**Producing Policy-Relevant Scientific Knowledge via (Multiple) Environmental Models: Challenges and Opportunities**

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As demonstrated by the recent EPA/LimnoTech case, there exists a wide range of potential interpretations regarding acceptable margins of modeling error with respect to the science and policy arenas. Accordingly, in my talk I sought to provide some insights from the multidisciplinary field of Science and Technology Studies regarding the contested roles of trust, credibility, and uncertainty in the use of environmental computer models for democratic decision-making, and to address how the social sciences might help resolve such conflicts by promoting a collaborative approach to the development of multiple models.

As STS (science and technology studies) scholars would argue, most members of society perceive environmental computer models as mysterious, incomprehensible pieces of technology, or "black boxes." In previous eras, non-technologically educated citizens were more likely to trust the pronouncements of technological experts, but given the erosion of public trust in scientific expertise which has occurred since at least the 1970s, modelers who seek to produce "policy-relevant knowledge" now have additional tasks beyond their technical ones, that is, educational-oriented tasks directed at decision-makers and taxpayers about how models work and what can realistically be expected of them. Ideally in a democratic society, modelers would go even further by directly engaging decision-makers and stakeholders in the modeling process itself, but as the relevant literature on this emerging endeavor reveals, participatory modeling is an expensive, time-consuming process for which modelers may lack relevant training.

Nevertheless, the successes experienced over the past decade by small-scale participatory modeling initiatives, as revealed by greater adherence of affected stakeholders to model-derived regulations and by other conflict-resolution outcomes, suggest that this is a worthwhile pursuit. More extensive publicity of existing Chesapeake Bay Program initiatives to educate and involve stakeholders in the modeling process, as well as more in-depth anthropological, sociological, and historical analysis of these and related efforts, should be part of the strategy underlying the current movement toward multiple management models.