ABRFC Reservoir Ops/HEFS Products

FIRO Workshop
September 12, 2019

Eric Jones
DOH ABRFC

Raw Model

Arkansas-Red Basin
River Forecast Center

- ABRFC produces raw model forecast every 6 hours
- Based on RFC QPF/WPC Probabilistic QPF
- 72 hours of PQPF/168 hours of RFC QPF
- 12-24 increments on traces
- Thresholds ranging from 5%-95% exceedance
- Includes most RFC Forecaster modifications to regular model

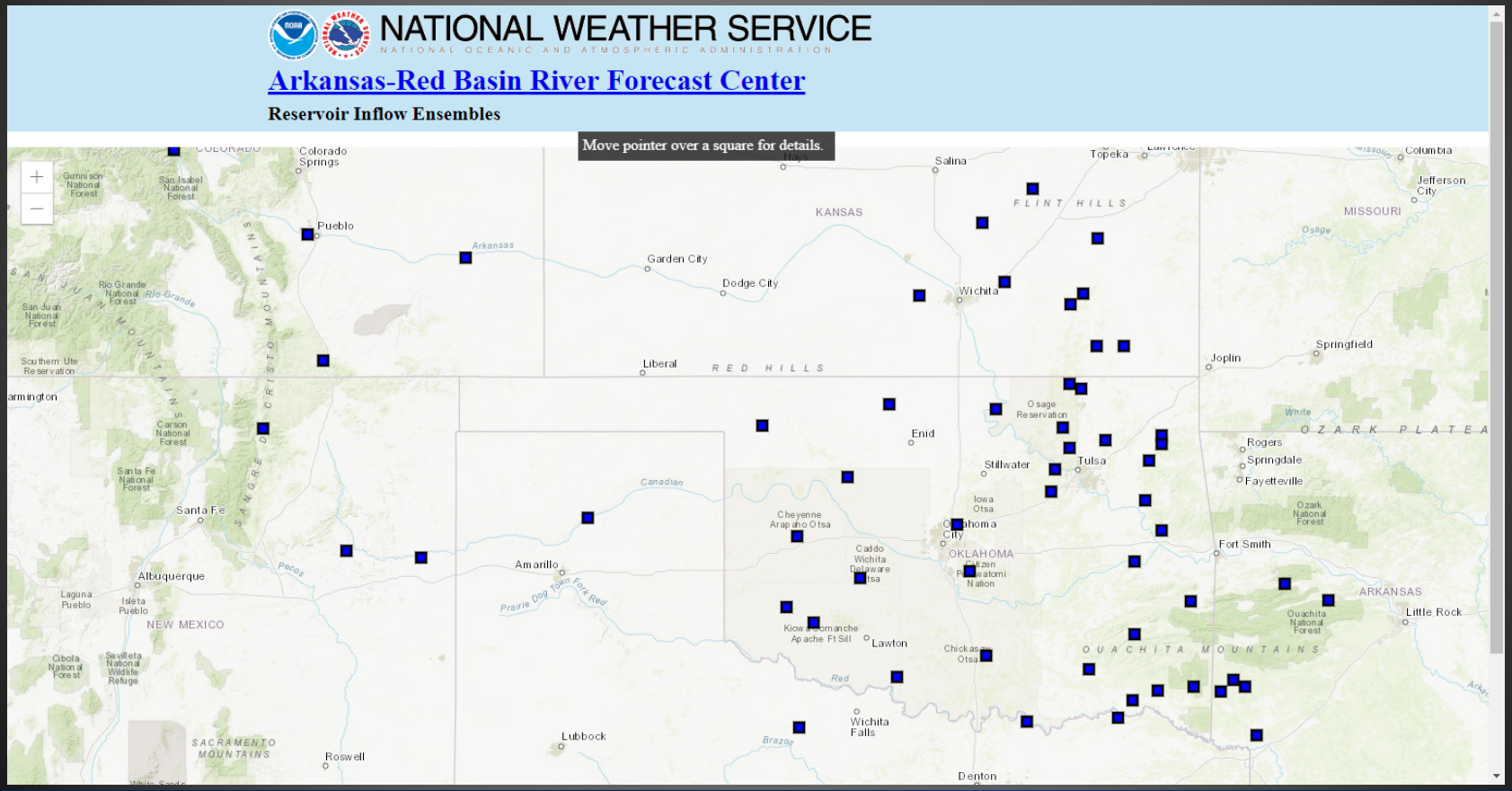
Reservoir Raw Model

Arkansas-Red Basin
River Forecast Center

- Webpage:
- https://www.weather.gov/source/abrfc/RawResInflow/
- Updated by 14z,20z,02z
- CSV format at the request of USBR

