

AAAS Leshner Fellows help confront climate impacts

By **Michaela Jarvis**

Climate scientists participating in the AAAS Leshner Leadership Institute are engaging communities across the United States in a way that could skirt—and possibly defuse—ideological opposition to acknowledging that the climate is changing.

On the front lines of a trend and drawing on training they received after being selected as the 2016 AAAS Leshner Fellows, the scientists are convening community leaders and policy-makers—in fields such as city planning, agriculture, disaster planning, and natural resource management—and asking them directly what kinds of scientific information they need to protect against ongoing changes in the climate, such as record flooding and heat waves.

“For me, public engagement is about working from the bottom up—one audience at a time—building relationships and trust, sharing knowledge, and figuring out how to address the needs of stakeholders,” said fellow Benjamin Preston, senior research scientist at Oak Ridge National Laboratory and deputy director of the laboratory’s 130-person Climate Change Science Institute. Preston is at work on an institution-wide plan to mobilize scientists to find out from city and county leaders “how our science, data, and tools can inform some of their challenging decisions.”

A March 2016 Gallup poll showed a sharp ideological divide in the acknowledgment of climate change, with just 40% of Republicans worried “a great deal” or “a fair amount” about global warming, as opposed to 84% of Democrats. According to research

on the phenomenon, climate scientists presenting their data to the public has had little effect on public opinion.

“More information or more basic knowledge doesn’t seem to overcome polarized differences on issues such as climate change,” Matthew Nisbet, associate professor of communication studies and affiliate associate professor of public policy and urban affairs at Northeastern University, told the fellows at a training session.

“The whole concept of public engagement,” said Tiffany Lohwater, AAAS deputy chief communications officer, who helps run the Leshner Leadership Institute program, “is recognizing that audiences have something to contribute to the conversation, that this can and should be a two-way dialogue. Particularly on issues that are politically polarized, this becomes even more important.”

Earlier this month, fellow Kirstin Dow helped organize the 2016 Carolinas Climate Resilience Conference to bring together representatives of local communities, nongovernmental organizations, state and federal agencies, and researchers. With more than 250 participants, the conference was designed to promote scientific study that is responsive to people’s needs, said Dow, professor of geography at the University of South Carolina and principal investigator of the NOAA-supported Carolinas Integrated Sciences and Assessments research team. In a region where lawmakers have suppressed reports

of climate-change effects, Dow said her team’s strategy is to “engage and support those responsible for public planning.”

Soliciting information from communities regarding exactly what kinds of measurements they need from scientists to deal with climate impacts is not always a straightforward process. “It has to be a conversation,” said fellow Jeffrey Dukes, “and it isn’t an easy one.”

In a meeting Dukes helped convene in northwest Indiana, he said community officials expressed a keen desire for information about flooding and record rains, but they were unclear whether they needed to know, for instance, how much rain fell in a half-hour or over two days in order to facilitate their planning. Dukes, who is director of the Purdue Climate Change Research Center, said a sort of interface had to be built between the scientists he works with and the community representatives, “to build foundational thinking on both sides in order to meet in the middle.”

Fellow Melissa Kenney, assistant research professor in environmental decision support science at the University of Maryland, worked with students this summer to synthesize the challenges of community representatives in the Chesapeake Bay by reviewing existing reports and other documents. “We wanted to do our homework so we didn’t ask a lot of questions that were already answered,” Kenney said. She and her team are looking for “research gaps and science translation opportunities” to approach community leaders with processes and tools that will “facilitate evidence-based decision-making.”

“In a densely populated watershed, climate is amplifying existing impacts on our region,”

added Kenney. “So we don’t have a choice; we have to make decisions to consider current and future climate consequences.”

As the director of the University of Minnesota’s Institute on the Environment and the head of the university’s Department of Ecology, Evolution and Behavior, fellow Jessica Hellmann works with natural resource agencies and land managers to help them confront climate impacts in their conservation planning. At the same time, she and her colleagues are reaching out to sustainability directors at corporations, who she said are “constantly seeking ways to make the sustainability case to corporate leadership.”

Dukes, for one, is hopeful that his team’s efforts will contribute to moving the public at large toward acknowledging and responding to climate change. “Climate impacts are happening, and it would be stupid not to consider them as we’re spending all kinds of money constructing infrastructure,” Dukes said. “We’re going to save Hoosiers money and strengthen our state, and hopefully that will encourage people to take climate change into account.”

The AAAS Leshner Leadership Institute is now accepting applications for 2017 from mid-career scientists working in infectious disease research. The application deadline is November 1. For more information, visit <http://leshnerfellows.aaas.org>.



Melissa Kenney (center) on the shore of the Chesapeake Bay

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