



Third International Training School on Atmospheric Brown Clouds (ABC)

SUMMARY REPORT

3-7 December 2008
Kathmandu, Nepal

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1. Background

Third International Training School on Atmospheric Brown Clouds (ABC) was conducted in Kathmandu, Nepal during 3-7 December 2008. The training school is a part of ongoing capacity building activities of Project ABC. The project organizes regularly such training school to provide advanced training to young scientists and senior research students in various aspects of atmospheric and climate science.

The announcement of the school was widely distributed through websites, email contacts of ABC Science Team members, impact assessment networks, local collaborating institutes, and their networks. The organizers received 69 applications from young and enthusiastic researchers, post doctoral fellows, and senior students, mostly from Asia. The course directors carefully selected 27 participants (15 from 11 countries, and 12 from Nepal (local) based on merits such as level of education, involvement in ABC activities in their countries, involvement on atmospheric research, and potential to be involved with ABC in future or continue research in atmospheric issues. Geographical and demographic distributions were also considered. Fourteen internationally distinguished scientists, mostly the members of ABC Science Team, served as resource persons. List of participant is given in the annex 1.

Course directors: Dr. Mark Lawrence (MPI, Germany), Dr. D.R. Sikka (India), Dr. M. Rupakheti (UNEP RRC.AP, Thailand)

Local Organizer: International Centre for Integrated Mountain Development (ICIMOD), Nepal

2. Programme

The participants were given classroom lectures (most of there were of 1 hour 15 min) by prominent atmospheric scientists and experts to provide the theoretical background and an overview of current knowledge on various aspects of atmospheric brown clouds and climate change, impacts, the application of a variety of scientific instruments for atmospheric aerosols, trace gases, precipitation chemistry, radiation and meteorological measurements, as well as the modeling tools.

December 3

- Lecture 1: Introduction to the Atmospheric Climate System [A. Jayaraman]
Lecture 2a: Introduction to Atmospheric Gas and Aerosol Chemistry, Part 1: Motivation, aerosols, and observations overview [J. J. Schauer]
Lecture 2b: Introduction to Atmospheric Gas and Aerosol Chemistry, Part 2: Ozone-related gases and modelling overview [M. Lawrence]

December 4

All school participants attended ABC Science Seminar

December 5

- Lecture 3: Overview of in-situ measurements techniques for aerosol research [Prof. J. Schauer]
Lecture 4: Himalayan Glaciers: history, status and future prospects in light of climate change and regional pollution [Dr. Y. Arnaud and Dr. P. Wagnon]
Lecture 5: The Asian Monsoon and its variability in relation to atmospheric aerosols, and insights into the role aerosols may play in the agriculture of South Asia [D. R. Sikka]

December 6

- Lecture 6: Emissions, Use of Models to Interpret Observations, and the IGAC Megacities-Asia project [G. R. Carmichael]
- Lecture 7: Atmospheric Aerosols: properties and effects [S. Fuzzi]
- Lecture 8: Aerosol measurements at the ABC observatories: overview of the locations, measurements, techniques, and first results [S.C. Yoon]
- Lecture 9: Observation of water clouds using ground-based instruments at SKYNET sites [T. Takamura]

December 7

- Lecture 10: Transboundary transport of atmospheric pollutants by meteorological processes and characterization of Megacity regional pollution potentials [M. G. Lawrence]
- Lecture 11: Wet and dry deposition processes: Measurement Techniques, Impacts on material, crops and natural ecosystems [H. Rodhe]
- Lecture 12: Recent developments in GHG monitoring (CO₂ and man-made compounds), GHG activities in ABC [K.R. Kim]
- Lecture 13: Meteorological flows and air pollution transport over the Kathmandu valley [Ram P. Regmi]
- Lecture 14: Vertical Transport of Air Pollutants in the Himalaya [Arnico Panday]

3. Evaluation

Evaluation of the training school was carried out using a questionnaire prepared by the course directors. The overall rating of the school is as follows:

Excellent: 40%

Good: 52%

Average: 8%

Unsatisfactory: 0%

Poor: 0%

4. Certificate of Participation

UNEP issued the certificate of participation to all participants who completed the training school successfully.

Annex 1: List of Participants**Bangladesh**

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