



World Meteorological Organization

EL NIÑO/LA NIÑA UPDATE

Current Situation and Outlook

The tropical Pacific continues to be ENSO-neutral (neither El Niño nor La Niña). Model forecasts and expert opinion suggest that neutral conditions are likely to continue into the second quarter of 2014. Current model outlooks further suggest an enhanced possibility of the development of a weak El Niño around the middle of 2014, with approximately equal chances for neutral or weak El Niño. However, models tend to have reduced skill when forecasting through the March-May period. National Meteorological and Hydrological Services and other agencies will continue to monitor the conditions over the Pacific and assess the most likely state of the climate through the first half of 2014.

Since the second quarter of 2012 El Niño-Southern Oscillation (ENSO) indicators in the tropical Pacific (e.g., tropical Pacific sea surface temperatures, sea level pressure, cloudiness and trade winds) have generally been at neutral levels, indicating that neither El Niño nor La Niña conditions have been present.

The latest outlooks from climate models and expert opinion suggest that oceanic conditions and atmospheric anomalies associated with El Niño or La Niña are most likely to remain neutral into the second quarter of 2014, with virtually all models maintaining average conditions. However, by around the middle of 2014, model forecasts generally indicate the chance of El Niño increasing to a similar level as that for ENSO-neutral. For the June to August period, nearly one-half of the models surveyed predict a weak El Niño situation to develop, while the other one-half predict a continuation of neutral conditions. It must be noted that model outlooks that span March-May period tend to have particularly lower skill than those made at other times of year. Hence some caution should be exercised when using long range outlooks made at this time for the middle of the year and beyond. Of the one or two models that predict the development of La Niña, such conditions are reached only briefly during the next couple of months.

Overall, while there is a very slight chance for La Niña development in the next one to two months, ENSO-neutral is considered the most likely scenario into to the April to June period, followed by roughly equal chances for neutral or weak El Niño during the third quarter of 2014.

It is important to note that El Niño and La Niña are not the only factors that drive global climate patterns. At the regional level, seasonal outlooks need to assess the relative impacts of both the El Niño/La Niña state and other locally relevant climate drivers. For example, the state of the Indian Ocean Dipole, or the Tropical Atlantic SST Dipole, may impact the climate in the adjacent land areas. Locally applicable information is available via regional/national seasonal climate outlooks, such as those produced by WMO Regional Climate Centres (RCCs), Regional Climate Outlook Forums (RCOFs) and National Meteorological and Hydrological Services (NMHSs).

In summary:

- ENSO conditions are currently neutral (neither El Niño nor La Niña);
- As of mid-January 2014, except for a small possibility for weak and brief La Niña development during the next couple of months, outlooks indicate likely continuation of neutral conditions into the second quarter of 2014;
- Current forecasts indicate approximately equal chances for neutral conditions or the development of a weak El Niño during the third quarter of 2014, reflecting increased chances for development of a weak El Niño.

The situation in the tropical Pacific and Indian Ocean will continue to be carefully monitored. More detailed interpretations of regional climate fluctuations will be generated routinely by the climate forecasting community over the coming months and will be made available through the National Meteorological and Hydrological Services. For web links of the National Meteorological Hydrological Services, please visit:

http://www.wmo.int/pages/members/members_en.html

El Niño/La Niña Background

Climate Patterns in the Pacific

Research conducted over recent decades has shed considerable light on the important role played by interactions between the atmosphere and ocean in the tropical belt of the Pacific Ocean in altering global weather and climate patterns. During El Niño events, for example, sea temperatures at the surface in the central and eastern tropical Pacific Ocean become substantially warmer than normal. In contrast, during La Niña events, the sea surface temperatures in these regions become colder than normal. These temperature changes are strongly linked to major climate fluctuations around the globe and, once initiated, such events can last for 12 months or more. The strong El Niño event of 1997-1998 was followed by a prolonged La Niña phase that extended from mid-1998 to early 2001. El Niño/La Niña events change the likelihood of particular climate patterns around the globe, but the outcomes of each event are never exactly the same. Furthermore, while there is generally a relationship between the global impacts of an El Niño/La Niña event and its intensity, there is always potential for an event to generate serious impacts in some regions irrespective of its intensity.

Forecasting and Monitoring the El Niño/La Niña Phenomenon

The forecasting of Pacific Ocean developments is undertaken in a number of ways. Complex dynamical models project the evolution of the tropical Pacific Ocean from its currently observed state. Statistical forecast models can also capture some of the precursors of such developments. Expert analysis of the current situation adds further value, especially in interpreting the implications of the evolving situation below the ocean surface. All forecast methods try to incorporate the effects of ocean-atmosphere interactions within the climate system.

The meteorological and oceanographic data that allow El Niño and La Niña episodes to be monitored and forecast are drawn from national and international observing systems. The exchange and processing of the data are carried out under programmes coordinated by the World Meteorological Organization (WMO).

WMO El Niño/La Niña Update

WMO El Niño/La Niña Update is prepared on a quasi-regular basis (approximately once in three months) through a collaborative effort between WMO and the International Research Institute for Climate and Society (IRI) as a contribution to the United Nations Inter-Agency Task Force on Natural Disaster Reduction. It is based on contributions from the leading centres around the world monitoring and predicting this phenomenon and expert consensus facilitated by WMO and IRI. For more information on the Update and related aspects, please visit:

http://www.wmo.int/pages/prog/wcp/wcasp/wcasp_home_en.html

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