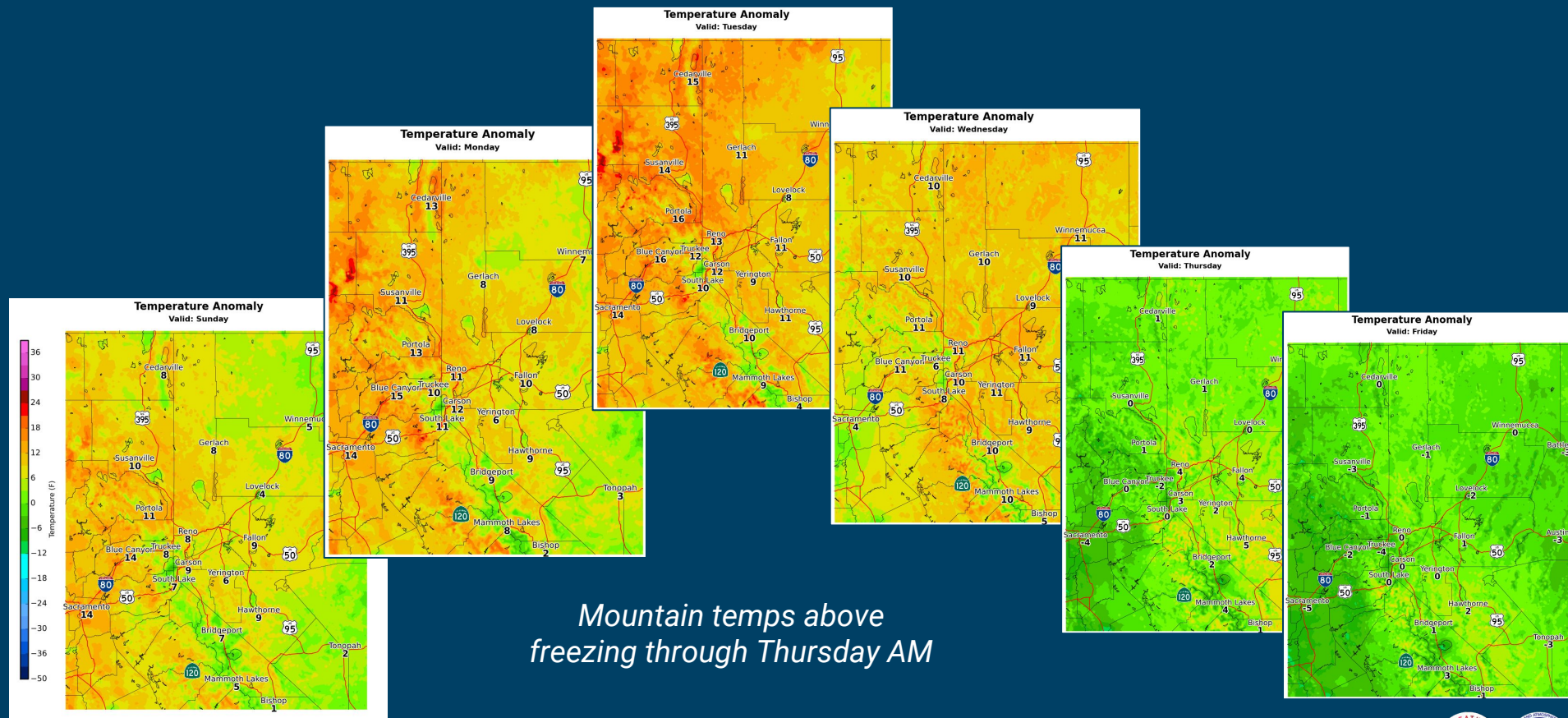
Reno National Weather Service

Forecasting for the Sierra and western Nevada since 1905

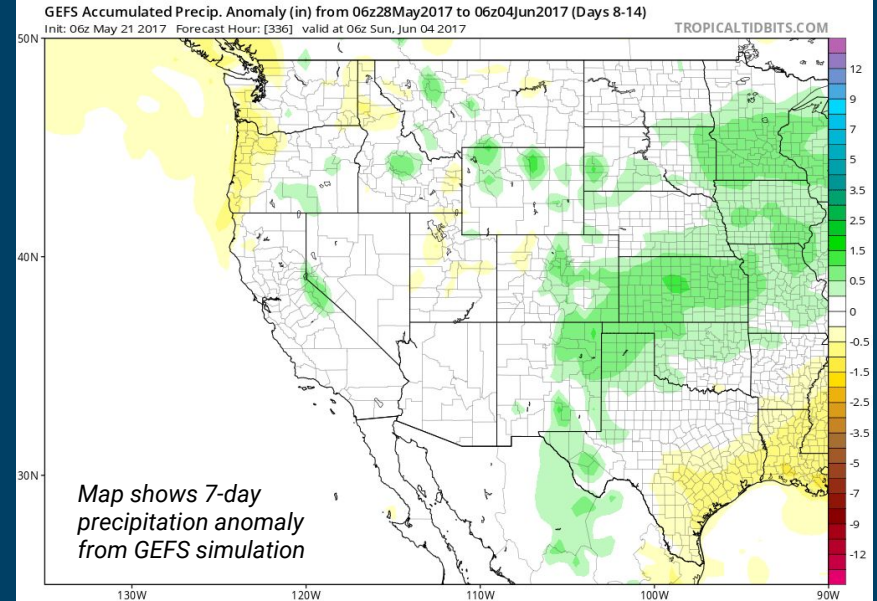
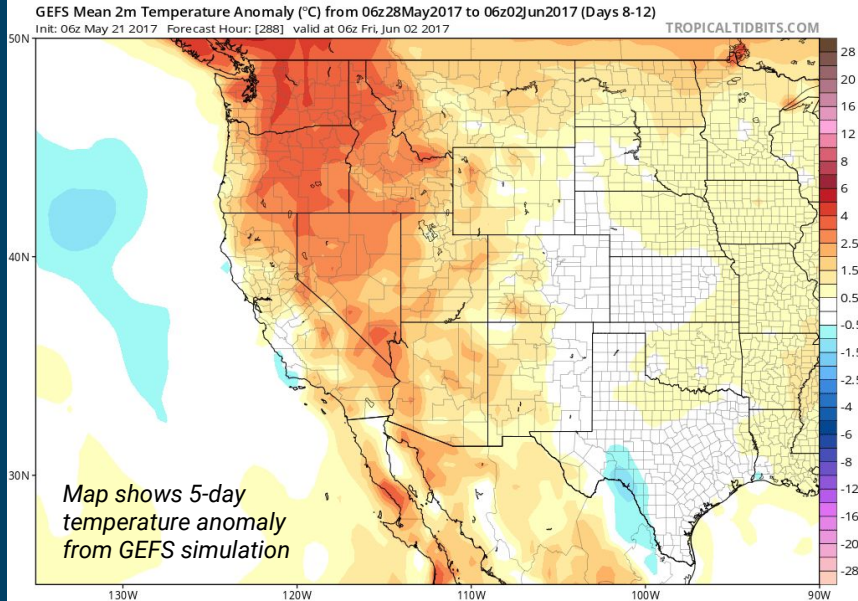


# Temperatures Heading Up

Peak Heat Tuesday, then Gradual Cooling

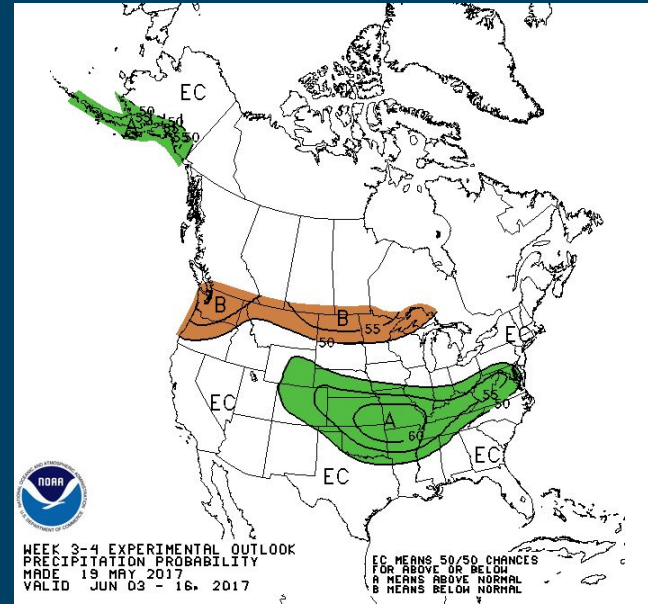
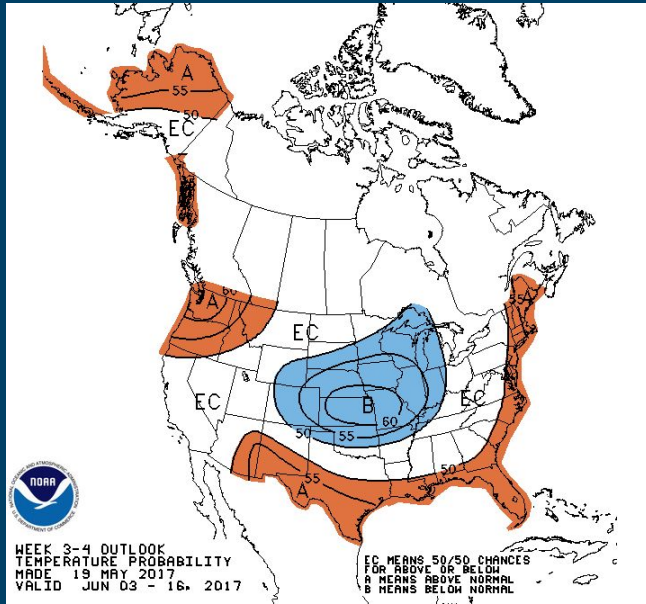


