



## **Stakeholder Workshop Report: POVERTY AND CLIMATE IN THE SOUTHWEST**

*The University of Arizona  
Friday, April 29<sup>th</sup>, 2011*

### **Objectives**

Below is a summary of the workshop held on April 29, 2011 with University of Arizona climate researchers, local government agencies and non-profit organizations in southern Arizona to discuss **POVERTY AND CLIMATE IN THE SOUTHWEST**. The aim of this workshop was to facilitate a conversation about the issues connecting climate, poverty, and vulnerability in the Southwest region of the United States and to identify vulnerable areas and priorities for future research and collaboration.

The workshop forms part of a research project funded by National Oceanic and Atmospheric Administration (NOAA) to explore the nexus between poverty and climate in the Southwest. The purpose of this research is to examine the relationship between current climate variability and vulnerable populations (e.g., the elderly, populations who work outdoors, low-income neighborhoods, college students) in the Southwest and how the projected impacts of climate change might exacerbate many of these factors over the next decade. Furthermore, as governments and other actors implement climate mitigation and adaptation policy, there are risks that poorer groups may be left out or adversely affected by policies. Our objective is to work with stakeholder organizations to understand the linkage between poverty and climate in the southwestern U.S. and eventually propose appropriate adaptive strategies.

Five researchers from the University of Arizona gave a series of presentations in the first half of the workshop, covering topics that included climate variability and climate change in the Southwest; Public Health and Climate in the Southwest; and the link between Energy and Poverty in Arizona (see Annex A for the full workshop program). The second half of the day was spent in an extended discussion and brainstorming session with stakeholders regarding the critical issues facing low-income and vulnerable populations in Southern Arizona (see Annex B for a list of participating stakeholders).

### **Highlights from the Presentations:**

- ✧ The “Poverty and Climate in the Southwest” research project aims **to integrate social justice considerations to the climate work** produced by CLIMAS (The Climate Assessment of the Southwest) and as a contribution to the data generated for the upcoming National Climate Assessment.
- ✧ Climate change is happening because “**it is what we eat and how we live.**” (Daniel Ferguson,

Program Director, CLIMAS)

- ⤴ 2005 and 2010 are tied as **the warmest years** in the 131-year record (NASA, January 2011)
- ⤴ **Climate Change indicators and challenges** in the southwestern U.S. include increased dirt migration (presenting a public hazard and impacting snow pack stability); more rain and less snow; drought and warming; increased pests and fire; decreased Colorado River flow and over-allocated water resources.
- ⤴ **“Energy Poverty”** refers to households that spend > 10% of their household income on fuel (especially for heating and cooling).
- ⤴ Arizona is the **2<sup>nd</sup> fastest growing state** in the nation after Nevada. Population growth results in increased peak load electricity demand.
- ⤴ **Energy Assistance** programs are not sufficient to meet the energy needs of Arizona's growing low-income population. High energy costs affect the affordability of housing.
- ⤴ **“Social Vulnerability”** refers to a population's level of exposure to a hazard or risk and their capacity to respond. **“Adaptive Capacity”** is a population's ability to respond in order to reduce vulnerability over time (e.g. financial resources, transportation, information).
- ⤴ Research has demonstrated that certain populations (e.g. the elderly; very young; low-income poor; people of color) may be **at greater risk to the impacts of climate change** (e.g. heat waves; increased costs of basic services; lack of insurance) (See *The Climate Gap*, Morello-Frosch et al 2009)
- ⤴ Census data indicates that the Southwestern U.S. (Arizona and New Mexico) have **significant percentages of vulnerable populations**, with high indices of poverty, elderly, children and people of Hispanic/Latino origin. In Arizona, female heads of households with no husband present and with children under 18 are the poorest of the poor.

