

# MISSOURI RIVER BASIN WATER MANAGEMENT

## MISSOURI REGIONAL ADVISORY COMMITTEE MEETING

**FEBRUARY 2, 2022**

John Remus

Chief, Missouri River Basin Water Management



US Army Corps  
of Engineers®





# AUTHORIZATION/MISSION

2



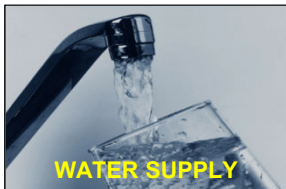
- Eight Authorized Purposes (1944 FCA)

- Flood Control – Requires Empty Space
- Navigation
- Water Supply
- Hydropower
- Water Quality Control
- Recreation
- Irrigation
- Fish and Wildlife

Requires Access to Water or Releases

- Purpose ≠ Priority: One priority is life safety.
- Runoff/Storage Driven System – The runoff drives system releases and is managed on an annual basis. We do not carryover water in the flood control zones. Service levels are based on system storage checks.
- Basically operate for flood control or meeting downstream targets (navigation, Water Supply)
- Cannot Operate for Mississippi River Benefits
- Must comply with all laws (e.g. ESA\*, CWA, etc.)

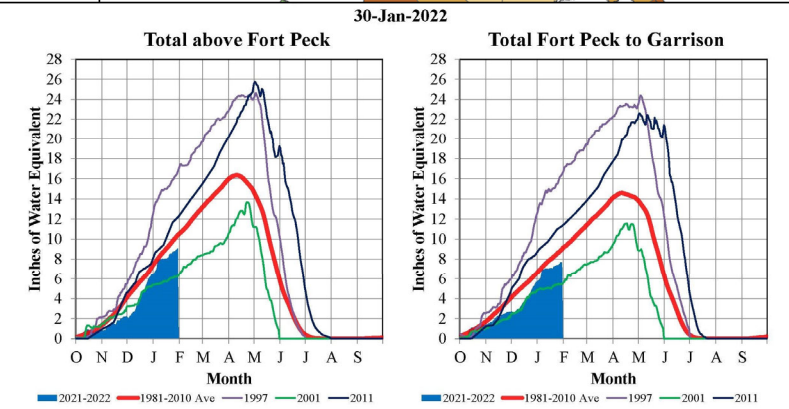
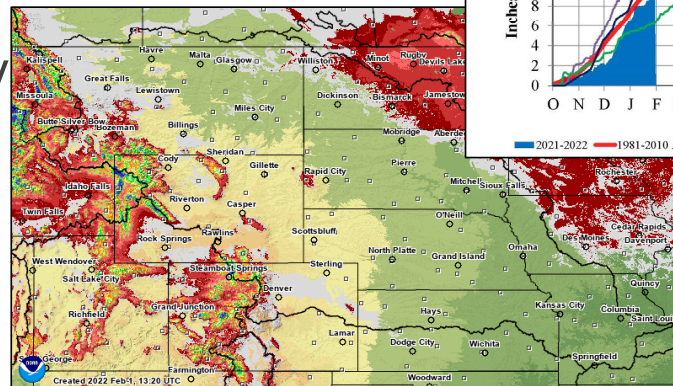
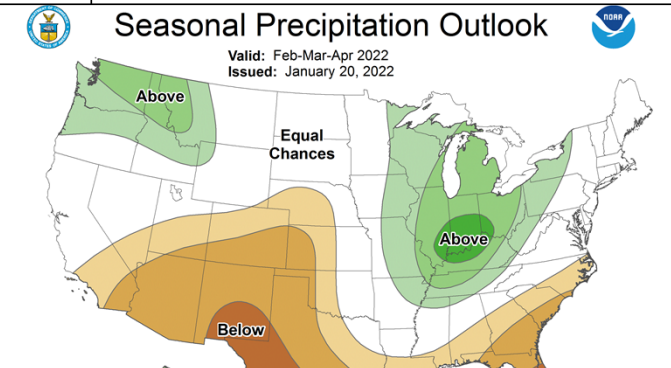
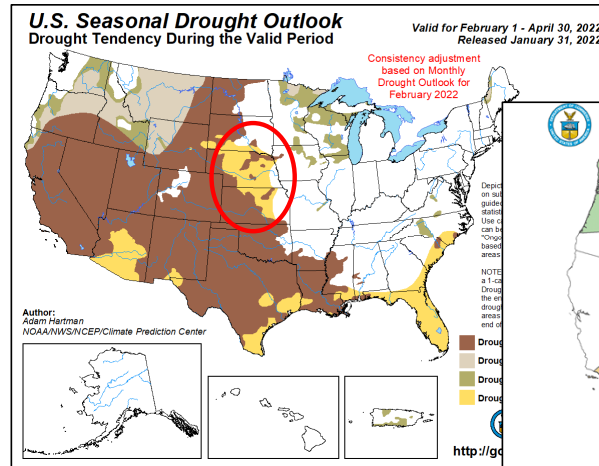
\* - As Hydrologic Conditions Allow (BiOp Compliance)





