



VISION

To become leaders in helping scientists and policymakers effectively work together to address policy issues related to Earth system science and services

MISSION

We will strengthen the connection between public policy and Earth system science and services by building policy research and by creating opportunities for policymakers and scientists to engage and exchange perspectives to foster better-informed policy decisions

GOALS

The AMS Policy Program (APP) focuses on 5 strategic goals:

1. Prepare scientists to contribute effectively to the policy process
2. Keep policymakers abreast of scientific advances and their relevance
3. Foster meaningful collaborations between scientists and policymakers
4. Develop the needed policy research
5. Share our vision and results

PURPOSE AND SCOPE

The APP strives to address the following national priorities: public health and safety, economic growth, the protection of the environment, and national security. The APP will study both immediate and longer-term policy issues relating to Earth system science and services. Our core value is to be objective in examining sound science and policy options. We will bring together a diverse group of perspectives and create real partnerships across sectors and disciplines. Almost all of the issues to be studied will involve disciplines such as economics, engineering, and social science, leading to research that will be inherently interdisciplinary. The issues will be scientific, institutional, budgetary, economic or social in character. Moreover, they will be of regional, national, and international interest.

Given the array of policy issues in areas of weather, climate, water, and near-space policy, etc. that face the nation, a broad range of studies is needed. Data access in the context of full and open national and international data exchange; intellectual property conflicts; public-private sector roles in the provision of services; air quality regulations and incentives; the response to future climate variations and change – all of these pose policy issues with important national and global consequences.

The APP is unique among policy institutions. We are part of a scientific and professional organization that has a true policy program in that we analyze and educate rather than advocate. It is vital that the APP be widely seen as objective in its research and educational activities. For that reason, it is important that the APP not engage in any direct advocacy efforts. However, APP reports prepared through scholarly studies could be used by interested parties to advocate certain governmental actions and implementation of specific policies.

INCLUSIVENESS

Policy issues within the Earth system science and services touch upon virtually every sector of the economy and upon daily life in this country. The APP will develop affiliations or working arrangements with experts in a variety of backgrounds, including economists, sociologists, political scientists, geographers, hydrologists, agriculturists, transportation specialists, public health specialists, public administrators, etc. Specifically, it is intended that the APP will forge partnerships or affiliations with the public, private, and academic sectors. As the AMS represents all three sectors, the APP will ensure that interests from these areas are represented in the research and educational activities of the Program.



Goal One:

PREPARE SCIENTISTS TO CONTRIBUTE EFFECTIVELY TO THE POLICY PROCESS

The AMS Policy Program (APP) is taking steps to ensure that current and future scientists are prepared to handle weather and climate policy issues that directly affect our safety, health, economy, environment, and national security. In dealing with these issues, society faces many challenges that are not just scientific and technical, but also policy oriented. Public policy impacts the Earth system (i.e., climate change, air quality); shapes our sensitivity to weather, climate, water, and the near-space environment (i.e., electricity deregulation, land use); and can either enhance or constrain the utility and value of Earth system science information (i.e., managing watersheds). Policy can also affect the viability of these sciences (i.e., budgets, data sharing, education, immigration policy, public-private partnerships).

OBJECTIVES

Provide professional development and leadership activities

Congressional Science Fellowship

The demands on Congress to establish sound public policy on scientific issues have never been greater. A quick reading of any newspaper illustrates that science is a major component of many issues, which Congress must address. The effects of these decisions on society and on scientists are far-reaching. In recognition of these facts, the APP sponsors the AMS Congressional Science Fellowship with support from the University Corporation for Atmospheric Research (UCAR). The Congressional Fellow participates in a year-long program administered by the American Association for the Advancement of Science (AAAS) where he or she works for a Member of Congress or a Congressional committee. Since 2000, the APP and UCAR have supported one Congressional Fellow every year. Some have remained on Capitol Hill after their fellowship and some have taken that experience back to their professional careers.

Summer Policy Colloquium

The AMS Summer Policy Colloquium brings a select group of students, faculty, mid-level managers and scientists to Washington, D.C. for an intense, 10-day immersion in policy. The Colloquium, which began in 2001, provides an overview of policy basics and how decisions are made governing the course and future of Earth system science. Participants have the opportunity to interact with federal officials, Congressional staffers, and others who make policy decisions. This activity helps participants build skills, experience, and contacts they can use throughout their careers to understand and influence the policy process. The participants can gauge their aptitude for and interest in the challenges of matching atmospheric science to national priorities, and scientific program leadership. Most participants are supported by their host institutions. In addition, the Paleoclimate Program of NSF Geosciences (Atmospheric Division) provides critically needed support for 10 graduate students each year, as well as two faculty members from Historically Black Colleges and Universities and Minority Serving Institutions. The Colloquium has over 200 alumni, who are moving up into leadership and policy-level positions. The alumni continue to network at the AMS Annual Meeting, through collaborations, and will be benefiting the field as a whole.

