Agenda

Aerosol-Cloud Interaction Workshop

Fairmont Empress Hotel Conference Center
Victoria, B.C., Canada
November 13-14, 2007

Objectives for the Workshop:

Review State-of-the-Art in Observations and Modeling of Aerosol-Cloud Interactions:

- Status of satellite-, aircraft-, and surface-based observations that are pertinent to aerosol-cloud interactions.
- Status of modelling aerosol-cloud interactions from LES-chemistry to GCMs.
- Discuss work, observations and modelling, needed to make significant next steps in comprehending and representing aerosol-cloud interactions.

Tuesday, November 13

Fairmont Empress Hotel Conference Center, Victoria, B.C.

8:00 am **Coffee/Danish**

8:30 am Welcome and workshop logistics… **N.G. Loeb (NASA LaRC) and H. Barker (EC)**

8:45 am *Historical Perspective of Aerosol-Cloud Interactions*
Tom Ackerman
Department of Atmospheric Sciences, University of Washington

9:30 am *Inferences Of Aerosol Indirect Effects From Satellite (And Some Aircraft) Observations*
James A. Coakley, Jr.
College of Oceanic & Atmospheric Sciences, Oregon State University, Corvallis, OR

10:15 am **Break**

10:45 am *Enhancement of Clear Sky Radiance in the Vicinity of Cumulus Clouds*
Alexander Marshak
Goddard Space Flight Center, NASA, Greenbelt, MD

11:30 pm *How To Use Lidar To Study The Indirect Aerosol Effect*
Jens Bösenberg
Max-Planck-Institut für Meteorologie, Hamburg, Germany

12:15 pm **Lunch**

1:30 pm *Representation and Constraining Cloud Droplet Formation*
Thanos Nenes
Schools of Earth & Atmospheric Sciences and Chemical & Biomolecular Engineering, Georgia Institute of Technology, Atlanta, GA

2:15 am *Aerosol-Cloud Interactions, Drizzle, and the Self-Organization of Clouds*
Graham Feingold
NOAA Earth System Research Laboratory (ESRL), Boulder, Colorado

3:00 pm **Break**

3:30 pm *The Representation Of Aerosol Indirect Effects In Global Climate Models*
Knut von Salzen
Canadian Centre for Climate Modelling and Analysis (CCCma), Environment Canada, Victoria, B.C., Canada

4:15 pm **Adjourn**

Wednesday, November 14

Fairmont Empress Hotel Conference Center, Victoria, B.C.

8:00 am **Coffee/Danish**

8:30 am-12:00 pm ***Open discussion on Future Directions in Aerosol-Cloud Interaction Research***
Moderators: N.G. Loeb (NASA LaRC) and H. Barker (MSC)

<u>Central Questions for Discussion</u>:

What are the roles of satellites and other measurements in understanding aerosol-cloud interactions?

a) What can and can't be done from satellite observations?

b) Is there a need for long-term climate measurements that focus on aerosol-cloud interactions? If so, what are they and how important is temporal continuity?

c) How can observations and models be used together to narrow the uncertainty in radiative forcing and climate sensitivity?

Given that the basis of the problem is aerosol-cloud chemistry, is progress on this front essential for making the next steps in understanding climatic impacts? If so, will there be sufficient lab and field experiments over the coming years?

Are we at the stage of being able to represent aerosol-cloud interactions across scales of modelling from LESs to GCMs? How crucial is it to advance these representations in multi-scale modelling frameworks?