



PLANNING FOR CHANGE IN SOUTHERN ARIZONA:

A report from the
Southern Arizona
Regional Climate Summit
for Municipal Leaders

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Introduction

On November 14, 2013 the City of Tucson, Pima County, and the Pima Association of Governments (PAG) partnered with the University of Arizona's Climate Assessment for the Southwest (CLIMAS) to host the "Southern Arizona Regional Climate Summit for Municipal Leaders." This half-day workshop brought together municipal leaders from the Tucson metropolitan area and beyond to explore the risks and potential costs of regional climate change as well as proactive solutions necessary to cope with and adapt to climate challenges. The Summit had two primary goals: 1) raise awareness about regional climate change by presenting current knowledge about climate impacts, adaptation strategies, and public concern about those issues and 2) explore the idea of a southern Arizona regional dialogue about how to best plan for cross-jurisdictional climate-related challenges. This report provides information about the Summit itself as well as major themes that emerged from it.

Background

Extreme weather events, warming temperatures, and persistent drought conditions all have the potential to dramatically impact municipal planning activities and public investments that shape economic prosperity, public health, and the environment. As the Southwest U.S. moves further into the 21st century, climatic conditions are likely to be increasingly different than those that existed during the development boom of the 20th century. For municipalities in southern Arizona, these evolving conditions mean that elected officials, city managers, urban sustainability offices, planners, and resource managers will face numerous decisions that can be informed by research about the climate, impacts from changes, and the most promising practices for adapting to climate change. To better understand the nature of the climate adaptation concerns of Arizona municipal leaders, the role that science may play in addressing those concerns, and the potential for collaborative work between scientists and municipal leaders, researchers from the University of Arizona and Arizona State University teamed up to work on a project exploring these questions. That project—funded by the National Oceanic and Atmospheric Administration's (NOAA) Sectoral Applications Research Program—seeks to create a collaborative environment among municipal leaders and experts in climate-related research to stimulate and support climate adaptation and resiliency efforts across the state.

As part of this project, the City of Tucson submitted a proposal to the research team to convene a half-day workshop to provide local decision-makers with information about regional impacts of climate change and to help foster a dialogue about regional climate adaptation.

A steering committee was formed that initially included CLIMAS and City of Tucson staff. Because of the focus on regional concerns, individuals from Pima County, PAG, and several Pima County municipalities were also invited to join the workshop planning team. The steering committee worked together to refine workshop goals, develop the agenda, identify potential participants, extend invitations to over 200 municipal professionals from across southern Arizona, and organize panels of technical experts to speak on a range of climate-related issues affecting southern Arizona.

About the Summit

Who participated?

More than 95 people registered for the Summit, with the majority (more than 75) representing southern Arizona governments, including the City of Tucson, Pima County, Marana, Sahuarita, Pascua Yaqui Tribe and Tohono O’odham Nation. Individuals from several non-governmental organizations, the National Park Service, the U.S. Department of Transportation, and officials from the City of Flagstaff and Santa Fe, New Mexico also registered. Participants ranged from elected officials to firefighters to planners (from multiple sectors) to emergency managers to those with expertise in air and water quality, historic preservation, development, parks and recreation, and procurement (see Appendix 2 for a full list of registrants). The high turnout and professional diversity represented suggests the issue of climate adaptation is salient across southern Arizona.



What was discussed?

The Summit consisted of two expert panels, a keynote presentation and a facilitated small group discussion. Tucson mayor Jonathan Rothschild provided opening remarks followed by the first expert panel entitled “Perspectives on Regional Climate Change.” The panel highlighted three themes: 1) recent insights from climate science, 2) regional

economic implications of global climate change, and 3) a risk management approach to climate adaptation planning. The second panel focused on sector-specific climate change impacts, with presentations about public health, energy, and water resources. Jon Krosnick—a public polling expert and professor at Stanford University—delivered the keynote presentation entitled “Public Perceptions of Climate Change in the US.”¹

Participant Feedback

The planning committee elicited substantive feedback from the participants to:

- » understand what information presented at the Summit was salient and relevant to participants,
- » gauge interest in the idea of a regional dialogue about climate adaptation,
- » identify areas that would benefit from regional coordination, and
- » identify what type of support would be needed to pursue regional coordination.

¹ Appendix 1 of this report contains the full Summit agenda. Presentations from the Summit (in PDF format) are also available on the CLIMAS website at www.climas.arizona.edu/event/regional-climate-summit-municipal-leaders-economic-health-water-transportation-impacts.

Feedback was gathered via three different mechanisms: facilitated small group discussions at the end of the Summit, through an on-sight participant survey, and through a follow-up online survey that was distributed approximately three weeks after the Summit (full results from the two surveys are in the appendices to this report).

Though there was some variation in who provided input through these mechanisms, in general the feedback was provided by approximately 30-40 workshop participants. This cohort not only provided the input that is detailed below, but their interest in and experience with issues related to climate adaptation suggest that they are most likely the engaged people who will be instrumental in helping carry out any efforts to bring about regional coordination of climate change adaptation in southern Arizona.

By sharing expert insights into the current state of knowledge about climate change impacts, adaptation strategies, and public perceptions of these issues, the Summit planning committee hoped to both raise awareness among participants and identify topics that were most resonant with them. The feedback we gathered from the two surveys suggests this was successful. The results from the survey administered at the workshop showed that all the respondents found the workshop informative. All but one respondent indicated that attending the workshop helped them be better prepared to do their job. Similarly, in the follow-up survey, 75% of respondents said they are now more likely to try to incorporate climate adaptation into their work.