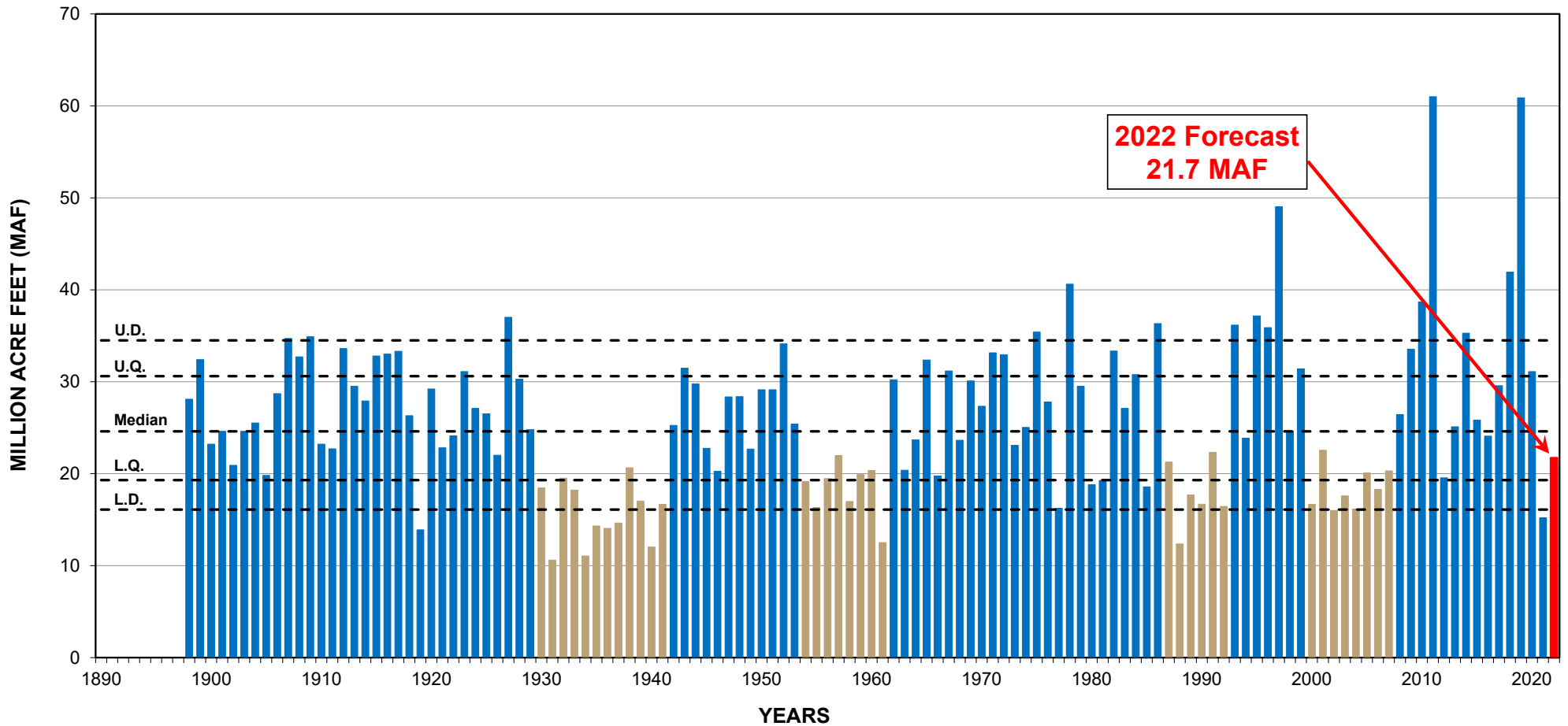
# BASIN CONDITIONS

- Drought Persist and Projected to Worsen on Some Areas
- Precipitation Outlook – Equal Chances for Much of the Basin
- Mountain Snowpack Slightly Below Average
- Plains Snowpack – Essentially None Existent.