# Next Week May 28 - June 3 Favoring Continued Warm but Intensity Uncertain



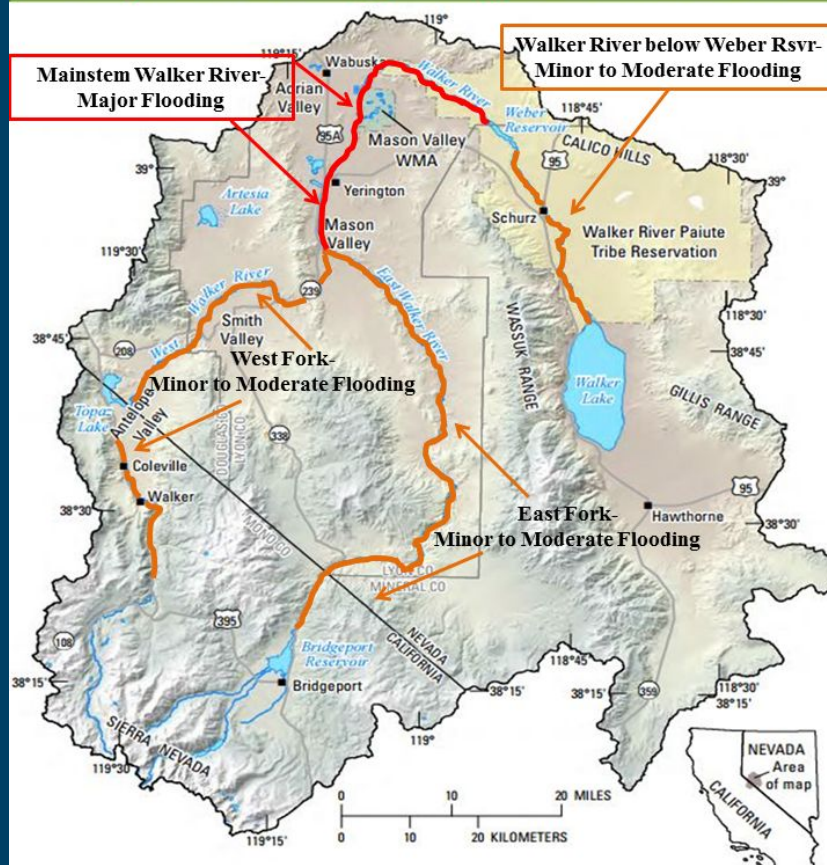
- Simulations into early June are leaning more toward a warmer-than-normal outcome, with daily storms possible mainly over the mountains. **Magnitude of warmth remains low confidence.**
- Plan for continued flooding impacts, high flows. Severity remains lower confidence - related to warmth magnitude and remaining snow covered area.

# Into Mid-June No Strong Signals Either Way



- No favored temperature, precipitation scenario for our region first couple weeks of June. Simulations are all over the place - some warm, some slightly cooler than normal.
- Plan for continued high flows, possible flooding but little confidence in severity during this period.

## Major Flooding along Walker River



**Advice : PREPARE NOW FOR MAJOR FLOODING**

\*Impacts could be similar to flooding in 1983 and 1986\*

# Walker River Forecast Overview

Reno National Weather Service  
Forecasting for the Sierra and western Nevada since 1905

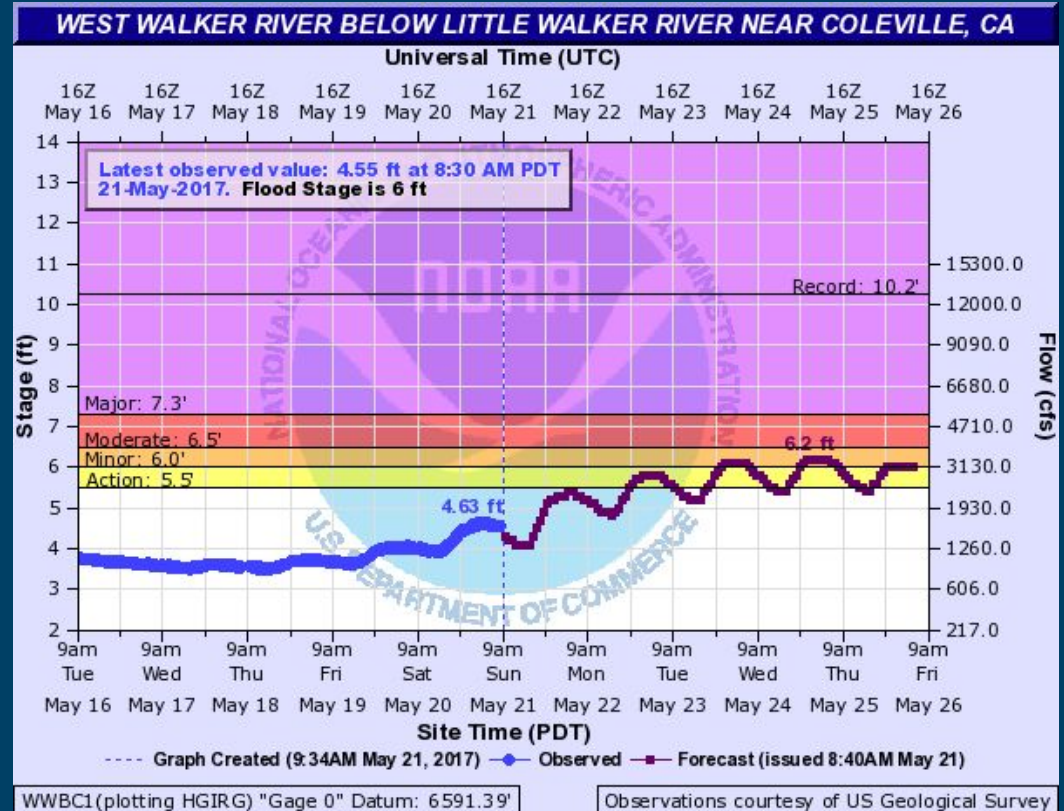


# 5 Day Forecast - West Walker River

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

## Sonora Junction, CA

- Flood stages likely starting Tuesday night next week. Likely touching flood stage at night all week. Watch for campers too close to river.
- Impacts - Minor to isolated moderate 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.



Reno National Weather Service

Forecasting for the Sierra and western Nevada since 1905

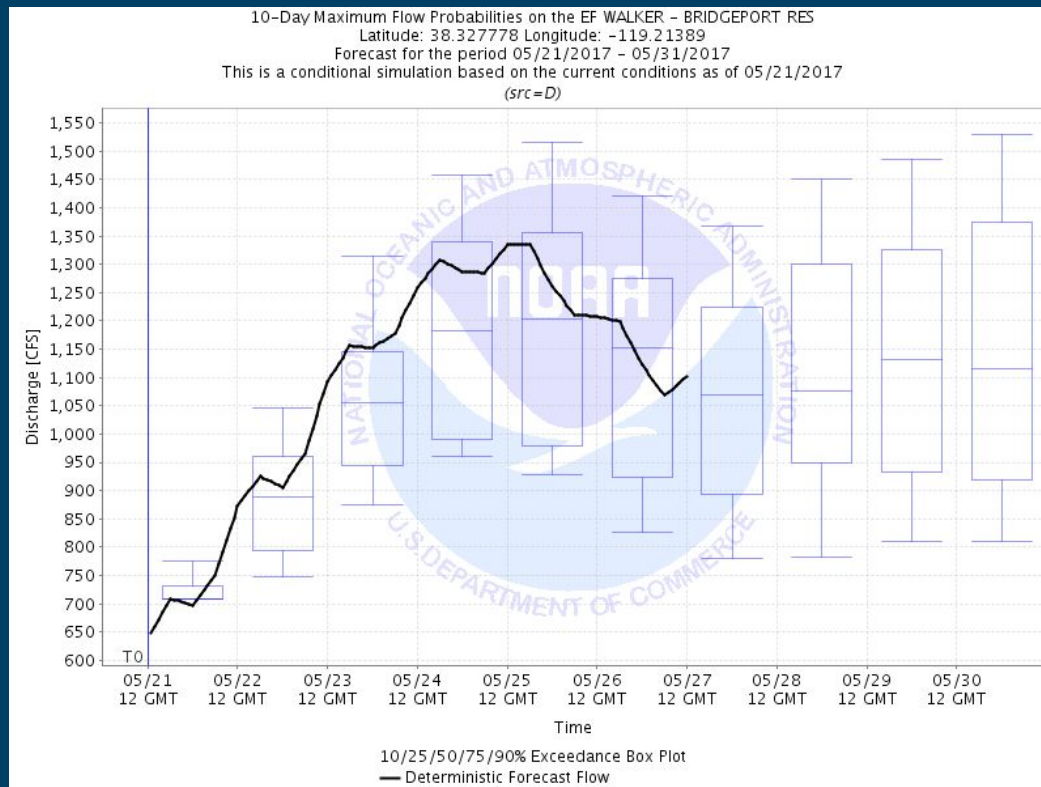


# East Walker River - Probability plot

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

## Bridgeport Inflow

- **IMPORTANT:** These are estimated inflows, no gauging data to calibrate from so increased margin of error.
- Ensemble forecast product to represent uncertainty.
- Substantial increase in snowmelt flows into the reservoir. **Potentially 2 to 3 times current inflows next week.**
- Inflow expected to exceed current/planned releases Tuesday.



# 5 Day Forecast - Walker River

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

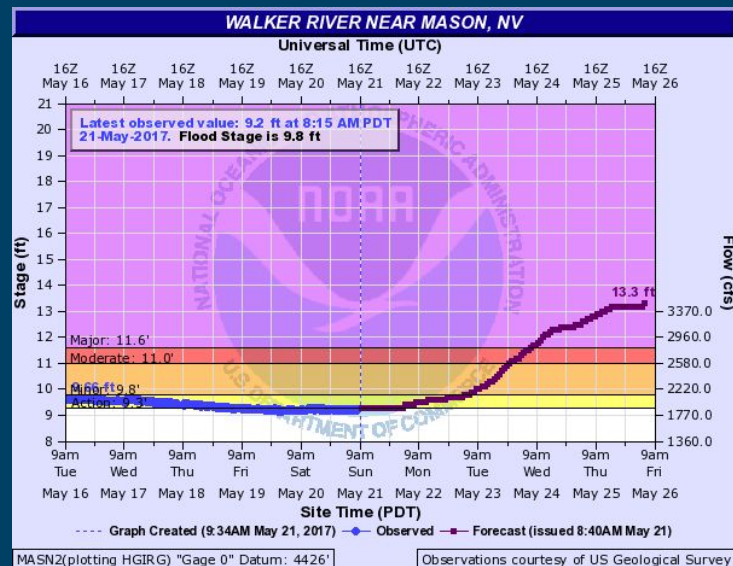
## Yerington/Mason, NV

- **Major flooding** starting Tuesday night.
- Continuing through the week, even with cooling temperatures.
- Keeping it real: **We don't know how bad this will get.** Never measured these levels before (next slide).
- **IMPORTANT:** Simulation assumes current water management scenario, which may change depending on later forecasts.



# Walker River at Mason- Flood Stages and Impacts

- USGS Mason gage has only 17 years of non-continuous records. Missing big flood years including '86, '95, and '97.
- '97 Estimated flow (3900 cfs) is likely very poor or even useless due to channel breach.
- Flows and Impacts more likely to be similar to '83 or '86. **(unpredictable chanel breach would cause much greater impacts, '97-like)**
- **Ongoing mitigation efforts**
- We will be updating text in statements to remove/adjust '97 reference due to poor record)



13. ~~Record~~ flood disaster in the Mason Valley-Yerington area. Numerous homes...businesses...structures... roads...bridges and over 4000 acres of farmland and pasture are flooded with major damage. At about 4150 cfs...~~worse than record flood of January 4 1997...which flooded over 3000 acres in the Yerington area...with over 500 businesses and homes affected.~~ USGS estimates that this much flow has about a one in 35 chance of being exceeded any year.