### Discussion Questions included:

- ⤴ Have we identified the right populations as vulnerable to climate factors? Who have we missed?
- ⤴ What are the main ways that vulnerable populations in southern AZ are affected by climate factors? Who is vulnerable and what are they vulnerable to?
- ⤴ What strategies or policies might help to reduce these vulnerabilities? At what scale or level of governance would interventions be most effective?
- ⤴ What are the goals & means of achieving climate justice in southern Arizona?
- ⤴ Are there things the climate research groups at UA might offer local organizations (e.g. particular climate information, projections, informative workshops)?
- ⤴ At what scale should we be researching climate-poverty issues?

### Key Points, Concerns, and Ideas generated in the Stakeholder Discussion:

- ⤴ **Border Concerns:** Since the 1980s, there has been an increase in the number of women (some pregnant) and children illegally crossing the U.S.-Mexico border. Increased security and deportation rates are producing an influx of people moving to the border to be near deported family members. There is a need for a legal guest worker program and comprehensive immigration reform. Children of illegal immigrants that are eligible for federal resources aren't getting them because of fear of legal repercussions. Transnational economic processes are a driver of increased crime and social vulnerability (e.g. reduced tourism in Mexico results in higher levels of unemployment and poverty).
- ⤴ **Health Concerns:** We need to make the link between climate change, lifestyle decisions (e.g.

transportation), and health (e.g. asthma). We need positive messaging about the health benefits of doing the right things (e.g. walking reduces air pollution; community gardening increases nutritional diet). Obesity and diabetes are linked to non-localized food system and inactivity.

- ⤴ **Emergency Responsiveness:** Tucson's current Emergency Response System is defined more along the lines of Homeland Security. There is a need to integrate emergency preparedness for climatic events that impact health, mobility, etc. We need to know where vulnerable populations are located (e.g. people on oxygen or who are immobile) and have an emergency system in place that is prepared to deal with extreme weather events (e.g. cooling stations during heat waves). Issues related to health and climate should be integrated to the city's emergency response system.
- ⤴ **Indicators and Metrics** demonstrating the link between social vulnerabilities and climate impacts are needed in order to influence policy, as well as anecdotal case studies. Every school system has a free lunch program with public data that can be used as a poverty indicator. Additionally, the Arizona Department of Revenue tracks health care and public assistance users by zip code.
- ⤴ **Climate Adaptation Planning/Climate-friendly Development** is becoming a central topic in both local and international development, however there are fears that climate concerns are displacing other important issues such as unemployment. Laws that make it cost prohibitive to build in certain areas such as flood plains are examples of adaptive policy that can help reduce social vulnerabilities to climate hazards.
- ⤴ **Communicating the Problem: There is a need to find effective ways of communicating these issues to the general population.** "If it's a matter of feeding my kids and my health, then climate becomes a real issue instead of being an abstract out there concept" (Stakeholder participant). There is a need to frame it as more of a public health issue and to create a forward-looking vision of how to address it.
- ⤴ **Food Issues:** The Nogales economy is dependent on produce-packing and shipping. These jobs are extremely vulnerable to climate variability (e.g. sudden freeze in Spring 2010 resulted in immediate and widespread job loss). Climate issues across the border impact food availability and employment levels on this side, as well.
- ⤴ **Working at the Neighborhood Level:** Some groups are working at the neighborhood level to train citizens about how to create policy change. There are also neighborhood associations that can serve to create more resilient systems (i.e. sense of place and community leads to crime reduction), however, without funding these groups are limited to good-willed volunteers. Some associations are experimenting with interesting community activities such as establishing a time bank where hours of work can be exchanged.
- ⤴ **Housing:** There are more renters than homeowners in Tucson. Students compete with low-income populations for cheap housing, however cheap housing can come with very high energy costs for heating and cooling.

