

The Past, the Present, and the Future



Gregory V. Jones
Department of Environmental Studies



Outline of Talk

- The Past
 - Vintage 2010
- The Present (or close to it)
 - Statistical Update for the Region
- The Future (short term)
 - Forecast for 2011



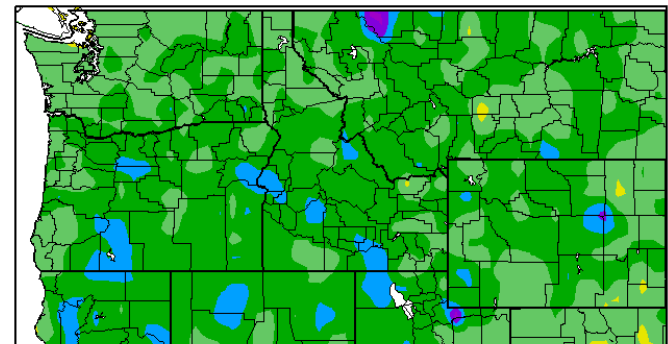
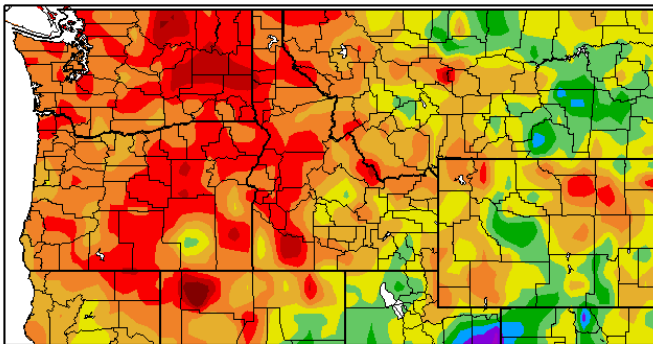
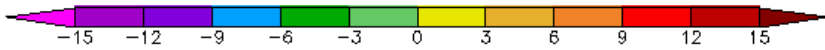
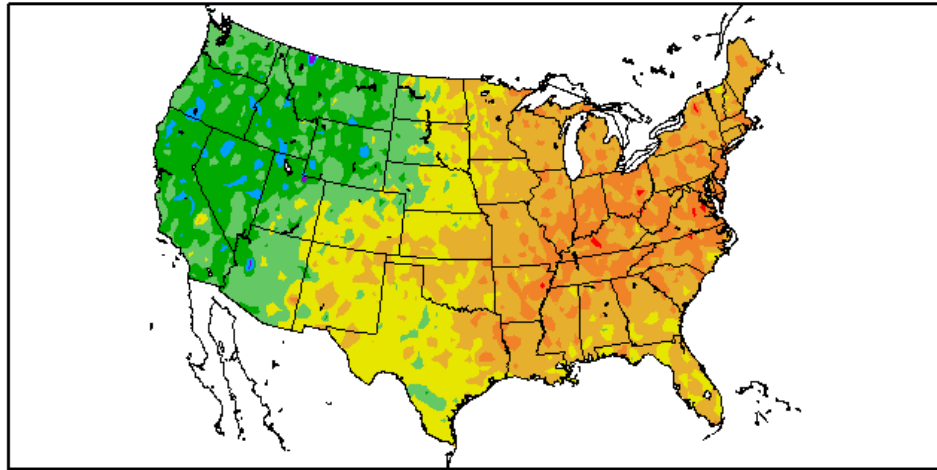
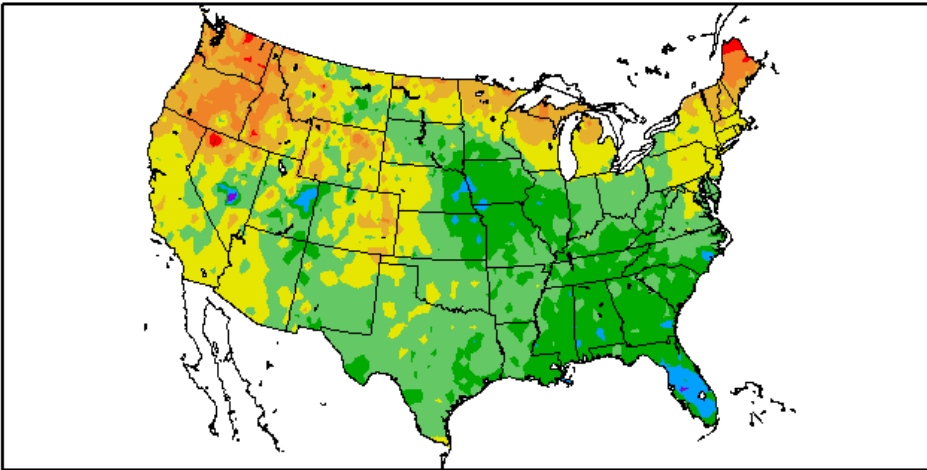
The Past

