

Agency Within-Year TPP Public Process

Workshop
November 7, 2006



Purpose

1. Discuss the General Rate Schedule Provisions (GRSPs) for Agency Within-Year Treasury Payment Probability (TPP) and the process to describe the methodology
2. Discuss revisions to streamflow forecasting used in risk modeling
3. Other comments or questions



GRSPs & Agency Within-Year TPP



Background

- The WP-07 rate case created two closely related risk mitigation tools for addressing uncertainties surrounding litigation over the 2004 Biological Opinion – the NFB¹ Adjustment and the Emergency NFB Surcharge.
- One or both could be implemented if an NFB Trigger Event occurs. Whether both might be implemented depends on whether BPA is in a financial crisis, which will be determined by analyzing BPA's Agency Within-year Treasury Payment Probability (TPP).

¹NFB = National Marine Fisheries Service Federal Columbia River Power System Biological Opinion



What is an NFB Trigger Event?

- An NFB Trigger Event is one of the following four kinds of events which changes BPA's Federal Columbia River Power System (FCRPS) Endangered Species Act (ESA) obligations in ways that have financial impacts for BPA:
 - A court order in *National Wildlife Federation vs. National Marine Fisheries*; or
 - An agreement that results in resolution of the issues in, or withdrawal of parties from, the litigation; or
 - A new FCRPS Biological Opinion; or
 - A BPA commitment to implement Recovery Plans under the ESA that result in resolution of the issues in, or withdrawal of parties from, the litigation.



How will BPA apply an NFB Adjustment?

- If an NFB Trigger Event occurs, then:
 - BPA will analyze the financial impact of the Trigger Event by comparing forecasts of Power modified net revenue for the current year with the Trigger Event to modified net revenue without the Trigger Event.
 - If the Trigger Event decreases Power modified net revenue, the cap on the CRAC for the following year will be increased by the size of the financial impact of the Trigger Event.



How will BPA apply an Emergency NFB Surcharge?

- If an NFB Trigger Event occurs, then:
 - BPA will analyze the financial impact of the Trigger Event by comparing forecasts of Power modified net revenue for the current year with the Trigger Event to modified net revenue without the Trigger Event.
 - BPA will analyze the agency's ability to meet its Treasury payment obligations for the year in which the Trigger Event occurs by calculating the Agency Within-Year TPP.
 - If the magnitude of the financial impact is above \$10 million and the Agency Within-Year TPP is less than 80%, then BPA will implement a rate surcharge within the current year to increase revenue by the amount of the financial impact of the Trigger Event.
- If the Emergency NFB Surcharge is triggered, the amount that can be collected under the NFB Adjustment is reduced by the amount collected by the surcharge.



How is Agency Within-Year TPP described in the GRSPs?

- The Agency Within-Year TPP is the probability that BPA will be able to meet all Agency financial obligations to the Treasury for the fiscal year in which a trigger event occurs
- The calculation of Agency Within-Year TPP will take into account for the remainder of the affected fiscal year:
 - All funds reasonably expected to be available to BPA to repay the Treasury such as financial reserves including deferred borrowing, EN refinancings under Debt Optimization, expense reductions, revenue increases, and 4(h)(10)(C) credits
 - All financial obligations reasonably expected to require payment such as Treasury payments scheduled in the WP-07 rate case, repayments to the Treasury pursuant to the previous exercise of liquidity tools, prepayments to the Treasury called for in the Debt Optimization program, and updated forecasts of other reasonably necessary expenses and uses of cash



What is the public process for the Agency Within-Year TPP?

- In the GRSPs, BPA committed to initiating a “proceeding to describe in detail the methodology” for calculating Agency Within-Year TPP within 120 days of the Record of Decision (ROD)
- BPA’s description of the methodology will include:
 - How forecasts (streamflow, operations, prices, etc.) for the remainder of the fiscal year will be made
 - How forecasts for the Agency’s expected revenues, expenses, and uses of cash will be made
 - Which revenues, expenses, or other funds and financial obligations will be treated deterministically and probabilistically
 - Which tools will be used for performing probabilistic calculations
 - How, and from what sources, the data for major components of the Agency Within-Year TPP will be obtained or derived
- If BPA changes the methodology in the future, it will go through a similar public process to describe the new methodology



Timeline

- The ROD and GRSPs do not provide a deadline for the completion of this process
- BPA is currently planning to hold two workshops.
 - Today: review the scope of the process and to describe a change to stream flow modeling used in the risk analysis
 - Early 2007: provide a detailed description of the methodology for calculating Agency Within-Year TPP
 - Depending on feedback on the second workshop, additional workshops can be scheduled
- Documentation of the methodology for calculating Agency Within-Year TPP should be ready to publish in March, unless additional workshops are requested

