

Atmosphere Initiative

ICIMOD

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Over recent decades, the Hindu Kush Himalayan (HKH) region has been affected by rising emissions of air pollutants from urban, industrial, and rural sources. This has raised concerns about deteriorating air quality, impacts on health and visibility, changes in atmospheric heating and cooling, changes in cloud microphysics and in the strength and timing of the monsoon, increasing stratospheric pollution above the Tibetan Plateau, deposition of light absorbing substances onto snow and ice surfaces; and increasing melting of the Himalayan cryosphere.

ICIMOD's Atmosphere Initiative was established on 1 January 2013 as part of the centre's Regional Programme on Cryosphere and Atmosphere. The initiative aims to bring about effective measures and policies for reducing air pollution and its impacts within the HKH region by improving knowledge and enhancing the capacity of partners in the regional member countries.

Initiative objectives

- To improve knowledge about emissions sources and their socioeconomic determinants in the HKH region; atmospheric processes and change; and the impacts of atmospheric processes on climate, ecosystems, cryosphere, hydrology, agriculture, tourism and people's health and livelihoods
- To identify, pilot, and disseminate effective gender-responsive, culturally acceptable and technically feasible mitigation options to reduce the emission of pollutants (i.e., clean cookstoves, clean energy)
- To enhance the capacity of partners in the region to understand atmospheric processes, changes, and their impacts and to implement appropriate mitigation options.
- To establish an atmosphere knowledge hub at ICIMOD to foster communication and collaboration across borders and to share data and knowledge
- To make policy recommendations about atmospheric issues at national, regional, and



Major activities in 2015

- To develop a source-segregated and model-ready emissions inventory for the HKH region
- To continue setting up long-term atmospheric observatories and urban/ industrial air quality monitoring stations in Bhutan and Nepal
- To improve atmospheric modelling of the HKH region and increase the use of atmospheric satellite data products
- To conduct studies on the impacts of short-lived climate pollutants (SLCPs) on visibility and tourism, health, agriculture, and ecosystems
- To study viable mitigation options for cooking and household-level energy consumption, brick production, agricultural pumping, and other sectors
- To carry out a multi-country study of northern South Asia's persistent winter fog, including satellite data analysis, modelling, in-situ measurement, and social science research
- To continue preparations for the establishment of an MS/PhD programme in atmospheric science focused on the HKH region
- To train observatory technical staff and to organize training workshops and outreach activities on air pollution for the media and others
- To produce a telefilm to raise awareness about open burning
- To host meetings of the Climate and Clean Air Coalition's (CCAC) Working Group and other CCAC initiatives
- To co-host the second international workshop on Atmospheric Composition and the Asian Summer Monsoon
- To host a comprehensive conference on atmospheric science, policy, and mitigation
- To contribute to Nepal's 'Vision 2030' planning document, and make other contributions to policy



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Photos: Nabin Baral, Arnico K Panday

ICIMOD gratefully acknowledges the support of its core donors: the Governments of Afghanistan, Australia, Austria, Bangladesh, Bhutan, China, India, Myanmar, Nepal, Norway, Pakistan, Switzerland, and the United Kingdom.

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Prepared by ICIMOD Publications Unit, February 2015