National, PNW, and Oregon Wine Region Climates for 2010

US and PNW Temperature Departures from Normal for Spring/Early Summer 2010

Departure from Normal Temperature (F)
1/1/2010 - 1/31/2010

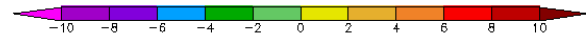
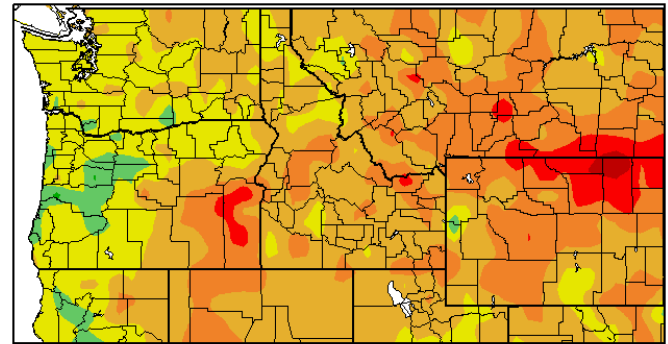
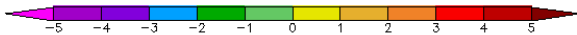
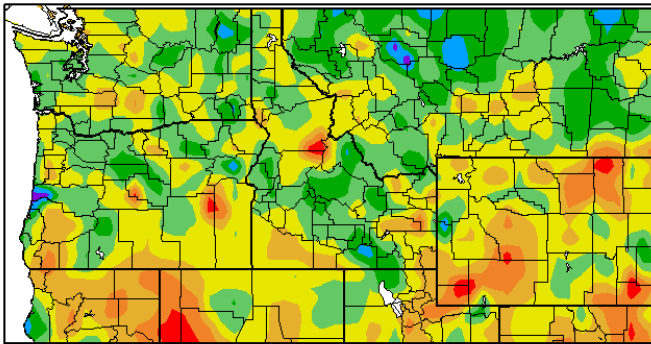
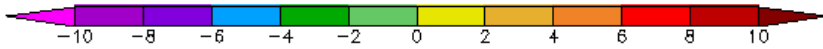
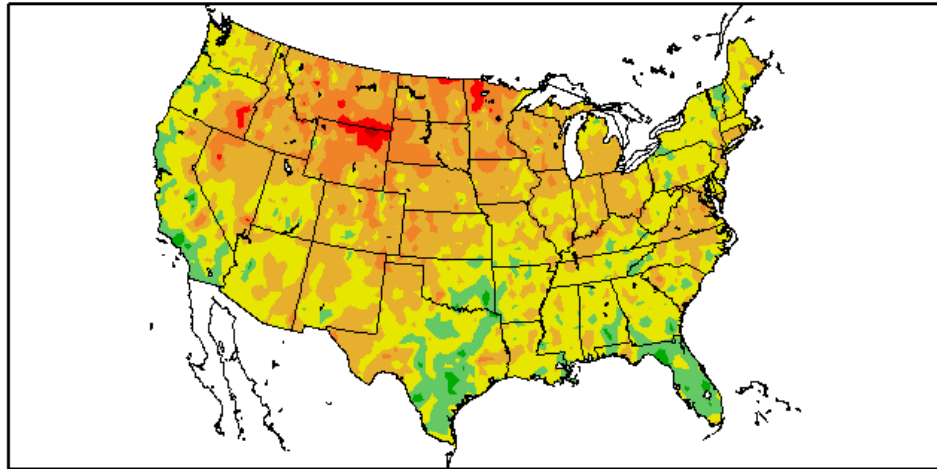
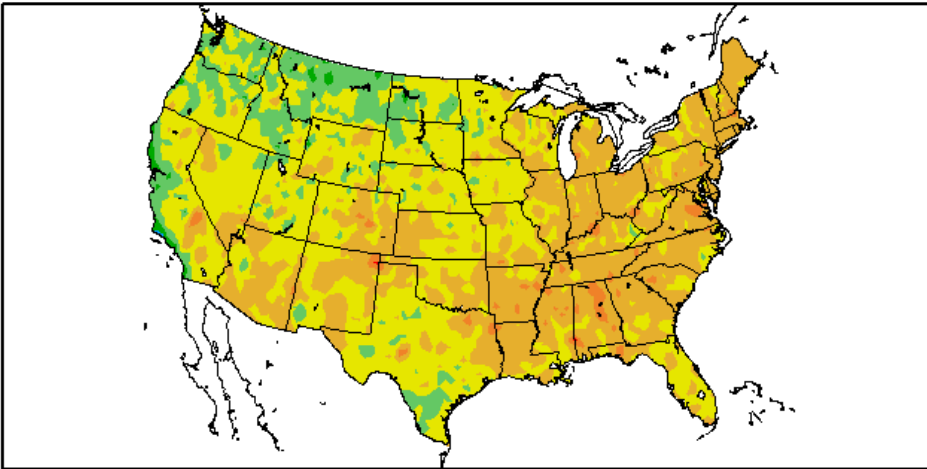
Departure from Normal Temperature (F)
4/1/2010 - 6/30/2010



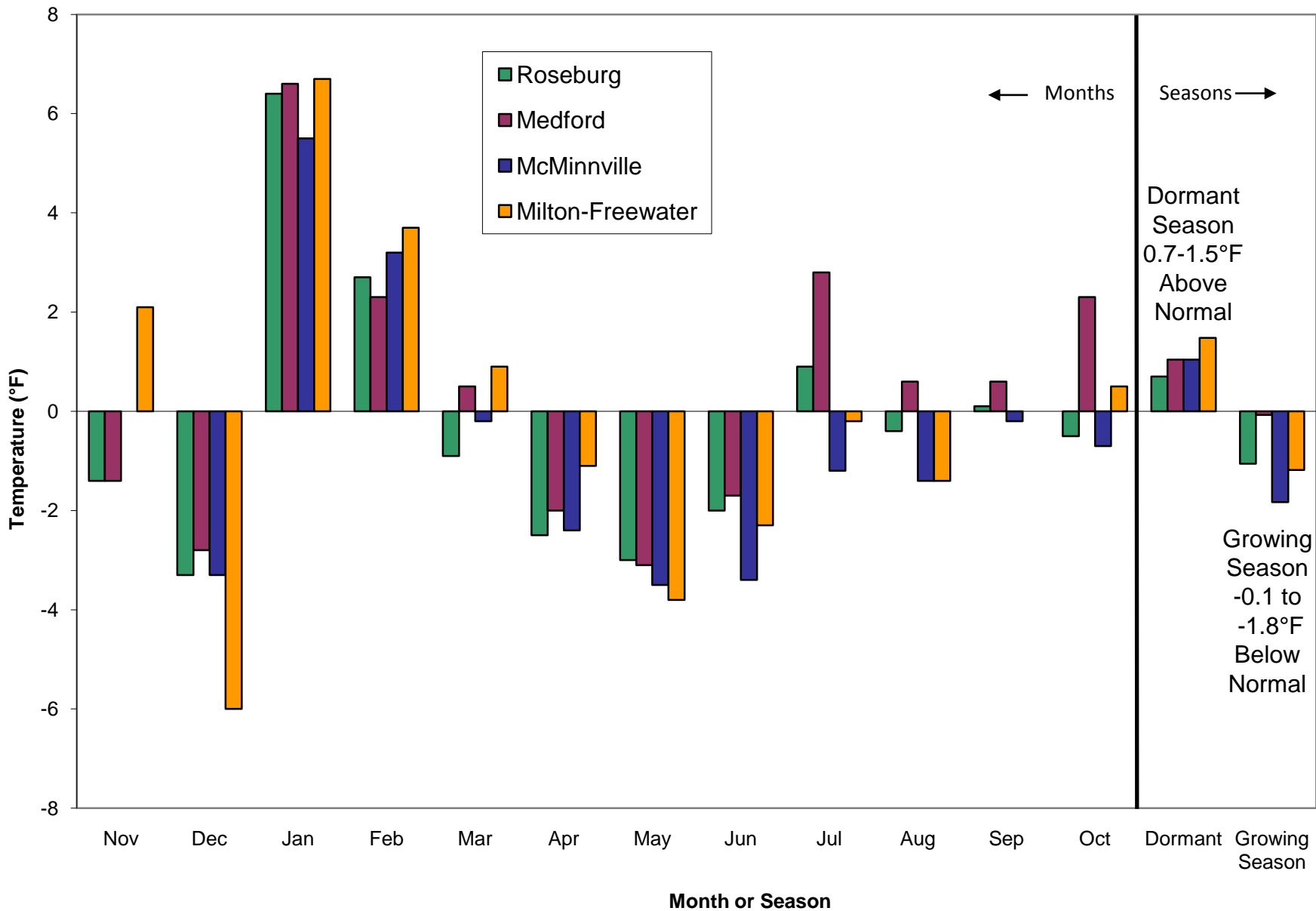
US and PNW Temperature Departures from Normal for Late Summer/Early Fall 2010