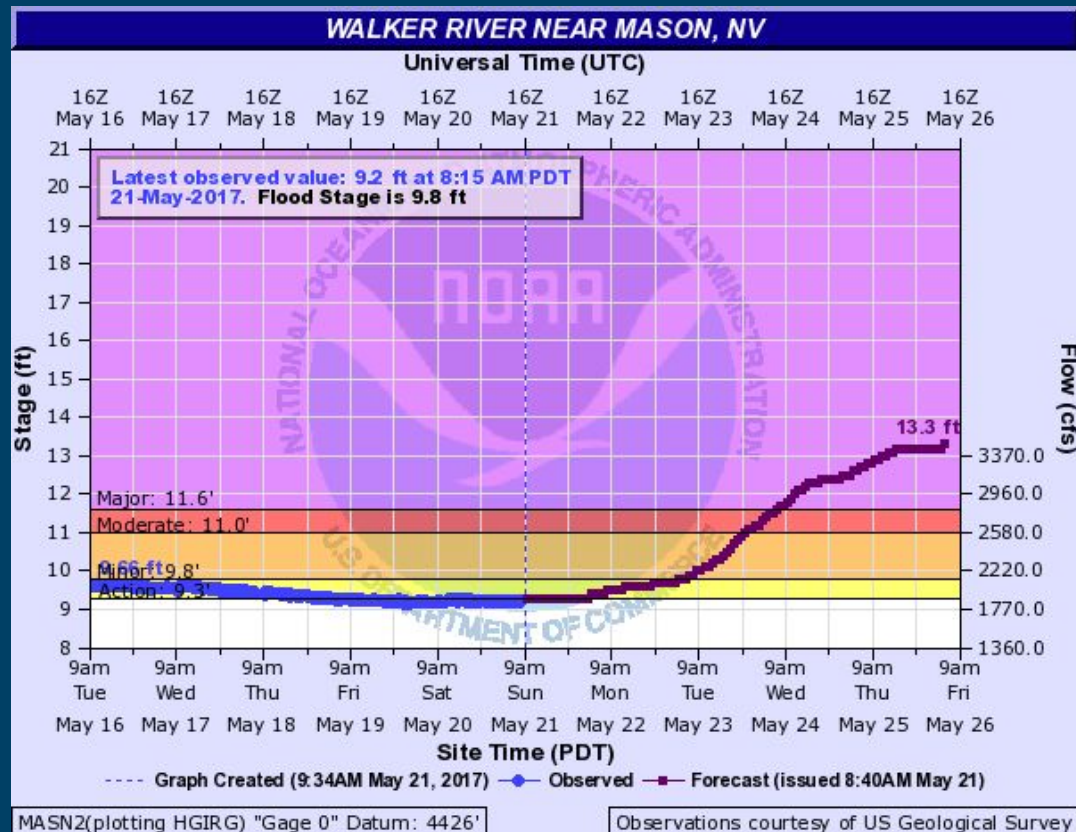
12.5 ~~Near record~~ Major flooding in the Mason Valley-Yerington area. Homes...businesses...farmland...pasture...roads...bridges...and structures in the floodplain...

# 5 Day Forecast - Walker River

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

## Yerington/Mason, NV

- Odds favor **long-duration flood** as temps Memorial Day into early June are leaning warm.
- Timing shifted 12-24 hours later than earlier runs
- Estimated short range crest Friday-Saturday with continued flows in excess of Major flood stage.**



Reno National Weather Service

Forecasting for the Sierra and western Nevada since 1905

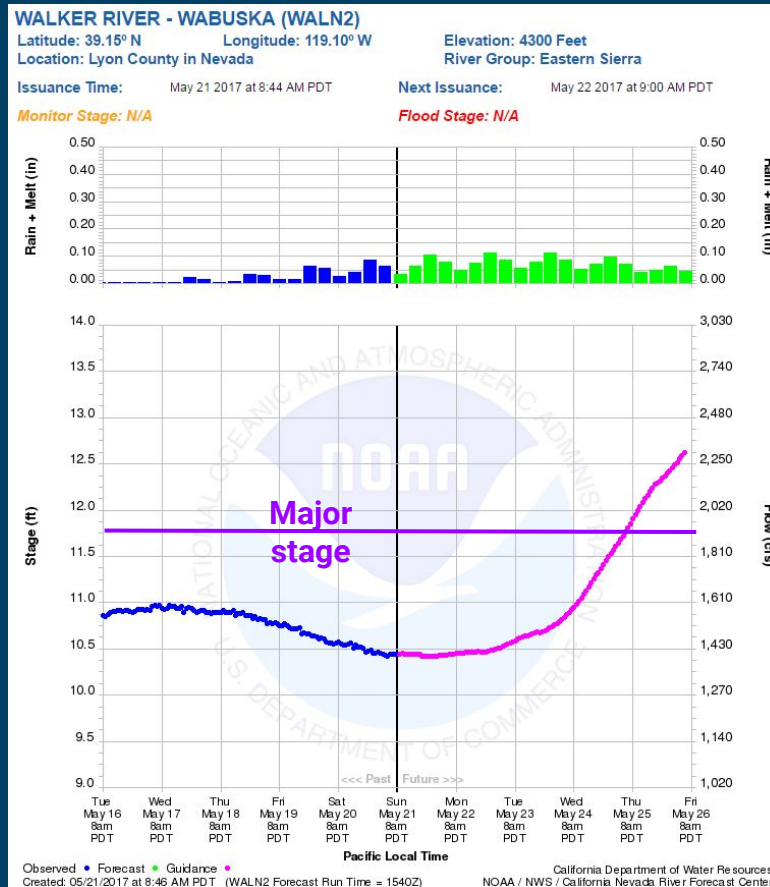


# 5 Day Forecast - Walker River

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

## Wabuska, NV

- Major Flood Wave pushing to Wabuska and beyond to Weber Reservoir and Schurz
- Exceeding estimated major flood stage at Wabuska ~ Wednesday 5/24 afternoon.
- ~ 18 to 24 hour lag to Weber Reservoir.
- Long duration and high volume event will likely result in minor to moderate flood impacts below Weber Reservoir.

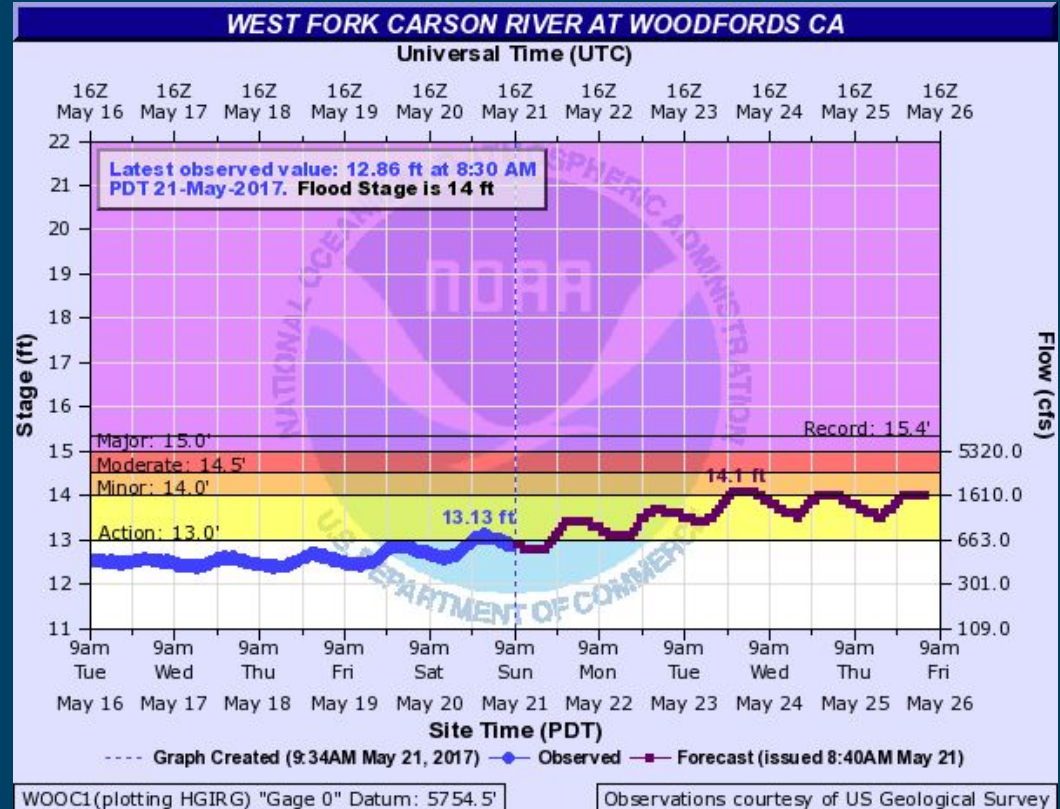


# 5 Day Forecast - West Carson River

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

## Woodfords, CA

- Flood stages likely starting Tuesday night. Likely touching flood stage at night all week.
- Impacts - Broad minor flooding in the southwestern Carson Valley between Centerville and Genoa NV.
- Strong diurnal signal with night-time peaks.
- Odds increasing that this could be peak flows for spring-summer, but prolonged high flows still expected.
- Lots of snow gone below 7500 feet along Carson Pass.

