Water Supply Availability Committee/Drought Readiness Council Meeting – December 14, 2022

Phone Conference – Meeting Notes

Attendees

Ryan Andrews – OWRD (Chair)
Curtis Peetz – OEM
Carrie Boudreau – USGS
Henry Pai – NWRFC
Tom Elliott – DOE
Larry O'Neill – OCCRI/OSU
Andy Bryant – NWS
Matt Warbritton – NRCS
Peter Cooper – USBR
Kain Shaffer – USBR
Andy Martin – USACE

Presentations – update on water supply conditions

Matt Warbritton

- Statewide snowpack measuring 179% of median – all basins well above median
  - Start to WY2023 much better than previous few years
- Statewide precipitation measuring 88% of median
  - West side lagging behind relative to eastern Oregon
  - Much of east side near or above median
- Plots comparing precipitation to SWE at several locations show that large proportion of early season precipitation fell as snow as opposed to rain
- Soil moisture conditions are at or near record lows in central and southern Oregon
  - Soil moisture in northern Oregon a little better
  - Dry soils with snow overlain on top prevent moisture from reaching the soil until melt, so with persistent cold soils will remain dry

Andy Bryant

- Temperatures
  - Cooler temperatures and lower snow levels (in terms of snowline elevation)
  - November temperatures were well below average - large region of coldest on record in SE Oregon
- Precipitation
  - Precipitation deficits in Coast and mid Cascade Range
  - December precipitation well below average in western OR - climatologically November and December are typically wettest months
    - Persistent deficits in central Oregon
- Outlook
  - Large amount of uncertainty in precipitation over next couple weeks - unlikely for low-elevation snow in western OR
  - Precipitation amounts likely to be well below average
  - Little beneficial precipitation for central and western Oregon for rest of December
- Weak La Nina likely to continue through winter

Henry Pai

- Runoff volume since beginning of water year well below average throughout state
- Updated observed natural runoff volumes - some missing data at key sites so some data was rolled back and will be recalibrated at some point
- Seasonal forecast volume (April through September) shows drastic difference from observed runoff so far due to precipitation falling as snowpack
- Conditions closer to normal in NW/Valley and NE OR, below normal in SW and eastern OR
- Natural Volume Forecast
- Willamette R at Salem difference in water year and seasonal volume forecast caused by lack of precipitation in first quarter of water year
- Umatilla nr Umatilla December forecast well below average with forecasts expected to reach closer to normal later on
- Owyhee at Owyhee Dam healthy snowpack is benefitting forecast volumes; consecutive years of dry conditions contributing to low soil moisture buckets that likely impact forecasts

Larry O'Neill

- Two-month start to water year is 37th driest statewide
    - 5.56"; 1.42" less than 1981-2010 average (79.7%)
    - Counties in western and southern OR below average; northern and eastern near average or above
- Historically dry start to water year in Eugene and Salem
    - No measurable precipitation for first 21 days
    - Similar story in Portland (20 day dry start)
- Calendar year precipitation through November 32nd driest since 1895 (88.8% of average)
    - 2022 shaping up to be 5th consecutive calendar year of below average precipitation statewide
- SPEI over different time scales shows varying degrees of severity
    - Severity tends to increase over longer time scales (up to 36 months)

Carrie Boudreau

- 28-day and 7-day streamflows below to well below normal
- Warm Springs R well below average
- John Day R nr John Day approaching well below average
- Nehalem R nr Foss upper end of average
- Siuslaw R nr Mapleton trending average
- Chetco R firmly in average
- Ashland Cr nr Ashland well below average
- Upper Klamath Lake elevations in middle of range over past 10+ years
- Donner Und Blitzen R nr Frenchglen below average
- Owyhee R nr Rome just below average
- Many sites along the Cascades and in eastern OR recording below average or record low streamflows over past 14-day period
- Statewide hydrograph at lower end of average

Ryan Andrews

- Drought declarations to expire end of calendar year
- November streamflows well below average throughout most of state
    - Exceptions in some northern counties
- Streamflow over water year to date well below average outside of Umatilla basin
- 28-day streamflows below to well below average statewide
    - Some record low flows scattered throughout
- 7-day streamflows picked up a bit on west side
- Hydrographs for western streams reflect poor start to water year with most below 40% of average
    - Some spike in streamflows over past week but quickly receding

Peter Cooper

- Reservoirs releasing winter minimums to continue filling
- No flood risk management operations occurring
- Below normal inflows
- Much below normal storage content in southern, central, and southeastern basins (Rogue, Deschutes, Crooked, Malheur, Powder, Owyhee) similar to 2022
- Below normal storage content at Scoggins but will catch up to normal quickly with storms
- Above normal and higher storage content than 2022 in northern basins (Unity and McKay)
- Owyhee storage content around 10th percentile - similar to 2022
- Warm Springs near period of record minimum due to low carryover and low inflows
- Unity Reservoir above average storage and above last year
- Phillips essentially empty on Powder River
- Deschutes system well below average, a little better than last year
- Prineville Reservoir setting new period of record minimum - new period of record minimum was set last year
- Ochoco near record low
- Rogue system near record low contents
- Scoggins drafted for demands through early November

Andy Martin

- Ideally want to be at minimum conservation elevation at all Willamette Projects in winter
- Fall Creek below allowable storage due to fish passage, acting as run of reach rather than reservoir
- Cougar is about 10% below allowable storage, but will allow to fill over next ten days
- Rogue lower than minimum conservation, deficit split pretty evenly between Lost Creek and Applegate
- USACE is typically only responsible for about 50% of the flow that reaches Willamette at Salem

Discussion

Next meeting proposed for January 18th