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Relationship between PM 2.5µm Pollutant Distribution and CKD Prevalence in Java, Indonesia

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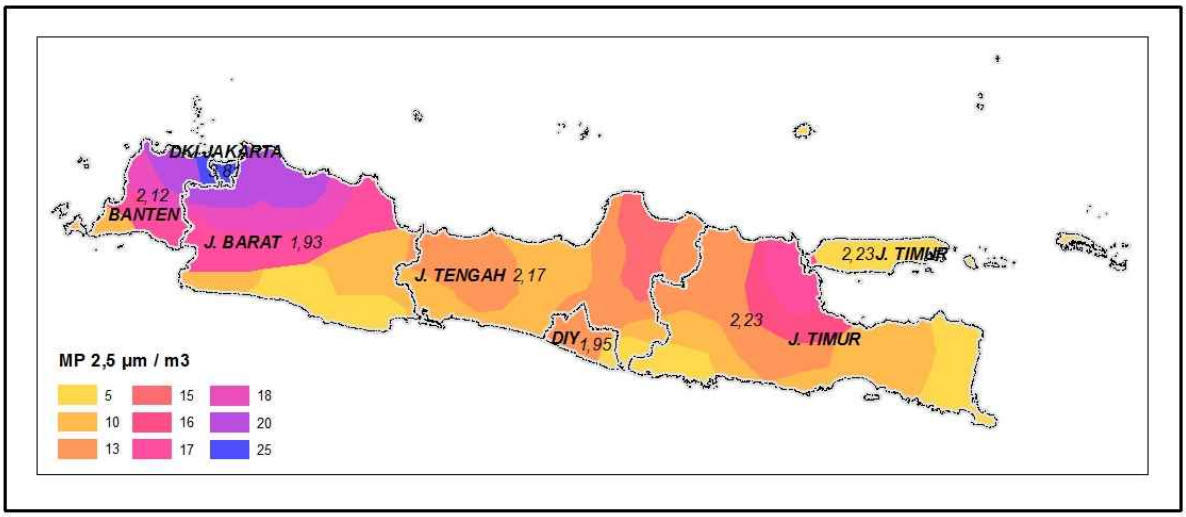
Objectives: Today PM-2,5µm is becoming a global conversation. PM-2,5µm is a micro-sized aerosol particle that flies in the air. PM-2,5µm has a negative impact on health. Some kidney experts even argue that PM-2,5µm is bad for the kidneys and increases the risk of CKD. This is because PM-2,5µm is closely related to cardiovascular disease. Indonesia is also exposed to PM-2,5µm with varying degrees of concentration in each region. The purpose of this study is to find out whether there is a relationship between the distribution and concentration of PM-2,5µm with the prevalence of CKD in Indonesia, especially Java.

Methods: PM-2.5µm concentration distribution data was obtained from Coopernicus satellite imagery, which was then converted to a regional average for each province. While the prevalence of CKD in each province is obtained from the annual report of the Indonesian Ministry of Health. Both data are then applied to the correlation formula to determine the shape and strengths of the relationship between the PM-2.5 µm distribution and CKD.

Results: PM-2,5µm concentrations in Java ranged from 10.5-24.5µm / m3. While the CKD prevalence rate ranges from 1.93 to 3.81 ‰. From these two data obtained correlation numbers of 0.852054. This figure shows that the relationship that occurs between the distribution of PM-2.5 µm concentration with CKD is a strong positive relationship.

Conclusions: The greater the concentration of PM-2.5 µm, the greater the prevalence of CKD in the region

MP 2,5 Distribution and CKD Prevalence



MP 2,5 Distribution and CKD Prevalence