
Geography's Profile in Public Debate "Inside the Beltway" and the National Academies*

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Geographers continue to engage in public debate "inside the Beltway" by participation within and through federal agencies and through the National Research Council. Several examples illustrate the level and kind of this engagement, which has been concentrated on environmental and spatial data and analysis themes. Most professional geographers have the opportunity to engage in this form of public debate through participation in the activities of the National Research Council. The level of this participation has been surprisingly strong, given the small size of the community of professional geographers, and has helped to shape both U.S. and international research agendas relevant to geographic research. Participation, however, is concentrated in a few programs and individuals, raising questions about the sustainability of geography's voice in this public activity. **Key Words:** National Research Council, U.S. policy, international research, environment, spatial data, spatial analysis.

The End of the Beginning

There was a time when American geographers—Isaiah Bowman (*Time*, 23 March 1936) and Paul Siple (*Time*, 31 December 1956)—graced the covers of national news magazines and engaged in policy at the highest levels of political decision making. Recall that Woodrow Wilson's preparations for the post-World War I peace efforts were headquartered at the American Geographical Society, calling on the expertise of seven past and future presidents of the Association of American Geographers (AAG) (Wilbanks 1985, 5). The subsequent absence of geographers at this level of policy, diplomacy, and visibility appears to be associated with the demise of geography programs in the elite private research universities in the United States, which, for all practical purposes, severely restricts professional geography from the "pathways of power" and public visibility to which these institutions provide access (Murphy 1998). This absence, however, was not the beginning of the end, to paraphrase Winston Churchill, but the end of the beginning of geography's contemporary engagement in public debate affecting federal policy and federally

funded research activities. Such engagement has been metaphorically labeled "Inside the Beltway" by Graf (2003).

As noted by Wilbanks (1985, 5), the contributions by geographers to public policy and research address a highly diverse range of issues that reach inside the Beltway through a number of routes, including various international organizations operating in Washington, D.C. or with strong ties to federal programs of various kinds.¹ These contributions, perhaps more often than not, are obscured by the background architecture of decision making in the United States, which emphasizes behind-the-scenes work of individuals on task forces, panels, and committees veiled from public view and credit. For these reasons, I do not attempt an exhaustive accounting of geography's engagement in public debate inside the Beltway. Rather, I illustrate this engagement through a few examples of geographers (members of the AAG) working within or through federal agencies and through the National Research Council (NRC) of the National Academies. I focus on this last service because it constitutes a private unit with major federal and international influence through which most academic geographers, by

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far the largest block of members in the AAG, potentially have access to engage in public debate inside the Beltway. That such engagement constitutes public debate is registered in the de facto mission of the NRC—to provide Congress and the federal government with the “best” assessments of the science and uncertainties that the expert communities can provide. The assessments requested of the NRC often address highly contested issues of public policy significance, and the resulting NRC documents and reports constitute part of the decision-making process informing public decisions. Cases in point include the Bush administration’s reassessment of the science of global climate change vis-à-vis the conclusions of the Intergovernmental Panel on Climate Change (NRC 2001a) and the controversies over health hazards of breast implants (Grigg et al. 2000) and the safety of storing nuclear materials at the Yucca Mountain depository (NRC 1995).

Either kind of engagement—within or through the federal agencies or through the NRC—by geographers has been remarkably steady over the last one-half century and particularly effective in regard to the development of data programs for policy assessment and of major research initiatives with international reach. In this vein, geographers carry on the traditions of Gilbert F. White, whose research altered the way in which federal floodplain policy was set (Kates 1997, 89) and whose vision, along with M. Gordon Wolman, helped to establish Resources for the Future, one of the most respected, independent institutes worldwide addressing environmental, resource, and energy issues (Wilbanks 1985, 6).² Significantly, the human-environment theme engaged in by these two geographers remains one of two in which formal geographical thinking is most commonly recognized in public debate inside the Beltway. The other theme involves spatial data and analysis.

