

MISSOURI RIVER BASIN WATER MANAGEMENT

FALL 2020 PUBLIC MEETINGS

Teleconference Information:

<https://www.nwd.usace.army.mil/MRWM/Public-Meetings/>



US Army Corps
of Engineers®





OPENING REMARKS COMMANDER NWD



INTRODUCTION



- Purpose of the Meeting
 - Primarily Water Management
 - Other Missouri River Topics
- Abbreviated Presentation – More Time for Q/A
- Severe Shift from Spring (wet) to Fall (dry)
 - The Corps remains fully committed to our Flood Risk Reduction mission
 - Managing the system during times of low runoff and drought to serve the authorized purposes
- The Corps will continue to meet our statutory obligations to operate the Missouri River Mainstem System for its authorized purposes
 - As described in the Master Manual
 - All laws including the Endangered Species Act
 - 2018 Biological Opinion



***Missouri Basin Climate Summary & Outlook
(Winter/Spring 2020 - 2021)***

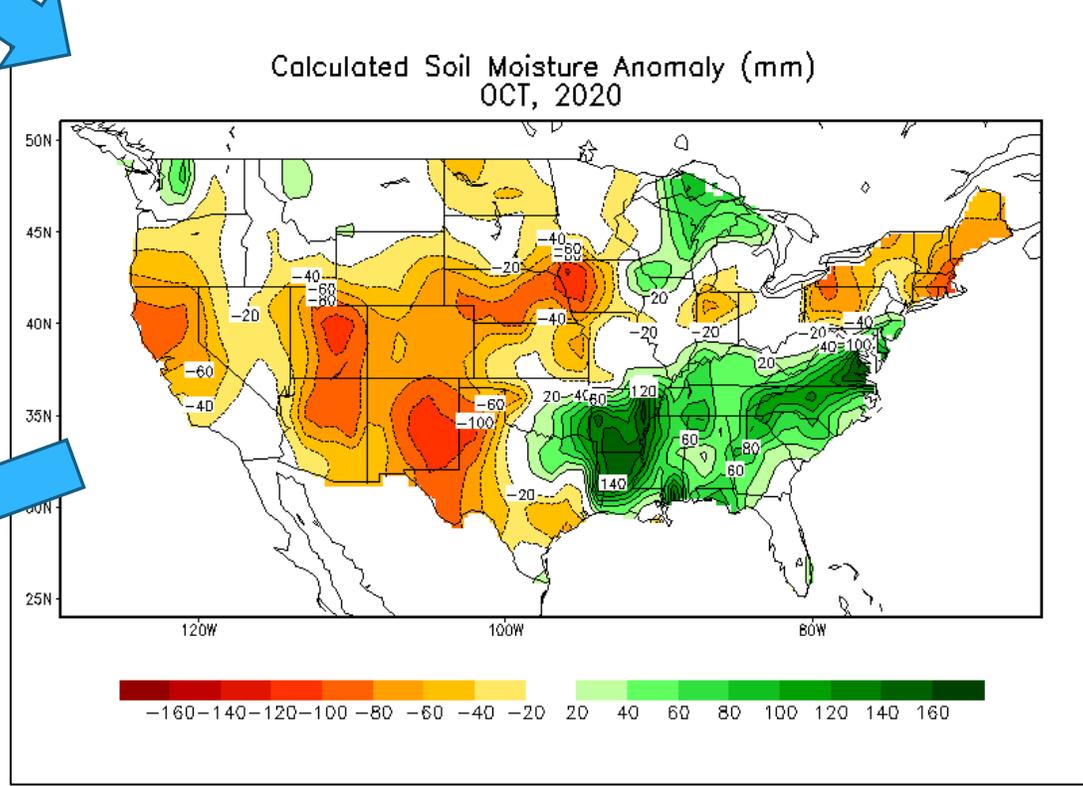
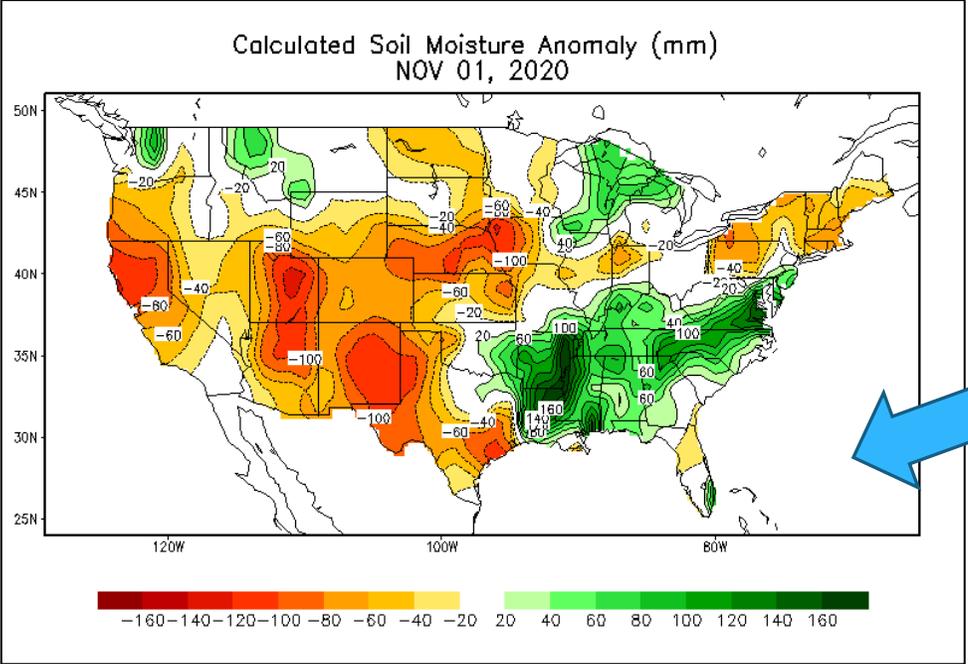
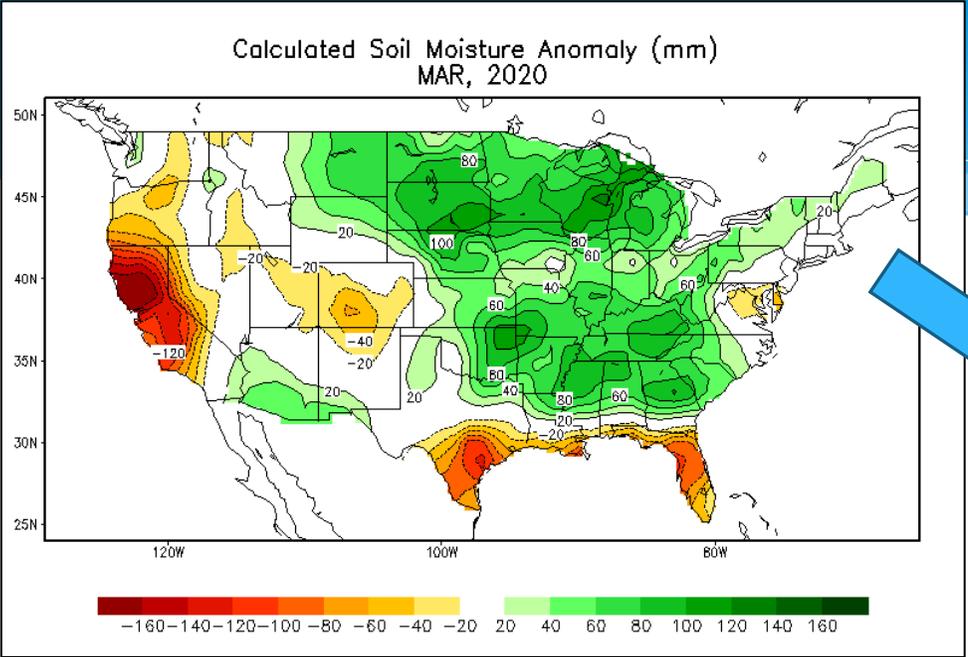
Doug Kluck
Regional Climate Services Director
NOAA's National Centers for Environmental Information

