

Vintage 2009: Reference Vineyard Overview



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Rogue Valley Winegrowers Association
Dick Ellis, President

Outline of Talk

- Vintage 2009
 - Weather/Climate Overview
 - Phenology Overview
 - Composition Overview
 - Comparison with 2003-2008
- Summary, Forecast, and Future

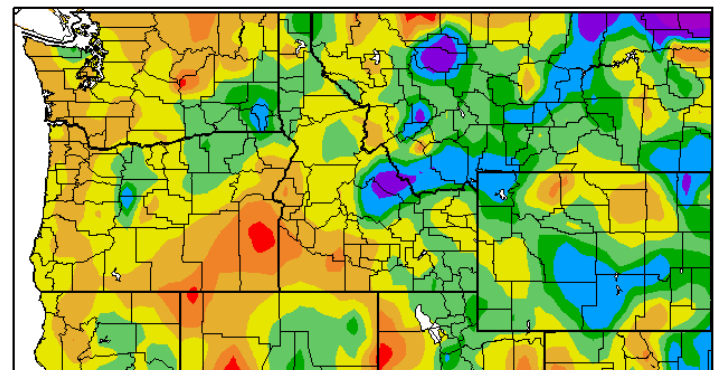
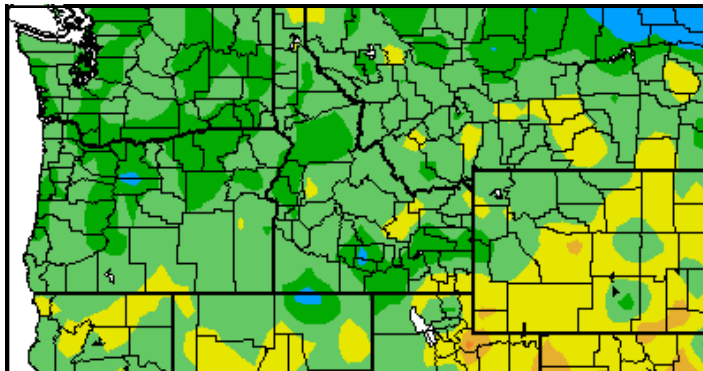
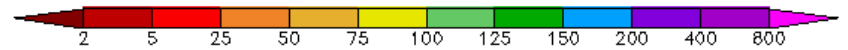
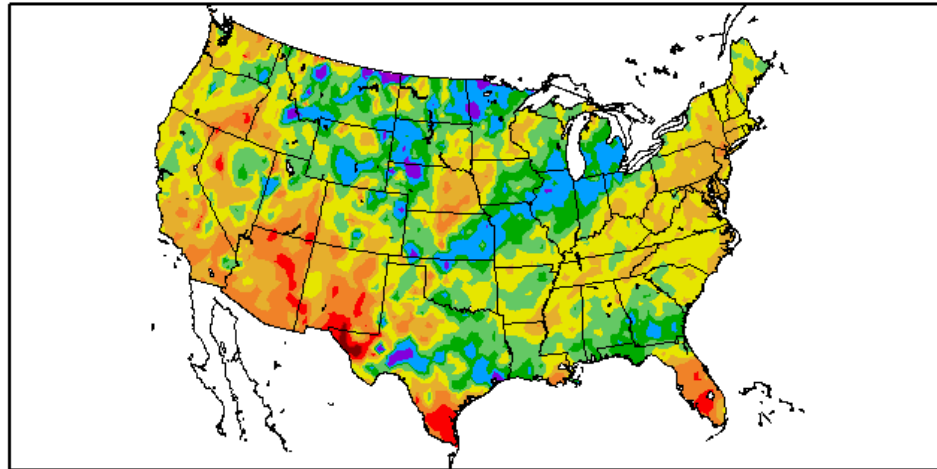
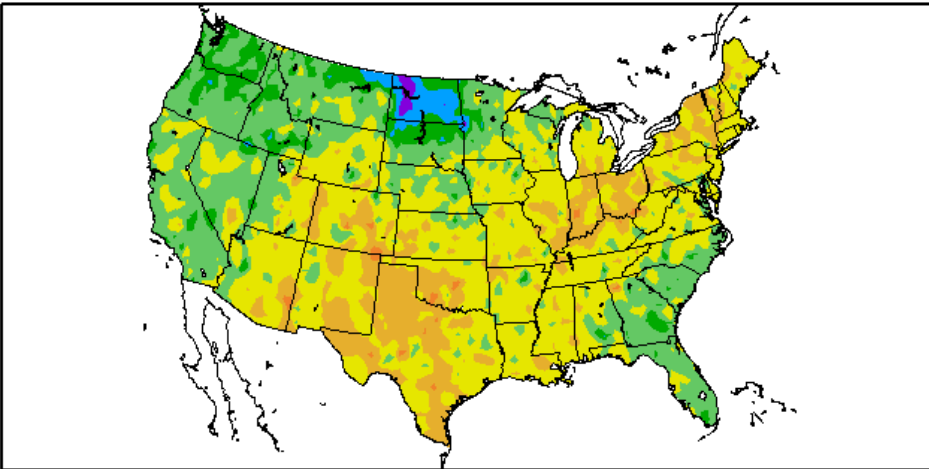


National, PNW, and Oregon Wine Region Climates for 2009

US Temperature Departure and Precipitation Percent from Normal for Spring 2009

Departure from Normal Temperature (F)
2/1/2009 - 4/30/2009

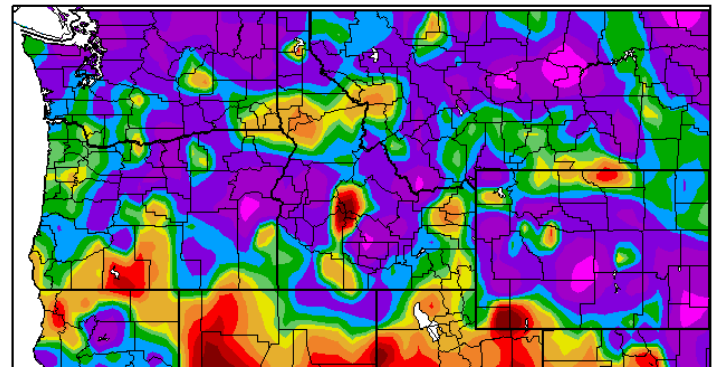
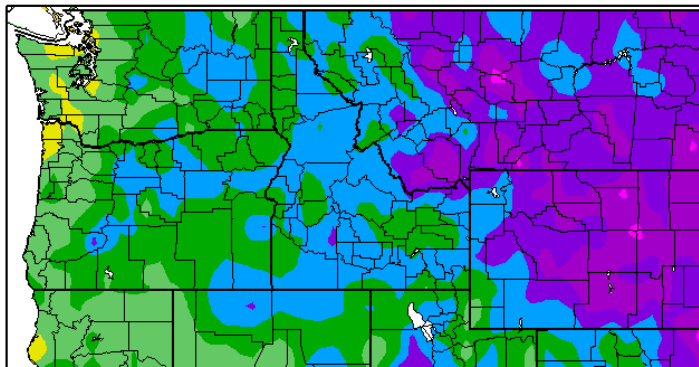
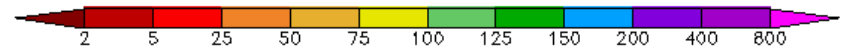
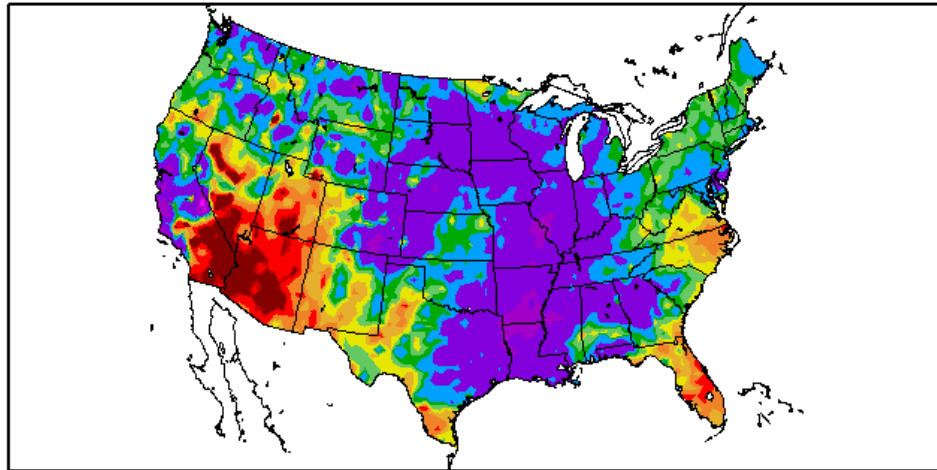
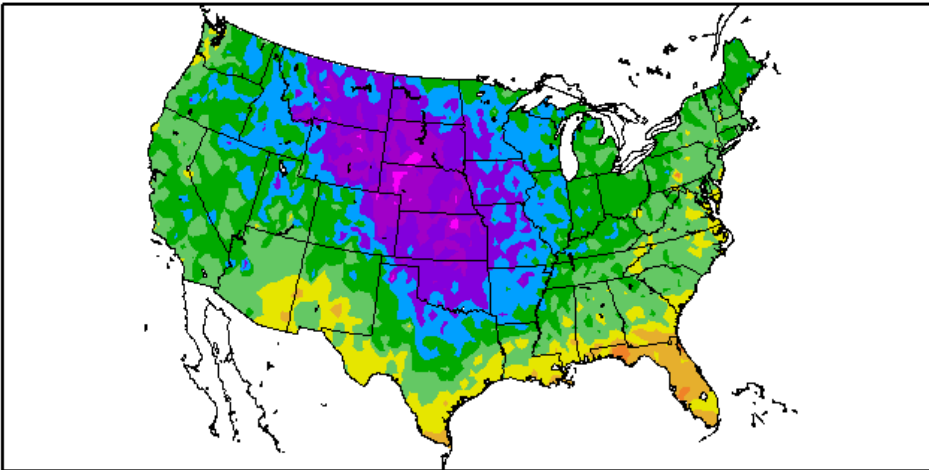
Percent of Normal Precipitation (%)
2/1/2009 - 4/30/2009



US Temperature Departure and Precipitation Percent from Normal for October 2009

Departure from Normal Temperature (F)
10/1/2009 - 10/31/2009

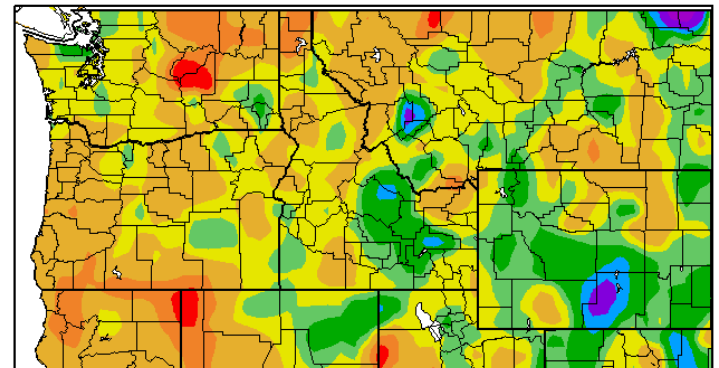
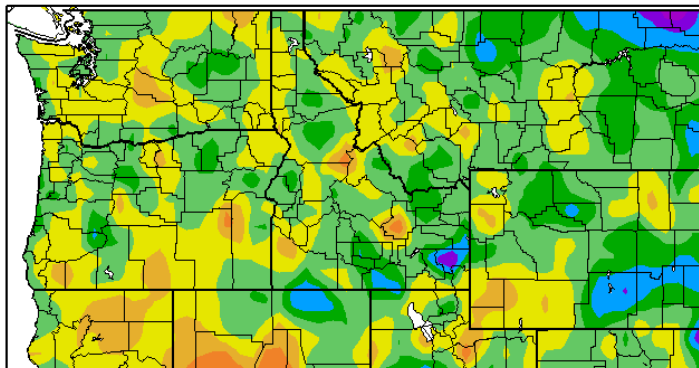
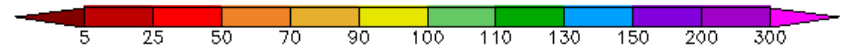
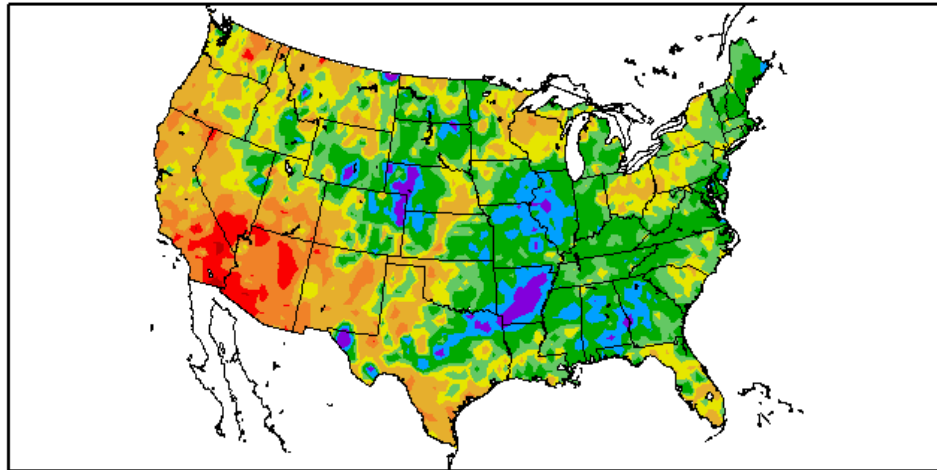
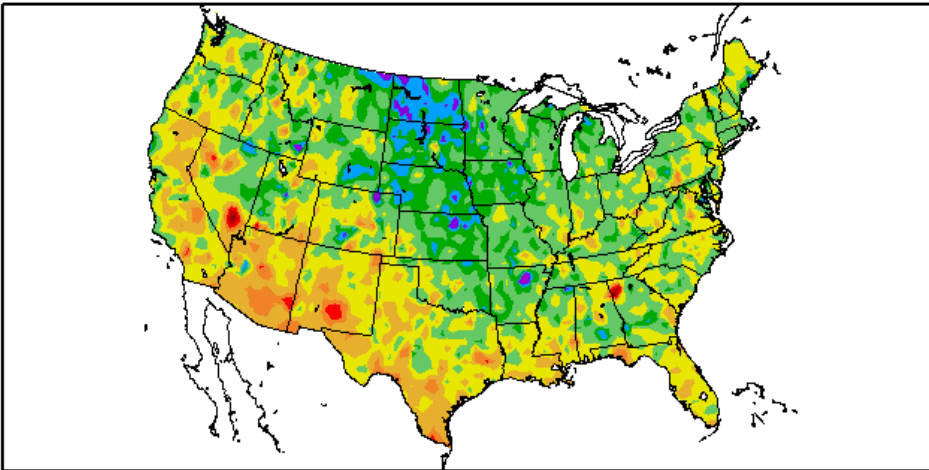
Percent of Normal Precipitation (%)
10/1/2009 - 10/31/2009



