

UPDATE OF REGIONAL WEATHER AND SMOKE HAZE December 2016

1. Review of Regional Weather Conditions in November 2016

1.1 Inter monsoon conditions prevailed in the first half of November 2016. During this period, there was a gradual migration of the monsoon rain band from the northern ASEAN region to the near-equatorial region. In the Mekong sub-region, rainfall decreased gradually as the month progressed, and in the second half of the month, dry weather conditions were observed to have set in over the region. In contrast, wet weather conditions prevailed in the southern ASEAN region, particularly over Indonesia.

1.2 Over the Western Pacific Ocean, a tropical depression that developed to the southeast of central Philippines on 23 November 2016 intensified into Tropical Storm Tokage and made landfall over central Philippines on 25 November 2016. “Tokage’s” passage through the Philippines was brief as it northeast and moved over the South China Sea before dissipating over water on 27 November 2016. “Tokage” brought heavy rainfall and strong winds of up to 102km/h to areas along its path.

1.3 The Northeast Monsoon season onset in the ASEAN region in late November 2016. Between 28 and 30 November, the region experienced a monsoon surge episode where cold and strong northeasterly winds from a high pressure system over northern China surged into the South China Sea bringing widespread showers to the surrounding region, including Sarawak and the eastern coastal areas of Peninsular Malaysia.

1.4 For November 2016, above-normal rainfall was received in parts of the Mekong sub-region including Myanmar, north-eastern Thailand, Lao PDR and Vietnam. For the Philippines, near-normal to above-normal rainfall prevailed. Below-normal to near-normal rainfall prevailed over most parts of the southern ASEAN region including southern Thailand, Malaysia, Singapore, Brunei and Indonesia. The regional rainfall distribution for November 2016 is shown in Figure 1.

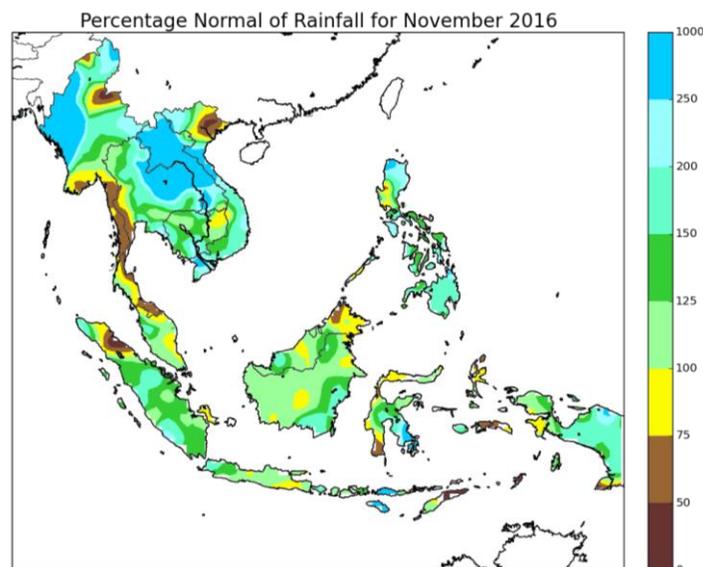


Figure 1: Percentage of Normal Rainfall for November 2016. The rainfall data may be less representative for areas with low density of rainfall network.

2. Review of Land/Forest Fires and Smoke Haze Situation

2.1 In November 2016, hotspot activities in both the northern and southern ASEAN region remained largely subdued.

2.2 The Inter monsoon conditions in November 2016 brought an increase of rainfall over the southern ASEAN region, and the showers contributed to keep the hotspot activities over Sumatra and Kalimantan low. In the northern ASEAN region, hotspot activities were generally subdued on most days of the month and as the weather started to become drier, increase in hotspot activities were observed over parts of the Mekong sub-region towards the end of November 2016 with the onset of the Northeast Monsoon. Satellite images depicting some of the hotspot activities over parts of the ASEAN region during November 2016 are shown in Figures 2A – 2E.