November 2020
USACE Public Meetings

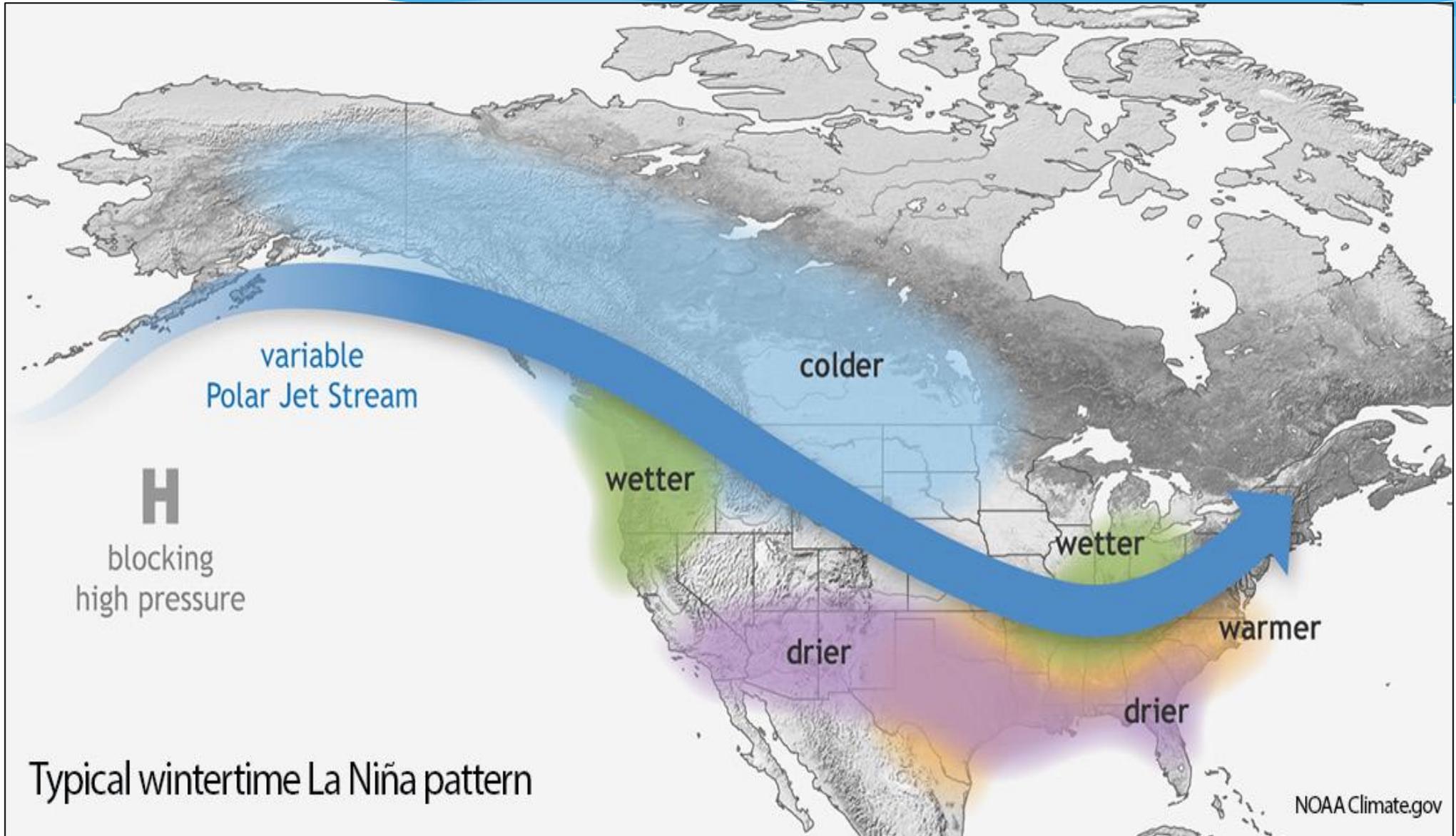


Soil Moisture

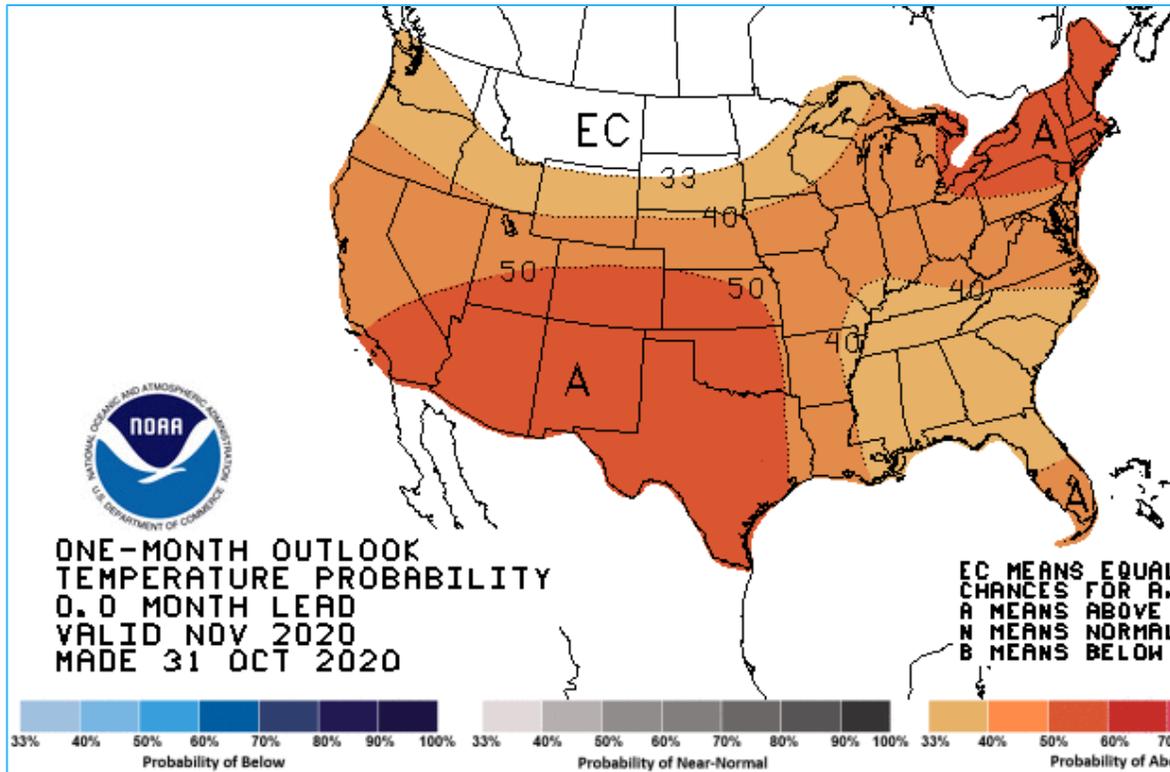
Increased dryness over entire basin – from record wet to widespread drought