Departure from Normal Temperature (F)
7/1/2010 - 9/30/2010

Departure from Normal Temperature (F)
10/1/2010 - 10/31/2010

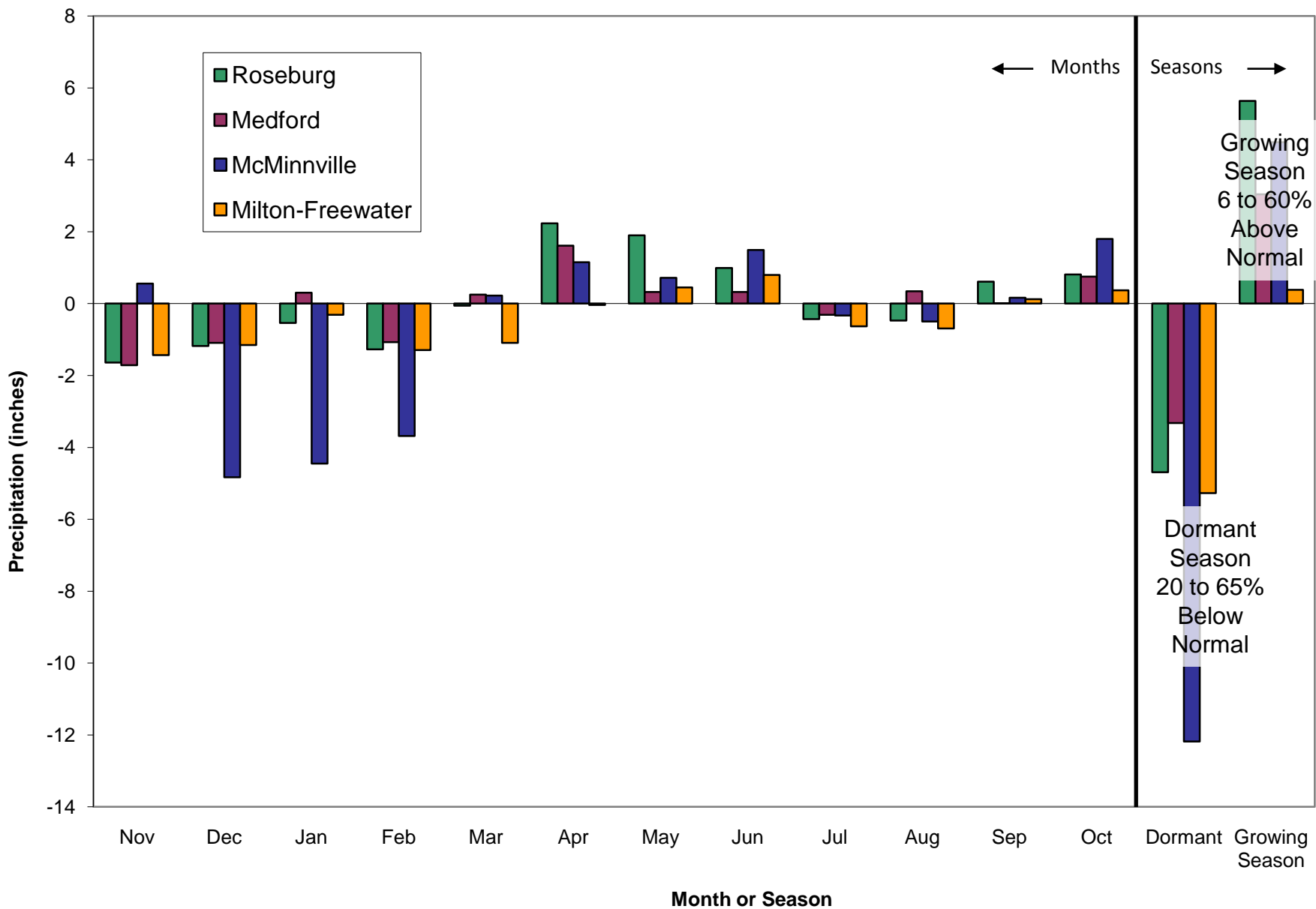


2009-10 Regional Temperature Departures from Normal



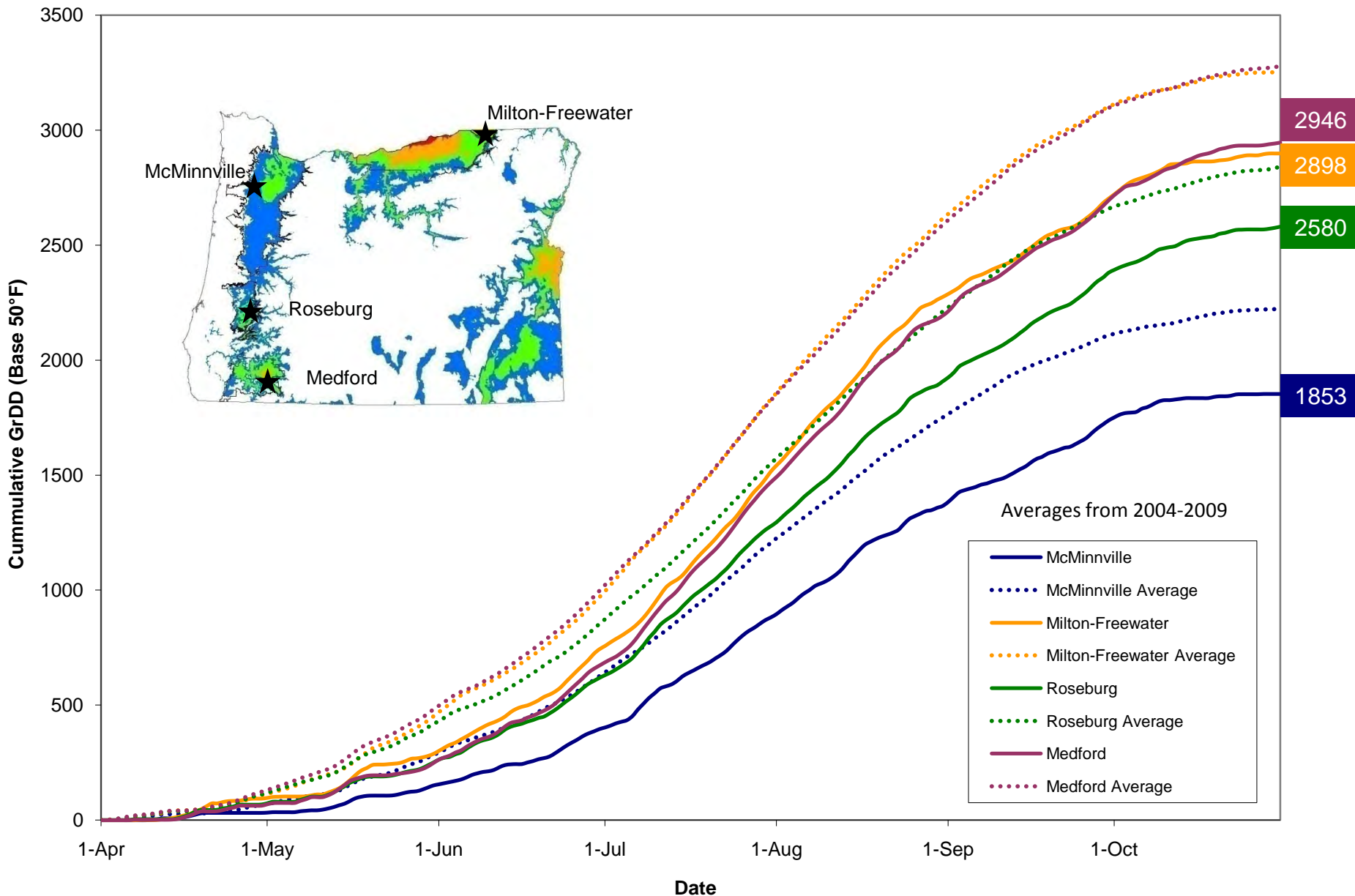
This chart represents a summation of daily temperature departures by month, the dormant period (Nov-Mar) and the growing season (Apr-Oct) from the NWS stations (www.noaa.gov)

