UPDATE OF REGIONAL WEATHER AND SMOKE HAZE
December 2015

1. Review of Regional Weather Conditions in November 2015

1.1 The Inter-monsoon season, which is characterised by winds that are light and variable in direction and diurnal shower activities, prevailed in November 2015 before transiting into the Northeast Monsoon towards the end of the month. Both the northern and southern ASEAN regions experienced increased shower activities and wet weather conditions prevailed for most parts of the month.

1.2 The El Niño strengthened further in November 2015. However, as the impact of El Niño was usually less significant during the boreal winter season, drier than usual weather conditions were experienced mainly in the Philippines. Near-normal rainfall was received mainly over the northern ASEAN region. Above-normal rainfall was also received in the near-equatorial region especially in parts of Peninsular Malaysia, Sumatra and parts of Borneo island. The regional rainfall distribution for November 2015 is shown in Figure 1A.

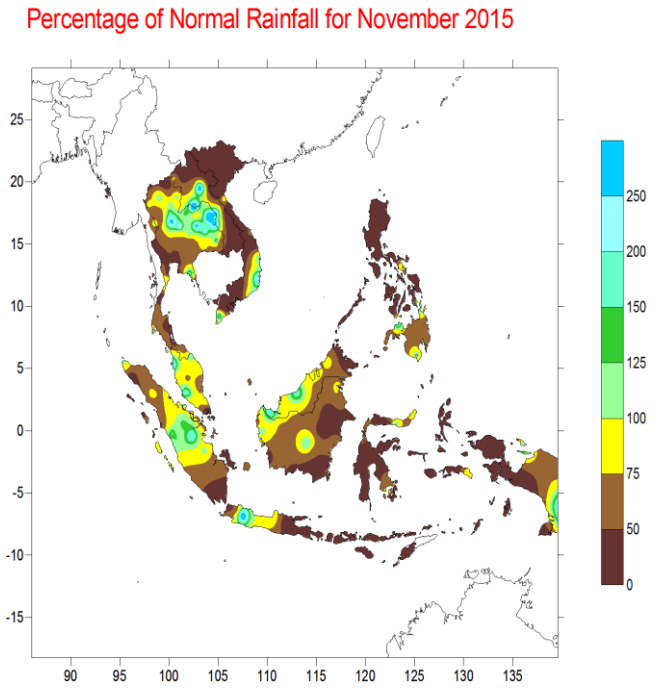

Figure 1A: Percentage of Normal Rainfall for November 2015

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

2.1 In the northern ASEAN region, hotspot activities continued to be subdued by shower activities. There were some isolated hotspots detected towards the end of the November 2015 as dry weather conditions in the region started to set in.

2.2 The hotspot activities in the southern ASEAN region eased gradually in November 2015 as increased shower activities over most parts of the region helped to subdue the fires. In particular, the smoke haze in Kalimantan dissipated rapidly in early November 2015 after days of persistent heavy showers over hotspot areas.

2.3 Smoke haze in Sumatra however persisted slightly longer as the showers fell mostly away from the hotspot areas. Moderate smoke haze and scattered hotspots were observed in South Sumatra and these persisted into the second week of November 2015. The haze situation improved rapidly in the second half of November with the occurrence of more showers over the southern ASEAN region. This brought an end to the Southeast Asia smoke haze event that started in late August 2015.

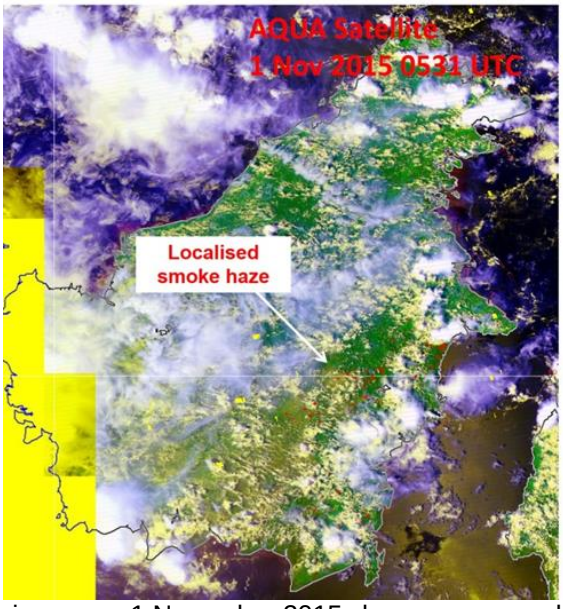

Figure 2A: AQUA satellite image on 1 November 2015 shows some smoke haze observed in central Kalimantan following the increase in shower activities in late October 2015.