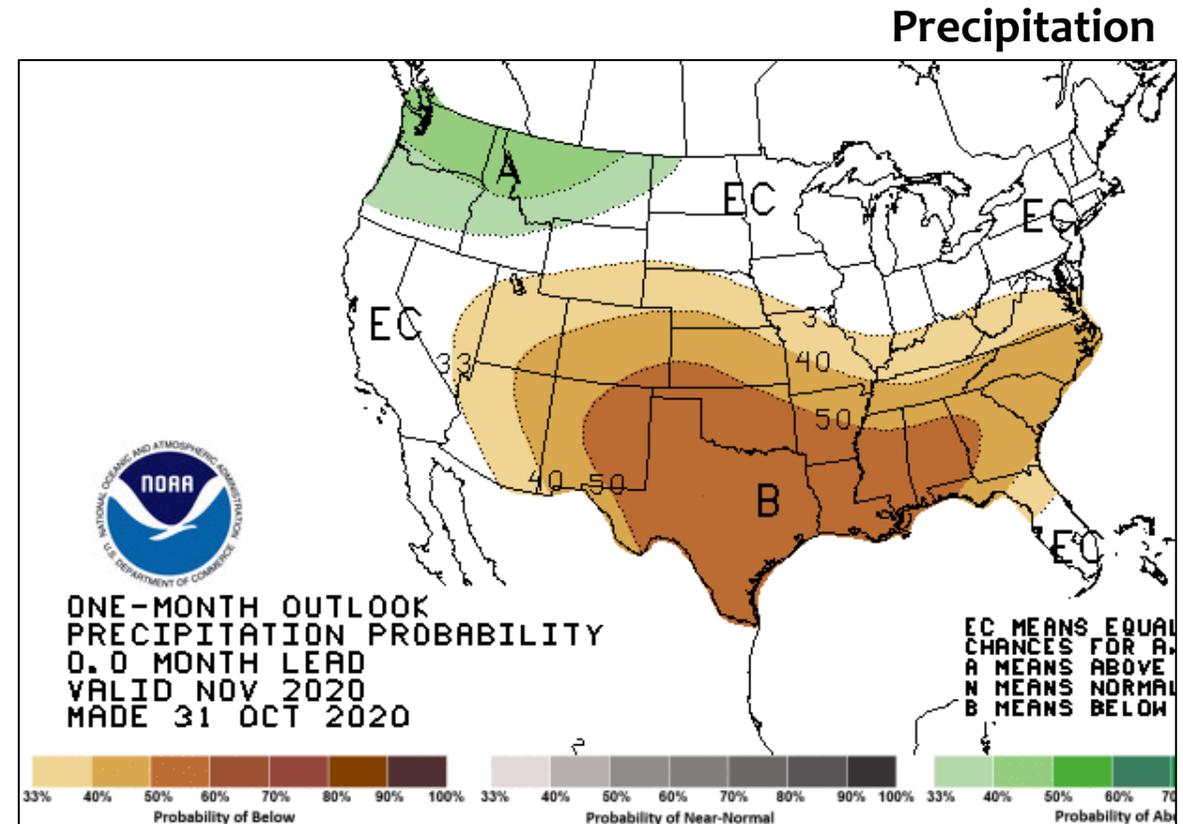
La Niña



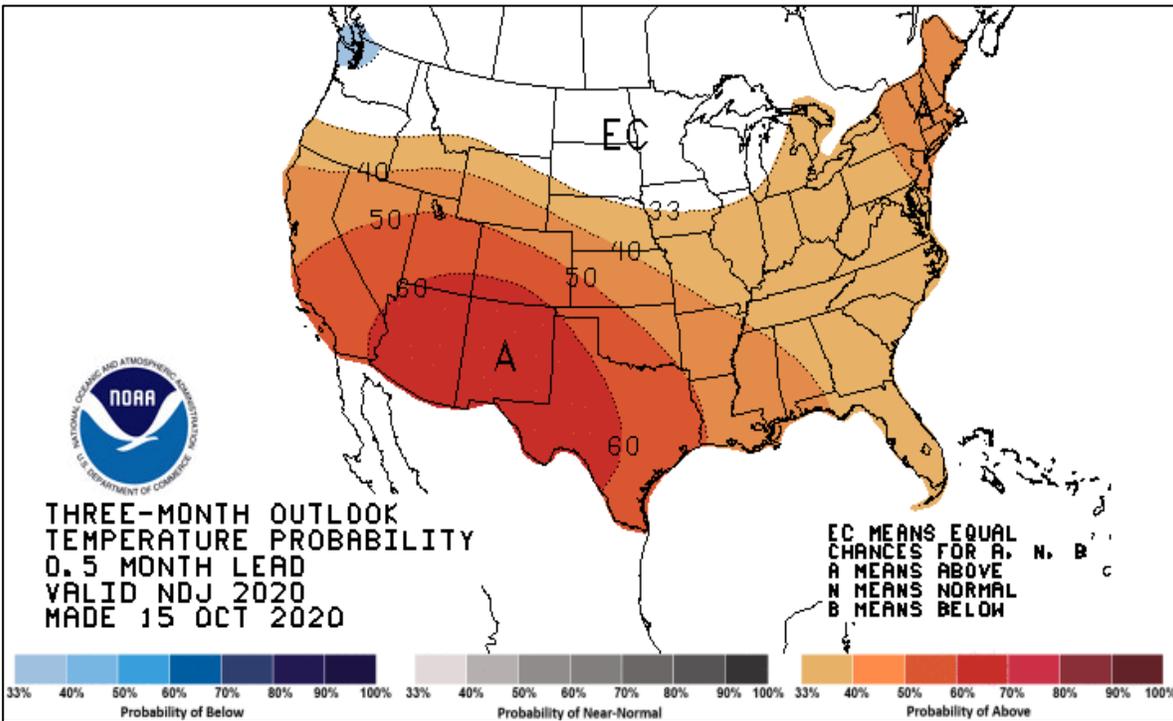
Temperature & Precipitation Outlook



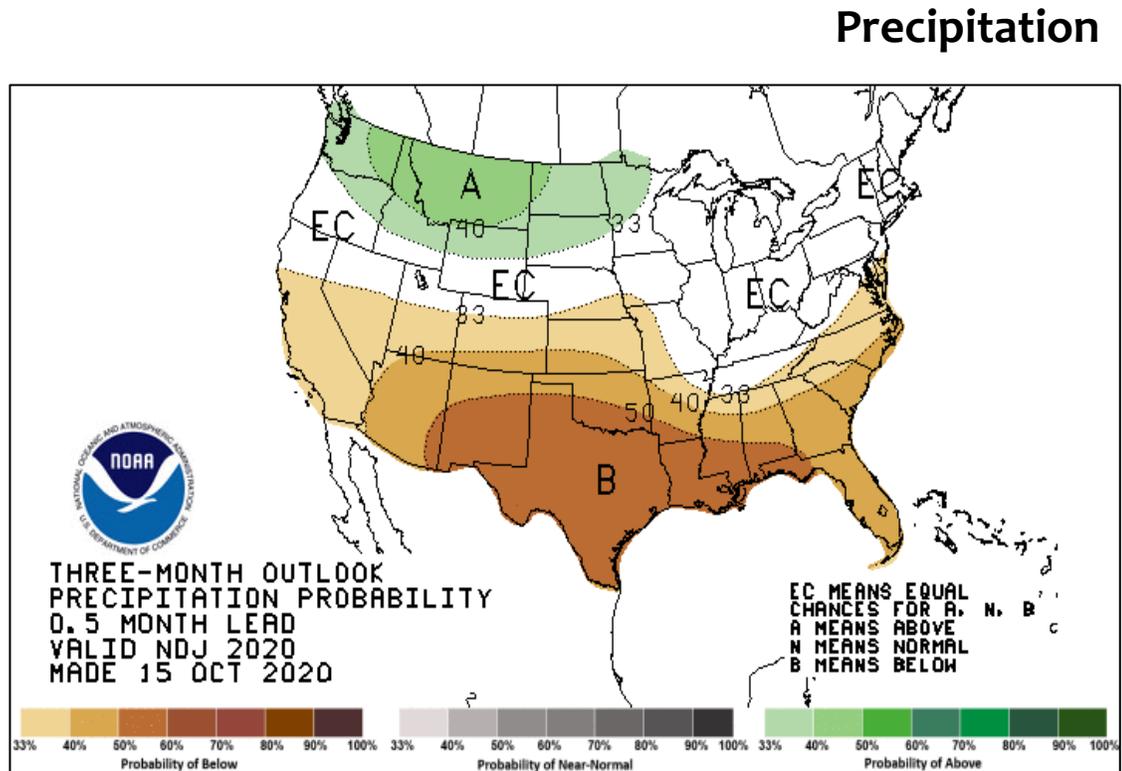
Temperature



November 2020 – January 2021 Temperature & Precipitation Outlook

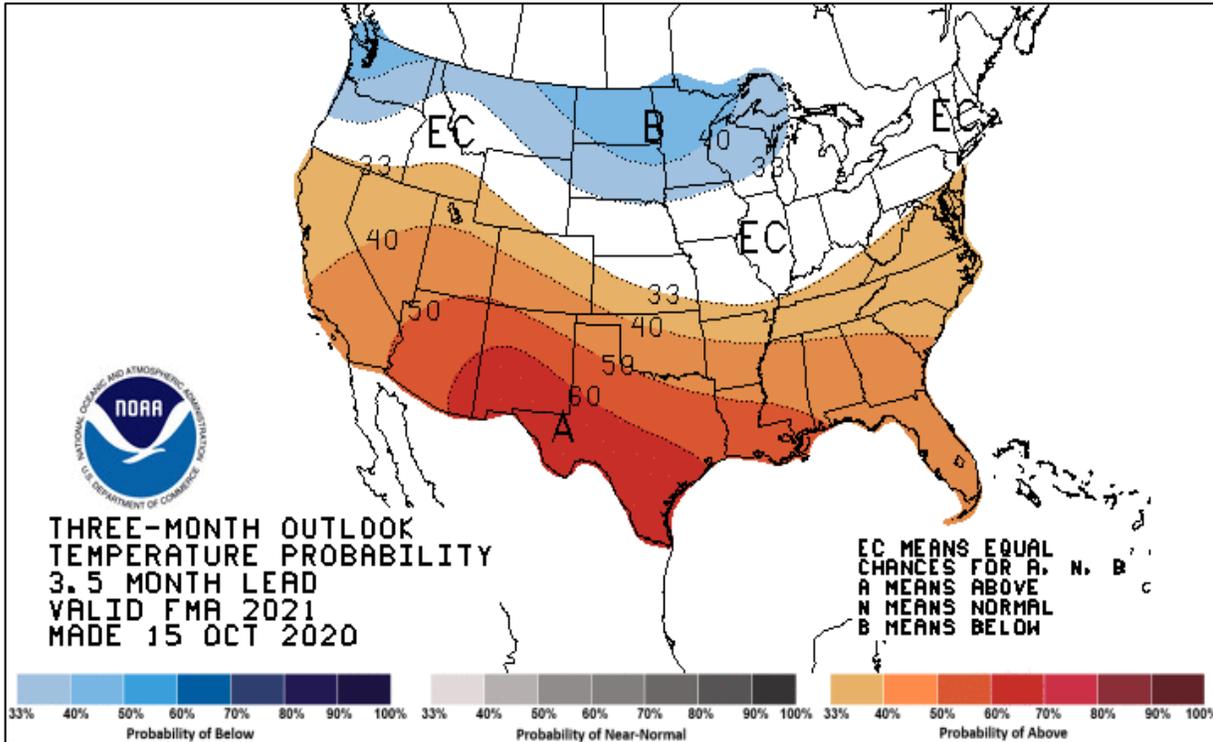


Temperature

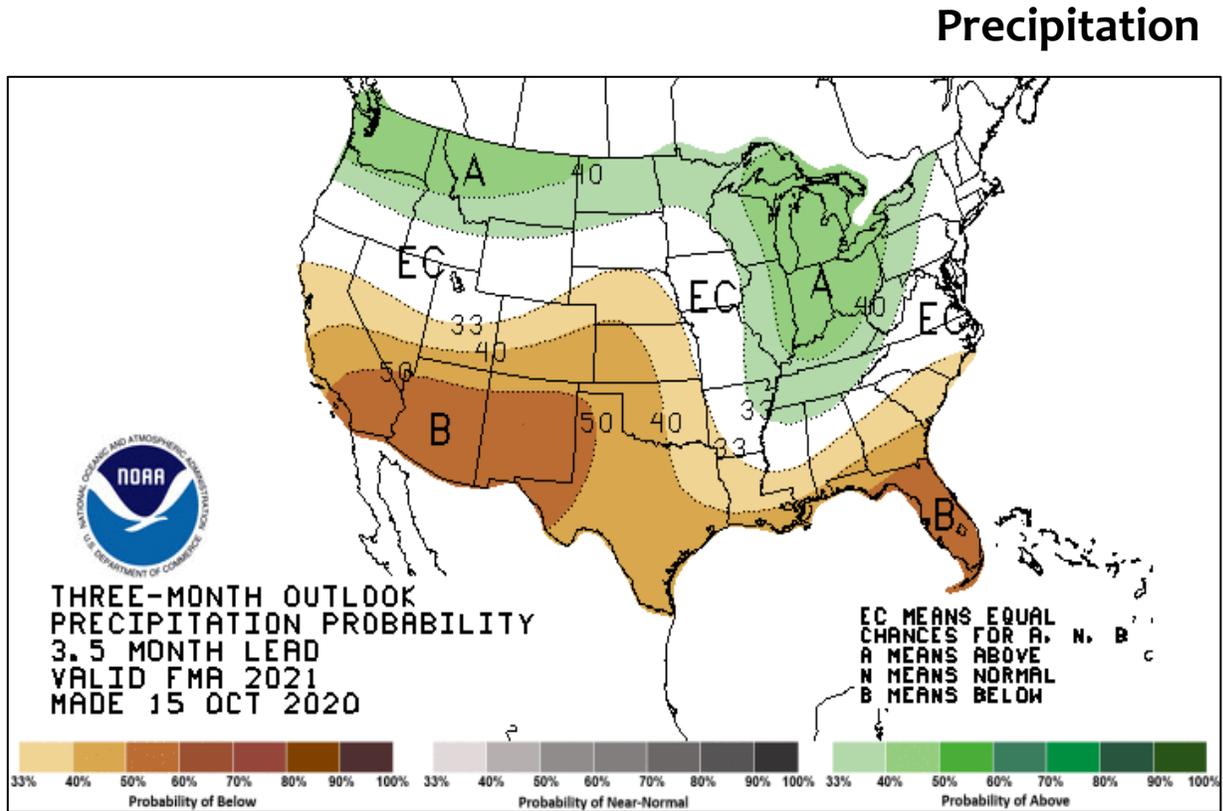


Precipitation

February - April 2021⁹ Temperature & Precipitation Outlook



Temperature



Precipitation



Key Points

* Current Conditions

- * Dry
- * “La Niña” ongoing, probably through spring 2021

* Outlook

- * Temperatures: leans cool north and warm far south
- * Precipitation: leans wet north and dry south
 - * Tendency for more southern-central plains dryness in late winter into spring
- * La Niñas tend to be quite variable with big swings
 - * Stay tuned ... things will likely change over the next few months