2009-10 Regional Precipitation Departures from Normal



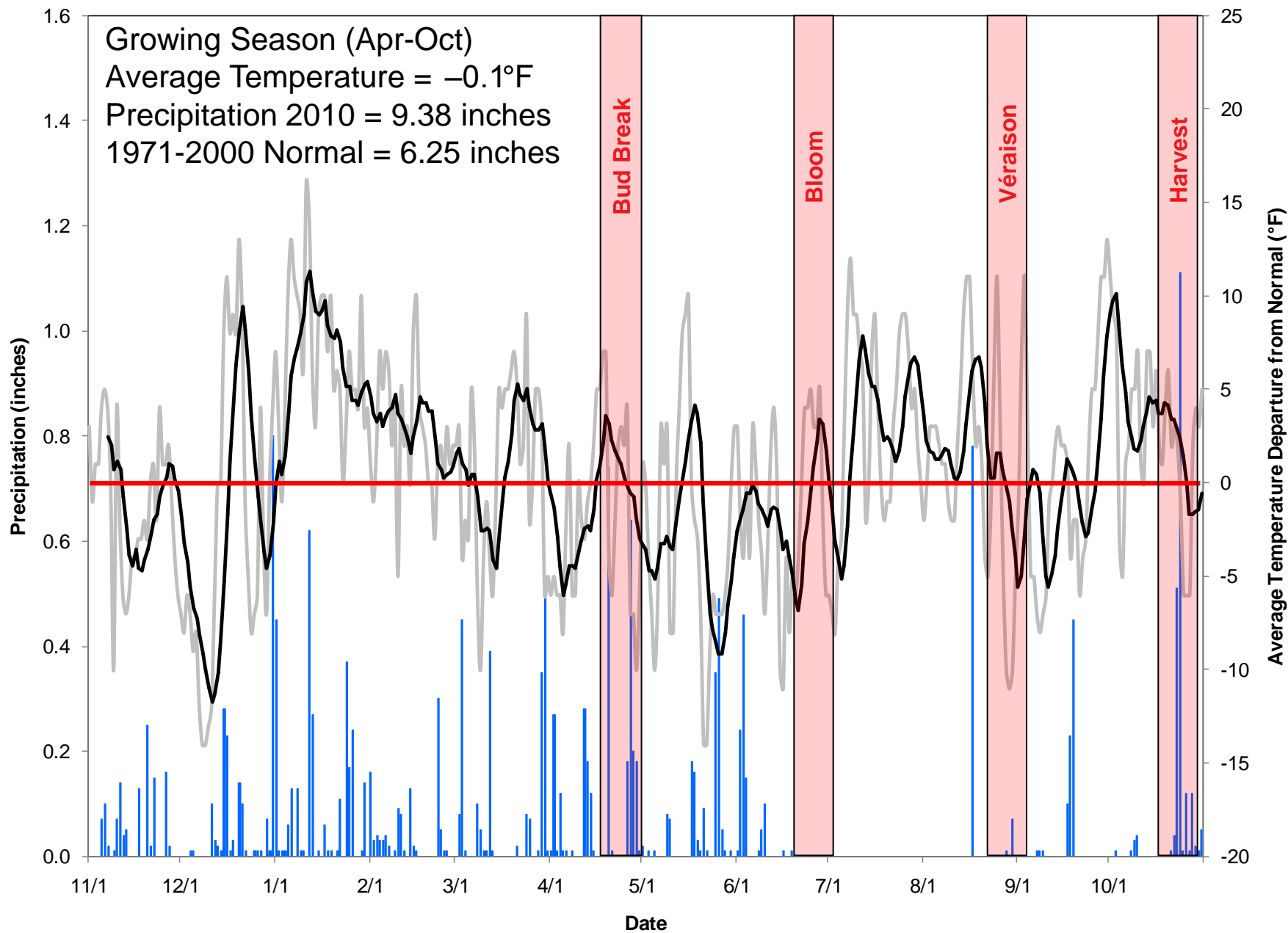
This chart represents the summation of daily precipitation departures by month, the dormant period (Nov-Mar) and the growing season (Apr-Oct) from the NWS stations (www.noaa.gov)

2010 Growing Season Cumulative Degree-Days

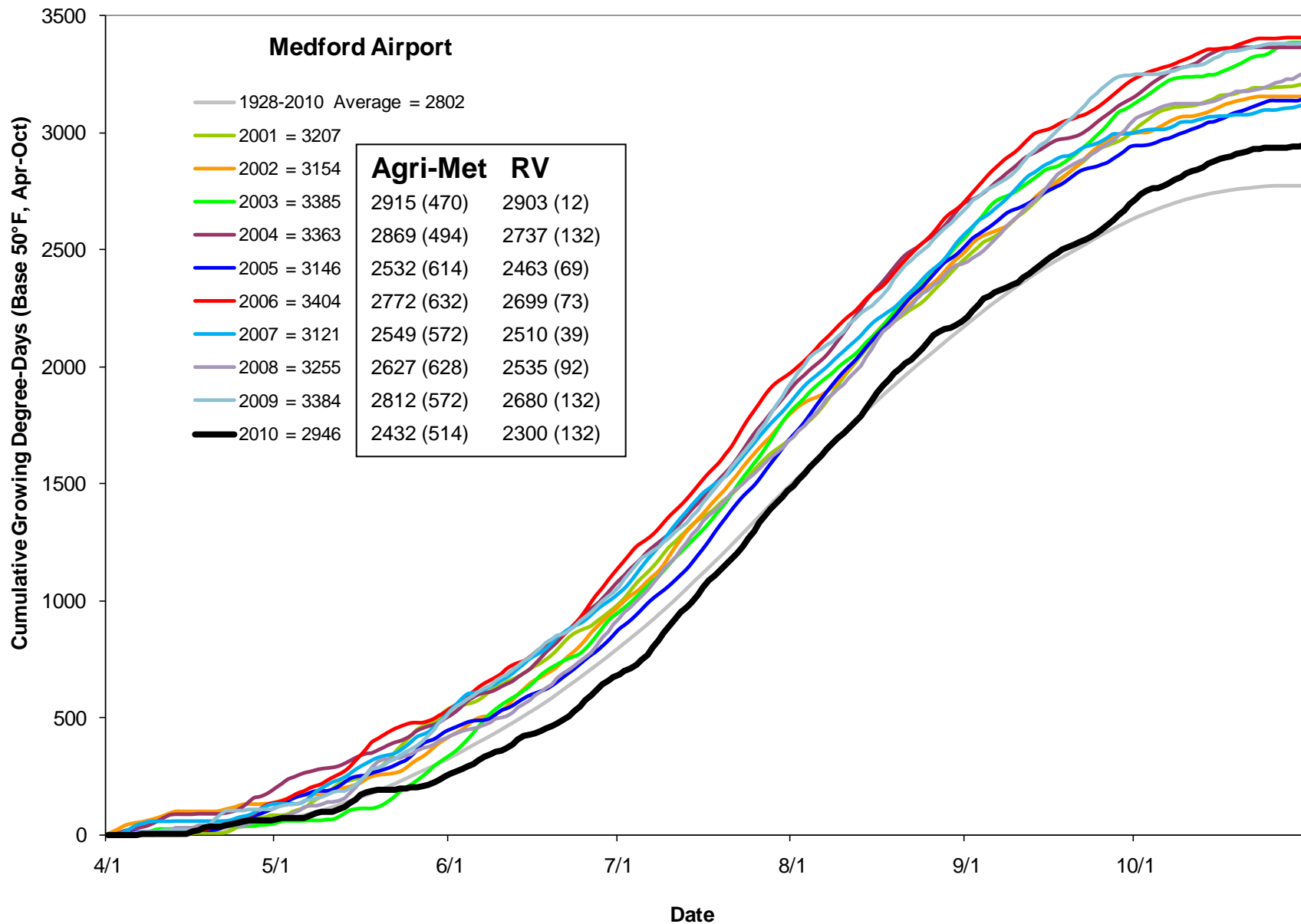


This chart represents the 2010 cumulative growing degree-days compared to the five year average for 2003-2009 for the growing season (Apr-Oct) from the NWS stations (www.noaa.gov)

