El Nino and La Nina events can have major impacts on global circulation patterns by shifting major areas of warm water and accompanying thunderstorms back and forth across the Pacific Ocean. The position of large areas of warm water and thunderstorms can impact the location of surface high and low pressure systems and the track of jet streams. Global impacts can include extreme drought in some locations while other areas experience extreme flooding.

As the El Nino event is underway. This connection between either El Nino or La Nina is strongest during the winter season for Arizona because of their ability to disrupt jet-stream patterns important for winter precipitation.

(continued to page 2)
ENSO...

Why should I care?
I don't live on the Pacific Ocean.
El Nino and La Nina events produce disruptions to larger-circulation patterns very distant from the center of action in the Pacific. This is called a teleconnection pattern. Over a season, global-scale circulation patterns will adjust to the changes occurring across the Pacific. In Arizona, we can experience a teleconnection as a strengthening of the sub-tropical jet stream during an El Nino event. The sub-tropical jet can be an excellent mechanism to deliver moisture and energy for winter storms across the entire southern U.S. and especially so when an El Nino event is underway. This connection between either El Nino or La Nina is strongest during the winter season for Arizona because of their ability to disrupt jet-stream patterns important for winter precipitation.

What is going on now?
Warm-than-average waters (or positive sea surface temperature anomalies) extend from the coast of South America out to the international date line. This warm water has been building in the eastern Pacific since last June when easterly winds which normally carry the warm water to the west weakened. Sea surface temperatures are over 2 °C above average in some areas and the atmosphere is beginning to show weak signs of responding to the El Nino pattern of warm water in the Pacific (check out the Southern Oscillation Index for more information. This index is based on the atmospheric response to El Nino and La Nina).

What is the forecast for this winter?
All seasonal forecasts are based on probabilities and do not forecast actual amounts. Many past El Nino events have brought above-average precipitation to Arizona, but some haven’t. That would mean that a forecast based on past experiences with El Nino events would suggest a higher probability of above-average precipitation versus below-average or even normal. That is what the forecast for this winter reflects (see http://www.cpc.noaa.gov/products/predictions/long_range/lead02/off_index.html). The official winter forecast from the NOAA Climate Prediction Center is for an increased chance of above-average precipitation for most of Arizona. The important thing to remember is that not El Nino events produce wet conditions across all of Arizona. The position of the sub-tropical jet can be very critical in where the precipitation fall. El Nino events typically favor southern Arizona, but a slight shift to the north can mean increased precipitation for all of Arizona while a southerly shift can mean less precipitation. Stay tuned as the 2006-07 El Nino continues to develop!

Contact Mike Crimmins (Crimmins@u.arizona.edu) with questions.
Management: Because the seeds from this plant can persist for up to 20 years, the best approach to the eradication of this weed is early detection and consistent monitoring. It is best removed by severing the root of the rosette just beneath the growing crown (at the soil line) and leaving them for dead. Once in the second year of growth, removal should include bagging the severed weeds and properly disposing of them in a land fill or burning them at an incarceration site.

Thank you for all your hard work Karrol!
Congratulations to Robert and Gina Emanuel!
Lucas Campbell Emanuel was born Sunday November 12, 2006 at 9:46 pm.
He weighed 7 lbs. 11 ounces and measured 20 inches. Both baby and mom are
doing well, the new family is resting at home. Welcome to the world Lucas!

In the Next Issue

- Look for the fourth issue of the MWS Newsletter early Spring!
- As always, if you have ideas, comments, suggestions, or would like to assist in the creation of the MWS Newsletter*, please contact Meghan at (520) 621-7205 or maloney@cals.arizona.edu
- * You will receive MWS credit for any hours spent working in the newsletter.

MWS Technology
Stay connected to MWS activities through the MWS website at:
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