



Preliminary Report Power to Prepare Tucson

March 31, 2012

To be a desirable destination for businesses and residents in the 21st Century cities need to prepare for the growing risks of extreme weather and climate disruption while building communities that use clean energy efficiently.

In preparation for this changing future, Tucson's Office of Conservation and Sustainable Development, in collaboration with the University of Arizona, recently completed a report of climate impacts on the City of Tucson. At the Summit 120 participants discussed these vulnerabilities and explored ways in which the city and its residents can prepare. This summit was a unique opportunity to learn how climate change is affecting our community, while collaborating to identify priorities and solutions for addressing these vulnerabilities.



Tucson, September 22, 2010 Photo by Raquel Baranow

Who Attended the Power to Prepare Tucson Summit?

Characteristics of Summit attendees

What is your gender?

- Male 45%
- Female 55%

What is your race/ethnicity?

- Asian 1%
- Black/African American 0%
- Hispanic/Latino (of any race) 4%
- Native American 1%
- White/Caucasian 86%
- Pacific Islander 0%
- Some other race 2%
- Two or more races 6%

What is your age?

- 17-24 years 7%
- 25-34 years 7%
- 35-44 years 4%
- 45-54 years 17%
- 55-64 years 32%
- 65 or better 32%

Do you perceive that weather patterns have changed in Tucson during the past 5-10 years??

- I am certain that they have changed 60%
- I am somewhat sure they have change 23%
- I am somewhat sure that they have stayed the same 4%
- I am certain that they have stayed the same 1%
- Not Sure 12%

What type of organization do you represent?

- Business Organization 8%
- Religious Organization 4%
- Non-Profit or Community Organization 20%
- Educational 11%
- Neighborhood Association 6%
- Government 5%
- Medical/Health Organization 6%
- Individual 38%
- Other 1%

Where in the City do you live?

- Downtown 7%
- Midtown 32%
- East Side 15%
- West Side 5%
- Southeast 3%
- Southwest 2%
- Foothills 19%
- Outlying city in Pima County 11%
- Another county in Arizona 5%
- Other 0%

Why People Attended the Summit

In order to build a deeper understanding of one another, participants were asked to examine their reasons why it was important for them to be at the Summit today.

- Climate change is an important issue for cities, particularly for Tucson
- "I'm a Tucson native" and am concerned about the future
- Solar energy & renewable energy are interesting
- From my vocational perspective, climate change is an issue (i.e., lawyer, biologist & hydrologist)
- Want to learn the facts & how climate change impacts Tucson and want to hear from others
- "Concerned as a parent" and for future generations
- Concern for how water will be impacted by climate change

Climate Impacts Overview

Dr. Gregg Garfin from the Institute of the Environment at the University of Arizona gave an overview presentation about climate change, the key issues and trends for the Tucson Ecological Region. The participants identified the following items that stood out to them from the presentation.

- Increase in # of hot days – "25 more days per year at 110 or higher by midcentury – that's almost a month!"
- Water impacts
- "Relationship between temperature & precipitation was new & interesting to me"
- Good presentation of facts
- Concern about how people will react to the information
- Tucson needs to adapt
- Something's missing: how will population growth make us more vulnerable?
- Too much focus on what government can do & not enough individual actions
- "Encouraged changes were relatively small over the course of time."

What are the most important strategies for the City of Tucson to implement to prepare for climate change re: health and well-being?

Health and Well-being

Extreme Heat

Pursue energy efficiency and solar energy to reduce peak demand 51%

Ensure access to cooler places such as air conditioned cooling centers and swimming pools 8%

Increase the coverage of tree canopy around the city by planting more shade trees 30%

Create support networks – such as churches, neighborhood associations, or web-based networks – to respond during heat emergencies 26%

Identify and educate vulnerable populations about extreme heat risks 19%

Appoint "water champions" to educate communities and monitor water conservation 12%

Promote building design that increases energy efficiency and mitigates the urban heat island effect through such strategies as cool roofs. 40%

Wildfires

Promote removal/prevention of invasive and non-native species, both at the local government, community and neighborhood level 56%

Create emergency response plans & better educate about evacuation and fire prevention 29%

More prescribed burns 14%

Promote/enforce removal of risk fuel and debris 34%

More severe sanctions for investigating wildfires 5%

Better forest management 28%

Re-vegetation with native species 22%

Flash Flooding

Capture/harvest water to slow spread of water flooding streets and washes 66%

Plant green spaces/street trees to capture water, providing co-benefits (e.g., shade, food) 43%

Better enforcement to prevent building on floodplains/at-risk areas 14%

Increase/review emergency response system 5%

Increase public education about water harvesting and flood risks; provide tangible actions the public can take 29%

Use permeable surfaces to increase water filtration / absorption of rainwater 31%

Create and execute a better evacuation plan for the City 2%

Persistent Drought

Increase water capture/harvesting and water reuse (graywater) 69%

Creates more retention basins in the city to absorb more rainwater into the aquifer 38%

Promote low-water landscaping and agriculture 18%

Increase price of water as long as supply is decreasing 25%

Promote retrofits and new construction standards to promote water efficiency 40%

Increase enforcement of dust mitigation during construction (reduce risk of valley fever) 1%

What are the most important strategies for the City of Tucson to implement to prepare for climate change re: economic resilience?

