

August 31, 2009

Dear Board Member,

This month I am pleased to introduce Professor Nancy Grimm, an urban ecologist and authority on climate change impacts. Dr. Grimm's interview follows some key items of interest below.

Highlights of ASU's sustainability activities

- Just as Congress debates bills governing the export of electronic waste to developing countries, two ASU professors have published a paper considered to be the most authoritative investigation of the subject. Research by professors Ramzy Kahhat and Eric Williams, both in the School of Sustainable Engineering and the Built Environment (Williams is also on the faculty of the School of Sustainability), reveals the need for export laws that will encourage direct reuse of components and protect against environmentally dangerous methods of raw material extraction. [Read more.](#)
- ASU retrofitted six parking structures on the Tempe campus with light-emitting diode (LED) fixtures that will provide an annual savings of up to \$127,000 in energy and maintenance costs while reducing annual greenhouse gas emissions equivalent to what is produced by 208 passenger vehicles. A related lighting retrofit is also underway on the West campus that will save over \$100,000 in utility costs annually and reduce annual greenhouse gas emissions by the equivalent of what is produced by 172 vehicles. Read more: [Tempe](#) | [West](#)
- *USA Today's* Aug. 3 article titled, "College students are flocking to sustainability degrees, careers," featured the School of Sustainability and two of its graduate students, including one who expressed confidence in finding a job because of his uniquely rounded course of study. [Read more.](#)
- GlobalResolve is a social sustainability entrepreneurship program at ASU that works with impoverished African villages to find sustainable solutions. Projects include an LED lighting system powered by local water and twigs, a locally run gel fuel production plant, and portable water purification systems. School of Sustainability student Brian McCollow recently travelled to Ghana to document program results and has been photographing and blogging on these projects and his experiences. [Read more.](#)
- Dr. Henry Sodano, an associate professor in the School of Mechanical, Aerospace, Chemical and Materials Engineering and a leading researcher on energy-harvesting techniques, has developed a backpack that generates electrical power from pressure exerted on its straps as the wearer moves. This energy can easily run an iPod, mobile phone, and other devices. A column about his invention appeared in the *Phoenix Business Journal*. [Read more.](#)
- ASU was named by *Sierra* magazine as one of the nation's top 20 "coolest" schools for efforts to stop global warming and operate sustainably. The university earned an all around "A" grade and a #13 ranking. See the [full list](#) of 135 schools.

You can reach me at rob.melnick@asu.edu or 480-965-5233 with any questions or comments about this August briefing. The interview with Dr. Grimm follows on page two.

Best regards,



Rob Melnick
Executive Dean

cc: Jim Buizer, Teresa Forst

Q&A With Dr. Nancy B. Grimm

National Expert on Urban Ecology

Dr. Nancy B. Grimm is Professor of Ecology, Evolution, and Environmental Science, affiliate faculty member in the School of Sustainability, and Co-Director of the Central Arizona—Phoenix Long-Term Ecological Research project (CAP LTER), an interdisciplinary study of the Phoenix metropolitan area.

When did you first incorporate the ideas of “sustainability” into your research?

I've been aware of sustainability's relevance since the 1991 report, *The Sustainable Biosphere Initiative*, from the Ecological Society of America. Applying the concepts of sustainability, however, became directly relevant for my own research in 1998 when I began working in the field of urban ecology as principal investigator of the CAP LTER project. That made me consider how we can integrate the understandings of social sciences — human behaviors and actions — into ecological research.

What is your most important sustainability-related research project?

The CAP LTER project takes a long perspective on understanding human–ecological interactions in the Phoenix metro area. We study land change, climate, ecosystem structure and function, water, biodiversity, and material inputs, outputs, and transformations. Cities are prime ground for sustainability research: they are where most people live, and where both problems and potential solutions are concentrated. The key to finding urban solutions is they must be based in sound ecological principles or they won't prove to be sustainable.

How can your sustainability-related research affect policy?

I want to help decision-makers and planners incorporate an ecological perspective into the design and construction of urban landscapes. For example, we know it's a challenge to handle stormwater runoff in urban environments that have impervious surfaces and dramatically altered stream channels. Why not design ecologically sound ideas into the system such as nutrient removal, sediment trapping, and groundwater infiltration that have been successful in other regions? This is a conversation that must take place.

What is the world sustainability challenge that concerns you the most?

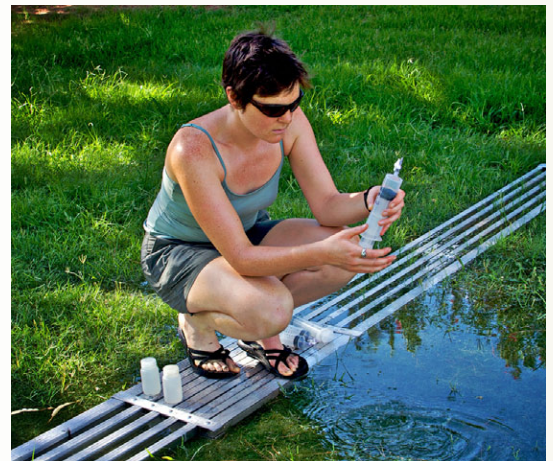
In the long run, I am most concerned about climate change — not just warming, but the severe climate and weather events it will cause such as drought, floods, sea-level rise, and storm surges. These will pose significant threats to people who live where risk is greatest, mainly in cities.

How is your message getting out?

Science magazine published my ideas on the role of urbanization in global environmental change in a special issue on cities released Feb. 8, 2008. I also coordinated the society chapter in the U.S. Global Change Research Program's synthesis book, [*Global Climate Change Impacts in the United States*](#), which was jointly released by the White House and has been described as the most comprehensive report to date on the possible impacts of climate change across America and the policy choices we face.



Dr. Nancy B. Grimm



A CAP LTER student collects water samples in a stormwater retention basin



CAP LTER technicians and graduate students survey desert study plots