

Fall 2024

Livestock, Range, & Watershed

San Luis Obispo, Santa Barbara and Monterey Counties

**SAN LUIS OBISPO COUNTY
 COOPERATIVE EXTENSION**

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 Forage Production 2024



As fall approaches one may wonder what this next rainy season will bring. We have now enjoyed two wet years in a row. Two years ago, the 2022-2023 water year, was the fifth wettest on record based on data from the City of Paso Robles. We had over 200% of average rainfall during the 2022-2023 water year, with over 28 inches in Paso Robles. This was followed last year, 2023-2024, by another wet year with over 130% of average rainfall, see figure 1.

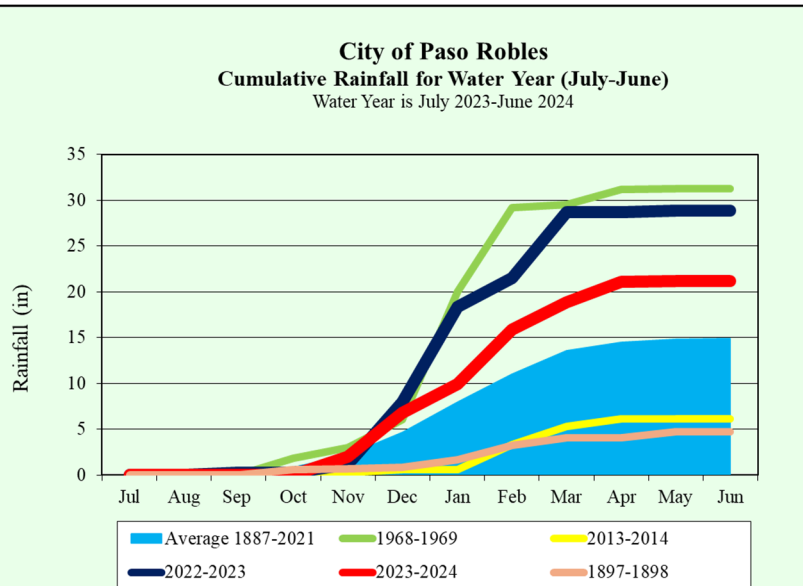


Figure 1. Cumulative rainfall showing the wettest, driest and average rainfall relative to the last two years.

There were more than 30 locations monitored around San Luis Obispo County for rainfall and forage production, see figure 2. These monitoring sites are spread across the county, and they are divided into three different rainfall zones.

These zones are based on annual rainfall amounts and were derived by the USDA Farm Service Agency and UC Cooperative Extension many years ago. The basis for determining these zones was by rainfall amounts and the number of acres needed to support a cow for one year (see fig. 2).

