

UPDATE OF REGIONAL WEATHER AND SMOKE HAZE FOR SEPTEMBER 2015

1. Review of Regional Weather Conditions in August 2015

1.1 The Southwest Monsoon conditions in the region continued to persist in August 2015. In the northern ASEAN region, shower activities prevailed on most days in August 2015. In the southern ASEAN region, the first half of August 2015 experienced wetter than usual weather conditions, in particular around Sumatra, Peninsular Malaysia and Singapore, due to the indirect effects of Super Typhoon Souledor in the northern South China Sea. In the second half of August 2015, dry weather conditions persisted through the period.

1.2 Typhoon Goni, which formed over the western Pacific Ocean near Guam on 14 August, was steered westward towards the Philippines and eventually affected the northern islands of Cagayan province in Luzon Island on 21 August 2015. Typhoon Goni brought strong winds and heavy rains to northern Philippines destroying many homes and displacing many lives along its path. The typhoon clipped through the Philippines and continued on its track northwards before making landfall in the eastern parts of Taiwan on 23 August 2015.

1.3 The prevailing El-Nino conditions continue to bring drier than usual weather conditions over the southern ASEAN region, except in central Sumatra and Peninsular Malaysia where wetter than usual weather conditions were experienced. In the northern ASEAN region, near-average to below-average rainfall was received in the Mekong sub-region. The regional rainfall distribution for August 2015 is shown in Figure 1A.

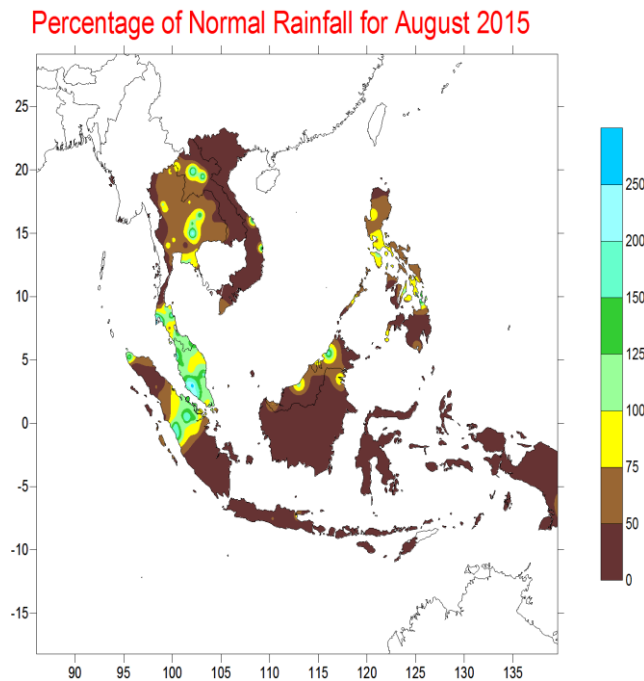


Figure 1A: Percentage of Normal Rainfall for August 2015

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

2.1 During the review period, hotspot activities in the northern ASEAN region continued to be subdued by shower activities. In contrast, in the southern ASEAN region, following the wet conditions in the first half of the month, a period of extended drier weather contributed to an escalation of hotspot activities for the rest of August 2015. Persistent land and forest fires were observed in central and southern Sumatra, in particular in Jambi and South Sumatra, which lead to widespread moderate to dense smoke haze over many parts of Sumatra.

2.2 Ground observations in Pekan Baru, Jambi and Rengat reported visibility of less than 1 km on several days. In addition, some moderate smoke haze from central Sumatra was observed to spread across the Strait of Malacca to affect Peninsular Malaysia. Several cities along the west coast of Peninsular Malaysia such as Penang and Kuala Lumpur reported low visibilities due to haze and the Air Pollution Index (API) readings were in the high-end of Moderate range.

2.3 In Kalimantan, it was dry with few occurrences of shower activities throughout August 2015. The increased hotspot activities in Kalimantan led to an accumulation of moderate to dense smoke haze especially over western and central Kalimantan. Prevailing southeasterly winds carried the smoke haze towards the northwest to affect Sarawak. On 24 August 2015, there was a deterioration in the air quality in several cities of Sarawak such as Sri Aman and Kuching with the API readings in these cities registering unhealthy levels. In the next few days,, the occurrence of showers in Sarawak brought an improvement to the hazy conditions there.