### **Vulnerable Populations in the Southwest:**

- ⤴ Homeless
- ⤴ Undocumented Immigrants
- ⤴ Children
- ⤴ Low-income
- ⤴ Indigenous populations
- ⤴ Elderly
- ⤴ Agricultural Workers
- ⤴ Those with poor health or mobility: obese, diabetes patients, people on oxygen, asthma, etc.
- ⤴ Refugee population (Over 10,000 refugees in Tucson alone)

### **Key Stakeholder Agencies and Organizations:**

Metropolitan Energy Commission  
Tucson Electric Power  
Primavera  
Neighborhood Associations  
Soup Kitchens and Shelters (e.g. Casa Maria, Emerge)  
Habitat for Humanity  
Sierra Club  
ReEntry Coalition  
Imagine Greater Tucson  
United Way/United Way Youth Coalition  
Watershed Management Group  
Metropolitan Energy Commission  
Mariposa Community Health Center  
Sonora Desert Museum  
Food Policy Council  
Drachman Institute  
City of Tucson  
City Climate Change Commission  
Sustainable Tucson  
Ward 3 Neighbors' Alliance  
Inside/Out  
Community Food Bank  
YWCA  
University of Arizona/Institute of the Environment  
Sabores Sin Fronteras/Flavors Without Borders  
Institute of the Environment  
Lend A Hand  
Physicians for Social Responsibility (PSR)  
Iskashitaa Refugee Harvesting Network  
Pima Council on Aging  
Schools

### **Next Steps:**

- ✦ Integrate Environmental Justice information into climate research
- ✦ Individual interviews with stakeholders that work with vulnerable populations.
- ✦ Create a Regional Assessment of Poverty and Climate in the Southwest with graphics that can be useful in demonstrating the problems and suggesting solutions.

**Annex A: Workshop Program**  
**POVERTY AND CLIMATE IN THE SOUTHWEST**

**Marshall Building, Room #531**  
**The University of Arizona**  
**845 N. Park Ave, Tucson, AZ**

**Friday, April 29<sup>th</sup>, 2011**  
**8:30 a.m. - 4 p.m.**

- ⤴ **8:30 Coffee and Light Refreshments**
- ⤴ **9:00-9:15 Welcome and Overview**, Margaret Wilder, Center for Latin American Studies & School of Geography and Development, CLIMAS Co-PI, University of Arizona
- ⤴ **9:15-9:30 - Overview of the National Assessment Process**, Diana Liverman, Regents' Professor of Geography and Development and Co-Director Institute of the Environment, University of Arizona
- ⤴ **9:30-10:00 - Overview of Climate Variability and Climate Change in the Southwest**, Daniel Ferguson, Program Director, Climate Assessment for the Southwest (CLIMAS)
- ⤴ **10:00-10:30 – Public Health and Climate in the Southwest**, Andrew Comrie, Associate Vice President for Research & Dean of the Graduate College, University of Arizona. Climate and Public Health: Results from Research on Mosquito Spread and Vectors.
- ⤴ **10:30-11:00 – Making the Link between Energy and Poverty**, Ardeth Barnhart, Program Director, Solar and Renewable Energy, UA Institute of the Environment
- ⤴ **11:00 -11:15 – Coffee Break**
- ⤴ **11:15-11:45 – Coming to Terms with the Climate and Poverty Relationship: Defining Some Key Issues for Consideration—Margaret Wilder**
- ⤴ **11:45-12:15 – Open Discussion**
- ⤴ **12:15-1:15 – Lunch** (provided) and **Keynote Talk by Prof. Celestino Fernandez on his original *corrido* on heat stress in the border region, “Peligro en el Desierto”**
- ⤴ **1:15-2:30 – Critical Issues Facing Low-Income and Vulnerable Populations in Southern Arizona: Stakeholder Discussion—Moderated by Tracey Osborne, School of Geography and Development**
- ⤴ **2:30 – Closing Comments**

Sponsored by Climate Assessment of the Southwest  
and National Oceanic and Atmospheric Administration



**NOAA**

NATIONAL OCEANIC AND  
ATMOSPHERIC ADMINISTRATION  
UNITED STATES DEPARTMENT OF COMMERCE

**Annex B:**  
**Poverty and Climate in the Southwest Workshop Participants**  
**April 29, 2011**

<b>Name</b>	<b>Institution</b>	<b>Email</b>
<b>Workshop Organizers</b>		
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Miriam Gay-Antaki	School of Geography and Development (UA)	<a href="mailto:mgayanta@gmail.com">mgayanta@gmail.com</a>
<b>Speakers</b>		
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