

## Geographical Research for Public Policy

Most practitioners of geography "want to make a life, not just a living." In a 1972 article authored for *The Professional Geographer* titled "Geography and Public Policy," Gilbert White wrote, "Let it not be said that geographers have become so habituated to talking about the world that they are reluctant to make themselves a vital instrument for changing the world." Academic geographers are more willing than ever before to market our knowledge base, theories, and skills to business, industry, and government. And we are *in demand* more than ever. Tom Wilbanks listed three ways by which geographers contribute to the formation and evaluation of public policy...the laws, plans, actions, and behaviors chosen by government. First, our scholarly, refereed publications of research influence decisions indirectly. Second, geographers prepare reports for specific users, perhaps as consulting reports or reports on independent scientific review panels. This work ranges in visibility from the "gray literature" that is rarely seen by the public to highly visible National Research Council reports meant to provide a science-based guide for government agencies. Third, geographers may actually become part of the decision-making process through advocacy or political decision making. University of Buffalo geographer Meghan Cope conducts research on children's conceptualizations of urban space and two strategies that can help create child-friendly cities: youth councils that serve as advisory boards to municipal government, and a concept called "Youth Policy Filters," which resemble environmental impact statements but focus on how new policies and developments would impact children/youth. By also getting involved personally (and getting her students involved) in these two strategies, Meghan is contributing to public policy formation in all three ways outlined above.

Geography can point to its share of visionaries who have had an impact on

public policy on a national or international scale. Consider for example, the work by Bob Kates and Gilbert White, for which they received the National Medal of Science in 1991 and 2000, respectively. Kates' longtime work on world hunger has been extended through the international Initiative on Science and Technology for Sustainability; he continues to connect science and policy in pursuit of sustainable futures. Gilbert White's influence on federal policies on floodplain management, water use, and natural hazards is well documented. White was also entrusted with the National Academy of Science complex and controversial 1999 study on Middle East Water for the Future. Gerald Galloway has also contributed to federal flood hazard management policy analysis, including the post-mortem on the 1993 Mississippi River floods and the decay of our nation's water infrastructure. In two books, Will Graf has evaluated the debate on public land policy between environmentalists and developers (*Wilderness Preservation and the Sagebrush Rebellions*), and multiple issues in the Colorado River Basin...the impact of dams and the causes and effects of arroyo cutting, invasive species, and soil/water quality problems from salinity, heavy metals, and radioactive materials. More recently, in a 2002 report for the Heinz Center for Science, Economics and the Environment, Graf switched from evaluating policy to describing how science can provide the policy basis for decision-making in the removal of dams. Similarly, Graf chaired the National Research Council Committee on Endangered and Threatened Species of the Platte River. The 2005 NRC report detailed the spatial-temporal linkages between upstream irrigation withdrawals and reservoir management, metamorphosis of the Platte River in Nebraska from a

braided to single-thread meandering channel, vegetation encroachment on the floodplain, and the loss of habitat for the whooping crane, other birds, and fish. Susan Cutter's views on hazards and risk, vulnerability science and environmental justice have received public airing in the national media; her opinions are now a regular part of the National Academy of Sciences Geographical Sciences Committee.



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Dawn Wright served on the National Academy of Science "Needs for Coastal Mapping and Charting Committee" that evaluated public policy related to coastal mapping for hazards and homeland security. Their recommendations were shared with the President's Commission on Ocean Policy. The benchmark book authored by Jack Ives

and the late Bruno Messerli systematically took apart the internally consistent but externally inadequate "theory of Himalayan environmental degradation," helping to defuse international tensions in South Asia over flooding, sedimentation, and channel shifting.

Two best-selling books have promise for indirectly affecting policy by reaching a broad audience: *Collapse: How Societies Choose to Fail or Succeed* by biologist-turned-UCLA geography professor Jared Diamond, and *Why Geography Matters* by Harm de Blij. Diamond's tome proposes a five-prong model for why some societies fail...climate change, hostile neighbors, changes in trade partners, environmental problems (twelve specific ones), and failure of societies to respond to environmental problems. De Blij's volume presents the challenges of climate change, the rise of China, and global terrorism as threats to America, caused in part because of our geographic illiteracy.