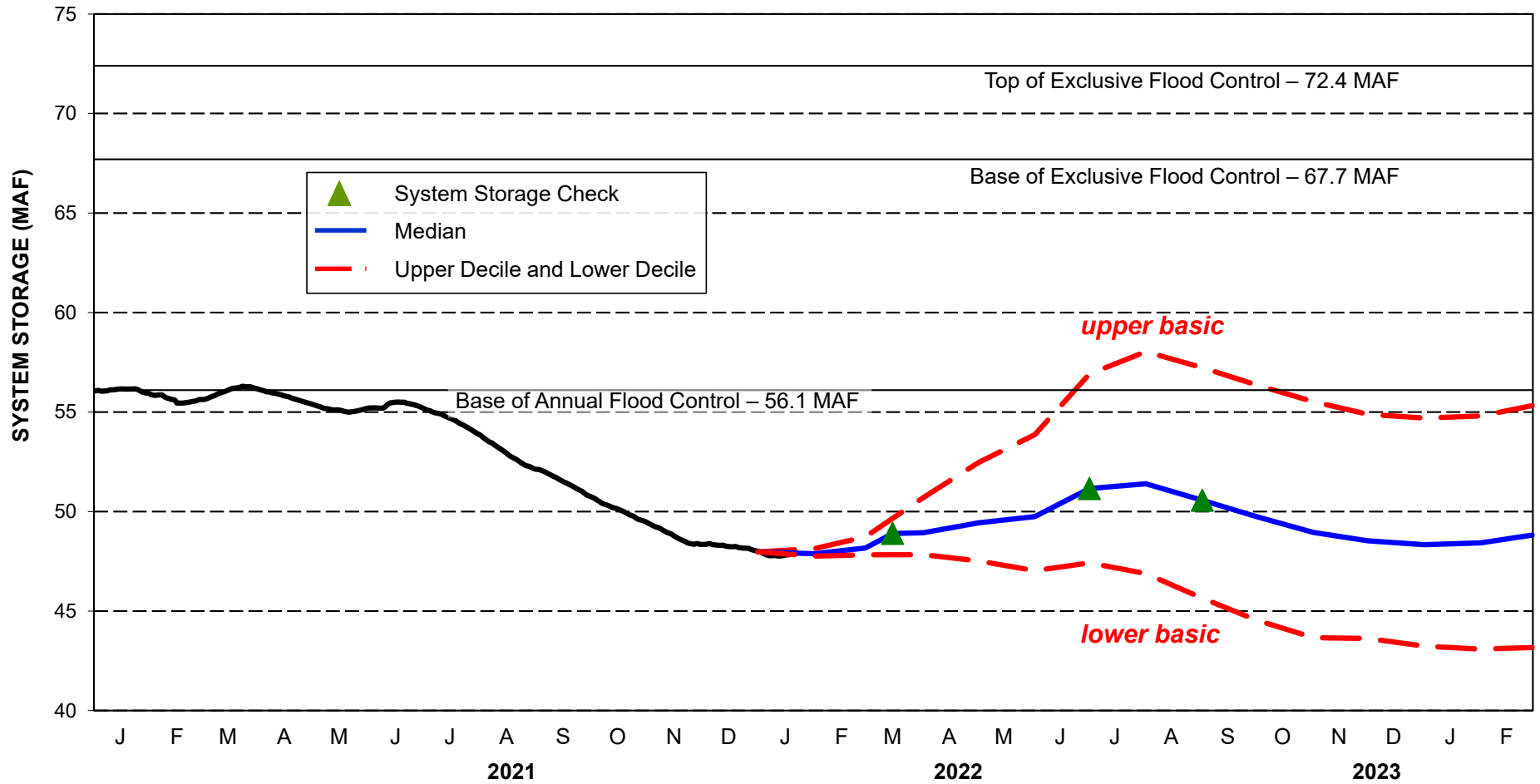


# ANNUAL RUNOFF ABOVE SIOUX CITY, IA





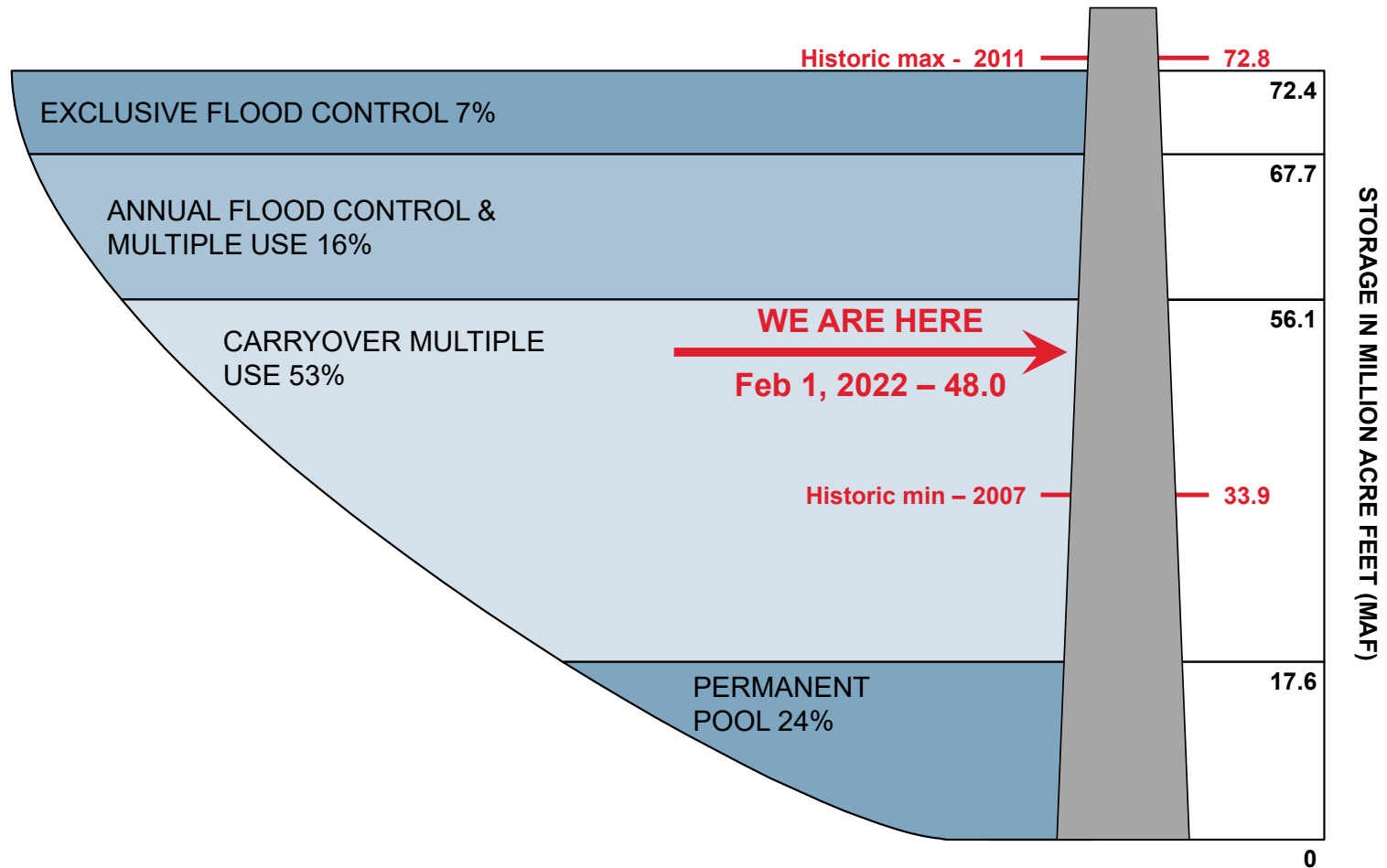
# SYSTEM STORAGE - JANUARY 1 FORECAST







# MISSOURI RIVER MAINSTEM SYSTEM STORAGE ZONES AND ALLOCATIONS





# 2022 RESERVOIR OPERATIONS



- Current Gavins Point Dam Release: 12,000 cfs (minimum winter release)
  - Releases will be adjusted as necessary based on cold weather conditions
- Municipal/Industrial Intakes at Risk of Shutting Down
- Sudden and Severe Cold Weather can Cause “dips” in WSE
- Development of Ice Dams/Jams Limit System Operational Options
- Travel Time from Gavins Point to Critical Downstream Locations is >2 days
  - Minor Adjustments to System Releases can Mitigate Some Impacts
  - The Further Downstream – Less Ability to Mitigate
- To Date:
  - One Power Plant was Taken Off-line
  - Two Power Plants were Close (<1 foot)
  - Two Municipal Intakes were Close (< 1 foot)
