



World Meteorological Organization

EL NIÑO/LA NIÑA UPDATE

Current Situation and Outlook

Neutral conditions (neither El Niño nor La Niña) continue in the tropical Pacific. Model forecasts and expert opinion suggest that neutral conditions are likely to be maintained through the boreal summer and autumn of 2013, though a slight chance of La Niña or El Niño development remains. National Meteorological and Hydrological Services and other agencies will continue to monitor the conditions over the Pacific and provide outlooks to assess the most likely state of the climate through the remainder of 2013.

During the last year, El Niño-Southern Oscillation (ENSO) indicators in the tropical Pacific (e.g., tropical Pacific Ocean 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. In January and February 2013, sea surface temperatures approached a borderline La Niña level, and although the atmospheric characteristics of La Niña also appeared briefly, the ocean-atmosphere system as a whole did not remain in a La Niña state for long enough to be considered a weak La Niña event. Since March 2013 the central tropical Pacific Ocean, cloudiness and trade winds have been at neutral levels. However, in the far eastern tropical Pacific Ocean temperatures cooled to well below average during May and early June.

The latest outlooks from climate models and expert opinion suggest that sea surface temperatures and atmospheric anomalies are most likely to remain neutral through the end of 2013. Less than a quarter of the models surveyed predict weak La Niña conditions to develop during the June to September period, while less than one fifth of the models predict El Niño development during 2013. Hence, while there is a slight possibility for La Niña or El Niño development during the coming few months, neutral ENSO conditions are considered most likely during boreal summer and through the remainder of 2013.

It is important to note that El Niño and La Niña are not the only factors that drive global climate patterns. One noteworthy example is the recently developed dipole pattern of warmer than average sea surface temperature in the eastern Indian Ocean and colder than average temperatures in the west. This pattern requires careful monitoring, as these oceanic anomalies have already had impacts on the surrounding continental climate patterns. This highlights that 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. 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:

- Over the last 12 months, conditions have mainly remained neutral (neither El Niño nor La Niña);
- As of June 2013, although the far eastern tropical Pacific Ocean has become cooler than average, outlooks indicate that neutral conditions are likely to continue through the boreal autumn.

The situation in the tropical Pacific and Indian oceans 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 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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