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# Engaging with congress: An unexpected encounter

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# LETTER

## Engaging With Congress: An Unexpected Encounter

PAGE 180

AGU sent an e-mail to all of its U.S. members on 15 March 2011, encouraging us to meet with our members of Congress and ask them to be mindful of cuts to scientific research. I decided to take the advice that I often give to students: Never miss an opportunity.

I thank AGU and the public affairs staff for encouraging us to speak with our elected officials concerning science funding but, more important, for crafting and distributing "talking points" to get us over the activation energy barrier and make conversations flow coherently.

After a failed attempt to secure a meeting with any of my legislators through standard procedures, I unexpectedly encountered my representative, Bill Cassidy (R-La.), a member of the House Committee on Energy and Commerce, while I was out for a run. Despite being woefully underdressed for the meeting, I asked if I could have 10 minutes of his time to discuss upcoming votes for science funding as I quickly reviewed my mental Rolodex® of AGU talking points.

I opened with a question: "Do you own and use a microwave?" I asked him if he knew that this everyday appliance was an unpredicted benefit resulting from funding of the space program. These comments led us into a discussion of funding issues related to science. Rep. Cassidy engaged in the conversation and, in turn, asked me about rare earth elements and potential mining at "Mummy Mountain," which I inferred to be Mountain Pass, Calif. This provided me with the opportunity to highlight the need for a systems approach when making decisions about energy issues and the importance of reviewing the pros and cons of a system as a whole. I mentioned the situation surrounding not only mining for rare earth elements in this country, with our environmental regulations, but also the impact that mining has had in China, where there are fewer regulations and many coal-fired power plants. I noted that this approach holds for other energy issues as well. Rep. Cassidy replied that he thought hydraulic fracturing of rock for natural gas retrieval would "solve" our fossil fuel problem. However, I pointed out that this process uses enormous quantities of fresh water.

My conversation with Rep. Cassidy was productive and interactive. He assured me he would think carefully about cuts to funding of physical sciences prior to voting. As a medical doctor, he stated that he had broken with his party and voted for increases in funding for the National Institutes of Health.

I want to thank AGU for prodding me to take the initiative to engage with my representative and for providing an ideal tool kit for an effective approach as suggested in the talking points. I hope Rep. Cassidy heard my message.

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# MEETINGS

## Comparing Structurally Different Climate Models in a Paleoenvironmental Context

***Paleoclimate Modelling Intercomparison Project Phase 3 Workshop; Kyoto, Japan, 5–10 December 2010***

PAGE 180

The Paleoclimate Modelling Intercomparison Project (PMIP), endorsed by the World Climate Research Programme (WCRP), the Climate Variability and Predictability (CLIVAR) program, the Working Group on Coupled Modelling (WGCM), and the International Geosphere-Biosphere Programme (IGBP) Past Global Changes (PAGES) project, represents a community of researchers who compare structurally different climate models in a paleoenvironmental context. At a workshop sponsored by the Japan Society for the Promotion of Science, the University of Tokyo, and the Japan Agency for Marine-Earth Science and Technology (JAMSTEC), 100 representatives gathered to review progress toward the finalization of the PMIP Phase 3 (PMIP3) experimental design and simulations and to identify barriers that could be overcome to ensure that results are published in time to contribute to the next Intergovernmental Panel on Climate Change (IPCC) report. Participants included atmospheric scientists, oceanographers, and paleoclimatologists from the data and modeling communities.

At the meeting a number of time slice/transient experiments providing the focus for phase 3 of the model-model and model-data comparisons were discussed. Important components receiving particular attention were the time periods considered as part of phase 5 of the Coupled Modelling Intercomparison Project (CMIP5): the Last Glacial Maximum (LGM), 21,000 years ago; the mid-Holocene, 6000 years ago; and the Last Millennium, 850–1850 C.E. Presentations and discussion based on these intervals defined a road map so that model-model and model-data comparisons will provide the expected information on the ability of climate and Earth system models to reproduce climate sensitivity, the hydrological cycle, and major feedbacks, as well as interannual to multidecadal variability.

Other time slice/transient experiments discussed included studies of the Holocene (e.g., the 8.2 kiloyear event) and the Last Interglacial (~125,000 years ago) as well as the mid-Pliocene warm period (~3 million years ago); a general discussion on warm intervals led to the inclusion within PMIP3 of an ensemble of climate simulations for the Eocene (~50 million years ago).

An outcome of the meeting was a finalized design for a suite of simulations that will enable the community to compare the differences between models and the ability of models to predict climate change driven by insolation (e.g., mid-Holocene) and low (LGM), intermediate (mid-Pliocene), and high (Eocene) carbon dioxide forcing, as well as more rapid forcing mechanisms such as iceberg discharges and freshwater hosing (e.g., the 8.2 kiloyear event).

In previous iterations of PMIP a single experimental design for each time interval was defined. This remains a central pillar of PMIP methodology, but the meeting defined additional modeling studies to explore uncertainties derived from boundary condition forcing. This is best expressed within the newly published methodology for the Last Millennium (see G. A. Schmidt et al., Climate forcing reconstructions for use in PMIP simulations of the last millennium (v1.0), *Geosci. Model Dev., 4,* 33–45, doi:10.5194/gmd-4-33-2011, 2011). This new expansion in methodology is consistent with PMIP's dual role as a means to (1zz) compare models and (2) improve basic understanding of past climates. Specific ideas to explore the uncertainty in boundary condition forcing included ice sheet reconstructions for