

# Winter 2005-2006 Climate Forecast



**Kyle Dittmer**

*Hydrologist-Meteorologist*

November 2nd, 2005

*TMT Year-end Review Meeting, Portland*

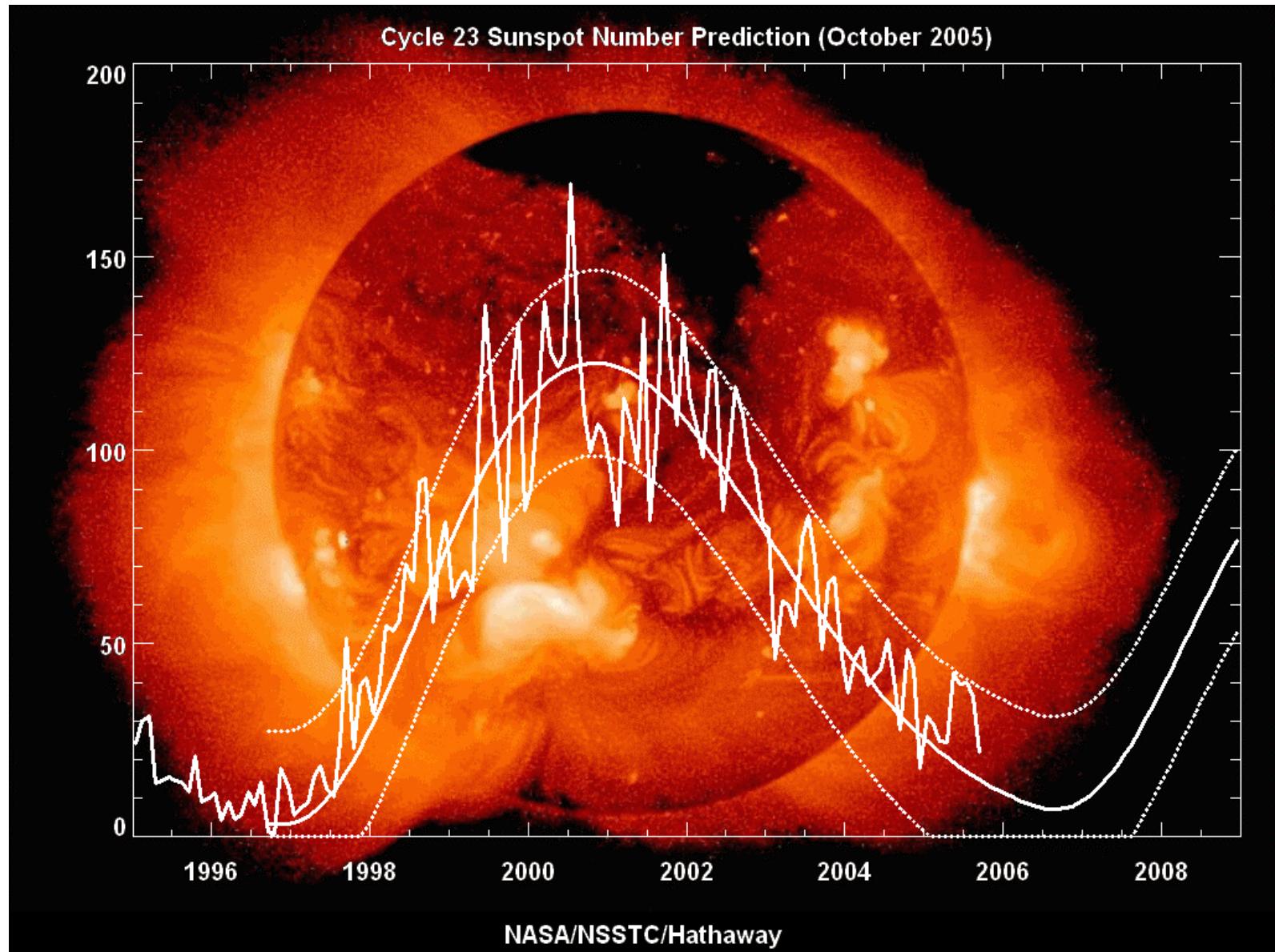
Columbia River Inter-Tribal Fish  
Commission, Portland, Oregon

# Introduction



- 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: analog years give a 2006 water year volume forecast (Multi-variable ENSO Index vs. historic runoff-Columbia at The Dalles).