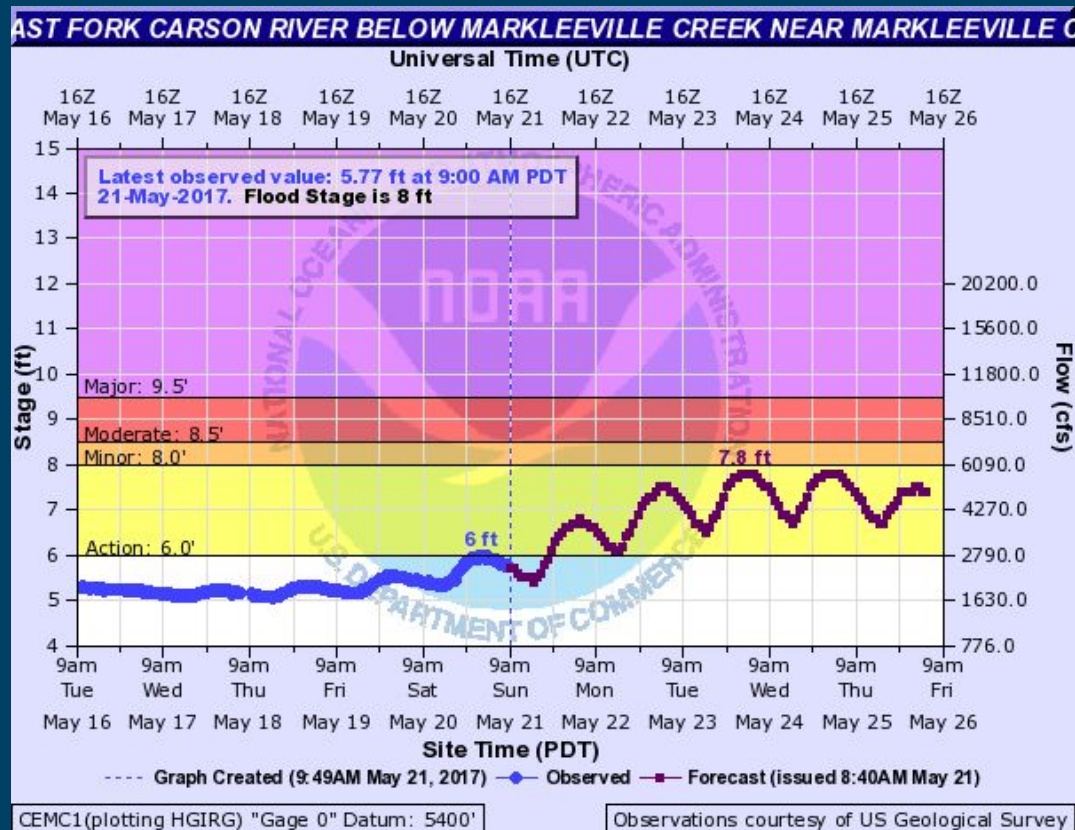


# 5 Day Forecast - East Carson River

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

## Markleeville, CA

- Well into monitor stages all week, possibly approaching flood stages Tuesday, Wednesday nights.
- Impacts - Broad minor flooding in lowest, flood prone portions of Carson Valley.
- Strong diurnal signal with night-time peaks.
- Odds increasing that this could be peak flows for spring-summer, but prolonged high flows still expected.



Reno National Weather Service

Forecasting for the Sierra and western Nevada since 1905

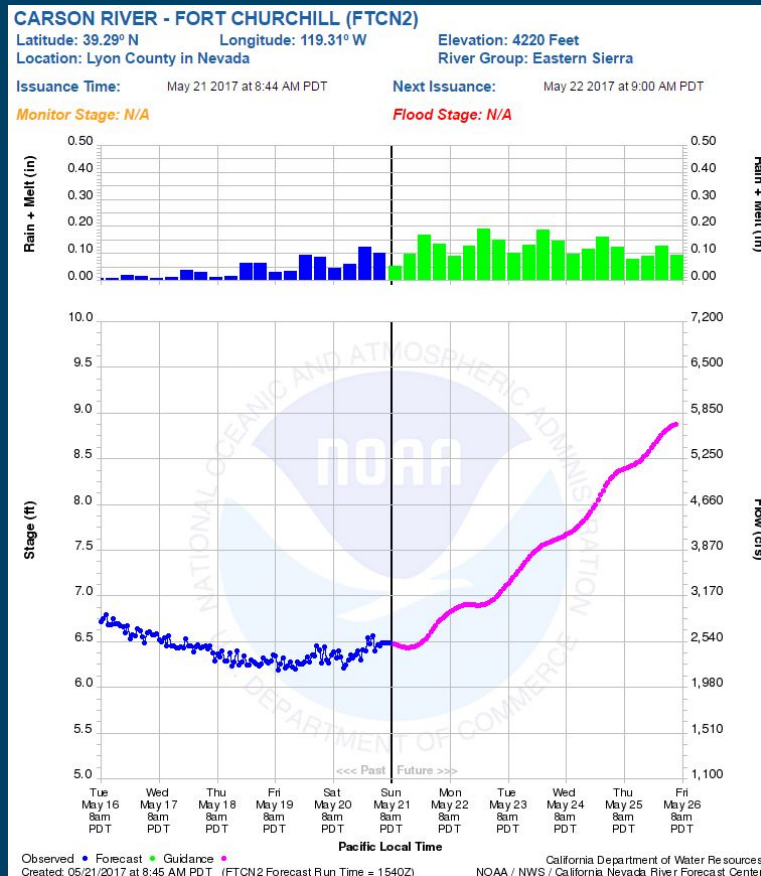


# 5 Day Forecast - Carson River

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

## Ft. Churchill, NV

- Projections for next week have **~2.5 times the current flows into Lahontan. Inflows exceeding releases.**
- Flood stage 10 feet, so remaining below that at Ft Churchill.
- Friday-Sunday estimated short-range peak timing

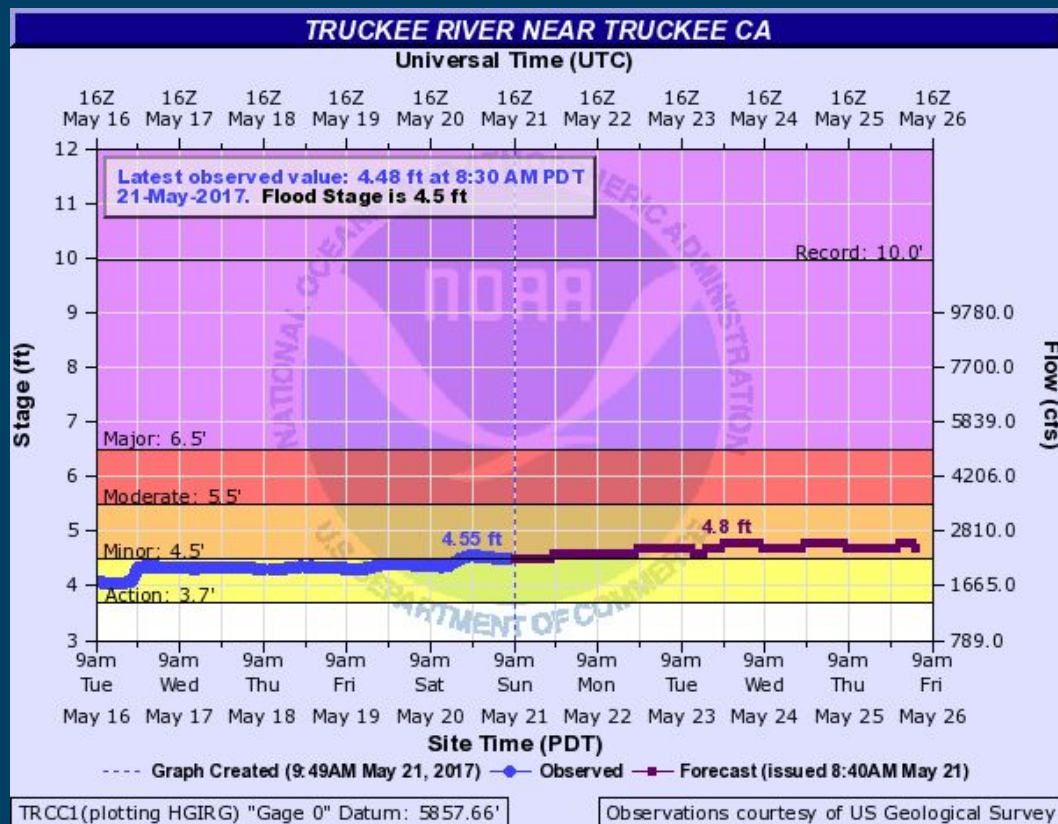


# 5 Day Forecast - Truckee River

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

## Truckee, CA

- **IMPORTANT:** Simulation assumes status quo water management, which may change depending on later weather forecasts.
- Flows increasing, mainly due to increased snowmelt flows from tributaries.
- Minor flooding impacts right along the river, issues we've seen already. Some riverfront basements, yards, campgrounds impacted.
- Odds increasing that this will be peak flows for spring-summer.

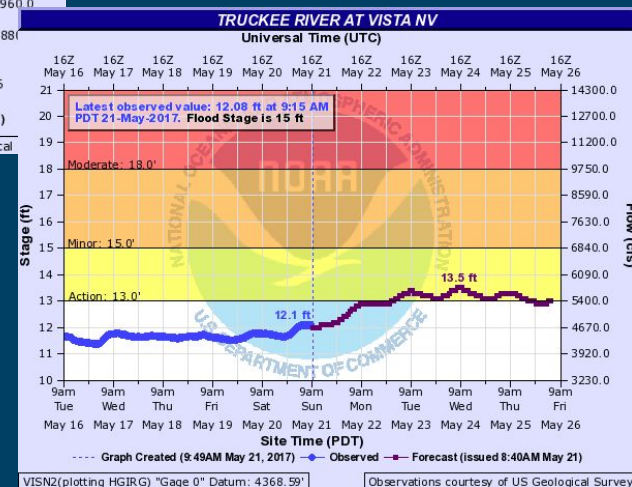
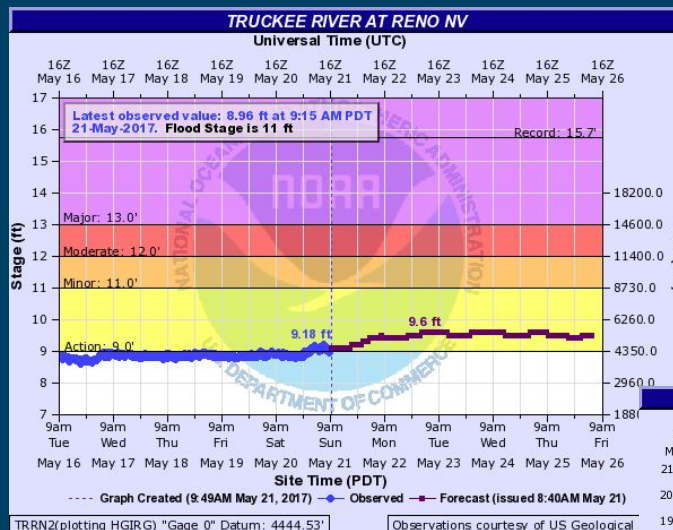


# 5 Day Forecast - Truckee River

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

## Reno/Sparks, NV

- IMPORTANT:** Simulation assumes status quo water management, which may change depending on later river/weather forecasts.
- Flows gradually increase due to snowmelt from tributaries + releases. Monitor stages at both Reno and Vista gauges.
- Minor flooding impacts right along the river, issues we've seen already. **Fast, cold water = increased rescue incidents when it gets warm out.**



# Eastern Sierra Outlook General Guidance

## Eastern Sierra Creeks/Streams

- Best estimate -- flows this week coming out of the unregulated eastern Sierra mountain streams and creeks are likely to be **2-2.5 times current flows**. **Smaller creeks likely 3 times current flows.**
- **Peak flows from this heat episode likely Wednesday or Thursday nights**
- Flood impacts already observed in April/May likely to be more widespread in the coming 7-10 days. **Severity remains uncertain.**

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.



