Atmospheric Science Program

Frequently Asked Questions, Part I

March 3, 2004

Q. Where is the boundary between ASP and ARM? How can I tell whether a proposed research topic is better submitted to ASP or to ARM?

A. While there is no hard and fast line between the two programs, and there might be certain activities that would be pertinent to both programs, some general guidelines are offered here that might be helpful in deciding whether a potential research activity is better suited to one program or the other.

ASP is concerned with characterizing the chemical, microphysical, and optical properties of aerosols and clouds, and the processes governing these properties and their evolution, including the influence of aerosols on cloud microphysical properties relevant to their influence on radiative transfer. Thus ASP concern includes such phenomena as cloud droplet activation, precipitation development, chemical and microphysical transformation in clouds, and removal of aerosol particles in precipitation. ASP will address the sources, chemical and microphysical transformation, transport, and removal of aerosols that affect atmospheric radiation directly, or indirectly through modification of cloud properties, and the ascription of aerosol constituents to sources and source classifications (e.g., anthropogenic vs. natural).

ARM is concerned with atmospheric radiation generally, and with atmospheric properties affecting this radiation, and with characterization of these properties, for both clear-air and cloudy skies. With respect to aerosols, these properties include, for example, such aerosol optical properties as light scattering coefficient, light absorption coefficient, and phase function, and such cloud properties as cloud particle phase, number concentration, size distribution, effective radius, and single scattering albedo. ARM is concerned also with the processes that are responsible for clouds and cloudiness and for cloud microphysical properties affecting radiative

transfer and cloud persistence, and consequently with the role of aerosols in these processes. ARM is thus concerned with the radiative influences of atmospheric aerosols rather than their sources and the processes responsible for their properties and geographical distribution.

From this it might be concluded that certain kinds of activities might well fit into either program, depending on the focus of a given study: e.g., determining aerosol optical properties as input to radiation transfer calculations (ARM) vs. for evaluation of the ability of a chemical transport model to calculate these properties (ASP); or studying processes governing cloud drop activation and cloud microphysical properties as input to radiative transfer calculations (ARM) vs. for evaluation of models of aerosol influences on cloud microphysical properties (both programs) vs. their influence on transformation and deposition of gaseous and particulate species (ASP).

Q. How will abstracts and proposals be handled between the two programs?

A. The ARM and ASP program managers have agreed to share abstracts of proposals relating to atmospheric aerosols and their radiative influence with each other and provide feedback to proposers regarding which program is more appropriate for their proposal. Similarly, when aerosol proposals are submitted to one program, but are a better fit with the other program, they may be reviewed by the more appropriate program. In other words, proposers will not be penalized for submitting to the "wrong" program. Of course, if a proposal really doesn't fit within the scope of either program, it may be declined as being out of scope, without being submitted to merit review.

Programmatic questions about the Atmospheric Science Program may be addressed to the Program Director, while questions pertaining to scientific scope may be addressed to either the Program Director or the Chief Scientist:

peter.lunn@science.doe.gov

Peter Lunn
Program Director for Atmospheric Science
Climate Change Research Division
U.S. Department of Energy, SC-74
1000 Independence Avenue SW
Washington DC 20585-0002

Phone 301.903.4819 Fax 301.903.8519

ses@bnl.gov

Stephen E. Schwartz
Chief Scientist for the DOE Atmospheric Science Program
Atmospheric Sciences Division
Environmental Sciences Department
Brookhaven National Laboratory
Upton NY 11973

Phone 631.344.3100 Fax 631.344.2887