

Winter 2008-2009 Climate Forecast



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October 24th, 2008

Oregon-AMS Meeting, OMSI, Portland

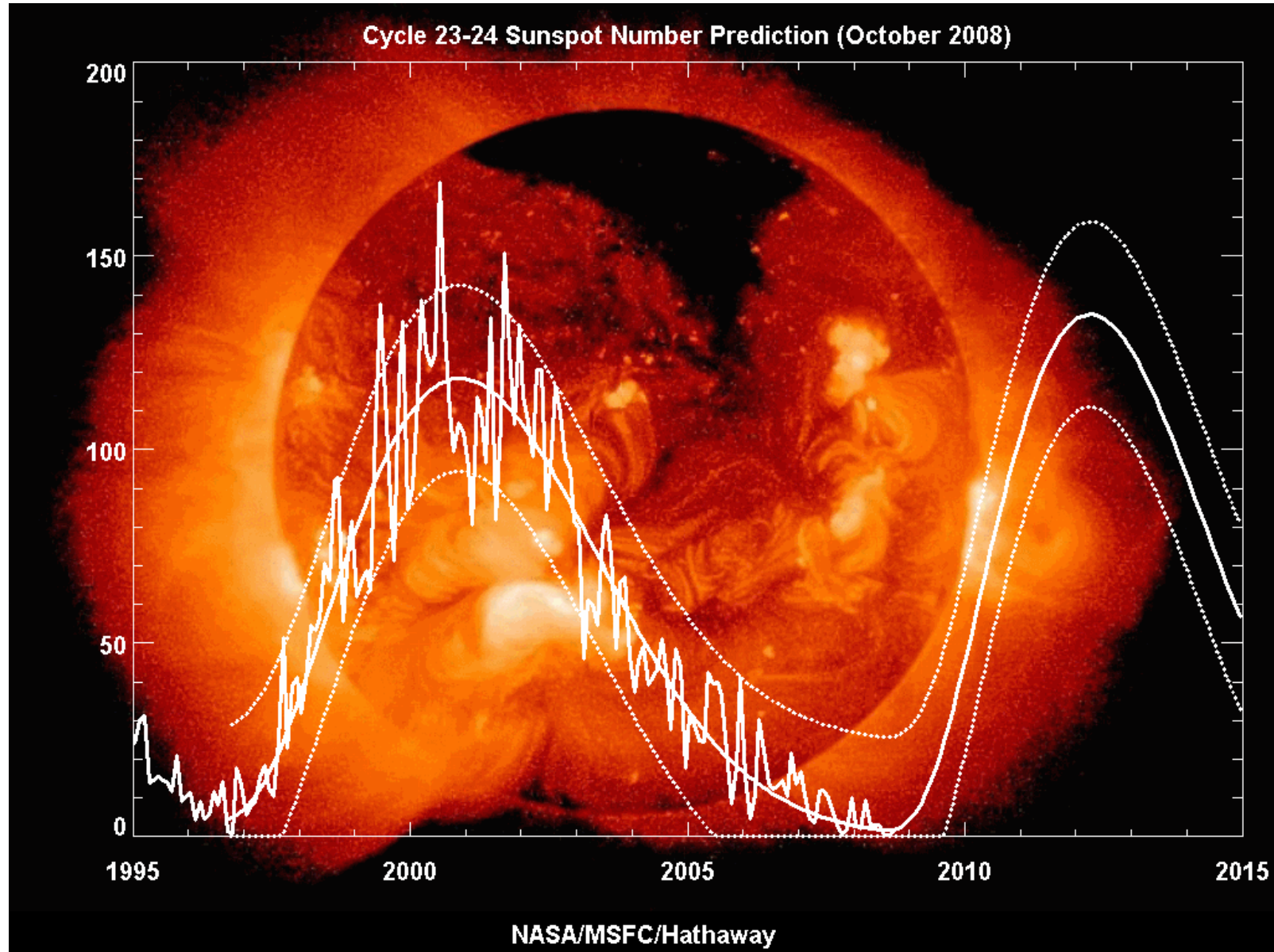
Columbia River Inter-Tribal Fish Commission
Portland, Oregon

