

# Winter 2005-2006 Climate Forecast



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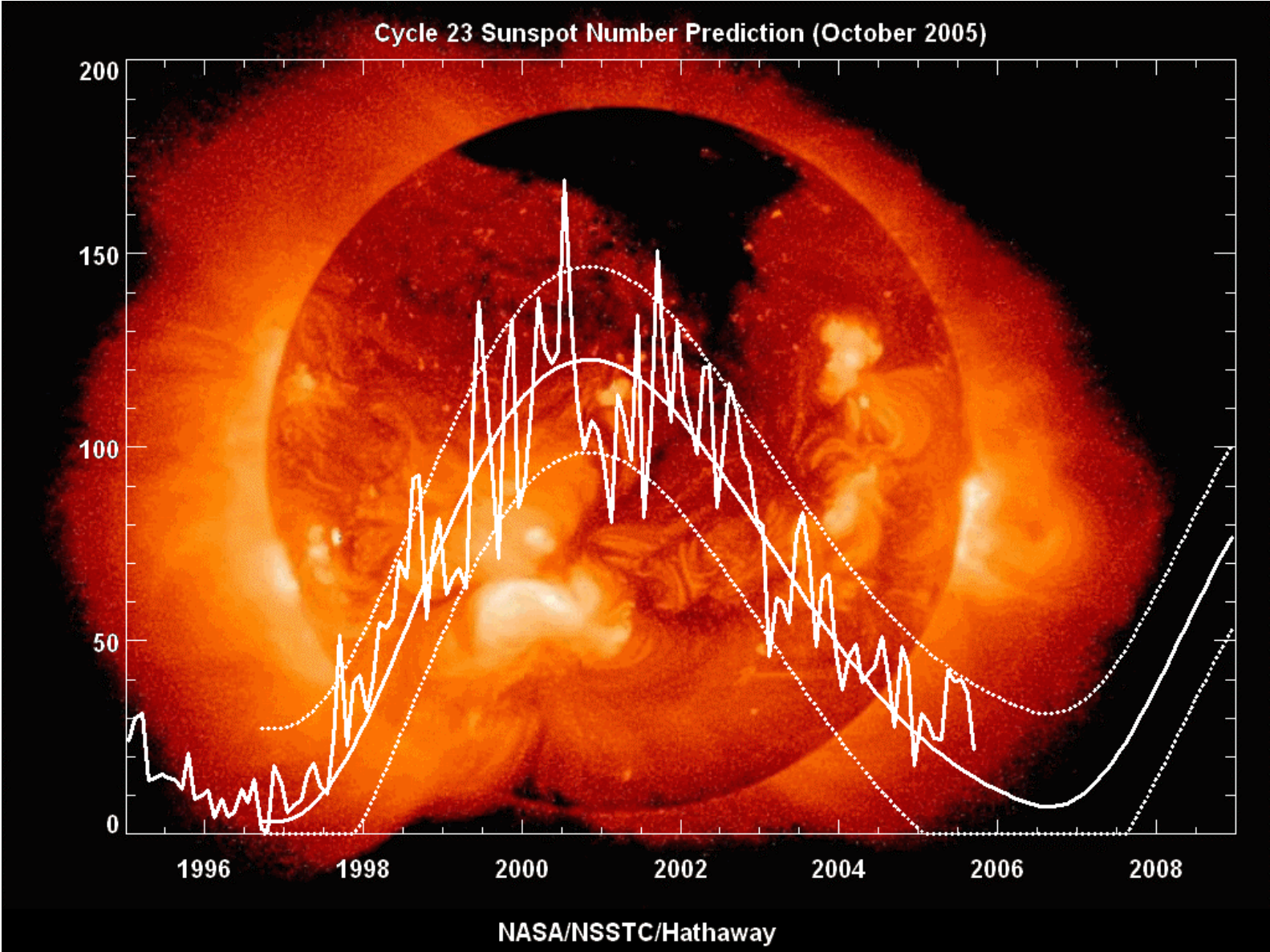
Columbia River Inter-Tribal Fish  
Commission, Portland, Oregon