Source - [LADWP Real-time data](#)

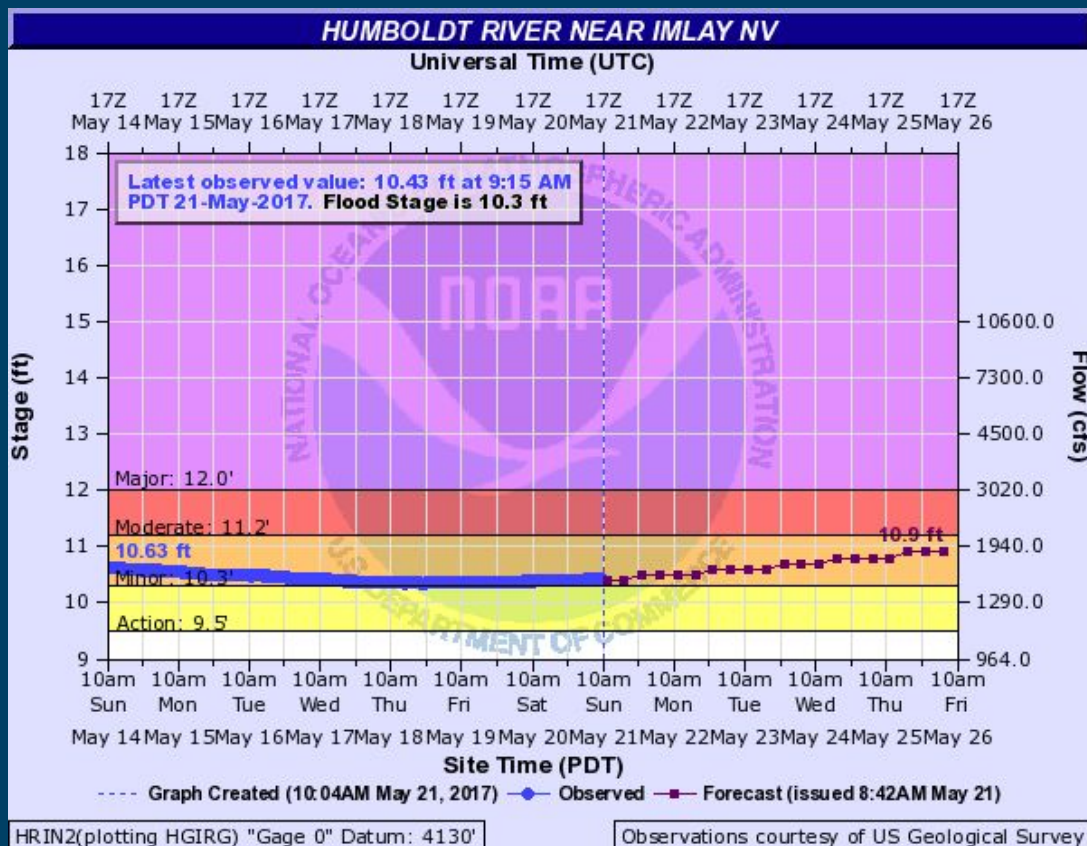


# 5 Day Forecast - Humboldt River

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

## Imlay/Rye Patch, NV

- Currently in minor flood stages with localized impacts to rural roads upstream of Rye Patch.
- Additional snowmelt and large, slow moving wave of increased water working down river.
- Rising to near or above moderate flood late week. Impacts remain localized to rural roads in Pershing County.
- More water into Humboldt Sink.



Reno National Weather Service

Forecasting for the Sierra and western Nevada since 1905



# **Bonus Materials**

including 10-day outlooks

# Situational Awareness - When Should I Freakout?

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

|                                   | Rest of May                                                                                  | June                                                                                    | July                                                 | August                                  |
|-----------------------------------|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|------------------------------------------------------|-----------------------------------------|
| <b>Walker River Basin</b>         | rapidly increasing flood coverage/severity due to late month warming                         | <b>river basin at highest risk</b> - major impacts Lyon County, plus impacts in Mono Co | likely on a downward trend but uncertain how quickly | high water but likely on downward trend |
| <b>Carson River Basin</b>         | increasing flood coverage due to late month warming but not as high a confidence in severity | <b>next biggest concern</b> - esp Carson Valley, downstream of Lahontan                 | high water but likely on downward trend              |                                         |
| <b>Truckee River Basin</b>        | heavily regulated system; main flood issues above Truckee, CA                                | high flows persist; flood risk depends on heavy rain trigger                            |                                                      |                                         |
| <b>Tahoe Basin Creeks/Streams</b> | during upcoming warm periods                                                                 | big time snowpack, lots of streams                                                      |                                                      |                                         |
| <b>NE California Basins</b>       |                                                                                              |                                                                                         |                                                      |                                         |
| <b>E Sierra Creeks/Streams</b>    | during upcoming warm periods                                                                 | big time snowpack, lots of streams but a number of unknowns                             |                                                      |                                         |
| <b>Lower Humboldt River Basin</b> | slow moving flood; impacts most substantial Winnemucca eastward                              |                                                                                         |                                                      |                                         |

**What Does This Mean?**  
Integrates impacts and confidence

No worries



Low  
freakoutness



Moderate  
freakoutness



High  
freakoutness

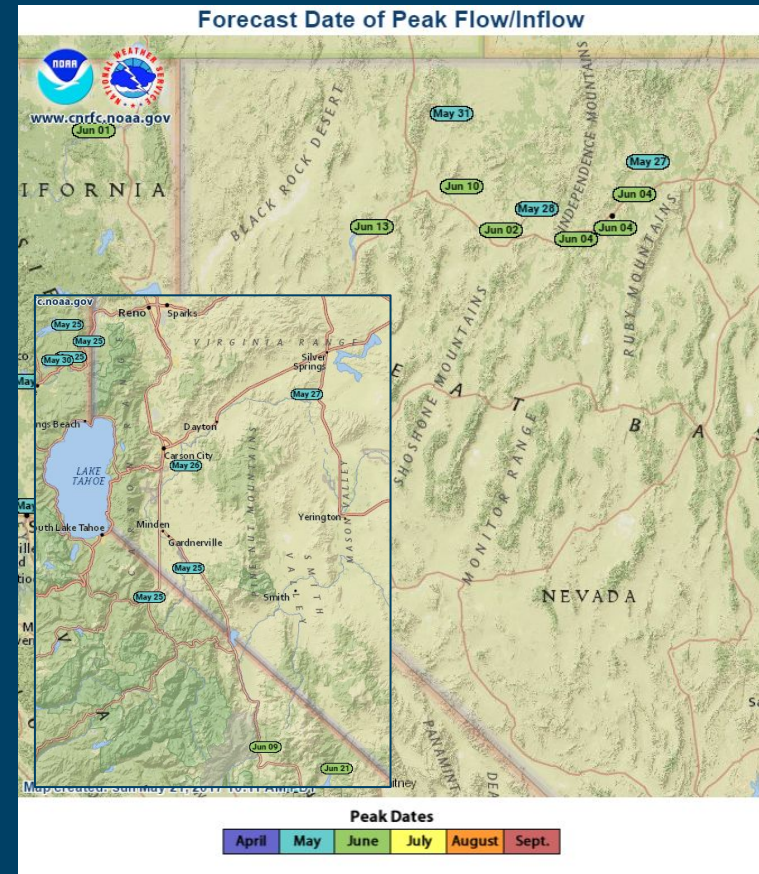


End of this (aka  
really bad)



# Best Estimate of Peak Flow Dates

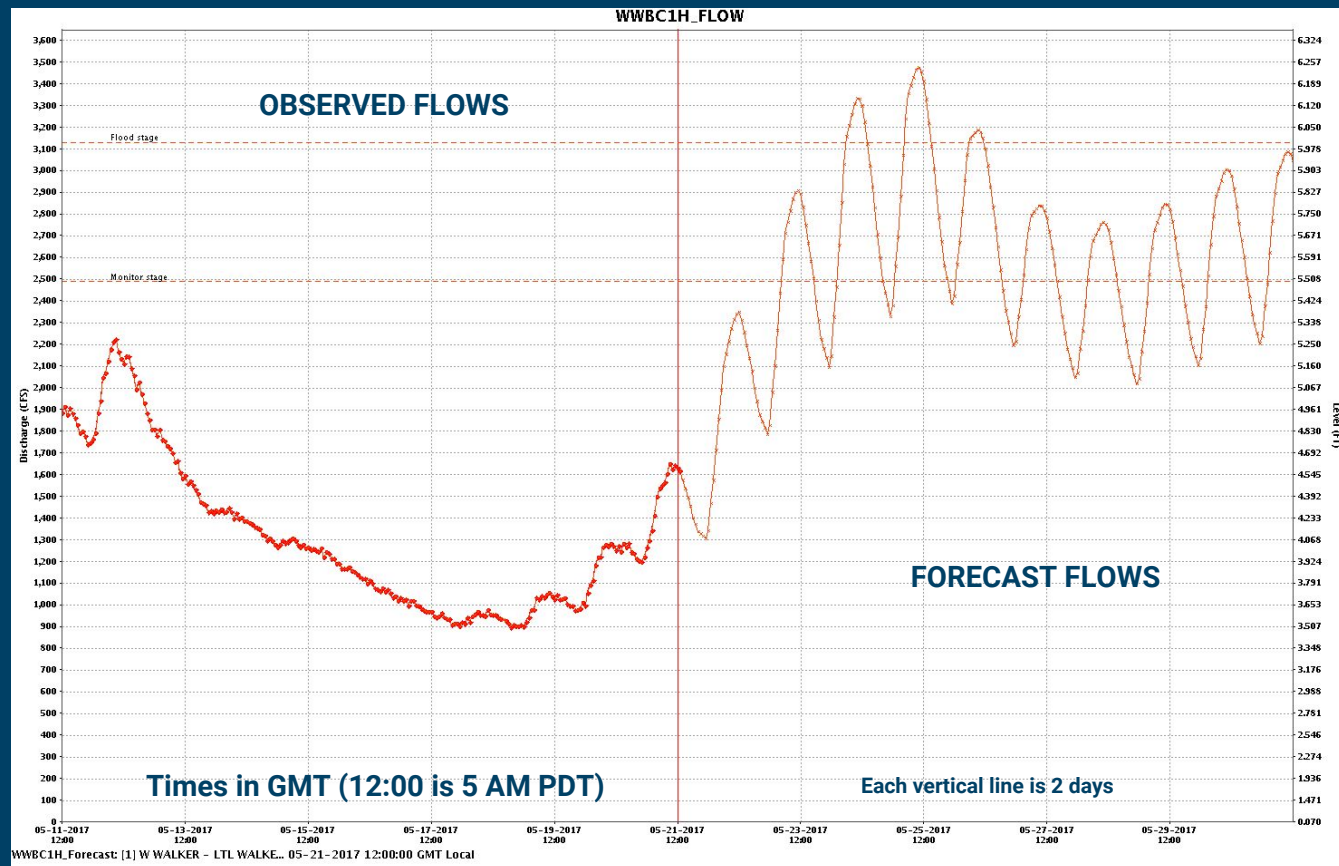
- Most likely peak flow dates in Eastern California and Western NV have shifted a bit earlier with major warm up.
- Range of likely dates are available [here](#).
- Mid-Late May warming looking similar to 1983. Increased probability of earlier vs. later peak for headwater streams.
- Although some rivers could reach peak flows as early as late next week, extended very high flows with additional peaks are likely.
- Peak flows at downstream points will be delayed and prolonged.



