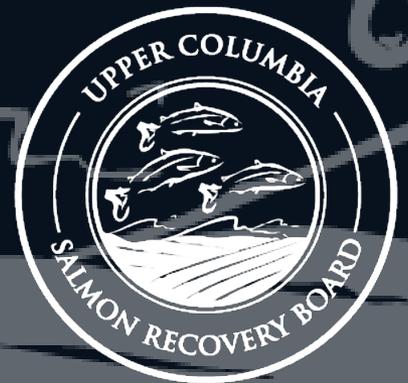


UCSRB Snowpack Model

Melody Kreimes

Forest Health Program Manager





UPPER COLUMBIA



Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



FORESTS & WATER



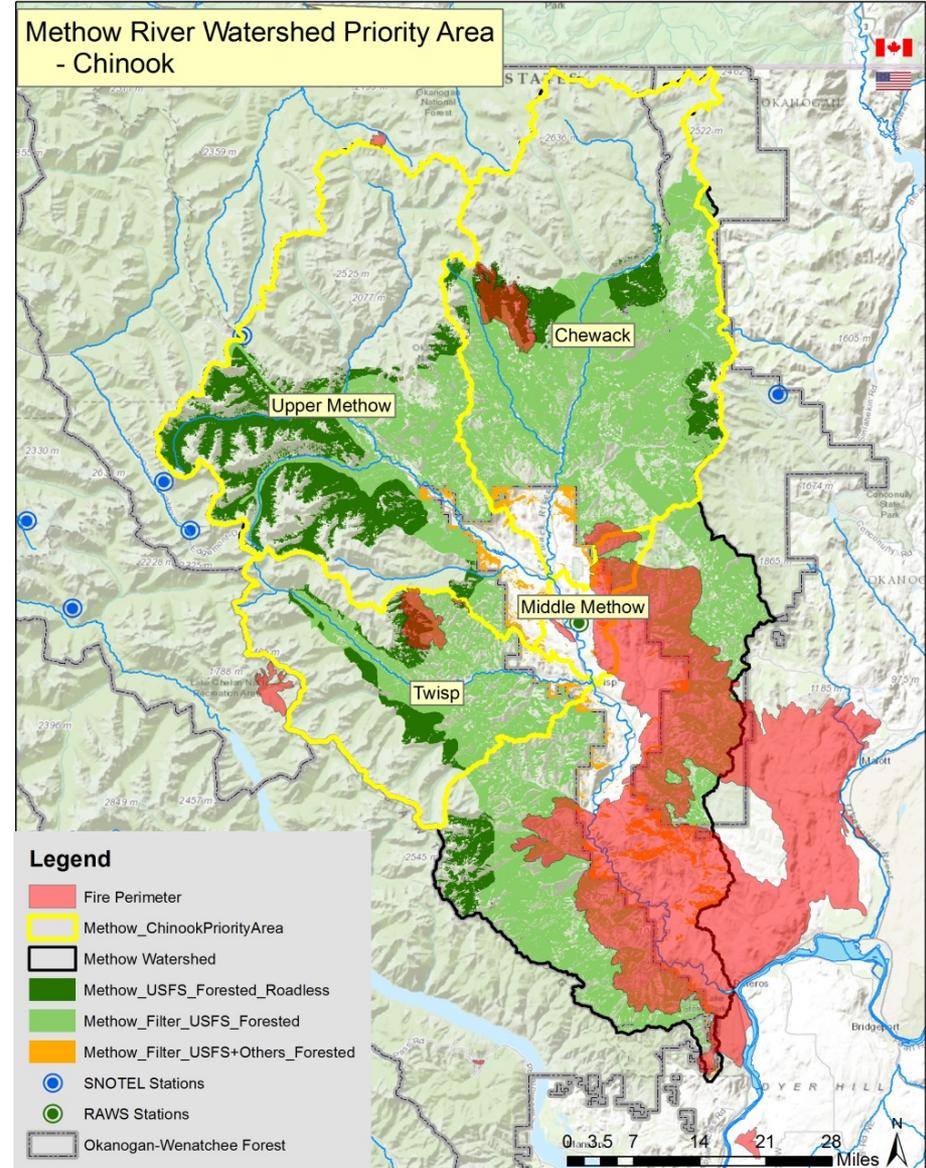
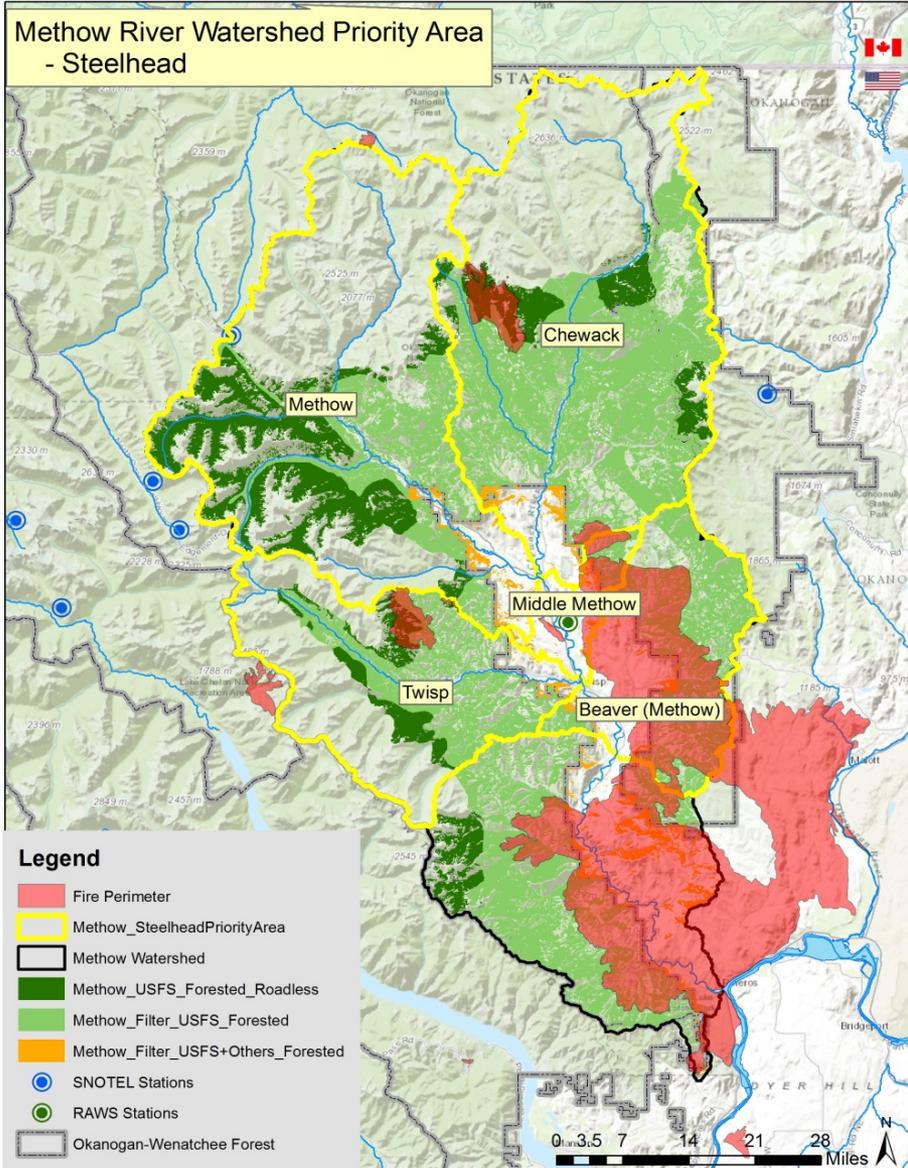
- 40-85% gross precipitation intercepted by vegetation and soil
- Research/field studies: reduced forest canopy decreases evapotranspiration and increases water available for streamflows.
- In snowmelt-dominated regions increased water occurs with snowmelt.