Introduction – Methods



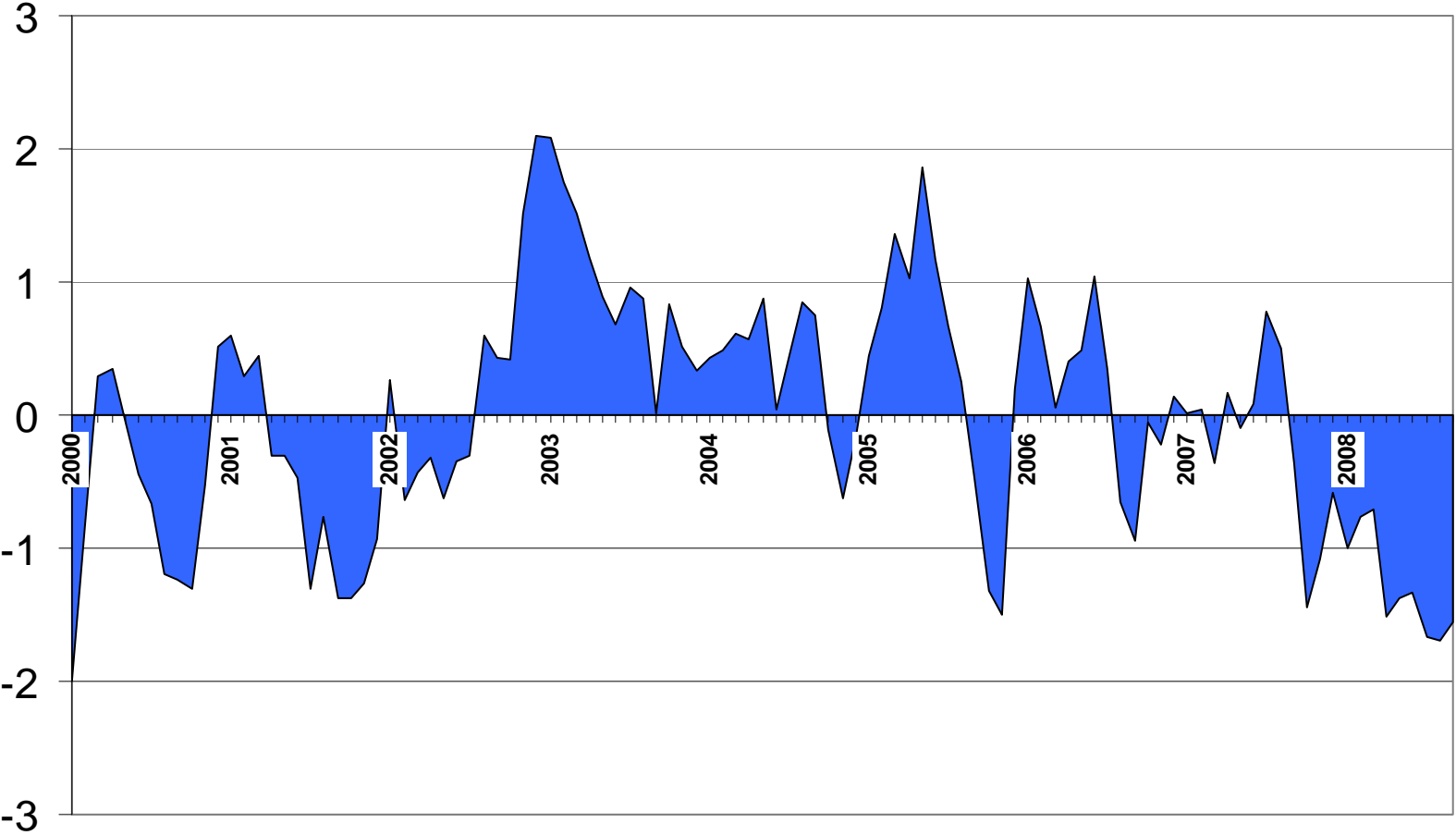
- Forecast uses the Tribal approach-- holistic.
- Big-picture: Solar-Forcing (e.g., sunspot cycles) does influence our global weather patterns.
In memoriam: Dr. Landscheidt, 1922 – 2004.
- Track ENSO with the Multi-variable ENSO Index.
- Sea-Surface Temperature Departure Forecasts.
- Hydro-Climate approach: Water year 2009 volume forecast used regressed Multi-variable ENSO Index vs. historic runoff for the Columbia at The Dalles.