# 10 Day Simulation West Walker @ Sonora Jct

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

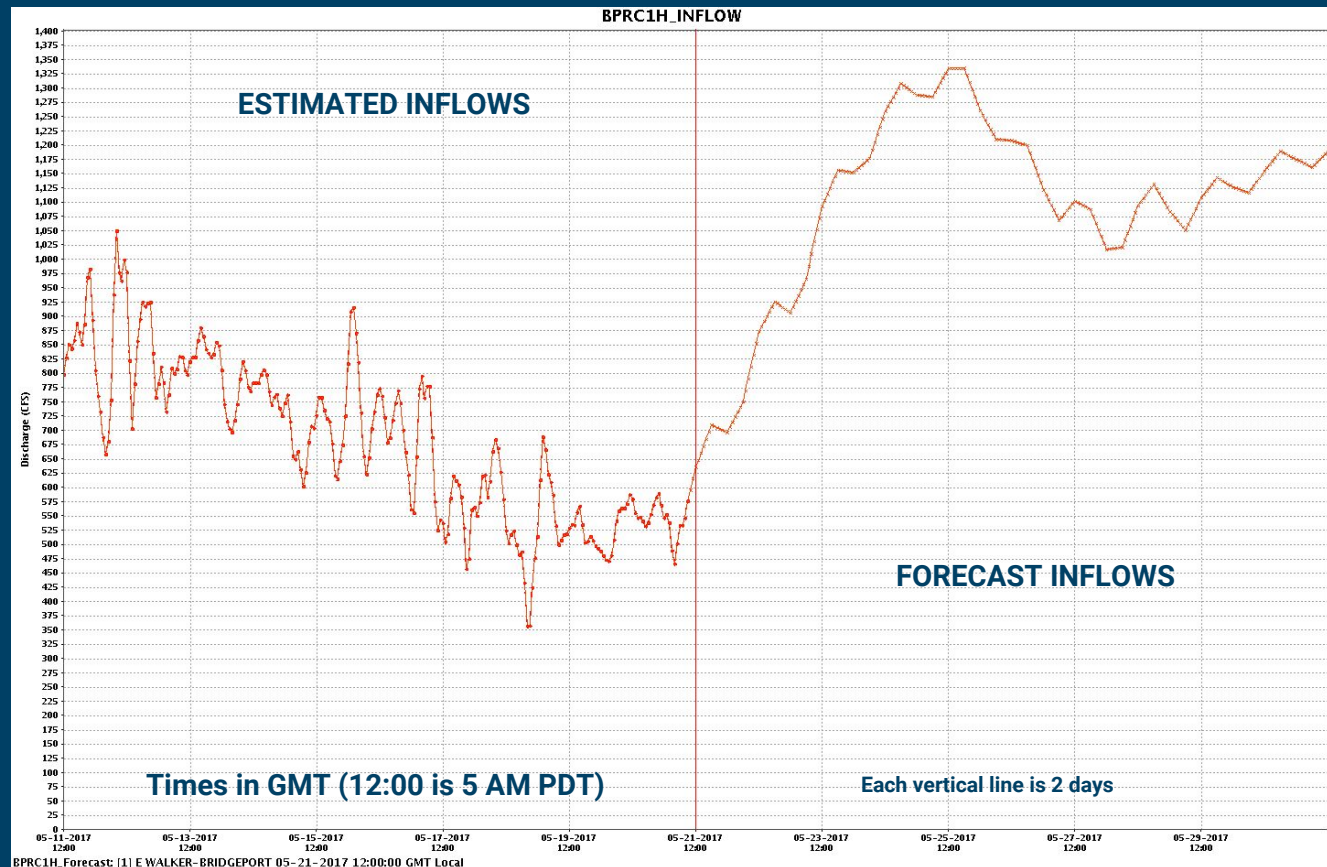
10-day simulations are experimental and provide rough long-range guidance for our public safety partners.



# 10 Day Simulation Bridgeport Inflow

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

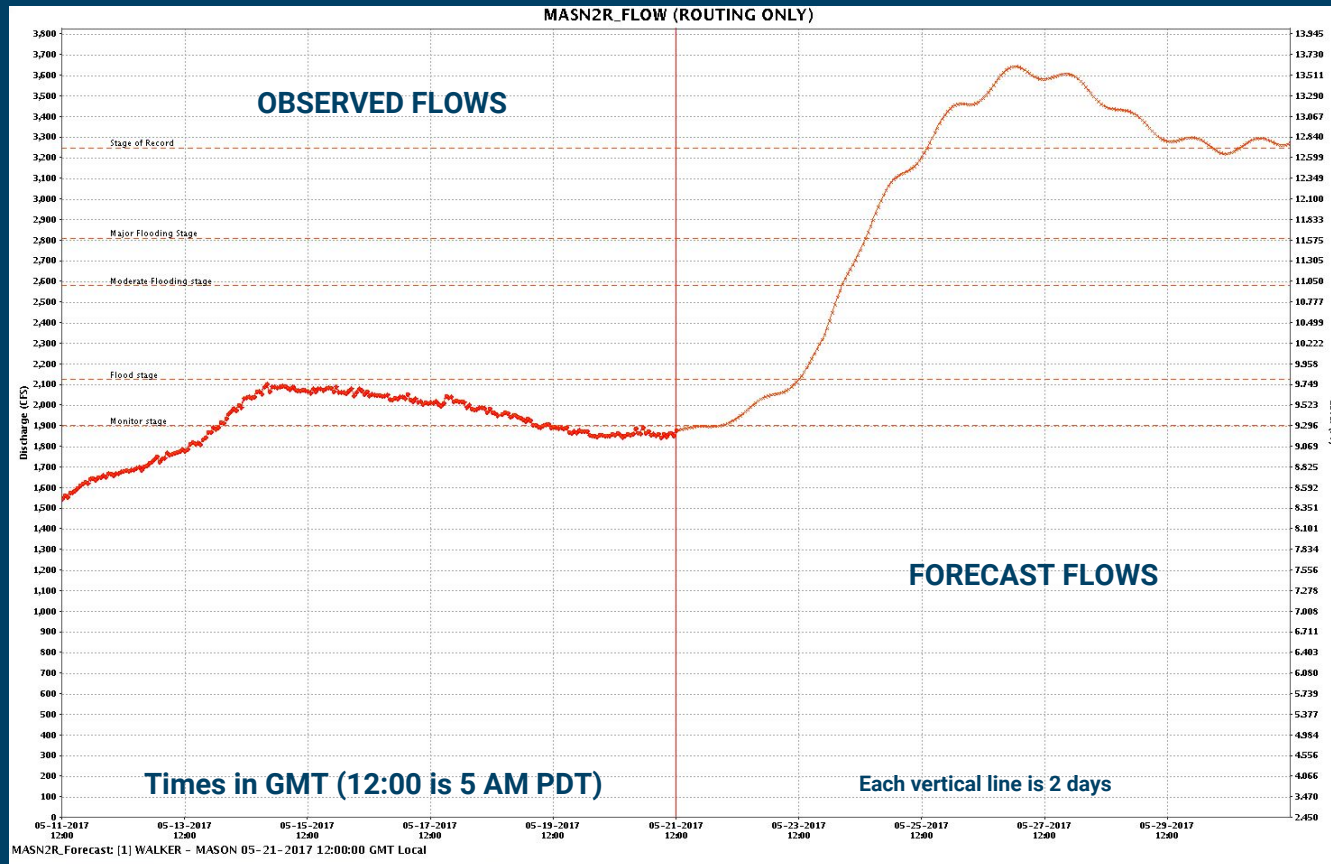
10-day simulations are experimental and provide rough long-range guidance for our public safety partners.