Thank You

Next NOAA & State & Regional Partners Climate Webinar on November 19th, 1:00 pm CT

Sign up here:

<https://attendee.gotowebinar.com/register/7528179497868100876>

Contact Info: doug.kluck@noaa.gov, 816-564-2417



Missouri River Basin River Outlook Winter 2020-2021

Kevin Low, P.E.

NOAA NWS Missouri Basin River Forecast Center

02 November 2020





Missouri River Basin River Outlook



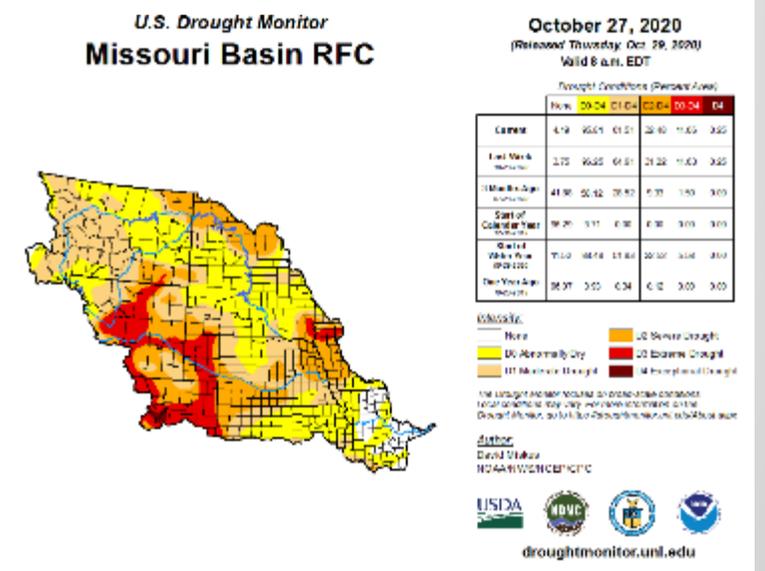
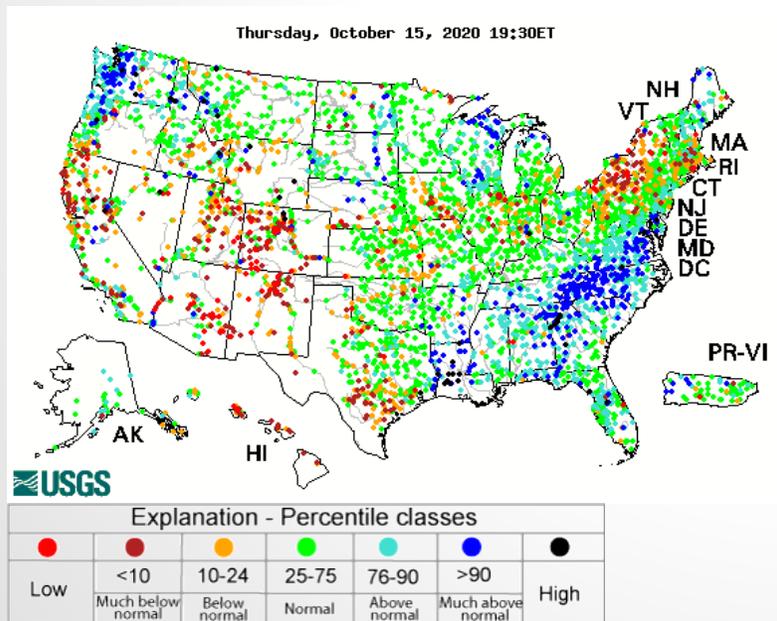
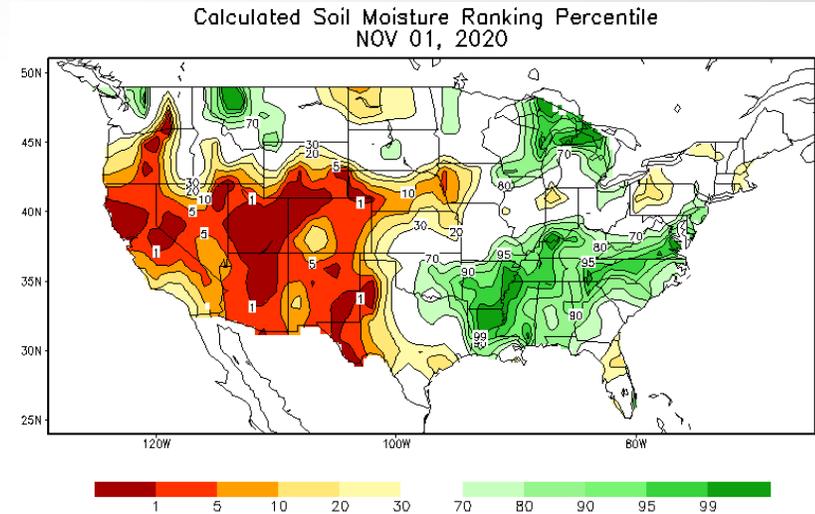
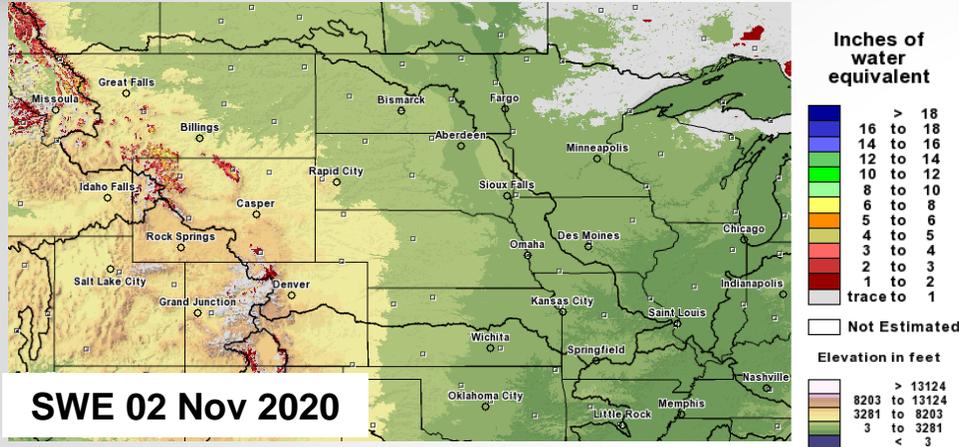
OUTLINE

- **Current Conditions**
- **Next 90 days (November thru January)**
- **What we are thinking for Spring 2021**

