Module 2: Improving water rights interruption modeling

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Module Description

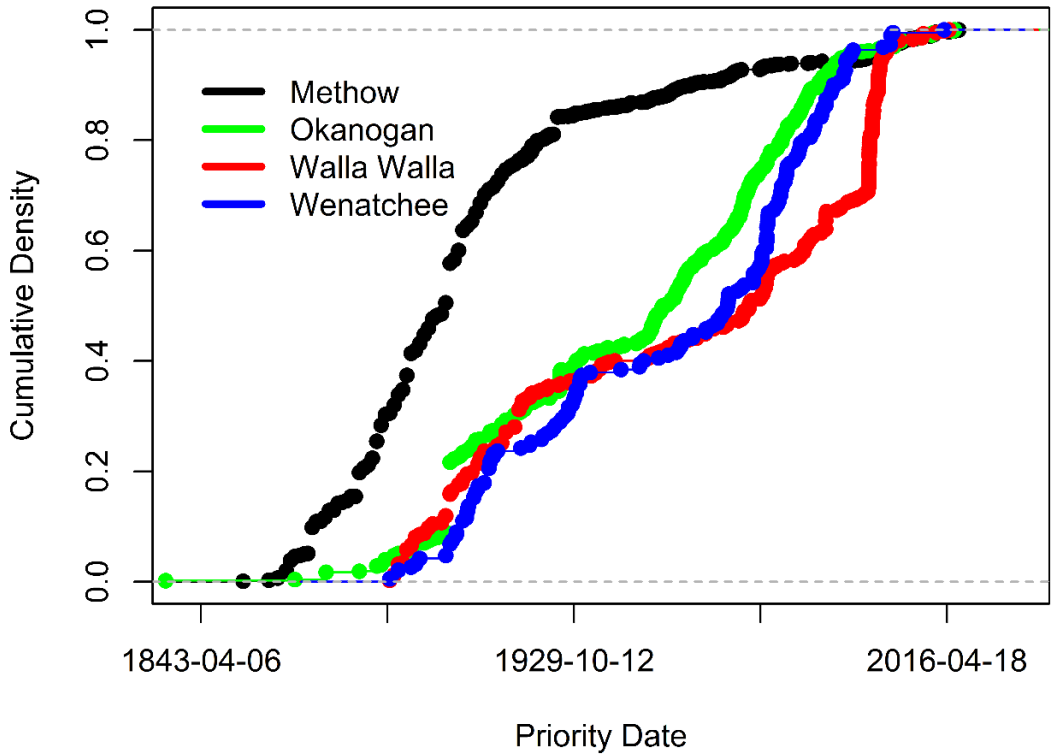
- Previous Forecast only considered interruption against instream flow requirements.
  - Not realistic
  - Critical aspects such as senior water right holders calling upon junior rights holders, ground water interruption, and supplemental ground water use are ignored
- Through an analysis of water rights and interactions with water masters, this effort will compile the state-of-the-knowledge of interruption data; quantify vulnerability to interruption in below-normal, normal, and above-normal flow years; and provide best practices for future data collection and record keeping.

Tasks

- Analysis of water rights data (Phase 1)
  - GIS spatial analysis of water rights data to group the places of use of water rights and quantity of interruptible demands by priority date thresholds.
- Workshop/meetings with water masters (Phase 1)
  - Workshop or one-on-one meetings with water masters will be undertaken to fine tune priority date thresholds (based on preliminary analysis) applicable in dry, average, and wet water supply years in curtailment locations, like the Walla Walla, Yakima, and Okanogan Basins.
- Develop expanded water rights interruption modeling framework (Phase 2)
  - Based on feedback from water masters, priority-date based cutoffs for interruption of various groups of water rights will be finalized, and incorporated into an extended interruption modeling framework.
- Scenario runs as part of Tier Analysis (Phase 2)

Progress

- Data cleaning
- Creek delineation and associated water rights
- Priority relationships for curtailments


Cumulative Density
0.0
0.2
0.4
0.6
0.8
1.0
Methow
Okanogan
Walla Walla
Wenatchee
1843-04-06
1929-10-12
2016-04-18
Priority Date

What scale do we build the build the model at?

