

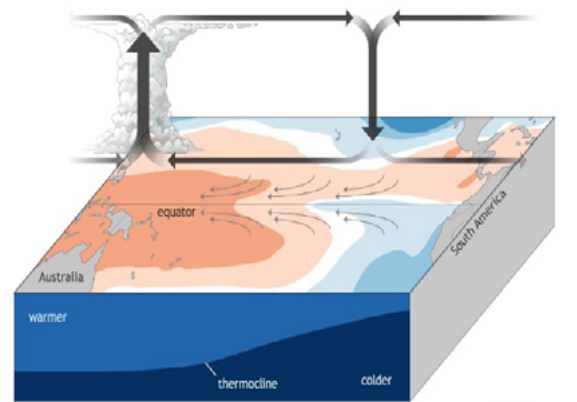
El Niño, La Niña and what they mean for winter precipitation in Nevada

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It's very common to hear people say that El Niño winters are wet. Some are, but some are quite dry, and some are remarkable in their averageness. So what are El Niño and La Niña events, and why are they not great predictors of winter precipitation (rain and snow) over most of Nevada?

What is the El Niño Southern Oscillation (ENSO)?

The El Niño Southern Oscillation (ENSO) is a large-scale weather phenomenon that occurs in the Pacific Ocean, near the equator. ENSO's extremes are called El Niño and La Niña events. Normally, ocean temperatures, also called sea-surface temperatures, are highest in the western Pacific near Indonesia and coolest in the eastern Pacific off coastal Peru and Ecuador (Figure 1). The prevailing trade winds blow from east to west. These trade winds help preserve the east-west difference in sea-surface temperatures, and the difference in ocean temperatures reinforces the trade winds.

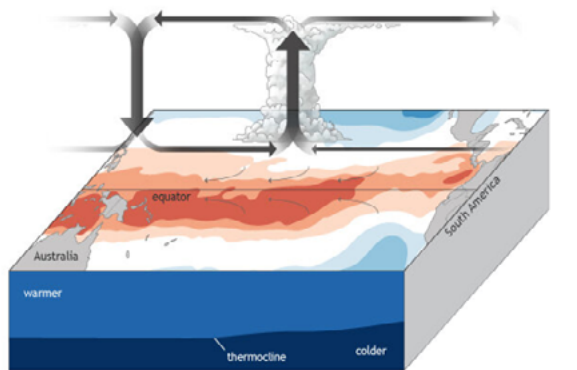


NOAA Climate.gov

Figure 1: ENSO-Neutral or average conditions across the tropical Pacific Ocean. Climate.gov schematic by Emily Eng and inspired by NOAA PMEL. Used courtesy NOAA climate.gov.

El Niño

Sometimes, the trade winds weaken or even reverse direction, blowing from west to east near Indonesia. The weaker winds allow the relatively warm waters from the western Pacific Ocean to flow east towards the International Date Line (Figure 2). When that happens, the area of most intense storminess moves toward the central Pacific. This tends to reinforce the slowing winds. If waters warm at least 0.5 C (0.9 F) above normal in the Niño 3.4 region (5°S-5°N, 120°W-170°W), it is called an El Niño event or just an El Niño. When the warm water moves east, it also changes wind and atmospheric pressure patterns. Peak tropical storminess shifts toward the central Pacific Ocean. Outside of the tropics, the autumn and winter storm track over the northern Pacific Ocean often moves south of its usual location (Figure 3). El Niños typically start to develop during the spring or summer, remain in place through the winter, and end the following spring. Some El Niño events last longer than a year.



NOAA Climate.gov

Figure 2: Typical El Niño conditions in the tropical Pacific Ocean. Climate.gov schematic by Emily Eng and inspired by NOAA PMEL. Used courtesy NOAA climate.gov.

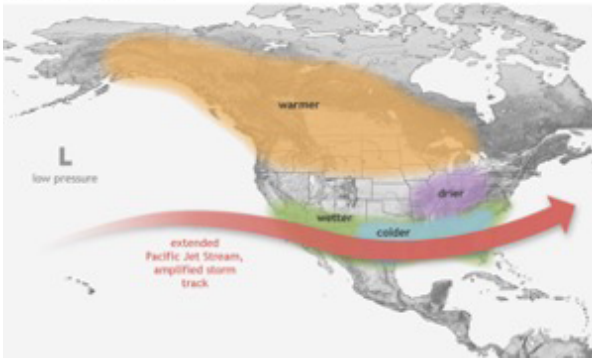


Figure 3: During El Niño winters, the storm track over the Pacific Ocean is typically farther south. Winter weather is often, but not always, cooler and wetter across the southern US, but warmer and often drier farther north. Image courtesy NOAA climate.gov.

La Niña

At other times, the trade winds strengthen, pushing the warmest waters even farther west and causing very cold deep ocean water to upwell along the coast of South America (Figure 4). If the ocean temperatures drop 0.5 C (0.9 F) below normal in the Niño3.4 region, it is considered a La Niña event or a La Niña. La Niñas also tend to develop in the spring and summer. It is not uncommon for La Niñas events to last two or (less commonly) even three years. During winters with La Niñas, the storm track usually moves farther north (Figure 5).

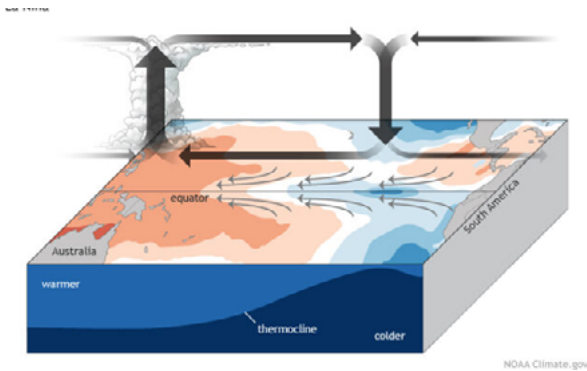


Figure 4: Typical La Niña conditions in the tropical Pacific Ocean. Climate.gov schematic by Emily Eng and inspired by NOAA PMEL. Used courtesy NOAA climate.gov.

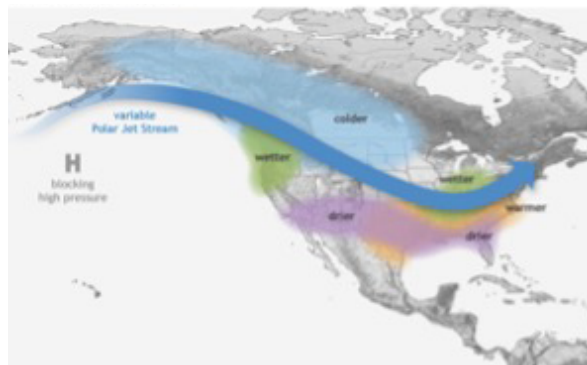


Figure 5: During La Niña winters, the storm track over the Pacific Ocean is typically farther north. Winter weather is often, but not always, drier across the southern US, but cooler and often wetter farther north. Image courtesy NOAA climate.gov.

What do El Niño and La Niña mean for weather in the U.S.?

During El Niños, states in the southern part of the U.S. often, but not always, have a cooler, wetter fall and winter. The southward-shifted storm track delivers more rain and snow than usual. Those same storms also come with cooler temperatures and cloudy conditions. The reverse is often true in the Pacific Northwest. El Niño winters are, on average, warmer and drier than usual. When La Niña conditions prevail in the tropical Pacific, the already cool, wet Pacific Northwest is typically cooler and wetter than normal, while the warmer, drier Southwest often sees an increase in those conditions.

Nevada’s not really in the Southwest or the Pacific Northwest, so what do El Niño and La Niña mean for Nevada?

Far southern Nevada—Clark County and the southern parts of Nye and Lincoln counties—has the same relationship to El Niño and La Niña that the Southwest does. El Niño winters are often (but not always) cooler and wetter than usual, while La Niña winters are often warmer and drier than usual. When the storm track is farther south, more storms are delivered to the southern part of the state, leading to a wetter winter. In the rest of the state, El Niño and La Niña do not consistently predict fall, winter or spring precipitation. El Niños and La Niñas can both be wetter than usual, drier than usual, or kind of remarkable in their averageness. Because Nevada is mostly north of the Southwest and south of the Northwest, neither northward nor southward shifts in the storm track have a strong, consistent influence on the number of storms, how much moisture they bring, or how much makes it over the Sierra Nevada.

There are many indices that track ENSO conditions and can be used to identify whether an El Niño or a La Niña is occurring. These include the Niño3.4 Index, which tracks sea-surface temperatures, and the Southern Oscillation Index, which compares sea-level pressures at Darwin, Australia and in Tahiti. The Multivariate ENSO Index tracks concurrent changes in sea-surface temperature, pressure patterns, winds and cloud cover. Here we use the Oceanic Niño Index or ONI. The ONI is the average three-month sea-surface temperature anomaly in the Niño3.4 region from the NOAA Climate Prediction Center (https://origin.cpc.ncep.noaa.gov/products/analysis_monitoring/ensostuff/ONI_v5.php).

In the ONI, temperatures consistently more than 0.5 C warmer than normal indicate El Niño conditions. Temperatures consistently more than 0.5 C cooler than normal indicate La Niña conditions. The larger the anomaly—how much warmer or cooler than normal—the stronger the event. Our analyses use only El Niño and La Niña events since 1960 that Golden Gate Weather Services (<https://ggweather.com/enso/oni.htm>) identifies as Moderate, Strong or Very Strong in the ONI, in order to keep the graphs that accompany this fact sheet clear and easy to interpret.

El Niño years	Oceanic Niño Index (C)	
	October – December	January - March
1963-64	+1.4	+0.6
1965-66	+2.0	+1.2
1968-69	+0.7	+1.1
1972-73	+2.1	+1.2
1982-83	+2.2	+1.9
1986-87	+1.1	+1.2
1987-88	+1.3	+0.5
1991-92	+1.2	+1.6
1994-95	+1.0	+0.7
1997-98	+2.4	+1.9
2002-03	+1.3	+0.6
2009-10	+1.4	+1.2
2015-16	+2.6	+2.1

La Niña years	Oceanic Niño Index (C)	
	October – December	January - March
1970-71	-0.9	-1.4
1973-74	-1.9	-1.6
1975-76	-1.4	-1.2
1988-89	-1.8	-1.4
1995-96	-1.0	-0.8
1998-99	-1.5	-1.3
1999-00	-1.5	-1.4
2000-01	-0.7	-0.5
2007-08	-1.5	-1.5
2010-11	-1.6	-1.2
2011-12	-1.1	-0.7
2020-21	-1.3	-0.9

Accompanying this fact sheet are a set of graphs that show precipitation amounts during El Niño and La Niña at weather stations around Nevada from 1960 through 2022. We used weather stations with the most complete precipitation records. If there were more than three days missing data in any month's record, we did not tally total precipitation for the season. For each station, graphs show the total amount of precipitation, both rain and melted snow, in the autumn (September through November) on the left, in the winter (December through February) in the middle, and in the spring (March through May) on the right. Seasonal precipitation amounts in years with El Niño events are shown on the left in blue, and seasonal precipitation amounts during La Niña events are shown on the right in silver. The three strongest El Niño events (1982-83, 1995-96, and 2015-16) and the three strongest La Niña events (1973-74, 1988-89, and 2010-11) were labeled to show the effect of ENSO-event strength on precipitation. In the autumn graphs, the dots are labeled with the "event" year not their calendar year. So, the dots labeled 1983 represent September – November 1982, while the dots labeled 1983 in the other season are from the 1983 calendar year. Below each graph is a table of seasonal precipitation amounts and the total precipitation from September through May. Table entries of M indicate that at least one month in that season was missing more than three days of data.

These plots show what we would expect from an overall understanding of how El Niño and La Niña affect the storm track. Towns farther south, such as Pioche and Tonopah, are often wetter during El Niños than during La Niñas. Towns farther north, such as Winnemucca and Eureka, have wet, dry and normal La Niñas and wet, dry and normal El Niños. There's simply not much difference in precipitation between the two events.

It's common to hear that El Niño years are likely to be wet or La Niña years are likely to be dry, and it's tempting to use that information for planning. But, that's only true in southern Nevada. In most of the state, ENSO is not a good predictor of how much rain and snow will fall. El Niño and La Niña years can be wet, dry, or in between. Looking at local evidence from Nevada will be more useful than planning based on information from other states.

References and Resources

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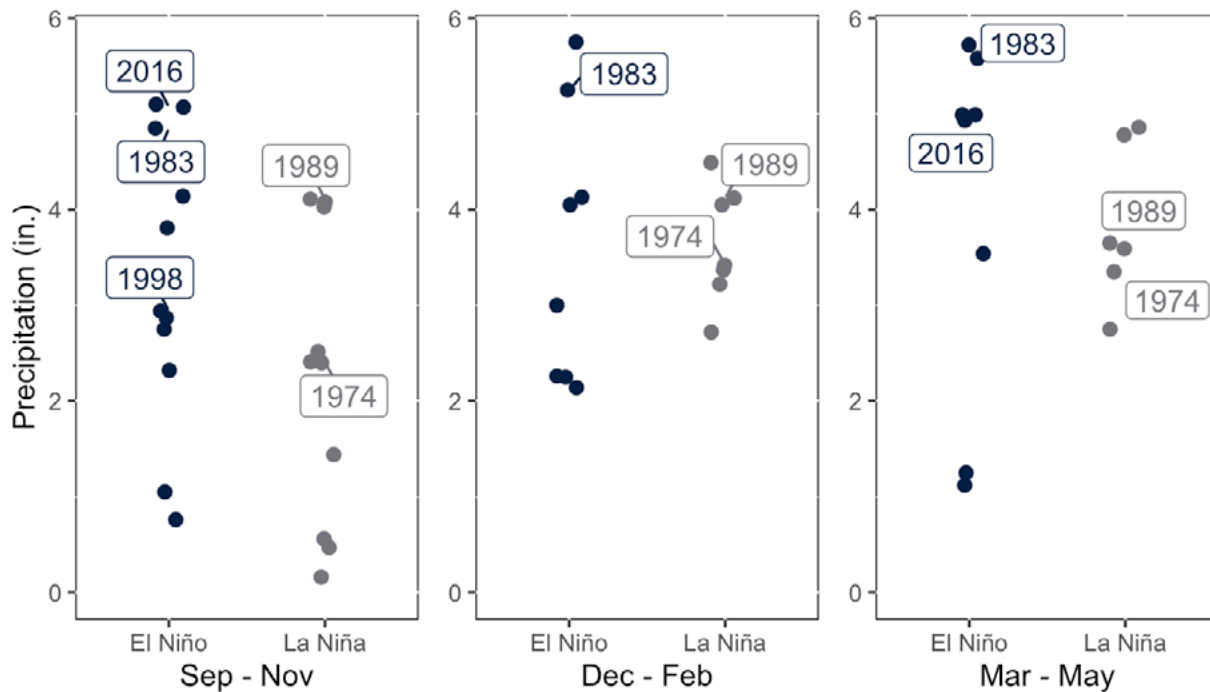
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Precipitation during El Niño and La Niña in Austin, Nevada

These graphs show the total precipitation during the fall (September – November), winter (December – February) and spring (March – May) in each El Niño year (blue dots on the left of each graph) and each La Niña year (gray dots on the right side of each graph) between 1960 and 2022. The three strongest El Niño and La Niña events are labeled. The table below displays the same information as the graph. M in the table means that we did not calculate a seasonal total for that year because at least one month was missing data values for more than three days.