  - Some Utilities are Initiating Contingency Operations



# 2022 RESERVOIR OPERATIONS



- Current Monthly Forecast (Updated Monthly)
  - System storage 8.3 MAF below base of flood control on March 1
    - Fort Peck, Garrison, and Oahe: 9-12 ft below base of flood control
  - Forecast minimum-service navigation flow support April 1 – July 1 (1<sup>st</sup> half)
    - Service level for first half of season and based on March 15 System storage
    - Service level for second half of season and season length based on July 1 System storage
    - Winter Gavins Point releases based on September 1 System storage
- Hydropower: annual generation forecast 7.8 billion kWh
- Recreation, water supply and irrigation
  - Boat ramp issues
  - Potential water supply intake due to low river stages
- Fish and Wildlife / Endangered Species
  - Favor Garrison during forage fish spawn if runoff is not sufficient to keep reservoirs rising
  - Normal summer bird operations anticipated





# COMMUNICATIONS



- Annual Operating Plan; Master Manual
  
- Continually communicate with partners/stakeholders/public
  - Public Meetings (bi-annually) (April COVID permitting)
  - Monthly Stakeholder Calls (January – June, Ad Hoc if needed)
  - Monthly CODEL Calls (January – June, Ad Hoc if needed)
  - Weekly Update Summary
  - Attend Stakeholder Meetings (Navigators, MRRIC, etc.)
  - Press releases (monthly)/interviews/etc.
  - Maintain Web Page
  - Daily Coordination with Partners (WAPA, NWS, USGS, etc.)
  
- Email:
  - [john.i.remus@usace.army.mil](mailto:john.i.remus@usace.army.mil)
  - [missouri.water.management@usace.army.mil](mailto:missouri.water.management@usace.army.mil)
  
- Phone Number: 402-996-3840

https://www.nwd-mr.usace.army.mil/rcc/reports/pdfs/weeklyupdate.pdf

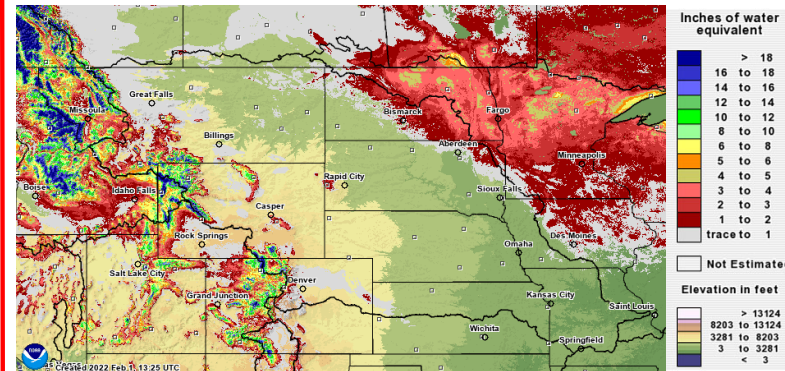
## Missouri River Basin – Update – 01 Feb 2022