Inside and Through the Agencies

The number of professional geographers housed in federal agencies has never been large, but it has apparently increased of late, especially among programs in which the remote sensing and geographical information sciences play major roles. Indeed, much of the contribution by these geographers is intimately tied to the explosion in remote-sensing and other spatial data

collected and administered and spatial analysis undertaken by federal agencies. This rise in the GISciences is registered in Washington by the 1992 Executive Order establishing the Federal Geographic Data Committee and the significant number of requests received by the Mapping Sciences Committee of the NRC to assist federal agencies on questions of spatial data. Prior to the National Spatial Data Infrastructure program, John Kemelis led the White House Scientific Assessment and Strategy team addressing the 1993 flood in the upper Midwest, which included other geographers. Robert Marx was pivotal in the development by the U.S. Census Bureau of the TIGER (Topographically Integrated Geographic Encoding and Referencing) System, on which so much social research is now based. Robert Ford’s efforts over the past decade have been pivotal to the adoption of Geographic Information Systems as a tool for development assistance by USAID. William Wood, supported by other geographers in the federal government, led the Department of State to promote the role of spatially explicit data and analytical techniques to address environment and development in Africa. The resulting NRC effort, to which various geographers contributed handsomely, involved African representatives and researchers and produced the only science report from the United States to the 2002 World Summit on Sustainable Development in Johannesburg, South Africa (NRC 2002).

Geographers also serve on agency boards and engage important nongovernmental organizations that work directly with or lobby the federal government. An exhaustive list of such notable contributions, limited only to the past decade or so, would be substantial and illuminate such appointments as that of David Ward to president of the American Council on Education, Roger E. Kaspersen to the Science Advisory Board of the EPA (Environmental Protection Agency), and Roland Fuchs to executive officer of START (Global Change System for Analysis, Research and Training).

It is not clear that the community of geographers at large appreciates the contributions made by their peers in these ways, in part because of the sporadic information flow from inside the Beltway to the community and because much of the contribution concerns data generation, archiving, and distribution more than

policy and diplomacy. For example, I suspect that most professional geographers are unaware that Thomas Wilbanks (Oak Ridge National Laboratory) drafted the strategic plan for a nine-agency Clean Energy Technology Export initiative in the 2004 Congressional energy bill, which stakes out the U.S. international energy activities at new levels of fiscal commitment. More intimate knowledge, including consideration of geographers working beyond the Beltway, would probably reveal other recent examples of contributions to federal policy.²

With the National Research Council

Today, as in the recent past, the overwhelmingly strongest participation inside the Beltway by professional geographers (and in this assessment, AAG members) resides in contributions to the National Academies through the NRC.³ Since 1992, 108 members of the AAG representing fifty-eight different universities and colleges have contributed to NRC activities (Table 1). These geographers have served on thirty-eight boards, commissions, and standing committees, seven as chairs or cochairs, and 133 ad hoc committees, eighteen as chairs.⁴ This participation crosses the spectrum of NRC divisions, although it is concentrated in Division of Earth and Life Sciences and the Transportation Research Board. Geographers have long played a prominent role on the Mapping Sciences Committee and, of course, dominate the more recently instituted Geographical Sciences Committee (formerly the Committee on Geography), which emerged from an NRC study led by Thomas Wilbanks (NRC 1997). Moreover, the Board on Earth Science and Resources (BESR) is directed by geographer Anthony de Souza.

Through NRC participation, AAG members have been party to, and instrumental in, helping

the Council develop research agendas with national and international consequences for science and policy. Perhaps in no arena have these members had greater impact of late than in the development of environmental research. AAG members played pivotal roles in shaping the original U.S. Global Change Research Program (USGCRP) and in establishing the Standing Committee on the Human Dimensions of Global Environmental Change (HDGEC; Stern, Young, and Druckman 1992). This committee, in turn, worked with the USGCRP to establish a number of research directions directly relevant to geography (Liverman et al. 1998), perhaps none more so than that on Land Use/Cover Change, which has remained intimately tied to the international research program of that name, most recently chaired by Belgian geographer Eric Lambin. In turn, Dave Skole, Chris Justice, John Townshend, Ruth DeFries, and others have worked with NASA to translate this research theme into the agency's LCLUC (Land Cover and Land Use Change) program (Gutman et al. 2004). Geographers also were party to the NRC's Committee on Grand Challenges in the Environmental Science (NRC 2001b), which staked out various research directions that the National Science Foundation has subsequently followed (e.g., biocomplexity initiative), in many cases assisted in the Foundation by Thomas Baerwald.