In Austin, El Niño autumns are generally wetter than La Niña autumns, but one El Niño fall had almost no precipitation, and many La Niña falls have been wetter than El Niño falls. During the winter and spring, precipitation amounts during El Niños have varied from dry to wet. La Niña winters and springs have not been as wet or as dry as El Niño winters and springs.

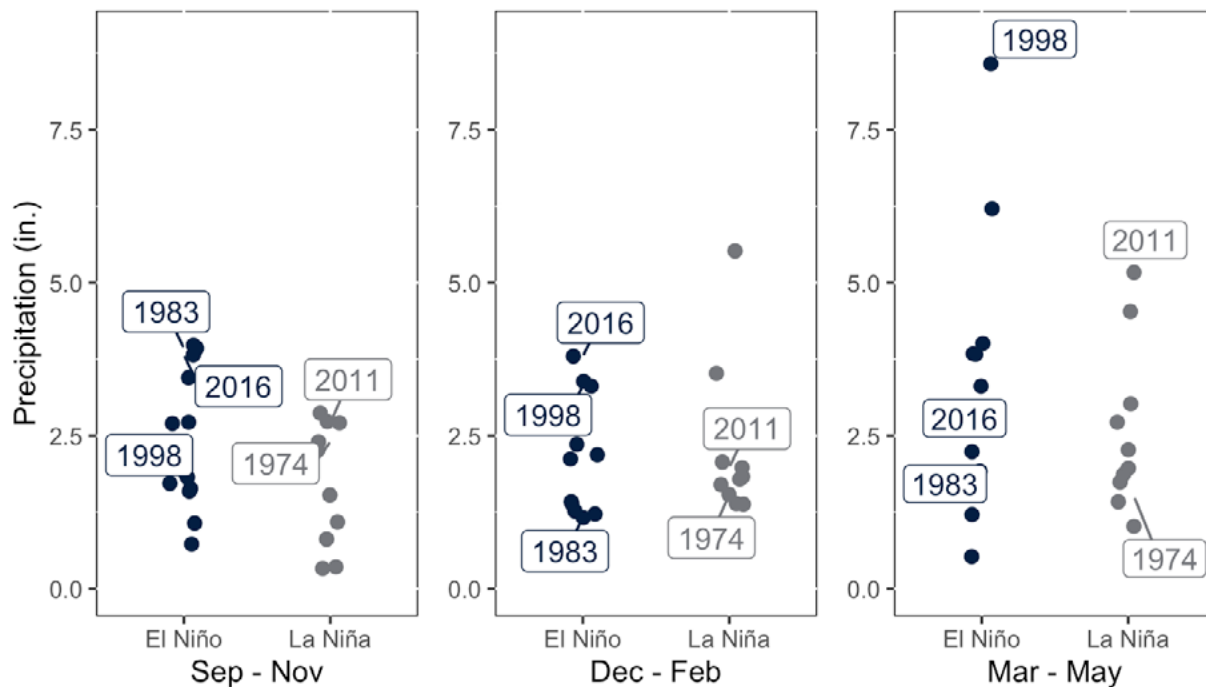


Seasonal precipitation in El Niño years					Seasonal precipitation in La Niña years				
Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May	Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May
1963-64	4.14	2.25	5.58	11.97	1970-71	2.40	4.49	8.45	15.34
1965-66	2.75	M	1.12	M	1973-74	2.41	3.42	3.35	9.18
1968-69	2.32	5.82	3.54	11.68	1975-76	4.08	3.22	3.59	10.89
1972-73	5.10	5.75	6.12	16.97	1988-89	4.11	4.12	3.65	11.88
1982-83	4.85	5.25	5.72	15.82	1995-96	0.16	M	M	M
1986-87	0.76	2.14	10.68	13.58	1998-99	4.03	M	4.78	8.81
1987-88	M	4.13	4.99	M	1999-00	0.56	4.05	4.86	9.47
1991-92	2.87	3.00	1.25	7.12	2007-08	M	M	M	M
1994-95	3.81	4.05	7.57	15.43	2010-11	M	M	M	M
1997-98	2.94	M	11.21	M	2011-12	2.52	M	M	M
2002-03	1.05	2.26	4.99	8.30	2020-21	1.44	3.37	7.70	12.51
2009-10	M	M	M	M	2021-22	0.47	2.72	2.75	5.94
2015-16	5.07	M	4.93	M					
<i>Average</i>	<i>3.24</i>	<i>3.85</i>	<i>5.64</i>	<i>12.61</i>		<i>2.22</i>	<i>3.63</i>	<i>4.89</i>	<i>10.50</i>

Precipitation during El Niño and La Niña in Battle Mountain, Nevada

These graphs show the total precipitation during the fall (September – November), winter (December – February) and spring (March – May) in each El Niño year (blue dots on the left of each graph) and each La Niña year (gray dots on the right side of each graph) between 1960 and 2022. The three strongest El Niño and La Niña events are labeled. The table below displays the same information as the graph. M in the table means that we did not calculate a seasonal total for that year because at least one month was missing data values for more than three days.

In Battle Mountain autumns are wetter on average during an El Niño. However, many La Niñas are markedly wetter than some El Niños. During some La Niñas, winter or spring were wetter than any El Niño winter or spring.

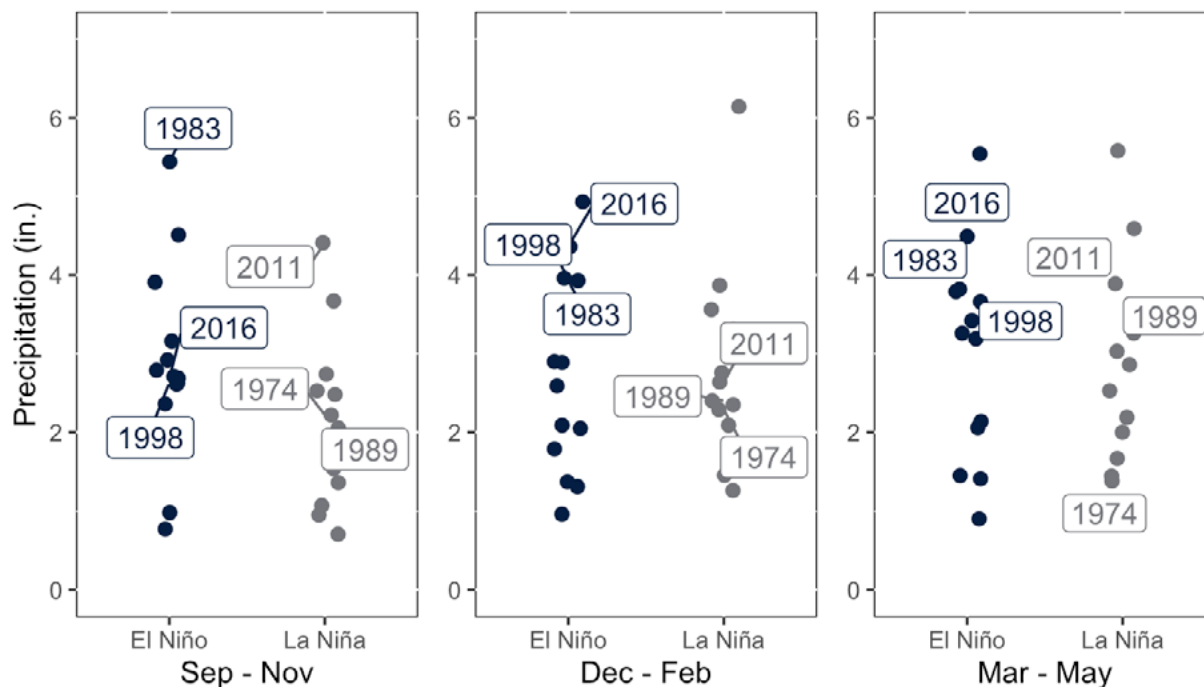


Seasonal precipitation in El Niño years					Seasonal precipitation in La Niña years				
Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May	Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May
1963-64	3.98	1.22	2.24	7.44	1970-71	1.53	1.79	2.27	5.59
1965-66	1.59	1.27	1.21	4.07	1973-74	2.40	1.54	1.74	5.68
1968-69	1.64	3.39	0.53	5.55	1975-76	2.26	1.38	1.02	4.66
1972-73	3.45	2.12	M	M	1988-89	M	M	M	M
1982-83	3.93	1.16	1.92	7.01	1995-96	0.33	5.52	2.72	8.57
1986-87	1.07	2.36	6.21	9.64	1998-99	2.87	2.07	3.02	7.96
1987-88	M	M	4.01	M	1999-00	0.36	3.52	4.53	8.41
1991-92	2.72	M	M	M	2007-08	1.09	1.70	1.42	4.21
1994-95	2.70	2.19	M	M	2010-11	2.71	1.98	5.17	9.86
1997-98	1.72	3.31	8.58	13.61	2011-12	0.81	1.39	1.97	4.17
2002-03	1.82	1.39	3.83	7.04	2020-21	M	1.83	1.87	M
2009-10	0.73	1.42	3.84	5.99	2021-22	2.73	M	M	M
2015-16	3.82	3.80	3.31	10.93					
<i>Average</i>	<i>2.43</i>	<i>2.15</i>	<i>3.57</i>	<i>7.92</i>		<i>1.71</i>	<i>2.27</i>	<i>2.57</i>	<i>6.57</i>

Precipitation during El Niño and La Niña in Elko, Nevada

These graphs show the total precipitation during the fall (September – November), winter (December – February) and spring (March – May) in each El Niño year (blue dots on the left of each graph) and each La Niña year (gray dots on the right side of each graph) between 1960 and 2022. The three strongest El Niño and La Niña events are labeled. The table below displays the same information as the graph. M in the table means that we did not calculate a seasonal total for that year because at least one month was missing data values for more than three days.

In Elko, El Niño and La Niña autumns have both been dry, but a few more El Niños have been very wet. In terms of precipitation, El Niño and La Niña winters and springs are nearly indistinguishable. They can be quite dry, quite wet or somewhere in between.

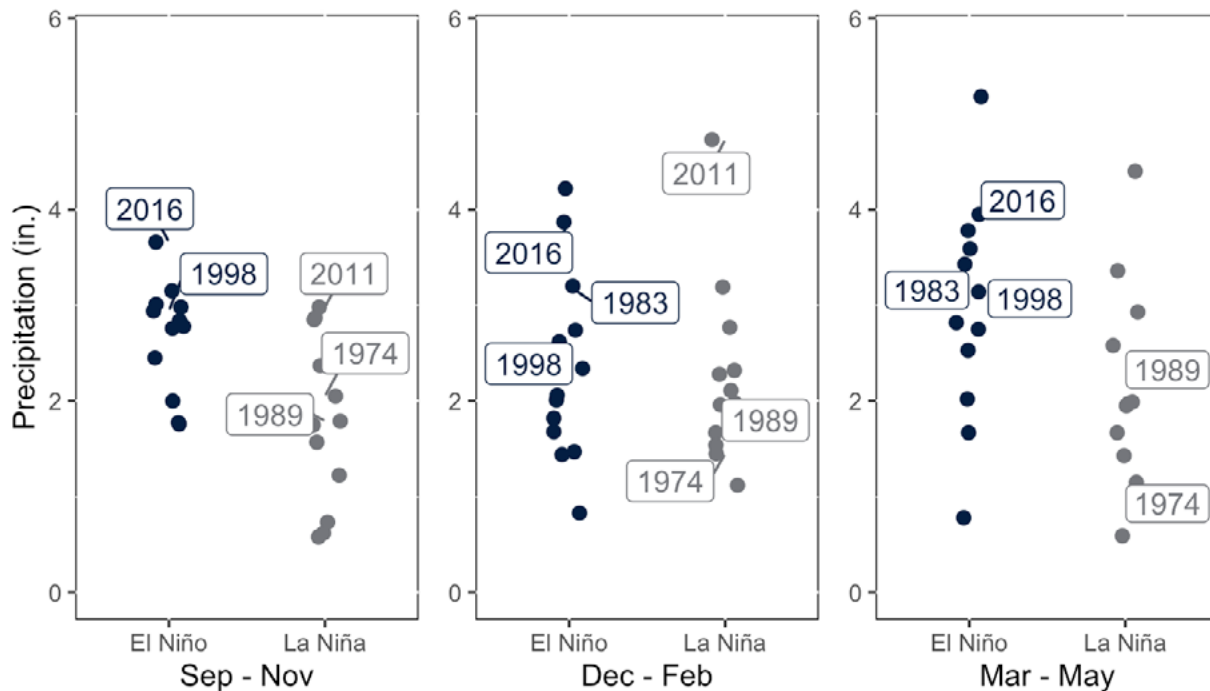


Seasonal precipitation in El Niño years					Seasonal precipitation in La Niña years				
Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May	Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May
1963-64	4.51	1.79	3.26	9.56	1970-71	2.48	3.31	5.58	11.37
1965-66	2.79	1.37	1.45	5.61	1973-74	2.22	2.29	1.45	5.96
1968-69	2.71	4.93	0.90	8.54	1975-76	2.53	1.26	1.38	5.17
1972-73	3.91	2.90	2.14	8.95	1988-89	2.06	2.40	3.03	7.49
1982-83	5.44	3.93	3.79	13.16	1995-96	0.71	6.14	3.89	10.74
1986-87	0.98	1.31	3.19	5.48	1998-99	3.67	2.76	2.86	9.29
1987-88	2.61	2.09	1.41	6.11	1999-00	0.95	3.87	2.19	7.01
1991-92	3.16	0.96	2.06	6.18	2007-08	1.54	3.56	1.67	6.77
1994-95	2.92	2.59	5.54	11.05	2010-11	4.41	2.64	4.59	11.64
1997-98	2.63	3.96	3.42	10.01	2011-12	1.36	1.46	2.53	5.35
2002-03	2.36	2.05	3.82	8.23	2020-21	1.07	2.09	3.26	6.42
2009-10	0.77	2.89	3.66	7.32	2021-22	2.74	2.35	2.00	7.09
2015-16	2.69	4.36	4.49	11.54					
<i>Average</i>	<i>2.88</i>	<i>2.70</i>	<i>3.01</i>	<i>8.60</i>		<i>2.14</i>	<i>2.84</i>	<i>2.87</i>	<i>7.86</i>

Precipitation during El Niño and La Niña in Ely, Nevada

These graphs show the total precipitation during the fall (September – November), winter (December – February) and spring (March – May) in each El Niño year (blue dots on the left of each graph) and each La Niña year (gray dots on the right side of each graph) between 1960 and 2022. The three strongest El Niño and La Niña events are labeled. The table below displays the same information as the graph. M in the table means that we did not calculate a seasonal total for that year because at least one month was missing data values for more than three days.