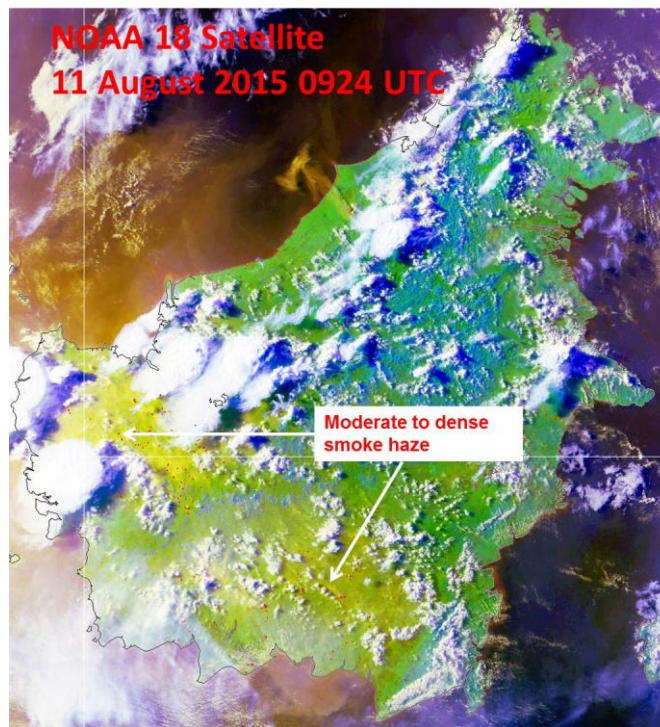


Figure 2A: NOAA-18 satellite image on 11 August shows scattered hotspot activities with moderate to dense smoke haze over many parts of Kalimantan.

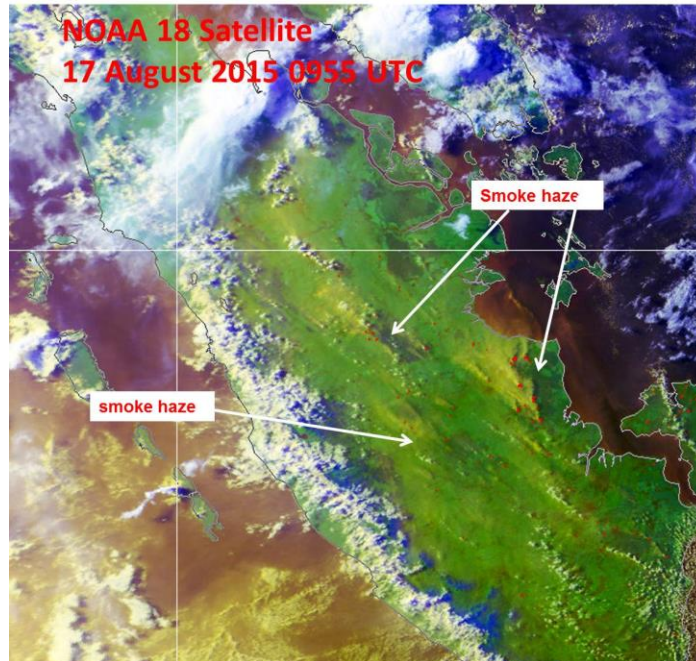


Figure 2B: NOAA-18 satellite picture on 17 August 2015 shows active hotspot activities in Riau and Jambi. Moderate smoke haze was seen to emanate from the hotspots.

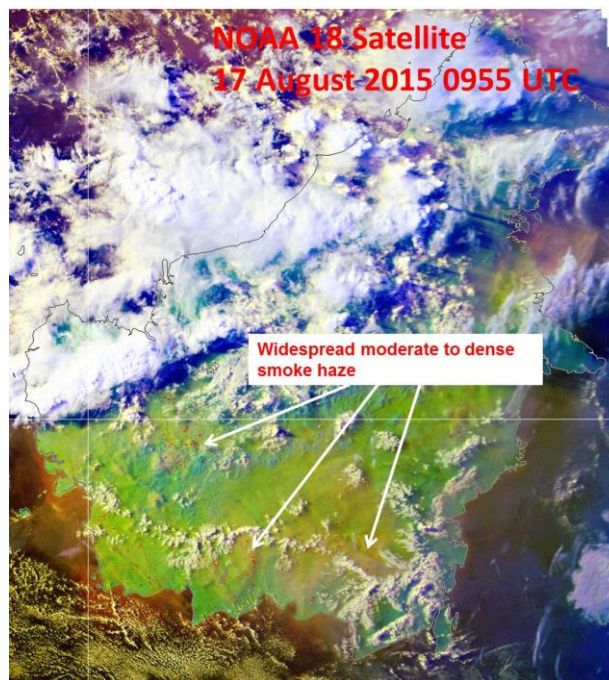


Figure 2C: NOAA-18 satellite picture on 17 August 2015 shows widespread moderate to dense smoke haze mainly over central Kalimantan.