Most geographers find an effective way to help form or evaluate public policy

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outside of serving on NRC committees or writing best-sellers. John Adams gives frequent talks on "how metropolitan regions work" to legislative committees, foundation boards, city councils, the print and broadcast media, policy conferences, planners, and neighborhood groups. Adams characterizes his talks as "public geography" in which he discusses the impact of policies on land use, transportation, poverty, housing, and neighborhoods. Alan Taylor has researched the use of prescribed fire to meet ecological or other management objectives in the Lake Tahoe basin and in Lassen National Forest. His work has been used to help formulate policy on ecosystem restoration in fire-prone forests. Alan also serves as an instructor at the National Advanced Fire and Resources Institute in Tucson. Kathy Hansen and Karl Birkeland are researching how snow stability varies in time and space on mountain slopes for the purpose of improving avalanche forecasting. The results have been provided directly to avalanche forecasters and their methods are being shared with researchers in Canada, Switzerland, Austria, and India.

The Applied Geography Conferences have provided a forum since 1978 for interaction between academic geographers and practitioners in business, industry, government, and education. Burrell Montz and Graham Tobin have served as co-Executive Directors for many years, carrying on the torch from Andy Schoolmaster and John Frazier before that. Since 2004, John Wertman has served the AAG as its "Washington Monitor." John keeps an eye on government activities of interest to geographers, including agency funding, appointments, congressional hearings, and legislation. The AAG has acted proactively on selected issues, consistent with its mission, on scientific freedom, and issue of data collection and management at the Bureau of Labor and the Census Bureau. The AAG has organized two congressional briefings in 2005, one on May 23 on "the State of Democracy-Engaging a Changing Citizenry," and a second on June 14 on "Building

Geographic Management Systems." The AAG sponsored book, *WorldMinds*, details geographic solutions to 100 problems ...many of which involve public policy.

GIScience has increased the influence of geography in public policy by leaps and bounds. Instructive case studies are described in the ESRI booklets, *GIS in Public Policy* and *Zeroing-in: Geographic Information Systems at Work in the Community*.

Some of my own research, in collaboration with colleagues and students, has exerted some affect on public policy. One study on the effects of army tank maneuvers on wind erosion provided the data that could be used to alter U.S. Army policy on scheduling the location and timing of war games at Fort Bliss Military Reservation. A study on the effects of Jackson Lake Dam on the Snake River in Grand Teton National Park yielded results that could be used by the National Park Service to approach the Bureau of Reclamation with proposals to alter the timing and magnitude of reservoir releases in a manner that could optimize conditions for fish, bald eagles, moose, safe recreational boating, or biodiversity at the landscape and species levels. Results from our study of disappearing glaciers in the Wind River Range of Wyoming helped document the what portion of water supply was generated from glaciers, and the prospects for losing that source of later summer water for downstream users in upcoming decades. The State of Wyoming is now looking again at proposals for weather modification to enhance winter snowfall in the mountains. A study in the Routt-Medicine Bow National Forest revealed that timber harvest only accelerates mass movement in one of twenty-six landtype associations (composites of geology, landforms, soils, vegetation), which were mapped using GIS. This influenced the decision-making about where clear-cut logging would be allowed.

Geography is the original environmental science. By combining our old "muddy boots" tradition of field work with newly acquired skills in GIScience, we have much to contribute to the public policy

arena. We understand that the landscape operates differently when considered as a whole than would be predicted by adding-up the effects of its innumerable, individual parts. We can explain the policy ramifications of the place-dependency of processes, the interlocking of processes at multiple scales, and the integration of spatial and temporal analysis. But first...you have to want to enter the arena. Be mindful that science is not the only basis for forming public policy. Others include common sense, trial-and-error, professional rubrics (e.g., best management practices), direct experience and beliefs, standard business practices, voting, and lawsuits. Let's remember the words of Saul Cohen, "One of the marks of the value of a scholarly discipline is the extent to which it has something to say about matters of social significance."

Thanks for all you do for geography.

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## AAG Holiday Open House

You are cordially invited to join your colleagues for the annual AAG holiday open house.

Thursday, December 15, 2005  
4:00-7:00 p.m.

AAG Meridian Place  
1710 16th Street NW,  
Washington, DC 20009-3198

Spouses, guests, and children are welcome.

Please provide the names and ages of children attending.



Please RSVP  
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All Members are Welcome