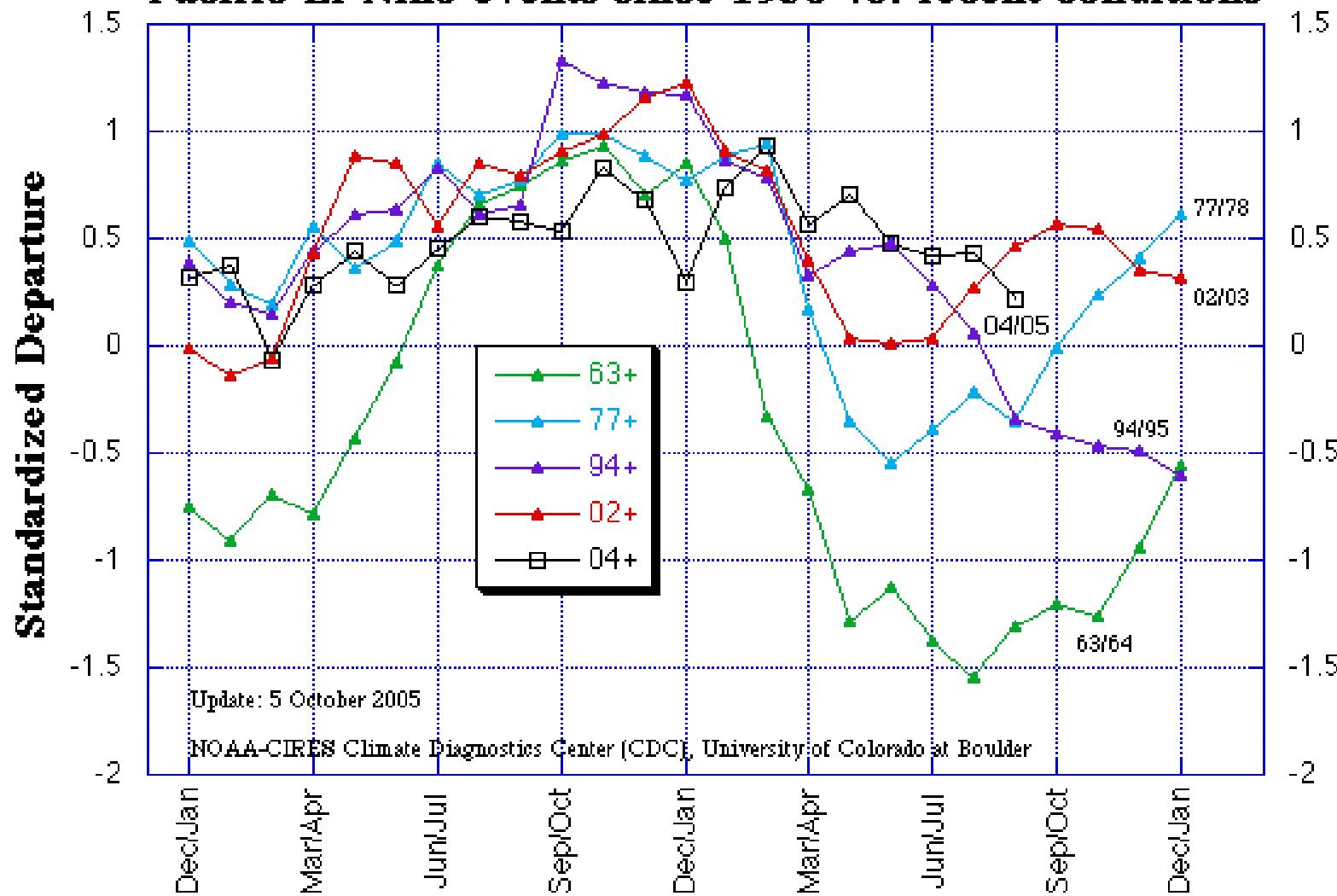
# SUNSPOT COUNTS SUGGEST "NEAR NORMAL" WINTER WEATHER