# 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).

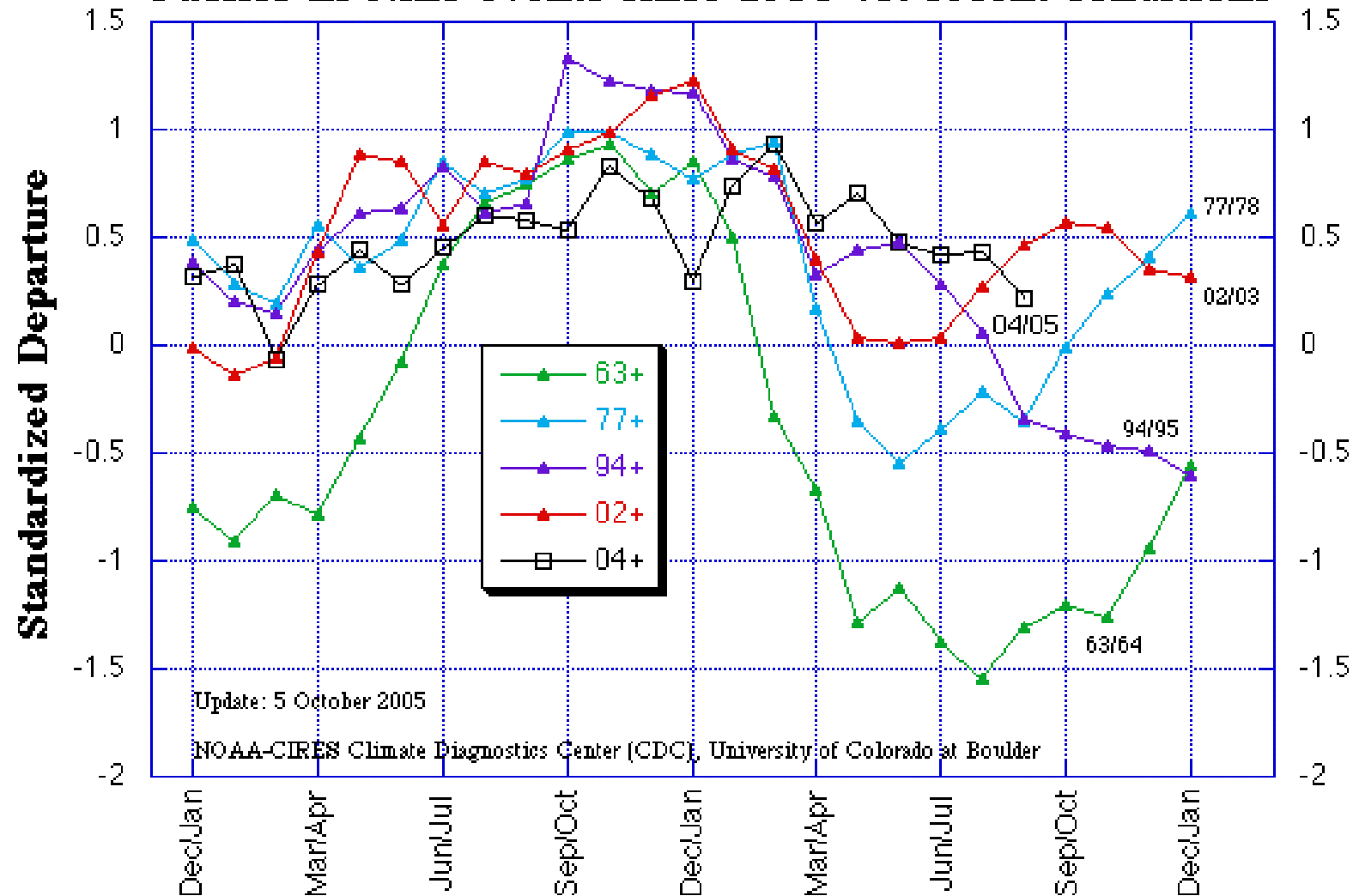
# SUNSPOT COUNTS SUGGEST "NEAR NORMAL" WINTER WEATHER



