

Satellite-Based Mapping and the Quantification of PM_{2.5} in India

Ambient PM_{2.5} (particulate matter suspended in the air with an aerodynamic diameter of less than 2.5 microns) has several adverse effects on human health and climate. It is a major environmental issue in the Indian subcontinent as a large population lives in areas where the PM pollution levels exceed the national safe limits. PM varies significantly over short distances, and the sparse government regulatory measurements, which are confined to urban areas, fail to capture the fine spatial variations. Methods to obtain high-resolution PM pollution maps include satellite-based estimates, modelling, and dense measurement networks. Using satellite-based products to estimate PM_{2.5} can help generate high-resolution gridded spatial maps at a significantly lower cost.

The Centre for Air Pollution Studies (CAPS) at the Center for Study of Science, Technology and Policy (CSTEP) conducted a study in Delhi-NCR, Kanpur, and Bengaluru regions to map and estimate PM_{2.5} using satellite products. The objective was to understand the spatial patterns, hotspot areas, and rural–urban contrasts in PM_{2.5}. The PM_{2.5} maps and statistics obtained in the study regions can complement data from regulatory measurements and could be highly useful for policymakers, researchers, and citizen scientists.

CAPS is organising a webinar on **28 February 2022** from **11 a.m. to 12 p.m.** to formally launch the study report titled '*Satellite-Based Mapping and the Quantification of PM_{2.5} in India*' and **three policy briefs**. The launch will be followed by a panel discussion on the 'State of Non-conventional Air Pollution Monitoring in India'.