



## SAFAR

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- The System of Air Quality and Weather Forecasting And Research (SAFAR) is a national initiative introduced by the **Ministry of Earth Sciences (MoES)** to measure the air quality of a metropolitan city, by measuring the **overall pollution level** and the **location-specific air quality** of the city.
- The system is **indigenously** developed by the **Indian Institute of Tropical Meteorology (IITM)**, Pune and is operationalized by the **India Meteorological Department (IMD)**.
  - It has a giant true color LED display that gives out **real-time air quality index** on a 24x7 basis with **color-coding** (along with **72 hours advance forecast**).
- The ultimate objective of the project is to **increase awareness** among the general public regarding the air quality in their city so that appropriate **mitigation measures and systematic action** can be taken up.
  - It organizes **awareness drive** by educating the public (prompting self-mitigation), and
  - It also helps the policy-makers to **develop mitigation strategies** keeping in mind the nation's economic development.
- SAFAR is an integral part of India's first **Air Quality Early Warning System** operational in Delhi.
  - It monitors all **weather parameters** like temperature, rainfall, humidity, wind speed, and wind direction, UV radiation, and solar radiation.
  - **Pollutants monitored:** PM2.5, PM10, Ozone, Carbon Monoxide (CO), Nitrogen Oxides (NOx), Sulfur Dioxide (SO2), Benzene, Toluene, Xylene, and Mercury.
- The **World Meteorological Organization** has recognized SAFAR as a prototype activity on the basis of the high-quality control and standards maintained in its implementation.
- SAFAR system would **benefit cost savings** to several other sectors like agriculture, aviation, infrastructure, disaster management, tourism, etc. which directly or indirectly gets affected by air quality and weather.

### Air Quality Index (AQI)

The AQI is an index for reporting **daily air quality**.

- It focuses on health effects one might experience within a few hours or days after breathing polluted air.
- AQI is calculated for eight major air pollutants:
  - Ground-level ozone,
  - PM10,
  - PM2.5,
  - Carbon monoxide,
  - Sulfur dioxide,
  - Nitrogen dioxide,
  - Ammonia,
  - Lead,
- Ground-level ozone and airborne particles are the two pollutants that pose the greatest threat to human health in India.

**Source: TH**