Develop policy curricula for university science departments

The APP is developing policy curricula that can be implemented at universities wanting to integrate policy aspects into their science curricula. The integration of science and policy has been a challenge in academia for various reasons: lack of interdisciplinary courses, resistance from professors, the need to fulfill necessary degree requirements, etc. In addition, students are not likely to take policy courses in a different department. Therefore, we are assisting university faculty to integrate policy material into current or new courses. This effort, which began in



2004, will include Earth system science, with a focus on meteorology, space science, oceanography, hydrology, etc. The course material will be prepared for upper undergraduate and graduate levels. In 2005, a pilot course on “An Introduction to Science Policy: Space Weather and Meteorology” was developed and implemented at the George Mason University School of Computational Sciences.

Develop case studies and other instructional materials

The APP is developing policy course material, primarily case studies for atmospheric and related sciences curricula that deal with the main policy issues facing the field (e.g., public-private sector partnership, international cooperation, economic impacts, federal coordination, and public goods). Cases continue to be developed through the summer policy colloquium. Case studies are designed for a university course or seminar and will be made available on the APP website. While the main objective is to educate scientists about policy, the developed case studies could be useful for a variety of audiences: science students, policy students, scientists, policy officials and the public.

OUTCOMES

Prepare current and future scientists to effectively participate in the policy process

Advance AMS members’ understanding of the relevance between science policy and their work

Increase the pool of scientists with backgrounds in the atmospheric and related sciences who will be better prepared to effectively participate in the policy process



Goal Two:

KEEP POLICYMAKERS ABREAST OF SCIENTIFIC ADVANCES & THEIR RELEVANCE

From the local to the federal level, policymakers confront daily and long-term decisions on scientific issues. The AMS Policy Program (APP) will help policymakers keep abreast of advances in Earth system science, as they relate to public health and safety, national security, the economy, and the environment.

OBJECTIVES

Provide scientific seminars for policymakers

The APP hosts a monthly series of educational and policy-relevant, environmental science seminars on Capitol Hill based on subject areas that are topical and timely. The audience includes Members of Congress and staff, media, and the public. The seminars will highlight multiple scientific perspectives on an issue in a conversational and informative style. Periodically, our audience will be asked to participate in quality control surveys intended to improve the process.

The AMS seeks out speakers who have earned the respect of their peers for the quality and integrity of their work by having amassed a solid and substantial track record of peer-reviewed publications in highly regarded and respected scientific journals.

Facilitate live, real-time exchanges between scientists and policymakers

Each of the seminars will include a significant time for exchange. This real-time exchange is essential to fostering awareness, understanding, and communication among the participants.

Create an archive of educational materials on the AMS website

The seminar summaries and additional materials will be available and archived on the APP website.

OUTCOMES

Establish the AMS seminar series as a highly regarded, credibly and knowledgeable source of policy-relevant scientific information for Members of Congress, their staff, and the public on policy issues related to Earth system science and services

Increase awareness among policymakers and others of the importance and relevance of Earth system science in the interest of maintaining and improving the health and wellbeing of society



Goal Three:

FOSTER MEANINGFUL COLLABORATIONS BETWEEN SCIENTISTS & POLICYMAKERS

The AMS Policy Program (APP) will foster meaningful collaborations that will maximize positive applications of Earth system information and minimize negative impacts of weather and climate phenomena.

Earth system science impacts the nation's safety, economy, environment, and national security, through daily fluctuations; extreme events such as hurricanes, tornadoes, floods, and drought; and longer-term weather patterns like El Niño and La Niña, which exist for an entire year or more. Each year, weather and climate impacts on national activities amount to thousands of deaths and billions (in some years, hundreds of billions) of dollars in property loss and business disruption. Using information about prospective weather and/or climate variations can confer significant gains in safety, efficiency, and productivity on the nation's activities.

OBJECTIVES

Develop a series of policy studies to build a national consensus on new policies to improve the value of Earth system information

The APP continues to undertake studies to develop a consensus among providers and users of weather and climate information, academics, and policymakers from a broad range of perspectives. These studies, which began in 2000, focus on policy issue questions whose answers result in recommendations for policies that will lead to improved weather and climate information, products, and services designed to improve the efficiency of important national activities. The recommendations also address the needs for infrastructure enhancements; research and technology developments and applications; and educational innovations.