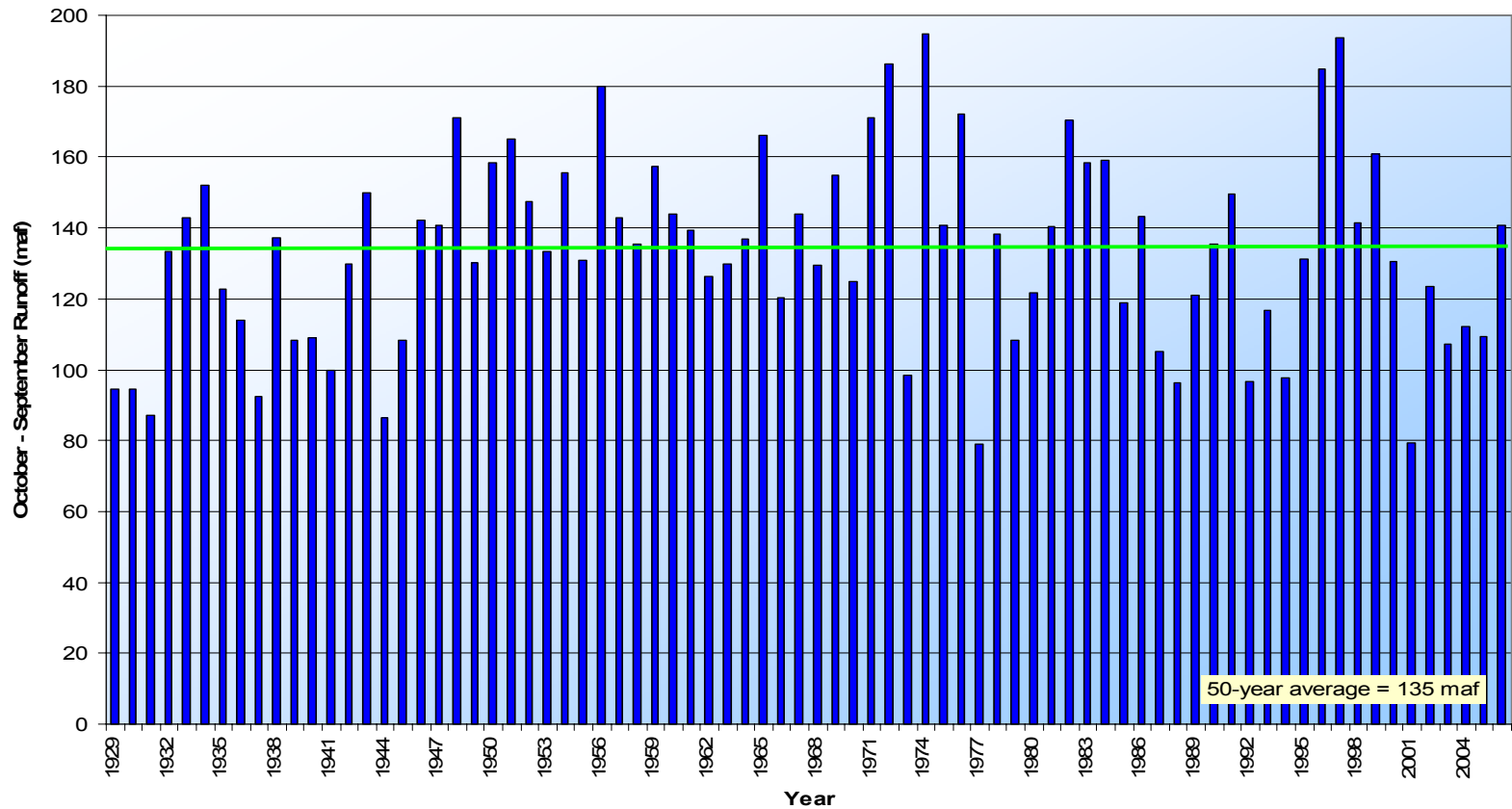


Changes in Streamflow Modeling Used in Risk Analysis

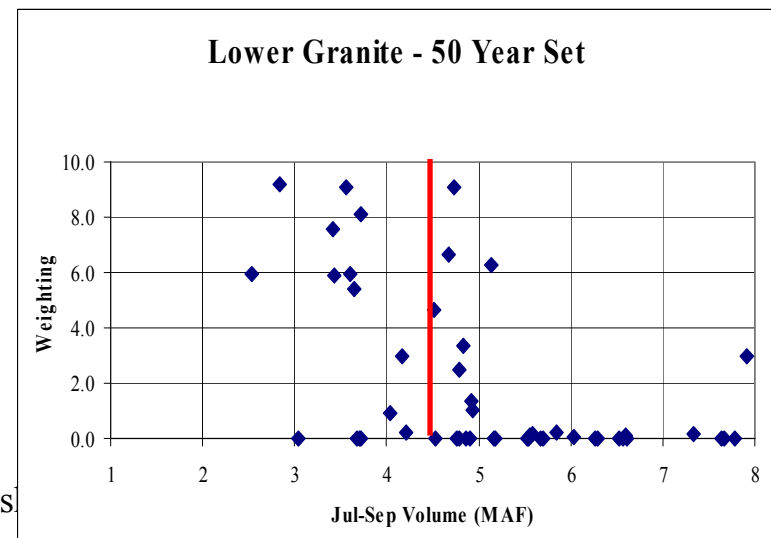
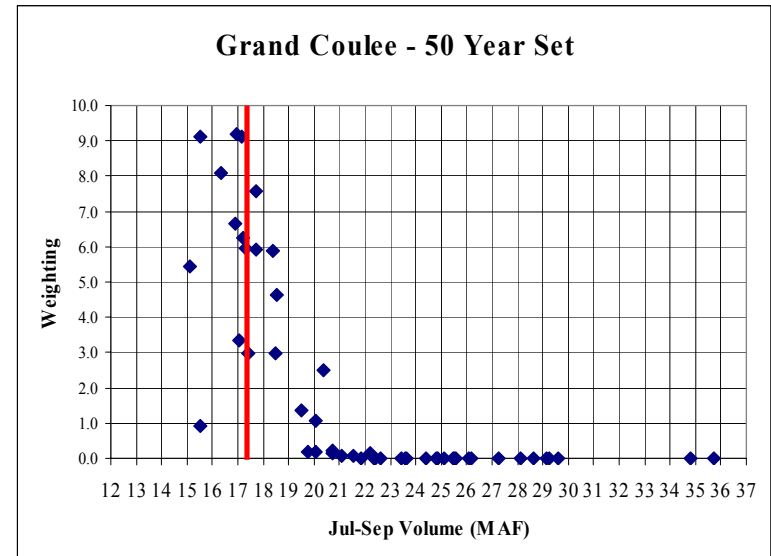
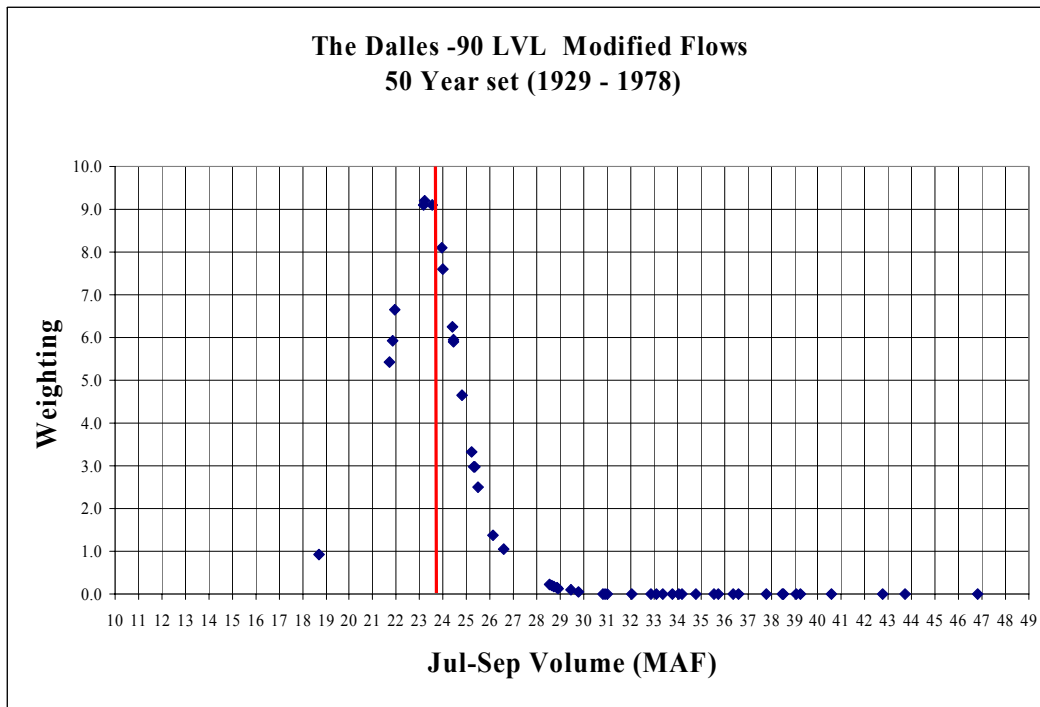