The surveys and small group discussions also revealed the four topics that appear to be most important to those who provided feedback: (1) public perceptions of climate change; (2) the City of Flagstaff Resiliency and Preparedness Initiative; (3) business/economic impacts and potential benefits; and (4) the water/energy nexus.



Public perceptions of climate change

Responses to both surveys and comments collected during the small group discussions indicated an overwhelming interest in Jon Krosnick's presentation on the public perceptions of climate change, particularly his polling data that showed high levels of concern about global warming in Arizona.² Krosnick presented many years of data that consistently show substantial concern about and interest in action on climate change across the U.S. Workshop participants indicated that they were "surprised" by the data, that it was "unexpected" and presented "amazing statistics." Others reported that they were now "more hopeful" and that the "numbers were encouraging as we consider having these discussions at a local level." Some participants went on to describe and lament the "disconnect between public opinion and political action" and the general

"misconception about public perception on climate change" by policymakers (i.e., the assumption

² A fact sheet with a summary of the Arizona data is available at: democrats.energycommerce.house.gov/sites/default/files/documents/Stanford-Climate-Polling-Arizona-2013.pdf

by many politicians that climate change is not a salient issue to their constituents). Several participants indicated interest in having public polling data presented to decision-makers in their respective jurisdictions. Overall, the idea that there is in fact a large constituency for climate change action in Arizona and across the U.S. resonated strongly with many Summit participants. On the workshop survey Krosnick's talk was the top choice on the question that asked which presentations "included information you found most useful."³



City of Flagstaff resiliency and preparedness initiative

Another topic that resonated with many of the participants was Flagstaff City Manager Kevin Burke's presentation on the Flagstaff Resiliency and Preparedness Initiative.⁴ Among the key messages in Burke's presentation was Flagstaff's focus on reducing climate vulnerability and managing

climate-related risk rather than approaching resiliency as a climate change problem, which may have been politically divisive. One participant responded that they were "impressed" with the initiative and another commented on how Flagstaff's program was "bringing divergent views together to address a problem." Several participants agreed with the strategy of "depoliticizing" climate change issues by framing them in the context of risk management. Another respondent thought that "a version of this could work well here in jurisdictions with very diverse elected officials." One participant—explaining that "climate change will be a non-starter in rural Pima County and is a lightning rod"—suggested that other approaches, like that of Flagstaff, was necessary. Another commented that Burke's presentation "was very good from a realistic/political perspective on how to make issues real for a community and get elected officials support." The "key is the buy-in at the top of the organization," added another participant. Generally, participants seemed encouraged by the example of Flagstaff's approach to the issues and were interested in exploring how the process could be replicated in southern Arizona.

Business/economic impacts and potential benefits

University of Arizona professor Diana Liverman's presentation on business opportunities and challenges from climate change was another topic that prompted significant participant feedback. Liverman pointed out that economic analyses of climate change tend to focus on natural resources, water and agriculture, despite the fact that the rest of the business sector (e.g., manufacturing, the service economy, etc.) are also exposed to climate risk. She also highlighted the important role that businesses will play in climate change solutions. One respondent noted the "importance to elected officials" of potential business impacts while another commented on the "huge" economic potential. Another reported that it was an "interesting perspective on how the business sector needs to be involved with climate change." One participant pointed out that the discussion about business and climate change could lead to "opportunities to improve quality of life." Liverman's

³ See Appendix 3 for full results.

⁴ A PDF of the Resiliency and Preparedness Study is available at: flagstaff.az.gov/DocumentCenter/Home/View/38841

overall approach of providing a sense of the local and regional business impacts from climate changes around the world seemed especially germane, with one participant noting that the effects of climate change “on the supply of goods, produce and food” was relevant to their work developing urban agriculture policies and regulations.



Water/energy nexus

Many participants responded that water issues and the connections between water and energy production resonated with their personal or professional interests. University of Colorado water expert Doug Kenney’s presentation on the Colorado River basin and the realities of where much of southern Arizona’s water supply originates prompted

several comments about the myriad challenges related to Arizona’s complicated water supply issues. One participant, echoing a statement made by Kenney in his presentation, commented that “you don’t get what you deserve, you get what you negotiate” with respect to water issues in the West. Reflecting on Kenney’s presentation on water issues and Nancy LaPlaca’s presentation on energy issues, several respondents commented on the connection between “energy (electricity/carbon) and water” and the “fragility of water resources and the interconnection with energy generation.” The question and answer period following this panel was also dominated by comments and questions about the complex relationships between water and energy in the Southwest. Further emphasizing the importance of these topics, water and energy were the top two responses to the follow-up survey question that asked which topics respondents would most like to have more information about.

Regional Coordination

In addition to presenting information about climate change impacts, adaptation, and public concern, the Summit planning committee also sought to explore opportunities for a continued regional dialogue about cross-jurisdictional climate-related challenges. To this end, the group discussions and workshop surveys attempted to gauge interest in such a dialogue, brainstorm issues relevant to regional coordination, and identify organizational needs.



Interest in regional dialogue

Slightly more than half of the workshop survey respondents reported that they attended the Summit because they were interested in participating in a regional dialogue about climate adaptation. This relatively high rate of interest in regional

coordination of adaptation practices prior to the Summit suggests that ongoing work and planning were already heading in this direction. When asked if they were interested in an ongoing regional dialogue following the Summit, all but two respondents to the survey indicated that they were. These results suggest that the time for more formal regional coordination of climate adaptation activities may be at hand.