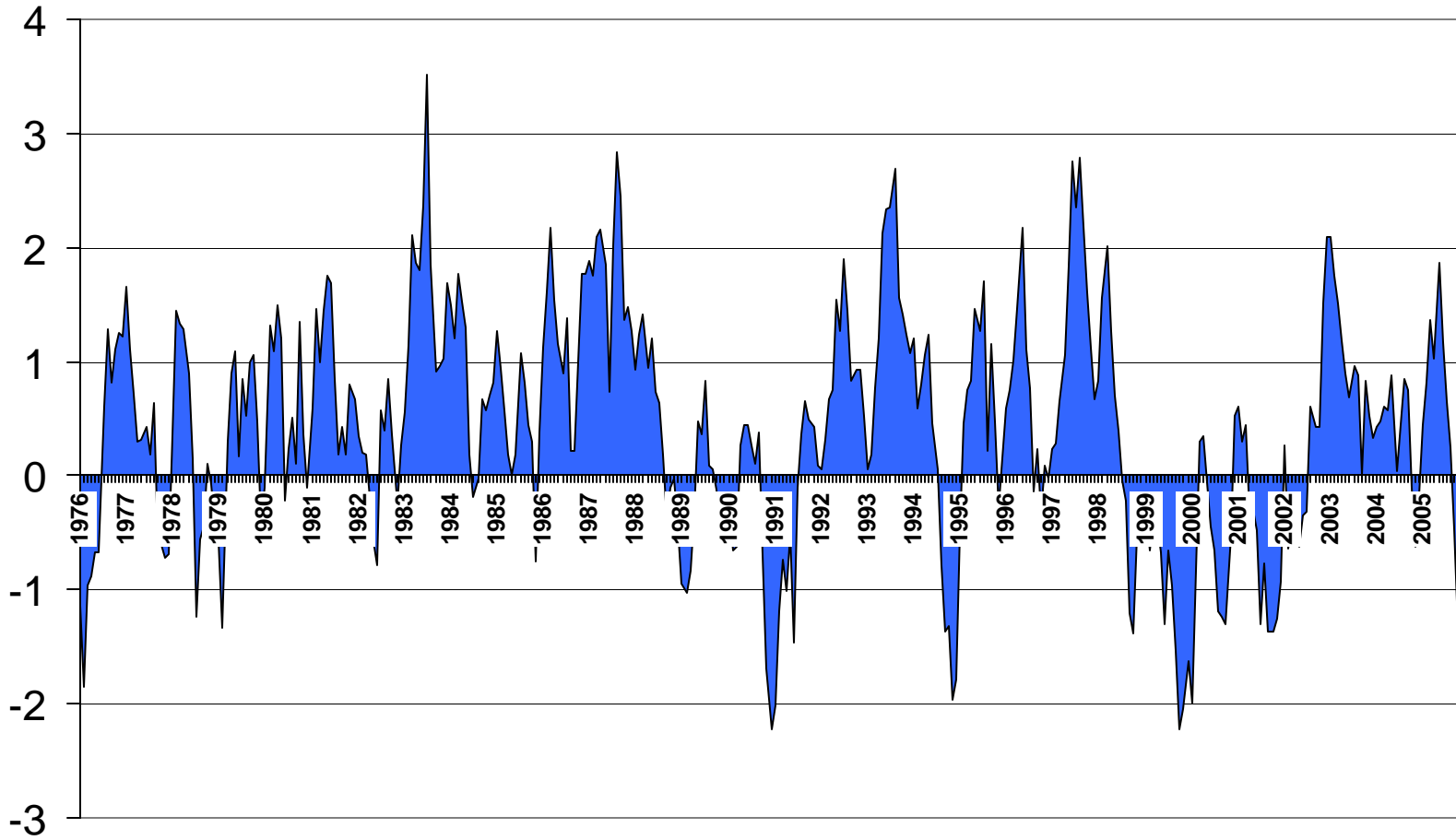
[http://science.msfc.nasa.gov/ssl/pad/solar/images/ssn\\_predict\\_1.gif](http://science.msfc.nasa.gov/ssl/pad/solar/images/ssn_predict_1.gif)

