El Niño's Effects May Be Limited This Winter

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NORMAN - The term "El Niño" has become synonymous with extreme weather patterns and images of destruction across the globe. El Niño (Spanish for "the Christ child") was originally named by Peruvian fishermen in the late 1800s for its propensity to occur near the Christmas holiday. The El Niño phenomenon is now known for the more pronounced weather effects associated with an anomalous warm water surface which interacts with the air above it in the eastern and central equatorial Pacific.

El Niño has been blamed for a variety of destructive weather patterns worldwide, including floods in Peru and across the southern United States from California to the east coast, devastating brush fires in Australia, and extreme drought conditions in Indonesia and southeastern Africa. Combined, significant El Niño events have been responsible for thousands of deaths worldwide, have left thousands homeless, and have caused billions of dollars in damage. The positive effects El Niño may bring are less publicized, however. During past significant El Niño events, the eastern seaboard of the United States has experienced milder-than-normal winters which saved millions in heating costs. The Atlantic hurricane season also has been blunted during these years. Similar positive weather aberrations that are related to El Niño have been experienced regionally by people worldwide.

Oklahomans have benefited from the positive effects of this weather phenomenon. The presence of El Niño can mean warmer and wetter conditions for Oklahoma, particularly during the winter. Two previous strong El Niño events, which encompass 1991-1992 and 1997-1998, contributed to the 2nd and 12th wettest and 33rd and 3rd warmest Oklahoma winters since record keeping began in 1892. A direct result of the El Niño-influenced winters is an increase in the harvested yields of winter wheat, Oklahoma's most important cash crop. Of 19 previous strong El Niño events studied by the U.S. Department of Agriculture, six harvests were near average and 11 were above average. Only two harvests during an El Niño resulted in below average winter wheat yields.

With the Climate Prediction Center's (CPC) announcement of the official return of a weak El Niño, their predictions for the Oklahoma winter are once again favorable. Precipitation and temperature forecasts from the CPC indicate mild and wet conditions are possibly in store for the state from December thru February. Experts urge caution before making plans for a balmy winter, however. The problem arises from yet another Pacific Ocean weather anomaly called the "Pacific Decadal Oscillation" (PDO). Like El Niño, the PDO causes sea surface temperature changes in the Pacific approximately every 30 years. Since 1998, the PDO has been in a "negative" phase, describing a condition in which waters of the eastern equatorial Pacific are cooler than normal, while waters in the northwest Pacific have warmed. The impact of the cooler-than-normal

southeastern equatorial Pacific waters will be to hinder the development of a strong El Niño, limiting the source of warm water needed to progress an El Niño from a weak event to a strong one. As a result, the forecast El Niño could be severely curtailed and the world's weather patterns might not be disrupted.

The implications of the presence of a PDO in negative phase could be significant for the United States. North American climate anomalies favor lower than normal temperatures during negative phases of the PDO. Those cold anomalies, coupled with the suppression of the current El Niño's strength, could change the CPC's mild, wet winter outlook.

Forecast maps courtesy of the Climate Prediction Center, originals and explanations may be found online at:

http://www.cpc.ncep.noaa.gov/products/predictions/multi_season/13_seasonal_outlooks/color/churchill.html

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