

High-resolution air quality warning system

Recently, Under the Ministry of Earth Sciences (MoES), Government of India, Scientists of Indian Institute of Tropical Meteorology (IITM), Pune, has developed a high-resolution air quality warning system to predict extreme air pollution event in Delhi. Providing a very high-resolution air quality forecast of all nine important air pollutants such as Ozone (O₃), Black Carbon (BC), Particulate Matter (PM_{2.5} and PM₁₀), Nitrogen Oxide and Nitrogen Dioxide (NO_x), Carbon Monoxide (CO), Organic Carbon (OC), Sulfur Dioxide (SO₂) and Volatile Organic Compounds (VOCs) over a 400 meter operational air quality forecast using both satellite (3km resolution) and surface observations. It is the best solution available for air quality forecasting in the world, which helps in giving early warning to take necessary step as per Graded Response Action Plan (GRAP). In Delhi, air quality alerts with mandatory provisions, including suspending of classes of primary and middle schools, banning of the use of specific vehicles, stopping some outdoor construction works, and banning fireworks for potential public health benefits through a chain of possible responses that can reduce exposure from air pollution.

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