# MEI-- MULTI-VARIABLE EL NINO INDEX SUGGESTS "NEAR NORMAL"

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



# PACIFIC DECADAL OSCILLATION (PDO)



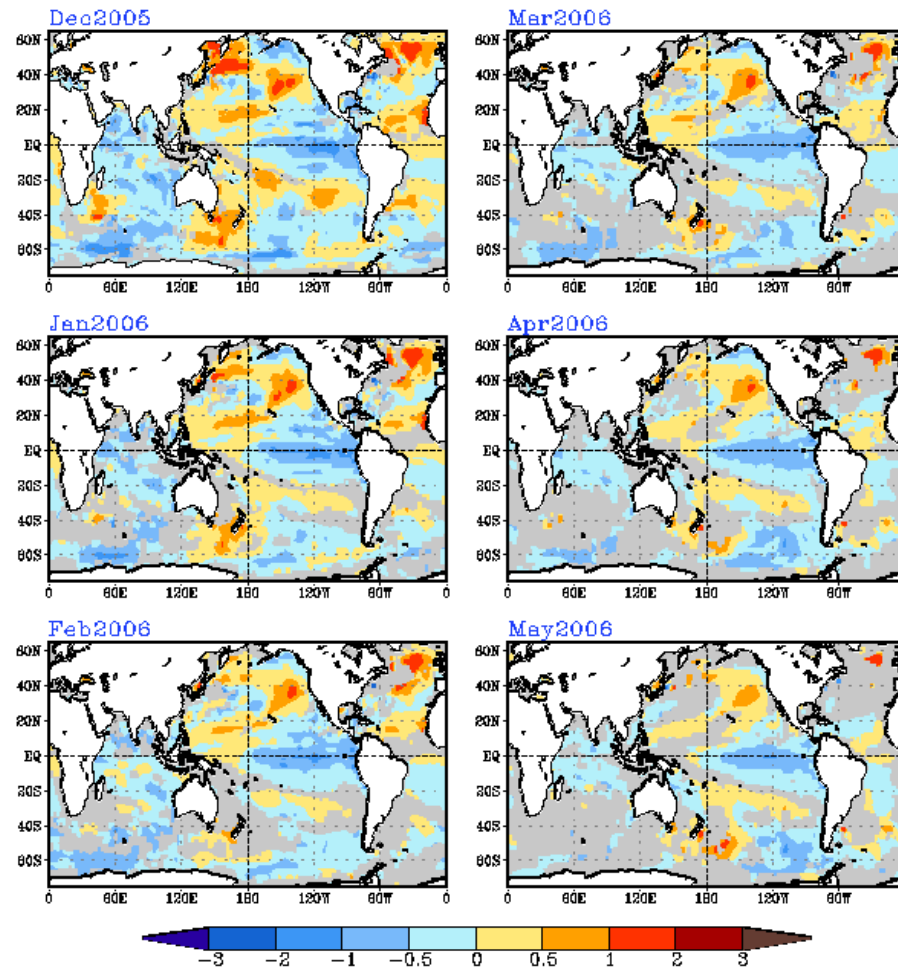
Source: UW-Climate Impacts Group