Year to Year Runoff Variability

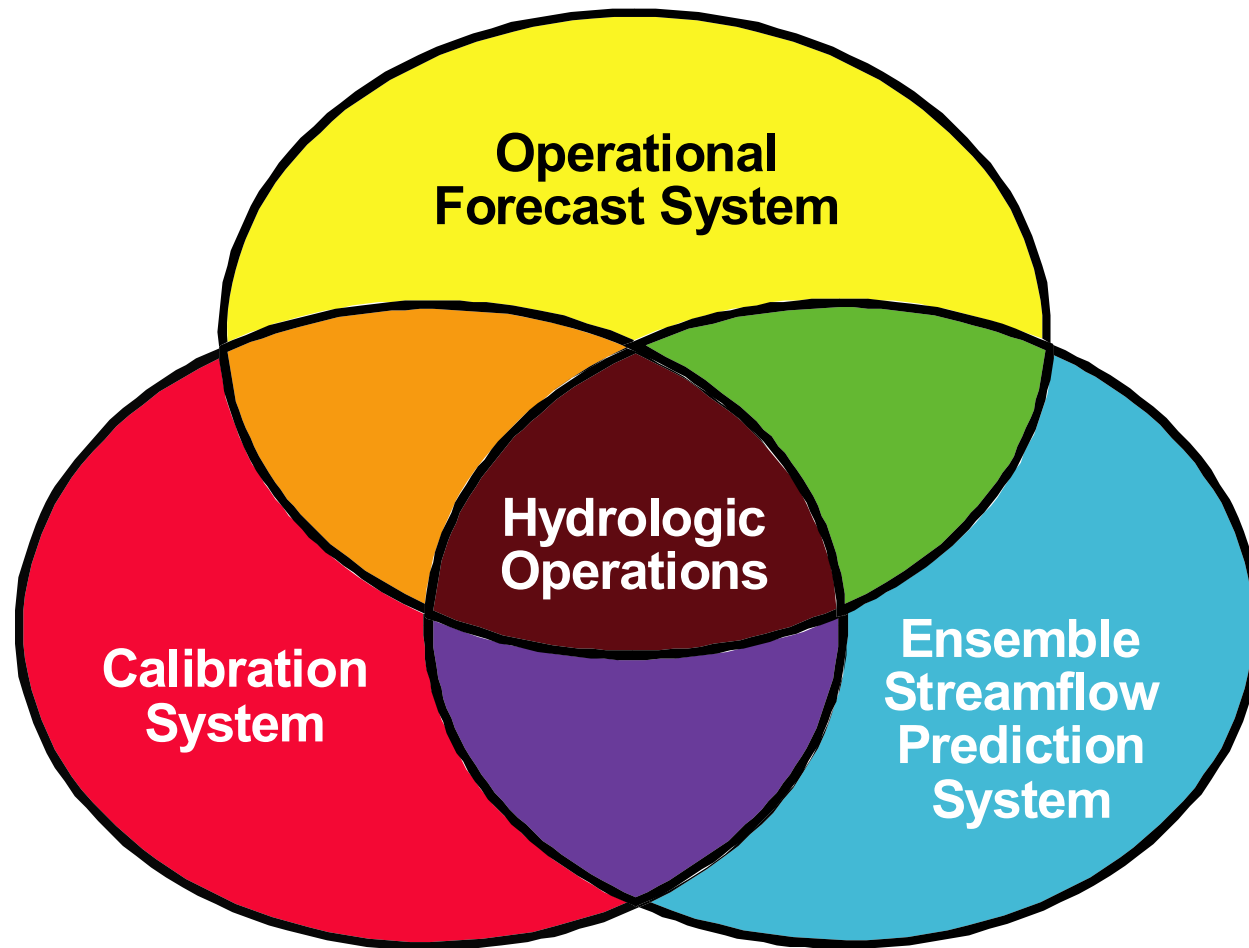
Water Year Runoff (Oct-Sept) at The Dalles
(1929-2006)



