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Towards Clean Air for All: Modelling the Solutions to Pollution



Over the past decade, India has taken major steps to improve air quality. These include providing financial support, expanding air quality monitoring networks, and introducing mandatory city-specific action plans under the National Clean Air Programme (NCAP). However, a key opportunity remains untapped—the integrated use of air quality modelling to design more effective, region-specific solutions at the national, state, and local levels.

As a part of our collective pursuit of the grand challenge 'Clean Air for All', the Center for Study of Science, Technology and Policy (CSTEP) is pleased to announce the seventh edition of its flagship event—**India Clean Air Summit (ICAS) 2025**. With the theme '*Towards Clean Air for All: Modelling the Solutions to Pollution*', ICAS 2025 will be held on **20–22 August 2025**.

This edition will focus on how air quality modelling and monitoring can guide effective, science-based solutions to tackle air pollution. The summit will bring together a diverse group of stakeholders, including representatives from government bodies, research institutions, think tanks and policy experts, citizen groups, implementation partners, and funding agencies. Through a mix of training sessions, research presentations, and expert discussions, ICAS 2025 will explore how air quality models and measurements can be adapted for the Indian context to support informed policymaking, reduce harmful pollution exposure, improve public health, and ensure a better quality of life.

Air quality models can help us understand where pollutants come from, how they behave in the atmosphere, and what actions might be most effective in reducing them. These models can also estimate how much pollution comes from outside a city or region and help define air pollution control areas, also referred to as 'airsheds'. However, despite the value provided by air quality modelling, India has not extensively invested in the development and testing of these models tailored to local conditions. Likewise, the availability of highquality data needed to run and test these models remains limited. To raise awareness about the importance of air quality modelling, CSTEP recently hosted a workshop covering the basics, recent advances, and real-world policy applications of air quality models. At ICAS 2025, we aim to expand this conversation to a broader audience by discussing key questions, including the following:

- Why are air quality models critical for effective air quality management?
- How can we combine models and real-world data to create science-based accessible tools?
- Should our air quality policies also address secondary pollutants and short-lived climate pollutants (SLCPs) over the medium and long term?
- How can we reduce personal exposures and improve ambient air quality with climate co-benefits?
- What should be our sectoral emission targets for NCAP 2.0?
- How can we ensure that models offer consistent and trustworthy results for policymaking?
- What kind of training and capacity building can help widen the reach of air quality modelling and related tools?

These questions and the ensuing discussion will highlight the urgent need for air quality modelling-based solutions and a more integrated approach to improving air quality across India.

**ICAS 2025 will include two parallel training sessions on 20 August**, aimed at PhD students and early-to-mid-career professionals from think tanks, academic institutions, and government agencies. These sessions will cover the following areas:

An introduction to and hands-on training in simplified (reduced-complexity) air quality models

Best practices for air quality monitoring, data analysis, and visualisation

The goal is to help participants generate and use high-fidelity air quality datasets. Such data are essential for testing models and evaluating policy impacts. In doing so, we hope to equip the next generation of researchers with the tools they need for effective air quality management and policy planning.

Join us at ICAS 2025!

**About CSTEP:** The Center for Study of Science, Technology and Policy (CSTEP) is one of India's leading think tanks, with a mission to enrich policymaking with innovative approaches using science and technology for a sustainable, secure, and inclusive society. Our current work is anchored in the grand challenges of our time, namely, Clean Energy Transition, Clean Air for All, and Sustainable and Secure Future for all. Our work focuses on ensuring that our ideas are borne out of evidence and implementable at scale.

**About ICAS:** The India Clean Air Summit (ICAS) is an annual event hosted by CSTEP that brings together policymakers, researchers, think tanks, civil society organisations, and citizens to foster collaboration and develop actionable solutions aimed at achieving clean air in India.