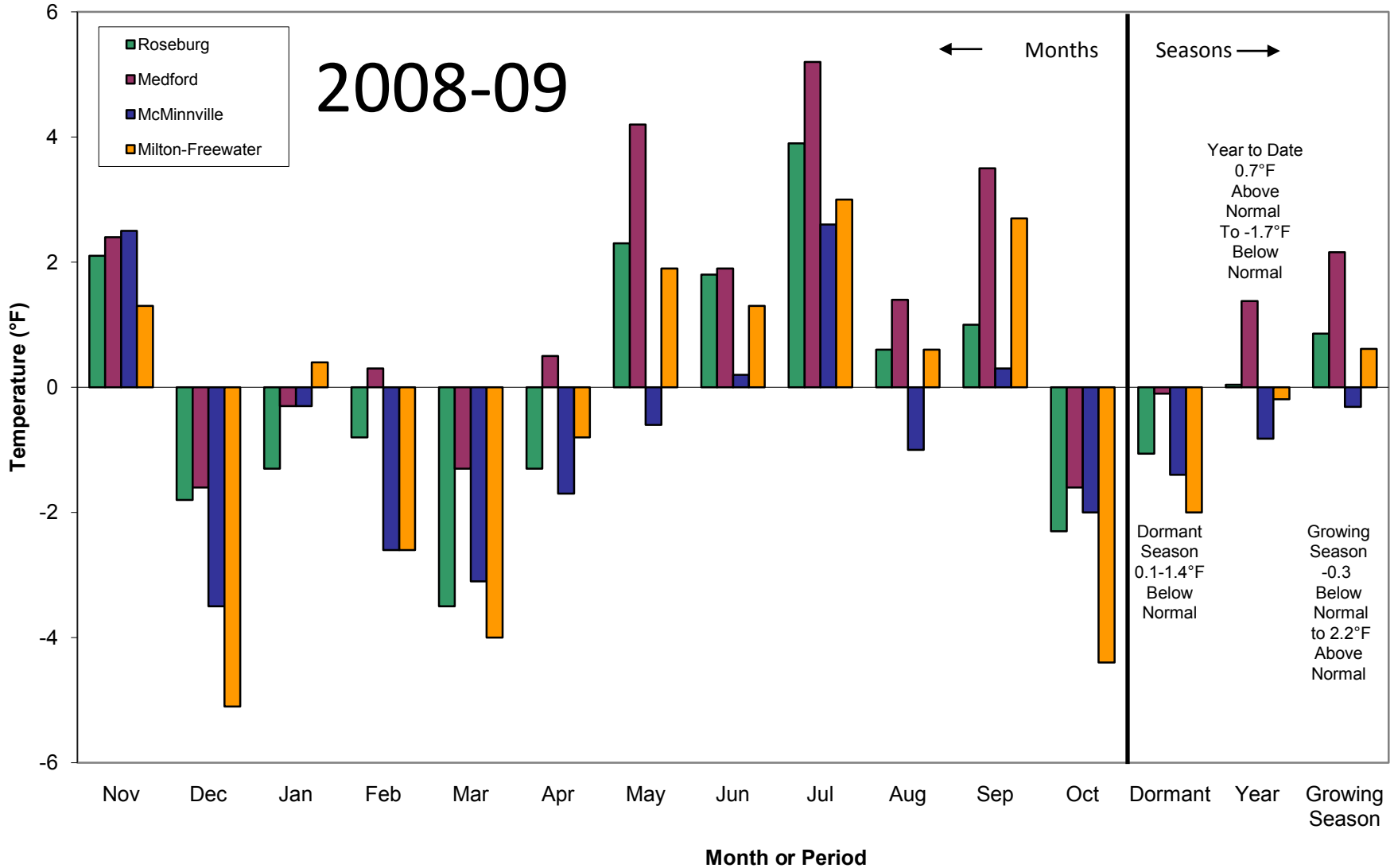
US Temperature Departure and Precipitation Percent from Normal for 2009

Departure from Normal Temperature (F)
1/1/2009 – 12/31/2009

Percent of Normal Precipitation (%)
1/1/2009 – 12/31/2009

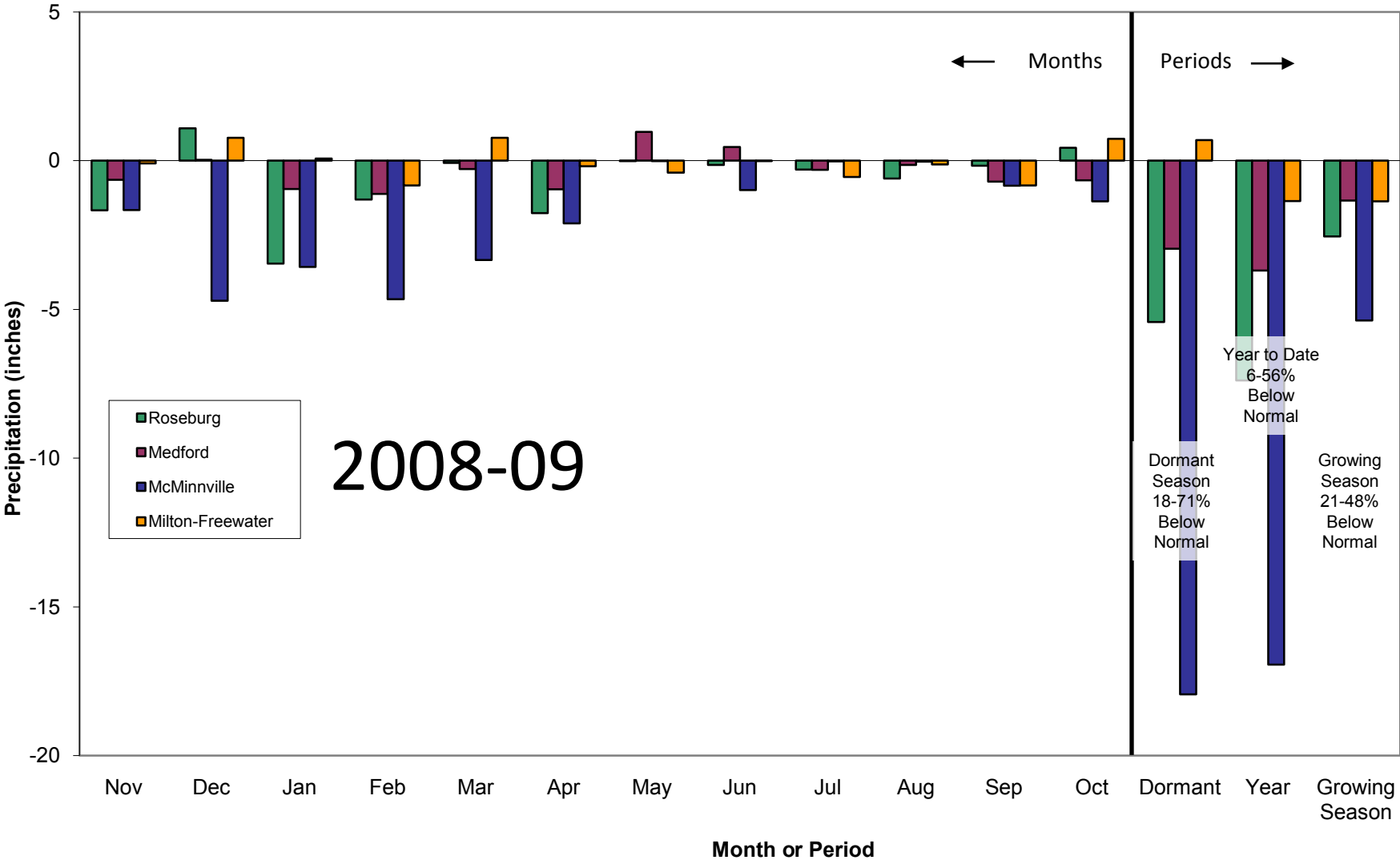


2008-09 Regional Temperature Departures from Normal



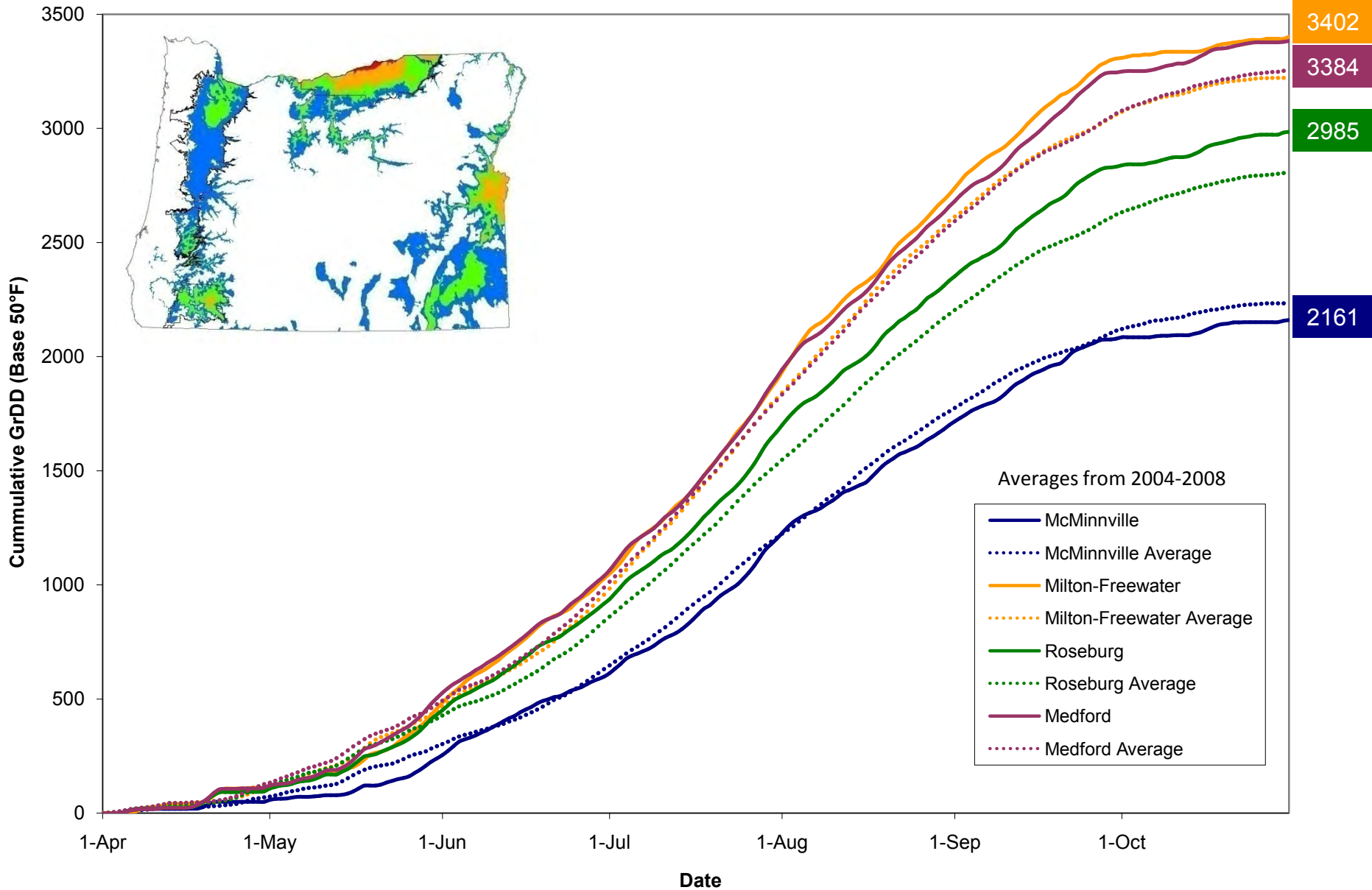
This chart represents a summation of daily temperature departures by month, the dormant period (Nov-Mar), the year (Jan-Oct), and the growing season (Apr-Oct) from the NWS stations (www.noaa.gov)

