



El Niño driven haze over the Southern Malaysian Peninsula and Borneo

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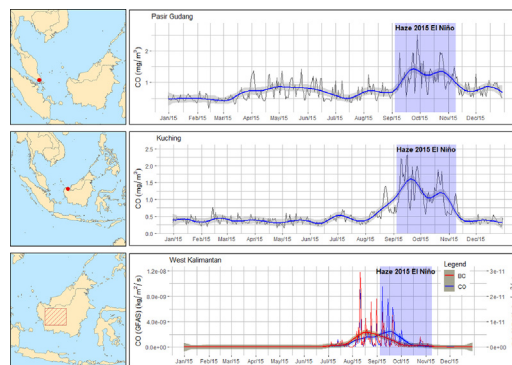
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HIGHLIGHTS

- The yearly average of PM₁₀ exceeds all health guidelines during haze in 2015
- CO has been established well to reflect the intensity of the haze
- A covariation of BC flux with CO and PM₁₀ concentrations was observed during haze
- Southern Malaysian Peninsula and Borneo were impacted from fires in Kalimantan

GRAPHICAL ABSTRACT



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ABSTRACT

The Southeast Asian (SEA) region is no stranger to forest fires - the region has been suffering from severe air pollution (known locally as 'haze') as a result of these fires, for decades. The fires in SEA region are caused by a combination of natural (the El Niño weather pattern) and manmade (slash-and-burn and land clearing for plantations) factors. These fires cause the emissions of toxic aerosols and pollutants that can affect millions of people in the region. Thus, this study aims to identify the impact of the SEA haze on the Southern region of the Malaysian Peninsula and Borneo region of East Malaysia using the entire air quality observation data at surface level in 2015. Overall, the concentration of PM₁₀ was about two-fold higher during the haze period compared to non-haze period. The concentrations of CO, flux of CO and flux of BC were aligned with PM₁₀ during the entire observation period. The wind field and cluster of trajectory indicated that the Southern Malaysian Peninsula and

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