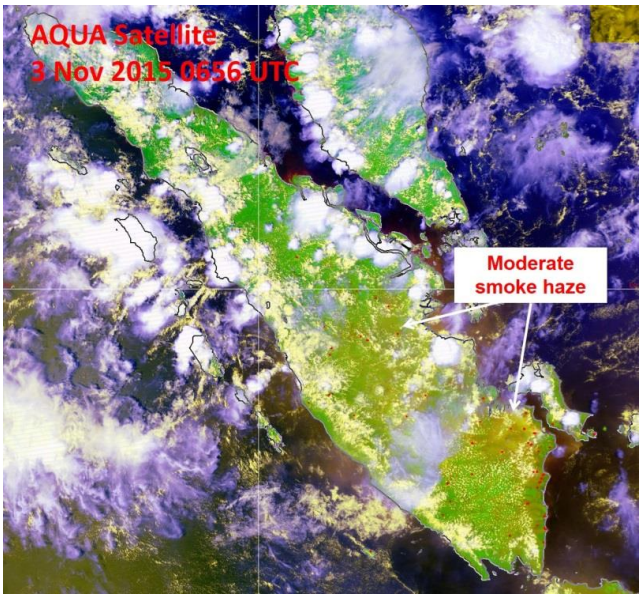

Figure 2B: AQUA satellite picture on 3 November 2015 shows moderate smoke haze observed in parts of central and southern Sumatra.

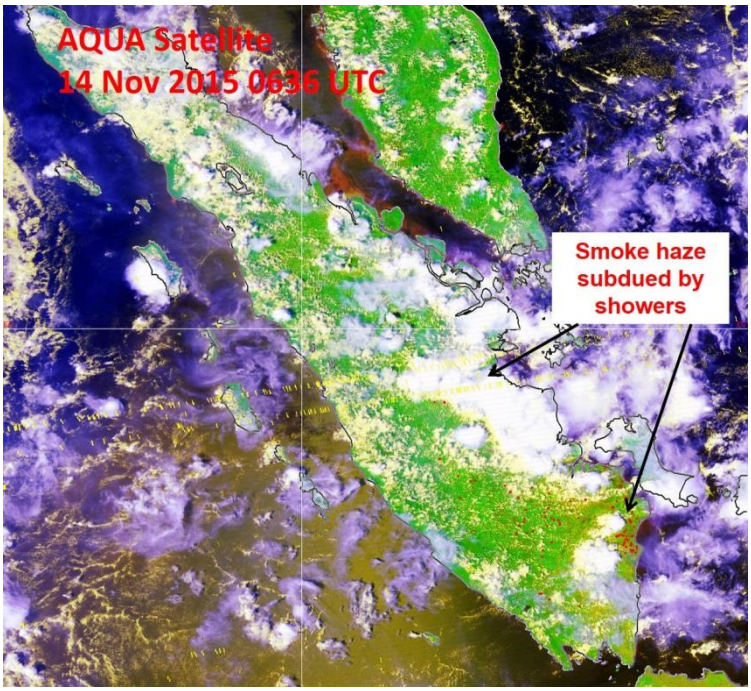

Figure 2C: AQUA satellite image on 14 November 2015 shows smoke haze in Sumatra subdued with the increase in shower activities.

