CROSS CURRENTS IN WATER POLICY: FORWARD

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Water resources research, as well as related graduate education, has been a topic of interest to the Universities Council on Water Resources (UCOWR) for many years. A number of early meeting themes focused on the status, programs, funding, and directions of university water research. Given the changes taking place with many traditional societal values related to water, and the corresponding funding sources for university based water research and graduate education, it is appropriate that UCOWR return to the topic of 'current status and future directions' of water research in the United States.

The UCOWR Board of Directors, at its August 1997 meeting, approved "Cross Currents in Water Policy" as the theme of its 1998 annual meeting in Hood River, Oregon (being held August 4-7, 1998. *See program and registration information on page 44). The goal of the meeting is to examine emerging and changing water policies in the United States and evaluate how such changes may be impacting, or should be impacting, university-based water research and graduate education programs.

The purpose of this issue of Water Resources Update is to enhance and facilitate UCOWR discussions on Cross Currents in Water Policy. There are a number of key perspectives that need to be brought to bear upon any discussion of changes in water policy and potential impacts on university programs. A number of university and non-university professionals, representing various perspectives, have contributed to this Update issue. The contributions were solicited during the fall of 1997 and papers were submitted during the spring of 1998.

What are cross currents in water policy? In order to provide some understanding of the changes taking place, the strategic plans of a number of university water programs, state and local water departments, and federal agencies were reviewed. A summary of changing emphases derived from these planning efforts suggests the following trends:

Decreasing Emphasis	Increasing Emphasis
- traditional water disciplines	- nontraditional water disciplines
- national studies	- watershed studies
- results available after research	- information available during research
- paper reports	- electronic information
- refereed journal article product	- information for water users/managers
- wilderness area studies	- studies involving population centers
- investigator-driven studies	- issue-driven studies
- basic research studies	- applied research studies
- distribution and quantity of resources	- quality and accessibility of resources
- single water use studies	- integrated watershed studies
- restoration studies	- mitigation studies
- single-risk assessments	- multiple-risk assessments
- avoidance of controversial issues	- engaging in controversial issues
- technology-limitation driven decisions	- water-quality limitation driven decisions
- monitoring for management	- monitoring for the public's right-to-know

In trying to respond to the changes suggested above, it is necessary to understand what is causing the changes. In searching for the causes, a number of more specific questions can be asked:

- Are fundamental water policy changes being derived from the political process?
- Is the movement toward greater accountability in public programs a driving force?
- Is 'water education' creating a citizenry calling for policy changes?
- Is the public 'right-to-know' creating a need for policy change?
- Is implementation of 'sustainable development' or Agenda 21 from the Earth Summit forcing policy change?
- Is the effort to reauthorize major water laws forcing policy change?
- Are shifting powers at the margins of federal/state/local government levels driving the need for new water policy?
- Are lawsuits against prior interpretations of water laws creating new policy (e.g. the TMDL lawsuits)?
- Are privatization threats to the water 'industry' (in a manner similar to the electric and communication utilities) forcing policy changes?

In addition to the broader trends in water policy changes noted above and the questions related to why such changes are taking place, there are also questions that relate to water research plans and priorities. Within the above context, UCOWR can explore such questions as:

- What will be the future policy regarding Federal subsidies for water resources development and management in the United States?
- Is the funding for water research in the United States declining or is funding for water research taking on other forms?
- For example, are the water implications surrounding implementation of the Endangered Species Act removing funding for more traditional water research?
- What are the new forms of water research partnerships developing between universities and water managers?
- Is the need for public support for water research "demanding" that relevant water research results be routinely presented to the public in the manner of medical research results?
- Have peer review requirements resulted in water researchers talking only to themselves, thus reducing academic research relevance to society?

- How do universities undertake integrated watershed research on campuses with disciplinary departments and a reward system that forces disciplinary publication expectations?
- How can academic organizations more effectively organize themselves and partner with agencies to advance science-based water research and education programs?;
- In general, how can water faculty invigorate university-based water resources research in the United States?

The above trends in water policy, and questions about the corresponding nature of water research, set the stage for the contributors to discuss cross currents in water policy. Each was asked to view the changes taking place in water resources management, research and/or education from his/her perspective.

Penny Firth briefly summarizes the changes taking place in water management today as well as the 'crucible of thorny issues that result'. She notes that water researchers and educators can maximize their contribution to solving tomorrow's water management problems by integrating research and education. **David Moreau** provides a review of the history of water resources planning and management over the past 30 years and notes how the reduction in planning efforts has led to a fragmentation of water management functions. The reduction in planning efforts results in 'a giant step backward'.

Doug James discusses the need for water researchers to understand the problems facing water managers today, again noting the problems created by fragmentation in water management. Further, he suggests that academia needs to lead the 'escape from incremental thinking' in water resources management. **Chris Lant** observes what academics are saying to each other in the peer reviewed, water resources literature. He is concerned that academics are not bridging the disciplines in ways that appear to be needed to solve 'real world' water management problems.

Denise Fort presents her observations of the changes taking place in water management from the perspective of chair of the Western Water Policy Review Advisory Committee. As she notes, being chair of the Commission plunged her into the 'meeting place between public concerns and the work of scholars'. In particular, she notes the deep fractures in the world view of academics that exists when it comes to applying such concepts as 'sustainability' to water management.

What are those who perform and fund water research within federal 'water' agencies doing to address the changes taking place? **Bob Hirsch and Gary Mallard** summarize discussions within the USGS regarding future plans of the Water Resources Division. They describe five requirements for future success in water management and present nine issues they believe will be areas of increased emphasis during the next 10 years.

Peter Preuss describes how the U.S. Environmental Protection Agency is reorganizing to bring the best science to the most pressing water environment problems via a coordinated external environmental research program. He reviews several of the key themes currently being addressed by the research program.

The papers included herein, the presentations and discussions at annual UCOWR meetings, as well as the many papers and books written on evolving water policy, challenge all of us in higher education to understand the changes taking place and adjust our water research and education programs in a timely manner.