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Development and implementation of Heat Health Warning System in 14 Korean large cities

Dae-Geun Lee (1), Kyu Rang Kim (1), Young-Jean Choi (1), Hyun-Sook Jung (1), Laurence Kalkstein (2), and Scott Sheridan (3)

(1) National Institute of Meteorological Research, (2) University of Miami, (3) Kent State University

Temperature seems to be rising significantly in mid-latitude mega-cities like Seoul, Korea. Increasing elderly population elevates the potential health risks in the future. To minimize the social and health impacts of heat, the Korea Meteorological Administration (KMA) introduced a Heat-Health Warning System (HHWS) to the public for 14 Korean large cities since 2011. HHWS gives warnings by relative criteria, which is based on predicted excess mortality, and the duration of offensive air mass. Regional characteristics of excess mortality and climatological conditions for those cities were investigated to develop the relationship between HHWS's criteria and observed deaths during 1991-2009. The severity of the heat-related mortality increase varied among the cities due to the differences in heat wave intensity, initiation of the season, and duration of the heat wave. HHWS thus provided more information for public health officials to minimize negative health impact. Because of the increasing vulnerability in urban area, the application and development of a heat warning system is imperative.