2008-09 Regional Precipitation Departures from Normal



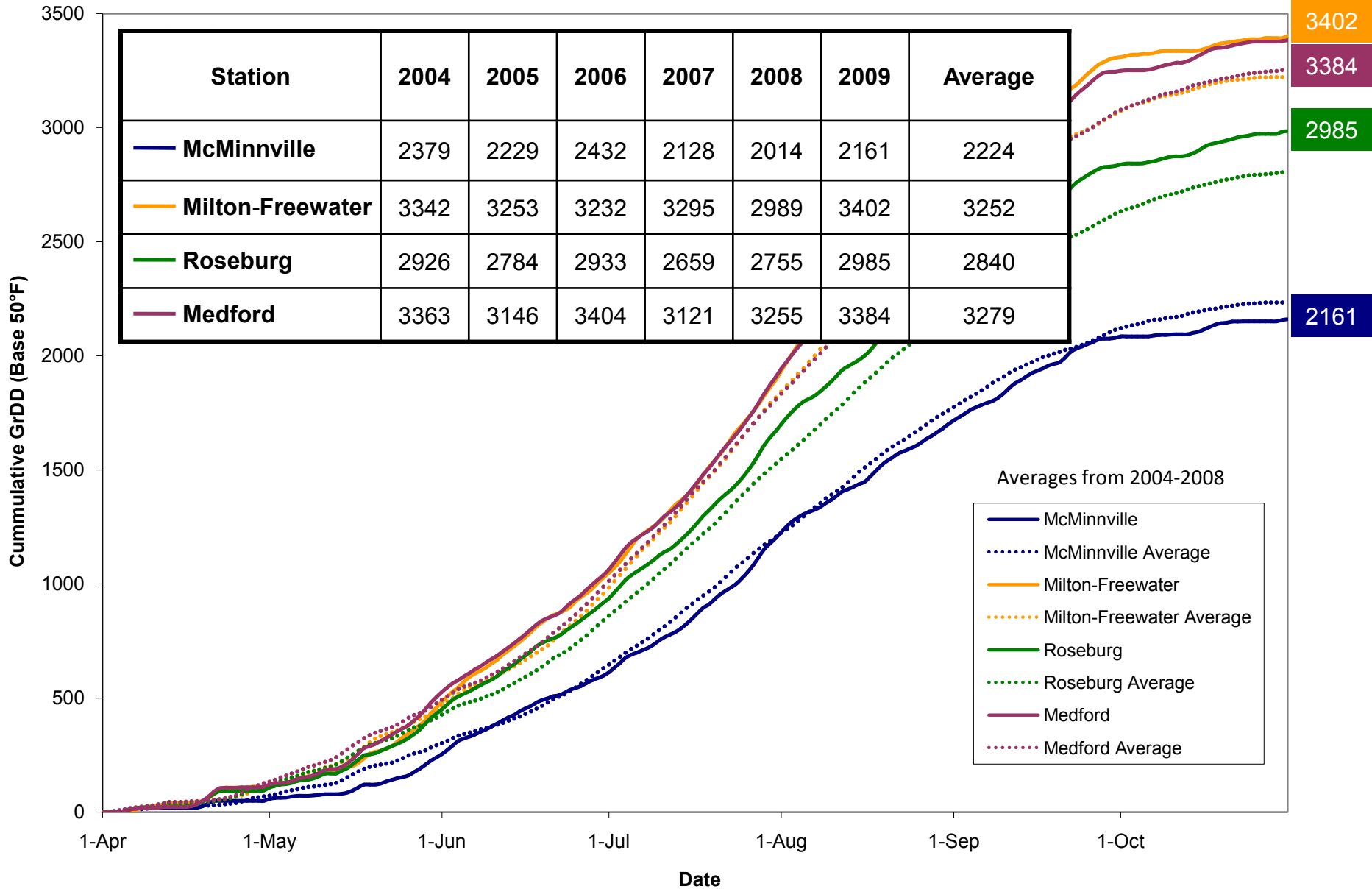
This chart represents precipitation departures by month, the dormant period (Nov-Mar), the year (Jan-Oct), and the growing season (Apr-Oct) from the NWS stations (www.noaa.gov)

2009 Growing Season Cumulative Degree-Days



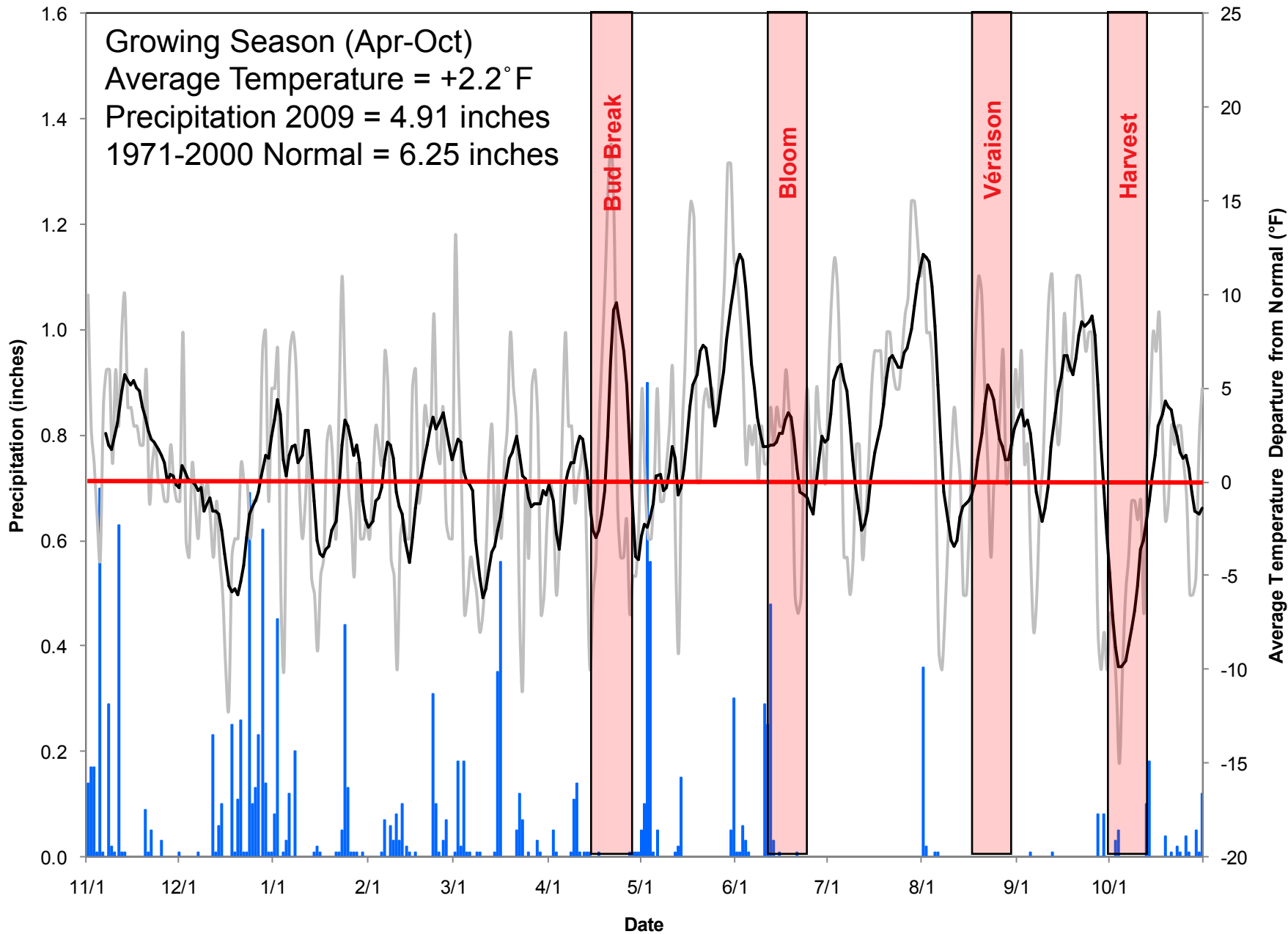
This chart represents the 2009 cumulative growing degree-days compared to the five year average for 2004-2008 for the growing season (Apr-Oct) from the NWS stations (www.noaa.gov)

2009 Growing Season Cumulative Degree-Days

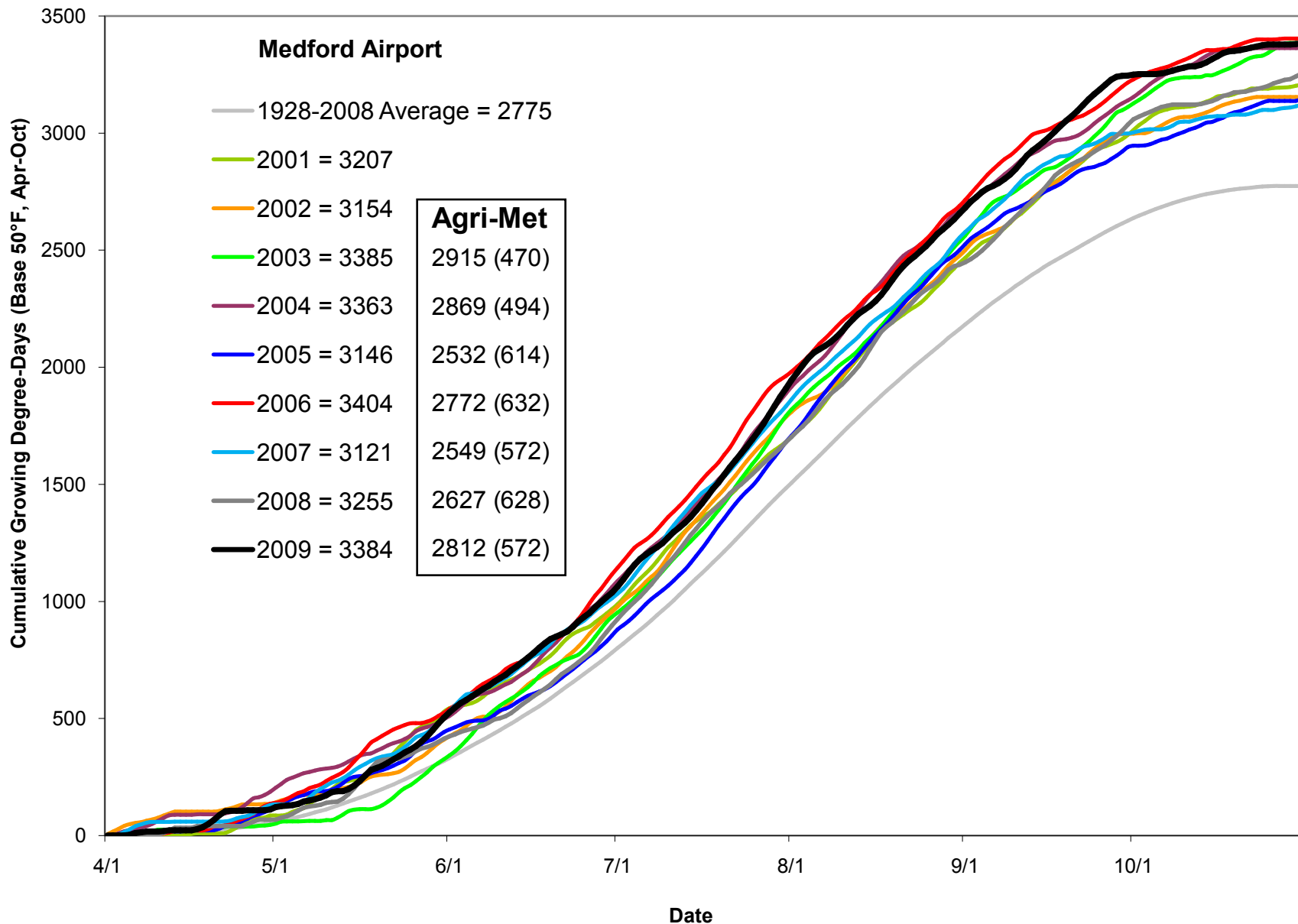


This chart represents the 2009 cumulative growing degree-days compared to the five year average for 2004-2008 for the growing season (Apr-Oct) from the NWS stations (www.noaa.gov)

