Winter Fog Experiment

July 23, 2025 • vajiramandravi.com

Winter Fog Experiment Latest News

The Winter Fog Experiment (WiFEX), has completed a remarkable milestone of ten successful years of dedicated research into North India's dense winter fog.

About Winter Fog Experiment

- It was **launched in the winter of 2015** at Indira Gandhi International Airport (IGIA), New Delhi.
- It was led by the **Indian Institute of Tropical Meteorology** (IITM) under the Ministry of Earth Sciences (MoES), with support from the **India Meteorological Department** (IMD) and the **National Centre for Medium Range Weather Forecasting** (NCMRWF).
- WiFEX is one of the world's few **long-term open-field experiments** focused solely on fog — an elusive winter hazard that regularly disrupts air, rail, and road transport **across the Indo-Gangetic Plain.**
- **Objectives**
    - The objectives of the Winter Fog Experiment (WiFEX) are to **develop better now-casting** (next 6 hours) and **forecasting of winter fog** on various time and spatial scales.

- To help **reducing fog's adverse impact** on aviation, transportation and economy, and loss of human life due to accidents

How was it Conducted?

- WiFEX scientists have deployed **advanced instruments**, **micrometeorology towers**, ceilometers, and high-frequency sensors to collect detailed data on temperature layers, humidity, wind, turbulence, soil heat, and aerosols — building an unmatched dataset that reveals how dense fog forms and disperses.
- These insights have powered the development of a high-resolution (3 km) probabilistic fog prediction model, which now stands among the region's most advanced tools for operational forecasting.
- **Benefits:** This model can **reliably predict when fog will begin**, **how dense it will be**, how long it will last, and when it will clear — achieving more than 85% accuracy for very dense fog (visibility below 200 meters).

Source: PIB
