



## **A Study on The Effect of The Heat Impact Forecast Pilot Project Using Each Regional Threshold Temperature**

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The effect of heat waves varies from each person by not natural(temperature, humidity, wind speed, radiant heat) factors but also individual(age, health status, occupation, poverty level, education level) environment. Heatwave alert will be come into force by KMA(korea Meteorological Administration) in case of the maximum daily temperature expect to exceed 33 degrees Celsius (Warning level) and 35 degrees Celsius (Alarm level) lasting for more than two days on the specific forecasting region. In this study, we suggested prediction algorithm of the heat impact using the critical temperature which is reflects characteristic of area. The critical temperature was analysed from equation considered Y as a dependent variable for the person with the heatwave disease and X as the daily maximum temperature of the day of heatwave patient outbreaks. The threshold was calculated using the 3, segment liner of the daily maximum temperature from the occurrence date of heatwave patient. Piecewise method is representation for a monotonical increase point with three segments separated by an inflection point. We have calculated the heat risk level reflecting comprehensive action of the three elements of temperature sensation(temperature, humidity, wind speed), the effect of heat stress accumulation due to heat wave continuity on human body, and regional threshold. Currently, criteria of heatwave has the same nationwide thresholds, but it could be more useful for the prevention of the heat disease and the reduction of the patient if it is combined with the information of the heat wave impact forecast which is based on the heat wave damage statistics. Also, as the development of forecasting technology in the field of sunlight and solar radiation in the future, it is expected that more accurate and high quality heat wave impact forecasting service will be possible.