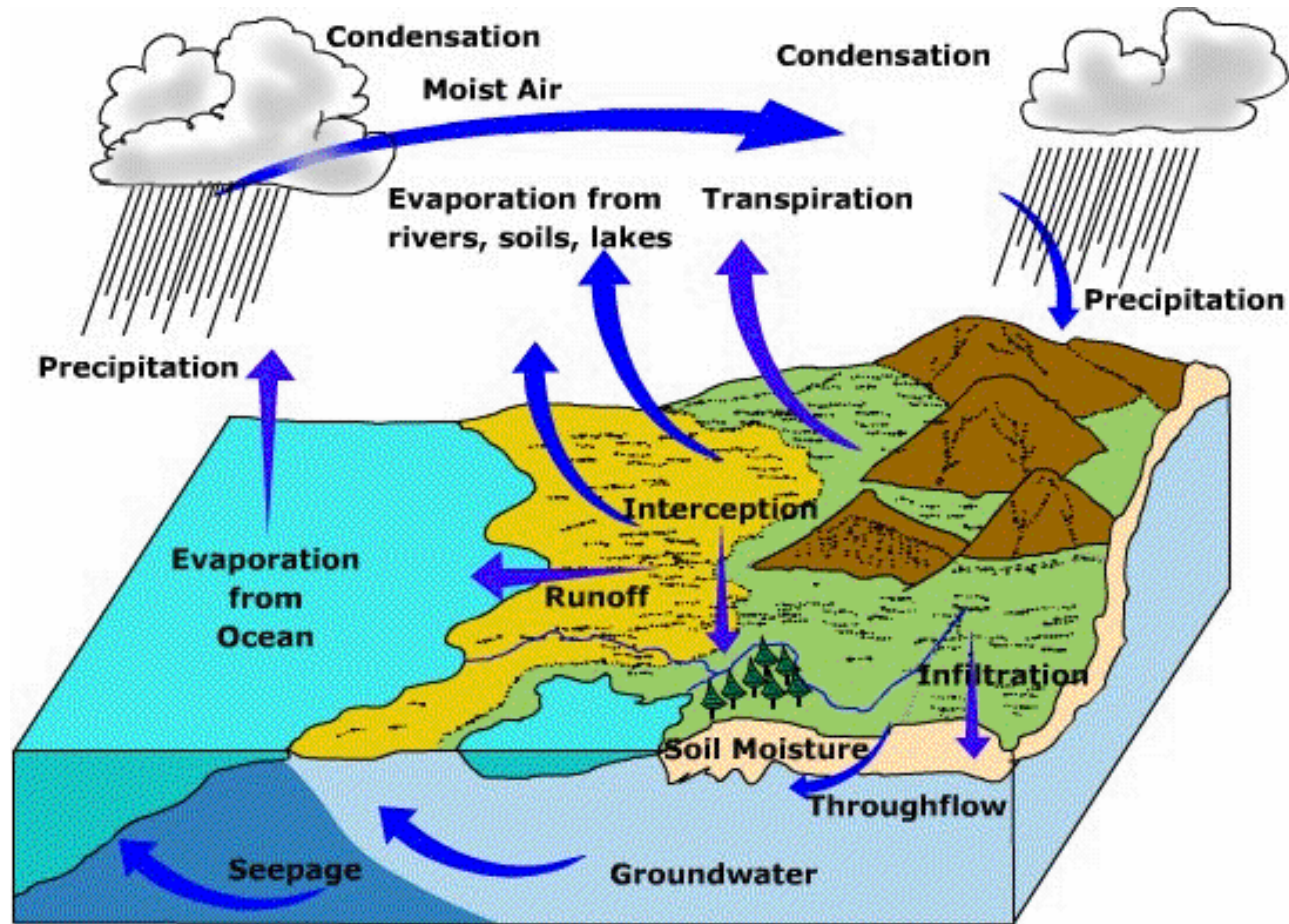
Weighting the 50-Year Historical Set



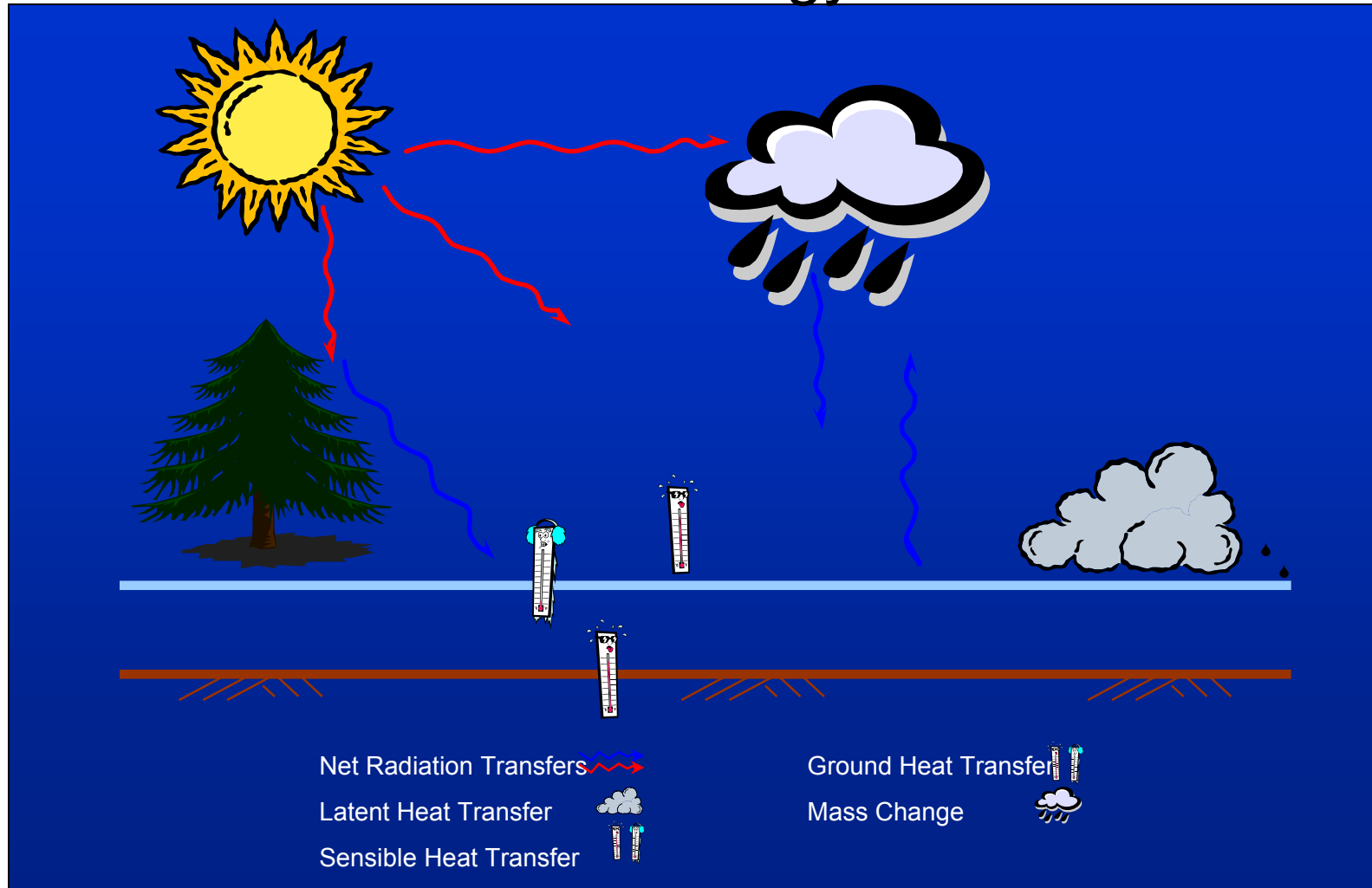
National Weather Service River Forecast System (NWSRFS)