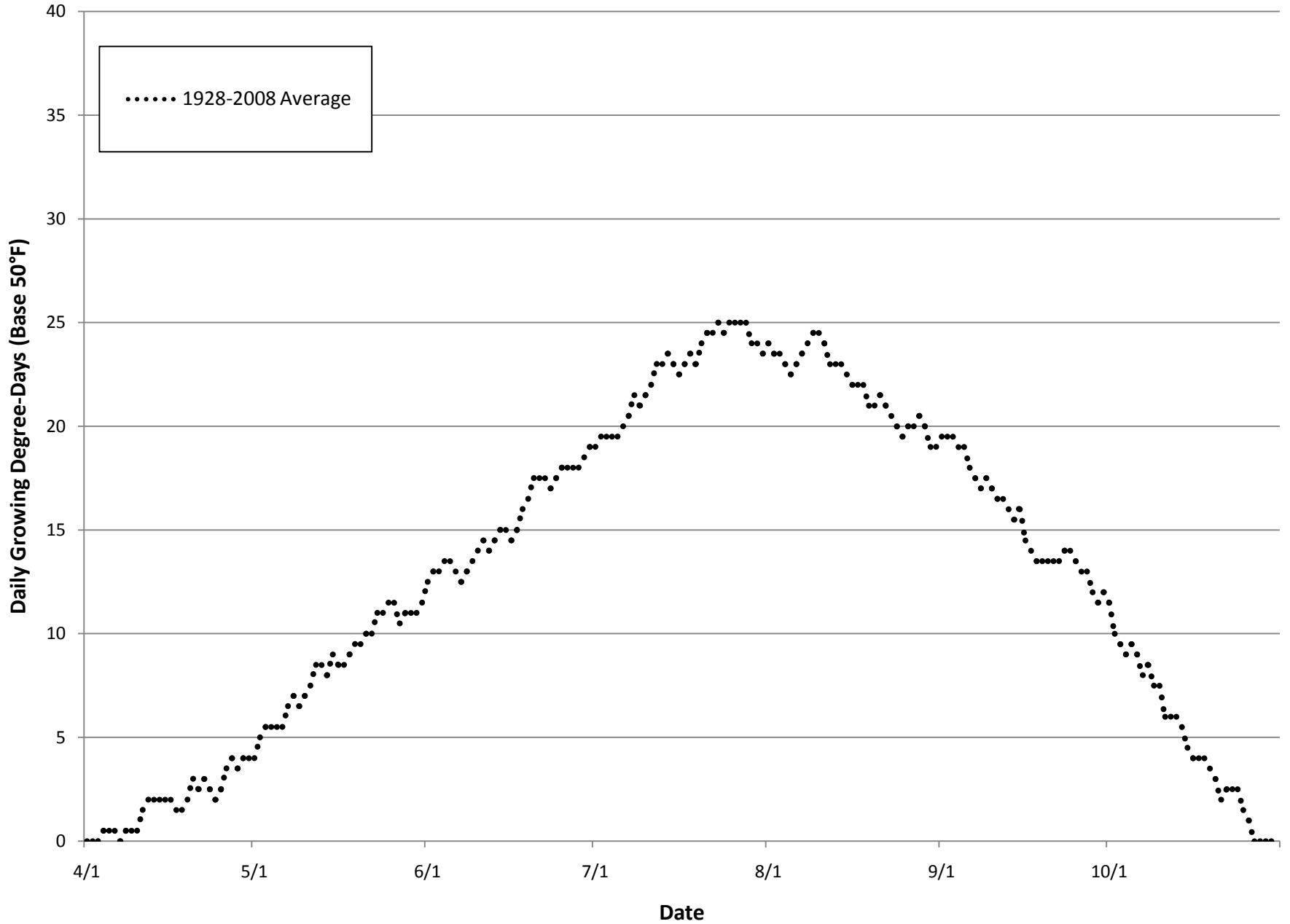
Medford Airport 2008-09 Temperature Departures from Normal and Precipitation



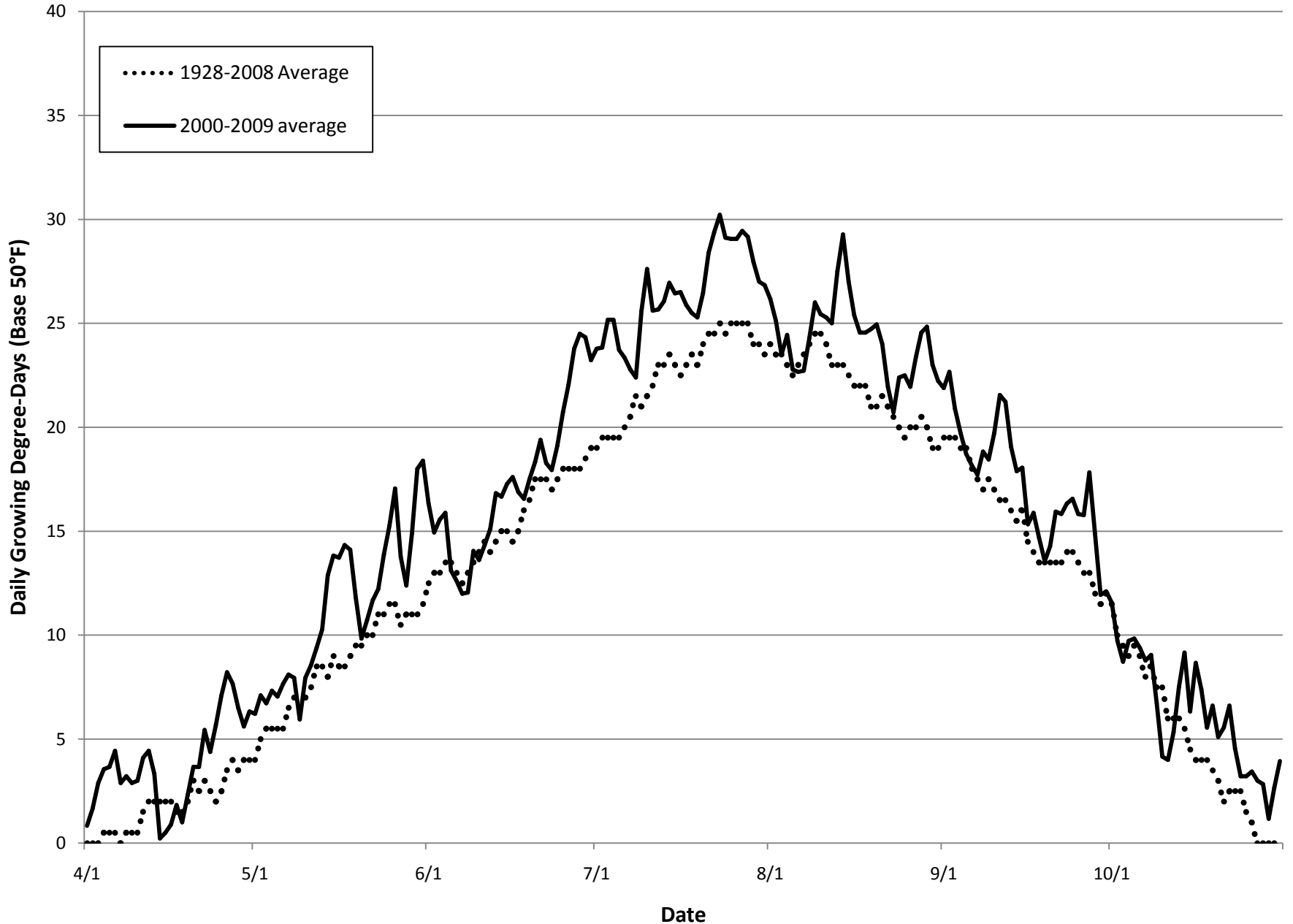
Medford Airport 2009 – Growing Degree-Days (Apr-Oct)



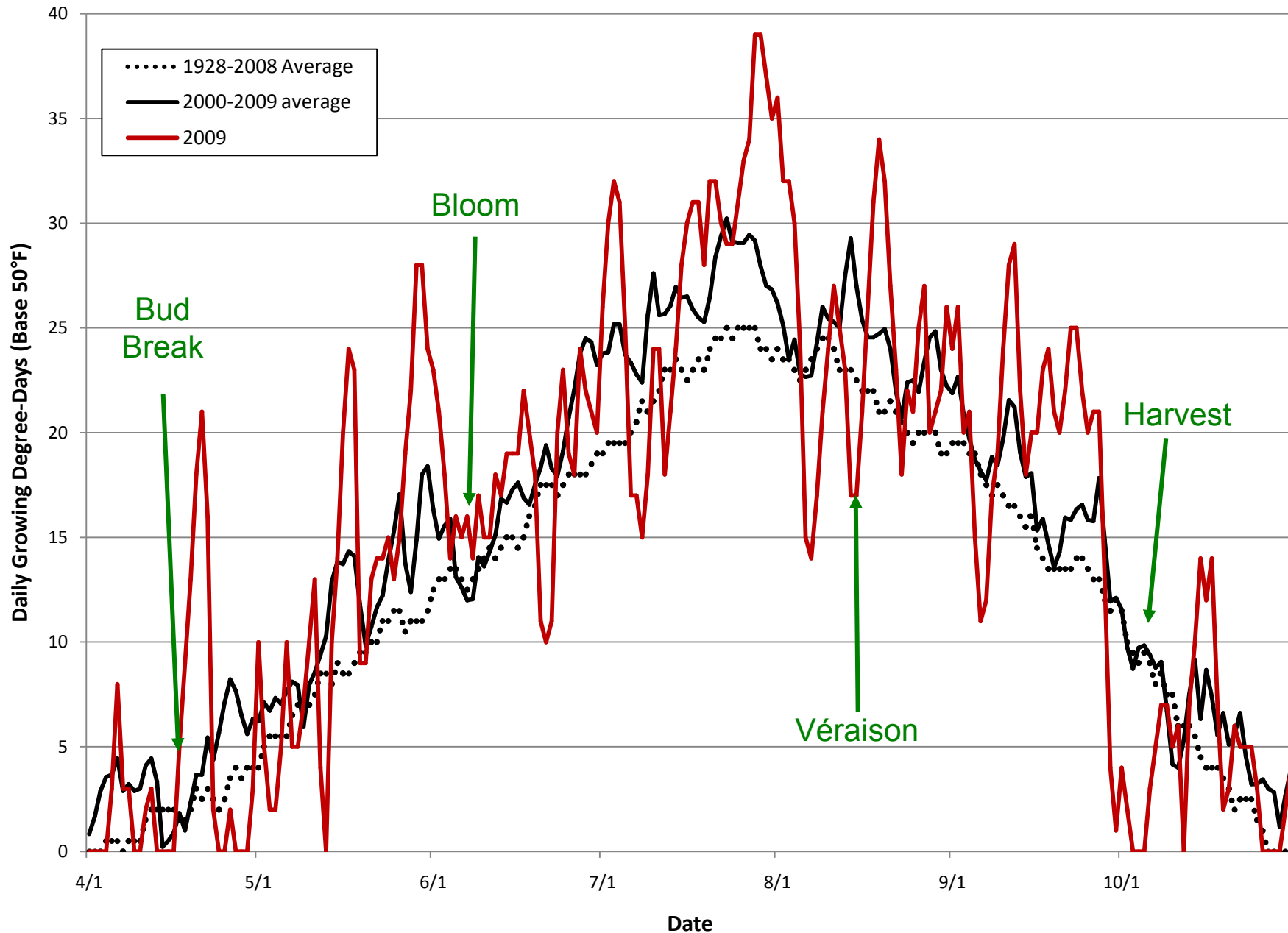
Medford Airport 2009 – Growing Degree-Days (Apr-Oct)



Medford Airport 2009 – Growing Degree-Days (Apr-Oct)



Medford Airport 2009 – Growing Degree-Days (Apr-Oct)