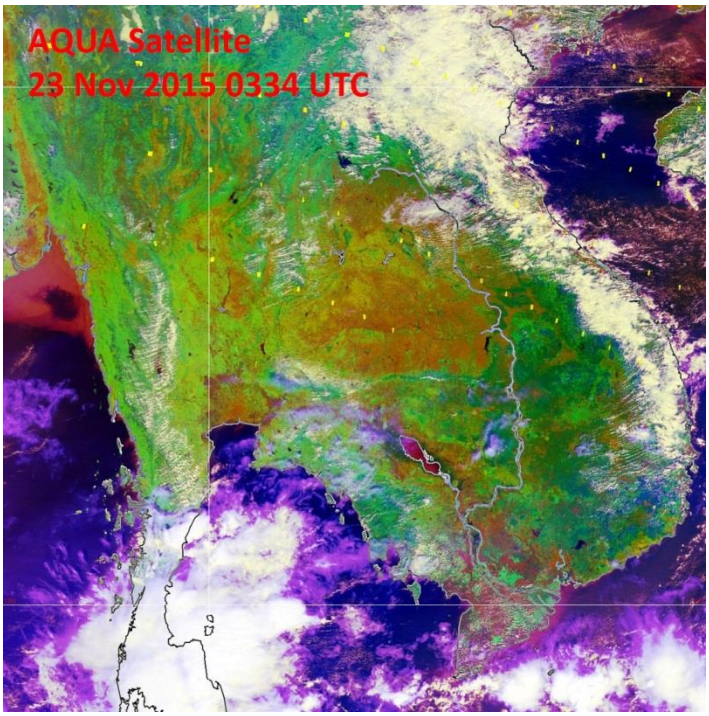

Figure 2D: AQUA satellite image on 23 November 2015 shows the dry weather conditions over the Mekong-sub region.

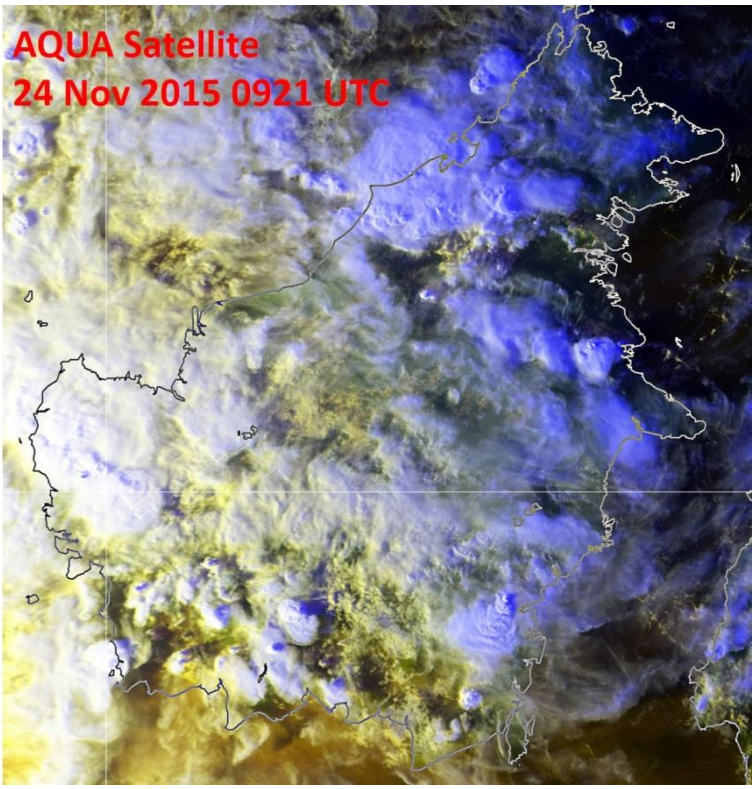

Figure 2E: AQUA satellite picture on 24 November 2015 shows widespread shower activities over the Borneo island.

2.4 The hotspot charts for November 2015 for

a) Cambodia, Myanmar, Thailand, Lao PDR and Vietnam;

b) Sumatra, Borneo and Peninsular Malaysia;

are shown in Figures 2F to 2G respectively.