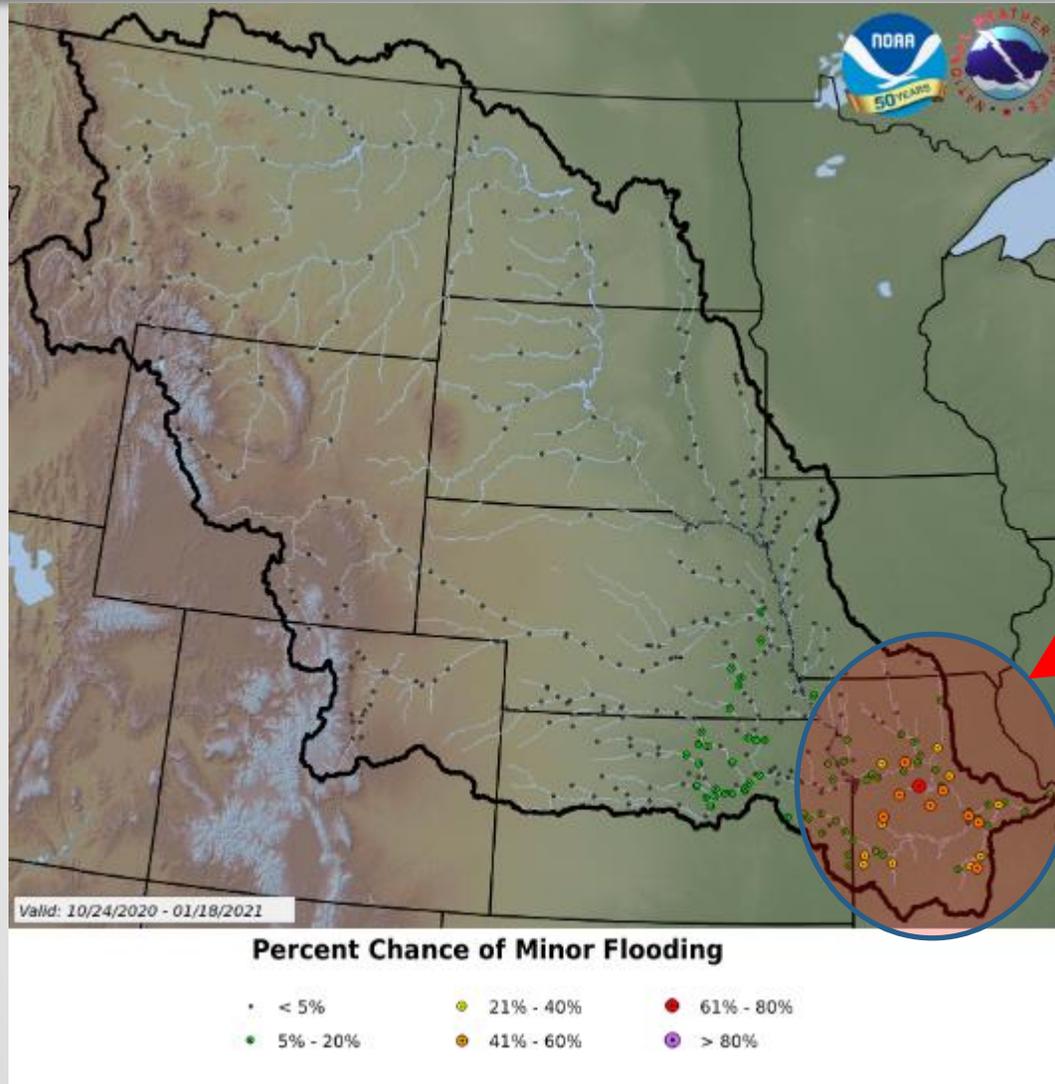


Current Conditions

(snowpack, soil moisture, streamflow)



Likely Flooding Next 90 Days

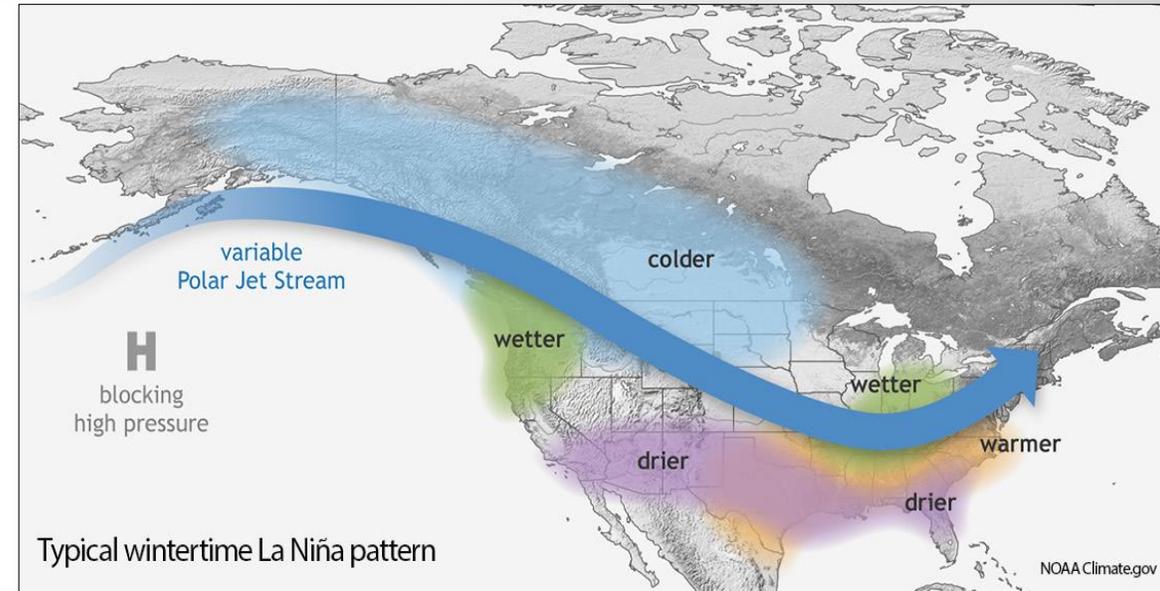


Between now and late January, only a handful of tributaries are likely to see flooding (and minor at that). And this is typical for this time of year.

Considerations for Spring 2021 flood potential

- Going into the Fall with soil moisture dryer than normal for much of the basin.
- Going into the Fall with stream flows decreased west, normal east.
- System storage in good shape.

- La Nina typically tips the odds toward **below-normal temperatures** in the upper basin, and **above-normal snowpack** in the Northern Rockies.



- If we can go into freeze-up with dry soils, that would lessen frozen ground development. **GOOD**
- If we continue to have declining streamflows, that would help mitigate ice jam potential. **GOOD**
- Colder temperatures could delay mountain melt later into Spring 2021. **BAD**

- However, a significant portion of Spring flood potential hinges on snowpack (mountain and plains). So, we really won't have a good idea until mid-to-late Winter.



National Weather Service Outlooks



NOAA released the 2020-2021 U.S. Winter Outlook on 15 October 2020. The document and accompanying video can be accessed at:

<https://www.noaa.gov/media-release/us-winter-outlook-cooler-north-warmer-south-with-ongoing-la-nina>

The NWS Missouri Basin River Forecast Center will release Spring Flood Outlooks in late February and early March 2021.

When released, these can be accessed at:
<https://www.weather.gov/mbrfc/ensemble>

NWS Weather Forecast Offices will also issue Spring Flood Outlooks enhanced with local information. These will also be released in late February and early March. Please check with your local Weather Forecast Office.





SYSTEM OVERVIEW AND UPPER BASIN RUNOFF



OUR MISSION

REGULATE MISSOURI RIVER MAINSTEM RESERVOIRS



- **Priority:** Life and Safety
- **Operational Decisions:** Driven by Annual Runoff Conditions
Water captured in System flood control storage zones each year must be evacuated prior to the start of the following year's runoff season.
- **Master Manual:** Storage and release decisions designed significantly around **Flood Control, Navigation & Water Supply** purposes
- **Authorized Purposes:**



Flood Control



Navigation



Hydropower



Water Supply



Fish & Wildlife



Irrigation



Water Quality Control



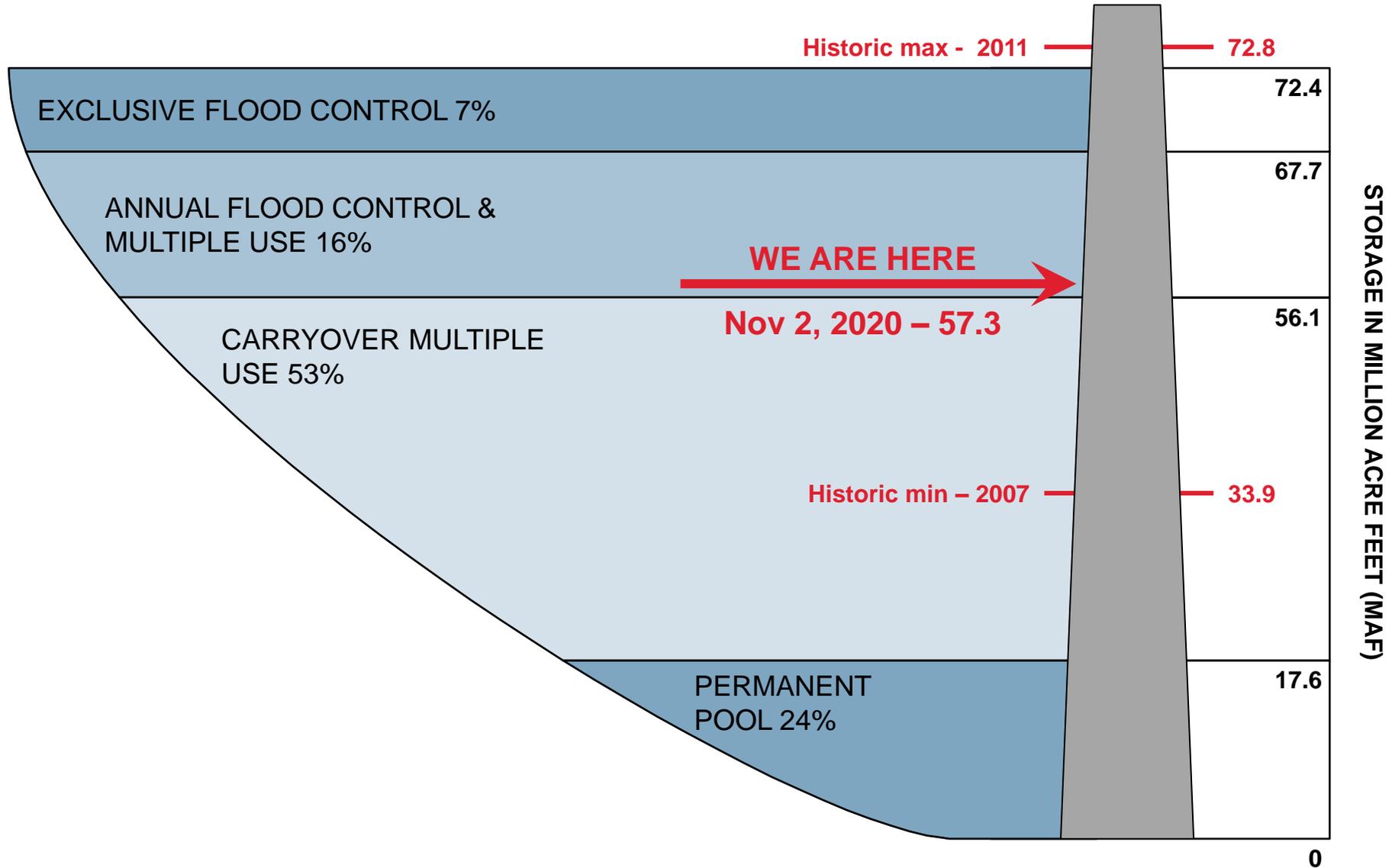
Recreation

The Corps does not store more water in the System for Threatened and Endangered Species.