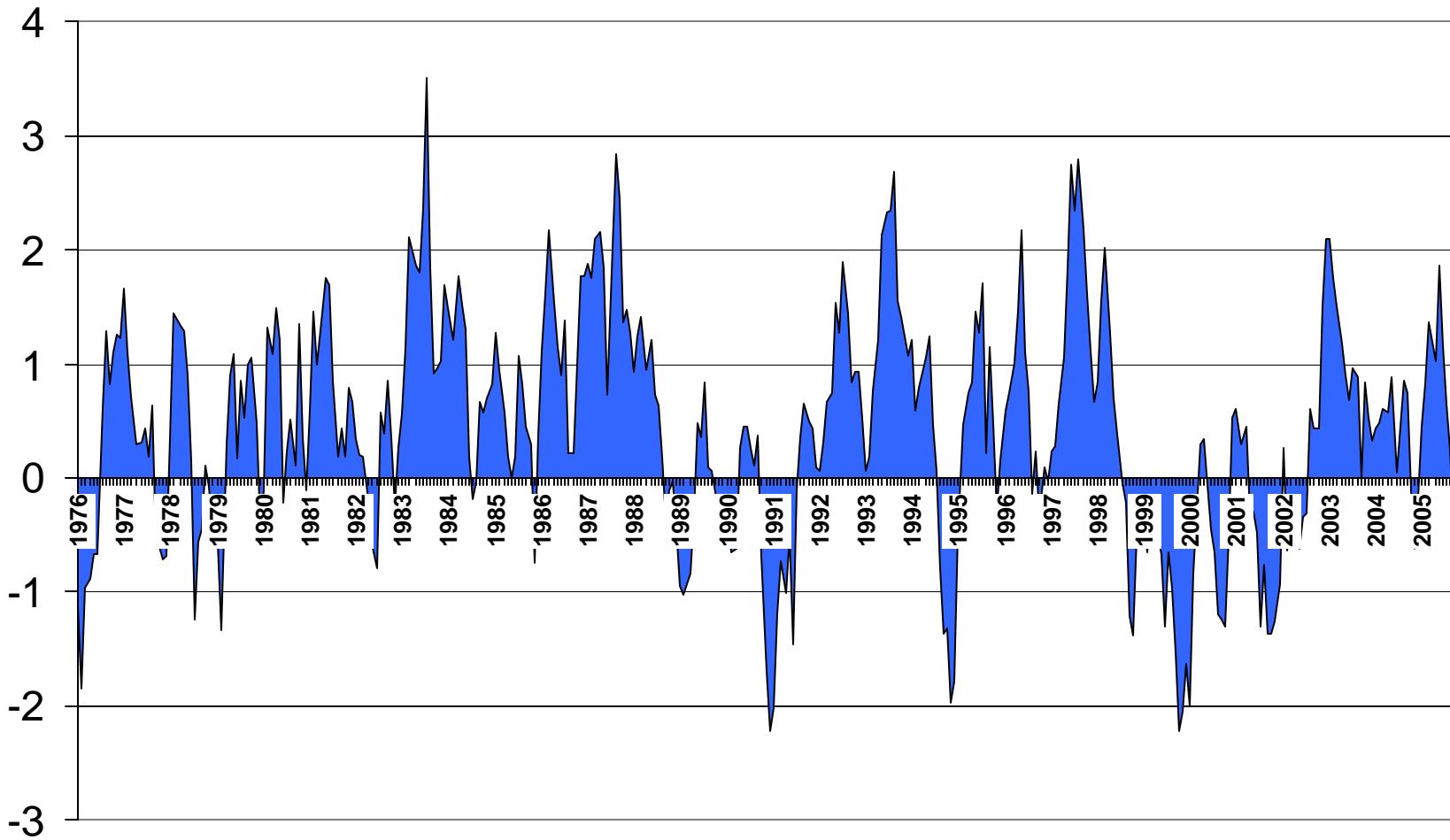
[http://science.msfc.nasa.gov/ssl/pad/solar/images/ssn\\_predict\\_l.gif](http://science.msfc.nasa.gov/ssl/pad/solar/images/ssn_predict_l.gif)