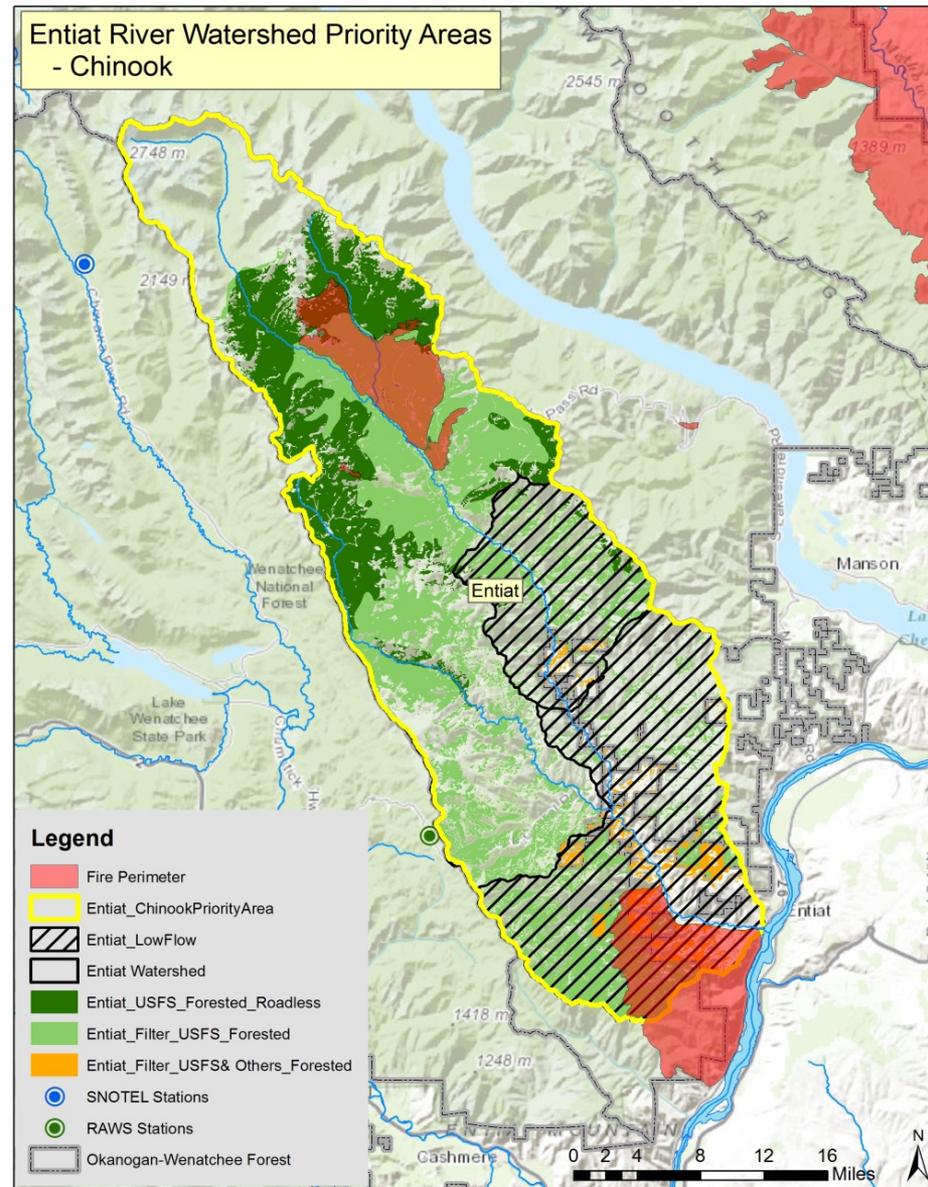
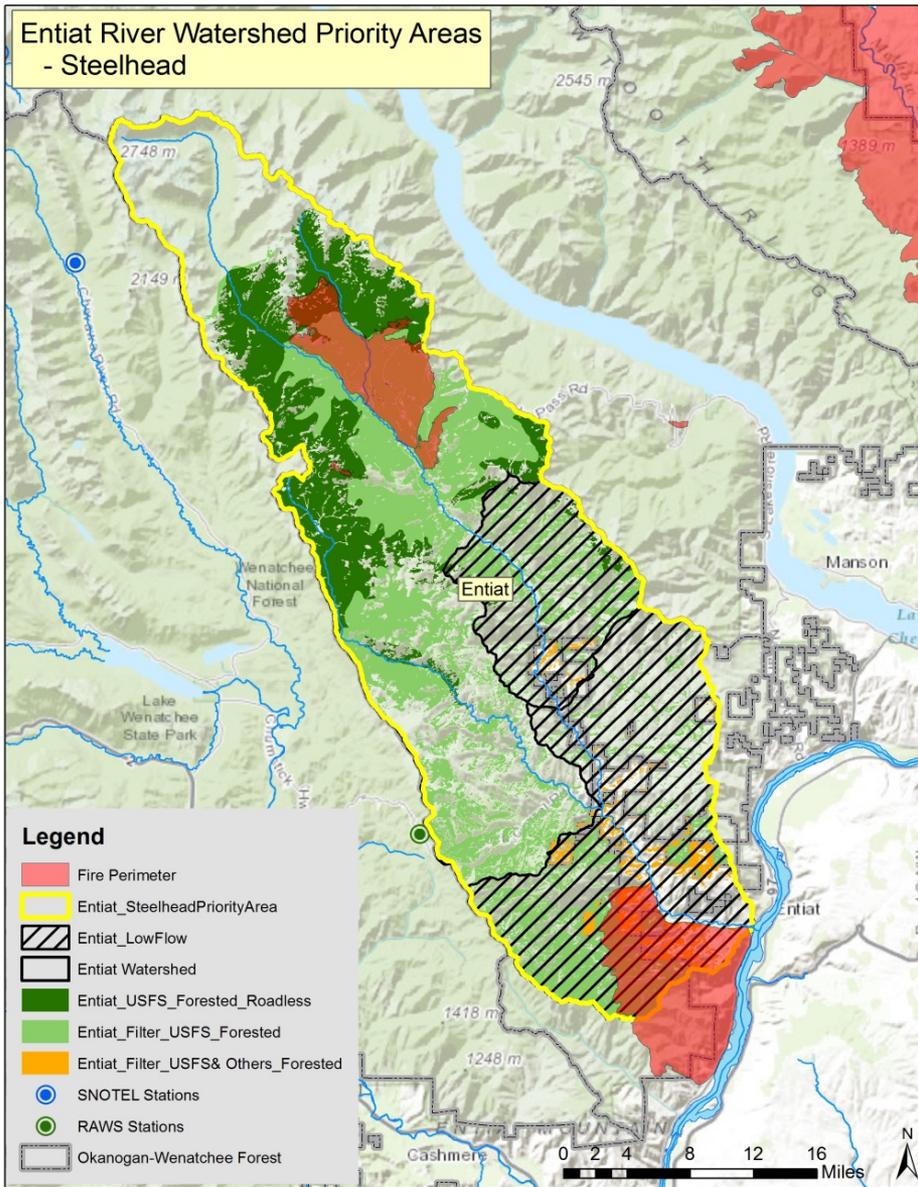
- Phase I
 - Parameterize and test a model to evaluate potential to increase snowpack, and thus water yields, through forest restoration
- DHSVM Data Layers:
 - Hydrological
 - Soil
 - Vegetation
 - Meteorological
 - Forest restoration scenarios
 - Climate change scenarios
 - Wildfire probability