In Ely, El Niño autumns are, on average, wetter than La Niña autumns, but there is substantial overlap. In winter and spring, both El Niño and La Niña can bring relatively wet, relatively dry or exceptionally average amounts of precipitation.

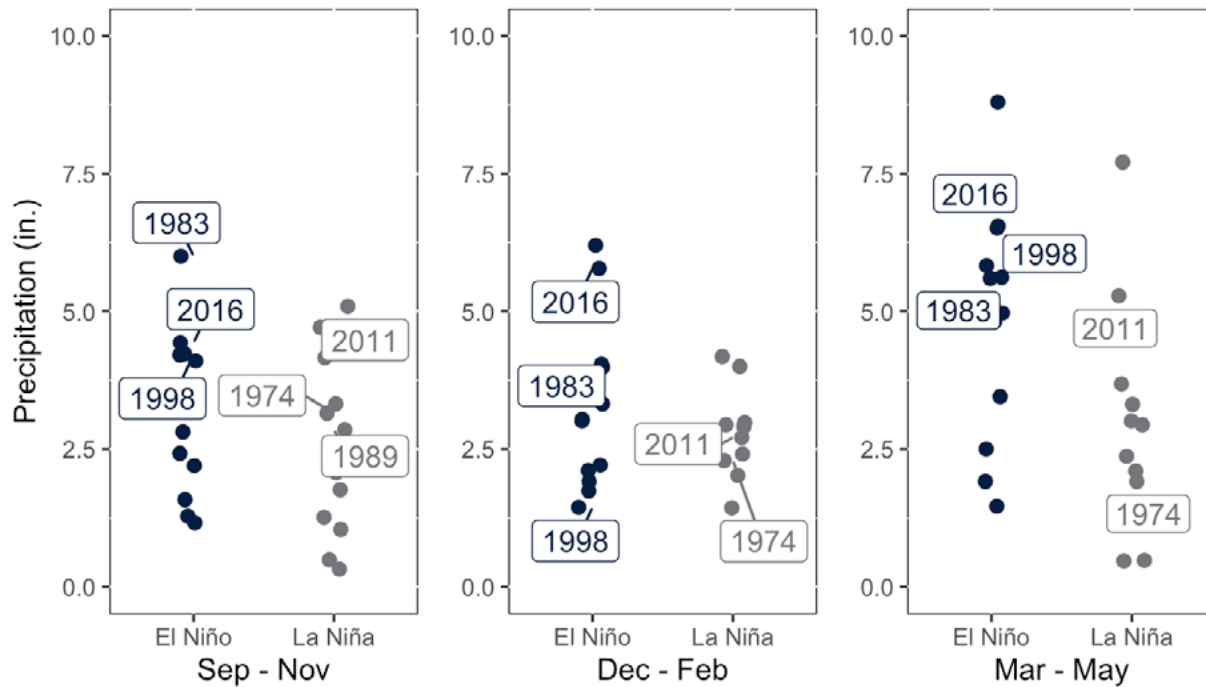


Seasonal precipitation in El Niño years					Seasonal precipitation in La Niña years				
Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May	Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May
1963-64	3.15	1.68	5.18	10.01	1970-71	2.37	2.77	4.40	9.54
1965-66	2.76	1.82	0.78	5.36	1973-74	2.05	1.45	1.15	4.65
1968-69	1.76	4.22	1.67	7.65	1975-76	1.75	2.28	1.99	6.02
1972-73	2.98	2.74	2.75	8.47	1988-89	1.79	1.67	1.98	5.44
1982-83	7.30	3.20	3.43	13.93	1995-96	0.62	1.98	2.93	5.53
1986-87	2.84	1.44	3.59	7.87	1998-99	2.87	1.12	1.67	5.66
1987-88	3.01	2.01	2.53	7.55	1999-00	0.74	2.32	3.36	6.42
1991-92	2.78	1.47	2.02	6.27	2007-08	1.23	1.96	0.59	3.78
1994-95	2.45	2.62	6.17	11.24	2010-11	2.98	4.73	5.76	13.47
1997-98	2.94	2.34	3.14	8.42	2011-12	2.85	2.11	1.95	6.91
2002-03	2.00	0.83	3.95	6.78	2020-21	0.58	1.54	2.58	4.70
2009-10	1.78	2.06	2.82	6.66	2021-22	1.57	3.19	1.43	6.19
2015-16	3.66	3.87	3.78	11.31					
<i>Average</i>	3.03	2.33	3.22	8.58		1.78	2.26	2.48	6.52

Precipitation during El Niño and La Niña in Eureka, Nevada

These graphs show the total precipitation during the fall (September – November), winter (December – February) and spring (March – May) in each El Niño year (blue dots on the left of each graph) and each La Niña year (gray dots on the right side of each graph) between 1960 and 2022. The three strongest El Niño and La Niña events are labeled. The table below displays the same information as the graph. M in the table means that we did not calculate a seasonal total for that year because at least one month was missing data values for more than three days.

In Eureka, the wettest El Niño autumns, winters and springs are wetter than the wettest La Niña seasons. However, there is also quite a bit of overlap, with some El Niño events running much drier.

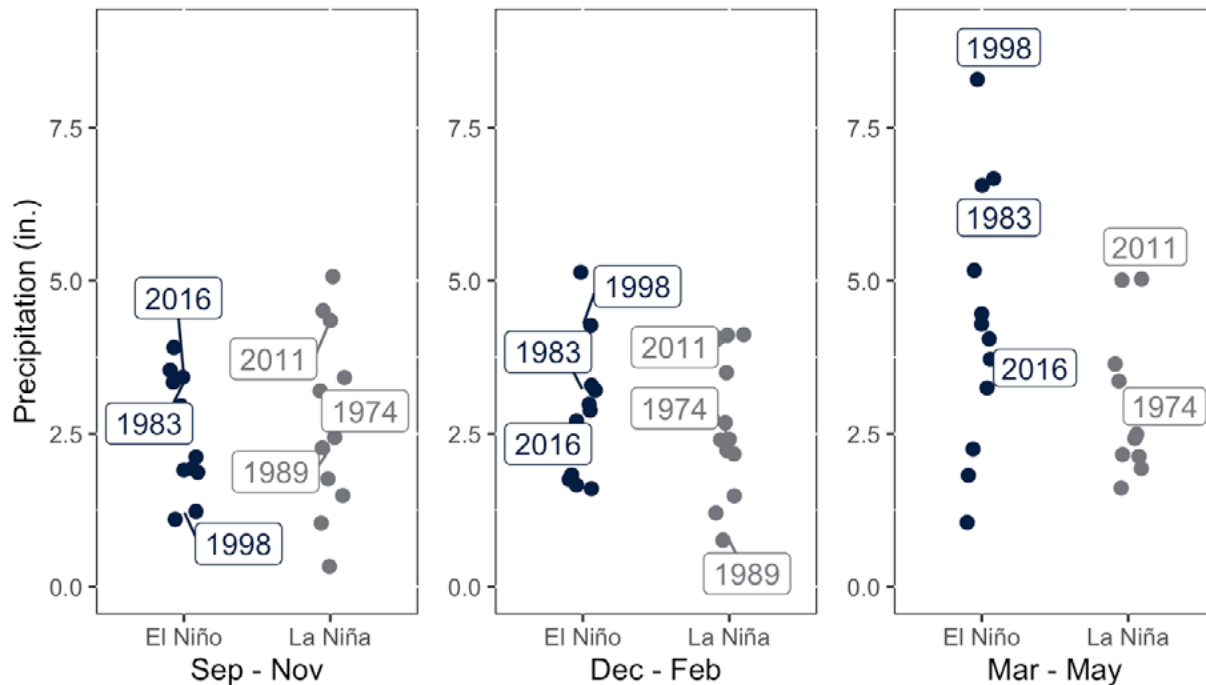


Seasonal precipitation in El Niño years					Seasonal precipitation in La Niña years				
Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May	Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May
1963-64	M	M	M	M	1970-71	4.16	2.94	7.71	14.81
1965-66	2.81	3.04	1.46	7.31	1973-74	3.15	2.29	1.91	7.35
1968-69	2.42	6.20	2.50	11.12	1975-76	5.09	2.98	3.31	11.38
1972-73	4.10	4.04	5.60	13.74	1988-89	2.85	M	M	M
1982-83	6.00	3.99	5.62	15.61	1995-96	0.32	4.18	3.68	8.18
1986-87	1.58	2.11	8.80	12.49	1998-99	3.32	1.43	3.01	7.76
1987-88	4.23	2.21	3.45	9.89	1999-00	1.04	2.41	2.10	5.55
1991-92	3.54	1.74	1.91	7.19	2007-08	1.76	4.00	0.48	6.24
1994-95	2.20	3.32	6.51	12.03	2010-11	4.71	2.71	5.28	12.70
1997-98	4.21	1.44	5.83	11.48	2011-12	2.07	2.02	2.94	7.03
2002-03	1.28	1.91	4.81	8.00	2020-21	1.26	2.91	2.37	6.54
2009-10	1.16	3.01	4.97	9.14	2021-22	0.49	M	0.47	M
2015-16	4.43	5.78	6.55	16.76					
<i>Average</i>	<i>3.16</i>	<i>3.23</i>	<i>4.83</i>	<i>11.23</i>		<i>2.52</i>	<i>2.79</i>	<i>3.02</i>	<i>8.75</i>

Precipitation during El Niño and La Niña in Orovada, Nevada

These graphs show the total precipitation during the fall (September – November), winter (December – February) and spring (March – May) in each El Niño year (blue dots on the left of each graph) and each La Niña year (gray dots on the right side of each graph) between 1960 and 2022. The three strongest El Niño and La Niña events are labeled. The table below displays the same information as the graph. M in the table means that we did not calculate a seasonal total for that year because at least one month was missing data values for more than three days.

In Orovada, autumn precipitation is generally similar during El Niño and La Niña events. During the winter and spring, the wettest El Niño seasons are wetter than the driest La Niña seasons, and the strong La Niña of 1989 delivered a very dry winter. However, there is also a great deal of variability. Not all El Niños are wet, and not all La Niñas are dry.

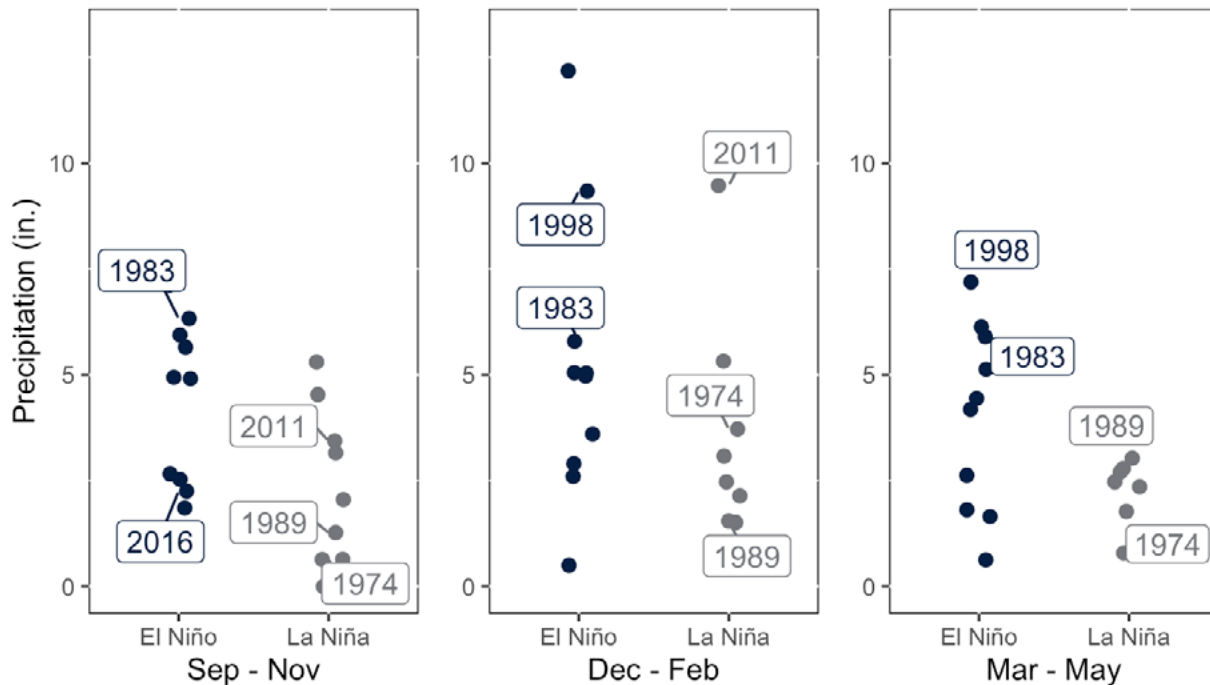


Seasonal precipitation in El Niño years					Seasonal precipitation in La Niña years				
Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May	Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May
1963-64	2.70	1.83	3.25	7.78	1970-71	2.44	2.17	5.01	9.62
1965-66	M	M	M	M	1973-74	2.65	2.41	3.07	8.13
1968-69	2.96	5.14	1.82	9.92	1975-76	3.42	2.23	1.93	7.58
1972-73	3.54	3.29	4.46	11.29	1988-89	2.27	0.76	M	M
1982-83	3.34	3.21	6.56	13.11	1995-96	0.33	4.11	3.36	7.80
1986-87	1.93	1.60	4.05	7.58	1998-99	5.07	2.68	1.61	9.36
1987-88	1.91	2.98	2.25	7.14	1999-00	1.49	4.12	3.64	9.25
1991-92	2.12	1.66	1.05	4.83	2007-08	3.20	2.40	2.16	7.76
1994-95	3.91	3.74	6.67	14.32	2010-11	4.35	4.08	5.03	13.46
1997-98	1.23	4.27	8.29	13.79	2011-12	1.04	1.21	2.49	4.74
2002-03	1.87	1.75	4.29	7.91	2020-21	1.76	3.50	2.13	7.39
2009-10	1.10	2.88	5.17	9.15	2021-22	4.51	1.49	2.42	8.42
2015-16	3.43	2.71	3.72	9.86					
<i>Average</i>	<i>2.50</i>	<i>2.92</i>	<i>4.30</i>	<i>9.72</i>		<i>2.71</i>	<i>2.60</i>	<i>2.99</i>	<i>8.50</i>

Precipitation during El Niño and La Niña in Pioche, Nevada

These graphs show the total precipitation during the fall (September – November), winter (December – February) and spring (March – May) in each El Niño year (blue dots on the left of each graph) and each La Niña year (gray dots on the right side of each graph) between 1960 and 2022. The three strongest El Niño and La Niña events are labeled. The table below displays the same information as the graph. M in the table means that we did not calculate a seasonal total for that year because at least one month was missing data values for more than three days.