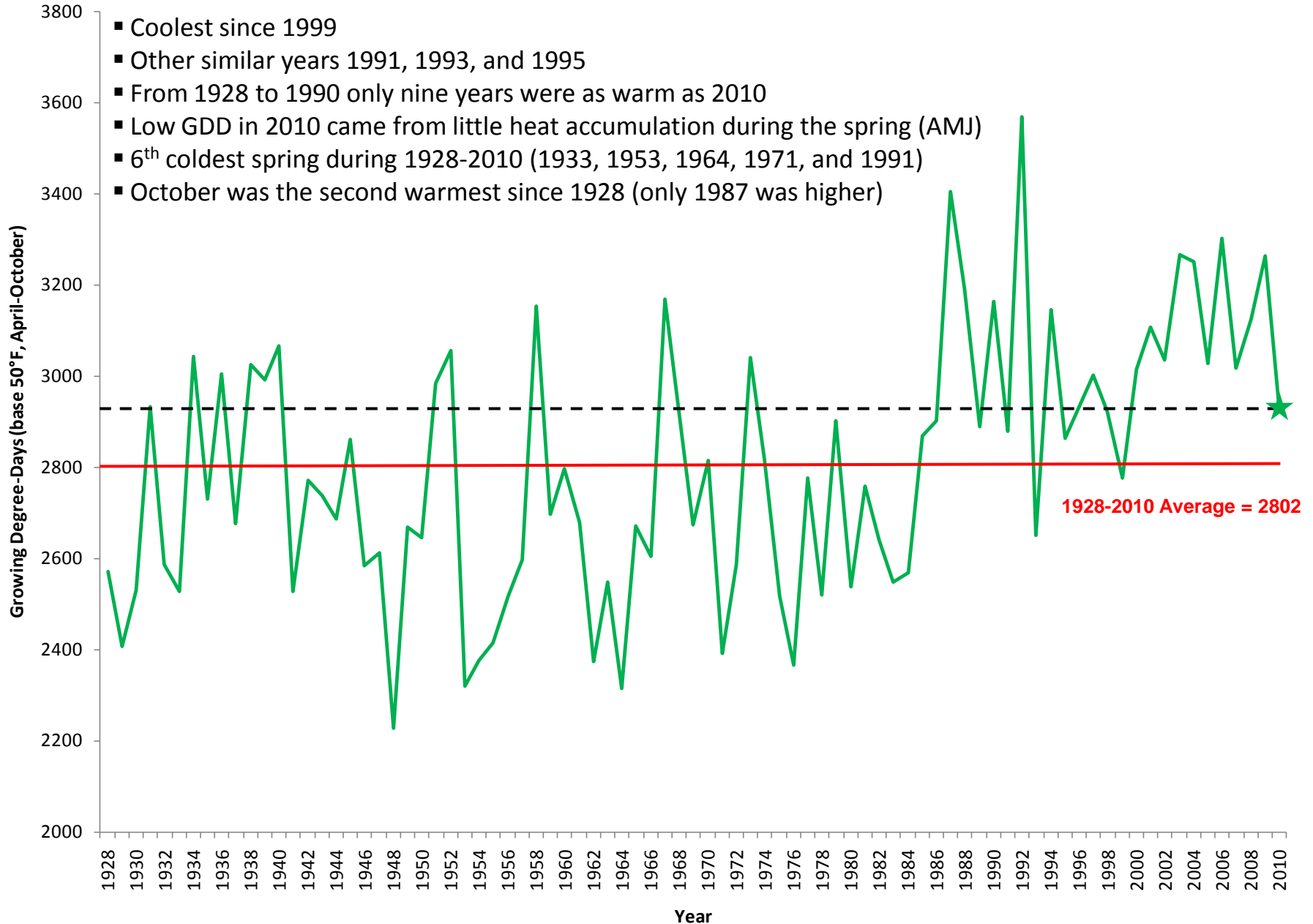
Medford Airport 2009-10 Temperature Departures from Normal and Precipitation



Medford Airport 2010 – Growing Degree-Days (Apr-Oct)



Medford Airport 1928-2010 – Growing Degree-Days



Rogue Valley AVA Reference Vineyard Observations

Weather/Climate

- Deep cold snap December 6-11, temperatures dropped to 7-10°F across sites
- Temperatures dipped to low 20s on April 9th, mild frost events into mid-May
- Maximum temperatures significantly lower than average (average minimums), resulting in fewer days > 95°F and fewer heat spikes than average
- Heat accumulation averaged 2300 GDD (ranged from 1990 -2813 GDD)
- First fall frosts occurred from October 12th to the 27th

Phenology

- Bud break near average but wide variations across sites and varieties
- Bloom 2-3 weeks late
- Véraison 10-20 days late
- Harvest late by two weeks or more

Composition

- Harvest composition : °Brix ↓, TA ↑ ↑, pH —, Yields ↓

What Caused the Climate of the 2010 Vintage?