**Distributed
Hydrology
Model**



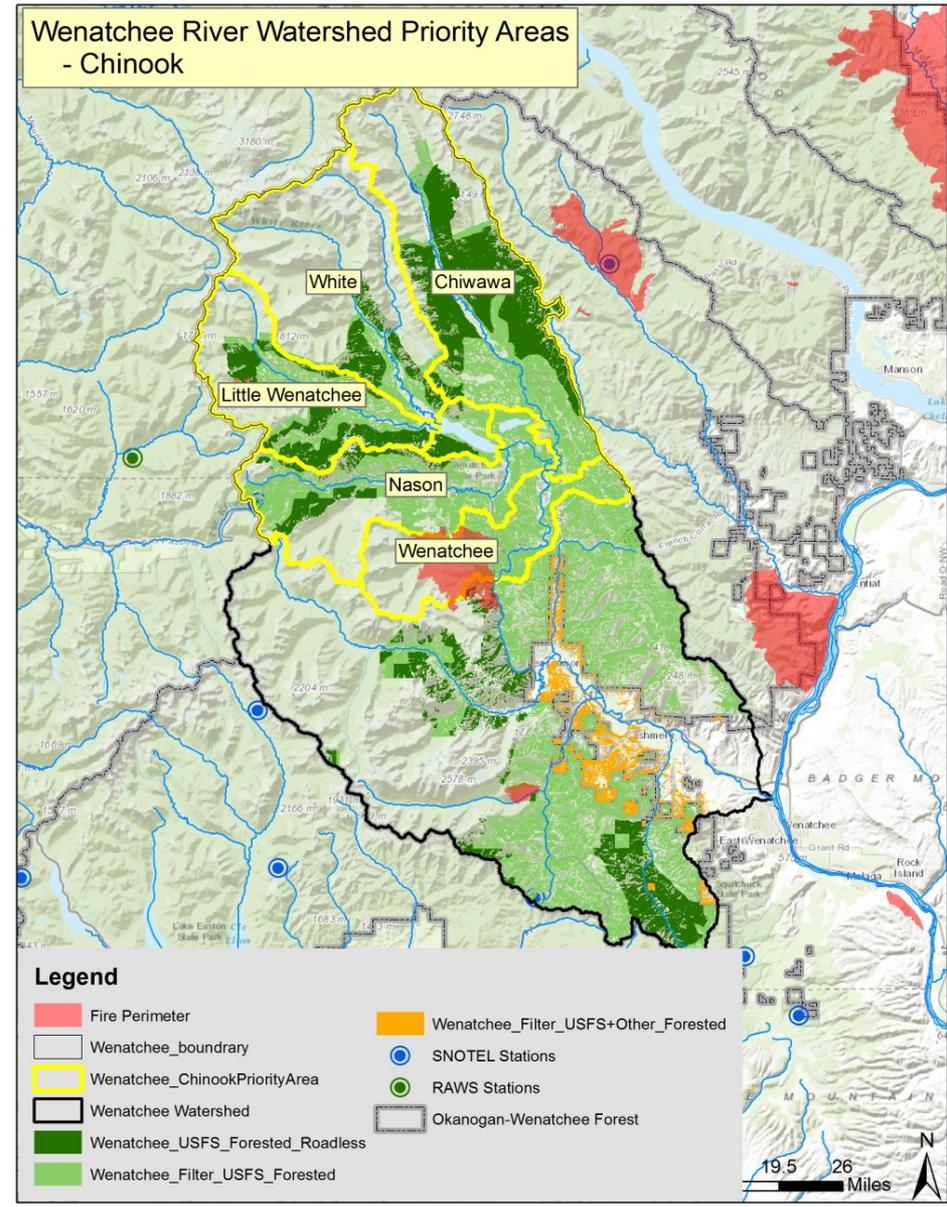