The follow-up survey revealed that many organizations in southern Arizona are at least beginning to examine adaptation issues, with 75% of that survey's respondents reporting that their organization was working to understand the problem, planning to take action, or implementing some action related to climate change adaptation. The survey also revealed a number of ways that Summit participants felt climate adaptation efforts are relevant for municipalities in the region. Several people suggested that forthcoming updates to a municipality's comprehensive or general plan or to a specific department's master plan offered opportunities to build in better adaptation planning. Others responded that adaptation could be considered in other planning contexts, including through building design requirements, zoning codes, and development codes.⁵ Taken together this feedback suggests that several adaptation efforts are underway in southern Arizona and that many Summit participants have specific ideas about how adaptation planning fits into not only their own organization, but into the broader regional context.



Most relevant sectors and needed support

The small group discussions at the end of the Summit were geared toward two specific goals: identifying the most important issues relevant to regional planning or coordination and identifying what kind of support is needed to foster more regional coordination

of adaptation work. Specifically, participants in the small group discussions were asked to address three topics:

- » List and explain one or two issues that resonated with you on either a personal or professional level during the Summit.
- » Which of the identified issues would most benefit from regional coordination?
- » What assistance or support would your organization need to address these concerns?

Approximately 40 people took part in these facilitated discussions, which yielded several ideas that are relevant to a more regional climate adaptation effort in southern Arizona.

While there was some discussion of specific issues that may be best addressed regionally, the discussions collectively yielded broader answers about how regional coordination might be most effective. For example, participants identified several sectors that could most benefit from regional coordination, including water, energy, transportation, and health. There was also an emphasis on the need for better regional coordination of adaptation activities related to economic development and growth.

⁵ See Appendix 4 for more details provided by survey respondents.

The small group discussions also highlighted four areas where participants felt that more support is needed—communication, research, resources, and approaches—each of which is briefly described below.

Participants indicated interest in communicating ideas and information from the Summit as well as about climate change and climate adaptation in general to critical decision-makers within their jurisdictions. One participant requested “presentations to the town commission and town council with compelling information about the local risks if they do nothing.” Another requested information that they could then present, asking for “succinct information to provide to town managers.” The primary goal of this communication assistance appears to be to try to ensure that municipal leadership is well informed on these topics. One participant suggested the importance of “buy-in from top management” and the broader need for a “political platform” in order to carry out the ideas raised in their group discussion.

Several participants responded with requests for specific research applicable to their job or department. One such respondent indicated the importance of a “regional analysis of economic sectors and resources needed,” produced and circulated on a regular basis. Another wondered whether there existed “research on climate impacts on tourism/travel” that would be useful for their position. From the discussions it appears that there are a number of specific areas where new or existing research may be useful in supporting decision making related to regional climate adaptation.

A number of participants felt that their jurisdiction, department, or position needed more resources in order to address the issues raised at the Summit. One respondent indicated that they were “understaffed” and “underpaid” and that “funding for outreach and personnel would be key.” Another suggested “more budget and/or resources to do more research and package the findings in a way to really inform the public and decision-makers.” More generally, the response that “more funding” and “more staff” were needed to address adaptation issues was common among those who participated in the discussions.

Some were interested in learning more about how to implement particular climate adaptation approaches. Several respondents expressed interested in replicating what Flagstaff has been able to accomplish with their Resiliency and Preparedness Initiative. Others suggested more cross-department planning, with one respondent suggesting the need for more “consolidated discussions and efforts (i.e. emergency management, wastewater, city, flood control, public health, etc).” While many participants seemed energized to contribute to local or regional adaptation activities, there was a general sense that more work was needed to identify which approaches would be most productive.

Conclusion

The Summit was designed to achieve two goals—increase awareness about climate change impacts, adaptation strategies, and public perceptions of these issues and foster a regional dialogue about cross-jurisdictional climate-related challenges. All the feedback from the two surveys and the small group discussions suggests that participants learned more about climate impacts, adaptation, and public perceptions of climate change and that getting that information was useful to them. It also seems clear that having the opportunity to discuss these issues across sectors and jurisdictions was valuable. The amount of work related to climate adaptation that participants reported as either underway or planned also suggests that the municipalities in southern Arizona have begun to wrestle with climate challenges that they may not have dealt with in the past.

Participant feedback also suggests that there is interest in an ongoing regional dialogue about climate adaptation. The group discussions identified general needs for climate adaptation support, issues that were important to participants, and pointed toward possible pathways for more coordination of regional adaptation efforts. The professionally diverse make-up of the registrants reveals that there is multi-sector and multi-jurisdictional concern about these issues.

One unintended consequence of the Summit was also the emergence of a cohort of approximately 40 people from across jurisdictions and sectors in southern Arizona who are actively thinking about and working on issues related to adaptation. This group—who provided all of the input detailed above and lent their time and energy to the Summit itself—would be a logical foundation upon which to build any activities aimed at regional coordination of adaptation practices. The following needs were identified in this workshop process and could form a strategic foundation for continued work:

- » Develop information relevant to decision makers and municipal managers such as a regional analysis of economic impacts of climate change.
- » Identify management best practices that could be integrated into municipal processes and ordinances.
- » Evaluate adaptation research relevant to urban and large land managers in the region.
- » Evaluate the relevance and feasibility of Flagstaff's approach to their Resiliency and Preparedness Initiative for southern Arizona.
- » Develop communication tools—for example regularly updated fact sheets, a website, or collaboratively produced, scientifically robust talking points—that could be used on an ongoing basis to disseminate useful information to decision makers and municipal managers.
- » Develop a communications plan to disseminate information in creative and impactful ways.

Since the Summit, members of the planning committee have begun to discuss the idea of forming a small working group that would help identify the feasibility and means for following up on the above objectives. If a productive working group emerges, the core group of engaged people identified through the workshop could be used to further generate ideas, act as a sounding board, and ultimately may serve as community champions and leaders in efforts to communicate with decision makers.