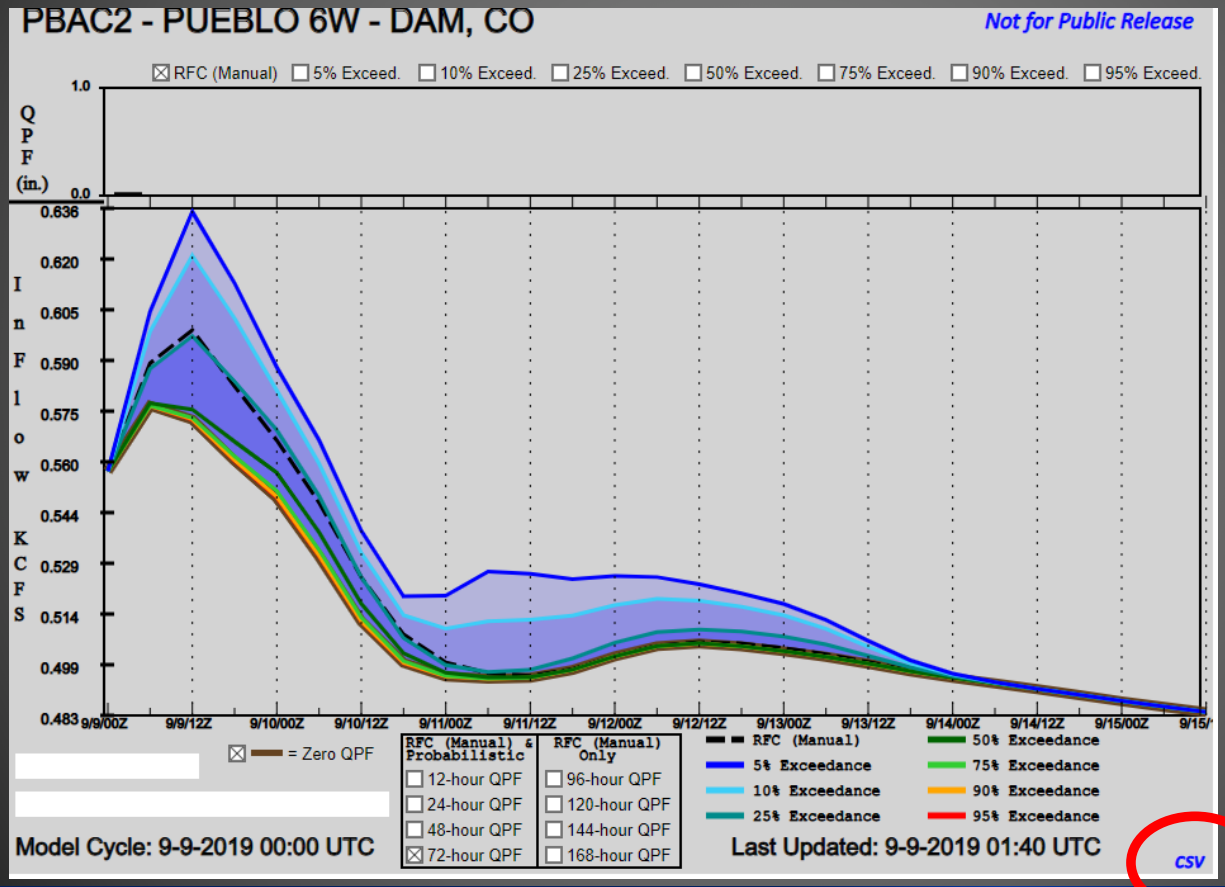
Reservoir Raw Model

Arkansas-Red Basin
River Forecast Center



Reservoir Raw Model

Arkansas-Red Basin
River Forecast Center



Long Range ESP/HEFS products

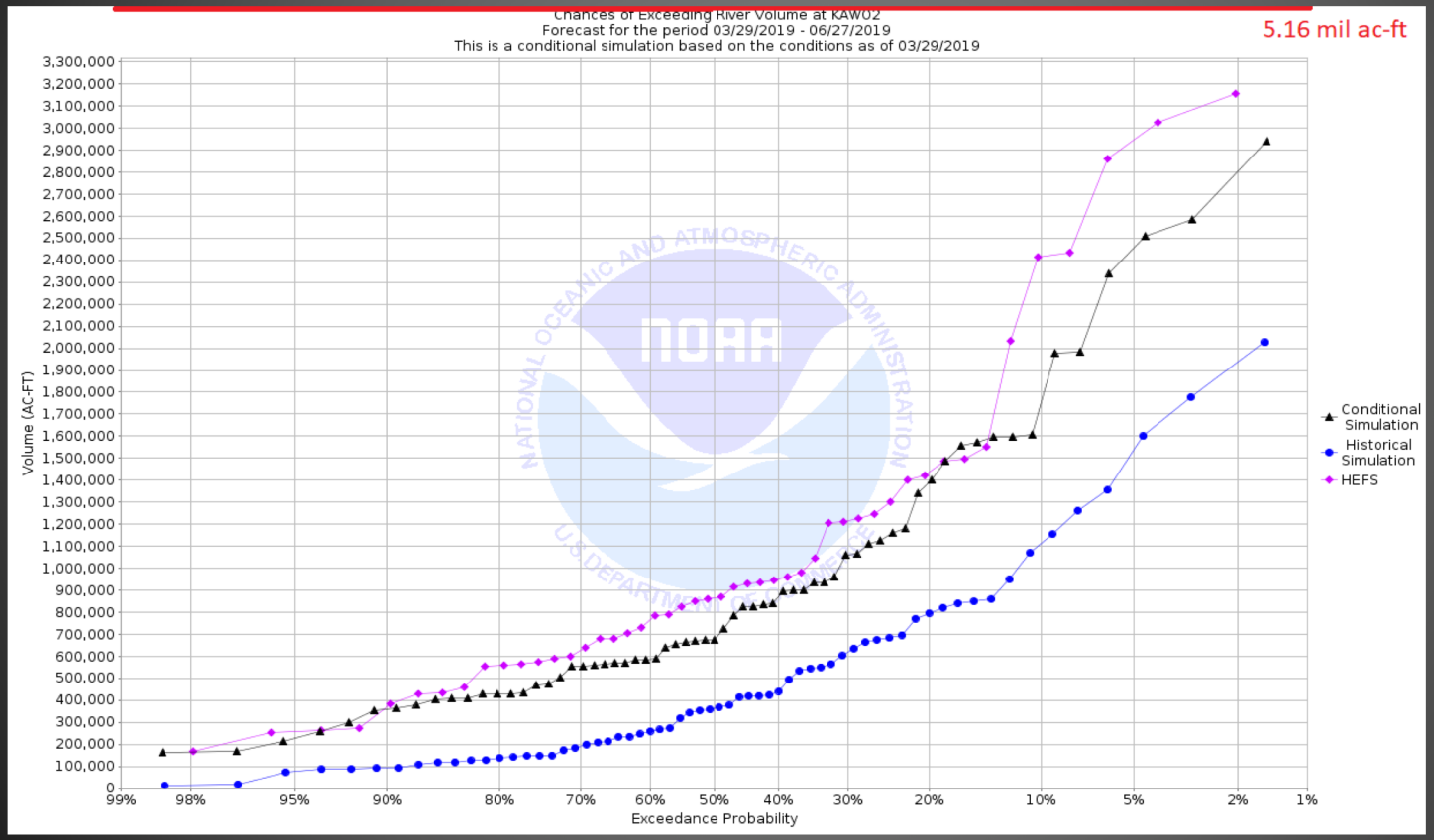
ESP/HEFS

Arkansas-Red Basin
River Forecast Center

- Official ESP/HEFS long range produced 2nd/4th Thursday of month
  - Ran everyday but no official graphics produced
  - 90 day outlook
- Uses 15 days of GEFS QPF/90 days CFSv2
- Long range precip shows some skill compared to climatology 30+ days
  - Better with strong climate signal (empirical conclusion)