# MEI-- MULTI-VARIABLE EL NIÑO INDEX

## Multivariate ENSO Index (MEI) for 4 weak-moderate Central Pacific El Niño events since 1950 vs. recent conditions



# PACIFIC DECadal OSCILLATION (PDO)



Source: UW-Climate Impacts Group

# SEA SURFACE TEMPERATURE DEPARTURE FORECAST



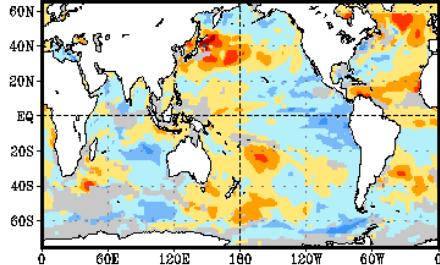
NWS/NCEP

Last update: Tue Nov 1 2005

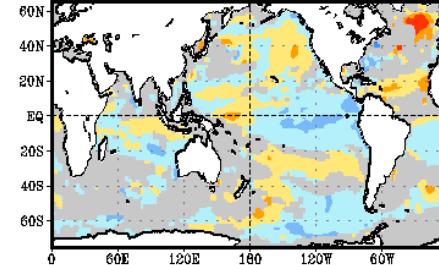
Initial conditions: 5Oct2005–24Oct2005

CFS monthly SST forecast (K)