APPENDIX 1: Summit agenda

- 8:00am Registration (Coffee and light breakfast provided)
- 8:30am Welcoming remarks:
Jonathan Rothschild, Mayor, City of Tucson
- 8:35am Welcome and workshop overview:
Leslie Ethen and Daniel Ferguson; Summit Planning Committee
- 8:50am Introduce Panel 1: Perspectives on Regional Climate Change
Moderator: Steve Adams, Institute for Sustainable Communities
- 8:55am Science Perspective: Climate Projections for the Southwest
Gregg Garfin, University of Arizona
- 9:10am Economic Perspective: Business opportunities & challenges from climate change
Diana Liverman, University of Arizona
- 9:25am Risk Management Perspective: Lessons from Flagstaff
Kevin Burke, Flagstaff City Manager
- 9:40am Q & A with panelists
- 10:05am Break**
- 10:20am Introduce Panel 2: Sector-specific climate change impact concerns
Moderator: Steve Adams, Institute for Sustainable Communities
- 10:25am Public Health Concerns
Sharon Harlan, Arizona State University
- 10:40am Energy Challenges and Opportunities
Nancy LaPlaca
- 10:55am Water in the West in the 21st Century
Doug Kenney, University of Colorado
- 11:10am Transportation Planning for Climate Change
Benjamin Rasmussen, US DOT Volpe National Transportation Systems Center
- 11:25am Q & A with panelists
- 11:50pm Break**
- 12:00pm Lunch (provided)**
- 12:30pm Public Perceptions of Climate Change in the US
Jon Krosnick, Stanford University
- 1:30pm Small Group Exercise: Identifying Regional Priorities
Claire Zucker, Pima Association of Governments
- 2:15pm Workshop summation
Steve Adams, Institute for Sustainable Communities
- 2:30pm Adjourn

SOUTHERN ARIZONA
REGIONAL CLIMATE SUMMIT
FOR MUNICIPAL LEADERS:
Economic, Health, Water &
Transportation Impacts

November 14, 2013
University Marriott
Tucson, AZ

APPENDIX 2: Summit registration list

First	Last	Organization	Department
Steve	Adams	Institute for Sustainable Communities	Institute for Sustainable Communities
Michael	Bends	Tohono O’odham Nation	San Xavier District of the Tohono O’odham Nation
John	Bernal	Pima County	Public Works Administration
Jennifer	Billa	Pima County	Human Resources Department
Carla	Blackwell	Pima County	Development Services Department
Kevin	Burke	City of Flagstaff	
Cherie	Campbell	Pima Association of Governments	
Carolyn	Campbell	Coalition for Sonoran Desert Protection	
Kathleen	Chavez	Pima County	RWRD
Gina	Chorover	City of Tucson	
Jennifer	Christelman	Town of Marana	Environmental Engineering Division
Arlan	Colton	Pima County	Development Services Department
Priscilla	Cornelio	Pima County	Department of Transportation
Susanne	Cotty	Pima Association of Governments	
Jim	Critchley	City of Tucson	Fire Department
Doug	Crockett	City of Tucson	General Services/Energy Office
Carmine	DeBonis, Jr	Pima County	Development Services Department
Don	Duncan	Town of Marana	Planning Commission
Martha	Durkin	Tucson	City Manager’s Office
Debra	Einweck	Sahuarita	Public Works
Sandy	Elder	City of Tucson	Tucson Water Department
Albert	Elias	City of Tucson	City Manager’s Office
Tom	Ellis	Town of Marana	
Leslie	Ethen	City of Tucson	Office of Sustainability and Conservation
Nicole	Ewing-Gavin	City of Tucson	City Manager’s Office
Daniel	Ferguson	University of Arizona	CLIMAS

Terry	Finefrock	Pima County	Procurement Department
Marcelino	Flores	Pascua Yaqui Tribe	
Norman	Fogel	Town of Marana	Planning
Julia	Fonseca	Pima County	Office of Sustainability and Conservation
Rich	Franz-Under	Pima County	Development Services Department
Jaimie	Galayda	University of Arizona	CLIMAS
Gregg	Garfin	University of Arizona	Institute of the Environment
Joyce	Garland	City of Tucson	Budget and Internal Audit
Maria	Gayosso	City of Tucson	Housing and Community Development
Patricia	Gehlen	City of Tucson	Planning and Development Services
Kelly	Gottschalk	City of Tucson	City Manager's Office
Zack	Guido	University of Arizona	CLIMAS
Jeff	Guthrie	Pima County	Office of Emergency Management
Joan	Hall	City of Tucson	
Marlena	Hanlon	City of Tucson	
Sharon	Harlan	Arizona State University	School of Human Evolution and Social Change
Bill	Haslag		
Vincent	Hunt	City of Tucson	General Services/Architecture and Engineering
Tom	Ingram	City of Tucson	Housing & Community Development Department/ Planning and Community Development
Peter	Ives	Santa Fe, New Mexico	City Council
Marcia	Jakab	Town of Marana	Planning
Robin	Johnson	Pima County	Office of Sustainability and Conservation
Michael	Johnson	HDR Engineering	
Doug	Kenney	University of Colorado	Western Water Policy Program
John	Kmiec	Town of Marana	Utilities
Neil	Konigsberg	Pima County	Real Property
Ursula	Kramer	Pima County	Office of Environmental Quality
Jon	Krosnick	Stanford University	Communication