Economic Resilience

Extreme Heat

- Increase utilization of local, renewable energy to protect against increased cost of cooling 42%
- Develop a clean energy technology sector to provide jobs and keep energy investments local 36%
- Train recent graduates/local workers whose jobs are impacted by climate-related extreme heat in renewable energy skills 31%
- Provide incentives for water conservation, energy efficiency, or recycling. 35%
- Revise building codes to require or incentivize cool roofs 27%

Wildfires

- Decentralize and relocate power lines/infrastructure 19%
- Prescribed burns 23%
- Realign economic incentives & property taxes to account for risks 36%
- Raise taxes on water use 13%
- Focus on prevention 58%
- Educate public about fire prevention/fuel management 56%
- Produce more renewable energy 26%
- Create a "rainy day fund" for wildfire costs 6%
- Develop better fire extinguishing technology/tools 18%

Persistent Drought

- Programs that reward businesses that conserve water, plant native vegetation, etc. 41%
- Attract industries with low water needs to Tucson 23%
- Expand use of and infrastructure for graywater in business and government operations (golf courses, riparian areas) 53%
- Develop billing and pricing systems (e.g. block pricing, conservation billing) to promote reduced water use 43%
- Increase water rates with increase revenue going to alternative water generation 23%

Flash Flooding (top 3)

- Tucson should have its own cistern manufacturing business(es) 15%
- Review and make necessary changes to zoning in existing and projected floodplains 21%
- Deal with stormwater as a resource instead of a nuisance (e.g. water capture/harvest, small scale curbing and directional projects) 75%
- Become a national model for sustainability 21%
- Provide incentives for (businesses and individuals) 20%
- Design for extremes (porous surfaces, utilize storm water, plant vegetation, use public transport, etc) 56%
- Provide bonds for people to retrofit their properties 22%
- Develop using infill and microcommunities w/amenities nearby landscape designed to capture water 20%

Before and After Attitudinal Polling

How important is it for the City of Tucson to prepare for the more extreme weather associated with climate change?

	Start of Program	End of Program
1. <i>Very important</i>	83%	89%
2. <i>Somewhat important</i>	13%	8%
3. <i>Not too important</i>	2%	0%
4. <i>Not at all important</i>	1%	1%
5. <i>Don't know</i>	1%	1%

How important is it for the City of Tucson to take action now to reduce its emissions of gases like carbon dioxide that causes climate change?

	Start of Program	End of Program
1. <i>Very important</i>	82%	84%
2. <i>Somewhat important</i>	12%	14%
3. <i>Not too important</i>	3%	0%
4. <i>Not at all important</i>	2%	0%
5. <i>Don't know</i>	1%	2%

How important is it for the United States to prepare for the more extreme weather associated with climate change?

	Start of Program	End of Program
1. <i>Very important</i>	92%	90%
2. <i>Somewhat important</i>	5%	8%
3. <i>Not too important</i>	1%	1%
4. <i>Not at all important</i>	1%	0%
5. <i>Don't know</i>	1%	1%

How important is it for the United States to take action now to reduce its emissions of gases like carbon dioxide that cause climate change?

	Start of Program	End of Program
1. <i>Very important</i>	89%	91%
2. <i>Somewhat important</i>	8%	7%
3. <i>Not too important</i>	0%	0%
4. <i>Not at all important</i>	2%	1%
5. <i>Don't know</i>	1%	0%

Examples of what we can do to “Spread the Message” about preparing for the impacts of Climate Change

- Share this information with community groups
- Communicate about the findings from this meeting to local decision-makers
- Build climate issues into education
- Support climate change legislation
- Talk to our friends and hold house parties

What Should Be the Headline in Tomorrow’s *Daily Star*?

- Tucson Hot For Climate Change Solutions
- Spread the Word: Climate Change is Here
- Tucson Hot As Phoenix? Yikes!
- U.S. Hotspot A Cool Place for Climate Study
- Tucson Community Says We Can Adapt
- Tucson Can Be National Leader in Managing Climate Change
- Climate Change A Hot Topic
- Tucson Not Too Far Gone, Citizens Collaborate
- Tucsonians Ready Willing, Able to Adapt to Climate Change
- Tucsonians Offer Climate Change Solutions

Lake Mead, September 7, 2008 *Photo by Raquel Baranow*



**THIS SUMMIT IS HELD IN
COLLABORATION WITH**



WWF

AMERICASPEAKS
Engaging Citizens in Governance

Not everyone could join the discussion today, but everyone can be a part of the conversation about climate change. The presentations from today’s event and other resources can be found online. Please use these resources to continue the conversation with your friends, family, and neighbors: <http://bit.ly/TucsonPowertoPrepareSummit>

Learn more about action you can take to prepare your home or business

www.tucsonaz.gov/ocsd or
www.EarthHourCityChallenge.org