Can Cicada's Song Forecast Local Weather? A Scientific Approach

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Indonesia is a country in South East Asia and has 17.504 islands, mostly, those islands are still untouched by technology, so local residents predict weather by reading nature to fulfill their daily needs. For example, cicada's song is used as sign of dry season, so farmers start to plant crops for dry season like corn, and tobacco. Based on the preliminary research, cicada’s song is proved empirically to be used to predict local weather, such as sunny, cloudy, light rain, medium rain, heavy rain and very heavy rain. Those research has been taken approximately 700 datas for five years which had analyzed relation between sum of echemes and weather using traditional calculation and without publication, therefore has been created “Cicada weather Theory”. But further scientific analysis is needed to explain this theory in forecasting weather. This research aims to analyze relation between cicada’s microclimate with the frequency, amplitude and sum of cicada’s echeme, also to explain its relation with the weather. This research has been conducted from March until September 2017. While the field observation has been done from April until May 2017 in area around Bandung Street in Malang city with a lot of trees and less noises such as motor cycle's or car's noises. This research found that sound of cicada has diverse dominant frequencies and amplitudes. Analysis shows that frequency and amplitude of the song didn’t have relation with the weather transition. Analysis didn’t found any relation between amplitude of cicada’s song and microclimate. Meanwhile temperature and humidity have a medium relation with frequency of cicada’s song. Based on the analysis, sum of echeme have a strong relation with the weather transition, this result prove the accuracy of Cicada Weather Theory.

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