Nancy	LaPlaca	LaPlaca and Associates	
Marie	Light	Pima County	Environmental Quality
John	Liosatos	Pima Association of Governments	
Diana	Liverman	University of Arizona	Institute of the Environment
Jing	Luo	Pima County	Regional Wastewater Reclamation Department
Gil	Lusk	Town of Sahuarita	Council Member
Jonathan	Mabry	City of Tucson	Housing & Community Development Department/ Planning and Community Development
James	MacAdam	City of Tucson	Mayor's Office
Ryan	Mahoney	Town of Marana	Planning
Shailendra	Mandal	University of Arizona	Institute of the Environment
Linda	Mayro	Pima County	Office of Sustainability and Conservation
Jim	Mazzocco	City of Tucson	Planning and Development Services
Steve	Miklosi	Town of Marana	Planning & Zoning
Fernando	Molina	City of Tucson	Tucson Water
Sarah S.	More	Town of Sahuarita	Planning and Building Dept
Alex	Oden	Pima County	Office of Sustainability and Conservation
Aaron	Pacheco	Pima County	Health Department
Tamara	Prime	City of Tucson	Ward 3 City Council Office
Ron	Proctor	FACILITATOR	
Ben	Rasmussen	U.S. Department of Transportation	Volpe National Transportation Systems Center
Lee	Rayburn	City of Tucson	
Andrew	Rector	City of Tucson	Office of Conservation and Sustainable Development
Diana	Rhoades	City of Tucson	City Councilor Regina Romero
Regina	Romero	City of Tucson	Ward 1 Council Office
Cynthia	Ross	Town of Marana	Planning Dept.
Rebecca	Ruopp	City of Tucson	Housing & Community Development Department/ Planning and Community Development
Linda	Samuels	Sustainable City Project	

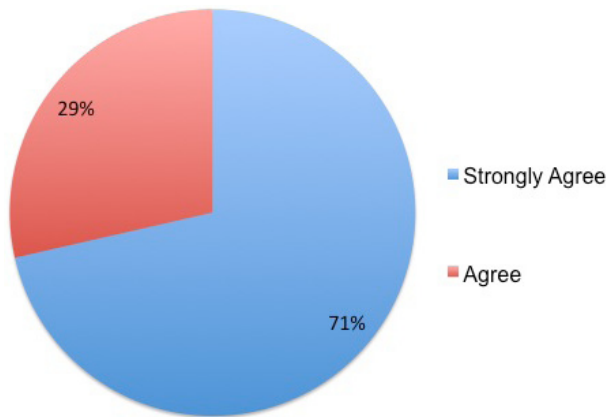
Anna	Sanchez	City of Tucson	Housing & Community Development Department/ Planning and Community Development
Betty	Sanchez	Pima County	Development Services Department
Joanie	Sawyer	FACILITATOR	
Melaney	Seacat	Pima County	Regional Wastewater Reclamation Department
Lani	Simmons	City of Tucson	Human Resources
Adam	Smith	City of Tucson	Planning and Development Services
Margaret	Snyder	City of Tucson	Tucson Water
Suzanna	Snyder	Town of Sahuarita	Public Works
Janine	Spencer	Town of Marana	Planning
Amy	Stabler	City of Tucson	Ward 6
Betty	Stamper	Pima County	Development Services Department
Joan	Stauch	City of Tucson	General Services
Scott	Stonum	Saguaro National Park	
Mark	Stratton	City of Tucson	Metro Water District
Catherine	Strickland	Pima County	Economic Development and Tourism
Debbie	Summers	Sahuarita	Parks and Recreation
Ryan	Thomas	University of Arizona	CLIMAS
Jennifer	Toothaker Burdick	City of Tucson	Department of Transportation
Karin	Uhlich	City of Tucson	Ward 3 Council Office
Ann	Vargas	FACILITATOR	
Peg	Weber	City of Tucson	Parks and Recreation
Karen	Wilson	Pima County	Regional Wastewater Reclamation Department Department
Claire	Zucker	Pima Association of Governments	Sustainable Environment Program

APPENDIX 3: Workshop survey results

Results from Southern Arizona Climate Summit workshop survey.

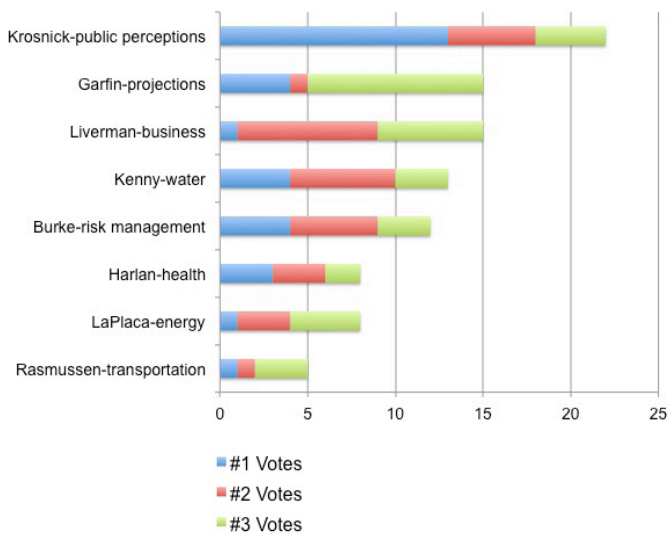
- » 32 participants completed the survey.
- » A total of 95 people registered for the workshop; approximately 80 actually attended.
- » This survey was administered at the conclusion of the Summit, held on Nov. 14, 2013.