OKANOGAN SURFACE WATER RIGHTS

- 5th quintile priority (most senior)
- 4th quintile priority
- 3rd quintile priority
- 2nd quintile priority
- 1st quintile priority (most junior

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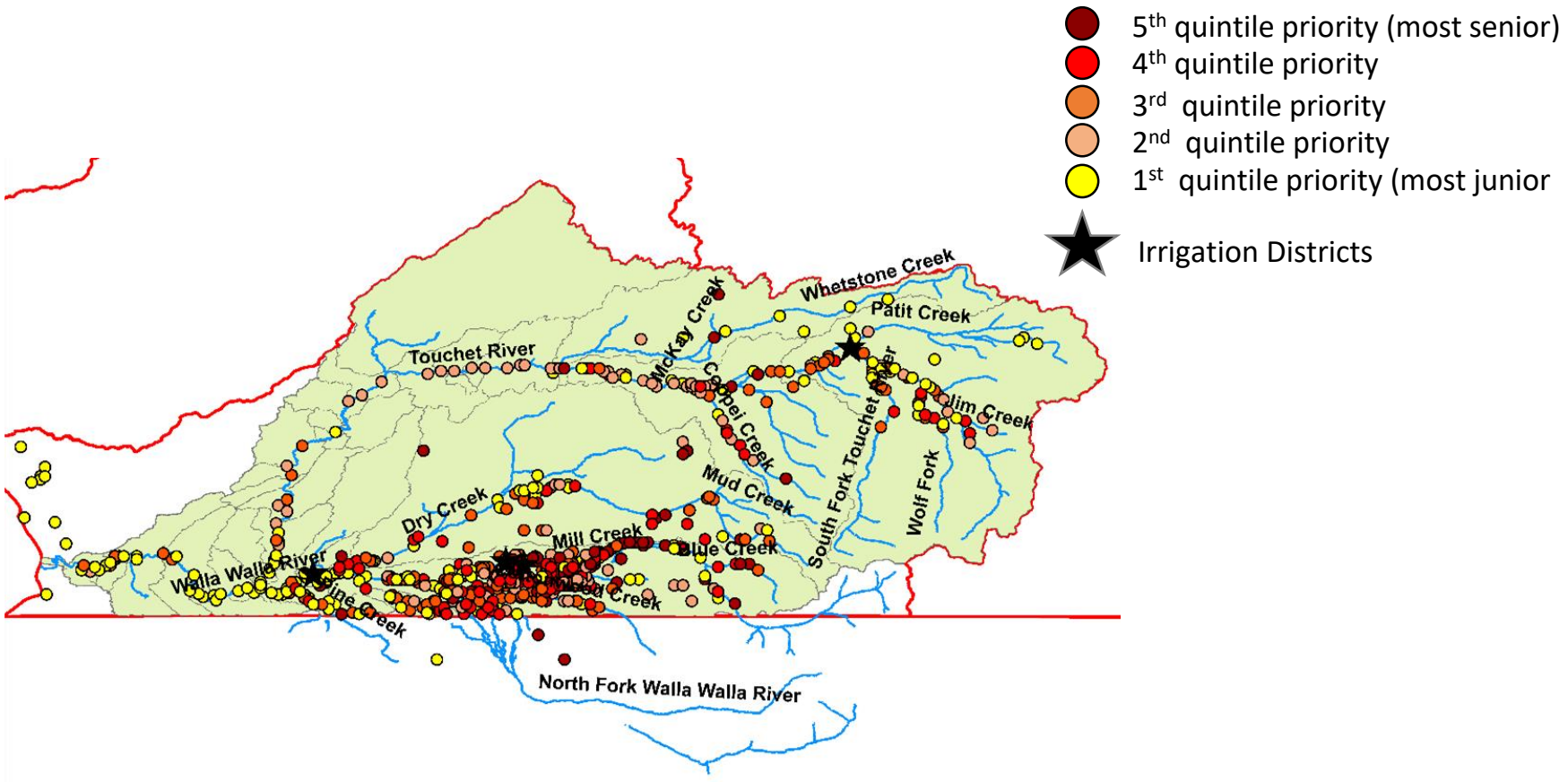
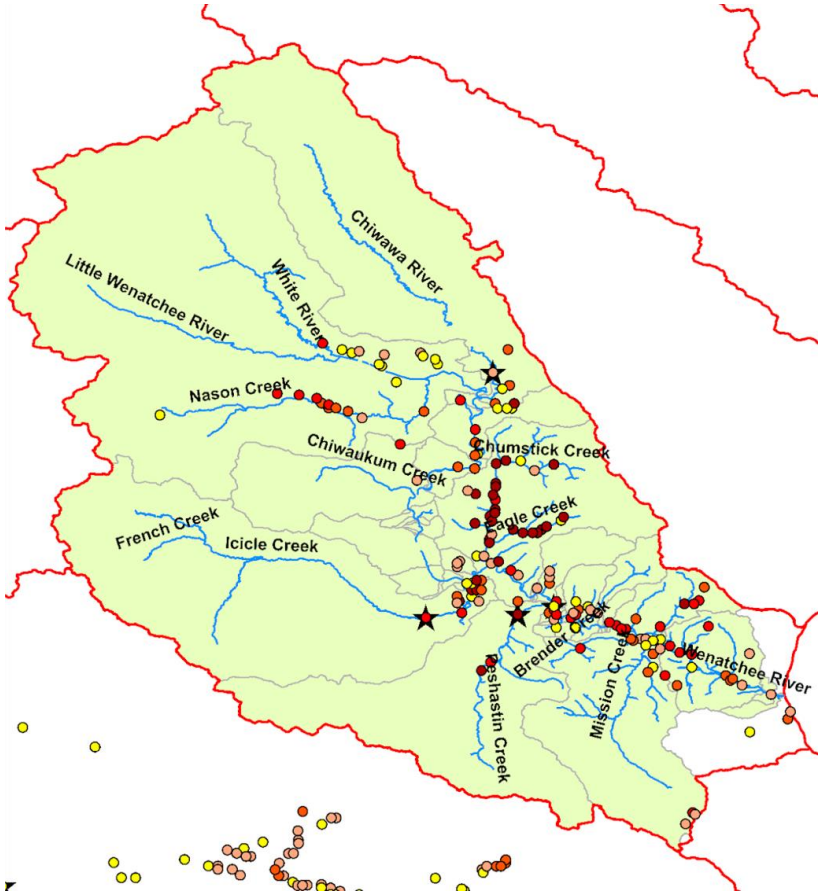
WALLA WALLA SURFACE WATER RIGHTS