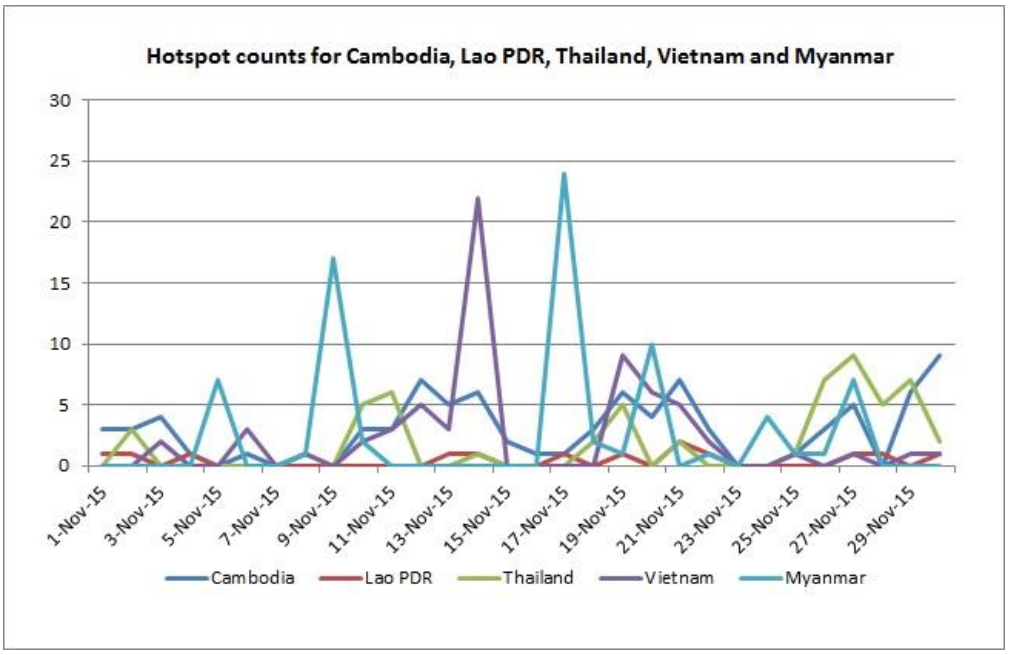

Figure 2F: Hotspot Counts in Cambodia, Lao PDR, Thailand, Vietnam, Myanmar for November 2015

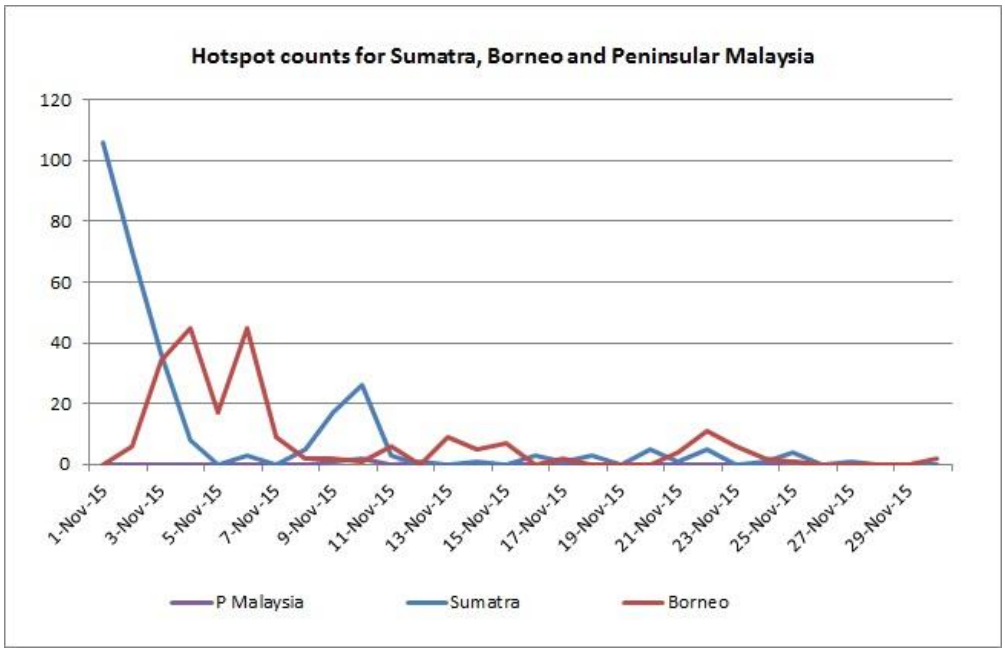

Fig 2G: Hotspot Counts in Sumatra, Borneo and Peninsular Malaysia for November 2015

3. Status of El Niño/La Niña

3.1 The mature El Niño in the tropical Pacific Ocean continues to be at a strong level. The sea-surface temperatures are similar to the 1982-83 and 1997-98 strong El Niño events.

3.2 Atmospheric conditions in the ASEAN region continue to show a clear response to the strong El Niño conditions. Large-scale drier-than-normal conditions have been observed particularly in the southern and eastern parts of the ASEAN region. The consensus forecast based on assessments from international climate models and expert opinion suggests that El Niño conditions to continue through the first quarter of 2016. The strength of El Niño conditions is likely to peak in December 2015 and is expected to gradually decay in 1Q 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.