SUNSPOT COUNTS SUGGEST "LA NINA" WINTER WEATHER



http://solarscience.msfc.nasa.gov/images/ssn_predict_1.gif

PACIFIC DECADAL OSCILLATION (PDO)



Source: UW-Climate Impacts Group

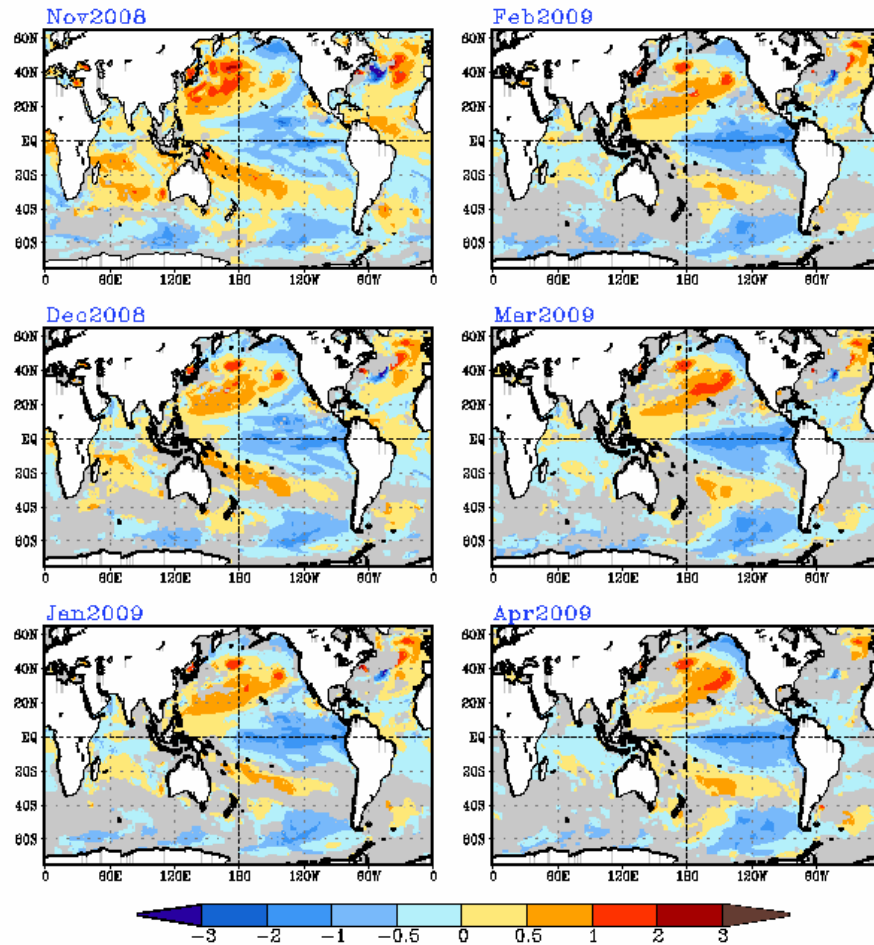
SEA SURFACE TEMPERATURE DEPARTURE FORECAST