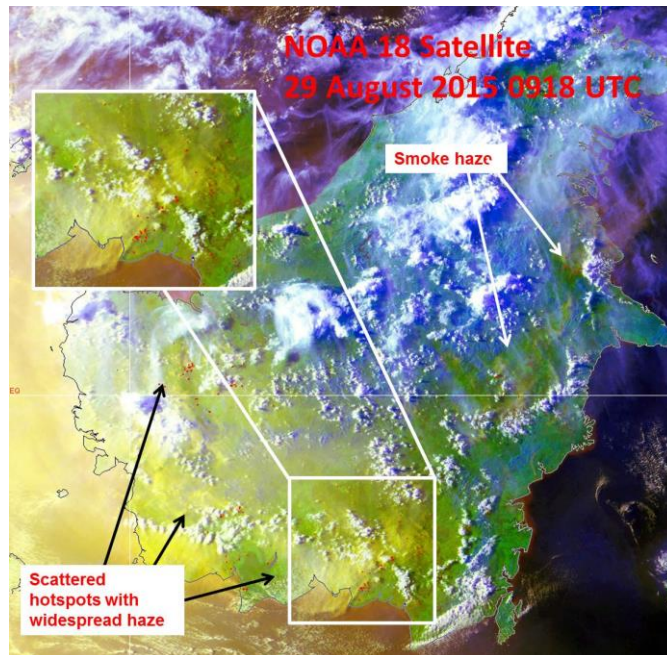


Figure 2D: NOAA-18 satellite picture on 29 August 2015 shows further deterioration of smoke haze situation in Kalimantan as compared to Fig 2A and 2C. New cluster of hotspots with smoke haze also emerged in eastern Kalimantan.

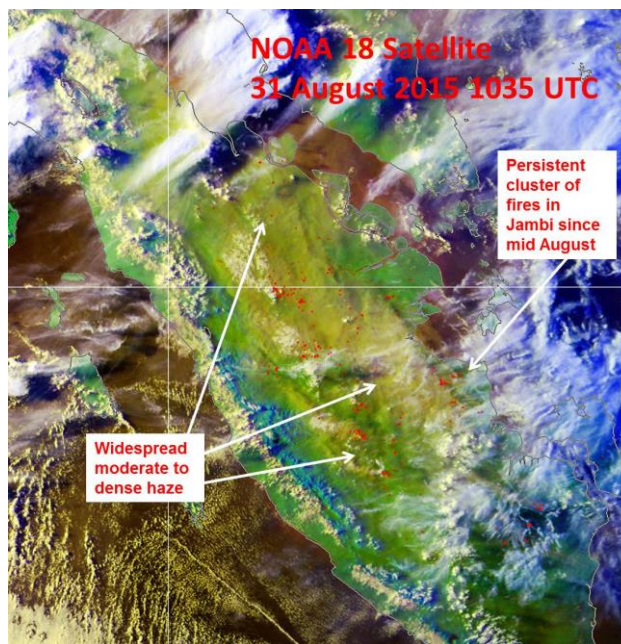


Figure 2E: NOAA-18 satellite picture on 31 Augusts 2015 shows widespread smoke haze from Sumatra spreading into the Strait of Malacca. The cluster of hotspots in Jambi has been persisting since mid-August.

2.4 The hotspot charts for August 2015 for

- a) Cambodia, Myanmar, Thailand, Lao PDR and Vietnam;
- b) Sumatra, Borneo and Peninsular Malaysia; and

are shown in Figures 2F to 2G respectively.