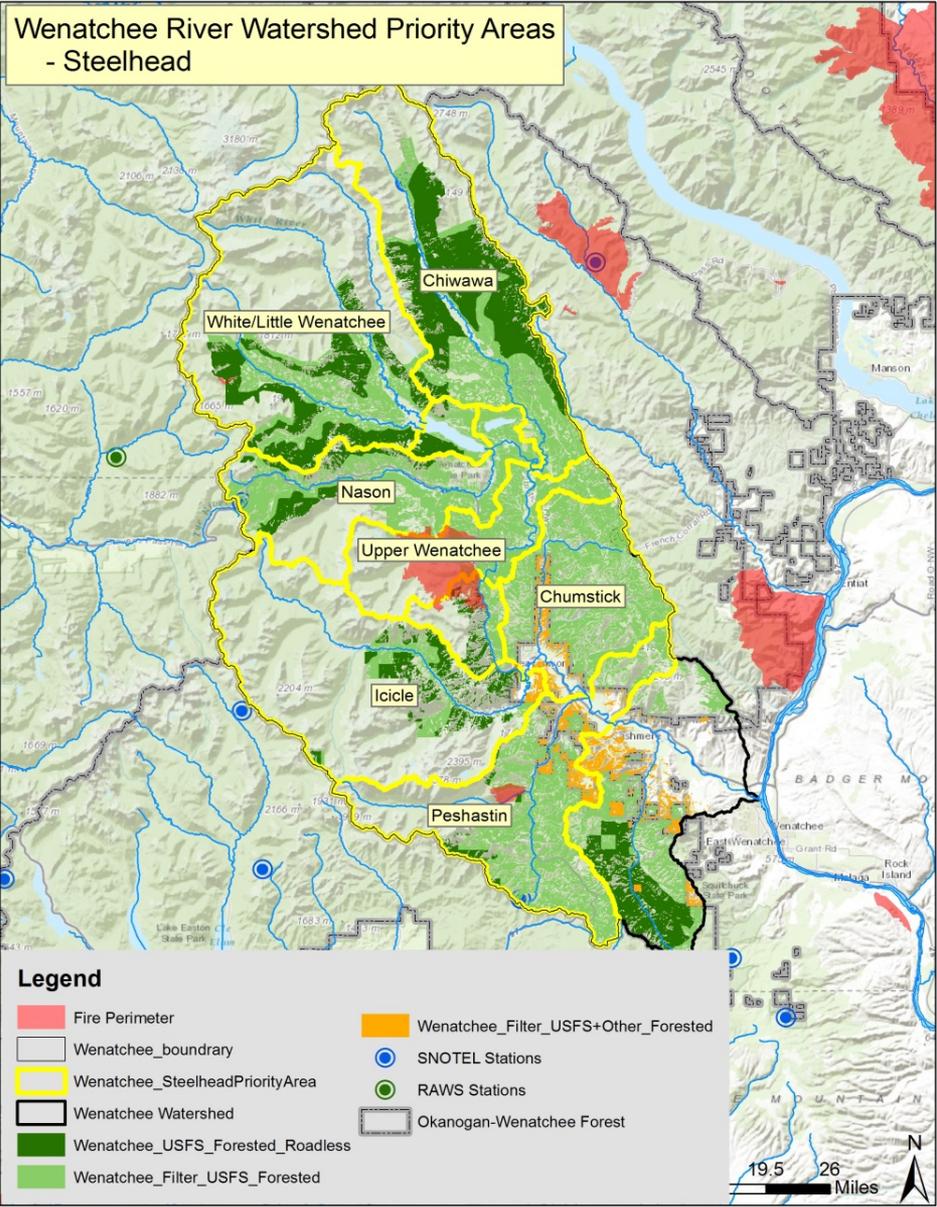
Methow Subbasin