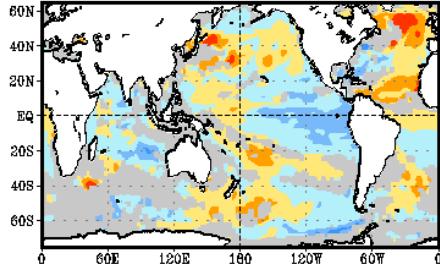
Nov2005



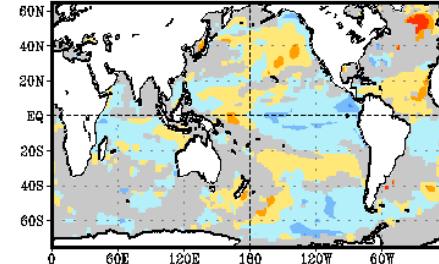
Feb2006



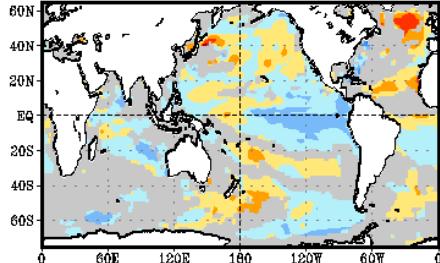
Dec2005



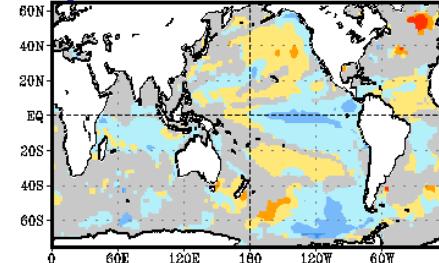
Mar2006



Jan2006



Apr2006

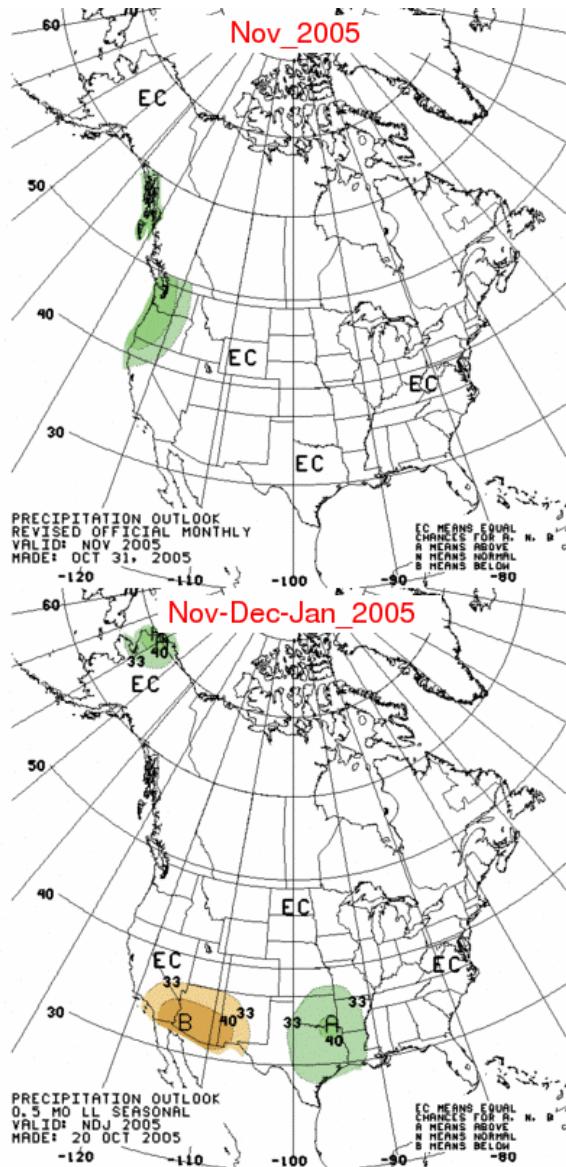
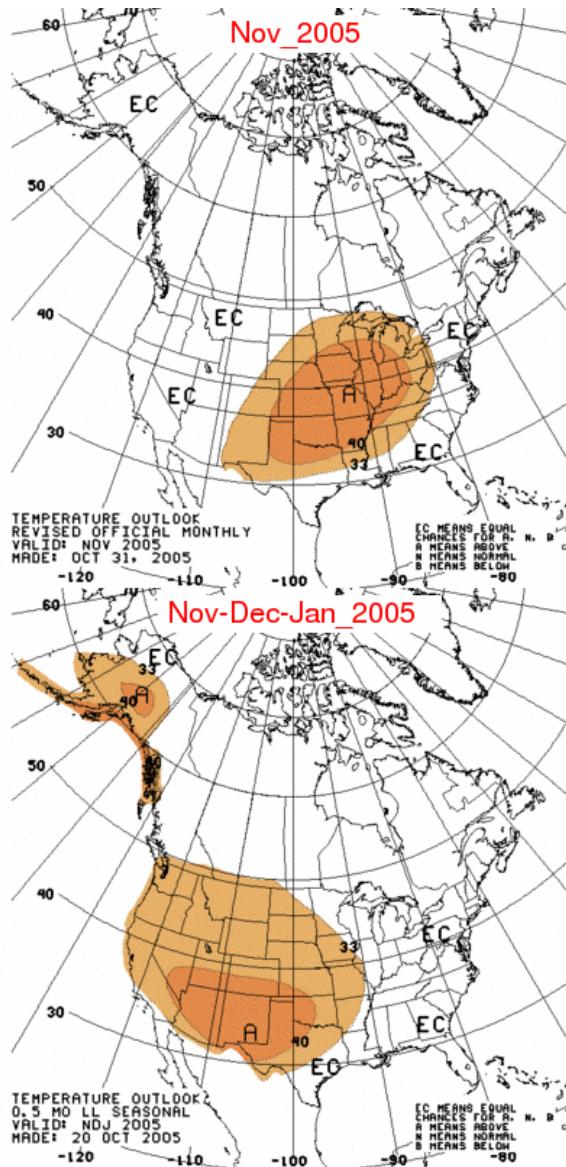


Ensemble average of 40 members from initial conditions of 5Oct2005 to 24Oct2005.

Base period for climatology is 1982–2003. Base period for bias correction is 1982–2003.