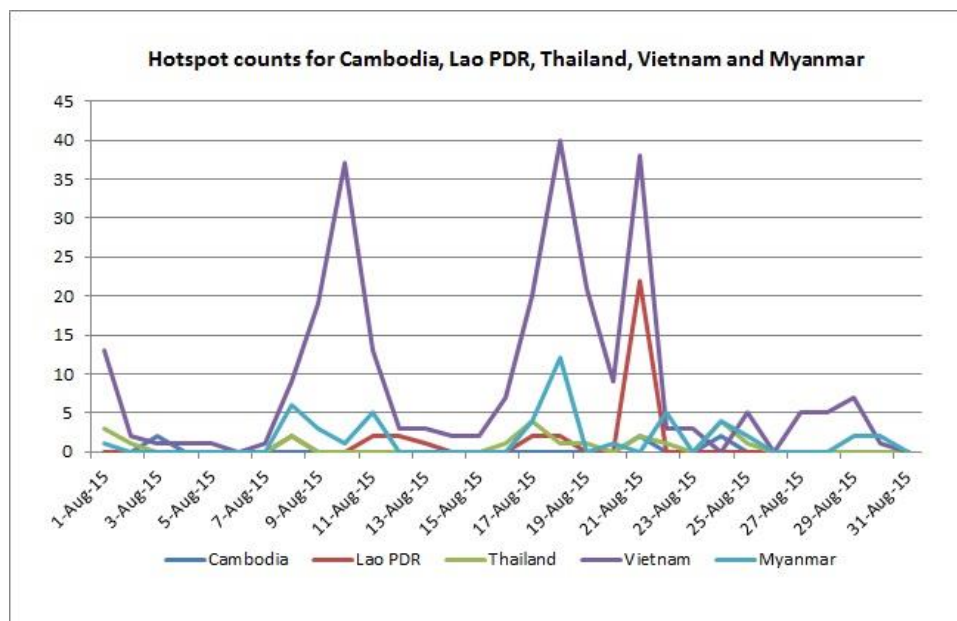


Figure 2F: Hotspot Counts in Cambodia, Lao PDR, Thailand, Vietnam, Myanmar for August 2015

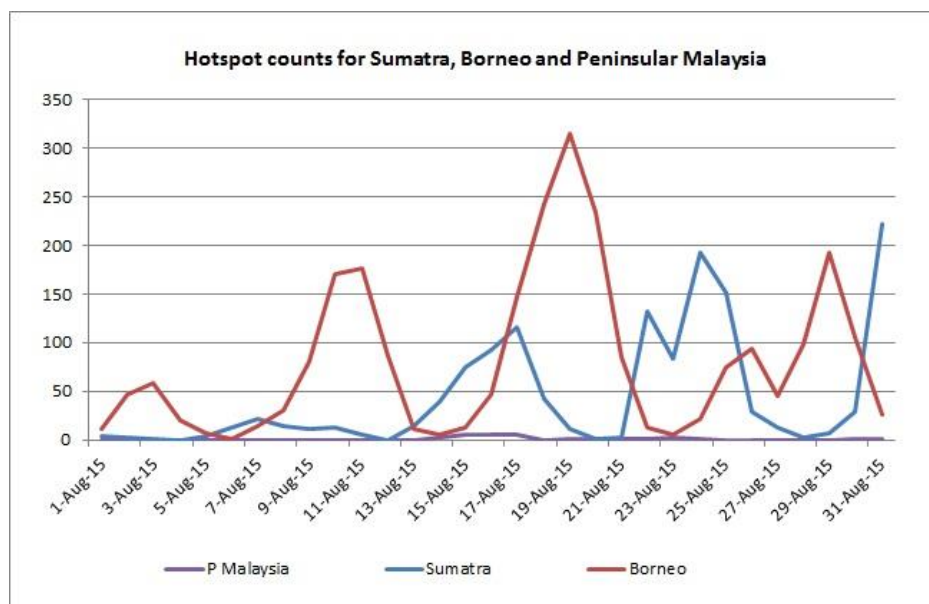


Fig 2G: Hotspot Counts in Sumatra, Borneo and Peninsular Malaysia for August 2015

3. Status of El Niño/La Niña

3.1 The sea surface temperatures (SSTs) in the tropical Pacific Ocean (SST) have continued to warm in August 2015. A strong El Niño currently prevails in the tropical Pacific Ocean.

3.2 The rainfall in the Southeast Asia region is showing a clear response to the El Niño development, with observed large-scale drier-than-normal conditions, in particular in the southern and eastern parts of the region. A consensus forecast based on international climate models and expert opinion suggests a high likelihood of the warming of the SST to

continue. Further strengthening of El Niño conditions are likely in the coming months, and the El Niño is expected to prevail into early 2016

3.3 Typically the impact of El Niño for the Southeast Asia region is drier than average rainfall conditions, especially for the southern parts of the ASEAN region during June to October. More locally-specific impact differs from place to place and for different seasons.