Focus the studies on four sectors: public health and safety, economic growth, the environment, and national security

It is increasingly evident to private and public sector leaders, as well as the general public, that a safer nation, an expanding economy, a more hospitable environment, and a greater measure of national security in the future can be realized with more accurate, timely weather and climate information. In many instances, these improvements require multi-national arrangements, greater coordination across Federal agencies, and/or partnerships among government, industry, and academia. In virtually every case, new policies will have to be developed to enable improvements in national weather and climate capabilities, as well as to apply these advances to the respective national activities.

Organize the studies to develop a consensus among the participants on policy actions

The APP organizes each study to encompass as many as five phases:

Development phase –This initial phase includes identification of the critical elements and the key individuals, the casting of questions to focus the forum discussions on the central issues, and the assembling of study papers responding to the focus questions.

Forum phase – A forum is organized to bring together significant players in the topic area with appropriate representatives from the weather/climate provider and user communities, as well as national, state, and local governmental leaders. One objective of each forum is to identify the weather and/or climate information needs of the entities within the topic area and the capabilities, present and future, to meet those needs. A parallel objective is the consideration of public and private policies that could enhance the availability and utility of weather and climate information.



Each forum is organized around a series of panels that present thoughtful, provocative responses to the focus questions identified in the development phase. Study papers and other materials responsive to the questions are made available prior to the forum. The ensuing discussions explore the national capacity of the public, private, and academic meteorological sectors to provide weather and climate products and services necessary for improving the efficiency and productivity of the particular activity under consideration.

Analysis phase – In many cases, a forum results in the identification of complex issues that require more than limited interactions among the larger group of forum participants. For those cases, the APP assembles a focus group of appropriate experts to carry out an analysis of key questions and synthesis of findings, optional policy actions, and recommendations.

Report phase – The primary product of each forum is a report that is prepared by the APP to summarize the discussions with special attention to the findings and recommendations. Each report is given wide public exposure and a targeted distribution so that the appropriate institutions and/or agencies will consider implementation of the recommendations. Briefings that present the findings and recommendations are organized for federal agencies, Congress, and the media.

Action phase – The APP works with significant players in the topic area as well as federal, state, and local legislative leaders and corporate representatives to assist appropriately in the implementation of the recommendations, as requested.

OUTCOMES

Provide high-level policy options and recommendations

Improve communication between the public, private, and academic sectors in dealing with Earth system sciences, as they relate to public health and safety, national security, the economy, and the environment



Goal Four:

DEVELOP THE NEEDED POLICY RESEARCH

The AMS Policy Program (APP) is working to build the field of policy research with respect to Earth system science and services, in several ways. First, the Policy Study Series itself is an important tool for the development of policy analyses with respect to major challenges facing society. Each body of study builds on a core study developed over a period of months by small teams of seasoned investigators. However, that body of policy analysis by itself will not cover all facets of this subject. The APP is therefore working to build federal support for policy research more broadly. The basic approach is to build the capacity of the field of policy research as a whole rather than only accomplish the needed research in-house.

The policy research and associated policy literature in this area involve:

Limited amounts of funding. Funding for research is small in amount. Windows for research support are isolated and intermittent. Support is spotty and ad hoc, focused on topics of momentary urgency. No framework for policy studies exists to guide and support long-range, multi-institutional and multi-disciplinary investigations of these issues. Opportunities for publication are correspondingly few. As a result, the body of policy literature available is small as compared, for example, with fields like public health policy, nuclear policy, etc.

Out of date analysis. Science and technology are advancing rapidly in this arena. Societal needs, and awareness of those needs, are also growing rapidly, and evolving in response to technological advance and social change. Work completed even a year ago in response to needs perceived five years ago is no longer adequate.

Rudimentary analytical tools. Much of what little economic literature on cost-benefit exists relies on techniques such as contingent valuation, which have major and well-documented deficiencies.

Academic barriers. Economists and political scientists advance more readily in their disciplines to the extent that they further the discipline itself rather than devote themselves to applications. This problem, which is widespread, is normally overcome by structured, long-term federal support for such vital applied research. That is largely lacking in Earth system science.

OBJECTIVES

Develop AMS annual policy research conferences

We will convene regular policy research conferences, initially as part of the AMS Annual Meeting. These will provide researchers an opportunity to communicate their research to a broad audience of peers and receive prompt and searching feedback from this same group. The conferences will provide special opportunities for new investigators to present their work and make themselves known to the community. In addition, conference organizers will seek to draw in one or more panels of practitioners in the national and international policy arena to discuss issues currently in play and help shape the emphasis and course of future research to meet practical needs. At the same time, because the AMS Annual Meeting attracts many policy officials from Washington DC, many of them will likely participate in these sessions and contribute further to the dialog itself and the spread of ideas. Similarly, the Annual Meeting brings in a good many members of the international community, and offers unique opportunities to consider aspects of international dimensions of these policy issues.

