

SPLASH INTO EXTENSION

Water is Nebraska's most important natural resource. University of Nebraska-Lincoln research, extension, and teaching experts from many water-related disciplines are developing this water web site to help you learn about – and develop a greater appreciation of – water. Check it out at water.unl.edu

How Will this El Nino Affect Nebraska & the Plains?

The current El Nino event unfolding before our eyes has been well forecasted for nearly six months and will likely lead to above normal temperatures this winter for the northern half of the continental U.S.

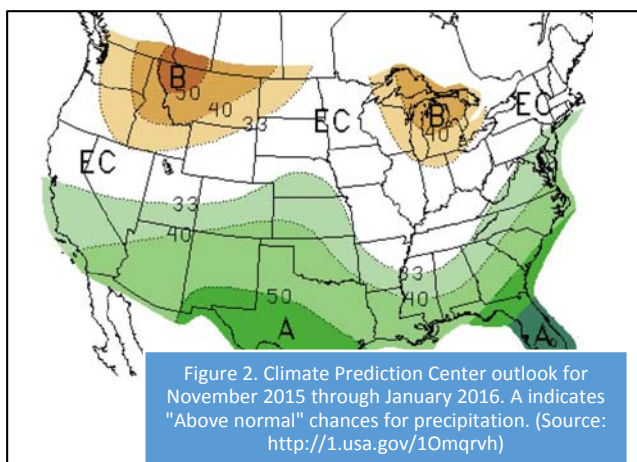
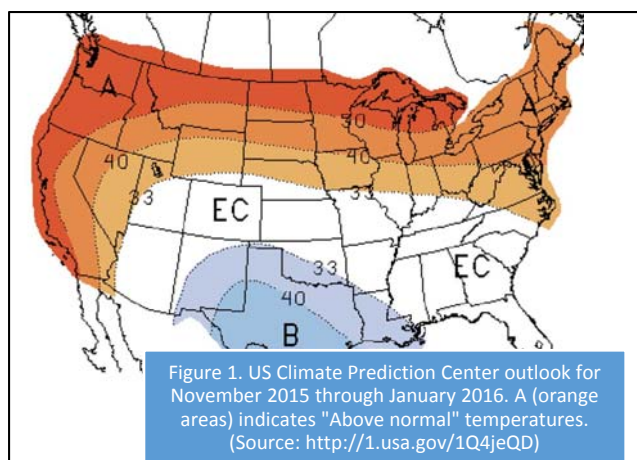
In July 2015 this El Nino was on pace to become the strongest event in recorded history. In the past 60 days, however, sea surface warming in the El Nino source region slowed down dramatically and it is now projected to be the second strongest in recorded history, dating back to 1950.

The US Climate Prediction Center (CPC) defines an official El Nino as five consecutive three-month periods averaging at least 0.5°C above normal. Weak events are defined as having a basin average 0.50 -1.0°C

above normal, while moderate events are 1.0-1.5°C above normal. Strong events have at least one three-month period over 1.5°C. The following winters have met this criteria: 1957-58, 1965-66, 1972-73, 1982-83, 1987-88, and 1997-98.

Nebraska Outlook

Nebraska's strongest weather correlation during El Nino patterns occurs from March through May and is not favorable during the spring calving season. The CPC indicates there is a strong tendency (65%-75% of the time) for the southern half of Nebraska to experience cold wet conditions in March and April, with above normal snowfall for south central and southwest Nebraska. In late April and early May it is not uncommon for the Panhandle and northwestern Sandhills to experience strong spring snowstorms 55%-60% of the time.



Please remember that past history can also be a guide to future scenarios. Statistical analysis of past El Nino events indicates that 80% of past moderate and strong events immediately reverted to La Nina conditions by the next fall. This El Nino is forecasted to end by June 2016. A La Nina would place the western Corn Belt under increased drought risk, especially during the second half of 2016.

Factors Leading to an El Nino

El Nino patterns lead to a weaker northern jet stream and an enhanced subtropical jet across North America. Because the northern jet is weaker, the influx of Arctic intrusions into the continental US is

subdued compare to normal. The mean position of the northern jet results in an upper air trough over the Great Lakes and northeastern US, while an upper level ridge is positioned across the northern Rockies and northern Plains.

The primary storm track during El Nino winters is associated with the subtropical jet and this leads to systems moving from west to east across the southern third of the United States. This region experiences above normal precipitation and below normal temperatures during winter about 70% of the time. The stronger the event, the more likely that wet and cool conditions will dominate the southern states, including an increase in the probability that California will experience significant drought relief for California.

I have heard numerous comments about how California is missing out on precipitation from this El Nino and that it appears that this event will be a bust for drought relief. Climatology would suggest otherwise. On average, 90% of the moisture that falls across California occurs from November through May regardless of whether it is an El Nino pattern or not.

If the current short-term numerical weather models are correct in regard to increased West Coast storm activity, a significant uptick in moisture is anticipated for the southwest as we move through November. This projected uptick in moisture during the month of November is predicated on the recent trend of upper air lows moving into the Gulf of Alaska and intensifying. This intensification is developing a mean upper air trough position that is digging into the central Pacific Ocean and supporting the movement of low pressure systems into northern and southern California.

If the sub-tropical jet begins to strengthen like it normally does during winter, it will add additional energy into low pressure troughs approaching the West Coast. This would be very favorable for increased precipitation chances for central and southern California. This is also the type of pattern necessary to develop an atmospheric river of moisture from the central Equatorial Pacific into North America. This "Pineapple Express" is the primary mode of moisture transport when long-lived (three to seven-days) precipitation events slam the West Coast.

Benefits of Drinking Water

- **Helps with losing weight** – water has zero calories and research indicates that drinking water 20 minutes before meals makes us feel fuller and can reduce the amount of calories we normally consume.
- **Improves skin** – water absorbed by cells improves the elasticity and moisture of our skin.
- **Improves the brain** – the brain is made up of approximately 80 percent water, so it's essential to keep it hydrated. Lack of water can notably affect our focus and memory ability.
- **Fuels muscles** – our bodies are made up of approximately 70 percent water, but our muscles tissues contain up to 75 percent. Muscles require a lot of water, especially when we're trying to gain muscle.
- **Assists with digestion** – in order for our body to absorb all of its essential nutrients, we need a strong digestive system. Water helps move food through our body and can aid in the prevention of constipation and irregularity.
- **Fights sickness** – water can aid in lessening congestion and helps keep our bodies in better condition, which is the first step in the prevention of many seasonal colds and flus.
- **Improves mood** – dehydration can make us irritable and less comfortable, which can create serious problems with our mood.
- **Reduces cancer risk** – water keeps cells healthy and may be responsible for combating certain cancers such as bowel and breast cancer.
- **Keeps kidneys healthy** – our kidneys are responsible for filtering what we put in our body. Kidneys require a lot of fresh water to do their job.

Source: http://msue.anr.msu.edu/news/water_health_benefits