# 10 Day Simulation Walker @ Mason

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

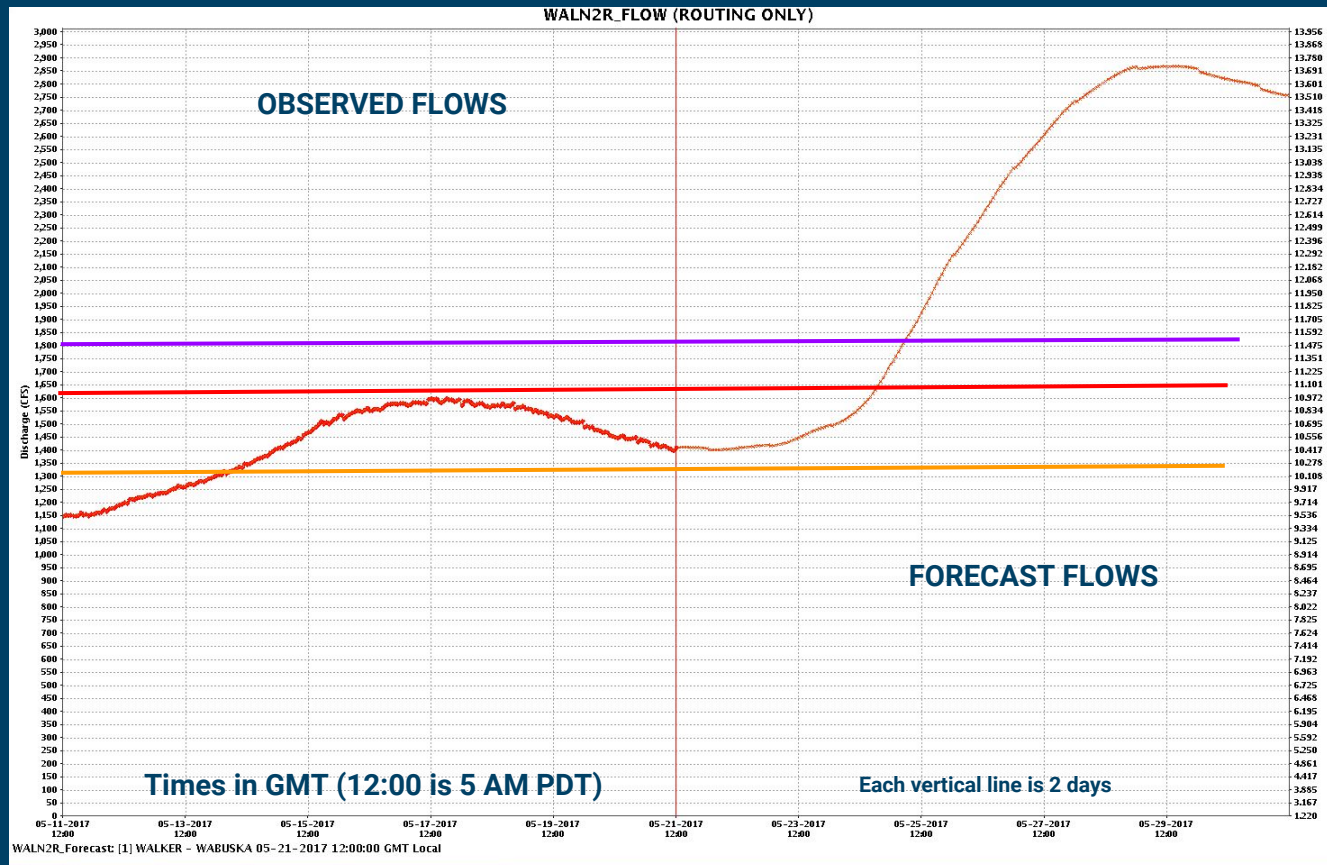
10-day simulations are experimental and provide rough long-range guidance for our public safety partners.



# 10 Day Simulation Walker @ Wabuska

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

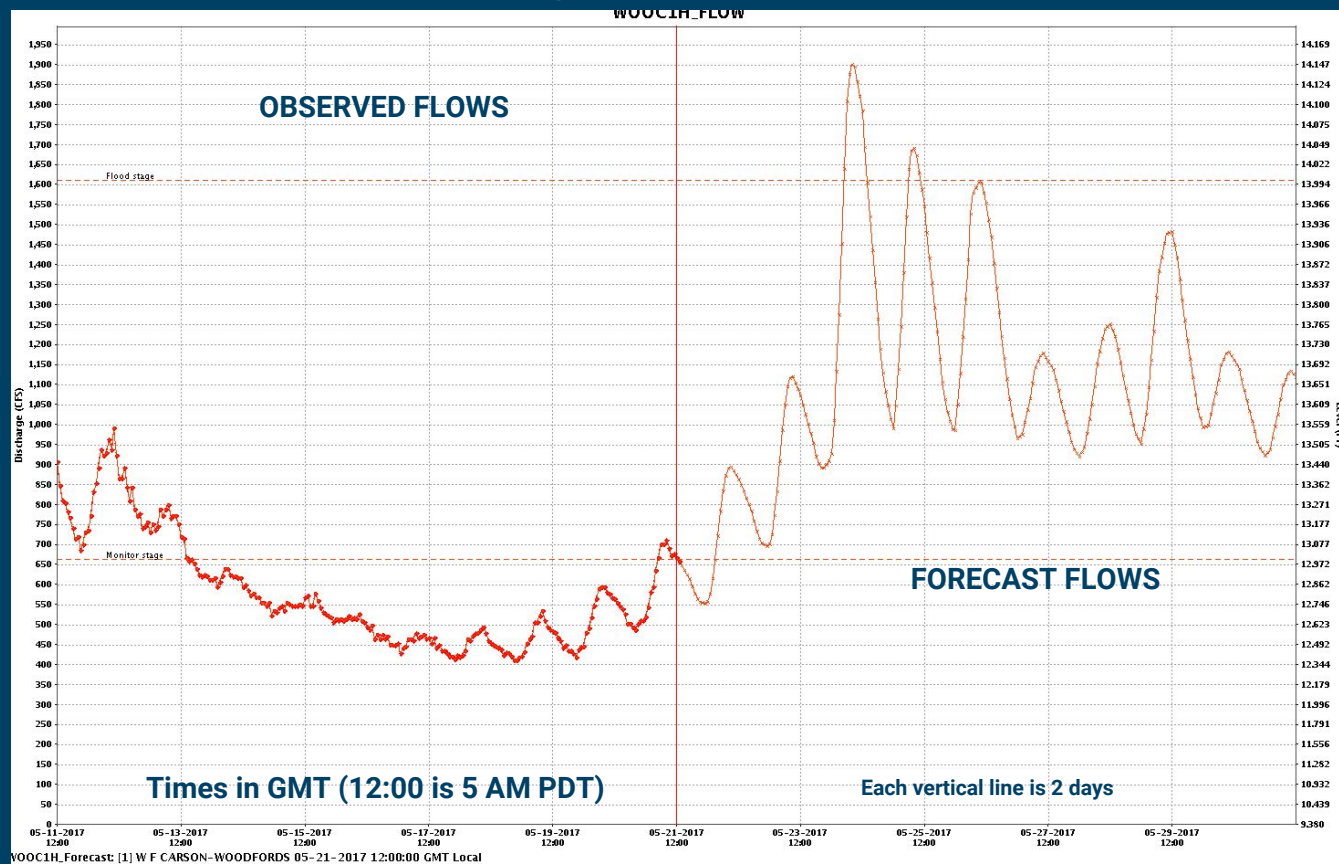
10-day simulations are experimental and provide rough long-range guidance for our public safety partners.



# 10 Day Simulation West Carson @ Woodfords

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

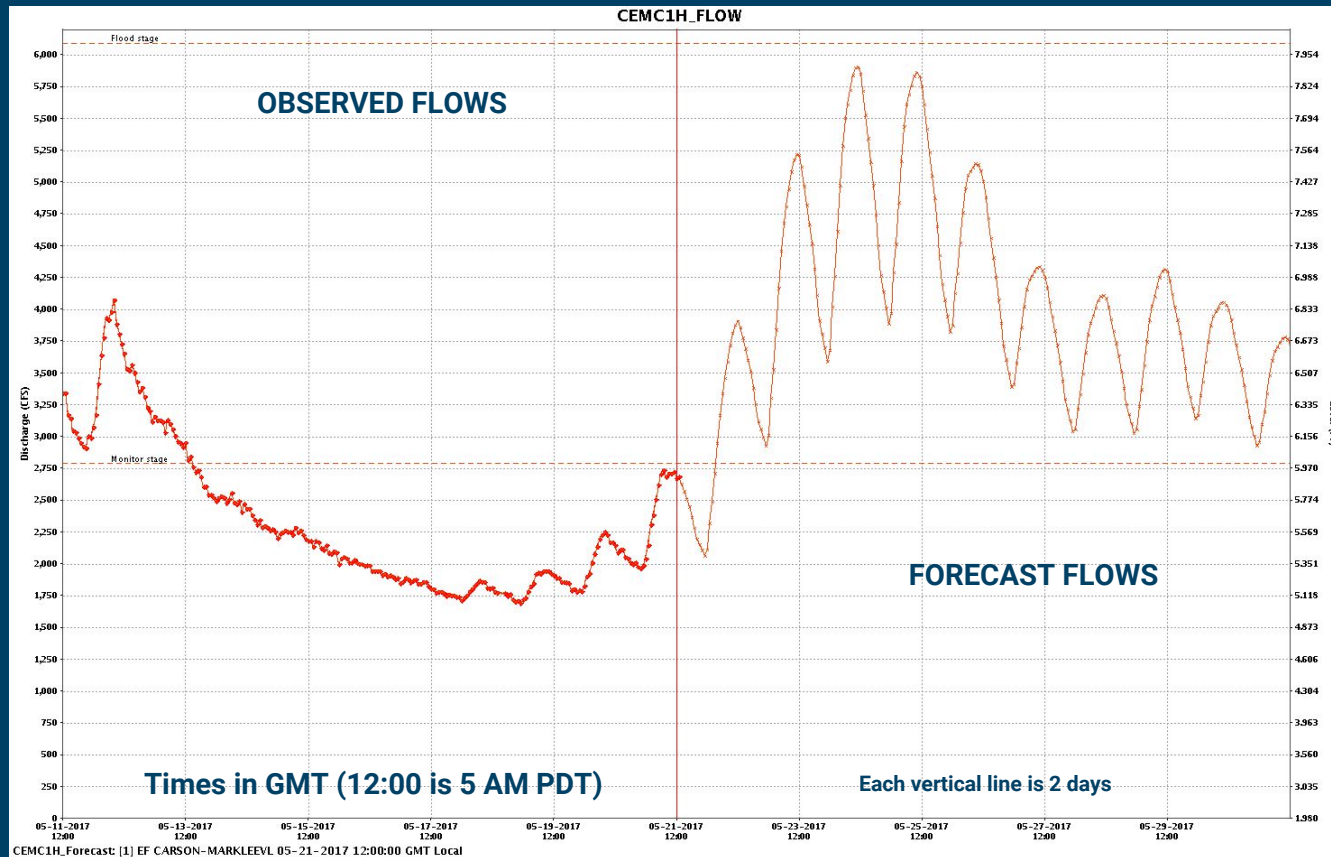
10-day simulations are experimental and provide rough long-range guidance for our public safety partners.



