



Air Pollution Threatening the Mangrove Ecosystem: Study by IIT Kanpur | Uttar Pradesh | 15 May 2024

Why in News?

The study authored jointly by leading scientists from the **Bose Institute, Kolkata**, and the **Indian Institute of Technology (IIT), Kanpur** states that air pollution poses a significant threat to the [Sundarbans](#).

Key Points

- The study is titled “**Acidity and oxidative potential of atmospheric aerosols over a remote mangrove ecosystem during the advection of anthropogenic plumes**”.
- The study found that huge amounts of **pollutants**, mainly enriched with [black carbon](#) or soot particles, arriving from not only Kolkata metropolis but the entire [Indo-Gangetic Plain region](#), are significantly deteriorating Sundarbans’ air quality, thus affecting its ecosystem.
- The authors of the study have suggested **10-point recommendations** to stop Sundarbans’s air quality and overall ecosystem degradation.
 - The recommendations include [solar energy promotion](#), [wind energy utilisation](#), [electric transportation](#), [subsidised LPG](#), [regulated tourism](#), [banning diesel generators](#), [banning of toxic shipments](#), closing down of pollutant factories, regulation of brick kilns and land use and strengthening of coastal regulations.

Sundarbans

- The Sundarbans hosts the **largest mangrove forests in the world**, lying on the **delta of the Ganges, Brahmaputra and Meghna rivers on the Bay of Bengal**.
- The mangrove ecosystem is a **specialised environment between the land and the sea** in the tropical and subtropical regions.



Spanning across India and Bangladesh, Sundarbans is amongst the world's largest contiguous blocks of mangrove forest. Less than 40 percent of Sundarbans is located in India and the rest is in Bangladesh. On the Indian side, forest boundaries have changed very little since 1943.

Mangroves

- Mangroves are the plant communities occurring in **inter-tidal zones** along the coasts of tropical and subtropical countries.
- Mangrove forests **perform multiple ecological functions** such as production of woody trees, provision of habitat, food and spawning grounds for fin-fish and shellfish, provision of habitat for birds and other valuable fauna; protection of coastlines and accretion of sediment to form new land.
- Among the states and Union Territories, **West Bengal has the highest percentage of area under total Mangrove cover** followed by Gujarat and Andaman and Nicobar Islands.
- The **India State of Forest Report** gives the data about mangroves and their conditions in the country.

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