NWS/NCEP

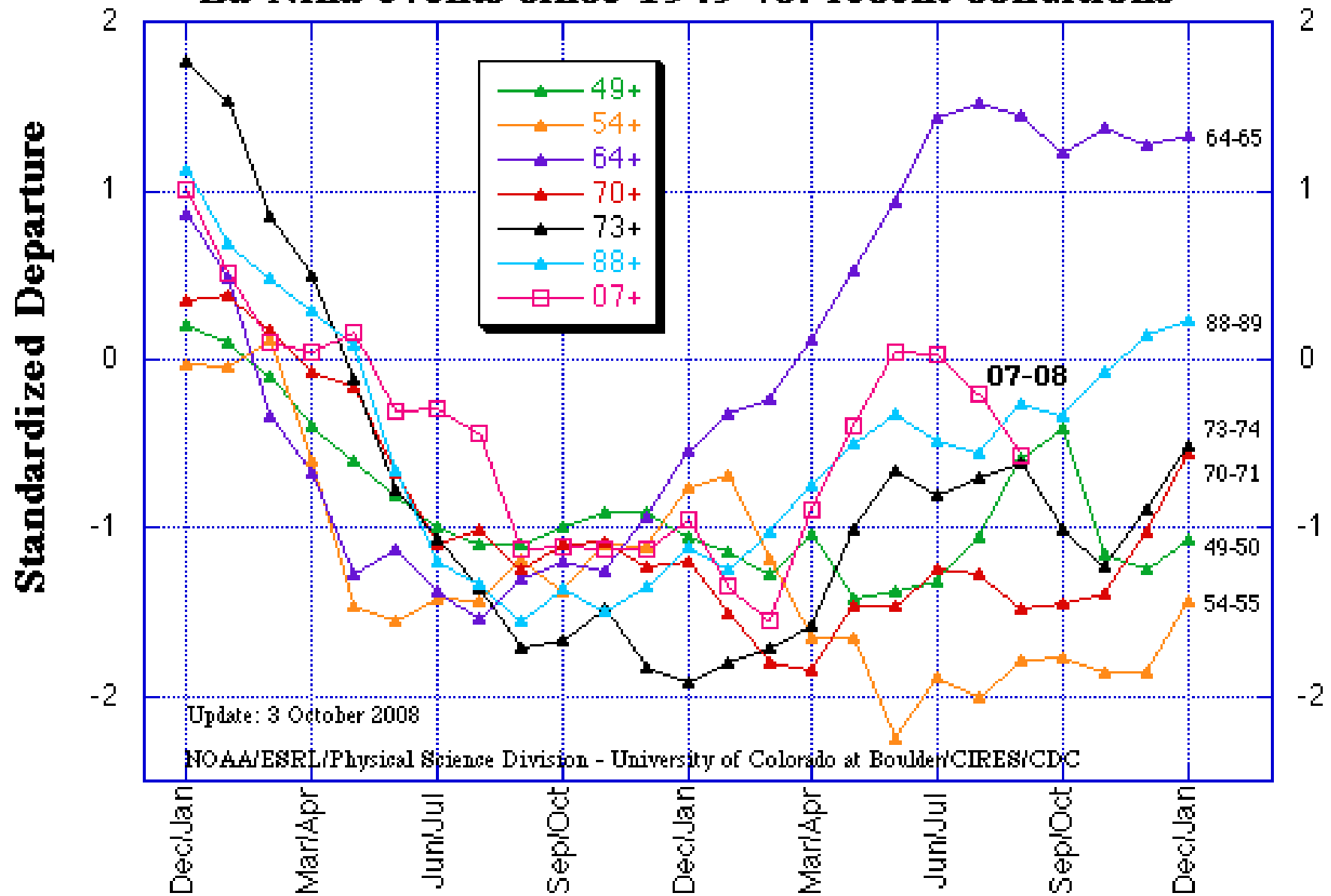
Last update: Thu Oct 23 2008
Initial conditions: 12Oct2008-21Oct2008

CFS monthly SST forecast (K)



