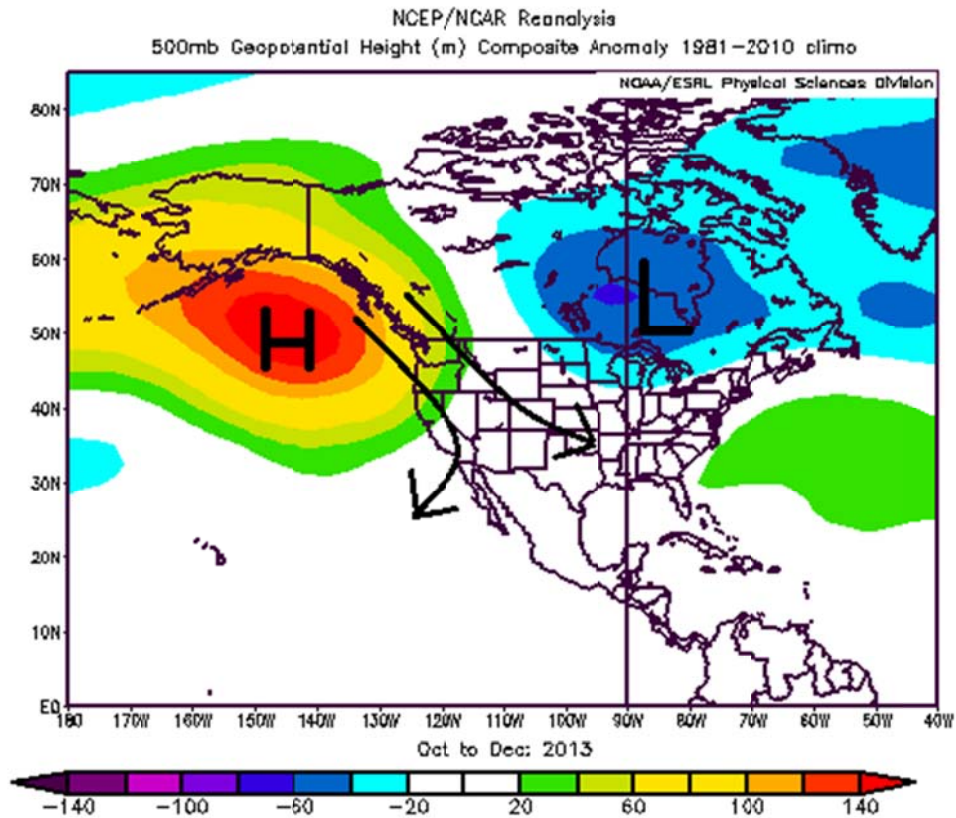


NNSS Climate Summary October – December 2013



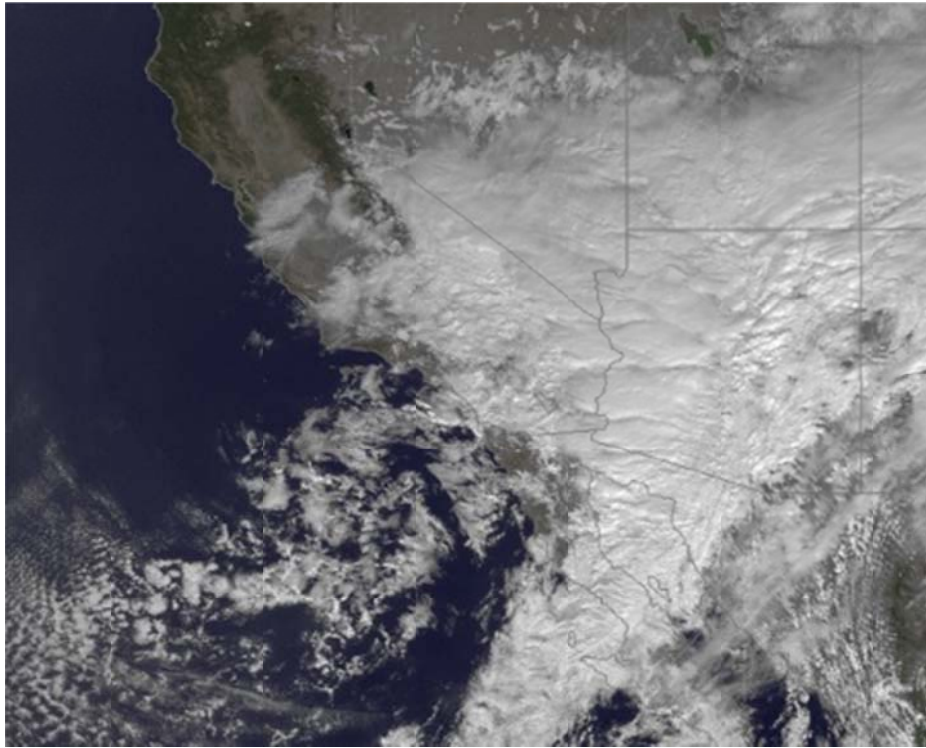
500 mb Composite anomaly for Oct-Dec 2013 Courtesy: NOAA/ESRL