Reference Vineyard Vintage 2009

Reference Vineyards

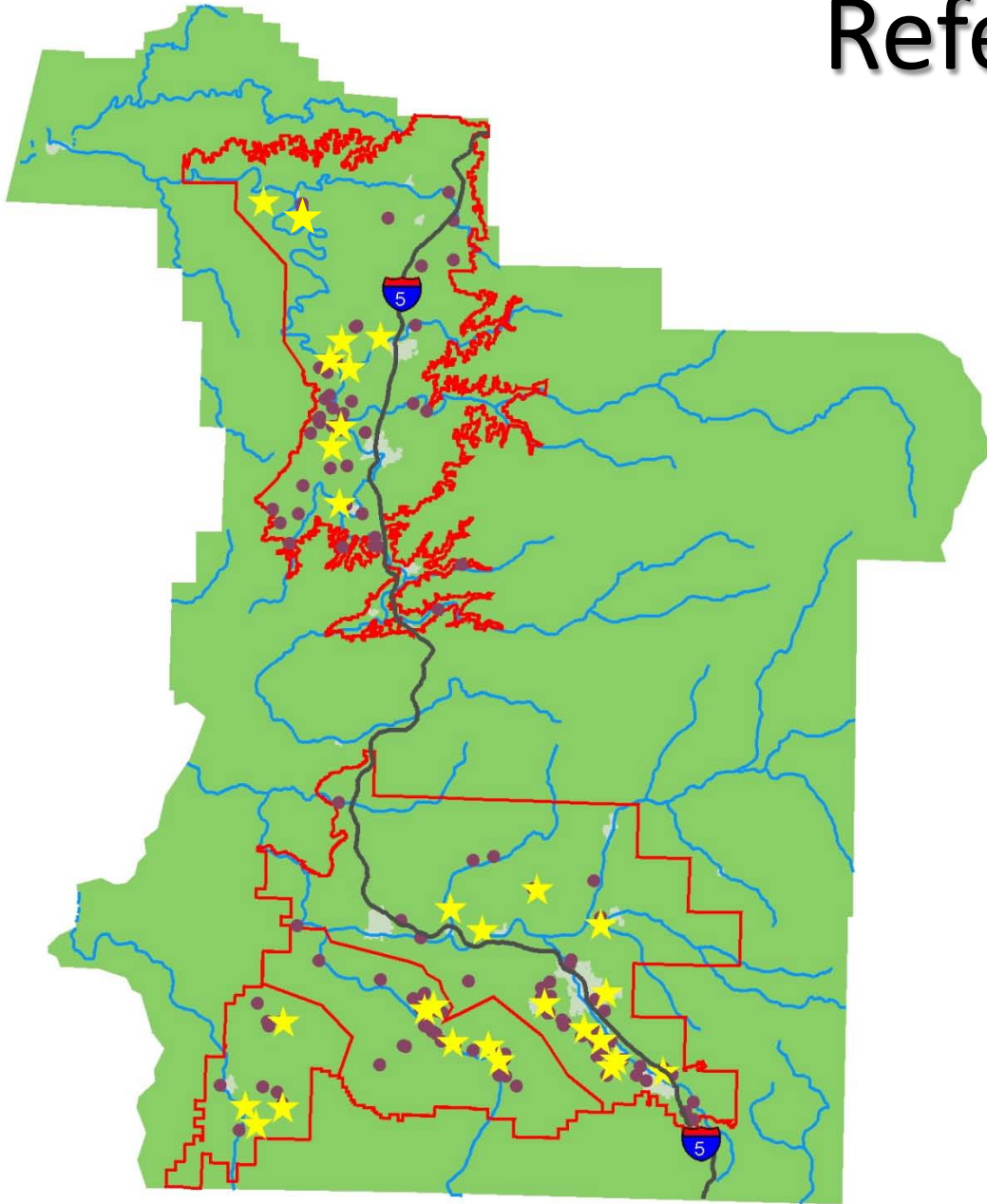
Established:

Rogue and Applegate Valleys
20 Vineyards in 2003

Umpqua Valley
9 Vineyards in 2004

Purpose:

Develop a baseline understanding of temporal and spatial variations in climate, plant growth potential, and fruit ripening characteristics



Site Temperature Data Collection and Analysis Methods

- HOBO® H8 Pro-Temperature loggers are set at 15 minute intervals.
- Data collected from Nov. 1st, 2008 to Oct. 31st 2009.
- Values aggregated to hourly and daily average, maximum, and minimum, plus degree-days and extremes
- Analyzed over the dormant period and growing season.
- Summarized by site, sub-region, and region.

2009 Growing Degree-Days (Apr-Oct, base 50°F)

All Reference Vineyards

Mean = 2680
Std. Deviation = 266
Maximum = 3247
Minimum = 2248

Applegate Valley

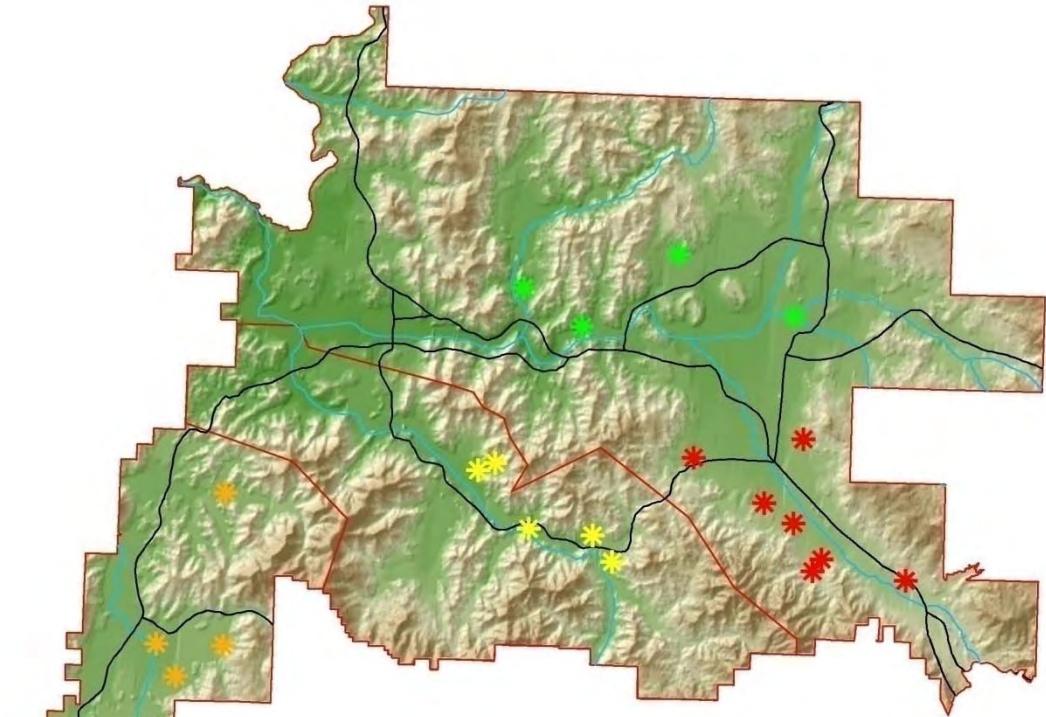
Mean = 2546
Std. Deviation = 129

Illinois Valley

Mean = 2334
Std. Deviation = 69

Valley of the Rogue

Mean = 2746
Std. Deviation = 45



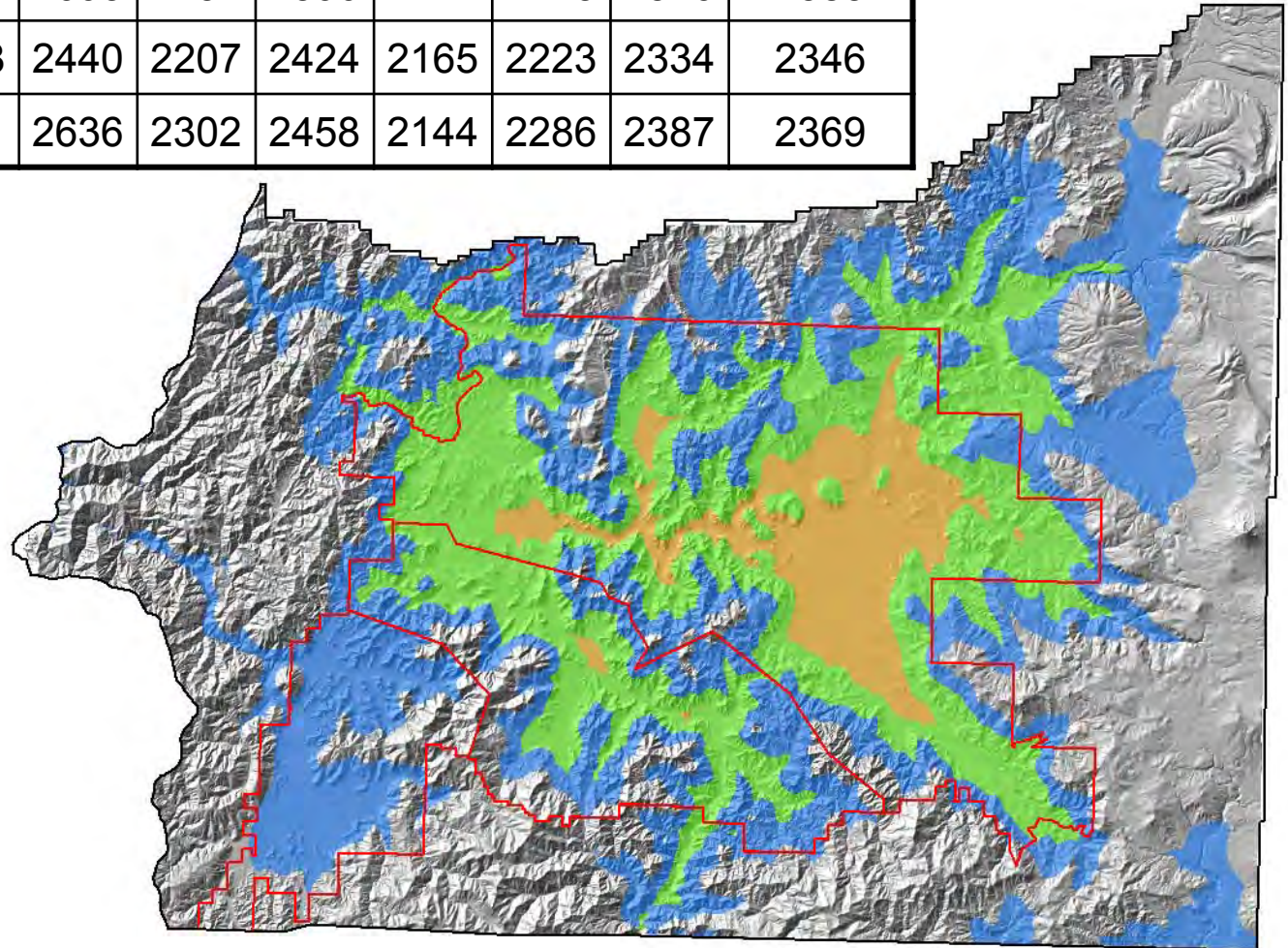
Bear Creek Valley

Mean = 2936
Std. Deviation = 187

2003-09 Growing Degree-Days (Apr-Oct)

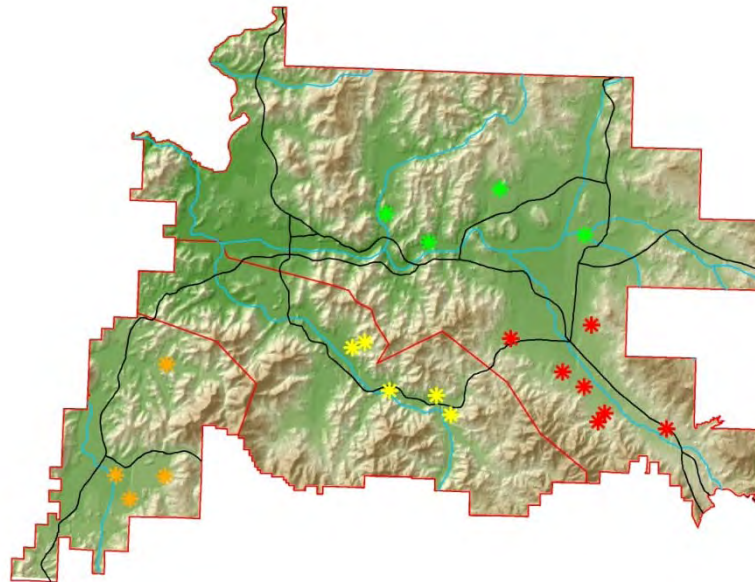
<u>Region</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>Average</u>
Bear Creek	3028	2913	2601	2913	2702	2738	2936	2833
Valley of the Rogue	2991	2783	2510	2739	2625	2567	2746	2709
Applegate	2914	2693	2437	2590	2427	2473	2546	2583
Illinois	2628	2440	2207	2424	2165	2223	2334	2346
Umpqua		2636	2302	2458	2144	2286	2387	2369

