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## **Analysis on the damage, vulnerability and correlation with temperature caused by heat waves in Jeju province(Korea), and Heatwave Impact Based Forecast and Warning Service(HIBFWS)**

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In Korea, severe heat waves are frequent in summer, and the number of people who affected by them increases year by year. This study analyzes the correlation between excess mortality and the daily maximum temperature( $T_{max}$ ) in August for the last decade(2009-2018). In addition, it analyzes  $T_{max}$  when the patients by heat illness occur. The analysis shows a positive correlation( $R=0.524$ ,  $P=0.02$ ) between the number of excess mortality and  $T_{max}$ . In terms of patients by heat waves, the patients occur variously from 26 to 39, and the maximum number of patients appears in 34~35. In case of the duration of  $T_{max} \geq 33$ , the number of patients shows a peak at entrance of the period, and it drops after the 4th day and no patients showing after the 9th day. But, in case of  $T_{max} < 33$ , the heat illness in the 4th day occurs more than any other days, and it decreases slowly. In addition, it seems that it is not enough for the public to recognize accurately and respond risks appropriately with current temperature forecasts, so the Korea Meteorological Administration provides HIBFWS which includes countermeasures along with regional risk levels for the heatwave. Also, it analyzes socio-economic-environmental vulnerability for production of the information in Jeju province.