After an active summer, the 1st Quarter of FY14 was relatively quiet for the NNSS. There were a couple of exceptions that included a significant precipitation event in November and an Arctic outbreak in December. This was due in large part to a persistent ridge of high pressure that was centered in the northern Pacific Ocean along West Coast. The image above represents the height anomalies at 500 mb and their effect on the mean flow over the western United States. This pattern is usually associated with relatively warm and dry conditions under northwest flow aloft. This period was no exception.

October started off on a warm note with highs in the 80's at the lower elevations. The ridge retrograded to the west to allow several systems to pass through the area ushering in cooler temperatures and the first significant precipitation event of the season on the 9th and 10th. High pressure reestablished itself allowing the NNSS to warm back up to seasonal levels until the end of the month when another system provided some light precipitation to the higher elevations.

November started off warm and dry as high pressure dominated the weather over the West Coast. This pattern persisted for much of the month until an area of low pressure developed off the coast of southern California on the 20th. The flow around the low pressure center brought a significant amount of

moisture up from the south which initiated a rare long term precipitation event for the Southwest. Clouds and precipitation increased on the morning of the 21st and the southern half of the NNSS received significant precipitation that lasted through the afternoon. The low remained nearly stationary through the 23rd and continued to rotate bands of mainly light rain through the area before finally moving to the east on the 24th.



Visible image of the upper low taken on Nov 22nd. Courtesy: NOAA/OSEI

Most of the NNSS received precipitation amounts between three quarters and one inch of rain with some locations on the southern half recording more than an inch. It is interesting to note that Meda 5 (Frenchman Flat) and Meda 23 (Mercury) received more precipitation than sites that are typically located at the wettest locations on the upper elevations. In fact, Meda 7 in the northwest NNSS received the least with 0.02" as it was furthest from the low and was shadowed from the easterly flow by the mesas. November ended cool and dry under northwest flow aloft.

December started off quiet before the offshore ridge once again retrograded to the west opening the door for a significant cold snap across the West. Several systems originating in northwest Canada brought very cold air to the NNSS. The first system arrived on December 3rd where a strong cold front moved across the NNSS bringing the first significant cold air mass of the season. Snow fell on the lower elevations (2500 to 3000 feet) for several hours after frontal passage. Mercury had its first dusting of snow of the season. In its wake, widespread freezing temperatures were observed across the lower elevations and daytime highs were in the 40's. On December 7th, the second wave of cold air arrived with some light snow being measured on the higher elevations. The third and coldest system brought a strong cold front through the NNSS on the 9th. Modified arctic air settled over the area behind the front

with nighttime lows in the single digits at the coldest locations. Daytime highs on the 9th were in the teens on the mesas to the 30's at the lower elevations. By mid-month, the offshore ridge reestablished itself over the West Coast and the storm track moved to the east away from the area. As a result, the latter half of December was cool and dry with only one minor system passing through the area on the 19th.

Listed below are some selected stations with temperature and precipitation amounts for the period...

<u>Station</u>	<u>Month</u>	<u>Highest (F)</u>	<u>Date</u>	<u>Lowest (F)</u>	<u>Date</u>	<u>Precipitation</u>
Meda 23 (Mercury)	Oct	83°	1 st	38°	30 th	0.44"
	Nov	76°	11 th	37°	22 nd	1.11"
	Dec	65°	27 th	19°	9 th	0.04"
Desert Rock Airport	Oct	86°	1 st	33°	30 th	0.25"
	Nov	77°	11 th	34°	17 th	0.99"
	Dec	70°	16 th	19°	6 th	0.06"
Meda 05 (W5B)	Oct	86°	1 st	26°	31 st	0.62"
	Nov	80°	13 th	24°	9 th	1.05"
	Dec	66°	26 th	10°	10 th	0.01"
Meda 43 (Yucca Lake)	Oct	81°	26 th	29°	30 th	0.70"
	Nov	77°	11 th	24°	6 th	0.71"
	Dec	68°	16 th	6°	6 th	0.08"
Meda 40 (Rainer Mesa)	Oct	63°	19 th	24°	30 th	0.62"
	Nov	61°	13 th	24°	4 th	0.78"
	Dec	59°	16 th	4°	5 th	0.55"



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