In Pioche, which is relatively far south, El Niño autumns, winters and springs are all, on average, wetter than La Niñas. However, there are still dry El Niños, and the occasional La Niña winter, such as 2011, is quite wet. Here, ENSO has more predictive power for the winter, but it's still not a guarantee. There are also many missing data points in recent years.

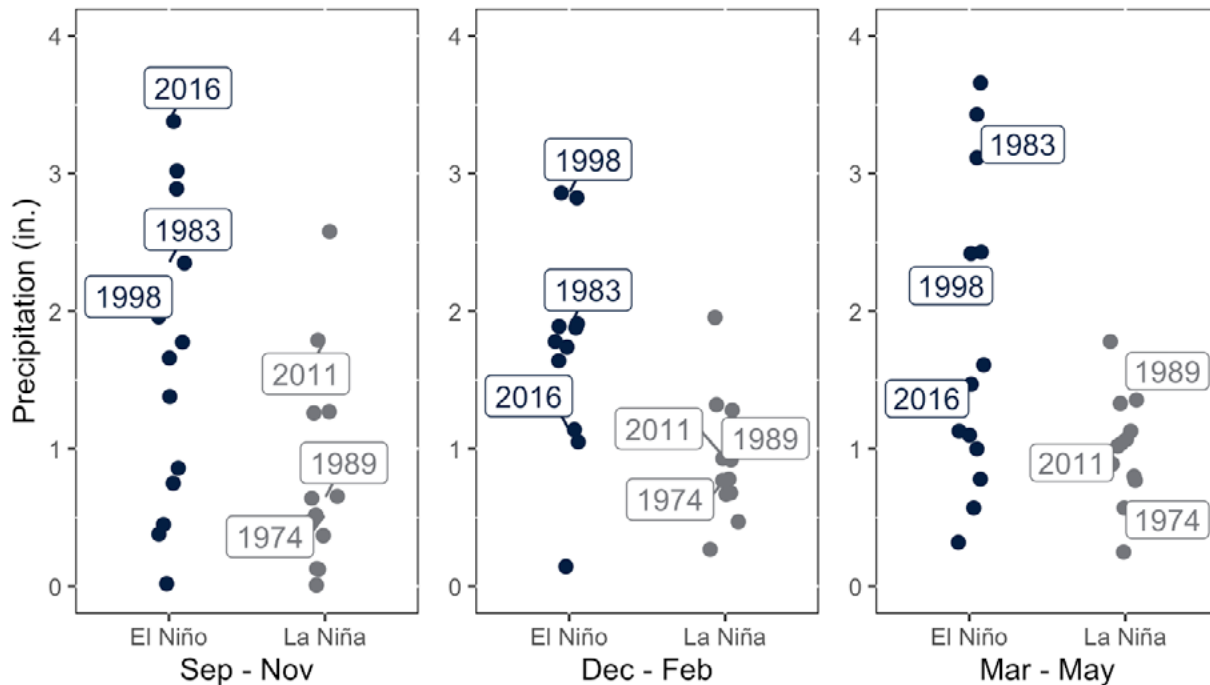


Seasonal precipitation in El Niño years					Seasonal precipitation in La Niña years				
Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May	Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May
1963-64	5.94	0.50	4.44	10.88	1970-71	3.16	2.14	3.03	8.33
1965-66	5.65	5.05	0.63	11.33	1973-74	0.65	3.72	0.79	5.16
1968-69	1.85	12.18	1.81	15.84	1975-76	2.05	3.08	2.47	7.60
1972-73	4.94	5.04	5.13	15.11	1988-89	1.27	1.55	2.70	5.52
1982-83	6.33	5.79	5.90	18.02	1995-96	0.00	M	M	M
1986-87	2.66	2.60	4.18	9.44	1998-99	5.30	1.51	2.79	9.60
1987-88	7.12	2.90	2.63	12.65	1999-00	0.64	5.32	1.77	7.73
1991-92	M	4.97	6.13	M	2007-08	M	M	M	M
1994-95	4.91	M	M	M	2010-11	3.44	9.47	M	M
1997-98	M	9.34	7.19	M	2011-12	4.53	2.47	2.36	9.36
2002-03	2.53	3.60	M	M	2020-21	M	M	M	M
2009-10	M	M	1.65	M	2021-22	M	M	M	M
2015-16	2.25	M	M	M					
Average	4.42	5.20	3.97	13.32		2.34	3.66	2.27	7.61

Precipitation during El Niño and La Niña in Tonopah, Nevada

These graphs show the total precipitation during the fall (September – November), winter (December – February) and spring (March – May) in each El Niño year (blue dots on the left of each graph) and each La Niña year (gray dots on the right side of each graph) between 1960 and 2022. The three strongest El Niño and La Niña events are labeled. The table below displays the same information as the graph. M in the table means that we did not calculate a seasonal total for that year because at least one month was missing data values for more than three days.

Tonopah, which is relatively far south in Nevada, typically has wetter weather during El Niño years than during La Niña years. As in Pioche, however, some El Niño years are very dry, and sometimes, La Niña years are wet, particularly in the autumn.

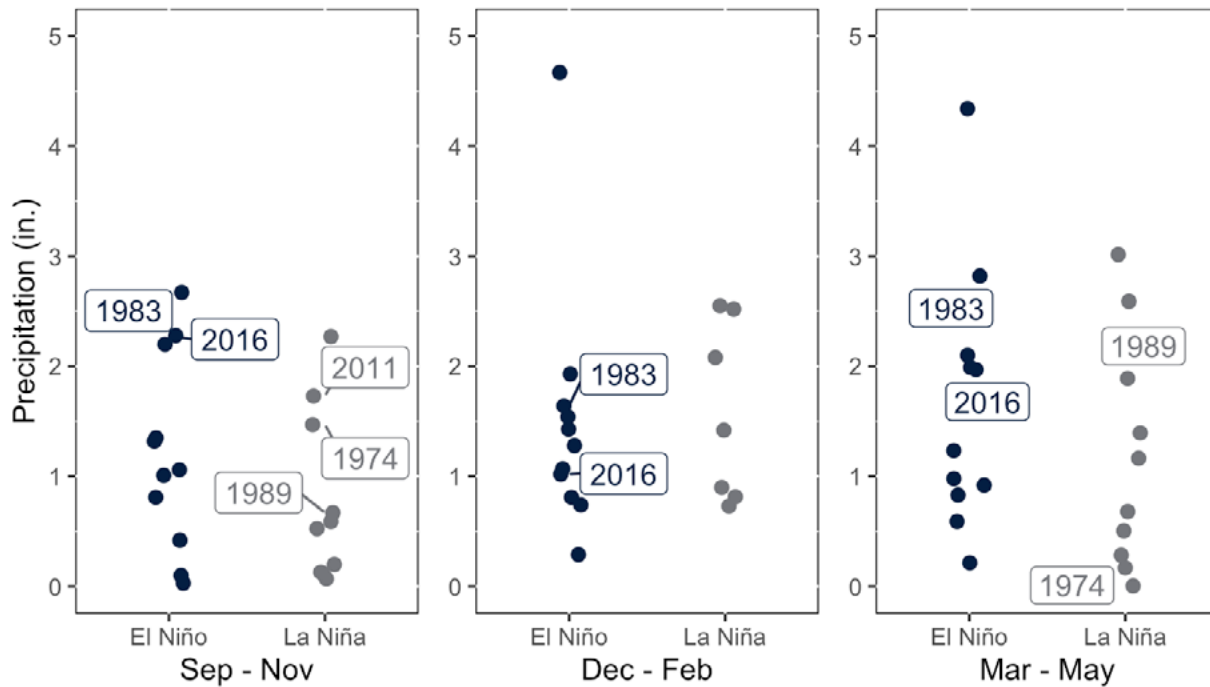


Seasonal precipitation in El Niño years					Seasonal precipitation in La Niña years				
Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May	Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May
1963-64	2.89	0.15	1.47	4.51	1970-71	0.37	0.47	1.36	2.20
1965-66	1.78	1.05	0.32	3.15	1973-74	0.52	0.78	0.77	2.07
1968-69	0.75	1.89	0.57	3.21	1975-76	1.27	1.32	1.78	4.37
1972-73	3.02	1.91	1.61	6.54	1988-89	0.64	0.92	1.33	2.89
1982-83	2.35	1.88	3.12	7.35	1995-96	0.01	0.77	1.13	1.91
1986-87	0.45	1.78	3.66	5.89	1998-99	2.58	1.15	1.04	4.77
1987-88	1.66	1.40	2.43	5.49	1999-00	0.13	1.96	0.80	2.88
1991-92	1.38	1.64	1.00	4.02	2007-08	0.48	1.28	1.02	2.78
1994-95	0.86	2.83	3.43	7.12	2010-11	1.79	0.93	0.89	3.61
1997-98	1.96	2.86	2.42	7.24	2011-12	1.26	0.27	1.07	2.60
2002-03	0.38	M	0.78	M	2020-21	0.13	0.68	0.57	1.38
2009-10	0.02	1.74	1.13	2.89	2021-22	0.66	0.67	0.25	1.58
2015-16	3.38	1.14	1.10	5.62					
<i>Average</i>	<i>1.61</i>	<i>1.69</i>	<i>1.77</i>	<i>5.25</i>		<i>0.82</i>	<i>0.93</i>	<i>1.00</i>	<i>2.75</i>

Precipitation during El Niño and La Niña in Yerington, Nevada

These graphs show the total precipitation during the fall (September – November), winter (December – February) and spring (March – May) in each El Niño year (blue dots on the left of each graph) and each La Niña year (gray dots on the right side of each graph) between 1960 and 2022. The three strongest El Niño and La Niña events are labeled. The table below displays the same information as the graph. M in the table means that we did not calculate a seasonal total for that year because at least one month was missing data values for more than three days.

In Yerington, precipitation amounts are very similar between El Niño and La Niña years, although one El Niño winter and one El Niño spring were very wet. As in Pioche, missing data is a big problem.

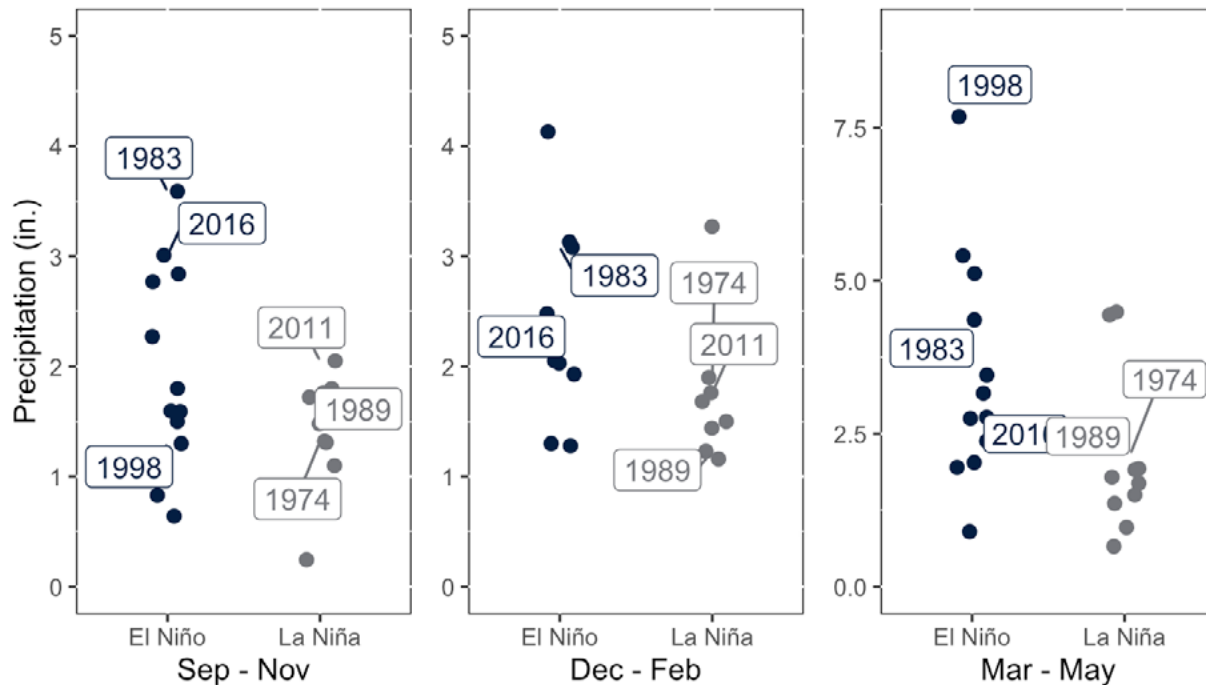


Seasonal precipitation in El Niño years					Seasonal precipitation in La Niña years				
Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May	Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May
1963-64	1.35	0.29	1.99	3.63	1970-71	0.53	1.42	3.02	4.96
1965-66	2.67	1.07	0.59	4.33	1973-74	1.47	M	0.17	M
1968-69	0.42	4.67	0.92	6.01	1975-76	0.59	M	0.29	M
1972-73	2.20	M	0.98	M	1988-89	0.67	M	1.89	M
1982-83	2.58	1.64	2.82	7.04	1995-96	0.13	2.52	2.59	5.24
1986-87	0.10	1.43	2.10	3.63	1998-99	M	0.90	1.17	M
1987-88	1.06	0.74	1.24	3.04	1999-00	0.07	0.82	0.68	1.57
1991-92	0.81	0.81	M	M	2007-08	0.12	2.55	1.40	4.07
1994-95	1.01	1.93	4.34	7.28	2010-11	1.73	M	M	M
1997-98	M	M	M	M	2011-12	M	M	M	M
2002-03	0.03	1.28	0.22	1.53	2020-21	0.20	0.73	0.51	1.44
2009-10	1.32	1.54	0.83	3.69	2021-22	2.27	2.08	0.01	4.36
2015-16	2.28	1.02	1.97	5.27					
<i>Average</i>	<i>1.32</i>	<i>1.49</i>	<i>1.64</i>	<i>4.54</i>		<i>0.78</i>	<i>1.57</i>	<i>1.17</i>	<i>3.60</i>

Precipitation during El Niño and La Niña at Rye Patch Dam, Nevada

These graphs show the total precipitation during the fall (September – November), winter (December – February) and spring (March – May) in each El Niño year (blue dots on the left of each graph) and each La Niña year (gray dots on the right side of each graph) between 1960 and 2022. The three strongest El Niño and La Niña events are labeled. The table below displays the same information as the graph. M in the table means that we did not calculate a seasonal total for that year because at least one month was missing data values for more than three days.