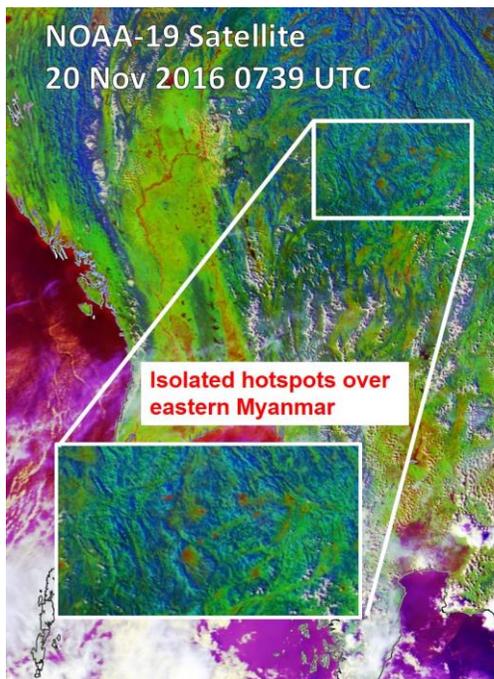


Figure 2A: NOAA-19 satellite image on 20 November 2016 shows isolated hotspot activities in the eastern part of Myanmar.

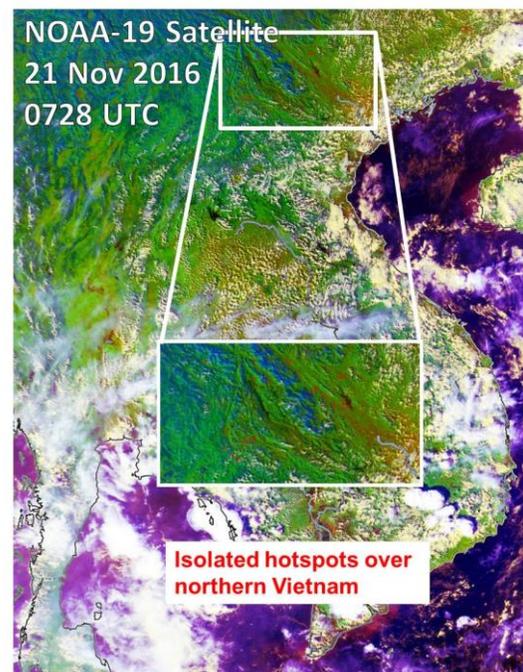


Figure 2B: NOAA-19 satellite image on 21 November 2016 shows isolated hotspots over northern Vietnam.

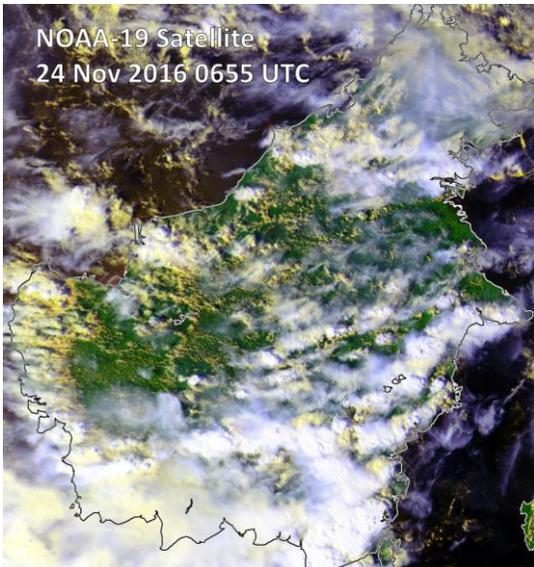


Figure 2C: NOAA-19 satellite image on 24 November 2016 shows wet conditions over Kalimantan.

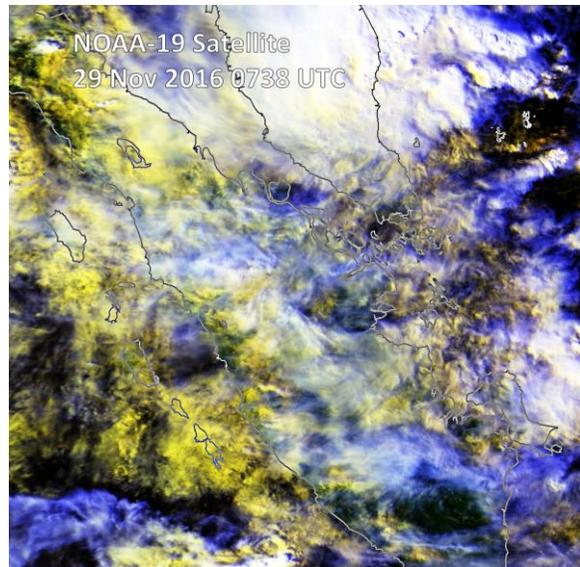


Figure 2D: NOAA-19 satellite image on 29 November 2016 shows cloudy conditions over Sumatra and widespread showers over northern Peninsular Malaysia due to the presence of a northeast monsoon surge.