Entiat Subbasin

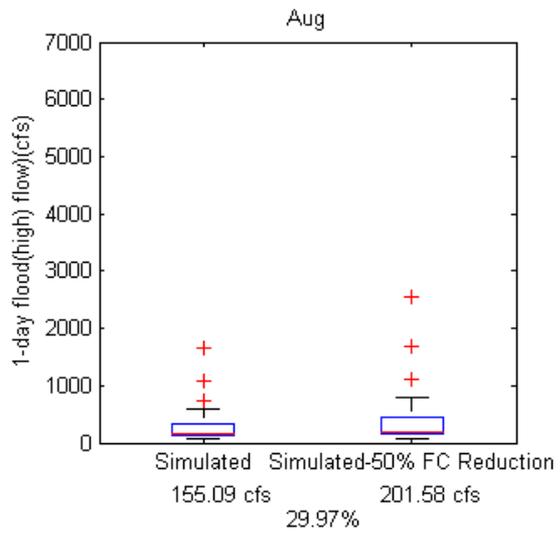
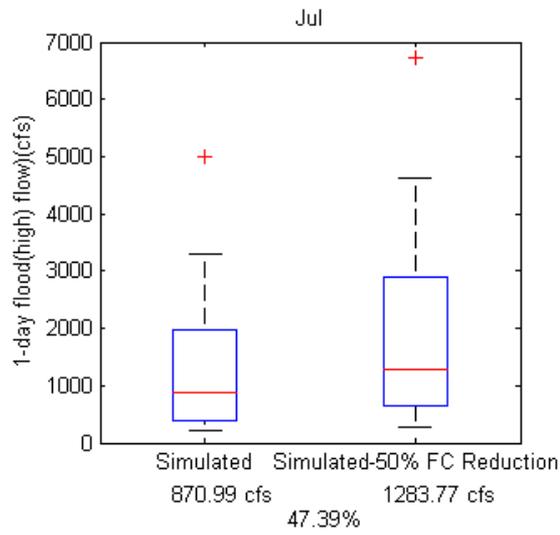
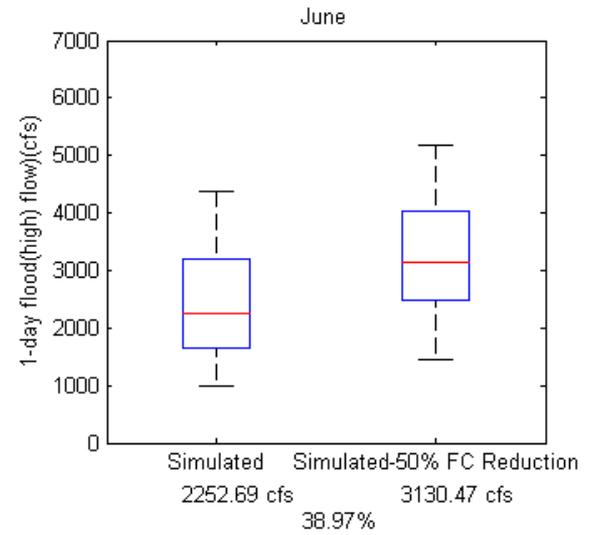
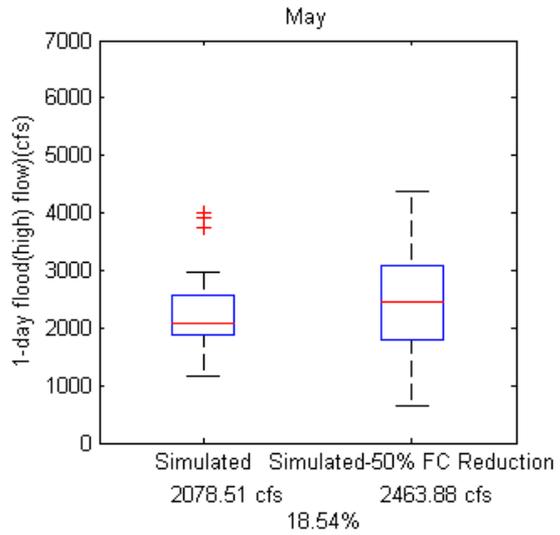
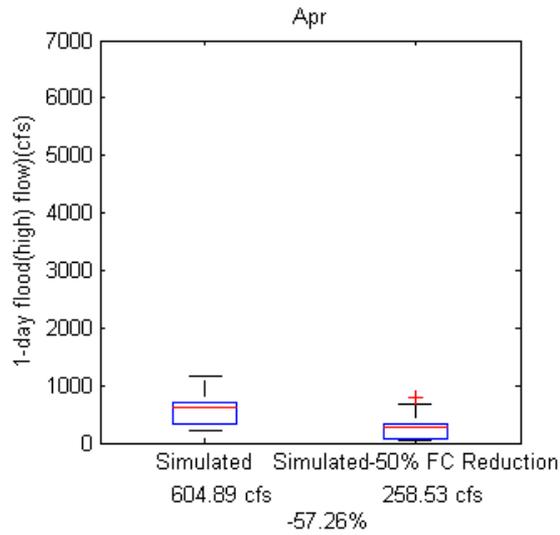
Wenatchee Subbasin



Upper Entiat Simulated Flow Metrics



1-day High Flow(April-August)