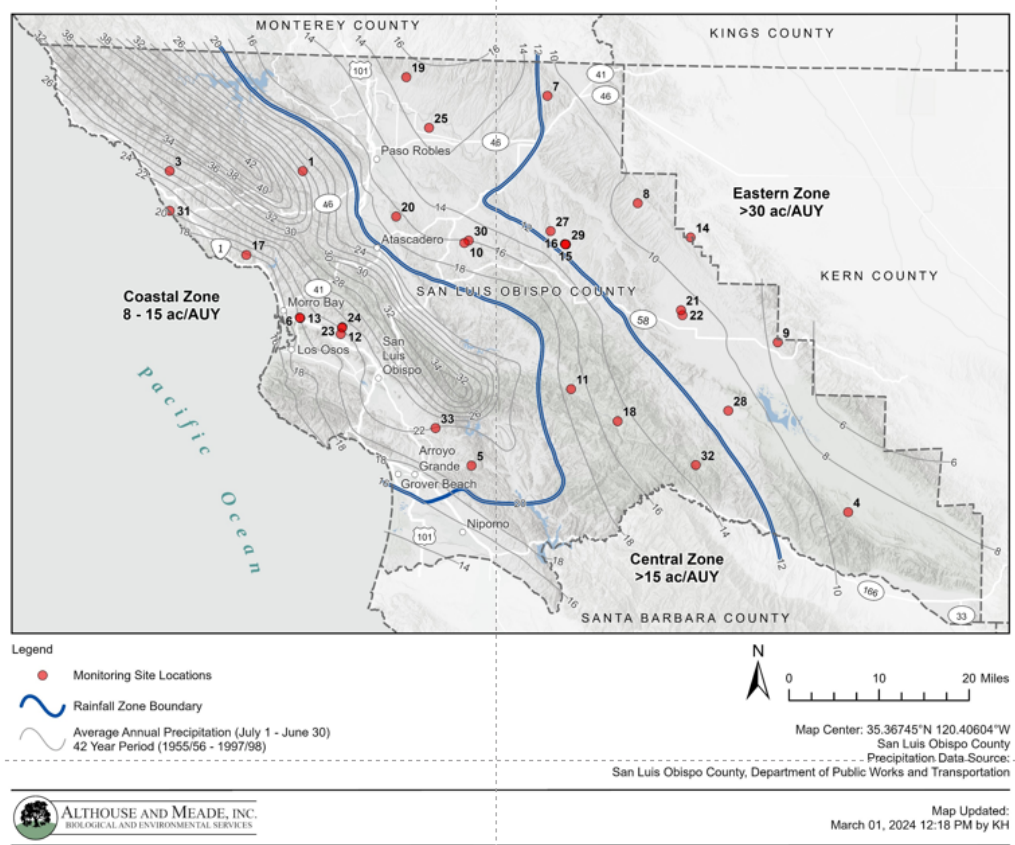


Figure 2. The locations of each site monitored and the zone they are in. Map created by Althouse and Meade.

These last 2 wet years in a row brought about a tremendous burst of forage production on our rangelands, especially this last year, Table 1. Even though rainfall was less than the previous year, this year's production was the most I have ever measured in the eastern zone. There have been some years with more production in the coastal zone compared to this year, but the coastal zone is much more consistent from one year to the next than either the central or eastern zones.

The eastern zone is especially sensitive to the amount of rainfall as it relates to forage production. The average rainfall in the eastern zone has ranged from 3.2 to 17.5 inches from 2001 until now. It is a fact that 3.2 inches of rainfall does not grow much forage, which occurred in 2014, during the long drought period 2012-2016. This last year there was 11.7 inches of rainfall in the eastern zone. This was down from the maximum of 17.5 inches the previous year, but it had the most production since monitoring started in 2001 and had over 340% of average production, Figure 3. This growth was a surprise, it looked like a jungle at several sites, Figure 4, within the eastern zone.

Table 1. Rainfall and production by zone during the 2023 – 2024 growing season. Both the amounts and percentages of the averages are shown.

	Rain	Rain	Production	Production
Zone	(in)	(%)	(lb/ac)	(%)
Coastal	22.2	123	7221	174
Central	18.9	133	5024	221
Eastern	11.7	142	5031	340

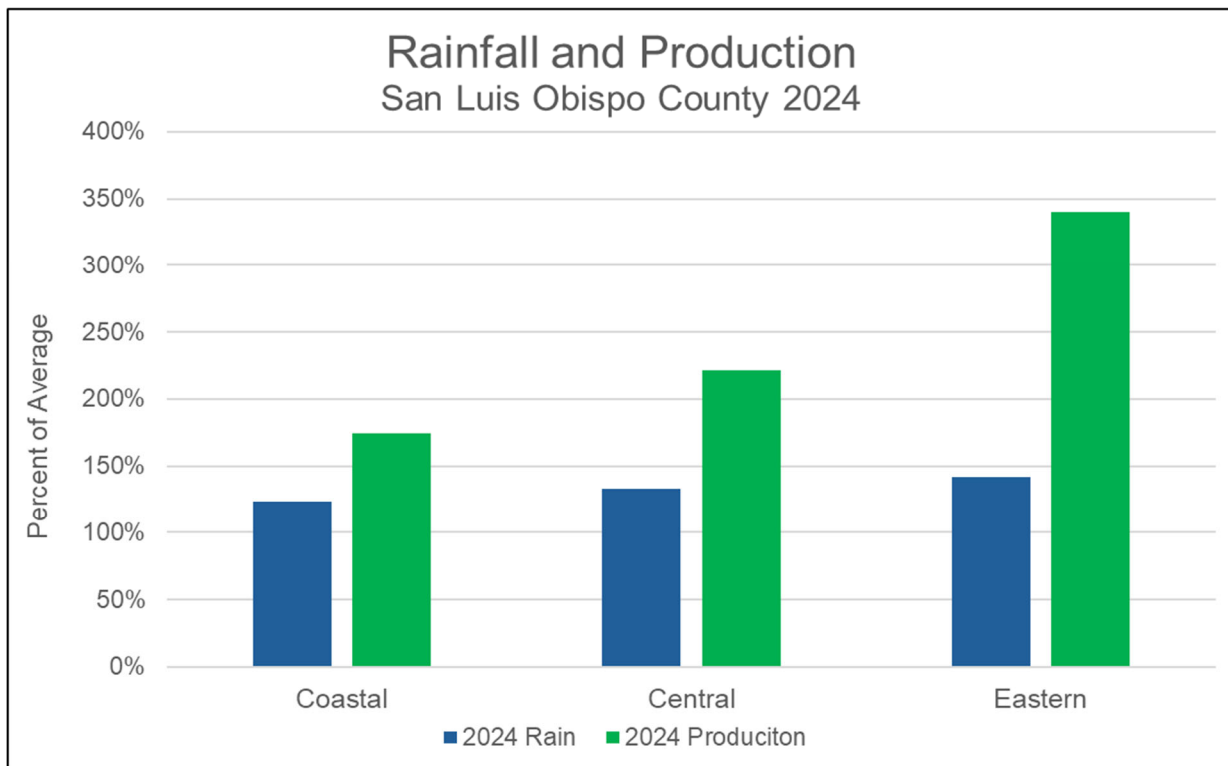


Figure 3. Rainfall and production in each of the zones, as a percentage of the average.