- **Federal Laws:** the Corps complies with all federal laws.



MISSOURI RIVER MAINSTEM SYSTEM STORAGE ZONES AND ALLOCATIONS





RUNOFF COMPONENTS



PLAINS SNOWPACK

MOUNTAIN SNOWPACK

RAINFALL



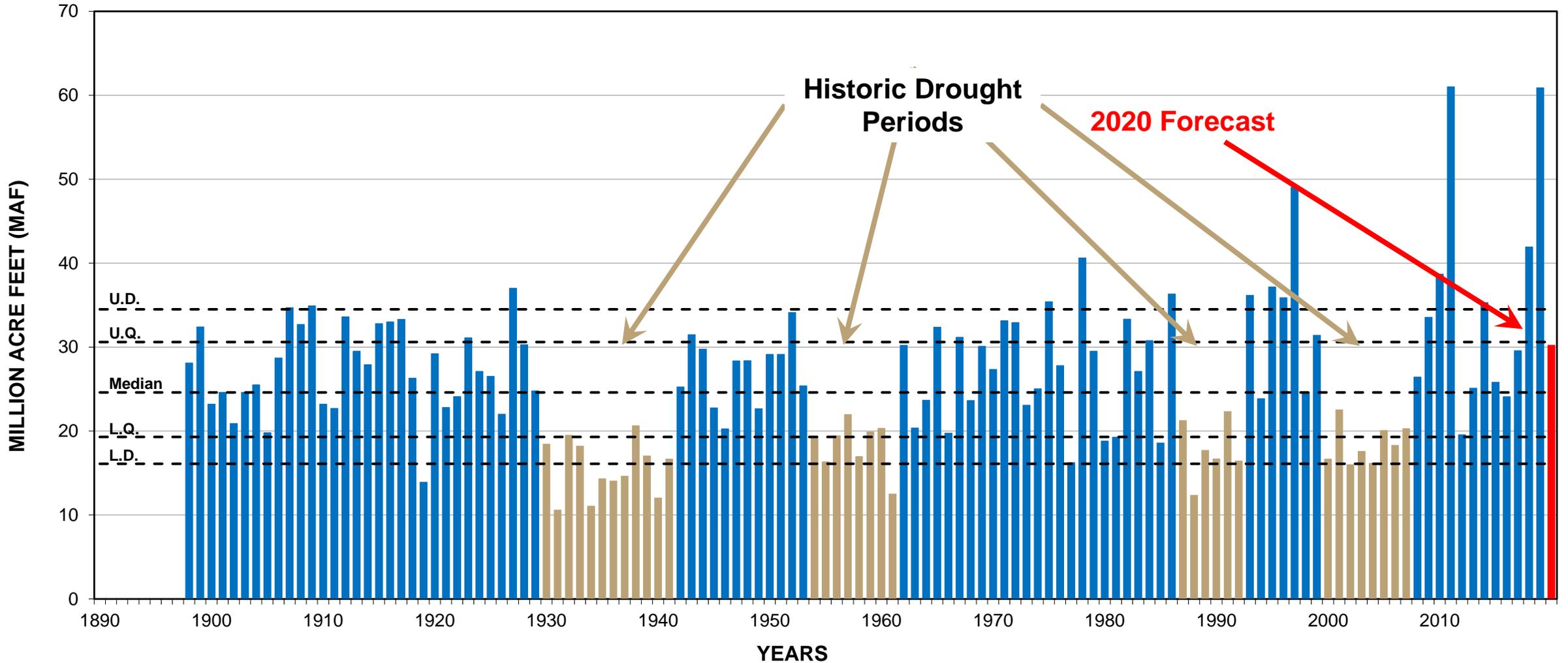
2020 FORECAST* = 30.2 MILLION ACRE FEET (MAF)

***OCTOBER 1 FORECAST – AVERAGE ANNUAL RUNOFF IS 25.8 MAF**

OUR FORECAST FOR 2021 RUNOFF WILL BE INITIATED IN JANUARY 2021.



ANNUAL RUNOFF ABOVE SIOUX CITY, IA





FALL / WINTER RELEASES



- Gavins Point Dam releases will be reduced to winter rate starting November 22.
- Corps will closely monitor channel/ice conditions between reservoirs and downstream of Gavins Point Dam.
- Gavins Point winter releases are based on the September 1 storage check and are about average.
- Expected releases (in 1000 cfs):

	Nov	Dec	Jan	Feb
• Fort Peck	6.3	9.5	9.5	10.0
• Garrison	13.0	16.2	19.0	19.0
• Gavins Point	29.4	17.0	17.0	17.0



RESULTS OF 2020 REGULATION AND PLANNED OPERATION FOR AUTHORIZED PURPOSES IN 2021

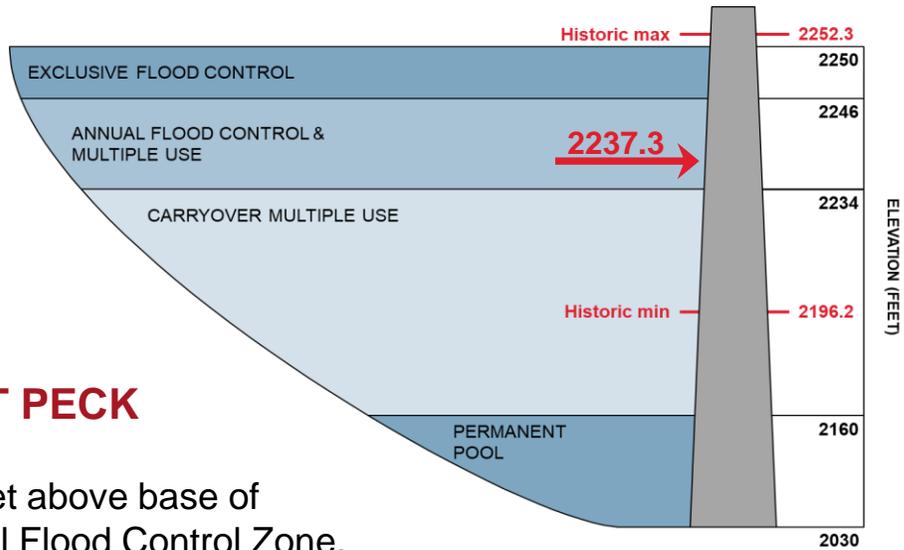


CURRENT RESERVOIR LEVELS – NOV 2, 2020



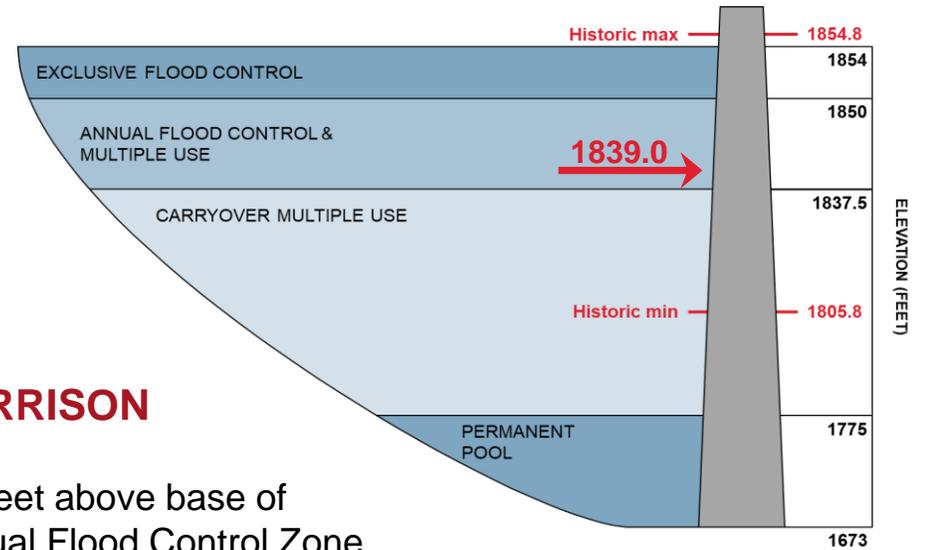
FORT PECK

3.3 feet above base of Annual Flood Control Zone.



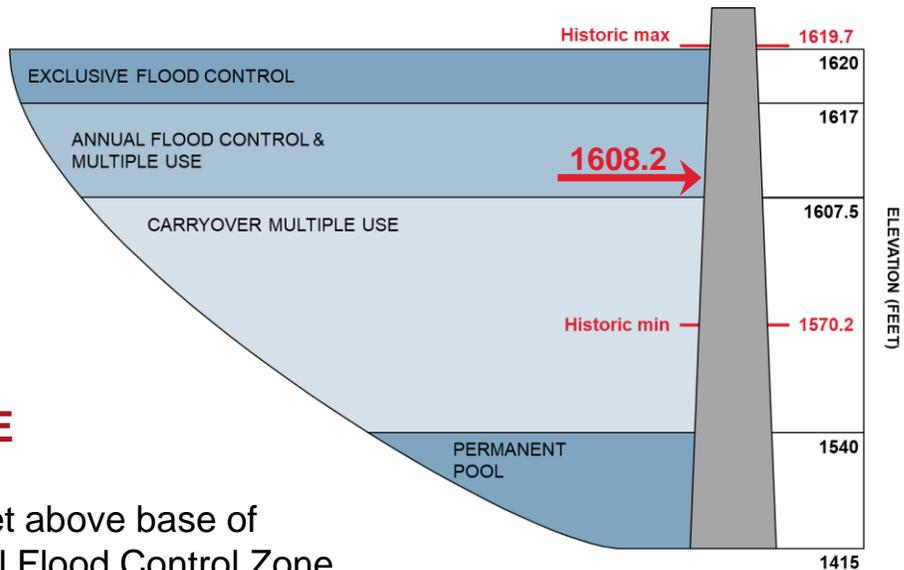
GARRISON

1.5 feet above base of Annual Flood Control Zone.