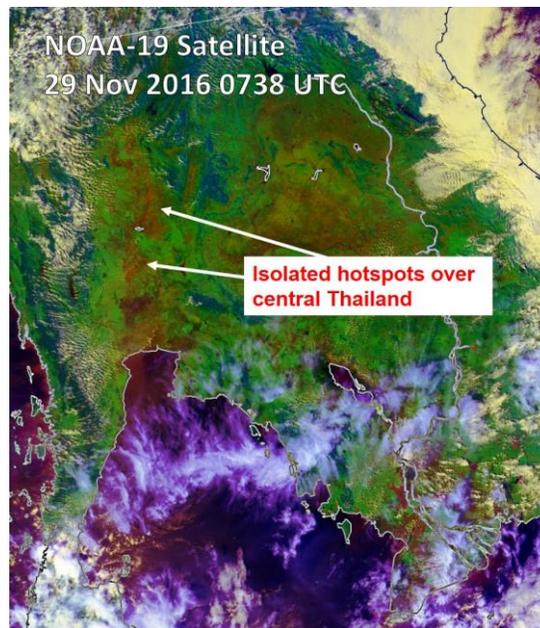


Figure 2E: NOAA-19 satellite image on 29 November 2016 shows isolated hotspots detected over central Thailand and showers over southern part of Thailand due to a northeast monsoon surge.

2.3 The hotspot charts for November 2016 for
 a) Cambodia, Myanmar, Thailand, Lao PDR and Vietnam;
 b) Sumatra, Borneo and Peninsular Malaysia;
 are shown in Figures 2F to 2G respectively.

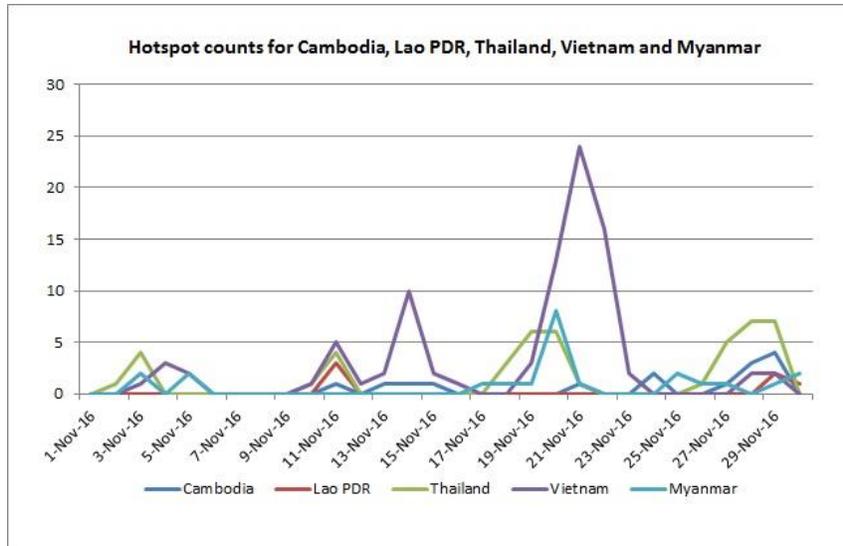


Figure 2F: Hotspot Counts in Cambodia, Lao PDR, Thailand, Vietnam, Myanmar for November 2016.

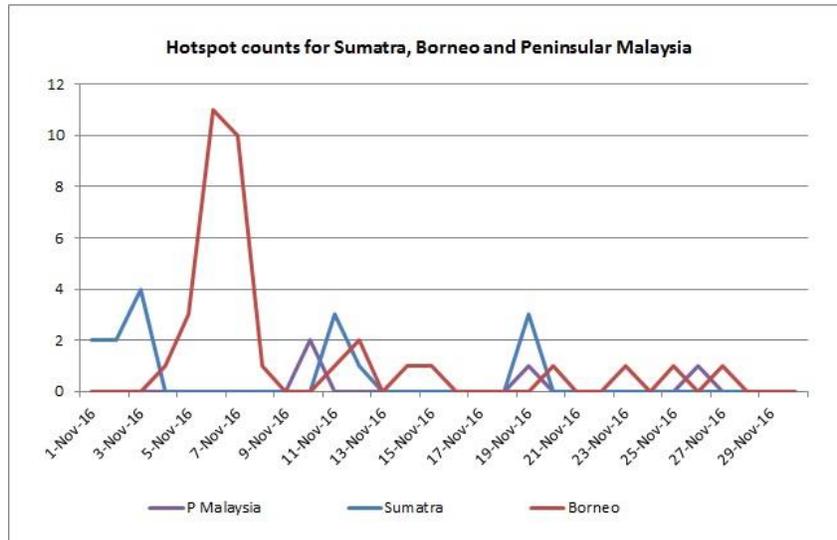


Fig 2G: Hotspot Counts in Sumatra, Borneo and Peninsular Malaysia for November 2016.