Work with Federal agencies to establish programs of policy research

The APP is working with federal agencies to establish funded, structured programs of policy research (through the usual grant mechanisms). The 2004 AMS GEOSS workshop has already called for the establishment of just such a program.



Assist AMS in establishing a policy research journal

The APP will work with the AMS Publication Commission to establish a policy research journal. Numerous environmental policy journals exist, and the AMS will not duplicate these. By contrast, the proposed AMS journal would accept research publications from the much broader fields of inquiry. Topics would include, for example such broad areas as the intersection of Earth system processes with telecommunications, transportation, agribusiness, construction, energy, and other sensitive sectors of the economy; the nexus between weather and climate and global security; the mixed public-private good qualities of Earth system science and services, etc.

Foster collaboration among science and public policy research centers

We will foster communication and collaboration among heads of science and public policy research centers, for the purposes of advancing such research, and sharing solutions to common problems faced by such centers and institutes.

Pursue policy research

While the other objectives will build capacity in the policy research arena generally, the APP will still find it appropriate from time to time to conduct its own policy research, with either in-house or external funding. Such research may be used to seed a promising area of research that deserves future emphasis, or fill in gaps in lines of investigation by other individuals and institutions.

OUTCOMES

Provide a venue for social scientists to share their research within the AMS community

Provide insight and guidance for current and future scientific programs and policies and their effectiveness

Allow research to be disseminated to a much larger and broader community nationally and internationally

Facilitate policy frameworks for considering policy issues within Earth system science and services



Goal Five:

SHARE OUR VISION AND RESULTS

Earth system science impacts almost every part of our daily lives. The AMS Policy Program (APP) recognizes this impact and will identify areas of weather, climate, water, and the near-space environment that need development. The APP will educate decision makers about environmental science behind policy; educate scientists about the policy process; and create a venue for stakeholders and decision makers of weather, climate and national priority areas to discuss gaps and improvements in products, services, and policies. All of these programs are essential to improve our society. To truly make an impact, however, the APP will participate in activities to ensure that our ideas, policies, and goals are implemented through stakeholders, decision makers, and the general public.

Toward this end, the APP will facilitate meaningful exchanges between members of the media and members of the Earth system science community, in the interest of improved understanding and cross-communication between the science community and the media and ultimately, the general public.

OBJECTIVES

Influence behavior and outcomes by sharing our results

Study reports

We continue to disseminate our policy study series reports in forms that can be easily read by everyone while providing both the technical and policy content.

Brochures and other publications

We have a set of brochures and publications regarding our programs and most current events. This information is disseminated to our stakeholders at forums, seminars, AMS Annual Meetings, and is given to our sponsors and underwriters. Press releases are also used in disseminating information.

Establish our website as a leading resource of policy information

Although conferences, meetings, and colloquia are a great way to reach many scientists, it is impossible to meet every scientist who is trying to access policy information. The APP will continue to develop the web site as a leading resource of policy information to update our stakeholders on upcoming events, new policy findings, or additional policy information. We plan to include the following information: a survey of journals where authors can publish their policy research, a listing of university departments where students can learn about policy, a calendar of events for policy talks, and suggested reading.

Collaborate with AMS public affairs in getting timely information to the public

Publications

Another way that the APP shares its projects is through the Bulletin of the AMS (BAMS), which reaches all AMS members. Articles update our members on upcoming events, policy issues, or report findings. We will also work with the publications staff to get larger articles into other AMS journals, as well as other scientific and policy publications.



In addition, we will work with the media to highlight our events or share the findings of our Policy Study Series, as well as our Science Seminar Series. We will also address current events through editorials and articles.

Broadcasters

AMS is a unique community in that we have at least one member of our Society at almost every television station across the nation. Broadcast meteorologists are an excellent intermediary between the scientific community and the public. As broadcast meteorologists play a larger role in the programming of science topics, they will have more opportunities to educate the public on environmental issues that cut across disciplines. The APP will work with representatives of the broadcast community to facilitate incorporation of information regarding our policy studies into their science news.

In addition, we will showcase the results from our policy studies into formats that are useful for other outlets, including the “Discoveries and Breakthroughs Inside Science” program operated by the American Institute of Physics.

Improve cross-communication between the science community and the media

On a more fundamental level, through workshops and conferences, AMS will improve scientists’ understanding of the media and the media understanding of scientists and the scientific process. This ongoing process will heighten scientists’ awareness of the importance of effective communication and journalists’ responsibility to scientific information. The goal is an improved communication of science broadly.

OUTCOMES

Reach out to our different user communities, policy communities, AMS members, and the public

Keep AMS members abreast of policy issues affecting their work

Provide resources for policy issues within Earth system science and services

Improve the public’s awareness of the role of science in their daily lives, and encourage more effective public involvement in science-based policy issues.