Estimated 1996-2008



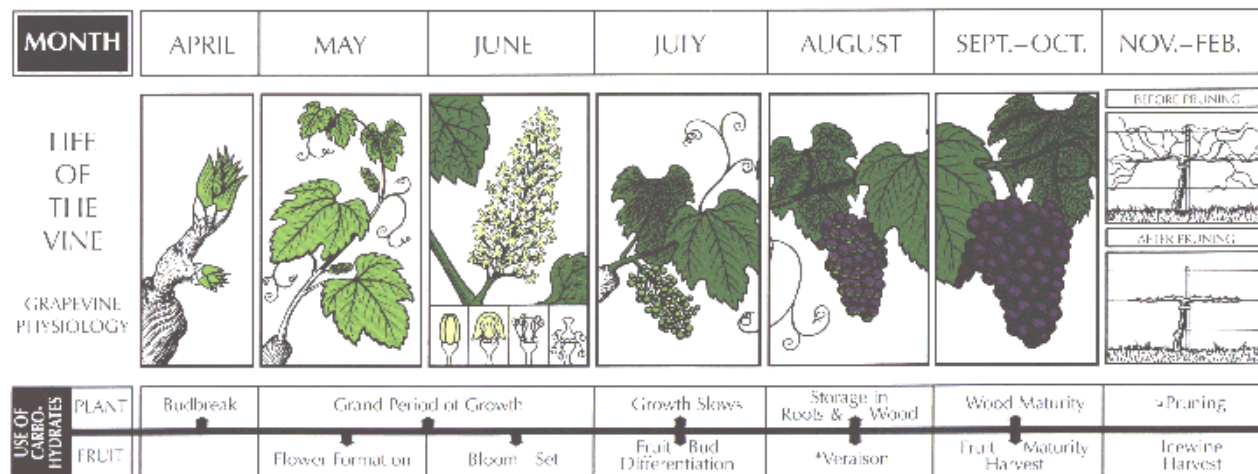
2003-09 Growing Season Temperature Extremes

Parameter	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>Average</u>
Maximum Temperature (°F)	113.1	111.9	108.9	111.9	105.2	107.8	114.2	110.4
# of Days > 95°F	47	42	37	40	25	36	36	38
Minimum Temperature (°F)	20.9	30.1	26.4	24.4	27.3	22.9	23.1	25.0
# of Days < 32°F	10	5	10	18	10	22	16	13
Last Spring Frost	5/19	4/2	4/20	4/30	4/27	5/5	4/30	4/27
First Fall Frost	9/17	9/21	9/24	10/10	9/24	10/9	10/2	9/28



Phenology Overview

- Growers submitted dates for the four main stages (83 possible variety/site combinations)
- 87% of possible observations received (some events not observed at a few sites, some lost data, some not submitted)
- Summarized average dates and intervals between dates for:
 - The entire region, sub-regions, and by variety



2009 Sub-Region Average Phenological Dates

Valley of the Rogue

Bud Break = April 21st (4 days)

Bloom = June 10th (5 days)

Véraison = August 15th (13 days)

Harvest = October 12th (14 days)

Applegate Valley

Bud Break = April 25th (9 days)

Bloom = June 20th (7 days)

Véraison = August 21st (6 days)

Harvest = October 12th (14 days)

Illinois Valley

Bud Break = April 19th (8 days)

Bloom = June 17th (5 days)

Véraison = August 15th (3 days)

Harvest = September 27th (8 days)



Compared to the 2003-08
Vintage Average

Bud Break: 5 days late

Bloom: 2 days early

Véraison: 2 days early

Harvest: Average

Bear Creek Valley

Bud Break = April 23rd (9 days)

Bloom = June 13th (6 days)

Véraison = August 20th (7 days)

Harvest = October 6th (12 days)

2009 Average Varietal Phenology



Merlot	Apr 23 rd (7)	June 14 th (6)	Aug 21 st (9)	Oct 12 th (13)
Cabernet Franc	Apr 21 st (9)	June 13 th (9)	Aug 25 th (8)	Oct 22 nd (12)
Pinot Noir	Apr 19 th (10)	June 20 th (4)	Aug 15 th (7)	Sept 27 th (6)
Tempranillo	Apr 30 th (10)	June 20 th (8)	Aug 19 th (5)	Oct 7 th (12)
Syrah	Apr 25 th (12)	June 20 th (9)	Aug 20 th (7)	Oct 13 th (12)
Sangiovese	Apr 28 th (15)	June 19 th (5)	Aug 9 th (11)	Oct 22 nd (13)
Chardonnay	Apr 21 st (3)	June 14 th (14)	Aug 18 th (3)	Sept 28 th (11)
Pinot Gris	Apr 21 st (5)	June 21 st (5)	Aug 15 th (6)	Sept 26 th (6)
Viognier	Apr 21 st (5)	June 13 th (9)	Aug 21 st (6)	Sept 30 th (9)
Average	Apr 23 rd (10)	June 15 th (8)	Aug 20 th (8)	Oct 9 th (14)

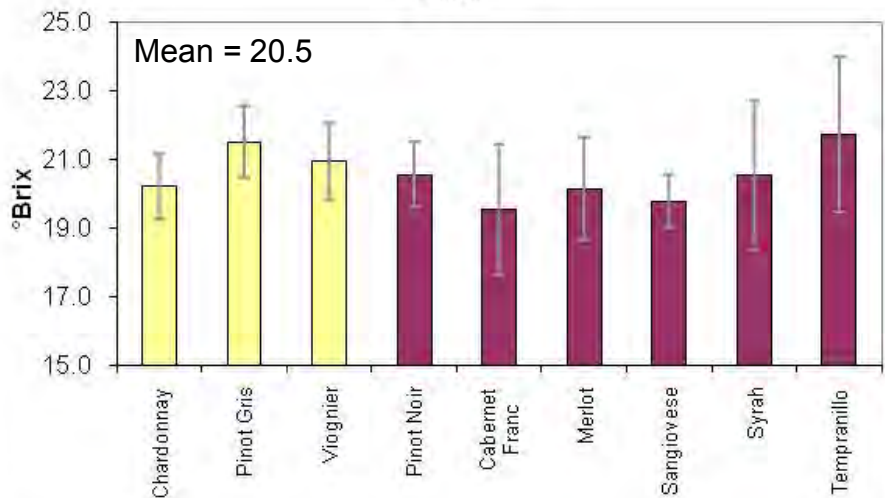
Composition Overview

- 83 Samples Collected on Sept 14-15 (100%)
- Representing a “snapshot of ripening”
- Analyzed at Southern Oregon University (with the help of Steve Petrovic, Corey McQueen, and Anna Mantheakis)
- Harvest composition submitted by growers or wineries
68 of 83 (82%; field blends, not submitted, etc.)

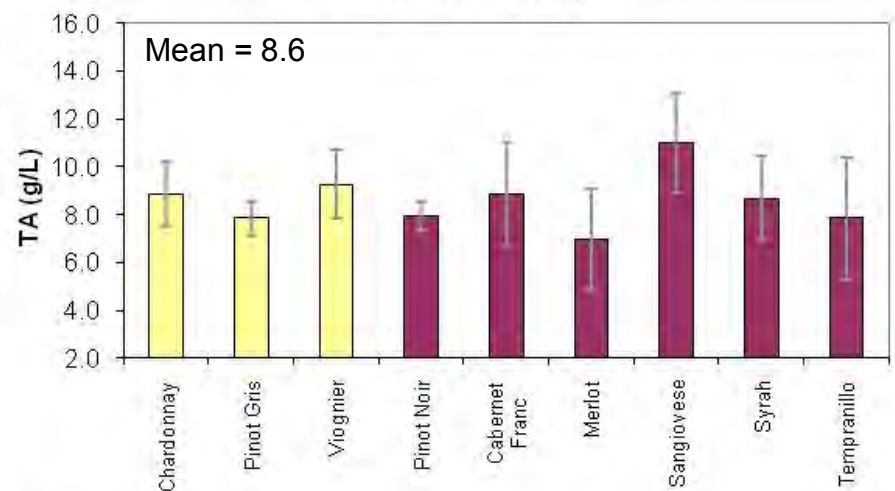


2009 Varietal Sample Composition (Sept 14-15)

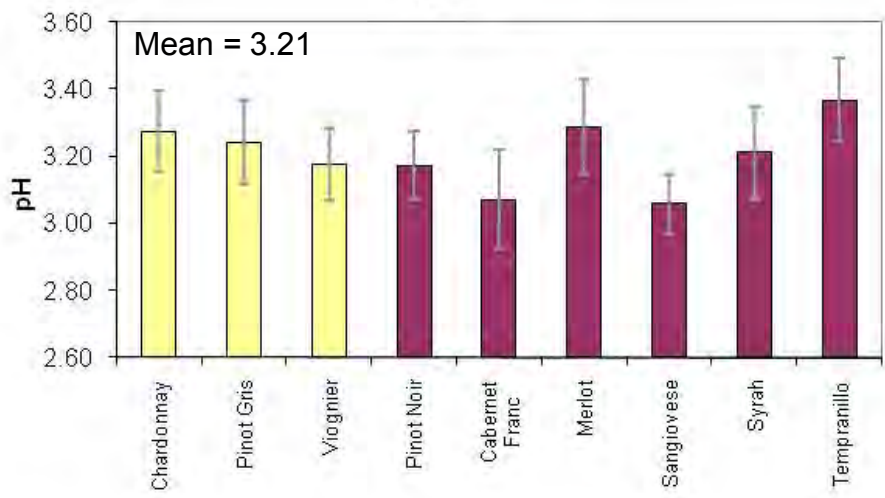
°Brix



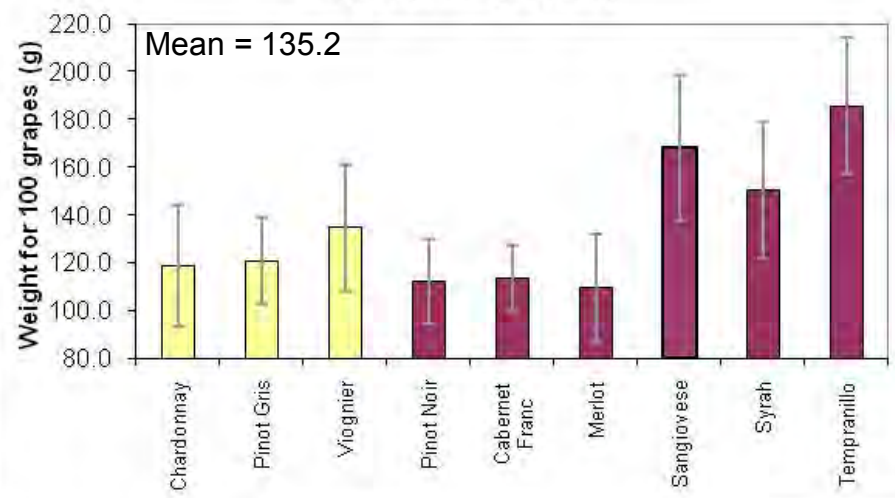
Titrateable Acidity



pH

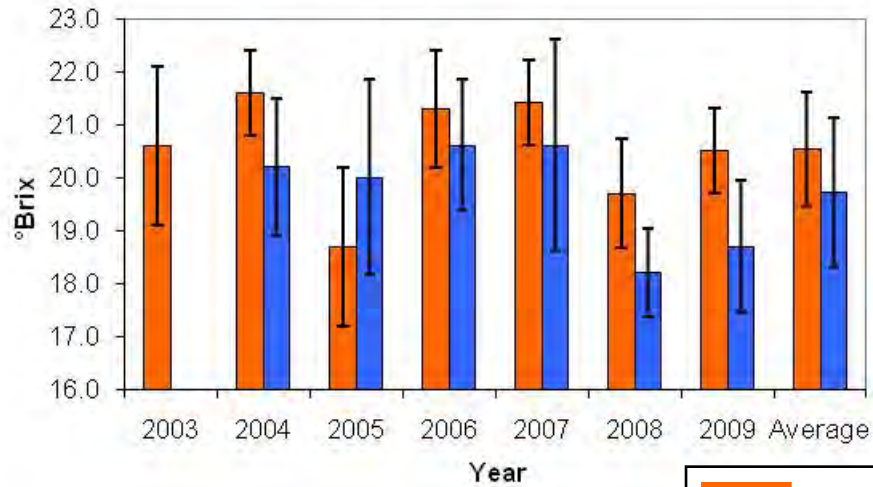


Weight (100 grapes)

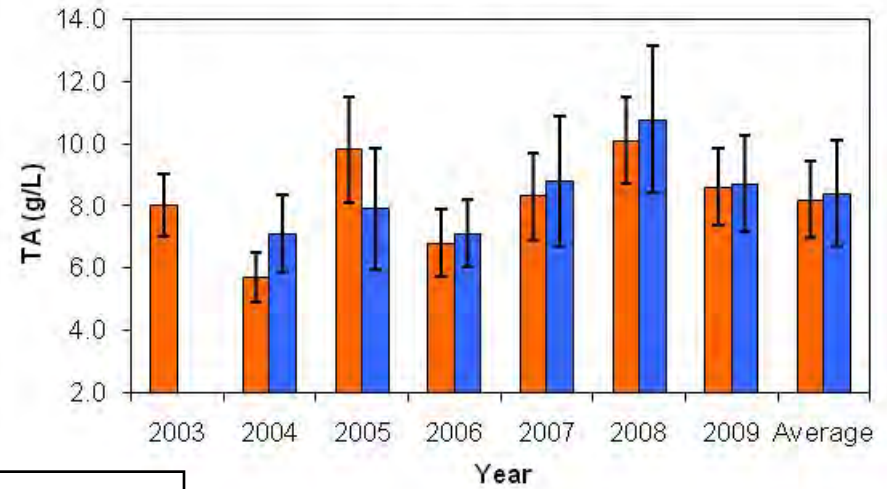


2003-2009 Sample Composition (Sept 13-15)