Robert Kates, cochair of the former Board on Sustainable Development, which included M. Gordon Wolman, co-led the effort that produced *Our Common Journey* (NRC 1999b). This report, in concert with that from the Committee on the HDGEC, chaired by Diana Liverman (NRC 1999a), moved global environmental change science to the broader question of sustainability science, helping to reshape the federal agencies' current generation of environmental work. The work of these committees stimulated activities by the Geographical Sciences Committee, working with the HDGEC committee, and a sustainability science initiative (Clark and Dickson 2003) to propose the rudiments of a program on vulnerability assessment, the spirit of which ultimately found its way into the current Climate Change Science Program, along with the land change theme noted above, under the watchful eyes of Diana Liverman and David Skole, who served on the NRC's review team of that program (CCSP

Table 1 *Geographers and the National Research Council, 1992 to 2003**

1. No. of AAG members participating	108
2. No. of institutions represented	58
3. No. of boards, commissions, and standing committees served	38
• No. chaired or vice chaired	7
4. No. of ad hoc committees served	133
• No. chaired	18

* Information compiled by V. Bowen, NRC.

2003). Both of these themes were supported as well by the reports of the IPCC (Intergovernmental Panel on Climate Change; Watson et al. 2000), the various working groups of which were aided by significant contributions from geographers from around the world (Murphy et al. 2005).⁵ Linking climate to sustainability science, William Easterling chaired the NRC Panel on the Human Dimensions of Seasonal-to-Interannual Climate Variability (Stern and Easterling 1999), whose deliberations have influenced the U.S. government's new climate change initiative (CCSP 2003), and the IPCC. With intimate intellectual ties to the geographical sciences, these two themes join that on ecosystem services as the foundation for the new Global Land Project of the International Geosphere-Biosphere Programme and the International Human Dimensions Programme. In addition, promoted by William Wood (geographer in the Department of State), various elements of these themes were addressed by the NRC's Committee for the Geographic Foundation for Agenda 21, chaired by John Jensen and including Akin Mabogunje, Kevin Price, and Dave Skole, which produced *Down to Earth: Geographic Information for Sustainable Development in Africa*, the only science report from the United States prepared for and submitted to the United Nations Global Earth Summit in 2002 (NRC 2002; Wood 2004).

These examples, in one way or another, transcend U.S. research agendas, developing strong synergy with international programs sponsored by the International Council of Science, the United Nations, and similar organizations. Professional geographers remain highly active in this regard, exemplified by the role of Gilbert White in chairing the Committee on Sustainable Water Supplies for the Middle East. Sponsored by the science academies of Israel, Jordan, Palestine, and the United States, this committee united the water science communities in this most politically delicate part of the world and paved the way for potential water conflict resolution (CSWSME 1999).

Sustaining Geography's Participation Inside the Beltway

At the dawn of the AAG's new century, the contributions by geographers inside the Beltway

remain strong, especially given the paucity of formal geography programs in major private research universities and on the many councils and foundations that drive major research initiatives in the United States. It is doubtful that a significantly higher level of contribution will be forthcoming in the near future. The key question is—following Harman's (2003) argument about the allocation of societal support for geography in the academic "marketplace"—whether geography will be able to sustain, or modestly increase, the level of contributions that it has achieved and maintained over the past fifty years.