# SEA SURFACE TEMPERATURE DEPARTURE FORECAST: NEAR NORMAL



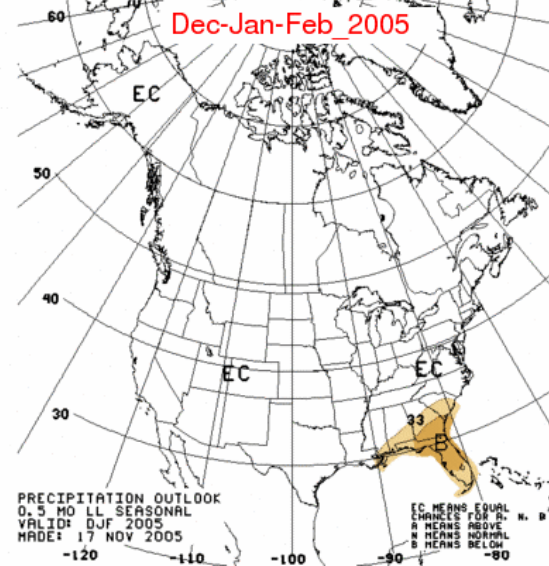
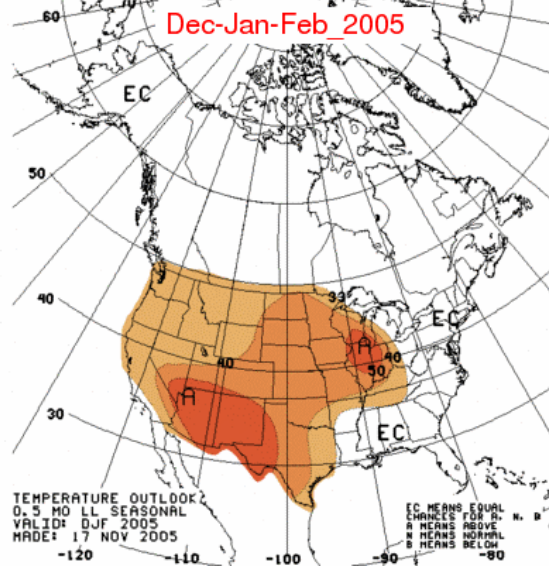
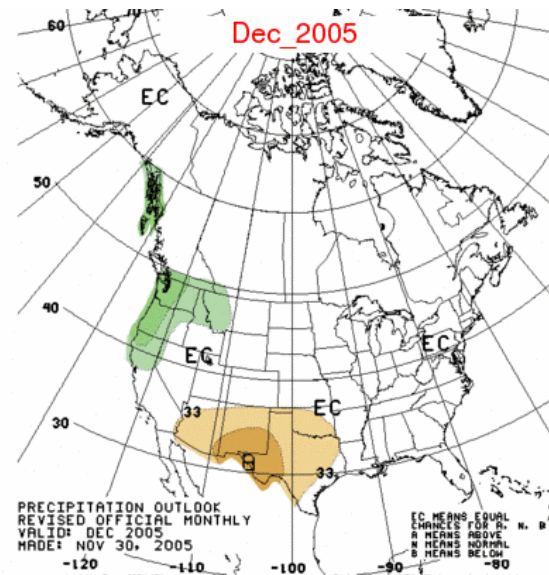
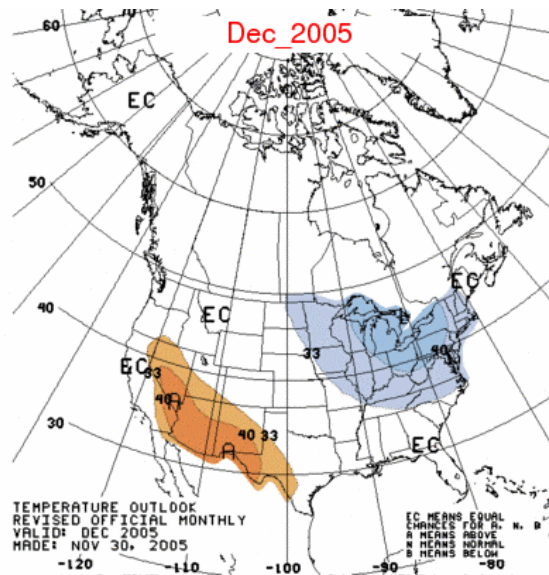
Last update: Tue Dec 6 2005  
Initial conditions: 9Nov2005-28Nov2005