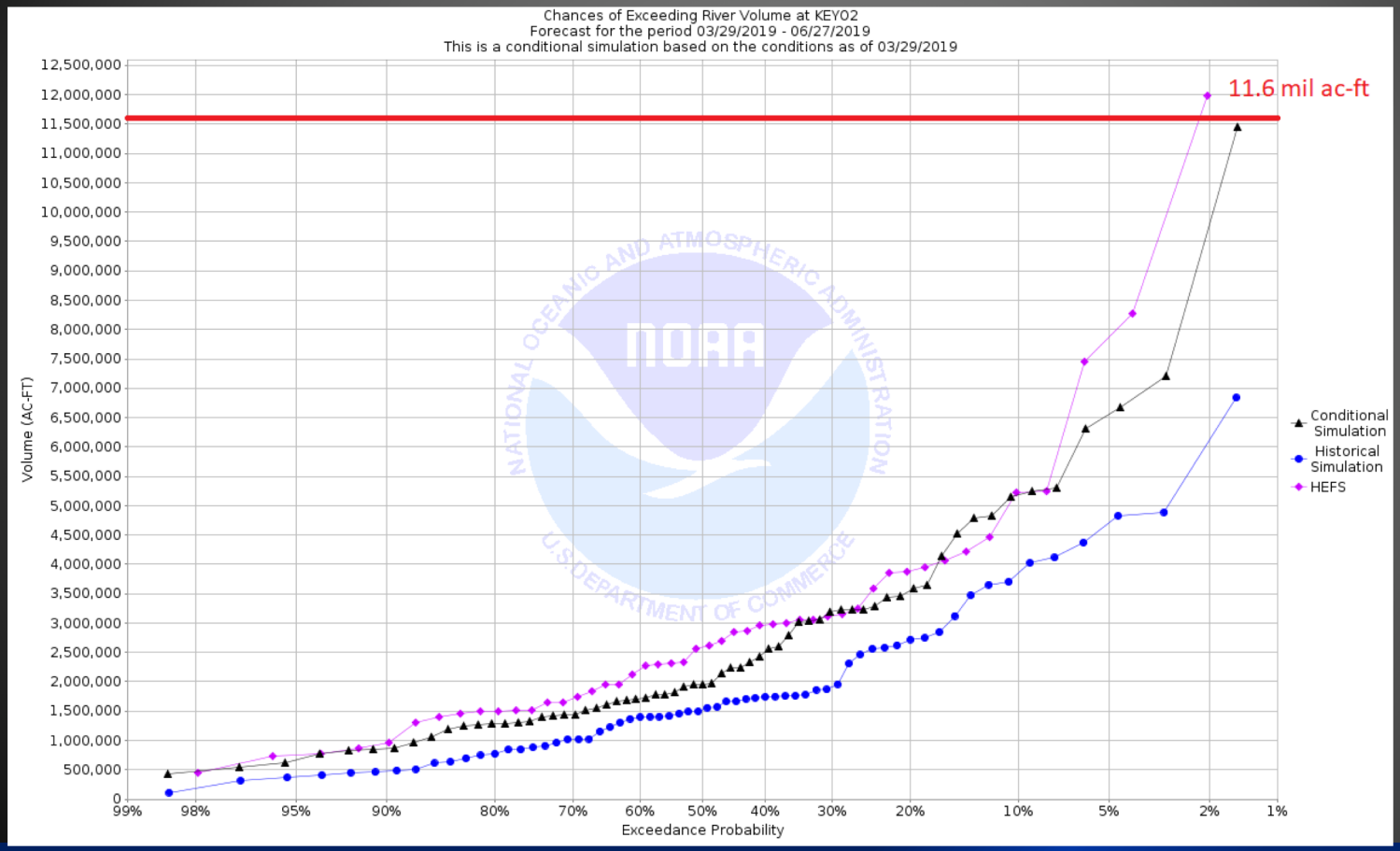
AHPS Spring 2019

Arkansas-Red Basin River Forecast Center



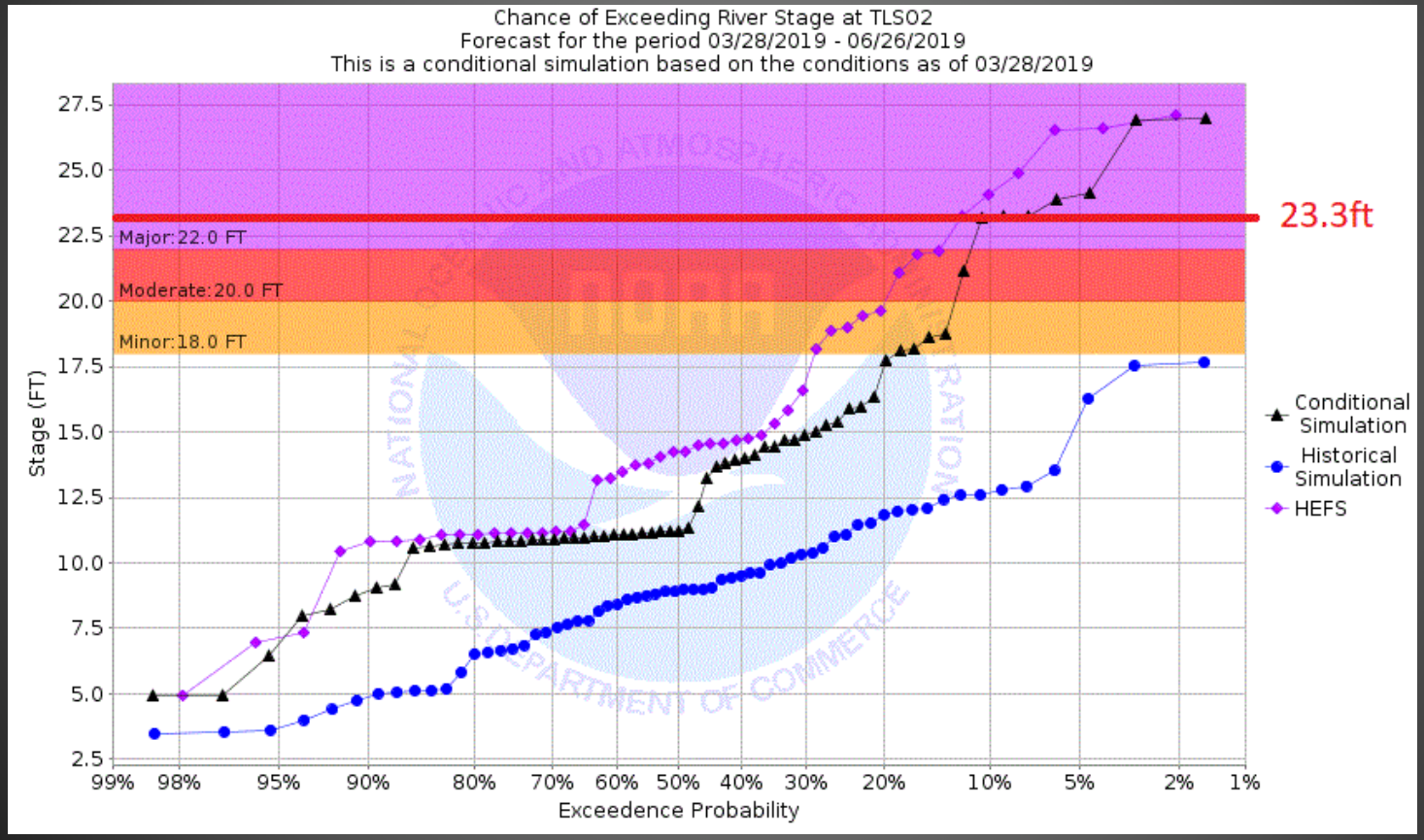
AHPS Spring 2019

Arkansas-Red Basin River Forecast Center



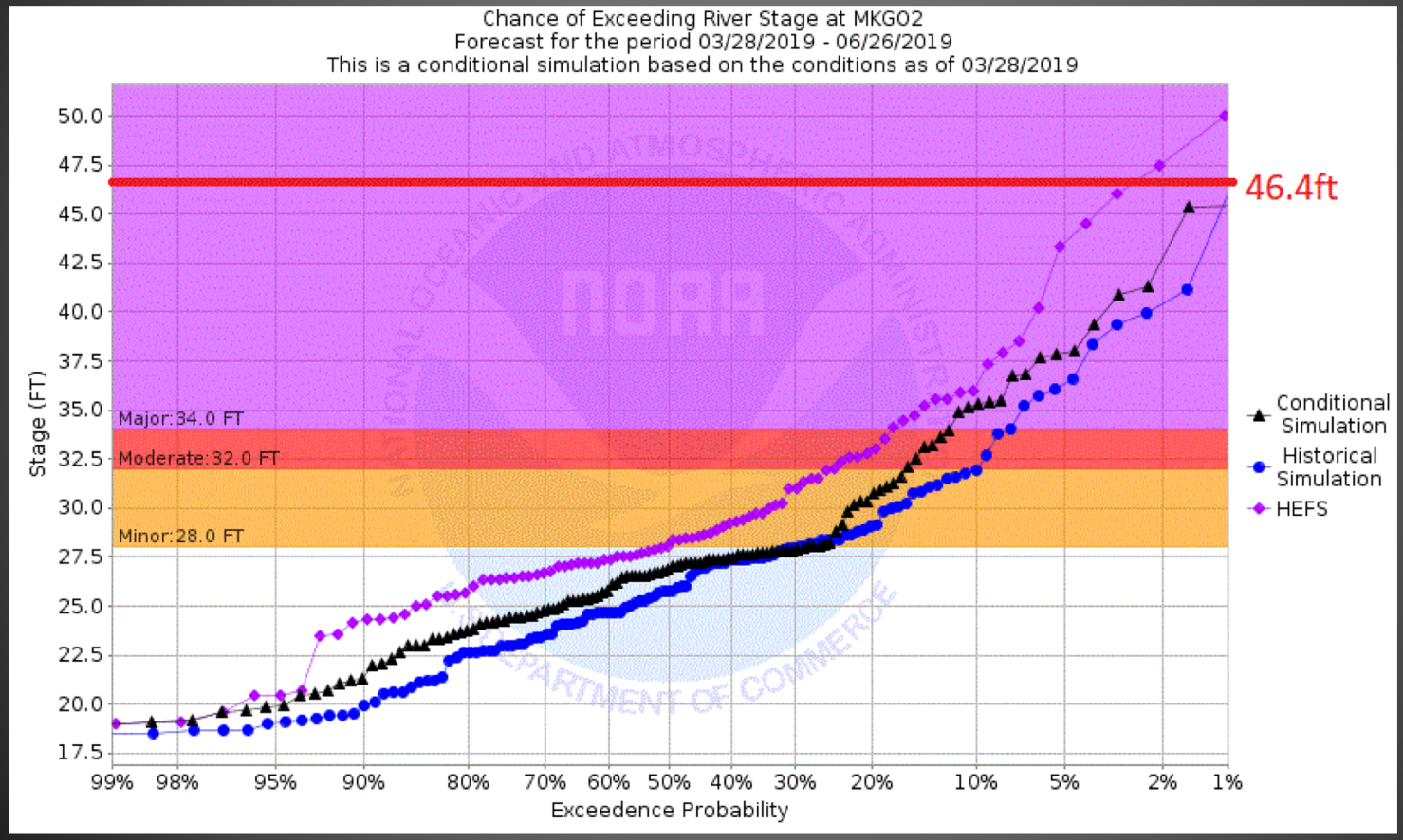
AHPS Spring 2019

Arkansas-Red Basin
River Forecast Center



AHPS Spring 2019

Arkansas-Red Basin River Forecast Center



Wrapup

- PQPF can be used for short range forecasting
- Can ESP/HEFS long range forecasting be used to modify seasonal reservoir pools?
  - If there is an 80% chance above normal what happens if reservoirs are adjusted but the 20% below normal occurs?
    - Will public focus on these events?
    - Is the risk worth the reward?
- Any formal use needs to account for ABRFC model biases based off hindcast results

QUESTION????????