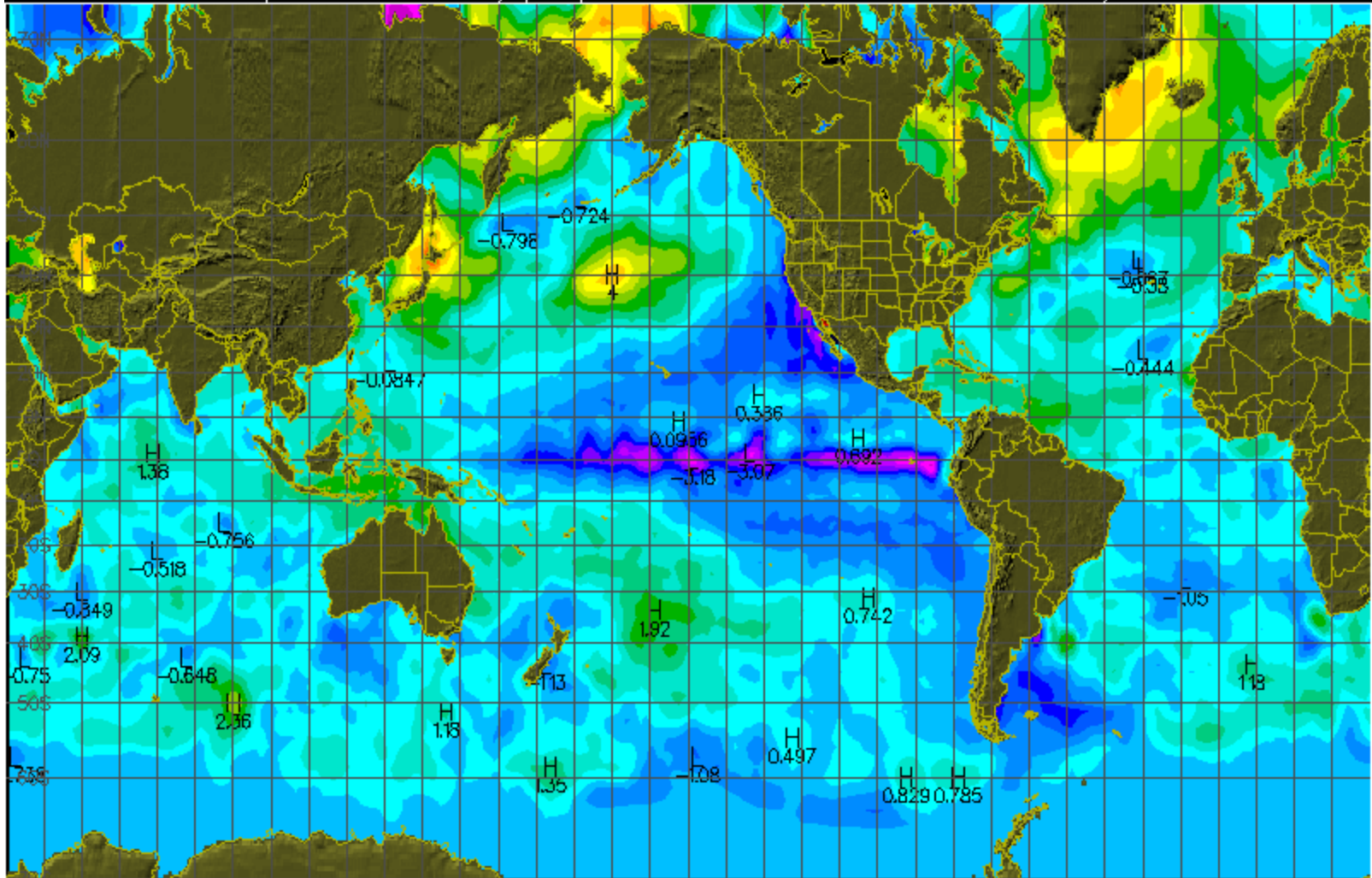
Influences on the 2010 Vintage

The influences on the overall cool vintage can be seen in how the regional climate variability mechanisms behaved.

- 1) A dramatic shift in ocean temperatures occurred in late Feb/early March
- 2) The atmosphere's circulation whiplashed from unseasonably warm to unseasonably cool air flow
- 3) This happened because of the very cold water along the western US coast (up to 4-8°F cooler than normal) coupled with warmer water out over the North Pacific and the developing La Niña in the tropical Pacific.
- 4) The cool waters off the west coast moderated temperatures along the western US (making it cooler overall)
- 5) The warmer than normal water further out in the Pacific brings higher moisture levels over the cooler waters producing a more prolonged marine layer and higher humidity along the coast and inland
- 6) The warmer than normal water further out in the Pacific induced a stronger than normal trough over the western US during the spring and a weaker high pressure ridge during the summer

Sea Surface Temperature anomaly [°C]

Analysis for 13 SEP 10



© unisys

Int: 0.5 Lo: -5.63 Hi: 7.19



The Present (or close to it)

2009-2010 State Production and Value Changes

Preliminary 2010 Numbers

2010	from 2009
20,500 acres	+6%
40,000 tons	-2%
\$1910 per ton	-6%
\$76.4 million	-6%

- Washington was 160,000 tons (+3%)
- California is estimated to be -5 to +5%
- New York was 52,000 tons (+32%)

2009 Regional Comparisons

8%, 1492 acres
9%, 3502 tons
77 vineyards
23 wineries

Eastern
Oregon
plus at large

Willamette
Valley

76%, 14718 acres
73%, 29305 tons
587 vineyards
293 wineries

Umpqua
Valley

6%, 1205 acres
6%, 2453 tons
58 vineyards
29 wineries

Rogue &
Applegate Valleys

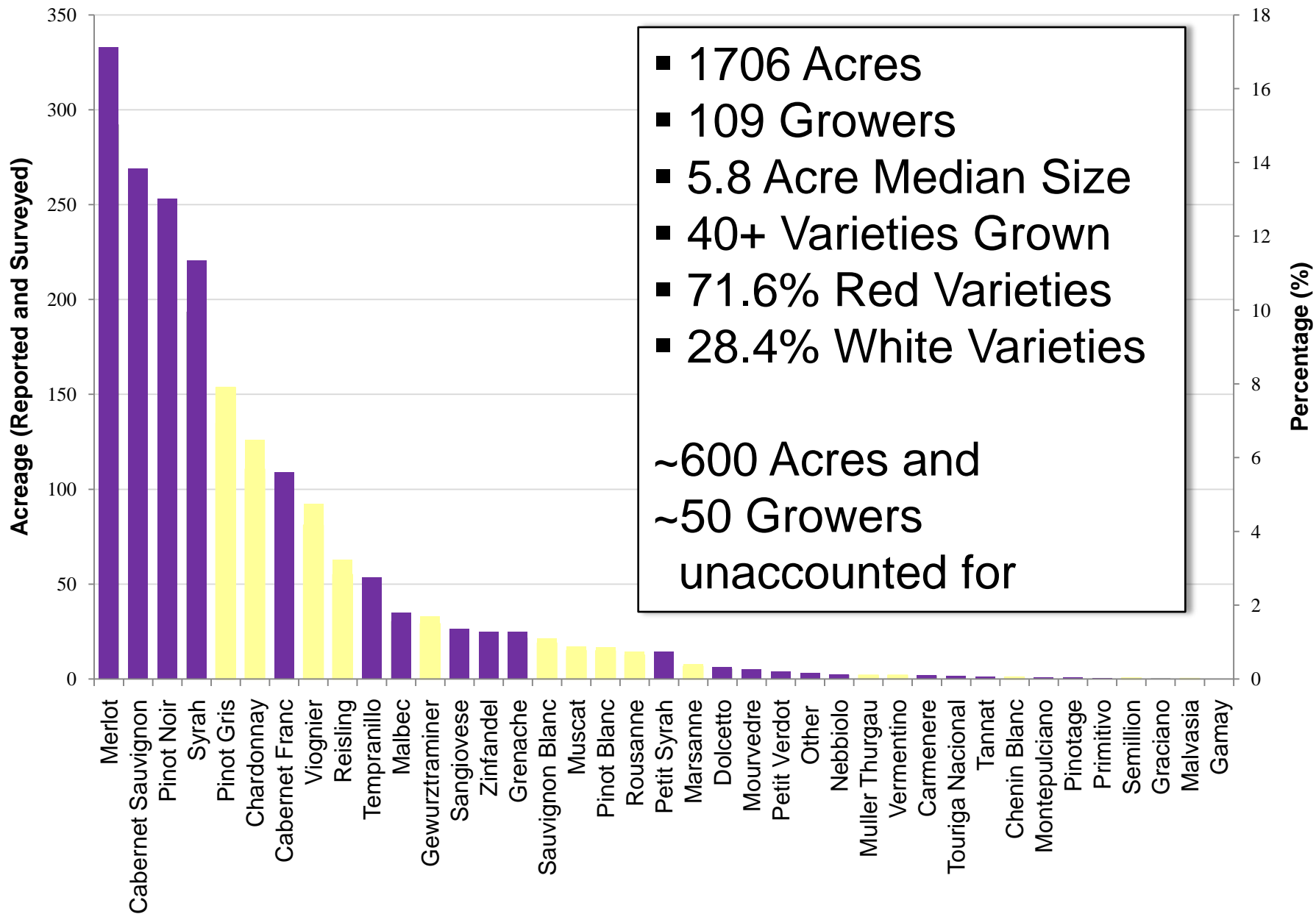
10%, 1985 acres
12%, 4940 tons
113 vineyards
42 wineries