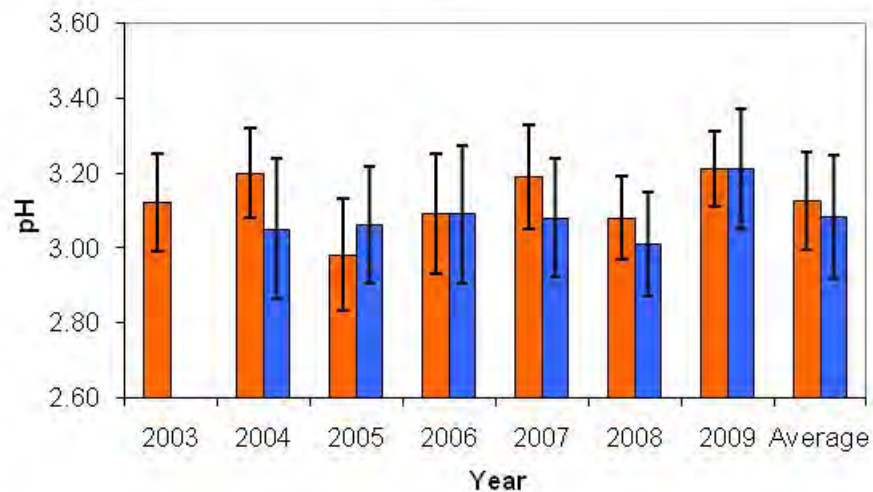
°Brix



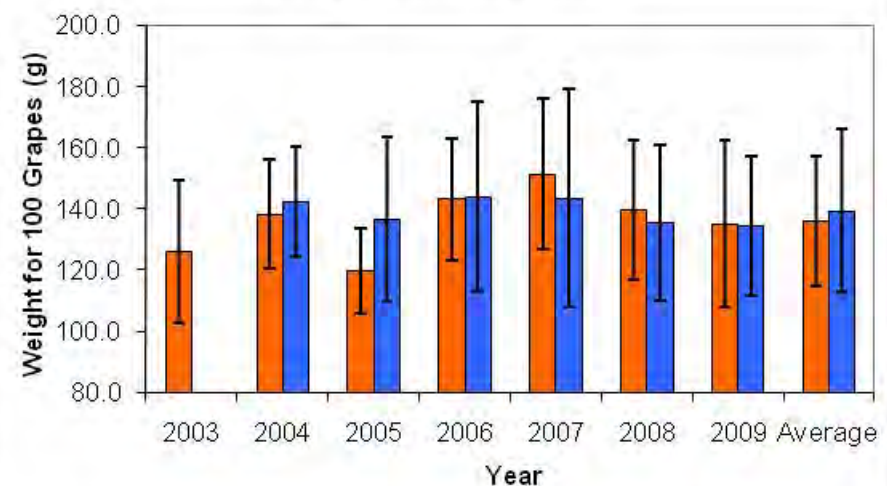
Titrateable Acidity



pH



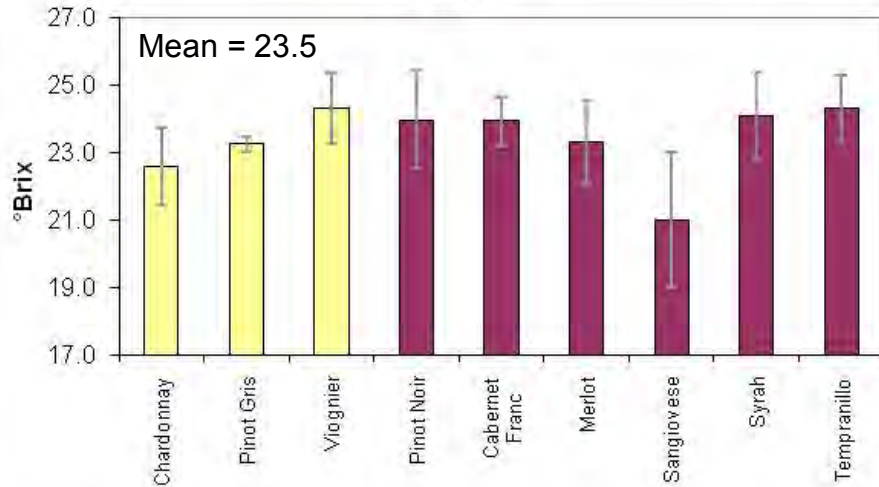
Weight (100 Grapes)