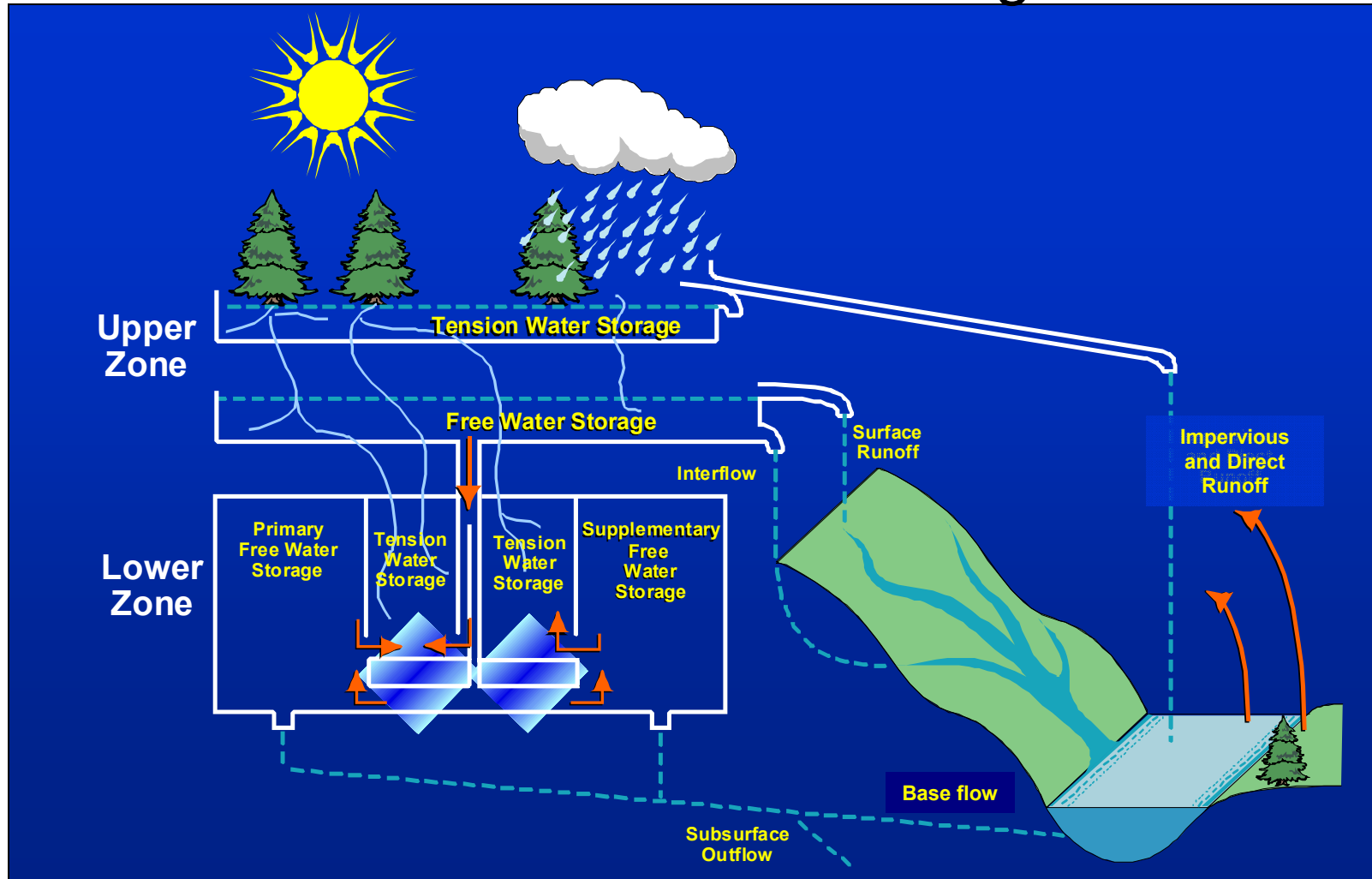
Hydrologic Cycle



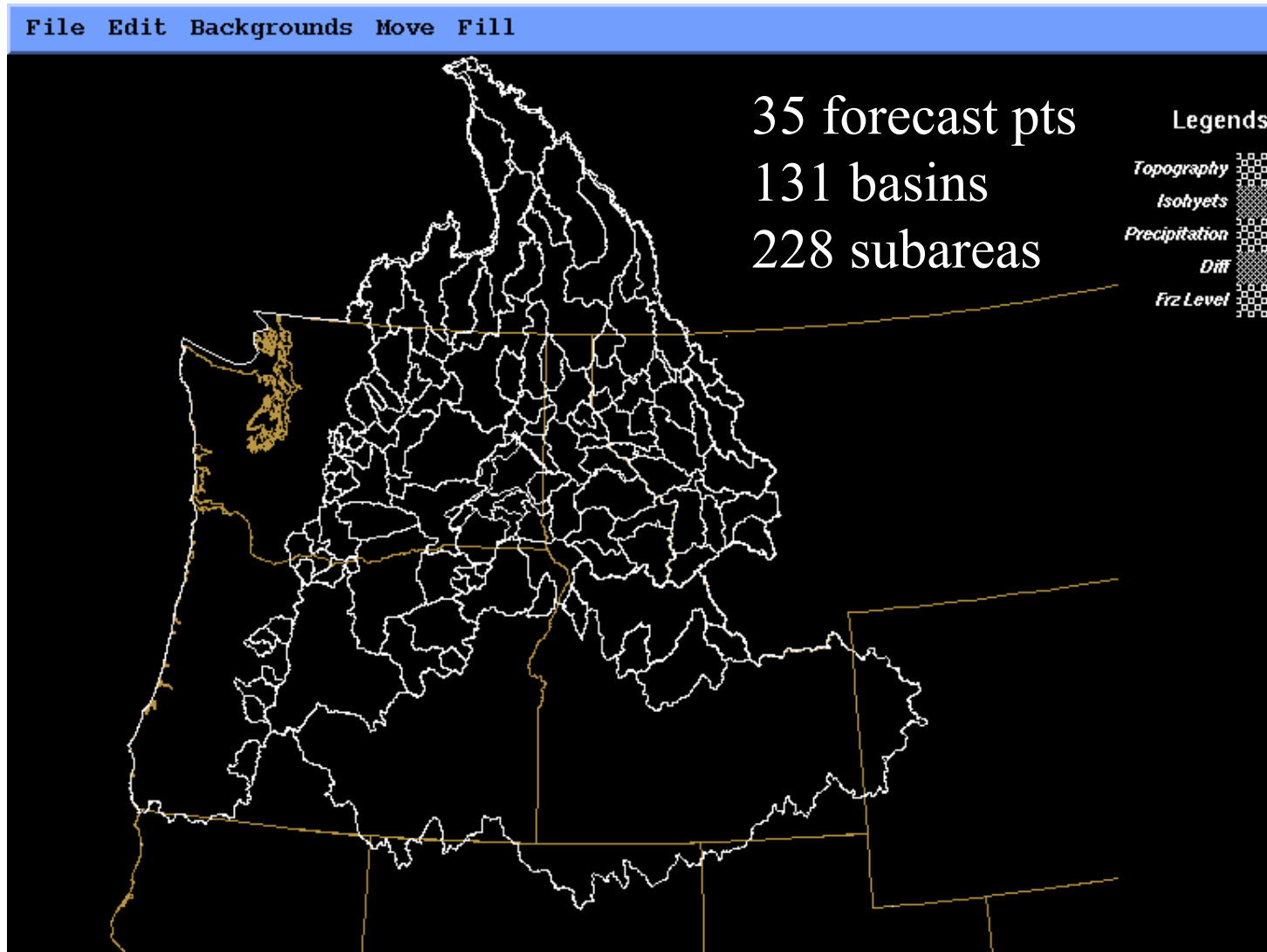
Snow Model Energy Balance



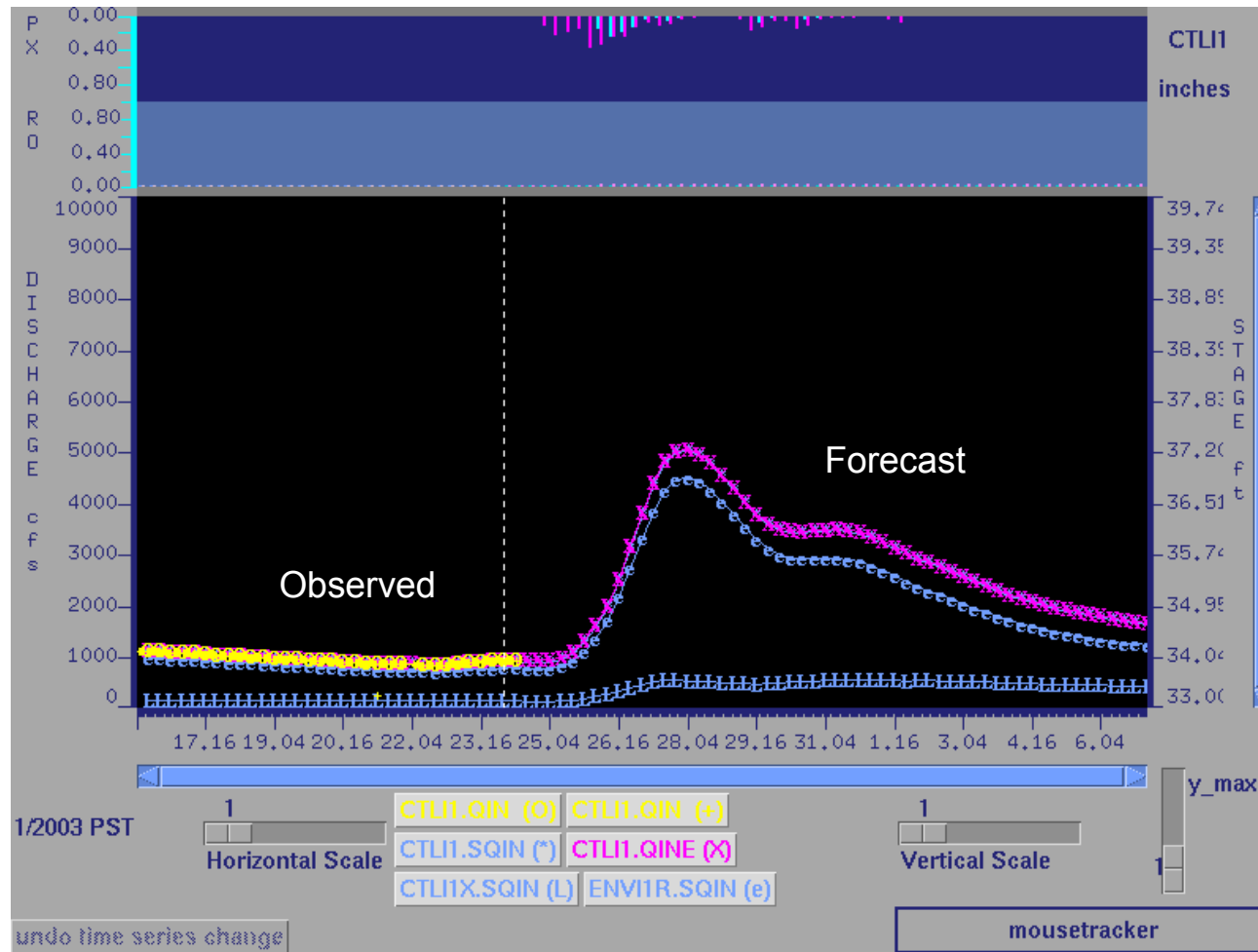
Soil Moisture Accounting



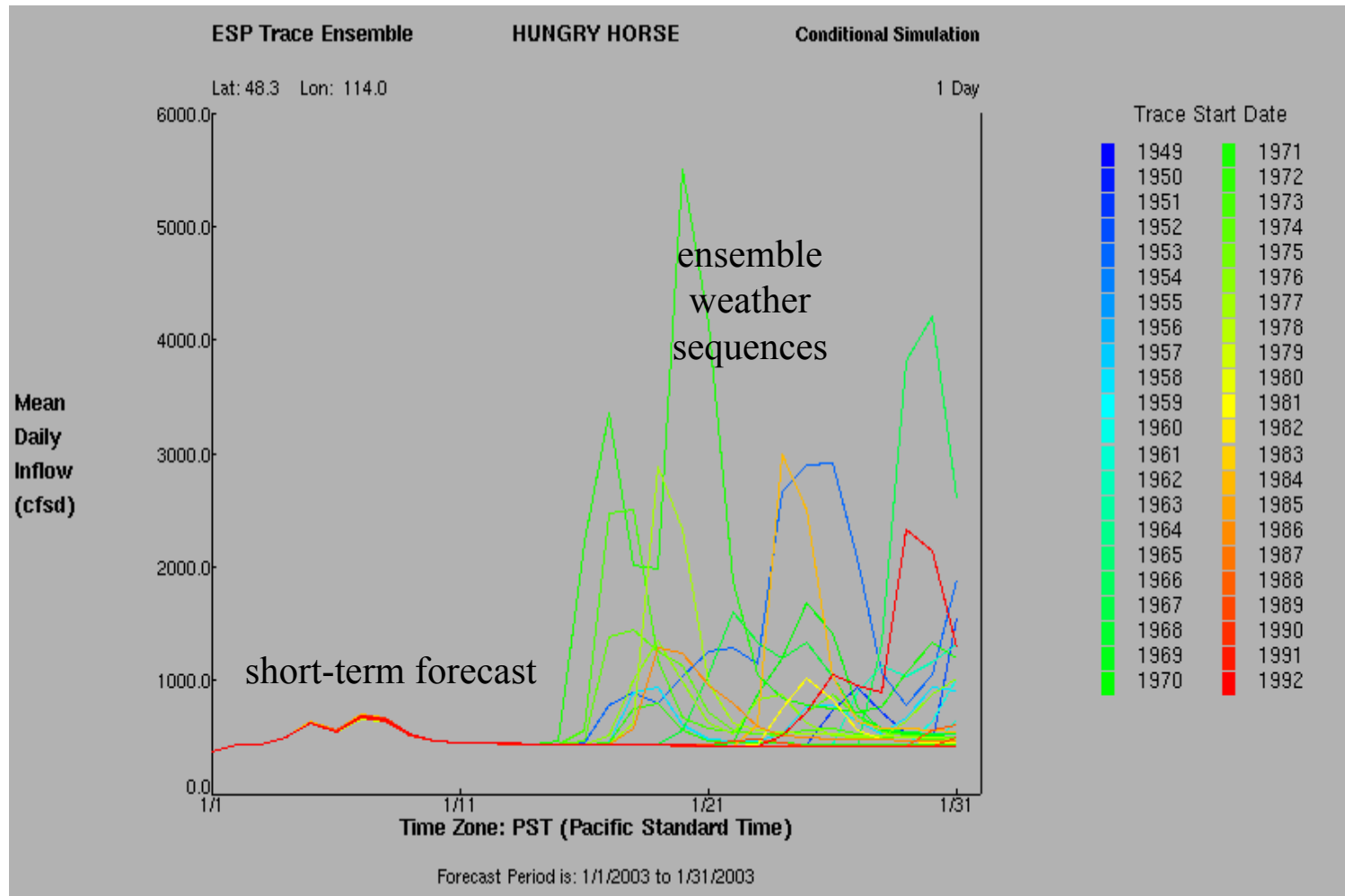
Forecast Locations



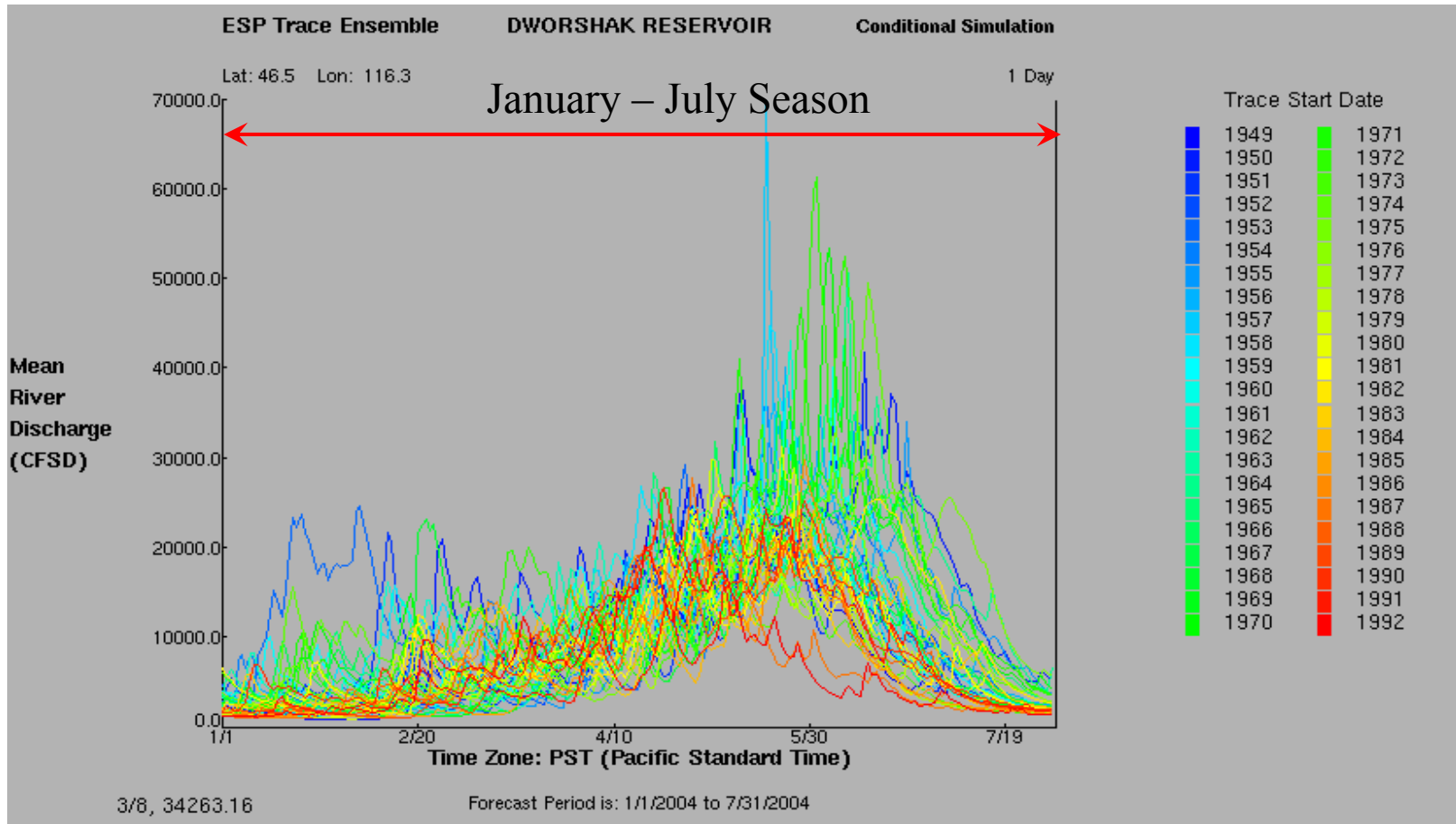
Short – Term Forecast