Rogue Valley AVA Vineyard Changes 2000-2010

Statistic	2000	2010	Change
Count	80	164	+84
Sum (acres)	1297	2309	+1012
Mean (acres)	16.4	13.8	-2.6
Median (acres)	6.1	5.9	-0.2
Standard Deviation (acres)	31.9	22.9	-9.0
Maximum (acres)	188.9	214.5	+25.6
Minimum (acres)	< 1.0	< 1.0	NA

Acres	Number of Vineyards 2000	Number of Vineyards 2010	Change
0-5	36	74	+38
5-15	22	45	+23
15-30	12	27	+15
30-60	6	15	+9
60+	4	6	+2

Rogue Valley AVA Variety Acreage



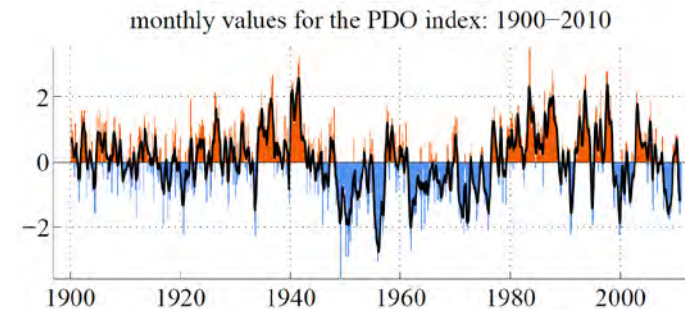
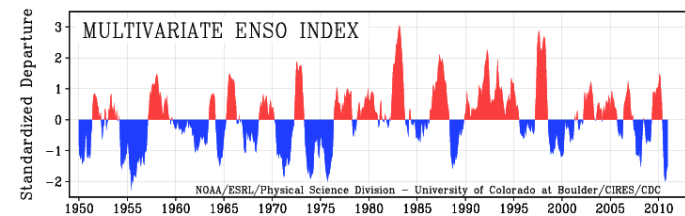
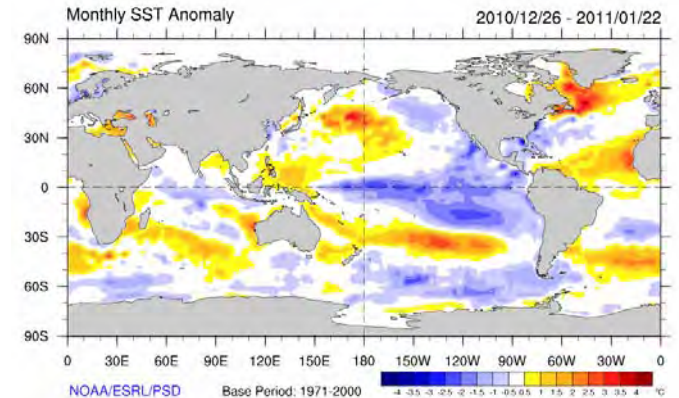
Reported (2009) and Surveyed (2000) Acreage

The Future

What's in Store – Vintage 2011

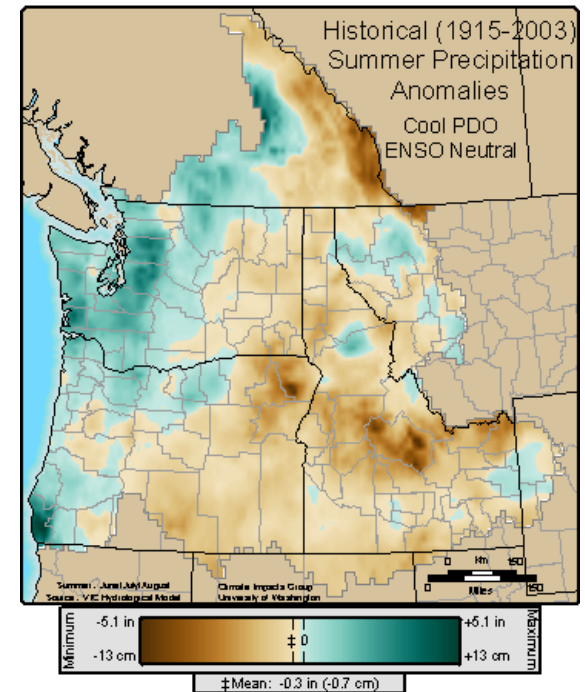
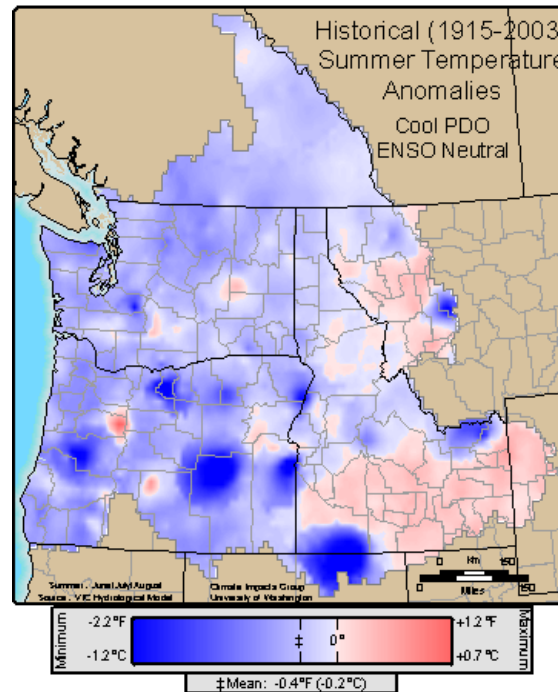
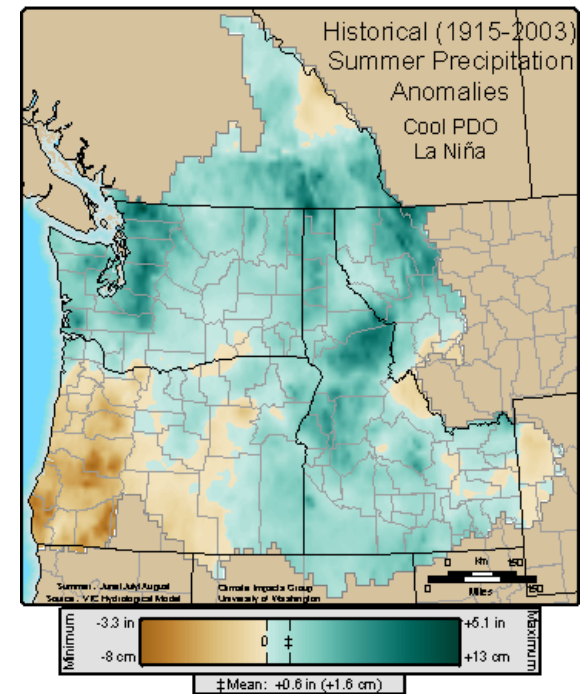
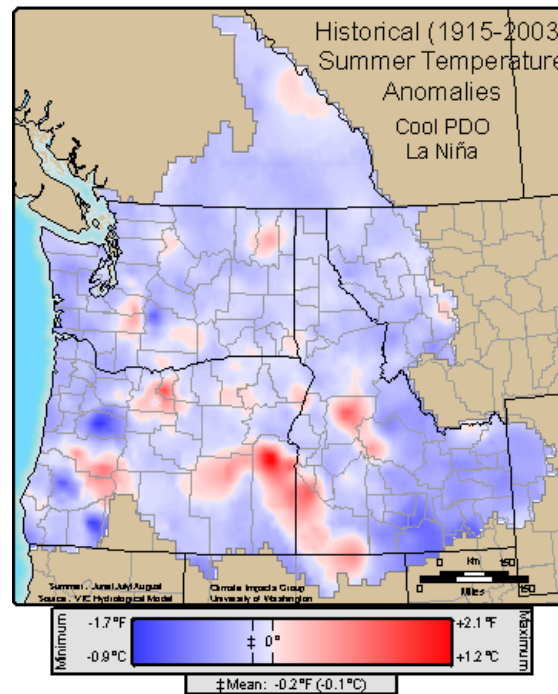
Current and Projected Pacific Ocean/North America Climate Variability Mechanisms

