

Climate Prediction Applications Postdoctoral Program (CPAPP)
– An Experiment in Interfacing Climate and Society

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This program was conceived and developed by the US CLIVAR panel on Predictability, Prediction and Application Interface (PPAI). The mission of the PPAI panel is to *encourage improved practices in the provision, validation and use of climate forecast information on sub-seasonal to centennial time scales through broad but coordinated participation within the US and active collaboration with the international climate and climate applications communities.*

A primary goal of this panel (<http://usclivar.org/Organization/PPAIpanel.html>) is, “To enable the use of CLIVAR science for improved decision support”. Within this goal, we sought to

- Develop integrated linkages to interdisciplinary programs: NOAA RISA and CPO, IRI, IPCC, CCSP, NASA efforts, NSF NEON / CUAHSI / CLEANR / ORION, Ocean Observing Systems, public entities such as WGA / NGA.
- Promote/support projects that link climate observations, forecasts, and scenarios with resource assessments and forecasts
- Promote sustained interactions with other disciplines and research communities to ensure delivery of “usable science”
- Emphasize spatial and temporal scales of information needed for applications. Contribute support for the development, use, interpretation, and evaluation of tools (e.g. downscaling) employed by applications.

Making progress in interfacing climate science with decision and information systems requires more than just good climate information; it requires a dedicated effort to understanding the problems and possibilities on both sides. To complement strategies tried in the past (hosting meetings of climate scientists and decision makers; trans-disciplinary research), which although useful reach a limited and finite audience, we sought a new approach. The idea was to develop a new population of individuals qualified to work closely with both the climate research and decision making communities, through a targeted and trans-disciplinary postdoctoral program.

Background:

Demand for research and guidance in climate-related risk management and decision-making has increased in recent years. This is due in part to the work of those involved in the NOAA RISA (Regional Integrated Sciences and Assessments) program and to the efforts of a relatively small group of scientists who are working at the interface between climate science and its application. A growing number of people and institutions are emerging to work at this interface, but the demand for these people far exceeds the supply. Demand also stems from constant advances within climate science, including better understanding of predictability, better prediction ability, and higher resolution of prediction products. These scientific advances make sustained efforts at the applications interface all the more imperative, since individuals are needed who understand both climate science and the needs of decision-makers. Increasing interest in communities such as decision support and risk/disaster management makes this an opportune time to launch a postdoctoral program to meet this demand. We see renewed societal interest

that provides a broad base from which potential candidates could be recruited. One approach to growing the pool of climate scientists who can work effectively at the boundary between climate and society is to encourage talented recent PhDs with expertise in climate science to work directly with risk management and decision-making institutions affected by climate. This developing body of professionals will be scientifically and technically knowledgeable in the field of climate with an understanding of the needs and issues of decision-makers. All participants will inevitably gain new perspective on the opportunities and limitations of incorporating climate information into decision making. This program offers a process for recruiting and training individuals with a focus on practical experience, and offers the prestige that comes from a participation in a nationally recognized and coordinated program. Clearly, this program will attract individuals who are interested in what is a highly rewarding, but currently a non-standard career in science.

The PPAI panel hopes that this program will yield real progress in bringing research to operations or policy, and establish as direct a connection to actual users of climate information as possible. The program is designed around explicit partnership between a climate research institution (CR partner) and an applications or decision making institution (DM partner). The post-docs will be dual-supervised, working closely with both institutions to bring advances in climate science to bear on the real questions and needs of the DM partner. One of hooks of this program that we felt was essential to the committed participation of the DM partners was that they contribute 50% of the cost of the post-doc, and this is how the program is currently configured. The other 50% will be covered by national funding agencies. As a US CLIVAR initiative, it is envisioned that the program will eventually draw funding from all the major agencies funding basic climate (DOE, NASA, NOAA, and NSF). In this initial pilot phase of the program, NOAA's Climate Program Office (CPO) has committed support to cover 50% of three postdoctoral researchers. Once the program is up and running, additional support will be sought from the other agencies.

NOAA CPO head Chet Koblinsky also requested that a Steering Committee be formed to develop and oversee the program. UCAR is administering the program, and the Committee (Lisa Goddard (IRI), Kelly Redmond (DRI/WRCC), Ben Kirtman (COLA), Eileen Shea (IDEA Center), Ed Sarachik (Univ WA), and Brad Udall (Univ CO & NOAA Western Water) is responsible for scoping the participating partner institutions and funding agencies, vetting the postdoctoral applicant pool, participating in the proposal and progress review process, and promoting the program, as appropriate. Here is how the CPAPP program currently is envisaged to work. There are two time lines – one for the postdoctoral researchers and one for the institutional partners.

Timeline for Post-docs:

- Mid-to-late September: Announcement of opportunity released stating the thematic areas of interest to the currently participating institutions.
- Mid December: Post-doc application due
- Mid January: Applicants notified whether or not to submit more detailed letter of intent. Short-listed candidates receive more detailed information on DM Partners and contact persons at that time.

- Mid March: Coordinated research plan due from short-listed candidates
- Ranking listed institutions (if more than) by post-docs
- Early April: Winners notified
- Post-doctoral appointments to begin NO LATER than beginning October

Timeline for CR and DM institutional partners:

- Mid January: Announcement of opportunity released for recruiting next round of CR and DM Partners
- Early July: Joint 2-page statement of intent due to Steering Committee
- Early August: Steering Committee review of 2-page statements
- Early September: Determination of institutional partners that will participate in post-doc AO released that mid-to-late September.

Many interested parties will be watching to see how this program unfolds, and the Steering Committee will be carefully noting where the program can be improved as it moves forward. We are extremely interested in growing this program and possibly developing a parallel branch that could extend to international interests, particularly serving developing countries. In this case, the funding might come from national or regional agencies in addition to NGOs, bilateral or multi-lateral development agencies and even private interests.

For more information on this program, please watch for the upcoming announcements , or contact one of the authors of this report.