# 10 Day Simulation East Carson @ Markleeville

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

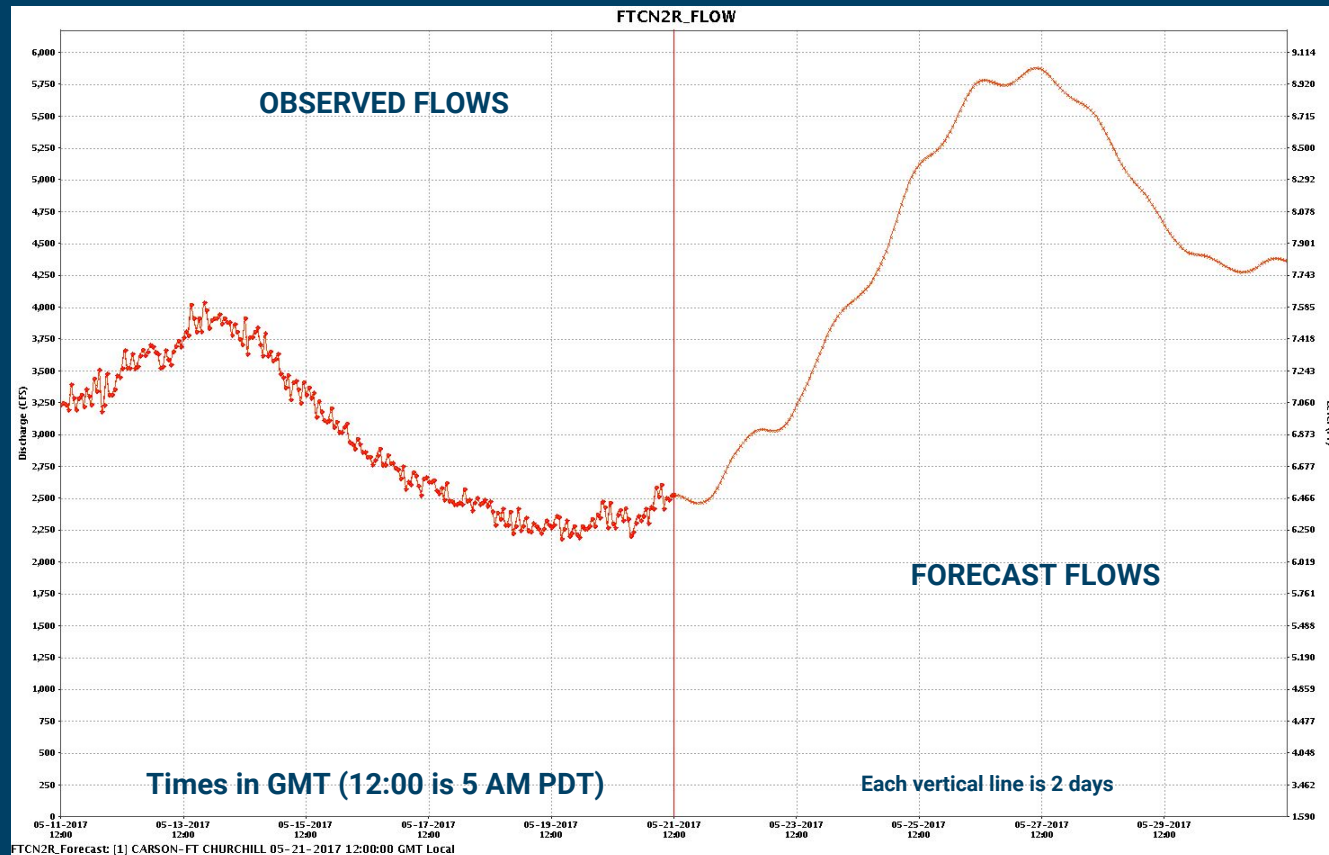
10-day simulations are experimental and provide rough long-range guidance for our public safety partners.



# 10 Day Simulation Carson @ Ft Churchill

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

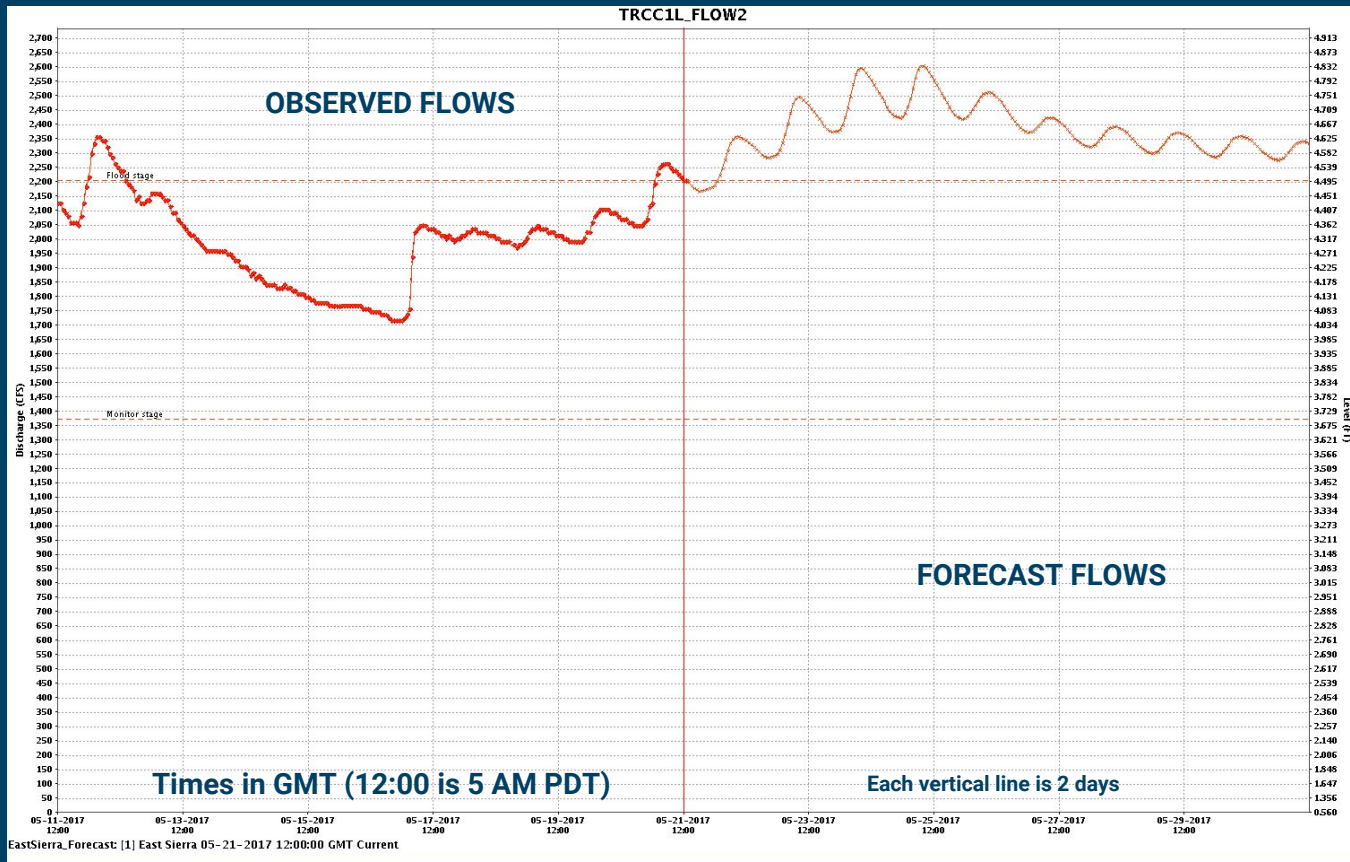
10-day simulations are experimental and provide rough long-range guidance for our public safety partners.



# 10 Day Simulation Truckee @ Truckee

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

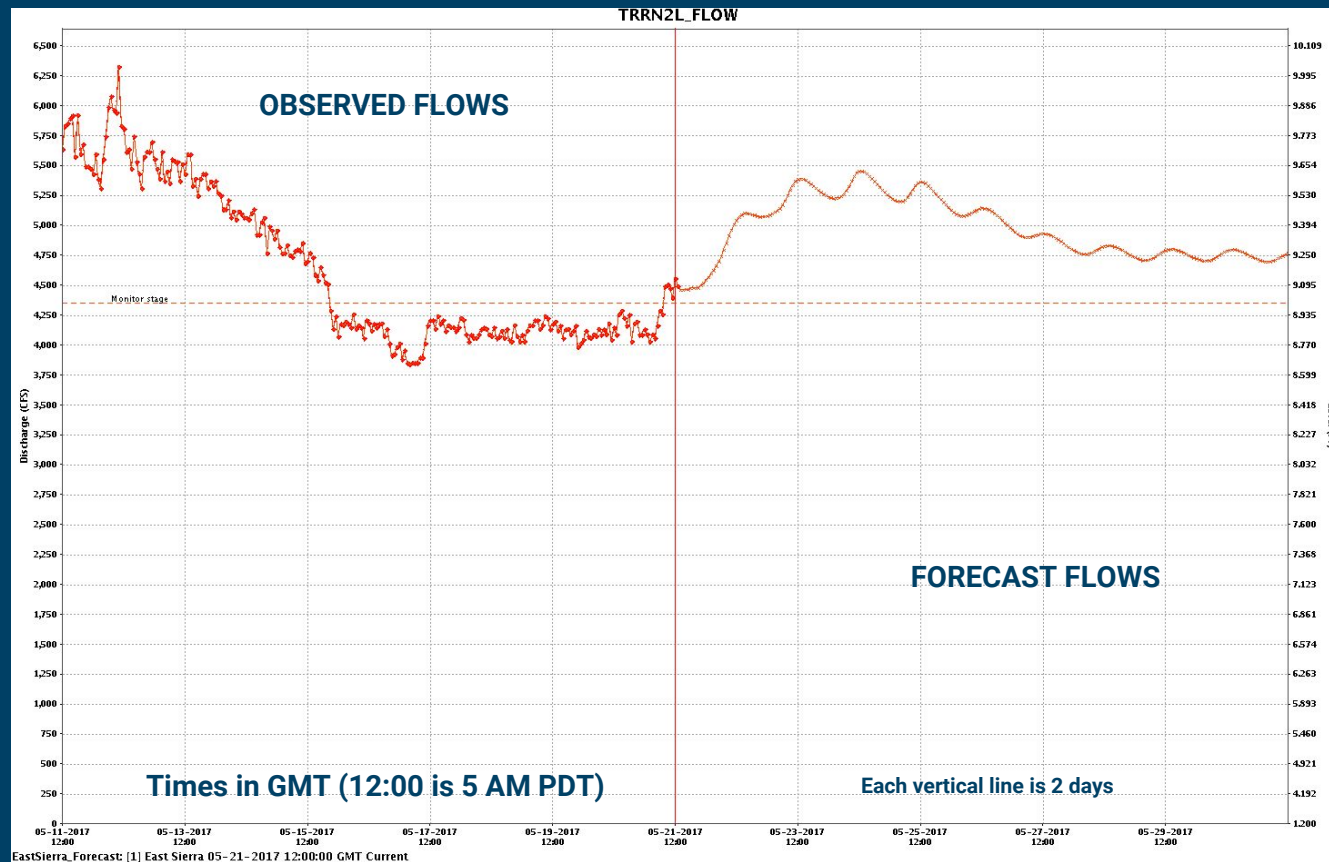
10-day simulations are experimental and provide rough long-range guidance for our public safety partners.



# 10 Day Simulation Truckee @ Reno

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

10-day simulations are experimental and provide rough long-range guidance for our public safety partners.



# 10 Day Simulation Humboldt @ Imlay

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

10-day simulations are experimental and provide rough long-range guidance for our public safety partners.