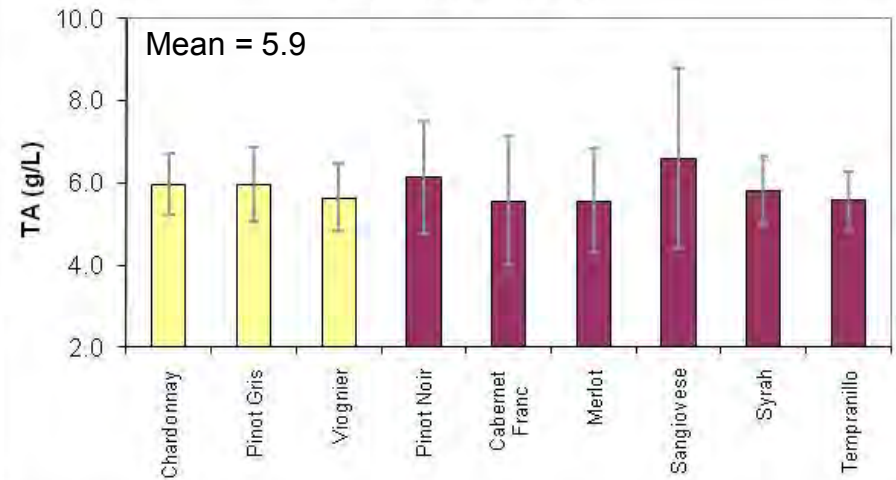
Rogue/Applegate
 Umpqua

2009 Varietal Harvest Composition

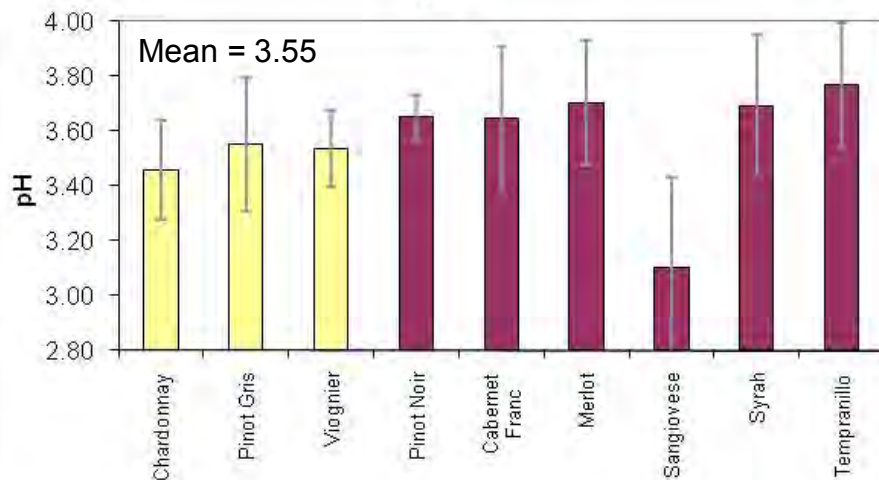
°Brix



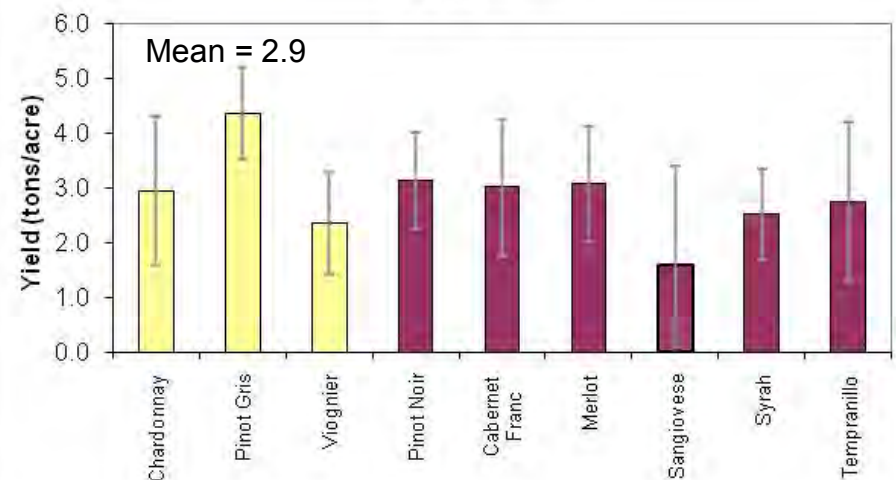
Titrateable Acidity



pH

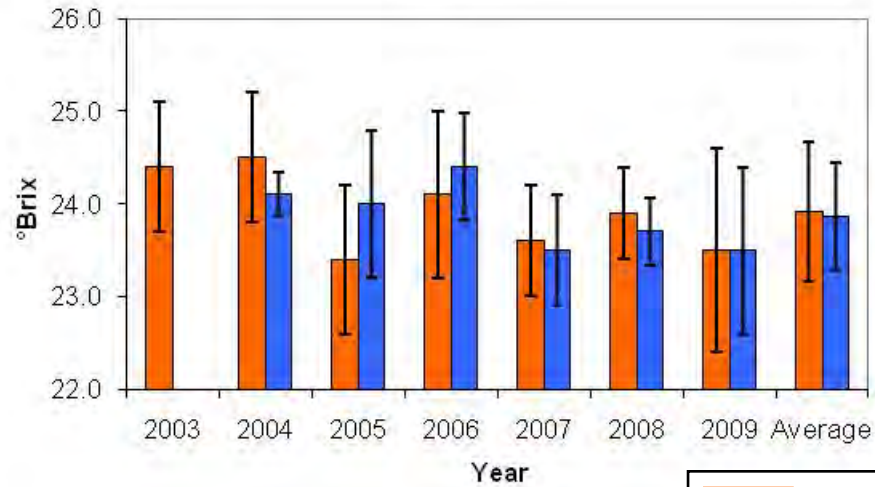


Yield

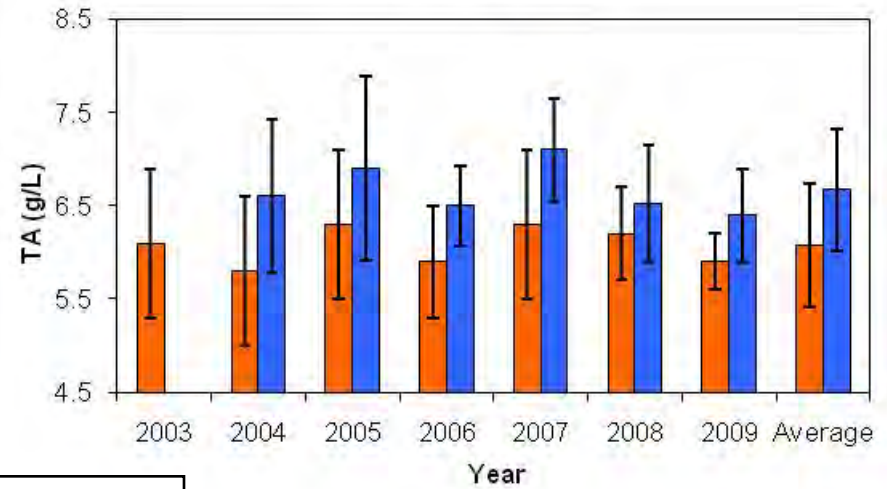


2003-2009 Harvest Composition

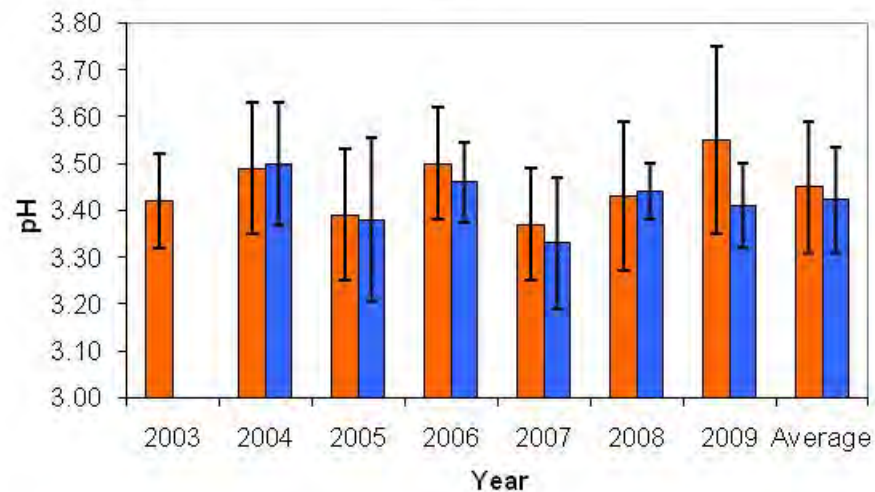
°Brix



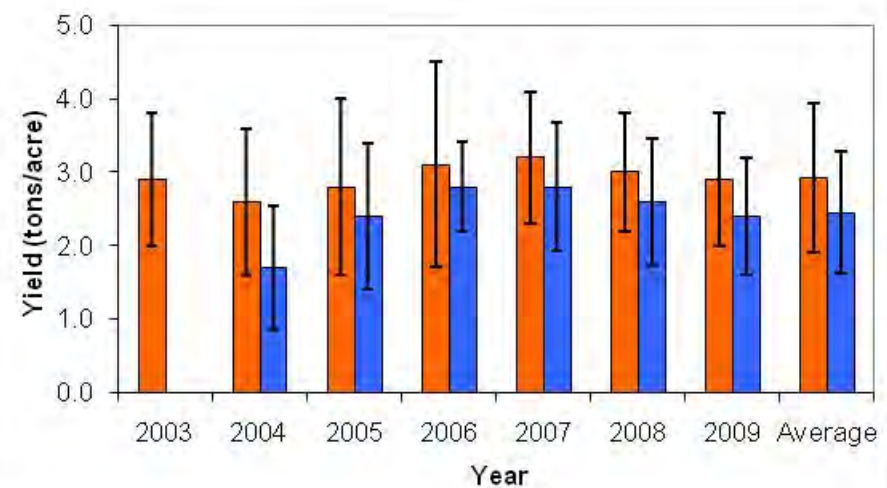
Titrateable Acidity



pH



Yield



■ Rogue/Applegate
■ Umpqua

Vintage 2009 Summary

Weather

- Cool late winter, early spring and continued drought brought late spring frost and slow start to the season. October was much cooler than normal, abruptly ending the season and effectively giving a five month growing season.
- Rainfall during the growing season was ~25% down (continuing moderate drought conditions), with low amounts during bloom and normal amounts during the early harvest period. Some hail damage from storm in August.
- High variability over the season, heat spikes more numerous than average, elevated nighttime temperatures, heat accumulation higher than 2008 and near the seven year average

Phenology

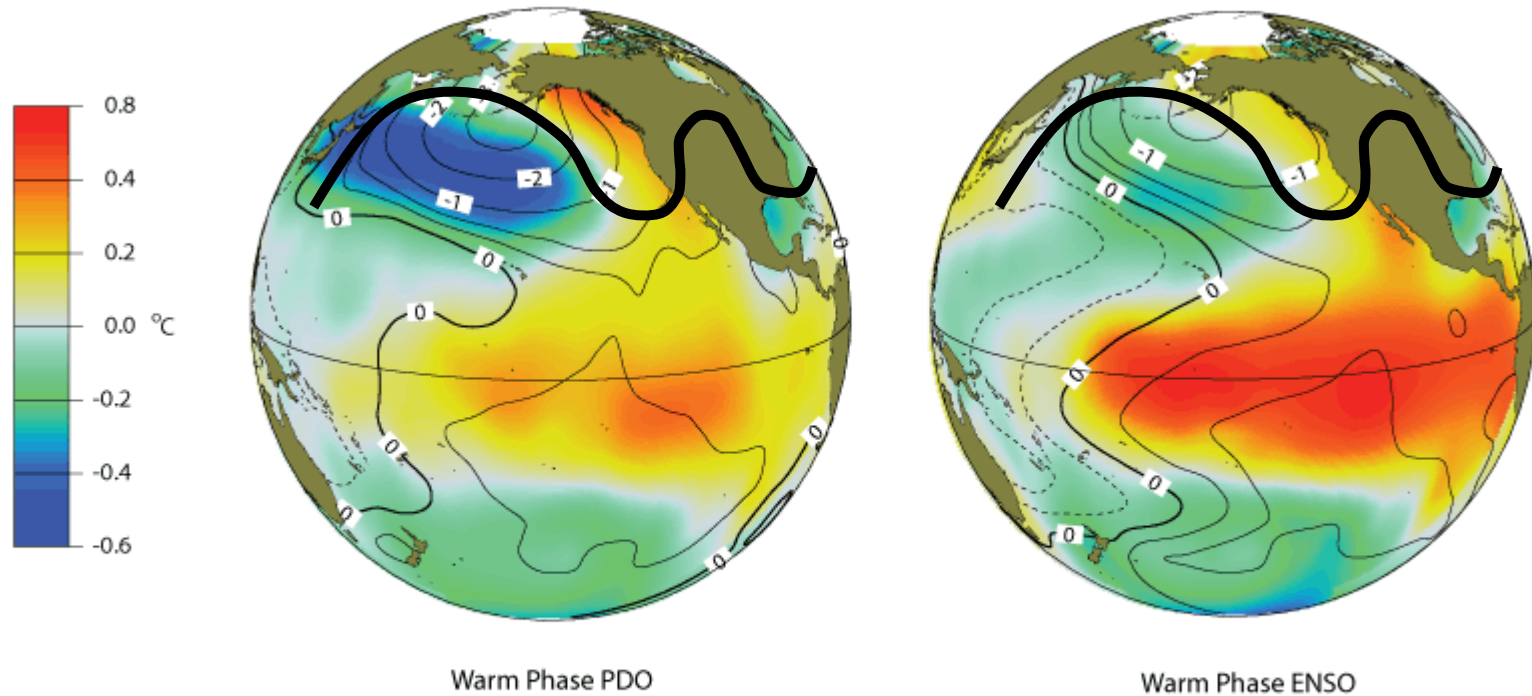
- Bud break 5-10 days late, near average to slightly late for bloom, véraison and harvest dates. Harvest dates more variable than normal due to cool October.

Composition

- Mid-Sept sampling : °Brix —, TA ↑, pH ↑, Berry Weights —
- Harvest composition : °Brix —, TA ↓, pH ↑, Yields —

What's in Store – Vintage 2010

Current and Projected Pacific Ocean/North America Climate Variability Mechanisms

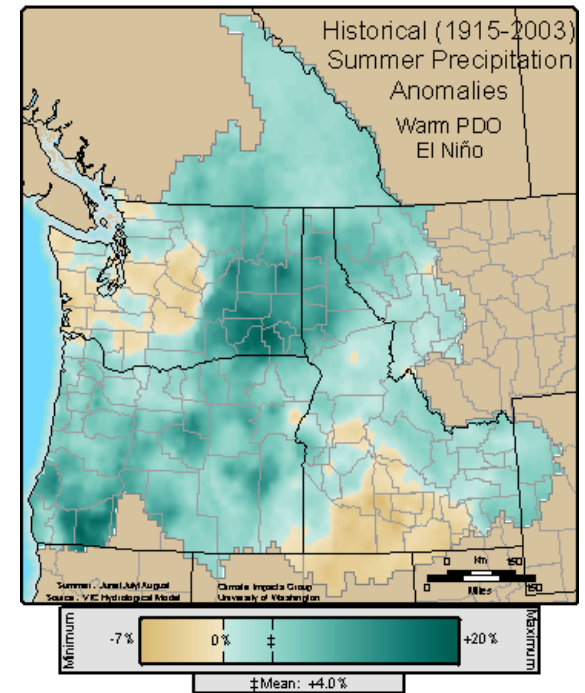
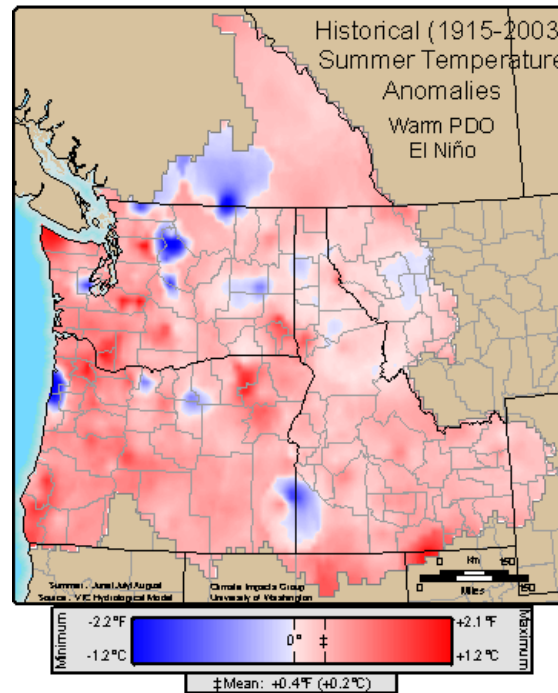
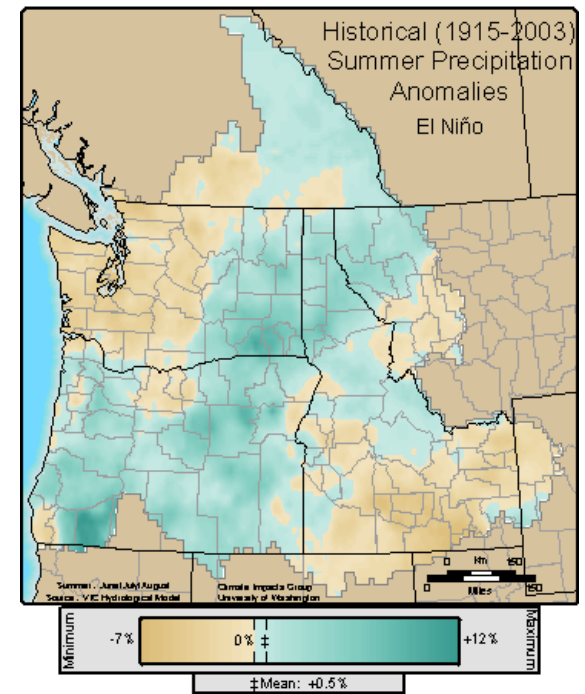
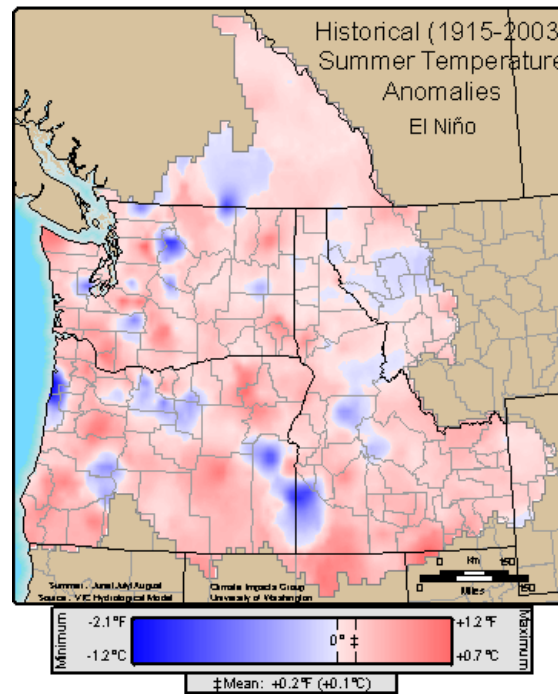


Source: Climate Impacts Group, University of Washington

ENSO typically affects the climate of Oregon, Washington, and Idaho more dominantly during the Fall through Spring, but can linger into summer.

Two Likely Scenarios

- ENSO has transitioned to El Niño conditions, which typically brings warmer summers to much of the PNW and mixed wet-dry conditions
- Southern Oregon AVA is typically warmer and wetter
- If warm PDO develops, then conditions should be magnified ... warmer and wetter
- Southern Oregon AVA the same ...



Spring/Summer 2010 Forecast

For Oregon in general:

Developing El Niño with a warmer North Pacific should bring warmer and drier spring, warmer and normal to slightly wetter summer. All indicators point to an early spring and less variability than normal.

For the Southwestern Valleys of Oregon:

Temperatures

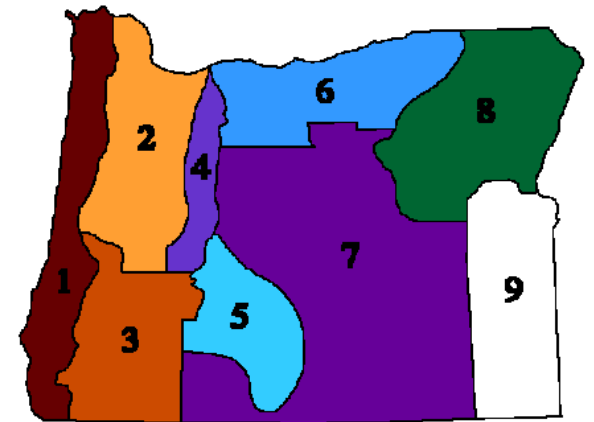
January-March: Above average to average

April-June: Above average to average

Precipitation

January-March: Below average

April-June: Average to slightly above average



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

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

Acknowledgements



- The Oregon Wine Board



- The Rogue Valley Winegrowers Association
- All of the Participating Vineyards
- Chemistry Department at SOU – Steve Petrovic, Corey McQueen, and Anna Mantheakis

If you are a member of the RVWA and would like a copy of the report from this year (or 2003 through 2008), send me an email at: gjones@sou.edu