At Rye Patch Da, the wettest El Niños have been wetter than the wettest La Niñas. In the autumn and spring, many El Niño years with complete (or nearly complete) records are wetter than any La Niña years. As in most places, however, some El Niño years are still quite dry, and some La Niña years are reasonably wet.

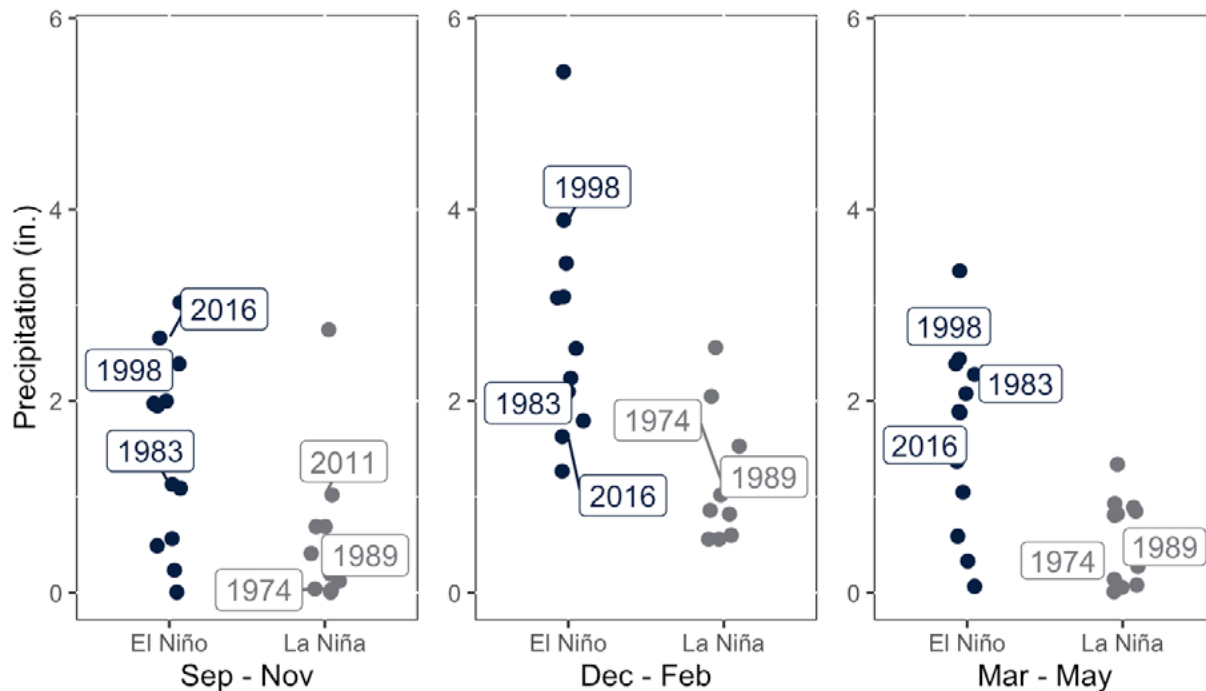


Seasonal precipitation in El Niño years					Seasonal precipitation in La Niña years				
Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May	Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May
1963-64	2.27	1.28	2.38	5.93	1970-71	1.10	1.16	4.49	6.75
1965-66	1.60	1.30	0.90	3.80	1973-74	1.32	1.90	1.93	5.15
1968-69	1.80	4.13	1.95	7.88	1975-76	1.72	1.44	0.66	3.82
1972-73	2.84	2.35	2.75	7.94	1988-89	1.76	1.23	1.91	4.90
1982-83	3.59	3.08	3.46	10.13	1995-96	M	M	M	M
1986-87	0.64	2.48	5.41	8.53	1998-99	M	M	0.97	M
1987-88	1.59	2.03	4.36	7.98	1999-00	0.25	M	4.44	M
1991-92	1.50	1.93	2.03	5.46	2007-08	1.80	M	1.50	M
1994-95	2.77	3.13	5.12	11.02	2010-11	2.05	1.76	M	M
1997-98	1.30	M	7.68	M	2011-12	1.31	1.50	1.69	4.50
2002-03	M	M	3.16	M	2020-21	1.48	3.27	1.79	6.54
2009-10	0.83	M	M	M	2021-22	M	1.68	1.36	M
2015-16	3.01	2.05	2.77	7.83					
<i>Average</i>	<i>1.98</i>	<i>2.38</i>	<i>3.50</i>	<i>7.65</i>		<i>1.42</i>	<i>1.74</i>	<i>2.07</i>	<i>5.28</i>

Precipitation during El Niño and La Niña in Pahrump, Nevada

These graphs show the total precipitation during the fall (September – November), winter (December – February) and spring (March – May) in each El Niño year (blue dots on the left of each graph) and each La Niña year (gray dots on the right side of each graph) between 1960 and 2022. The three strongest El Niño and La Niña events are labeled. The table below displays the same information as the graph. M in the table means that we did not calculate a seasonal total for that year because at least one month was missing data values for more than three days.

Pahrump, like other relatively southern Nevada towns, tends to be a bit wetter than usual during El Niño events. This is especially true of winter (December – February) and spring (March – May), when many El Niño years are wetter than La Niña years. Some El Niño springs, however, are still quite dry.

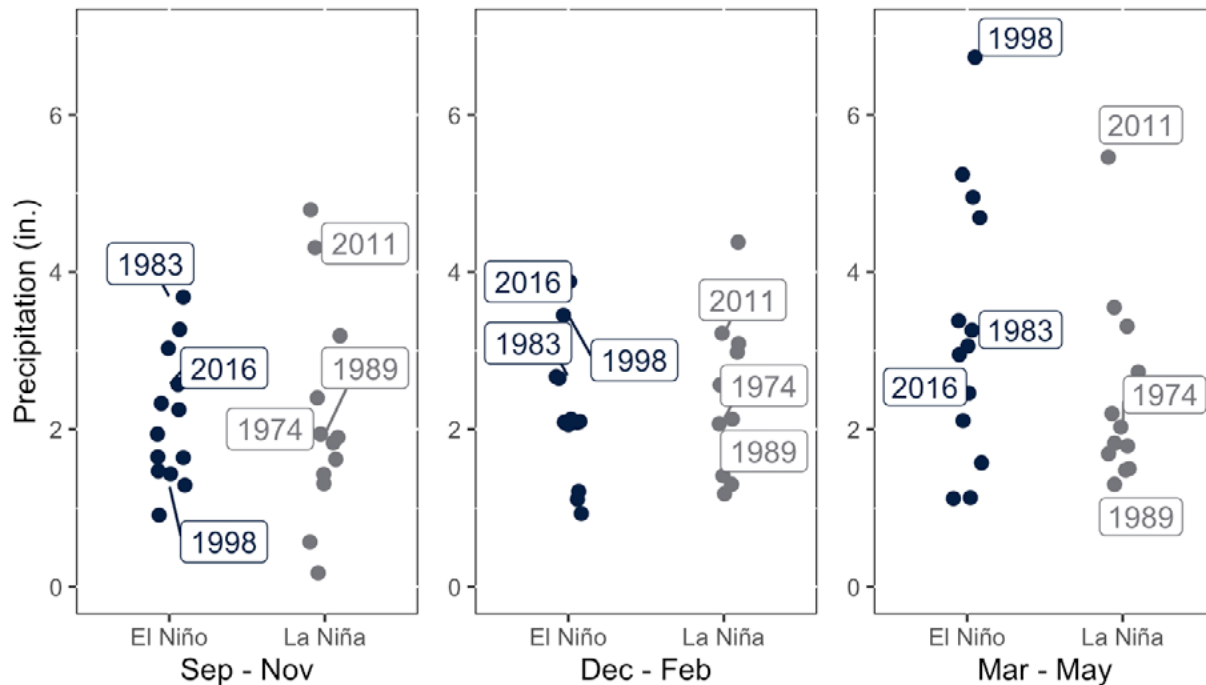


Seasonal precipitation in El Niño years					Seasonal precipitation in La Niña years				
Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May	Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May
1963-64	2.00	M	0.59	M	1970-71	0.52	0.56	0.81	1.89
1965-66	1.98	3.09	0.07	5.13	1973-74	0.04	1.10	0.14	1.28
1968-69	M	M	1.05	M	1975-76	0.20	2.56	0.89	3.65
1972-73	3.03	1.80	1.89	6.72	1988-89	0.12	1.02	0.82	1.96
1982-83	1.13	2.10	2.28	5.51	1995-96	0.01	0.56	0.28	0.84
1986-87	1.09	1.27	1.88	4.24	1998-99	0.69	0.60	1.34	2.63
1987-88	1.95	2.24	2.39	6.58	1999-00	0.69	2.05	0.93	3.67
1991-92	0.57	3.08	3.36	7.01	2007-08	2.75	1.53	0.06	4.33
1994-95	0.49	5.44	M	M	2010-11	1.02	M	M	M
1997-98	2.39	3.89	2.44	8.72	2011-12	M	M	0.85	M
2002-03	0.24	2.55	2.08	4.87	2020-21	0.03	0.82	0.01	0.86
2009-10	0.01	3.44	0.33	3.78	2021-22	0.41	0.86	0.08	1.35
2015-16	2.66	1.63	1.37	5.66					
Average	1.46	2.78	1.64	5.82		0.59	1.17	0.56	2.25

Precipitation during El Niño and La Niña in Winnemucca, Nevada

These graphs show the total precipitation during the fall (September – November), winter (December – February) and spring (March – May) in each El Niño year (blue dots on the left of each graph) and each La Niña year (gray dots on the right side of each graph) between 1960 and 2022. The three strongest El Niño and La Niña events are labeled. The table below displays the same information as the graph. M in the table means that we did not calculate a seasonal total for that year because at least one month was missing data values for more than three days.

In Winnemucca, as in many towns in the northern part of the state, precipitation amounts are very similar in El Niño and La Niña seasons. Both can bring abundant, scanty or normal precipitation.

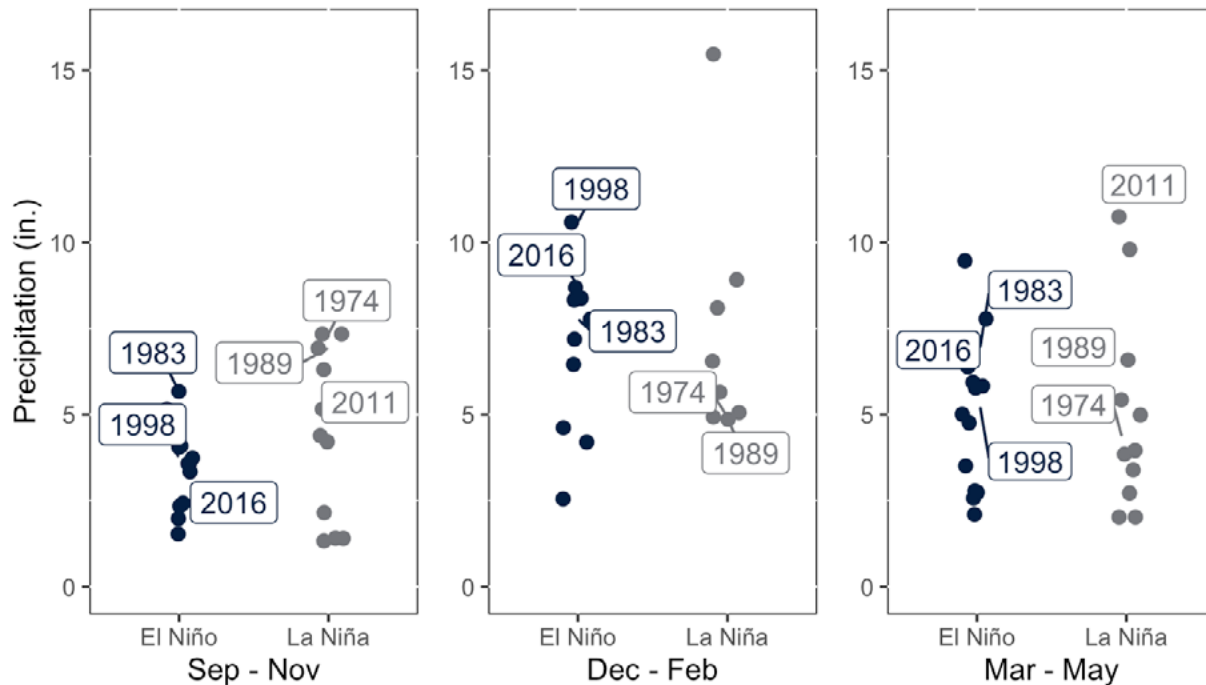


Seasonal precipitation in El Niño years					Seasonal precipitation in La Niña years				
Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May	Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May
1963-64	1.94	2.09	3.26	7.29	Year	1.43	1.60	3.55	6.58
1965-66	1.47	1.21	1.13	3.81	1973-74	1.90	2.13	1.83	5.86
1968-69	3.03	4.00	1.58	8.61	1975-76	2.40	1.18	1.48	5.06
1972-73	3.27	2.65	2.95	8.87	1988-89	1.94	1.41	1.50	4.85
1982-83	3.68	2.67	3.06	9.41	1995-96	0.18	4.38	2.73	7.29
1986-87	1.64	1.11	5.24	7.99	1998-99	4.79	2.47	1.30	8.56
1987-88	1.44	2.09	2.11	5.64	1999-00	0.57	2.98	3.31	6.86
1991-92	2.25	0.93	1.12	4.30	2007-08	1.62	2.07	1.69	5.38
1994-95	2.33	2.10	4.95	9.38	2010-11	4.31	3.22	5.46	12.99
1997-98	1.29	3.45	6.73	11.47	2011-12	1.31	1.30	1.79	4.40
2002-03	1.65	2.06	3.38	7.09	2020-21	1.83	3.09	2.03	6.95
2009-10	0.91	2.13	4.69	7.73	2021-22	3.19	2.57	2.20	7.96
2015-16	2.57	3.88	2.46	8.91					
<i>Average</i>	<i>2.11</i>	<i>2.34</i>	<i>3.28</i>	<i>7.73</i>		<i>2.12</i>	<i>2.37</i>	<i>2.41</i>	<i>6.89</i>

Precipitation during El Niño and La Niña in Fort Bidwell, California

These graphs show the total precipitation during the fall (September – November), winter (December – February) and spring (March – May) in each El Niño year (blue dots on the left of each graph) and each La Niña year (gray dots on the right side of each graph) between 1960 and 2022. The three strongest El Niño and La Niña events are labeled. The table below displays the same information as the graph. M in the table means that we did not calculate a seasonal total for that year because at least one month was missing data values for more than three days.

