

Call for Papers

### H17 Communicating Scientific Consensus in Hydrology

For many water resources issues, scientific progress has outpaced advancement of institutional capacities. One reason for this situation appears to be misperceptions about the extent of scientific consensus. By its nature, the research community focuses on areas of uncertainty, even where there is broad consensus about core knowledge. However, the public and policy makers often perceive minor disagreements within the research community as major disputes or large uncertainty that precludes significant action on their part. Possible contributors to this confusion include media coverage that presents both sides of scientific issues with equal weight, as well as the intrusion of political sensitivities or policy agendas during creation of scientific consensus documents. Through invited and contributed presentations related to any of the hydrology disciplines or water resource issues, as well as extended discussion, this session seeks to identify common experiences and possible strategies for improved communication of scientific consensus.

Conveners: Holly C. Hartmann, Department of Hydrology and Water Resources, University of Arizona, PO Box 210011, Tucson, AZ 85721 USA,  
Tel: +1-520-621-3973, Fax: +1-520-621-1422, E-mail:  
[hollyh@hwr.arizona.edu](mailto:hollyh@hwr.arizona.edu) D. Brian Adams, 3850 Holcomb Bridge Rd., Suite 160, Norcross, GA 30092 USA, Tel: +1-770-409-7700, E-mail:  
[dadams@usgs.gov](mailto:dadams@usgs.gov)

Resolving key technical issues with the Yucca Mountain high-level waste repository  
by William L Dam, Jim W. Andersen, David J. Brooks, N. King Stablein

The U.S. Nuclear Regulatory Commission has established a regulatory strategy during the pre-licensing period for evaluating site characterization data, models, and interpretations made by the U.S. Department of Energy for potential disposal of high-level radioactive waste at Yucca Mountain, Nevada. The strategy, called issue resolution, involves multiple steps consisting of defining key technical issues; writing and updating status reports on resolving issues using a risk-informed, performance-based approach; and conducting public technical meetings to resolve issues. Resolving issues is an important regulatory process in order to receive a high-quality license application and to prepare NRC staff for reviewing a potential license application within the Congressionally mandated time frame. The issue is considered closed when the DOE approach and available information acceptably address NRC staff questions such that no information beyond what is currently available will likely be required for regulatory decision making at the time of initial license application. A closed issue does not preclude the issue from being raised at the licensing proceeding nor does it prejudice what the NRC staff evaluation of that issue will be after its licensing review. Regulatory attention is focused where technical uncertainties have the greatest probability of impacting the performance of the repository over a 10,000 year compliance period. Nine key technical issues have been identified covering geologic, hydrologic, geochemical, and engineering features, events and processes. These issues are integrated into a total system performance assessment involving model abstractions fed into computer simulation models that estimate long-term performance. The issue resolution process is focusing technical communication between agency specialists on areas of agreement and disagreement to evaluate data, models, and interpretations used in assessing post-closure repository performance.