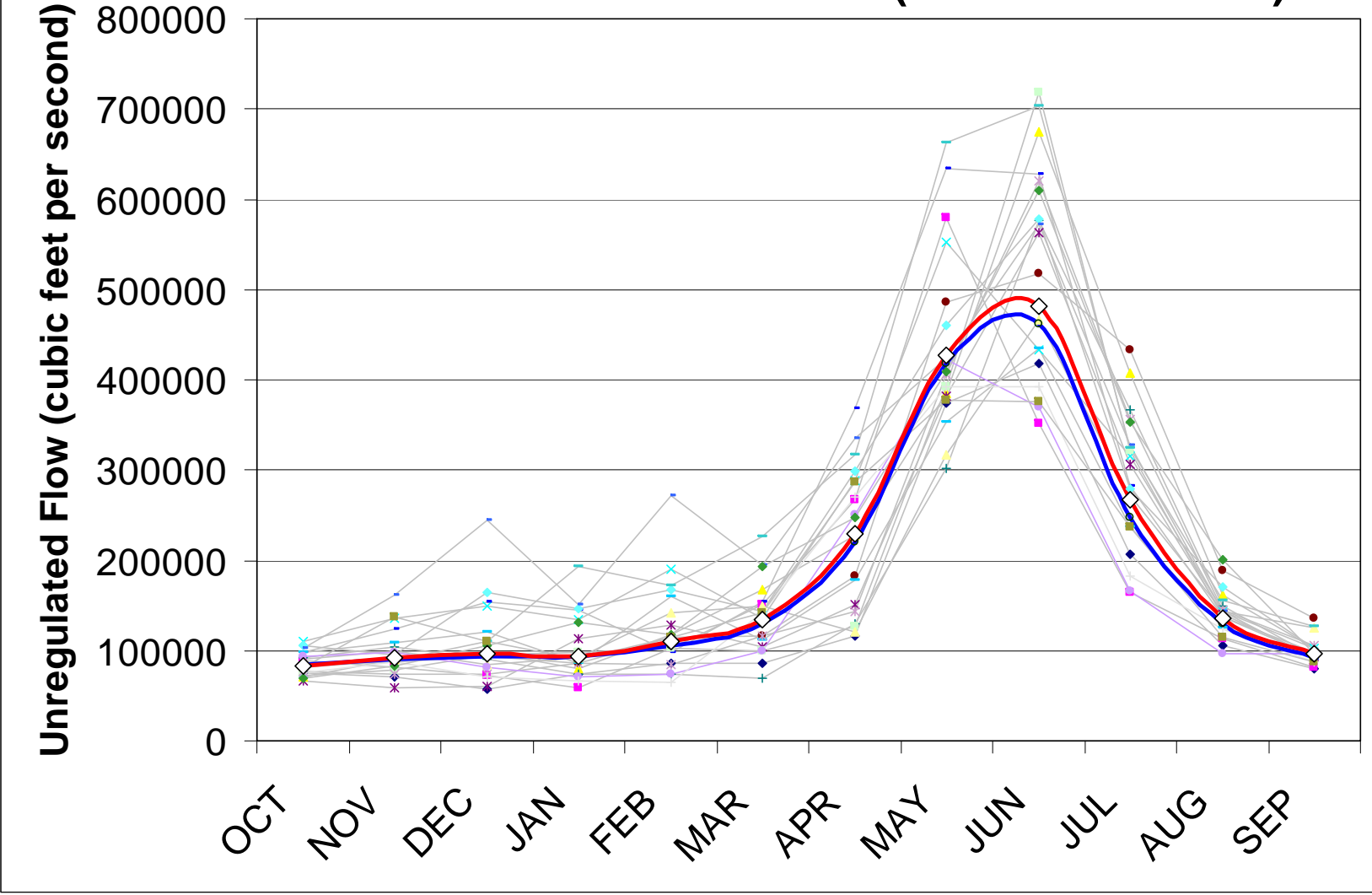
Forecast skill in grey areas is less than 0.8.

Multivariate ENSO Index (MEI) for 6 strong La Niña events since 1949 vs. recent conditions



ENSEMBLE STREAMFLOW FORECAST

Columbia River at The Dalles (red line WY 2009)



Blue line = long-term average (WY 1929-2008)

Summary: The Forecast



| Month: | Temperature (mean monthly): | "Hedge" | Precipitation (% normal): | "Hedge" |
|----------|----------------------------------|---------|---------------------------|---------|
| November | Near Normal (-1.8 to + 1.8 degF) | -0.7 | Above Normal (110 - 130%) | 114% |
| December | Near Normal (-1.8 to + 1.8 degF) | -0.8 | Near Normal (90 - 110%) | 97% |
| January | Near Normal (-1.8 to + 1.8 degF) | -0.3 | Near Normal (90 - 110%) | 102% |
| February | Near Normal (-1.8 to + 1.8 degF) | -0.5 | Near Normal (90 - 110%) | 95% |
| March | Near Normal (-1.8 to + 1.8 degF) | 0 | Near Normal (90 - 110%) | 85% |

...but what about snow events?!

Expect three events...each one 1.5 to 3 inches, unlikely to "shut down Portland"