Fort Bidwell is in California, not Nevada, but there are very few long-term weather stations in the far northwest corner of the state, and Fort Bidwell isn't far from the border. At Fort Bidwell, El Niño and La Niña years are quite similar in precipitation. Both can be wet, very wet, near normal or dry.

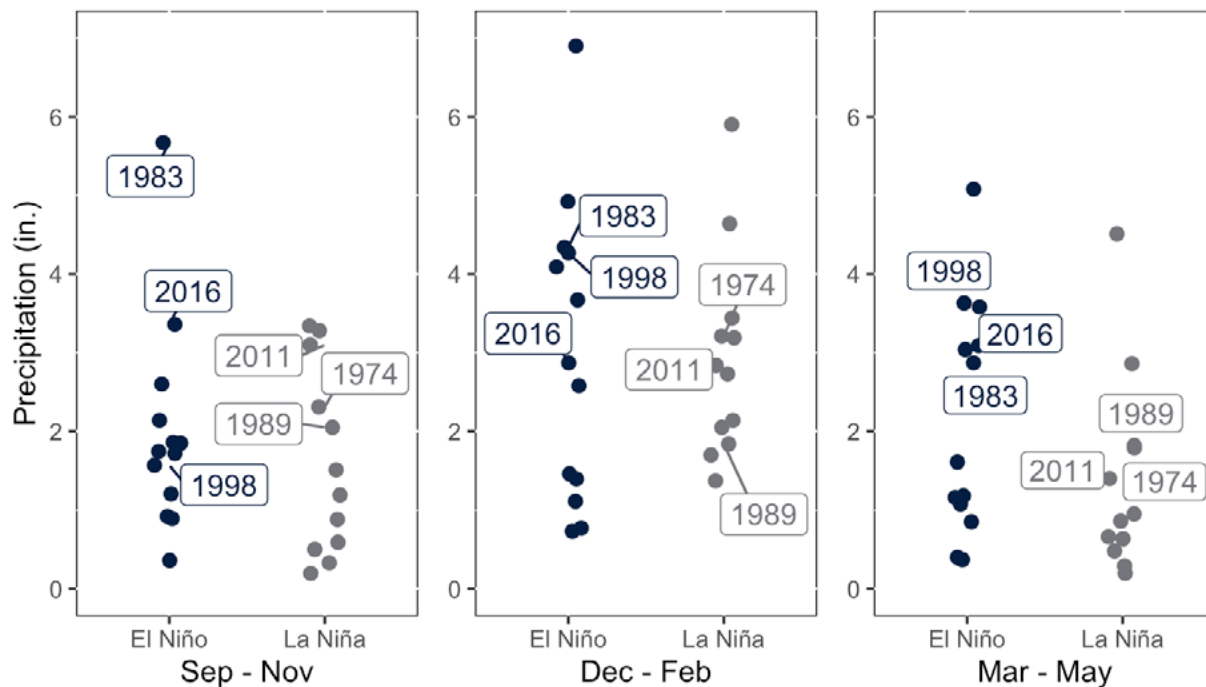


Seasonal precipitation in El Niño years					Seasonal precipitation in La Niña years				
Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May	Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May
1963-64	3.58	4.20	2.78	10.56	1970-71	7.34	6.55	9.80	23.69
1965-66	2.43	M	2.74	M	1973-74	7.34	4.93	3.85	16.12
1968-69	3.58	8.38	2.10	14.06	1975-76	4.21	5.65	2.02	11.88
1972-73	5.16	6.46	2.57	14.19	1988-89	6.93	4.86	6.59	18.38
1982-83	5.67	7.77	6.39	19.83	1995-96	1.41	15.47	4.99	21.87
1986-87	4.09	M	4.76	M	1998-99	6.31	8.10	2.72	17.13
1987-88	1.53	7.19	5.01	13.73	1999-00	1.33	8.92	3.39	13.64
1991-92	3.34	2.55	3.51	9.40	2007-08	M	M	M	M
1994-95	4.05	8.33	9.47	21.85	2010-11	5.16	M	10.75	M
1997-98	3.74	10.59	5.77	20.10	2011-12	1.41	M	5.43	M
2002-03	1.98	4.62	7.78	14.38	2020-21	2.15	5.58	2.02	9.75
2009-10	M	M	5.83	M	2021-22	4.39	5.06	3.96	13.41
2015-16	2.34	8.69	5.94	16.97					
<i>Average</i>	<i>3.46</i>	<i>6.88</i>	<i>4.97</i>	<i>15.51</i>		<i>4.36</i>	<i>7.24</i>	<i>5.05</i>	<i>16.21</i>

Precipitation during El Niño and La Niña in Reno, Nevada

These graphs show the total precipitation during the fall (September – November), winter (December – February) and spring (March – May) in each El Niño year (blue dots on the left of each graph) and each La Niña year (gray dots on the right side of each graph) between 1960 and 2022. The three strongest El Niño and La Niña events are labeled. The table below displays the same information as the graph. M in the table means that we did not calculate a seasonal total for that year because at least one month was missing data values for more than three days.

In Reno, there have been some very wet El Niño years. Autumns during the 1983 and 2016 El Niños were quite wet. On the other hand, there have also been some very wet La Niña years. There have also been dry and in between El Niño and La Niña years. Overall, it's not possible to say whether El Niño or La Niña years are likely to be wet or dry.

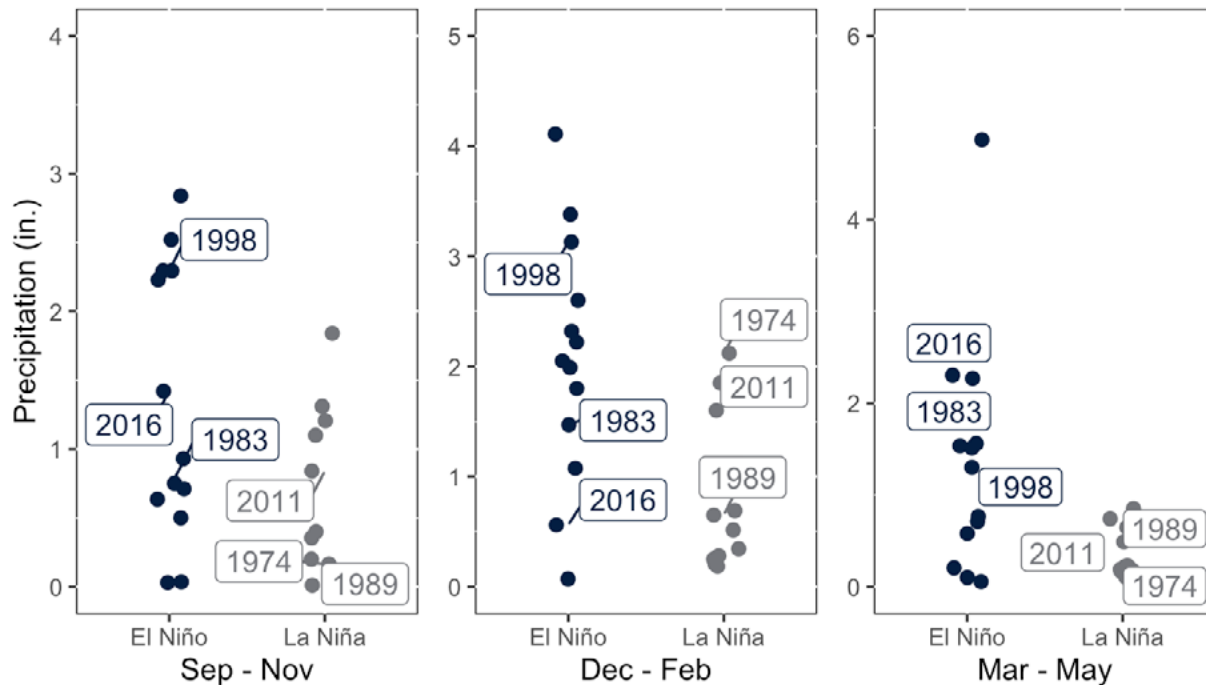


Seasonal precipitation in El Niño years					Seasonal precipitation in La Niña years				
Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May	Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May
1963-64	1.86	0.77	3.04	5.67	1970-71	1.51	2.73	4.51	8.75
1965-66	2.14	1.40	0.40	3.94	1973-74	2.31	3.21	1.40	6.92
1968-69	0.89	6.90	0.37	8.16	1975-76	1.19	1.37	0.66	3.22
1972-73	2.6	4.09	1.61	8.30	1988-89	2.05	1.84	1.82	5.71
1982-83	5.67	4.34	2.87	12.88	1995-96	0.20	5.90	2.86	8.96
1986-87	0.36	1.46	3.58	5.40	1998-99	3.28	2.05	0.86	6.19
1987-88	0.92	1.11	1.08	3.11	1999-00	0.50	3.19	0.95	4.64
1991-92	1.72	0.73	0.85	3.3	2007-08	0.88	4.64	0.64	6.16
1994-95	1.85	3.67	5.08	10.6	2010-11	3.10	2.84	1.79	7.73
1997-98	1.57	4.27	3.63	9.47	2011-12	0.33	2.14	0.48	2.95
2002-03	1.21	2.58	1.18	4.97	2020-21	0.59	1.7	0.20	2.49
2009-10	1.75	4.92	1.16	7.83	2021-22	3.34	3.44	0.29	7.07
2015-16	3.36	2.87	3.09	9.32					
<i>Average</i>	<i>1.99</i>	<i>3.01</i>	<i>2.15</i>	<i>7.15</i>		<i>1.61</i>	<i>2.92</i>	<i>1.37</i>	<i>5.90</i>

Precipitation during El Niño and La Niña in Las Vegas, Nevada

These graphs show the total precipitation during the fall (September – November), winter (December – February) and spring (March – May) in each El Niño year (blue dots on the left of each graph) and each La Niña year (gray dots on the right side of each graph) between 1960 and 2022. The three strongest El Niño and La Niña events are labeled. The table below displays the same information as the graph. M in the table means that we did not calculate a seasonal total for that year because at least one month was missing data values for more than three days.

In Las Vegas, individual El Niño and La Niña autumns or winters can be wet or dry. Some El Niño springs are quite dry, but almost all La Niña springs are dry, and none are wet. Overall, El Niño years are usually wet and La Niña years are usually dry, consistent with what would be expected so far south.

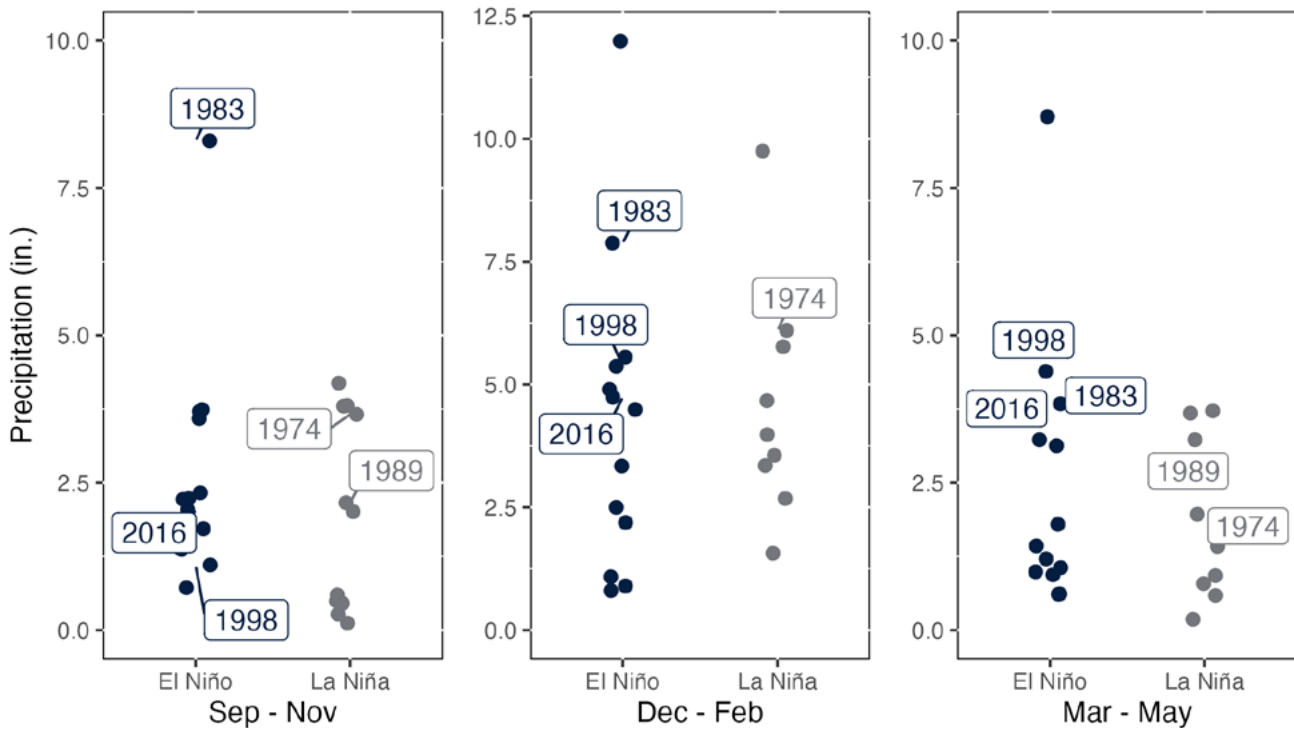


Seasonal precipitation in El Niño years					Seasonal precipitation in La Niña years				
Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May	Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May
1963-64	0.10	0.07	2.52	2.69	1970-71	0.85	0.19	0.40	1.44
1965-66	0.06	1.08	2.23	3.36	1973-74	0.17	2.12	0.17	2.46
1968-69	1.54	2.60	0.04	4.17	1975-76	0.49	2.54	1.27	4.24
1972-73	2.27	2.32	2.84	7.43	1988-89	0.70	0.65	0.01	1.36
1982-83	1.51	1.47	0.71	3.69	1995-96	0.23	0.28	0.02	0.53
1986-87	1.56	2.05	0.93	4.54	1998-99	0.74	0.52	1.84	3.10
1987-88	0.77	1.80	2.30	4.86	1999-00	0.22	1.6	0.36	2.18
1991-92	4.87	1.99	0.50	7.36	2007-08	0.21	0.69	1.31	2.21
1994-95	0.58	4.11	0.64	5.33	2010-11	0.18	1.85	0.84	2.87
1997-98	1.30	3.13	2.30	6.73	2011-12	0.19	0.21	1.10	1.50
2002-03	0.71	2.22	0.75	3.68	2020-21	0.65	0.25	0.01	0.91
2009-10	0.21	3.38	0.03	3.62	2021-22	0.11	0.35	0.20	0.65
2015-16	2.31	0.56	1.42	4.29					
<i>Average</i>	<i>1.29</i>	<i>2.18</i>	<i>1.31</i>	<i>4.79</i>		<i>0.39</i>	<i>0.94</i>	<i>0.62</i>	<i>1.95</i>

Precipitation during El Niño and La Niña in Carson City, Nevada

These graphs show the total precipitation during the fall (September – November), winter (December – February) and spring (March – May) in each El Niño year (blue dots on the left of each graph) and each La Niña year (gray dots on the right side of each graph) between 1960 and 2022. The three strongest El Niño and La Niña events are labeled. The table below displays the same information as the graph. M in the table means that we did not calculate a seasonal total for that year because at least one month was missing data values for more than three days.