3.4 The ASEAN region is currently in the Southwest Monsoon season (June – September/early October), where the El Niño is known to have considerable impact (dryness) on the western part of the Maritime Continent. Thus with the current El Niño conditions, there is a high risk that the Sep-Oct-Nov season could experience extended periods of drier and warmer weather conditions in this part of Southeast Asia.

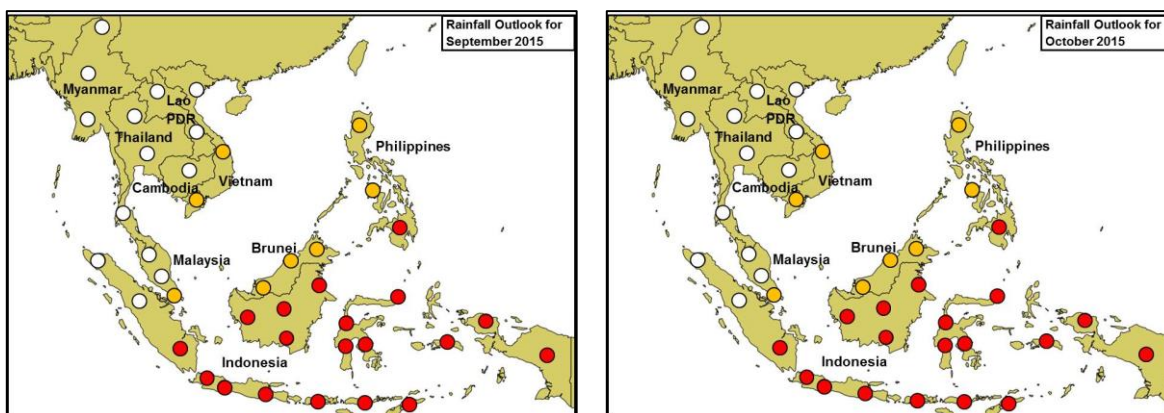
4. Outlook

4.1 The prevailing Southwest Monsoon season is expected to extend into mid-October 2015, with prevailing winds blowing predominantly from the southeast or southwest.

4.2 In the northern ASEAN region, wet weather conditions are forecast for most parts of the region. In contrast, the southern ASEAN region is in the peak of its traditional dry season. With elevated hotspot activities in Sumatra and Kalimantan, the region may experience transboundary smoke haze from time to time in the next few months, especially if the prevailing winds blow to carry smoke haze towards other parts of the region.

4.3 The dry weather conditions are likely to be exacerbated by the strengthening of El Niño in the coming months. This may lead to further deterioration of the smoke haze situation in Sumatra and Kalimantan. Vigilance should be stepped up for any escalation of fire activities in the coming weeks. The prevailing drier weather is forecast to gradually ease by mid-October as the region transits into the Inter-Monsoon season. The Inter-Monsoon period is expected to bring increased shower activities over the southern ASEAN region and this would help subdue the hotspot activities.

4.4 Drier than usual weather conditions are forecast to continue for the southern ASEAN region, with slightly-below to below-normal rainfall expected for most parts of the region. For the northern ASEAN region, normal rainfall conditions are forecast except in Vietnam and Lao PDR where slightly-below normal rainfall is expected. Below-normal rainfall is also forecast for Philippines. The rainfall outlook for the ASEAN region from September 2015 to November 2015 is shown in Figures 4A – 4C.



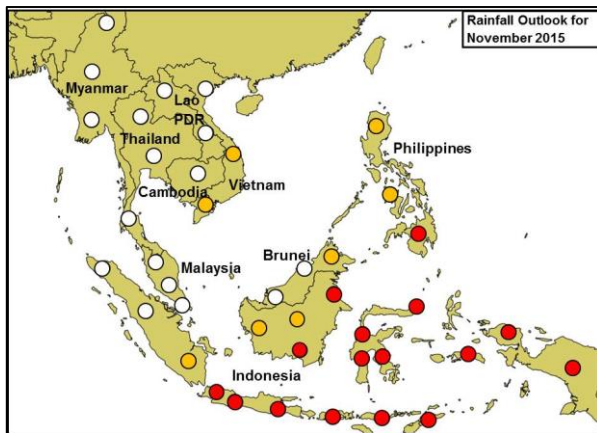


Figure 4: Rainfall Outlook for the ASEAN Region – September 2015 (top left), October 2015 (top right), and November 2015 (bottom left)