The small size and expansive reach of geography severely limits the scale of attention that its practitioners can bring to bear on any activity domain, be it research, pedagogy, or outreach. Consider the NRC only—the inside-the-Beltway program to which most geographers may potentially contribute. These contributions have been highly concentrated in a few programs and individuals (Table 2). From 1992 to 2003, thirteen geography programs accounted for 47 percent of the AAG members serving the NRC. Perhaps more revealing, nearly one-half of the AAG members' participation was undertaken by only twenty-one geographers, and almost one-third by eight! This concentration reflects, in part, who is asked by the NRC to participate in its activities. Who is asked, however, reflects individual and programmatic research visibility beyond geography and expertise relevant to the needs of the assessment in question. This visibility is enhanced by intellectual and programmatic investment inside the Beltway, either directly with federal agencies or via activities linked to national and international research program development. Increasing the number of individuals from our community who productively engage with these entities and activities and maintain multidisciplinary research recognition improves substantially the number of invitations to geographers to serve on NRC and National Academy of Sciences (NAS) initiatives. Such involvement, in turn, enlarges the presence of geography in public debates informed by science and in developing national and international research agendas rather than merely responding to them.

Sustaining or modestly increasing our engagement in these ways has yet further significance. What the geographic profession

Table 2 Programs Providing Three or More Members Serving the National Research Council, 1992 to 2003*

Program(s)	Number
University of California Santa Barbara	9
University of North Carolina	5
University of South Carolina	5
Pennsylvania State University	4
University of Washington	4
Boston University	3
Clark University	3
University of Colorado	3
University of Illinois	3
University of Maryland	3
University of Minnesota	3
University of Southern California	3
University of Tennessee	3

* Information compiled by V. Bowen, NRC.

considers geographical data and analysis and geography's topical interests continues to grow in importance to science and society. For example, the reach of GIScience continues to expand among the science and social science disciplines (Goodchild and Janelle 2004). Significantly, GIScience transcends academe to the worlds of business and "everyday use," as recently outlined by Douglas Richardson in *Nature* (Gewin 2004) and highlighted in a major story in *Newsweek* (Levy 2004). In addition, various integrated environmental and human-environment research agendas, complete with an appreciation for place-based approaches, continue to unfold, many of them promoted by the NAS and NRC in synchrony with large, international agendas. These events are being driven by ecologists, spatial econometricians, and experts from other fields as much as, or more than, by the professional geographic community. The consequences may prove significant in the shaping of the geographic profession in the future (Turner 2002a, b). Engagement "Inside the Beltway" ensures that the profession of geography will be an active participant in this shaping. ■

Notes

¹ The pathway through international organizations is less pursued by American geographers, although various members of the AAG have been highly active and influential in them. Examples include the various contributions of Anthony Bebbington (recently moved to the University of Manchester), Ben Wisner, and Dianne Rocheleau to such organ-

izations as the UNDP, Nature Conservancy, and Inter-American Foundation (Murphy et al. 2005).

² Wilbanks also notes correctly that, moving to the local and state level of public policy, the range of such examples enlarges dramatically (see Borchert 1985). Exemplary is the recent work by geographers at the University of Southern California that has affected metropolitan planning in the Los Angeles area (Miller 2000; Fulton et al. 2003).

³ The National Academies (National Academy of Sciences [NAS], National Academy of Engineering, and Institutes of Health) is not a federal program; each unit is a private, nonprofit organization established to advise the federal government on all matters related to science. The NRC was created in 1916 to serve as the review and research arm of the NAS and later the National Academies (above). Activities of the NRC are undertaken by research experts who serve on a voluntary basis on boards, panels, and committees.

⁴ These figures are based on a search undertaken by Verna Bowen through the various data banks of the NRC. The NRC does not keep information on the disciplinary degrees and specific department or program positions held by its many participants. As a result, I believe the figures in Tables 1 and 2 may slightly undercount the number of AAG members and geography programs meeting the criteria in question. At least two challenges to my original count in Table 2 resulted in checks of the records, revealing a missing individual in the record and another individual not credited by me to a certain program.

⁵ AAG members working on the most recent reports of the IPCC include: A. Anyamba, R. Balling, R. G. Barry, R. Bradley, I. Burton, G. Carbone, S. Cohen, T. Downing, W. Easterling, R. Kates, L. Mearns, R. Pulwarty, J. Robinson, D. Skole, B. Smit, and T. Wilbanks. Apologies to anyone overlooked.

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