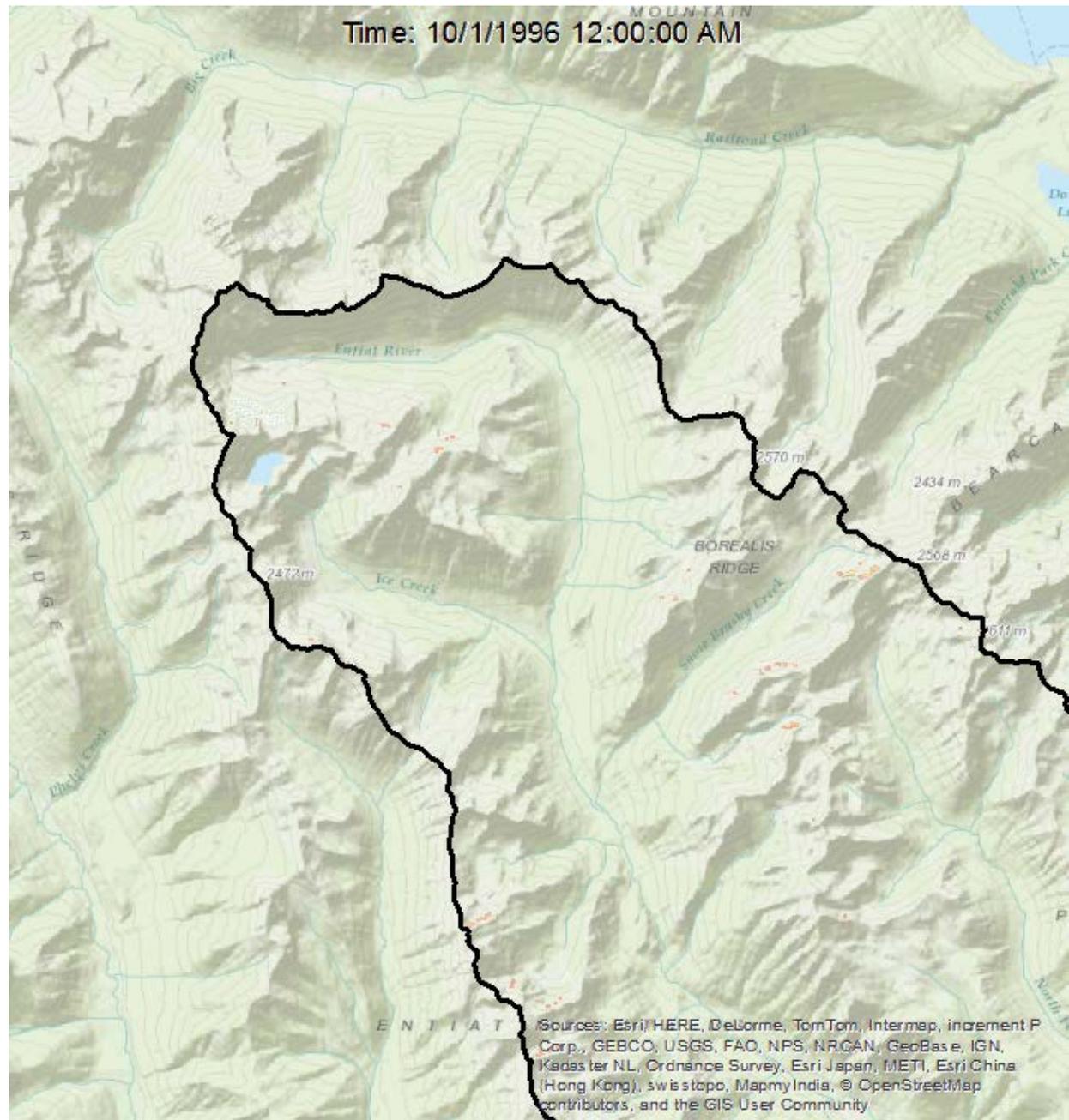


Decision-Support Tool

- Phase I – model refined & completed this summer
- Phase II – Develop a decision-support tool for users to identify forest restoration activities/locations that can increase streamflows in priority areas



Upper Entiat Simulated SWE, 1997





Questions & Discussion