In Carson City, precipitation is often on par during El Niño and La Niña years. However, the autumn of 1982 was exceptionally wet, and two other El Niño years had an exceptionally wet season. Winter was very wet in 1968-69 and spring was very wet in 1994-95. Winter during the La Niña of 1995-06 was also exceptionally wet.

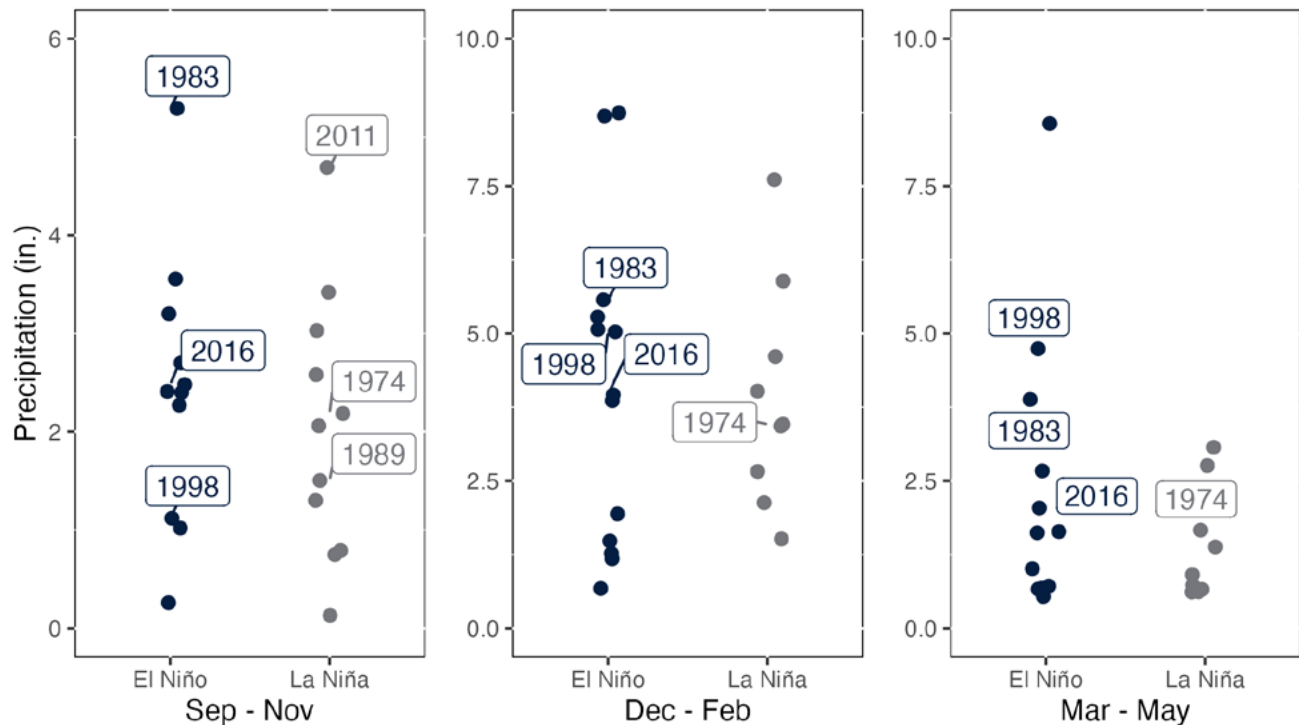


Seasonal precipitation in El Niño years					Seasonal precipitation in La Niña years				
Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May	Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May
1963-64	3.71	1.09	3.13	7.93	1970-71	4.19	3.98	3.68	11.85
1965-66	3.59	2.19	0.62	6.40	1973-74	3.66	6.10	1.97	11.73
1968-69	1.37	11.99	0.94	14.30	1975-76	2.01	1.57	1.42	5.00
1972-73	3.74	5.56	1.21	10.51	1988-89	2.16	M	3.23	M
1982-83	8.30	7.88	3.84	20.02	1995-96	0.27	9.75	3.72	13.74
1986-87	0.72	2.50	1.43	4.65	1998-99	3.80	5.77	0.59	10.16
1987-88	2.24	0.90	0.61	3.75	1999-00	0.60	4.67	0.79	6.06
1991-92	M	0.81	1.06	M	2007-08	0.50	3.56	0.93	4.98
1994-95	2.33	4.90	8.71	15.94	2010-11	M	M	M	M
1997-98	1.11	5.37	4.39	10.87	2011-12	0.46	2.68	M	M
2002-03	2.22	3.34	1.80	7.36	2020-21	0.12	M	0.19	M
2009-10	1.72	4.49	0.99	7.20	2021-22	3.81	3.35	NA	7.16
2015-16	2.05	4.74	3.23	10.02					
<i>Average</i>	<i>2.76</i>	<i>4.29</i>	<i>2.46</i>	<i>9.91</i>		<i>1.96</i>	<i>4.60</i>	<i>1.83</i>	<i>8.83</i>

Precipitation during El Niño and La Niña in Minden, Nevada

These graphs show the total precipitation during the fall (September – November), winter (December – February) and spring (March – May) in each El Niño year (blue dots on the left of each graph) and each La Niña year (gray dots on the right side of each graph) between 1960 and 2022. The three strongest El Niño and La Niña events are labeled. The table below displays the same information as the graph. M in the table means that we did not calculate a seasonal total for that year because at least one month was missing data values for more than three days.

As in other relatively northern parts of Nevada, Minden has fairly similar amounts of precipitation in El Niño and La Niña years. During El Niño years, there do appear to be more very wet springs than during La Niña years. However, the Minden weather station is missing enough data that it might not show wet La Niña springs.

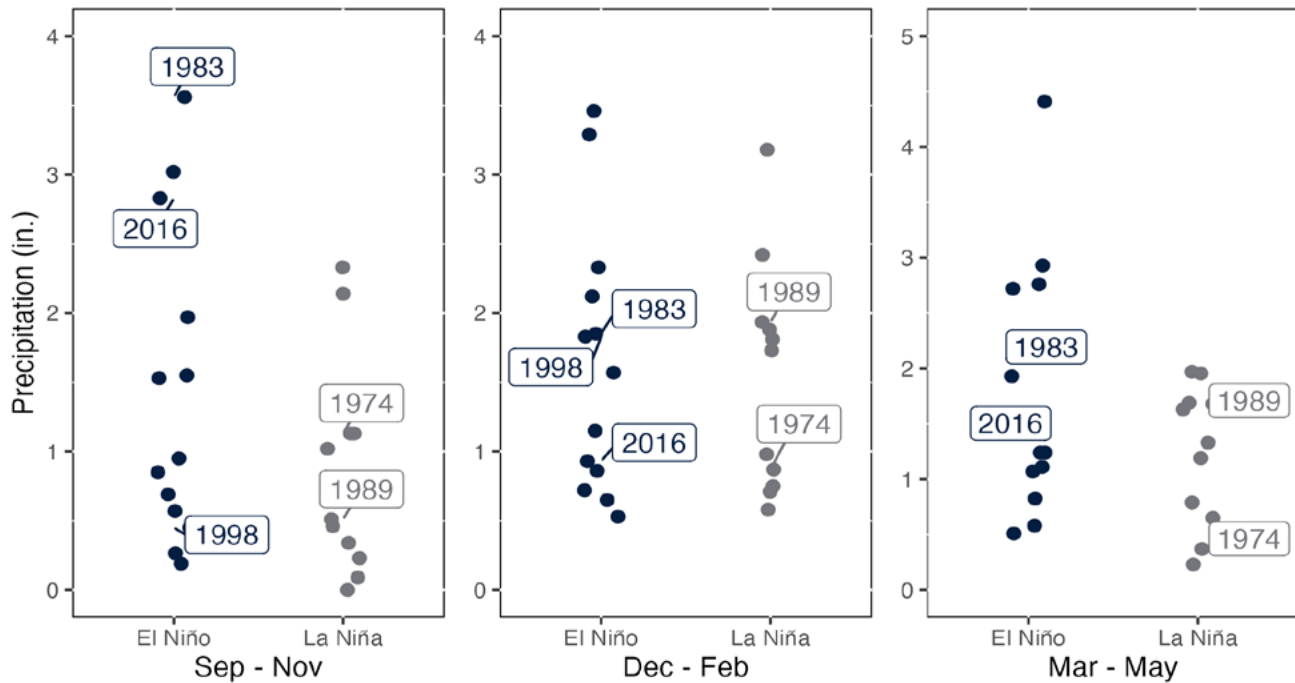


Seasonal precipitation in El Niño years					Seasonal precipitation in La Niña years				
Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May	Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May
1963-64	2.41	0.68	2.67	5.76	1970-71	3.03	2.66	3.07	8.76
1965-66	3.56	1.48	1.01	6.05	1973-74	2.19	3.46	1.67	7.31
1968-69	1.02	8.69	0.67	10.38	1975-76	2.06	1.52	0.62	4.19
1972-73	2.70	5.07	0.54	8.31	1988-89	1.51	M	M	M
1982-83	5.29	5.57	3.88	14.74	1995-96	0.13	7.61	2.76	10.50
1986-87	0.26	1.94	M	M	1998-99	2.58	4.61	1.38	8.57
1987-88	M	1.27	0.68	M	1999-00	0.75	4.02	0.62	5.39
1991-92	2.27	1.18	0.72	4.17	2007-08	0.79	5.89	0.73	7.41
1994-95	3.20	3.86	8.56	15.62	2010-11	4.69	M	M	M
1997-98	1.12	5.03	4.74	10.89	2011-12	M	M	M	M
2002-03	M	8.74	1.64	M	2020-21	1.30	2.13	0.91	4.34
2009-10	2.40	5.28	1.62	9.30	2021-22	3.42	3.43	0.66	7.51
2015-16	2.48	3.96	2.04	8.48					
<i>Average</i>	<i>2.43</i>	<i>4.06</i>	<i>2.40</i>	<i>9.37</i>		<i>2.04</i>	<i>3.93</i>	<i>1.38</i>	<i>7.11</i>

Precipitation during El Niño and La Niña in Fallon, Nevada

These graphs show the total precipitation during the fall (September – November), winter (December – February) and spring (March – May) in each El Niño year (blue dots on the left of each graph) and each La Niña year (gray dots on the right side of each graph) between 1960 and 2022. The three strongest El Niño and La Niña events are labeled. The table below displays the same information as the graph. M in the table means that we did not calculate a seasonal total for that year because at least one month was missing data values for more than three days.

In Fallon, there are a few very wet El Niño springs and not very many wet La Niña springs. In autumn and winter, however, there are wet, dry and moderate El Niño years and wet, dry and moderate La Niña years.