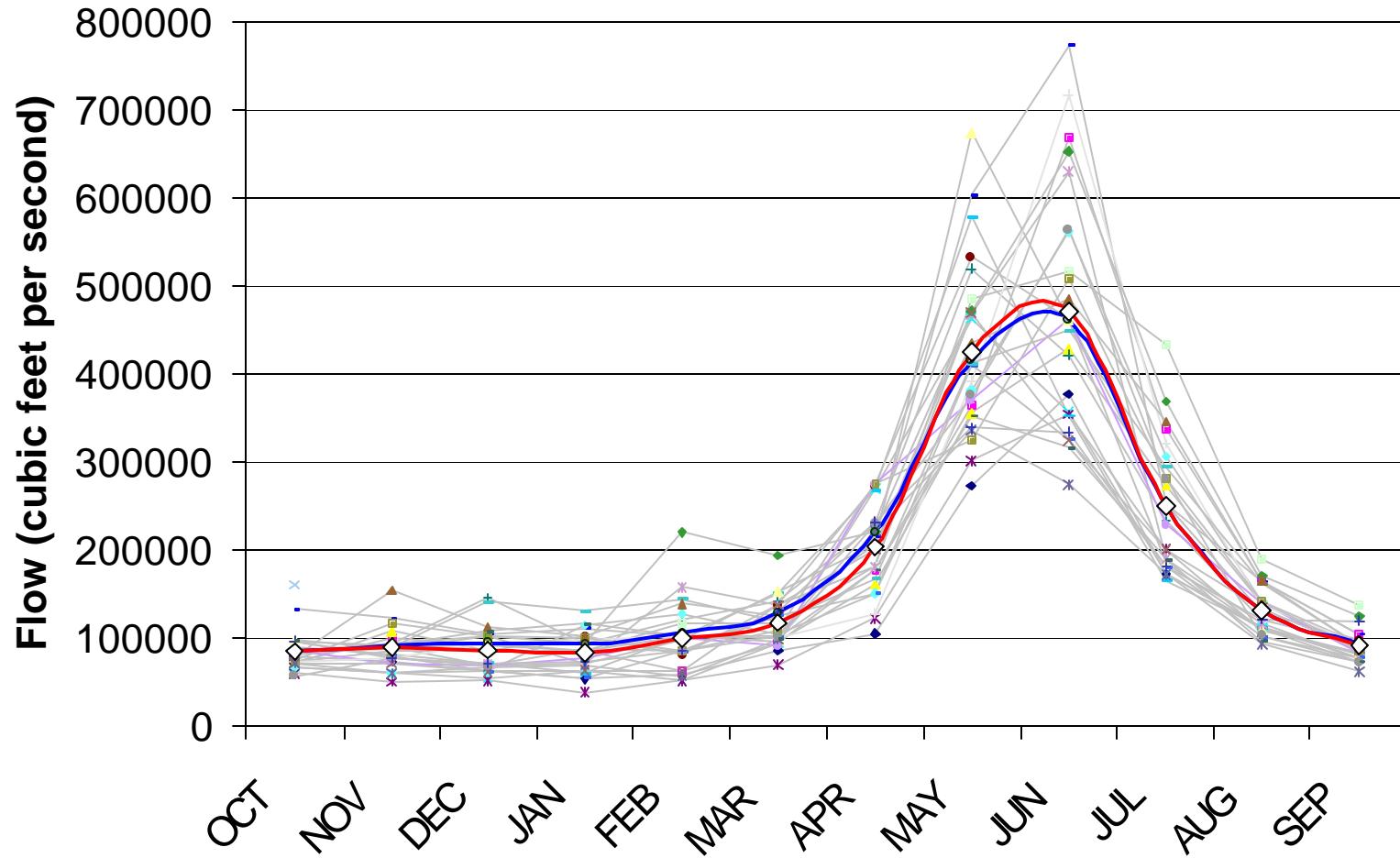
Forecast skill in grey areas is less than 0.3.

# NOAA - NCEP's LONG-RANGE PROBABILITY FORECAST



## ENSEMBLE STREAMFLOW FORECAST- COLUMBIA AT THE DALLES

### Columbia River at The Dalles (unregulated flow)



Blue line = long-term average (WY 1929-2005); Red line = Water Year 2006 forecast

# Summary: The Forecast



Month:	Temperature (mean monthly):	"Hedge"	Precipitation (% normal):	"Hedge"
November	Near Normal (-1.8 to + 1.8 degF)	-0.8	Below Normal (70 - 90%)	86%
December	Near Normal (-1.8 to + 1.8 degF)	-0.1	Near Normal (90 - 110%)	94%
January	Near Normal (-1.8 to + 1.8 degF)	-0.4	Below Normal (70 - 90%)	86%
February	Near Normal (-1.8 to + 1.8 degF)	-0.6	Near Normal (90 - 110%)	97%
March	Near Normal (-1.8 to + 1.8 degF)	-0.1	Near Normal (90 - 110%)	98%

*...but what about snow events?!*