10

### Mainstem Reservoir Status:

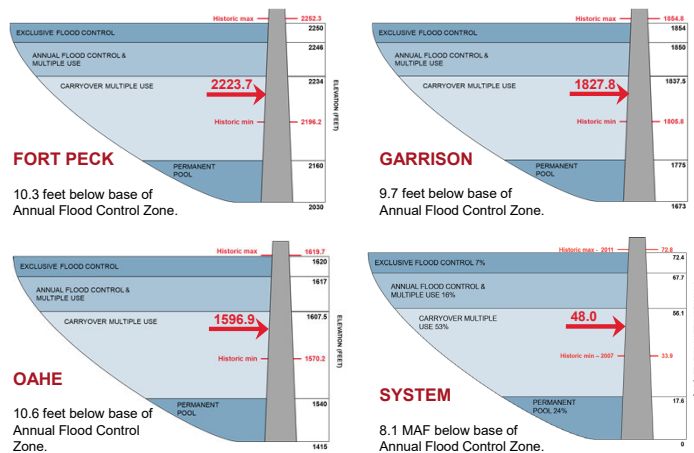
- ❖ System storage is 48.0 MAF, 0.1 MAF more than last week.
- ❖ The 2021-2022 Final AOP has been posted to our website ([click here](#)).
- ❖ January runoff was 111% of average ([click here](#)). The calendar year forecast, updated today, for the Missouri River Basin above Sioux City, IA is still 21.7 MAF (84% of average).
- ❖ The Gavins Point release is at the winter minimum of 12,000 cfs. The release schedule for Gavins Point is provided in our daily forecast ([click here](#)).
- ❖ Around 1 to 4 inches of snow water equivalent (SWE) remains in North Dakota and northeastern South Dakota (upper right quadrant). Zero to 1 inch of SWE covers the remainder of the plains.
- ❖ Mountain snowpack (lower right quadrant) is slightly below average. The 30-year average lines (1991-2020) for both reaches slightly below will be updated when data becomes available.
- ❖ Refer to the 3-Week Forecast ([click here](#)) for the most up-to-date System information – pool levels, inflows, and releases.

### Plains Snowpack February 1, 2022



\*Source: <https://www.nohrsc.noaa.gov>

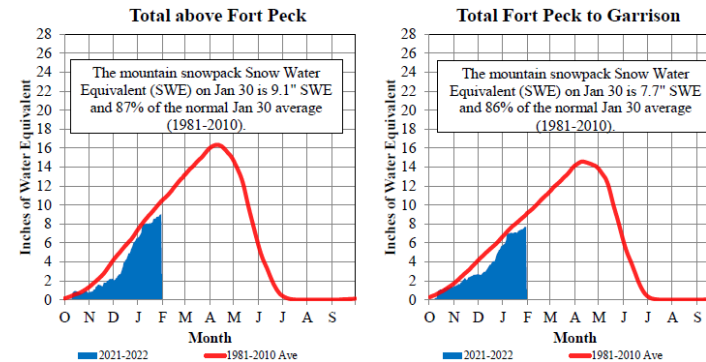
### Current Reservoir Levels



[Click Here](#) for Latest 3-Week Forecast

[Click Here](#) for Comparison Plots

### Mountain Snowpack January 30, 2022



The Missouri River Basin mountain snowpack normally peaks near April 15. The 30-year average lines (1981-2010) for both reaches will be updated when the data becomes available to (1991-2020).



# QUESTIONS