

Helping Seniors Cope with **Climate Change**

BY TED BOSCIA

When Hurricane Katrina engulfed New Orleans in 2005, catastrophic flood waters and fierce winds crippled the city's infrastructure, caused billions in property damage, and killed an estimated 1,500 Louisiana residents. The death toll cut across all races, but one characteristic stood out among the storm's victims: nearly three-quarters of the dead were aged 60 and older, with 50 percent of the victims aged 75 and older.

The stark difference in survival rates between young and old illustrates what scientists believe to be a greater vulnerability among seniors to environmental calamities like Katrina, where the elderly—many physically frail and with limited mobility—could not evacuate coastal areas ahead of the hurricane's onslaught. Older adults also figure to have the most trouble coping with the predicted negative consequences of climate change, such as the accelerated spread of human diseases, declines in air and water quality, energy shortages, rising temperatures, food supply volatility, and loss of suitable habitats.

As the planet warms, the worldwide population is also aging rapidly—the amount of people aged 65 and older is projected to double in the next two decades. The collision of these trends points to major public health concerns in the near future with a significant number of people becoming ill-suited to adapt to a wave of environmental challenges.

In July 2009, Human Ecology faculty, recognizing the urgency of this unstudied problem, brought together climate scientists, geriatricians and gerontologists, environmental psychologists, designers and architects, and researchers in the social and natural sciences for the first Cornell Conference on Aging and the Environment. The group, >>>



comprising researchers from across Cornell (including Weill Cornell Medical College) and from around the country, explored three main topics: environmental threats to the health and well-being of older people, environmental volunteerism in later life, and environmental impacts of senior housing and living arrangements. By day's end, the 35 researchers had agreed on key priorities for the study of the intersection of aging and environmental sustainability.

"This was the first time that an academic institution took the lead in addressing an important research agenda related to climate change and aging," said conference participant Kathy Sykes, director of the U.S. Environmental Protection Agency's Aging Initiative in Washington, D.C. "Cornell is a pioneer."

New modes of thinking

It sounds like the setup to a punch line: What do you get when you bring together a city planner, a geriatrician, and a climate scientist?

But at Cornell's aging and the environment conference, such scenarios proved to be the perfect stimulus for new modes of thinking about largely unexplored topics. Indeed, the cross-disciplinary collection of researchers listened to and debated the likely effects of climate change on seniors from every conceivable angle.

"In the area of health and the environment, for instance, a group of geriatricians would likely focus on what diseases older people would be exposed to as a result of climate change," said Rhoda Meador, conference co-facilitator and associate director of extension and outreach in the College of Human Ecology. "City planners would want to discuss how the structure of a community influences someone's health. Climate scientists would present the latest data on changes to our planet. When you combine all these perspectives around a shared topic, it's a recipe for very rich and productive discussions. In that way, the sum truly is greater than the parts."

The gathering followed a "consensus workshop" model, a research method created by Karl Pillemer, Human Ecology associate dean for extension and outreach, and partners in the Cornell Institute for Translational Research, to promote collaboration across disciplines. Prior to meeting, small teams of researchers reviewed and summarized existing research on the three main topic areas and drafted working papers. Once at the conference, they presented their findings and sought responses from all over the room. They could move forward with a particular proposal only after consensus had been reached.

As a result, Pillemer said, the conference conversations were freewheeling but purposeful, taking unexpected turns that led to fresh ideas. He described it as "a cross-fertilization of expertise from very different fields."

"To mitigate the effects of climate change and also secure the health and well-being of older adults, it will take a broad

exchange of ideas across disciplines," added Pillemer, professor of human development. "Climate change is a large-scale problem that touches every part of the globe. You have to work together if you want to have any hope of understanding its impact on older adults and also how to help protect them from the harmful effects."

The research agenda charted by the conference participants was published online in the *Journal of Aging and Health* in September 2010. Pillemer and Meador said that the paper will classify the problem and establish research parameters, but they also hope it will spur researchers worldwide to investigate aging and environmental sustainability and induce private and government funding agencies to support these new endeavors.

In fact, funding from the Cornell Center for a Sustainable Future's (CCSF) Academic Venture Fund, a pool of seed money awarded annually to the most promising multidisciplinary sustainability research on campus, led to the conference on aging and the environment. (The event was co-sponsored by the College of Human Ecology, the Bronfenbrenner Life Course Center, and the Cornell Institute for Translational Research on Aging.)

Since its formation in 2008, the Academic Venture Fund has mainly backed research focused on the technical and engineering aspects of sustainability, such as the development of alternative fuel sources, green building strategies, and methods for carbon sequestration. Yet this conference stood out as a catalyst for basic and applied research on the relationship between aging and environmental and energy issues.