1. Overall, was the Summit informative?

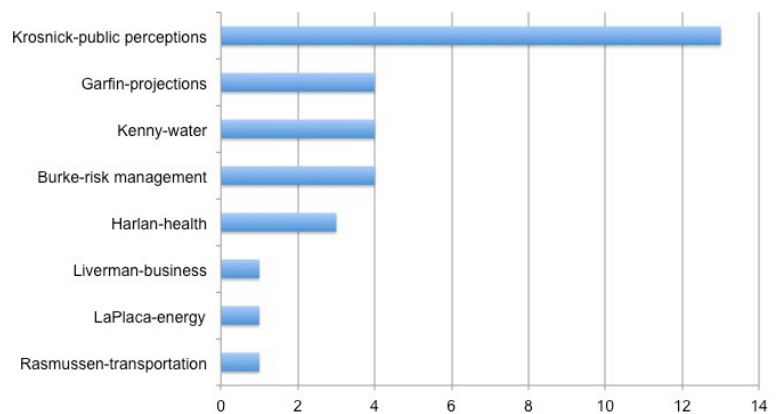


2. Please rank, 1-3, the three presentations that included information you found most useful.

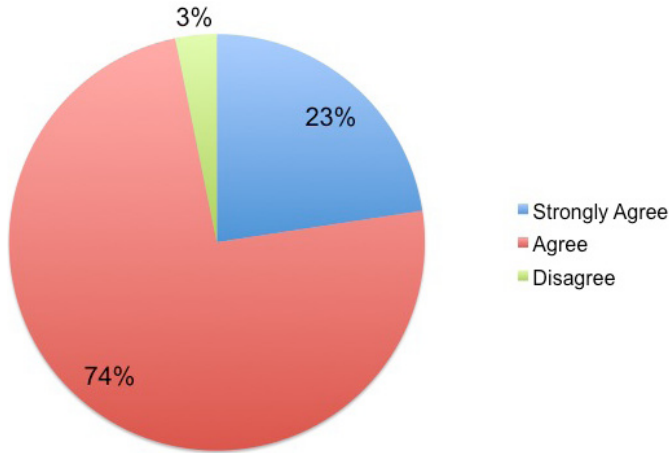
Presentation that included information you found most useful?
Total Votes



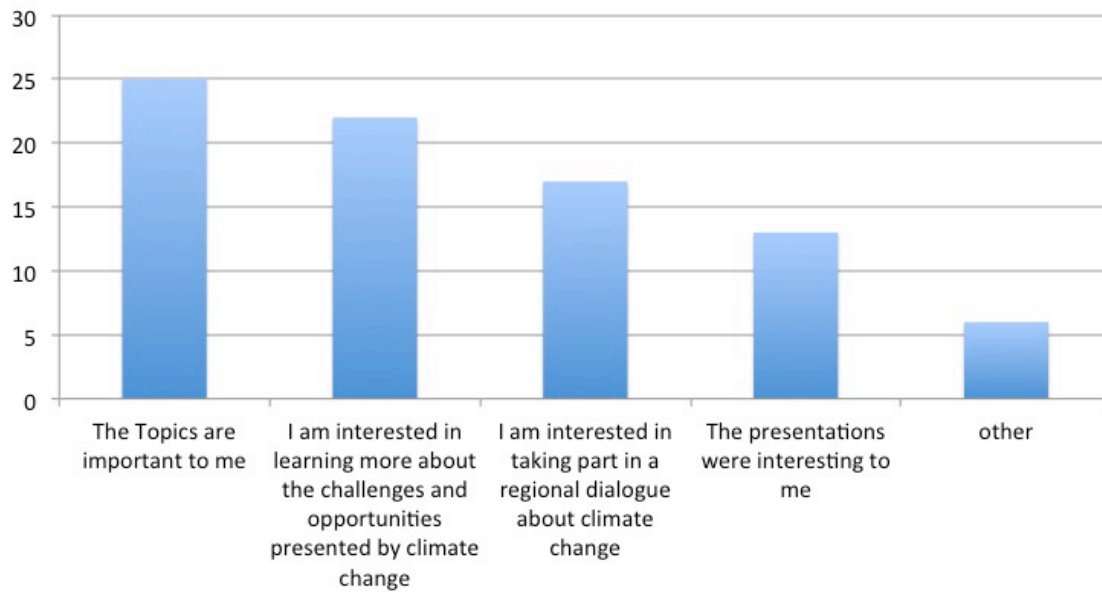
Presentation that included information you found most useful?
#1 Votes



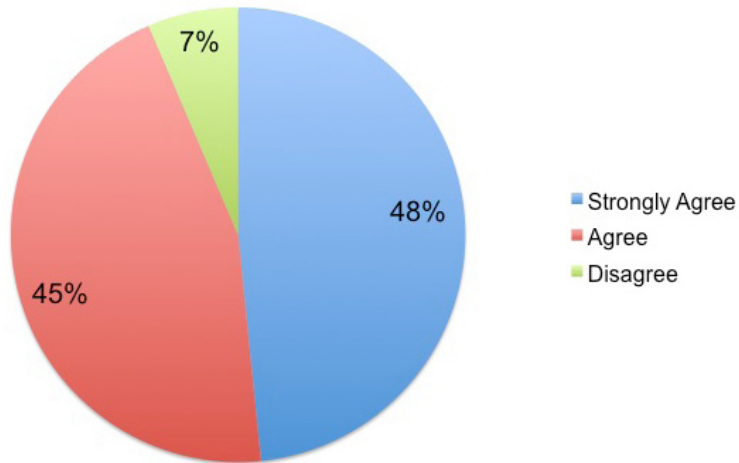
3. Having participated in the Summit, I feel I am better prepared to do my job or perform my role.



4. Why did you choose to attend this event?



5. I am interested in participating in an ongoing southern Arizona regional dialogue about the challenges and opportunities presented by climate change.