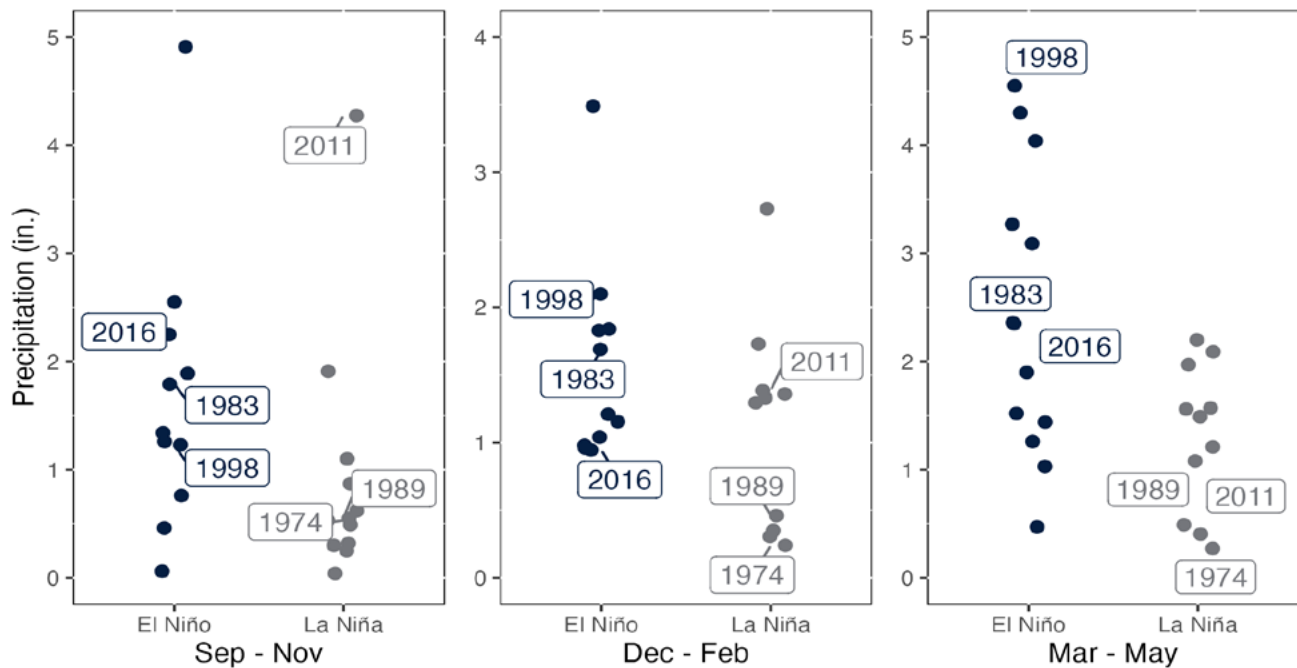


Seasonal precipitation in El Niño years					Seasonal precipitation in La Niña years				
Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May	Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May
1963-64	1.53	0.53	2.76	4.82	1970-71	0.34	0.71	1.97	3.02
1965-66	1.97	0.65	0.58	3.20	1973-74	1.13	0.87	0.37	2.37
1968-69	0.69	3.46	0.51	4.66	1975-76	1.13	0.98	0.65	2.76
1972-73	3.02	2.33	1.24	6.59	1988-89	0.51	1.935	1.68	4.13
1982-83	3.56	1.85	1.93	7.34	1995-96	0	1.73	1.69	3.42
1986-87	0.27	0.72	2.93	3.92	1998-99	2.14	0.75	1.955	4.85
1987-88	0.95	1.57	2.72	5.24	1999-00	0.23	2.42	1.63	4.28
1991-92	0.57	1.15	0.83	2.55	2007-08	1.02	3.18	0.79	4.99
1994-95	1.55	2.12	4.41	8.08	2010-11	M	M	M	M
1997-98	0.45	1.83	M	M	2011-12	0.46	0.58	1.19	2.23
2002-03	0.19	0.86	1.07	2.12	2020-21	0.09	1.88	1.33	3.30
2009-10	0.85	3.29	1.11	5.25	2021-22	2.33	1.81	0.23	4.37
2015-16	2.83	0.93	1.24	5.00					
<i>Average</i>	<i>1.42</i>	<i>1.64</i>	<i>1.78</i>	<i>4.90</i>		<i>0.85</i>	<i>1.53</i>	<i>1.23</i>	<i>3.61</i>

Precipitation during El Niño and La Niña in Mina, Nevada

These graphs show the total precipitation during the fall (September – November), winter (December – February) and spring (March – May) in each El Niño year (blue dots on the left of each graph) and each La Niña year (gray dots on the right side of each graph) between 1960 and 2022. The three strongest El Niño and La Niña events are labeled. The table below displays the same information as the graph. M in the table means that we did not calculate a seasonal total for that year because at least one month was missing data values for more than three days.

The weather station in Mina has recorded one very wet El Niño autumn and one very wet La Niña autumn. There was one very wet El Niño winter, and one very wet La Niña winter. There have been more very dry La Niña winters than very dry El Niño winters and fewer very wet springs during La Niña than during El Niño.

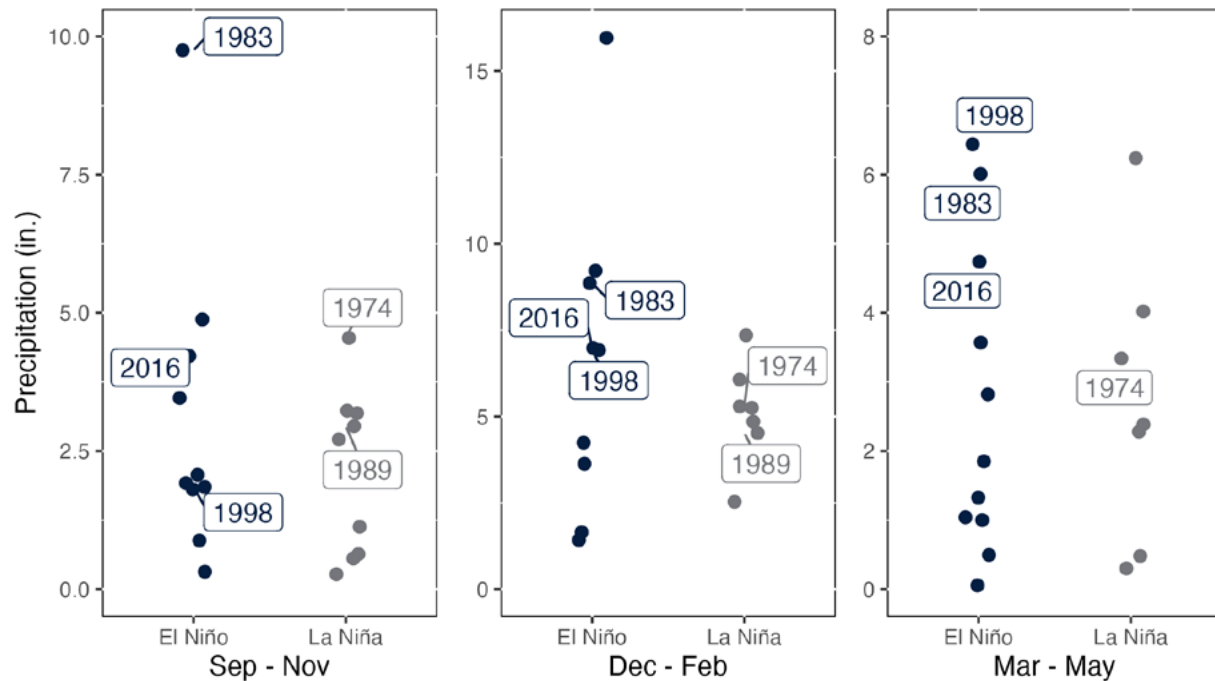


Seasonal precipitation in El Niño years					Seasonal precipitation in La Niña years				
Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May	Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May
1963-64	1.34	M	1.90	M	1970-71	0.30	0.31	1.49	2.10
1965-66	1.26	1.16	0.47	2.89	1973-74	0.53	0.24	0.41	1.18
1968-69	M	3.49	1.03	M	1975-76	0.62	1.36	2.09	4.07
1972-73	4.91	M	1.52	M	1988-89	0.55	0.46	1.08	2.09
1982-83	1.79	1.69	2.36	5.84	1995-96	0.04	1.73	1.97	3.74
1986-87	0.06	1.21	3.09	4.36	1998-99	1.91	M	2.20	M
1987-88	1.89	0.98	4.04	6.91	1999-00	0.32	1.30	1.57	3.19
1991-92	0.76	1.83	1.26	3.85	2007-08	0.49	M	M	M
1994-95	2.55	1.84	4.30	8.69	2010-11	4.28	1.39	0.49	6.15
1997-98	1.23	2.10	4.55	7.88	2011-12	0.87	0.35	1.56	2.78
2002-03	M	1.04	3.27	M	2020-21	0.25	1.33	1.21	2.79
2009-10	0.46	0.96	1.44	2.86	2021-22	1.10	2.73	0.27	4.10
2015-16	2.25	0.95	2.35	5.55					
<i>Average</i>	<i>1.68</i>	<i>1.57</i>	<i>2.43</i>	<i>5.42</i>		<i>0.94</i>	<i>1.12</i>	<i>1.30</i>	<i>3.22</i>

Precipitation during El Niño and La Niña in Virginia City, Nevada

These graphs show the total precipitation during the fall (September – November), winter (December – February) and spring (March – May) in each El Niño year (blue dots on the left of each graph) and each La Niña year (gray dots on the right side of each graph) between 1960 and 2022. The three strongest El Niño and La Niña events are labeled. The table below displays the same information as the graph. M in the table means that we did not calculate a seasonal total for that year because at least one month was missing data values for more than three days.

At over 6,300 feet elevation, the Virginia City weather station gets more rain and snow than many other places in the state. Like many northern Nevada locations, however, it does not seem to reliably have wet or dry seasons due to El Niño or La Niña. A large amount of missing data does complicate the picture, because we only have five La Niña years since 1960 with mostly complete precipitation data.

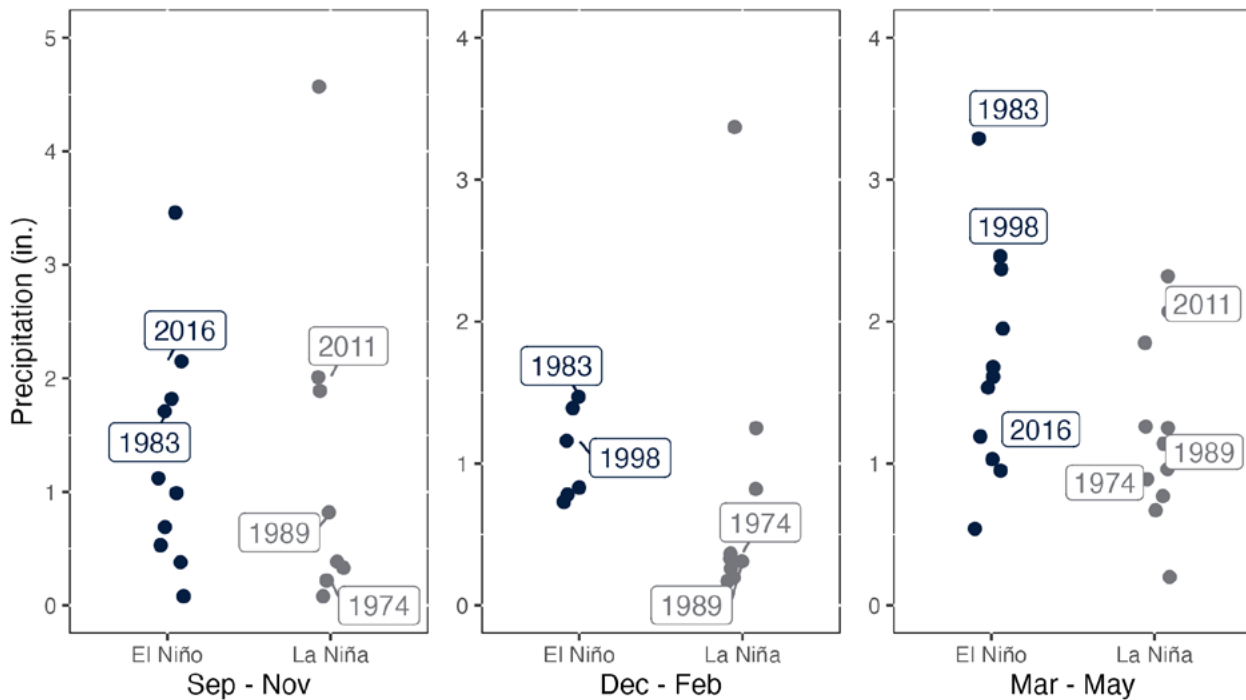


Seasonal precipitation in El Niño years					Seasonal precipitation in La Niña years				
Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May	Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May
1963-64	M	M	M	M	1970-71	3.23	7.35	6.24	16.82
1965-66	3.46	1.65	0.50	5.61	1973-74	4.55	5.29	3.34	13.18
1968-69	1.92	15.96	1.85	19.73	1975-76	2.71	2.53	4.02	9.26
1972-73	4.88	9.22	3.57	17.67	1988-89	2.95	4.52	M	M
1982-83	9.75	8.86	6.01	24.62	1995-96	0.27	M	M	M
1986-87	0.88	4.24	2.82	7.94	1998-99	M	6.07	2.39	M
1987-88	1.81	3.63	1.00	6.44	1999-00	0.56	5.25	2.28	8.09
1991-92	M	1.42	1.04	M	2007-08	0.64	M	M	M
1994-95	M	M	M	M	2010-11	M	M	M	M
1997-98	1.85	6.92	6.44	15.21	2011-12	M	M	M	M
2002-03	2.07	M	1.33	M	2020-21	1.13	M	0.30	M
2009-10	0.32	NA	0.06	0.37	2021-22	3.19	4.85	0.48	8.52
2015-16	4.22	6.98	4.74	15.94					
<i>Average</i>	<i>3.12</i>	<i>6.54</i>	<i>2.67</i>	<i>12.61</i>		<i>2.13</i>	<i>5.12</i>	<i>2.72</i>	<i>11.17</i>

Precipitation during El Niño and La Niña in Silverpeak, Nevada

These graphs show the total precipitation during the fall (September – November), winter (December – February) and spring (March – May) in each El Niño year (blue dots on the left of each graph) and each La Niña year (gray dots on the right side of each graph) between 1960 and 2022. The three strongest El Niño and La Niña events are labeled. The table below displays the same information as the graph. M in the table means that we did not calculate a seasonal total for that year because at least one month was missing data values for more than three days.

The data from Silverpeak are patchier than ideal, but with what is available, the very wettest La Niña autumn and winter are wetter than the wettest corresponding seasons during El Niño years. The driest La Niña winters are drier than any of the El Niño winters. Wet springs seem slightly more common during El Niño, but the large amount of missing data makes for low confidence in that observation.



Seasonal precipitation in El Niño years					Seasonal precipitation in La Niña years				
Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May	Year	Sep-Nov	Dec-Feb	Mar-May	Sep-May
1963-64	M	M	M	M	1970-71	0.385	0.195	0.96	1.54
1965-66	M	M	M	M	1973-74	0.22	0.365	0.89	1.48
1968-69	0.99	M	1.19	M	1975-76	4.57	3.37	0.67	8.61
1972-73	3.46	1.39	0.95	5.80	1988-89	0.82	0.31	1.14	2.27
1982-83	1.71	1.47	3.29	6.47	1995-96	0.08	0.33	1.26	1.67
1986-87	0.38	0.73	1.68	2.79	1998-99	1.89	0.17	1.85	3.91
1987-88	1.82	0.78	2.37	4.97	1999-00	0.33	0.82	0.77	1.92
1991-92	0.53	M	1.535	M	2007-08	M	1.25	1.25	M
1994-95	1.12	M	1.95	M	2010-11	2.01	M	2.07	M
1997-98	M	1.16	2.46	M	2011-12	M	0.26	2.32	M
2002-03	0.69	0.83	0.54	2.06	2020-21	M	M	M	M
2009-10	0.08	M	1.61	M	2021-22	M	M	0.2	M
2015-16	2.15	M	1.03	M					
<i>Average</i>	<i>1.29</i>	<i>1.06</i>	<i>1.69</i>	<i>4.42</i>		<i>1.29</i>	<i>0.79</i>	<i>1.22</i>	<i>3.06</i>