3.3 The region is currently in the Northeast Monsoon season (late Nov - Mar). The impact of El Niño is usually less pronounced during the Northeast Monsoon season as compared to the Southwest Monsoon season (Jun – Sep).

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4. Outlook

4.1 The wet phase of the Northeast Monsoon over the equatorial region will prevail in December 2015. In the northern ASEAN region, the Northeast Monsoon typically brings cooler and drier weather conditions. Gradual escalation of hotspot activities can be expected as the season progresses. Vigilance should be maintained for any escalation of fire activities in the coming season.

4.2 For the southern ASEAN region, the Northeast Monsoon will bring an increase in rainfall activities over most parts of the equatorial region. During the wet-phase of the Northeast Monsoon (December - January), the region may experience several occurrences of monsoon surges due to cold air outbreaks from Siberia or central China. Monsoon surges are typically associated with prolonged moderate to heavy rainfall activities, where each episode could last for several days. Hotspot activities are expected to remain subdued during the wet phase of the season.

4.3 Around end-January, the wet phase of the Northeast Monsoon season will gradually transit to the dry phase of the Northeast Monsoon season (Feb – early Mar) for parts of the southern ASEAN region around the near equatorial region. The monsoonal rain belt will migrate further south and bring increased rainfall activities over Java Island. For the near-equatorial region, extended periods of dry and occasional windy weather conditions can be expected.

4.5 For the upcoming Northern Hemisphere winter monsoon season (Dec-Jan-Feb), there is a high probability of below normal rainfall over the Philippines and the north-eastern part of Borneo Island. Over the eastern Maritime Continent and over the northern part of Southeast Asia, there are slightly higher probabilities of above normal rainfall. Elsewhere over the region, there are slightly higher probabilities for normal or below normal rainfall. The probabilistic rainfall map for the ASEAN region is shown in Figure 4A.

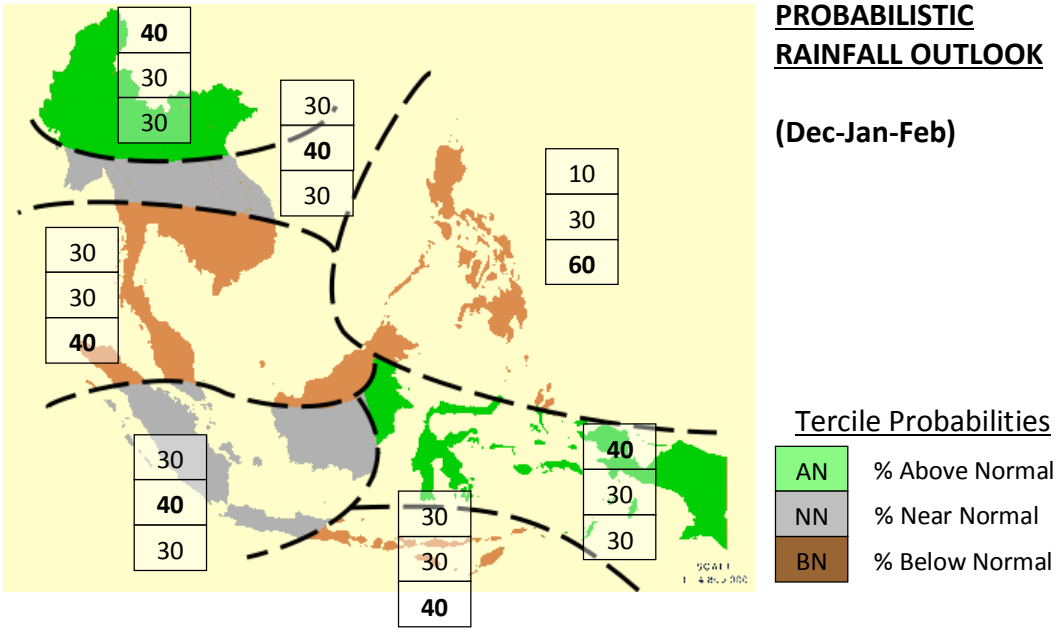

Figure 4: Dec-Jan-Feb seasonal probabilistic rainfall forecast for the Dec-Jan-Feb season based on the consensus at the 5th ASEAN Climate Outlook Forum in November 2015.