- Moderate-to-Strong La Niña, projected to weaken to "neutral" by JJA
- Strong negative phase of the PDO (cold coastal waters), projected to stay the same through JJA
- These conditions typically affect the climate of Oregon, Washington, and Idaho more dominantly during the Fall through late Spring, but can linger into summer



Two Likely Scenarios

- La Niña and cold PDO conditions, typically bring cooler summers to much of the PNW and mixed wet-dry conditions
- Southern Oregon AVA is typically cooler and drier
- If neutral ENSO develops, then conditions should still be cooler, but mixed rainfall patterns
- Southern Oregon AVA cooler and mixed rainfall patterns

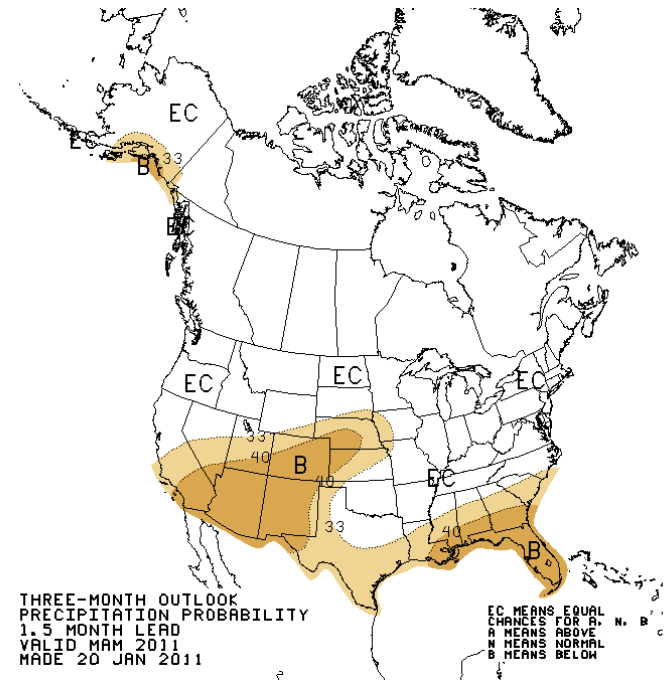
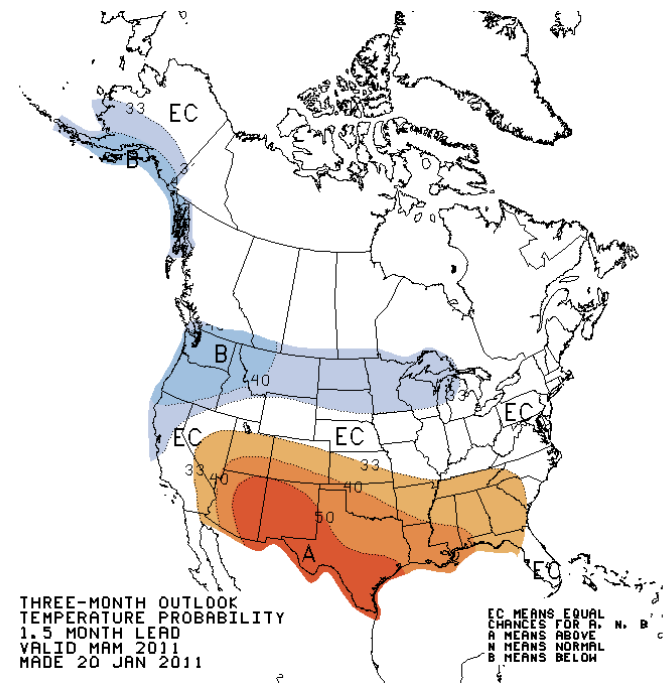


NOAA Forecasts

The March-April-May (MAM) temperature forecast shows that most of the PNW has a greater than 40% chance of having below normal temperatures (similar patterns and probability are seen for AMJ).

The March-April-May (MAM) precipitation forecast is for an equal chance of below-, near-, or above-normal precipitation during this period (similar for AMJ).

The seasonal forecasts should be interpreted as the tilting of odds towards general categories of conditions, and should not be viewed as a guarantee that the specified conditions will be realized.



Spring/Summer 2011 Forecast

For Oregon in general:

Tropical and North Pacific conditions do not appear to be changing for the better, with cooler conditions likely into spring/summer. All indicators point to a late spring and high variability.

For the Southwestern Valleys of Oregon:

Temperatures

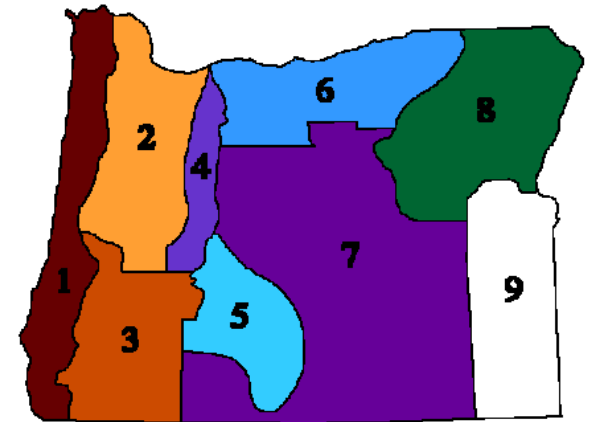
January-March: Below average to average

April-June: Below average to average

Precipitation

January-March: Slightly above to average

April-June: Equal chance of slightly above/slightly below average



NOAA-CIRES Climate Diagnostics Center (www.cdc.noaa.gov)

Oregon Climate Service (www.ocs.orst.edu)

A topographic map of the state of Oregon, showing county boundaries as black outlines. The map uses a color gradient from green in the west to tan in the east to represent elevation. The text is overlaid on the central and eastern parts of the map.

**Wishing for Better
Vintage and Economic
Climates !**

Thank You!

Gregory V. Jones
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