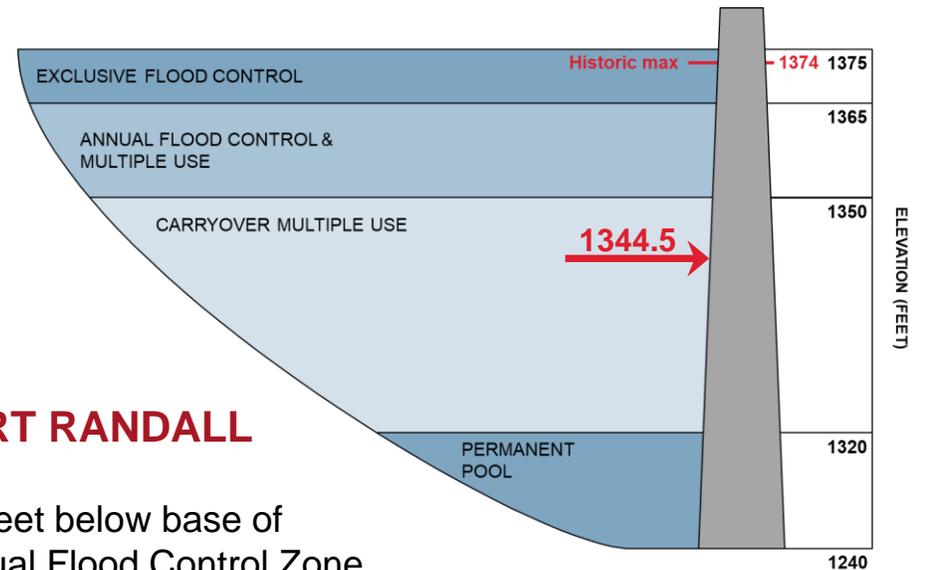
OAHE

0.7 feet above base of Annual Flood Control Zone.



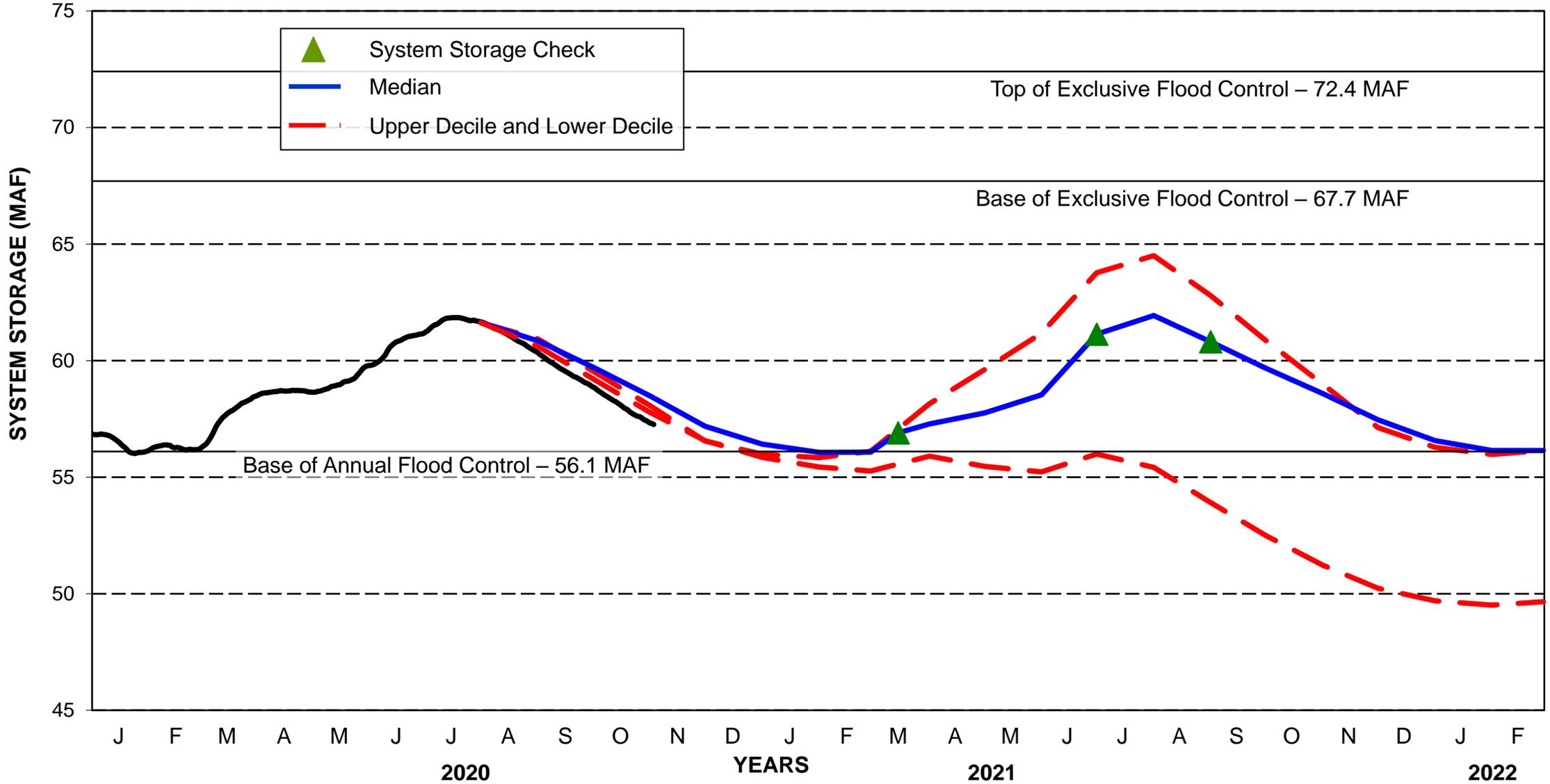
FORT RANDALL

5.5 feet below base of Annual Flood Control Zone.



