



Atmospheric Science Without Borders

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The Indo-Gangetic Plains (IGP) in northern South Asia are among the most polluted and most densely populated places in the world, and they are upwind of vulnerable ecosystems in the Himalaya mountains. They are also fragmented across 5 countries between which movement of people, data, instruments and scientific understanding have been very limited.

ICIMOD's Atmosphere Initiative has for the past three years been working on filling data gaps in the region, while facilitating collaborations across borders. It has established several atmospheric observatories at low and mid elevations in Bhutan and Nepal that provide new data on the inflow of pollutants from the IGP towards the mountains, as well as quantify the effects of local emissions on air quality in mountain cities. EGU will be the first international conference where these data will be presented. ICIMOD is in the process of setting up data servers through which data from the region will be shared with scientists and the general public across borders.

Meanwhile, to promote cross-border collaboration among scientists in the region, while addressing an atmospheric phenomenon that affects the lives of the several hundred million people, ICIMOD's Atmosphere Initiative has been coordinating an interdisciplinary multi-year study of persistent winter fog over the Indo-Gangetic Plains, with participation by researchers from Pakistan, India, China, Nepal, Bhutan and Bangladesh. Using a combination of in-situ measurements and sample collection, remote sensing, modeling and community based research, the researchers are studying how changing moisture availability and air pollution have led to increases in fog frequency and duration, as well as the fog's impacts on local communities and energy demand that may affect air pollution emissions. Preliminary results of the Winter 2015-2016 field campaign will be shown.