

The Regional El Niño Exchange 2026-2027: Learning Across Countries, Generations and Sectors

SUMMARY

Session 1: Monitoring the Impacts of El Nino on Weather and Seasons

15 October 2026 | 10:30 am - 12:00 pm (UTC+7)

Moderator: Mr. Jochen Luther, Technical Coordinator, World Meteorological Organization (WMO) Regional Office for Asia and the Pacific

Speakers:

- **Ms. Ana Liza Solis,** Chief, Climate Monitoring and Prediction Section, Department of Science and Technology, Philippine Atmospheric, Geophysical and Astronomical Services Administration, Philippines
- **Mr. O. P. Sreejith,** Head, Climate Monitoring and Prediction Group, Indian Meteorological Department
- **Mr. Wee Leng Tan,** Senior Research Scientist, Seasonal and Sub-seasonal Prediction Branch, Centre for Climate Research Singapore

This session of the **Regional El Niño Exchange 2026-2027: Learning Across Countries, Generations and Sectors- Monitoring the Impacts of El Nino on Weather and Seasons** brought together meteorological, climate, disaster risk management, and development experts to discuss the evolving El Niño event, its observed and anticipated impacts across Asia and the Pacific, and the measures being taken to strengthen preparedness and anticipatory action.

The discussion focused on current climate conditions, forecasting and monitoring approaches, sectoral implications, emerging risks such as heat and drought, and the role of climate information services in supporting decision-making. The session also provided an opportunity to exchange experiences across countries and regions, highlighting common challenges, lessons learned, and resources available to help governments, communities, and stakeholders prepare for and respond to El Niño-related impacts.

What impacts on the weather systems, climatic conditions, and anomalies have been observed to date in the run-up or during this current El Niño?

The discussion highlighted that the impacts of the current El Niño differ considerably across countries and regions. In the Philippines, conditions have been characterized by two contrasting extremes: enhanced southwest monsoon activity has brought heavy rainfall, flooding, and severe weather to some areas, while nearly half of the country has simultaneously experienced dry spell or drought conditions, accompanied by high heat indices. In India, many districts experienced below-normal monsoon rainfall, particularly in southern regions, while temperatures remained above normal across large parts of the country. Across South- East Asia, rainfall deficits and drier-than-normal conditions have become increasingly evident, particularly in southern ASEAN countries, raising concerns about drought and water availability. The overall view was that El Niño does not produce uniform impacts, and local outcomes depend on interactions with other climate drivers and regional weather patterns.

How do the UN and meteorological services predict El Niño?

El Niño is predicted through a combination of global climate models, ocean observations, and atmospheric monitoring. Forecasts produced by international climate centres are combined into a multi-model outlook and then refined at regional and national levels using local observations and historical climate information. The discussion noted that forecasting now incorporates a range of indicators, including ocean temperatures, atmospheric circulation patterns, and newer measures such as the Relative Oceanic Niño Index, which may better reflect ENSO conditions in a warming world.

How do National Meteorological and Hydrological Services monitor and assess El Niño impacts, and how do they ensure the information reaches users?

Monitoring involves tracking rainfall, drought conditions, temperatures, water availability, and sector-specific impacts. Forecast information is communicated through climate outlook forums, advisories, websites, social media, and engagement with user groups. The discussion emphasized that climate information is most effective when it is translated into practical guidance that farmers, local governments, water managers, health authorities, and disaster management agencies can use for decision-making.

Can you elaborate on the interaction between ENSO and the Indian Ocean Dipole (IOD)?

The discussion highlighted that El Niño and the Indian Ocean Dipole often influence one another. El Niño generally contributes to drier conditions in parts of South Asia, while a positive IOD can sometimes offset those impacts by supporting rainfall. Historical examples were cited where strong El Niño events did not result in severe rainfall deficits because of the presence of a positive IOD. Current conditions were described as largely neutral, although there remains uncertainty regarding future IOD development.

Can El Niño be a good predictor of heat waves, especially in urban areas?

El Niño contributes to above-normal temperatures and increases the likelihood of heat-related impacts, but it should not be viewed as the sole driver of heat waves. Long-term global warming is elevating baseline temperatures, making extreme heat more common even outside the El Niño periods. The discussion emphasized the importance of focusing on heat stress, public health impacts, and vulnerability rather than temperature alone.

Why is this El Niño event so strong and possibly the strongest on record since the 1950s?

The strength of the current event was attributed to exceptionally warm Pacific Ocean temperatures, high levels of subsurface ocean heat content, and atmospheric conditions that have reinforced warming. The discussion also noted that long-term climate change may be contributing to the intensity of current conditions, although the exact extent of that influence remains an area of scientific study.

What can we expect in the coming months? What are the global models, regional outlooks, and national forecasts suggesting?

Forecasts suggest that strong El Niño conditions are likely to persist in the coming months, with continued risks of drought, water shortages, and above-normal temperatures across many parts of Asia. In Southeast Asia, drought and heat impacts remain key concerns. In South Asia, rainfall outcomes may vary by location, but warmer-than-normal conditions are expected to continue. It was also noted that El Niño's impacts often persist even after ocean indicators begin to weaken because climatic responses tend to lag behind oceanic changes.

Are you using new tools such as AI and machine learning for forecasts and impact assessment?

AI and machine learning are increasingly being explored for applications such as rainfall prediction, tropical cyclone forecasting, and improving forecast accuracy through bias correction. However, the discussion stressed that these technologies currently complement rather than replace traditional forecasting methods, climate expertise, and historical data analysis.

Do you have examples of how governments and stakeholders are preparing for El Niño impacts?

Preparation efforts include drought monitoring, agricultural contingency planning, anticipatory action frameworks, water resource management measures, and coordination mechanisms for food, health, energy, and public safety. The discussion highlighted a broader shift toward anticipatory action, where seasonal forecasts are used to trigger early interventions before significant impacts occur.

Does El Niño affect tropical cyclones?

The discussion noted that El Niño can influence both the frequency and behaviour of tropical cyclones, although effects vary across regions. In the western Pacific, cyclone tracks may shift northward, and fewer storms may occur overall, while the likelihood of stronger storms can increase. In the Indian Ocean, El Niño conditions are generally associated with fewer tropical cyclones and lower cyclone activity. The overall message was that cyclone behavior is influenced by multiple climate factors and cannot be explained by El Niño alone.

Resources

ASEAN Climate Outlook Forum (ASEANCOF)

ASEAN Specialized Meteorological Centre (ASMC)

Global Heat Health Information Network (GHHIN)

India Meteorological Department (IMD)

PAGASA climate outlooks and advisories

South Asia Climate Outlook Forum (SASCOF)

Southeast Asia Regional Climate Centre (SEA RCC)