Development Model Using Multi Predictors for Predicting the Onset of Rainy Season (Case Study in Northern Coastal West Java Province Indonesia)

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Abstract

The prediction of the onset of rainy season is very important for many sectors especially for agricultural sector in order to make the best planning for planting calendar to get optimum paddy yield. Monsoon onset is characterized by the change of significant atmospheric circulation such as changes of wind direction; inter tropical convergence zone location, etc. This research used 16 predictors which have been selected using spatial correlation test at and above 95% significant level. Northern coastal west Java is the main rice production center in West Java province and contribute about 30% of total production of West Java Province. The selected predictors in the next process become indicators for the variability of rainy season onset and becoming predictors for climate statistical model.

Through the many techniques, 3 models are resulted which are multiple linier regression, stepwise regression and principal component regression. These models produce the better performance to predict the onset of rainy season over northern coastal area of West Java Province including some extreme years during strong El Nino or La Nina events.