Figure 4. Two sites showing the production, spring 2024

What will next year bring? A good question, without a good answer. The climate models have shown that that dry years will be drier with more of them, and wet years will be wetter. With the huge drought we went through 2012-2016, followed by these last 2 years, very wet years, it felt like the climate models may be correct. Though they may be correct, one should also consider the natural variation in the climate. We have a long history of dry and wet years. Just looking back to 1861, the city of Sacramento was flooded, and the central valley had a lake that was over 300 miles long. Following this flood there was a major drought, that saw the devastation of the livestock industry. Once irrigation had been developed, the central valley became a farming mecca. Though we can hope to have another above normal rainfall year, it is rare to have 3 years in row of above average rainfall. During the long history of rainfall records for Paso Robles, there were times when there were more than 2 years above average rainfall, but that has not happened very often, and they were mostly pre 1950's, Figure 5.

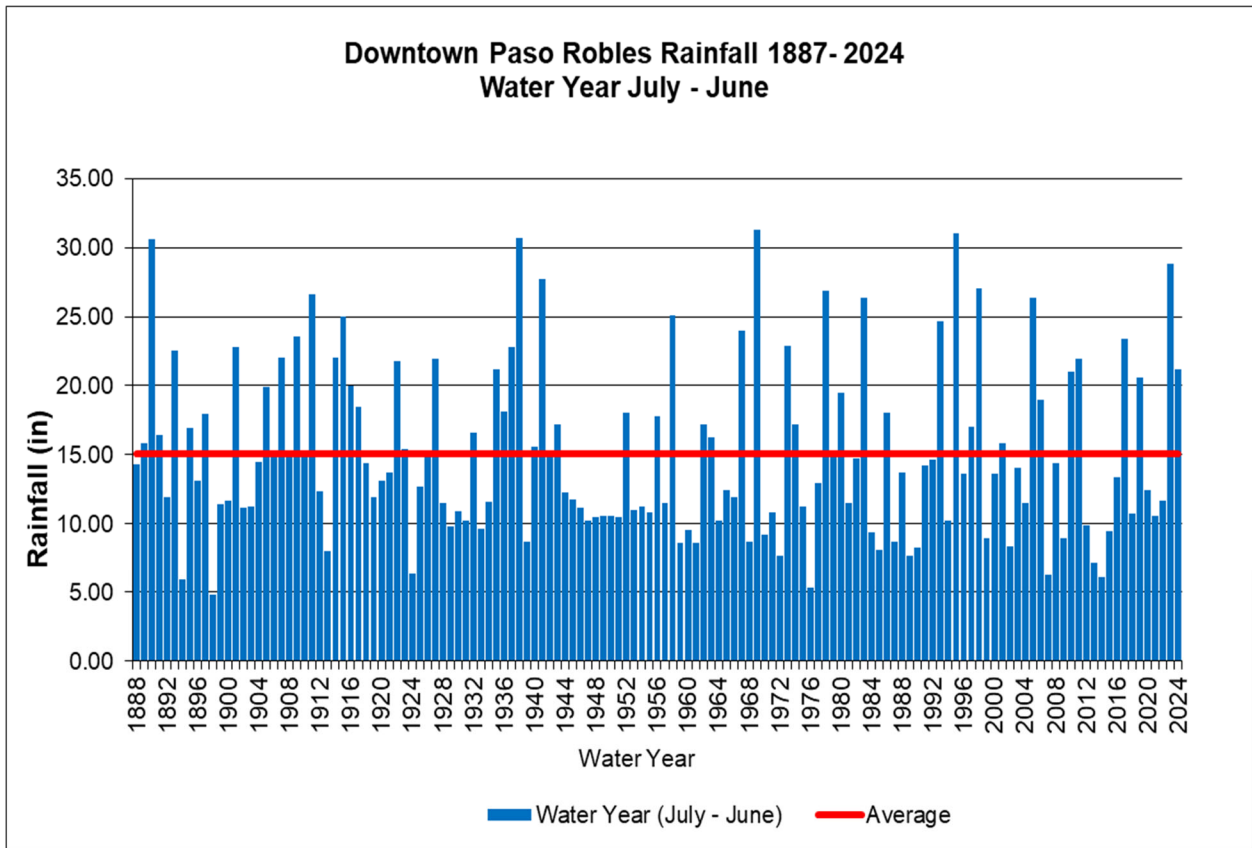


Figure 5. The long term rainfall from the City of Paso Robles.



The proceedings have taken longer than expected. There are a lot of papers, and it is a long procedure. We now are hoping the proceedings to be completed in 2025.

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