"Sustainability is about the interdependence of energy, environment, and economic development, and the aging and

the environment workshop clearly connected the latter two themes," said CCSF director Frank DiSalvo, professor in the Department of Chemistry and Chemical Biology. "It explored new and unrecognized connections and interactions between human well-being, a central component of economic development, and the environment. The participants explored the challenges and opportunities posed by these connections, and the findings have already drawn national attention."

To gain CCSF funding, a project must also show promise for attracting external funding from private and government sources, often leading to a longstanding research endeavor. In this case, conference organizers hope to develop the Cornell Aging and the Environment Collaboration as a leading national center on the topic. They're off to an encouraging start, especially with many funding agencies increasingly calling for the collaborative projects that are the hallmark of Human Ecology.

"The college has always stood out for its interdisciplinary teams and its systems-oriented approach to major issues like childhood obesity or poverty," Meador said. "It shows even

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—Kathy Sykes,
director of the EPA's Aging Initiative

in the way our departments are oriented around themes and larger questions rather than single disciplines. It seems like the broader world of scientific research is starting to catch up with the way we've always approached problems in the College of Human Ecology."

Graying the green movement

To truly succeed, the green movement may have to go gray. That's one recommendation put forth by participants at the conference on aging and the environment.

Older adults, though most threatened by climate change, stand to be an important source of solutions to environmental problems. As the number of retirees worldwide climbs, there is growing potential for a large volunteer force for conservation efforts. And, researchers believe, civic engagement and environmental volunteerism are likely to be critical to slowing or reversing climate change, because world governments are unlikely to bring about such sweeping change.

Pillemer sees the demographic shift as a prime opportunity to make headway on environmental issues. In studies, many older adults often report a growing sense of stewardship toward the earth's resources as they age, he said.

"As baby boomers retire, they create a vast untapped resource to help improve our natural surroundings," Pillemer said. "They have time, money, and motivations that other age groups may not have to address the problem."

Meador added that many older adults are compelled by generativity, or "a sense in later life that they want to leave the world a better place for younger generations."

The paper published from the aging and sustainability conference proposes numerous research priorities to better understand how we become motivated to support environmental causes, with the goal of developing evidence-based interventions to encourage greener living. More specifically, it calls for studies on how environmental attitudes change with age, precautionary measures older adults can take to limit their risk of harmful health effects from climate change, and the barriers to and benefits of environmental volunteerism.

In an earlier analysis of 7,000 Northern California adults tracked over 20 years, Pillemer and co-authors found that volunteering on environmental projects was closely tied to increased physical activity, better self-rated health, and fewer symptoms of depression through old age.

"Environmental activism carries tremendous rewards for older adults," Pillemer said. "They can help the Earth and at the same time help themselves." ● ● ●



Cornell Participants at the Conference on Aging and the Environment

Rosemary Bakker, Geriatrics and Gerontology, Weill Cornell Medical College

Susanne Bruyere, Disability Studies, Industrial and Labor Relations

Janis Dickinson, Natural Resources, Laboratory of Ornithology, Agriculture and Life Sciences

Gary Evans, Design and Environmental Analysis, Human Ecology

David Feathers, Design and Environmental Analysis, Human Ecology

David Filiberto, Bronfenbrenner Life Course Center

Ann Forsyth, City and Regional Planning, Architecture, Art, and Planning

Esther Greenhouse, Design and Environmental Analysis, Human Ecology

David Kay, Development Sociology, Agriculture and Life Sciences

Joseph Laquatra, Design and Environmental Analysis, Human Ecology

Daniel Lichter, Policy Analysis and Management, Human Ecology

Lorraine Maxwell, Design and Environmental Analysis, Human Ecology

Rhoda Meador, Bronfenbrenner Life Course Center

Pilar Parra, Nutritional Sciences, Human Ecology

Karl Pillemer, Human Development, Human Ecology

M. Cary Reid, Geriatrics and Gerontology, Weill Cornell Medical College

Barbara Reissman, Public Health, Weill Cornell Medical College

Rich Stedman, Natural Resources, Agriculture and Life Sciences

Jennifer Sarah Tiffany, Family Life Development Center

Pam Tolbert, Organizational Behavior, Industrial and Labor Relations

Linda Wagenet, Development Sociology, Agriculture and Life Sciences

David Weinstein, Natural Resources, Agriculture and Life Sciences

Nancy Wells, Design and Environmental Analysis, Human Ecology

Elaine Wethington, Human Development, Human Ecology

Mark Wysocki, Earth and Atmospheric Sciences, Agriculture and Life Sciences

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