WENATCHEE SURFACE WATER RIGHTS



- 5th quintile priority (most senior)
- 4th quintile priority
- 3rd quintile priority
- 2nd quintile priority
- 1st quintile priority (most junior

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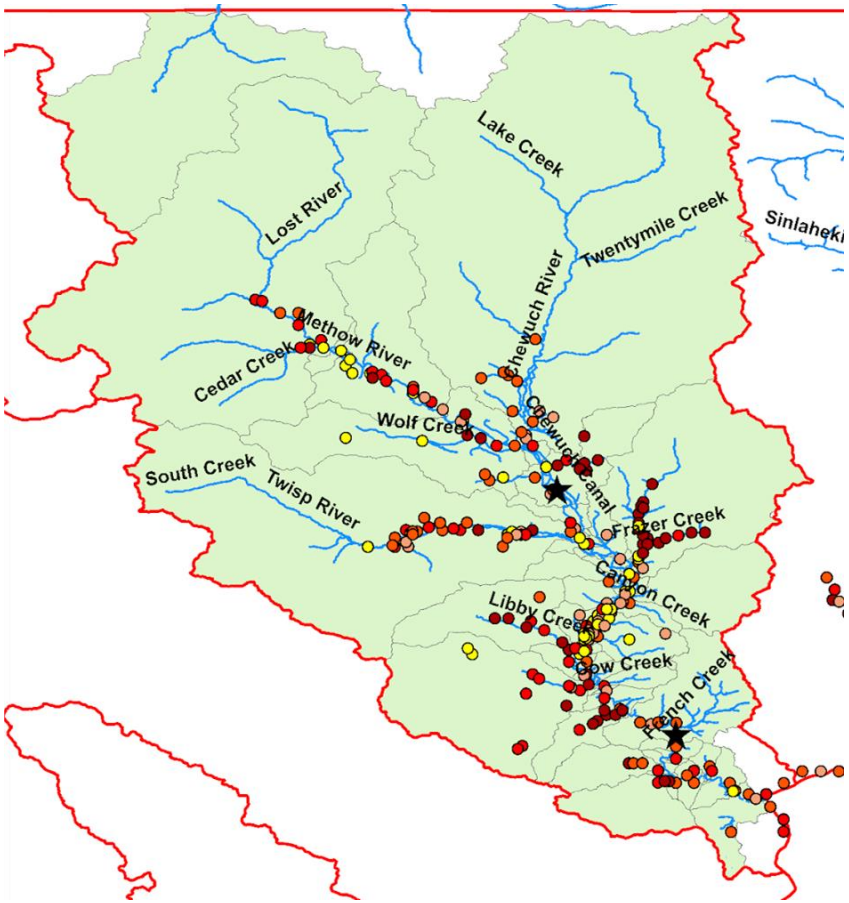
METHOW SURFACE WATER RIGHTS



- 5th quintile priority (most senior)
- 4th quintile priority
- 3rd quintile priority
- 2nd quintile priority
- 1st quintile priority (most junior

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Next steps

- Finalize the analysis
- Meeting with water masters
- Develop the interruption model