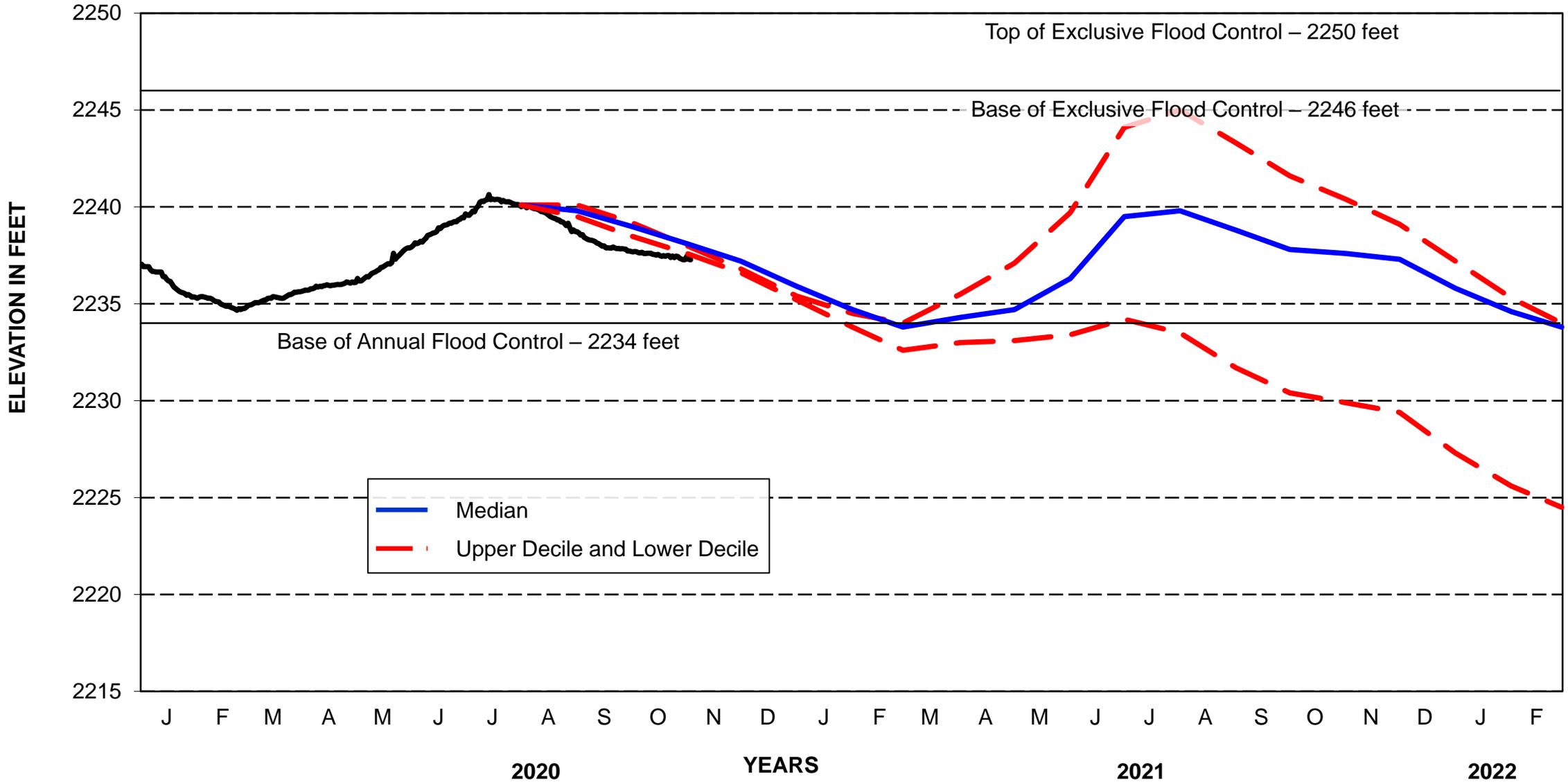


SYSTEM STORAGE - 2020-2021 DRAFT AOP



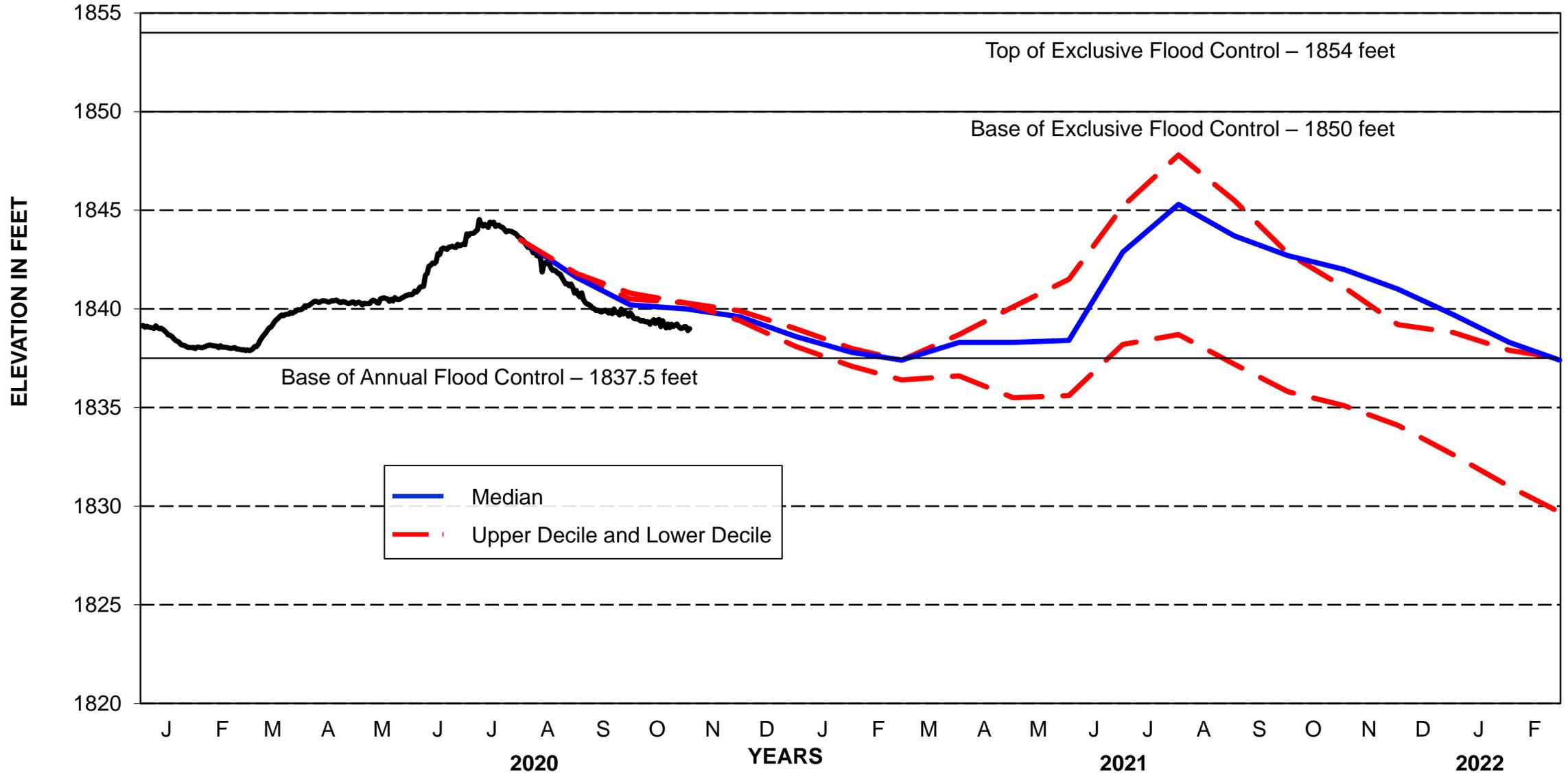


FORT PECK - 2020-2021 DRAFT AOP



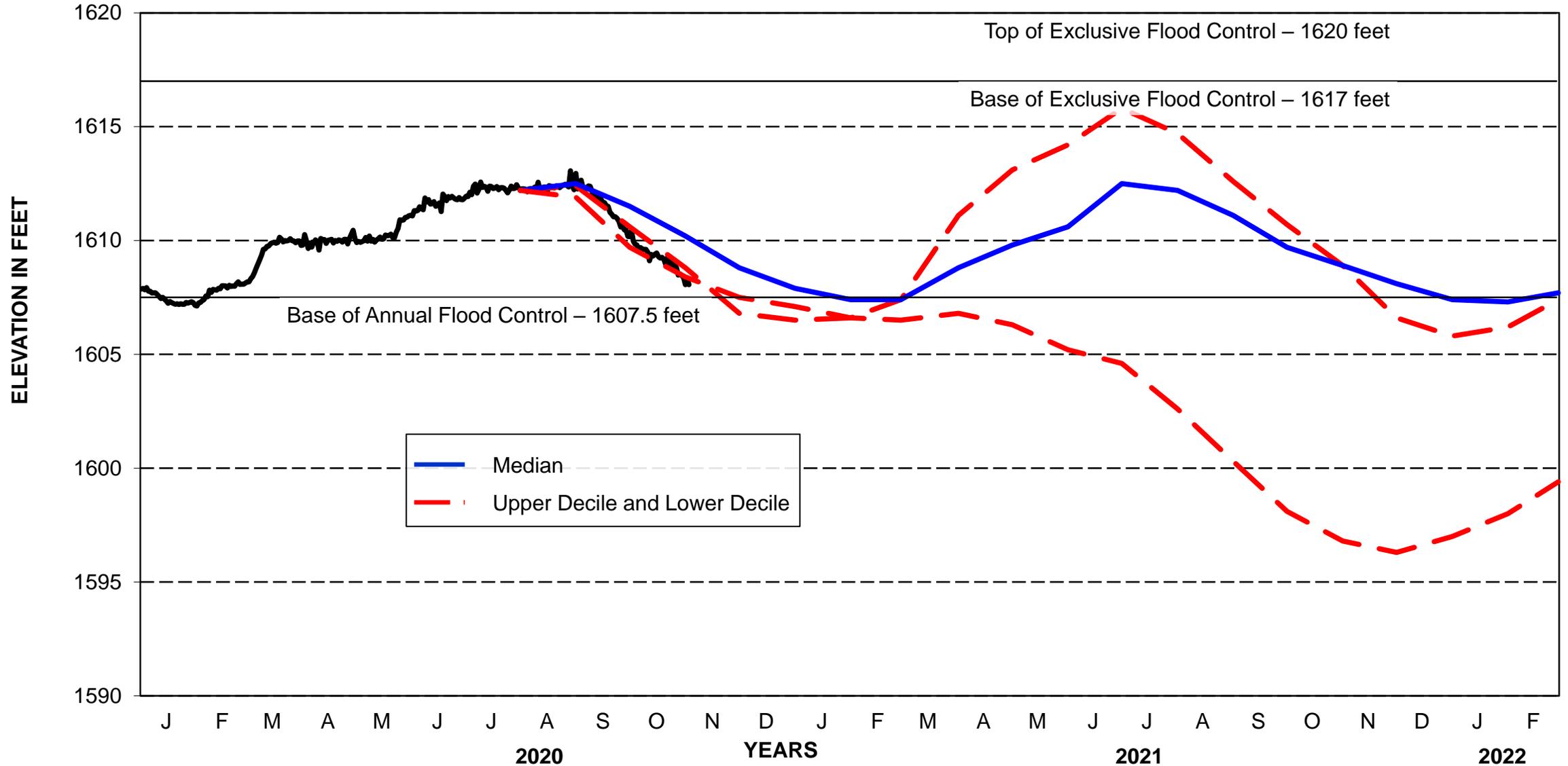


GARRISON - 2020-2021 DRAFT AOP





OAHE - 2020-2021 DRAFT AOP





RESERVOIR OPERATIONS 2021



– Flood Control

- All scenarios start next year's runoff season at or below the base of the annual flood control zone
- Flooding can still occur due to downstream rainfall
- Ability to reduce downstream stages diminishes as you move downstream due to increased travel times and uncontrolled drainage area

– Navigation flow support

- Full length season for all scenarios
- Full service(+), 10-day extension for upper quartile and upper decile runoff
- Full service level flow support for lower quartile and median runoff
- Slight reduction in flow support for lower decile runoff



RESERVOIR OPERATIONS 2021



- Hydropower: annual generation forecast is 10.1 BkWh (median)

- Recreation, water supply and irrigation (median)
 - Near average elevations and releases
 - Irrigation and recreation access
 - Gavins Point winter releases 20 kcfs

- Fish and Wildlife / Endangered Species
 - Favor Fort Peck and Oahe during forage fish spawn, if runoff is not sufficient to keep all three reservoirs rising
 - Typical summer bird operations for median and lower runoff



THANK YOU!

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nwd.usace.army.mil/MRWM

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QUESTIONS FROM THE PUBLIC

From the 1:30 p.m. Call



QUESTIONS FROM THE PUBLIC

From the 6:00 p.m. Call