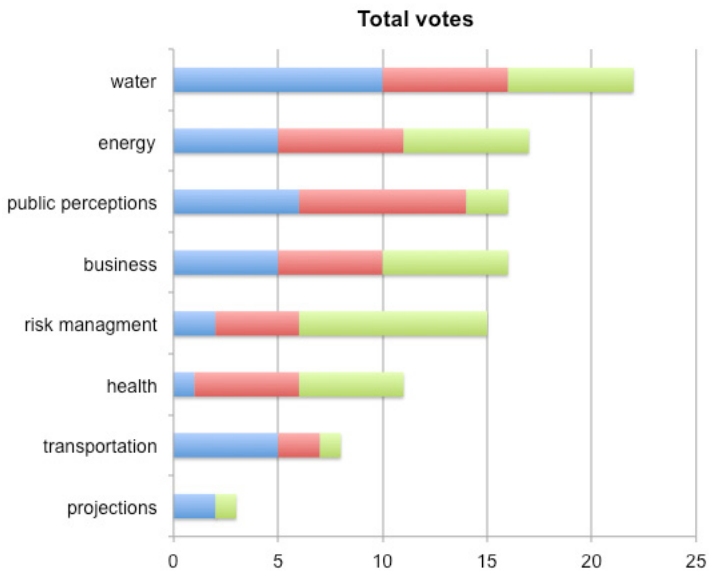
APPENDIX 4: Follow-up survey results

Results from follow-up Southern Arizona Climate Summit survey.

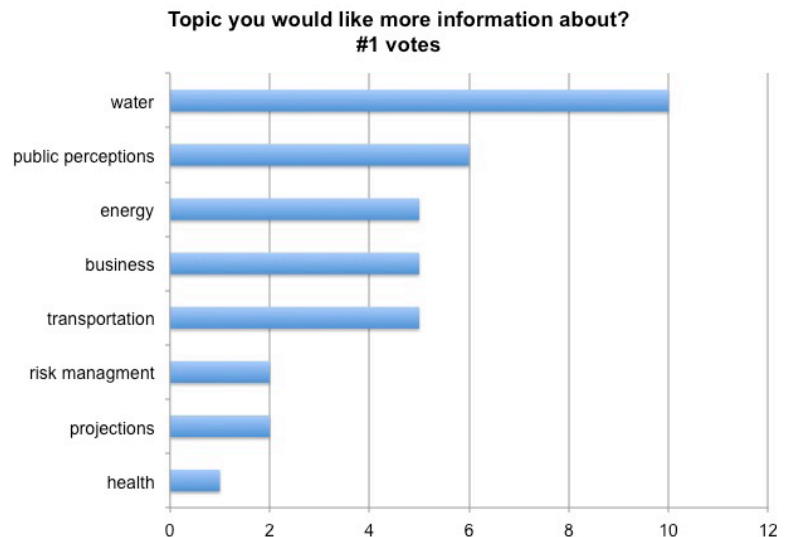
- » 36 participants completed the survey.
- » A total of 95 people registered for the workshop; approximately 80 actually attended.
- » This survey was administered online between 12/3/13-1/20/14; the summit was held on Nov. 14, 2013.

1. Please rank–1, 2, 3–the three topics discussed at the Climate Summit that you would most like to have more information about.

- Projections of future climate change
- Impacts on and opportunities for Southwest business from climate change
- Using a risk management approach for climate adaptation planning
- Climate and public health issues in the Southwest
- Energy challenge s and opportunities from climate change
- Western US water resources planning in the context of climate change
- Transportation planning in the context of climate change
- Public perceptions of climate change in Arizona



#1 votes
#2 votes
#3 votes

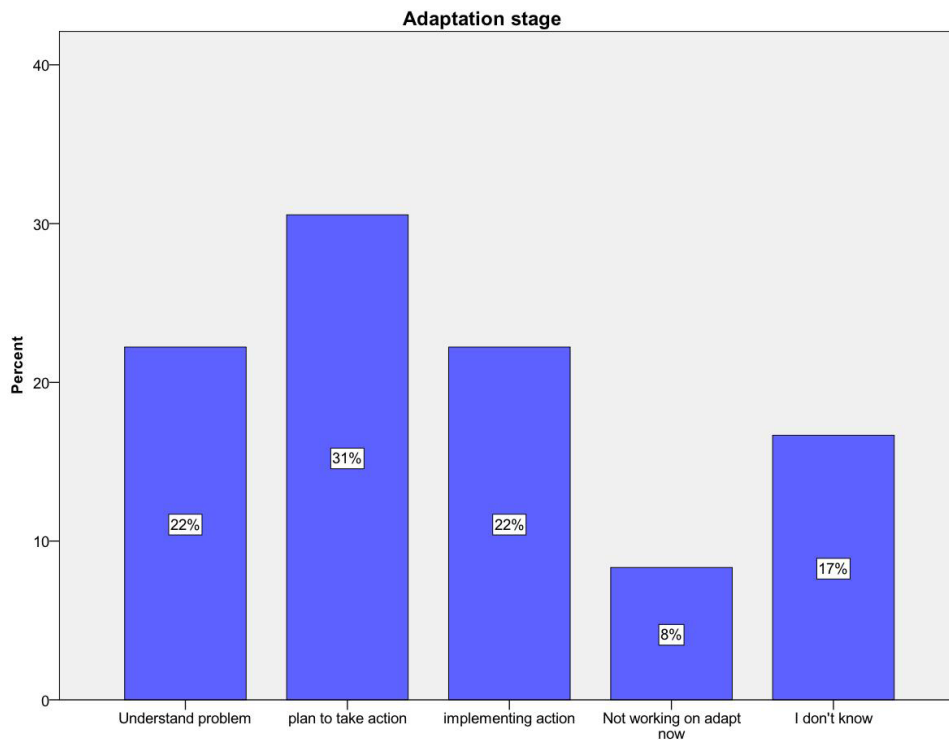


2. The concept of “adaptation” has been defined as:

changes in human ecological systems in response to actual and expected impacts of climate change. Adaptation strategies and actions can range from short term coping to longer term transformations, aim to meet more than climate change goals, and may or may not succeed in moderating harm or exploiting beneficial opportunities.