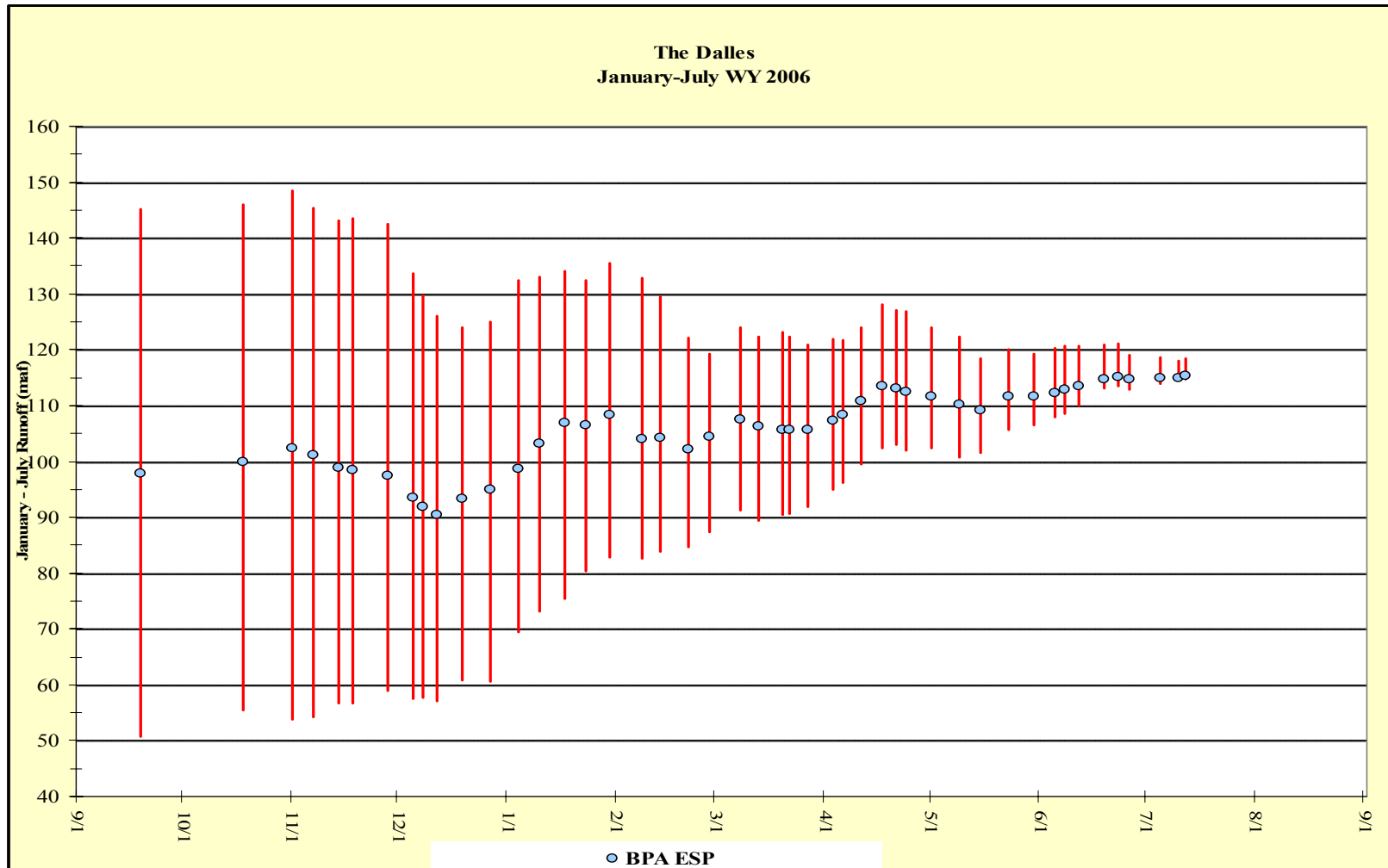
Consistency Between Short-Term and Long-Term Forecasts



Longer Time Horizons



Range Narrows as Year Progresses



Summary

- Reflect current conditions at all basins including recent weather events
- Incorporate short-term forecasts with historical data
- All scenarios useable
- Meteorological conditions outside of historical set not reflected
- System and generation modeling remain unchanged



How does this change affect risk modeling?

- Models which provide inputs for RiskMod and which also use streamflow data, such as AURORA and HYDSIM, will use ESP traces.
- The only change in RiskMod is the number of streamflow data sets that will be used.
 - Today, RiskMod uses 50 water years in its 3,000 simulations with each water year used 60 times.
 - Using ESP traces, RiskMod will use 44 sets in the 3,000 simulations. Each set of ESP traces will be used 68 times with 8 sets used one additional time to produce a total of 3,000 simulations.