3. Status of El Niño/La Niña

3.1 In November 2016, the equatorial Pacific Ocean’s sea-surface temperature (SST) continued to gradually cool over the Niño3.4 region and was at borderline La Niña threshold values. Atmospheric variables, such as trade winds and cloudiness, over the equatorial Pacific have been consistent with borderline La Niña conditions.

3.2 Expert assessments of international climate models do not favour La Niña conditions significantly over neutral conditions in the coming December-January-February season.

3.3 The region is currently experiencing Northeast Monsoon conditions. The impact of La Niña on the weather over the near-equatorial region is usually less pronounced during the Northeast Monsoon as compared to the Southwest Monsoon (Jun – Sep).

4. Outlook

4.1 In the upcoming December-January-February season, Northeast Monsoon conditions are expected to prevail over the ASEAN region. The Northeast Monsoon season is usually the traditional dry season for the northern ASEAN region, and hotspot activities over are likely to increase as the dry weather conditions becomes more established during the period. In contrast, with the southern ASEAN region experiencing its traditional rainy season during this period, the wet weather conditions are expected to keep hotspot activities generally subdued.

4.2 During the wet-phase of the Northeast Monsoon season (December - January), the near-equatorial region can expect a few spells of prolonged moderate to heavy rain with occasional windy conditions. Around end-January, the wet phase of the season would gradually transit to the dry phase of the Northeast Monsoon season (Feb – early Mar) for areas around the near equatorial region. The southward migration of the monsoon rain belt is expected to bring increased rainfall over the Indonesian archipelago around Java Island. For the near-equatorial region, extended periods of dry and occasional windy weather conditions can also be expected.

4.3 For the December 2016 to February 2017 season, there is a slightly enhanced probability of below normal rainfall over northern mainland Southeast Asia, near normal to above normal rainfall over central and western Southeast Asia, which includes most parts of Thailand, Cambodia, southern Myanmar, and western portion of the Philippines. Slightly enhanced probabilities of above normal rainfall are predicted over the rest of the Philippines and eastern Maritime Continent. The regional probabilistic rainfall outlook for the December 2016 – February 2017 season is shown in Figure 4.

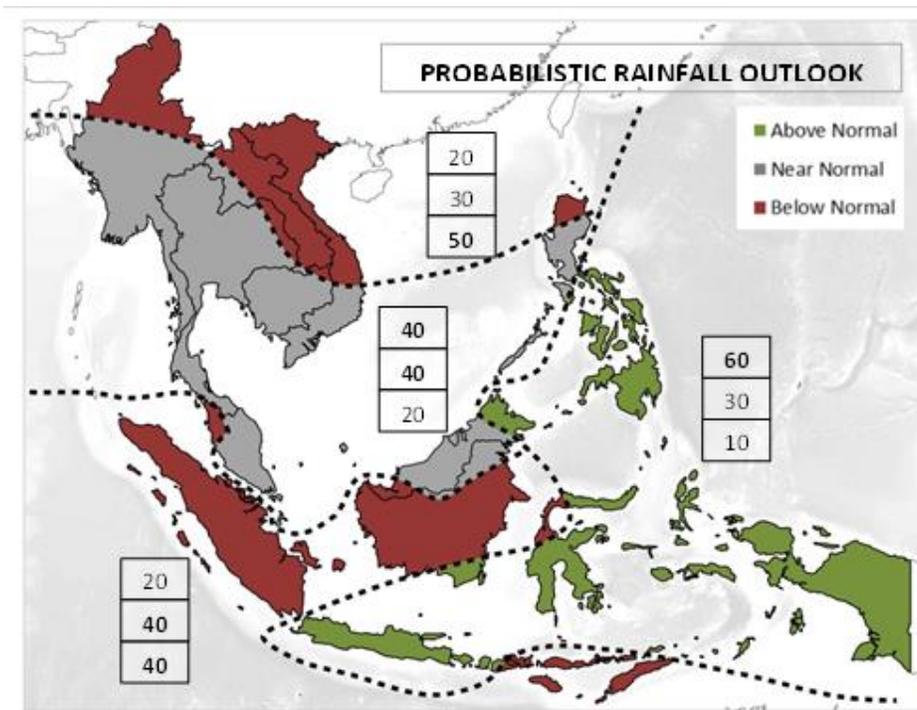


Fig 4: Regional Probabilistic Rainfall Outlook for December 2016 – February 2017

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