Air Pollution Meteorological Index(APMI) Forecast in Korea

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An Air Pollution Meteorological Index (APMI) is an index that represents possibility of air pollution by meteorological conditions. The APMI forecast is operated in Korea Meteorological Administration (KMA). It is aimed to inform possibility of air pollution to public. KMA improved the APMI to objectify the traditional method and automate the production process in 2004. The improved APMI forecast was started in April 2004 and the products have been provided on the KMA homepage twice a day.

The APMI is determined from the seven elements of the operational regional numerical weather prediction model at the KMA. These elements are: 850-hPa wind speed, surface wind speed, boundary layer height, ventilation index, existence of surface precipitation, existence of inversion layers below 850 hPa, and existence of stable surface layer. The surface wind speed means the wind speed at 10 m height, which is calculated using model surface layer similarity theory.

The APMI is calculated by the number of these meteorological elements that satisfy the conditions to prevent from dispersion of air pollutant. The air pollution possibility class has four categories based on the calculated APMI value. The categories that express the meteorological conditions for outdoor activities are: "Good", "Normal", "Bad", and "Dangerous".