## CFS monthly SST forecast (K)



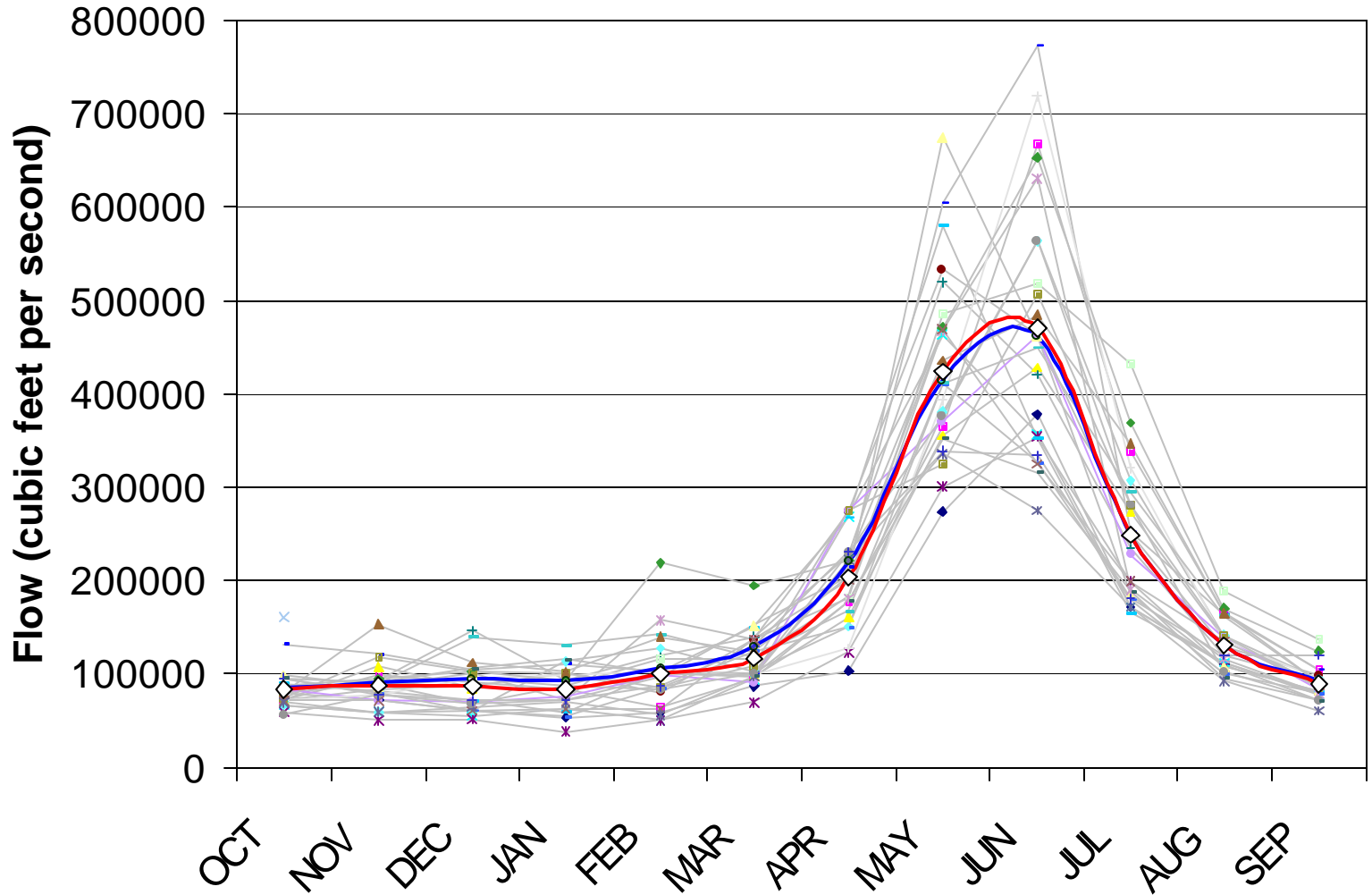
Ensemble average of 40 members from initial conditions of 9Nov2005 to 28Nov2005.  
Base period for climatology is 1982-2003. Base period for bias correction is 1982-2003.  
Forecast skill in grey areas is less than 0.3.

# 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?!*