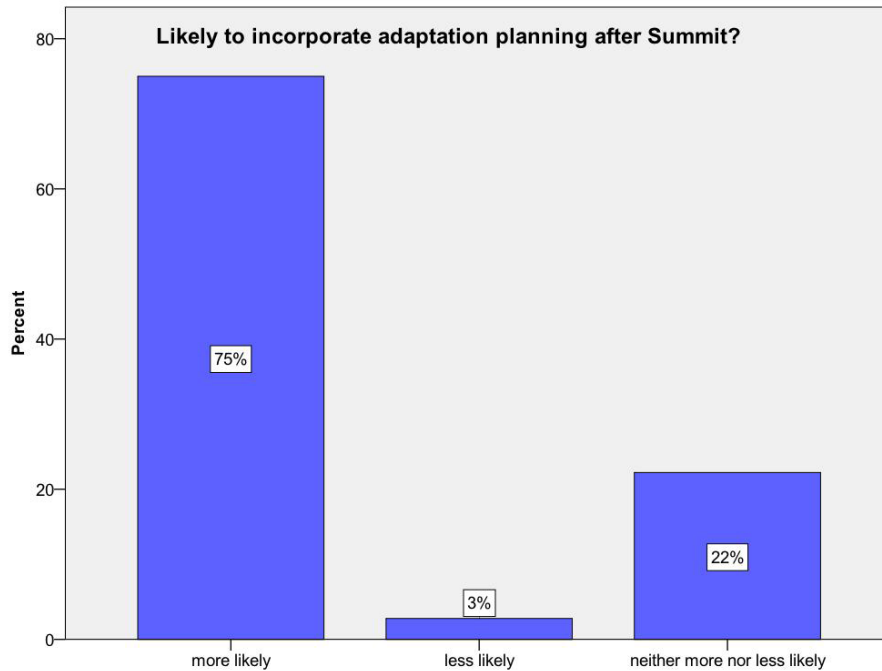
In your opinion, which of the following best describes the stage your organization is in with regard to problems associated with adaptation:

- Understanding the problem
- Planning to take action(s) on an adaptation problem
- Implementing action(s) to address an adaptation problem
- My organization is not working on anything related to adaptation right now.
- I don't know what stage my organization is in with regards to problems associated with adaptation.



3. After having attended the Climate Summit, do you think you are:

- more likely to try to incorporate climate adaptation planning into your work.
- less likely to try to incorporate climate adaptation planning into your work.
- neither more nor less likely to try to incorporate climate adaptation planning into your work.



4. Briefly describe any activities you may undertake related to climate adaptation planning.

- » Assessment of projected impacts on the historic built environment, and development of policies and guidelines for retrofitting existing building stock for improved energy efficiency and water conservation.
- » Mitigation: Implementation of 8MW of solar electric generation to displace fossil fuel generation; active in promoting ACC to adopt Integrated Resource Plans that prioritize energy storage solutions and consider all costs(Externalities, carbon-climate change, water lost to steam evaporation, etc.)when approving optimal mix of generation, and consequent delivery(Long distance transmission and energy loss requiring incremental generation/costs), technologies for regulated utilities.
- » not sure yet but know we have to start planning for the future with climate change.
- » First step measures will be to budget for additional funding, equipment, and manpower to address several events that are occurring more frequently than previously planned for, such as: emergency responses to large storm water flooding events; higher energy expenses; and more frequent plant replacement in landscaped areas. Other measures will be to shift the focus of planning and design to incorporate more environmentally appropriate buildings, landscapes, transportation corridors, and other critical community infrastructure.

- » Water Demand Planning / Water Operations Analysis / Public Information
- » Renewable energy development
- » We are currently updating our county comprehensive plan and will be including climate adaptation to an overall Healthy Community/Public Safety theme as well as an energy element and water resource element.
- » include climate change strategies and partnerships in addressing needs for next 3-5 years in our Department's Master Plan
- » Continuing climate disruption education and developing mitigation and adaptation actions, particularly at the local level.
- » Water (potable and non-potable) is a big part of most re-zoning as development plans are brought before the Planning & Zoning Commission, of which I am a member.
- » Consider adaptation strategies for building design, construction and operation.
- » Conduct literature search/review on impact of climate change on transportation and future planning
- » I am not sure at this time
- » change our zoning code to remove obstructions to do better energy and water conservation.
- » Maximizing underground storage of CAP water for future use.
- » We continue to address requests from our climate change committee, but many of them require funding, which is difficult to find. The risk assessment approach is a smart one that could help leverage funds.
- » update our general plan and development regulations
- » Incorporation of conservation, and sustainable principles into all facets of the way we operate, efficiency, track greenhouse gas emission, converting to renewables, minimizing water use and waste, reducing vehicle miles traveled and converting our fleet, right sizing etc. Also incorporating the STAR principles into our comp plan update (Pima Prospers).
- » Educate the council about the inevitability of climate change and get them to start thinking about adaptation strategies and actions.
- » low impact development standards
- » I work in Transportation planning and I believe that my organization is/ I am struggling to understand what practical steps can be taken now - and supported broadly by the public. I guess my first steps would be to learn more about what steps can be taken in my line of work.
- » In my work with other healthcare entities located through the SE Region of AZ I will share information with them to keep them informed of things they may consider adapting on their campuses or on a personal level.
- » Reduce City of Tucson energy use and increase solar energy generation.

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