

Whole Community: Preparedness Symposium—Natural Resources
Wednesday, September 21, 2016

Climate: what to expect in Arizona and how to prepare

- Extreme variability of temperature and precipitation has been and will continue to be the norm in the southwest.
 - Warmer ocean waters and warmer temperatures → more evaporation → more atmospheric moisture → increase probability of heavier rainfall or snowfall.
 - More northerly storm tracks → fewer winter storms → drier and warmer winters → longer and/or more intense drought.
 - Expect extreme events (snow storms, monsoon rainfall, drought, heat waves) to become more intense and more frequent in the future.
 - How much more intense and how much more frequent? Unknown at this time.
 - Uncertainty about the 200-year event or 100-year events occurring over shorter intervals?
 - Knowledge Gaps – need actionable information.
 - Better climate guidance for planning in the 5-10-year time window.
 - Plan for future events to be at least as extreme as past events.
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ASU, NOAA, and DEMA Research Findings and Collaboration

- Led by Arizona State University—funded by NOAA originally to understand climate information needs of emergency and risk managers
- DEMA funding—to understand gaps in mitigation planning process and to put together a pilot project

Findings:

- Climate information gap exists within the mitigation planning process
- Time-scale of info should be actionable
 - 2-10 years to coincide with budget, planning and election cycles
- Information should be digestible (4th grade level)
- Data are less important than impact on community for making plans
- Frequency, magnitude and probability of extreme weather events are high priority
- Without actionable climate data—planners are compelled to make their own best guess
 - Decisions are based on *perceived* risk rather than *true* risk
- Cascading impacts of hazards are not immediately considered but have acknowledged importance

Collaborations:

- Arizona Department of Health Services (ADHS)
- Arizona State University (ASU)
- Climate Assessment for the Southwest (CLIMAS), at University of Arizona
- Department of Emergency and Military Affairs (DEMA)
- Federal Emergency Management Administration (FEMA) region IX
- National Oceanic and Atmospheric Administration (NOAA)
- Sustainable Cities Network, Wrigley Institute at ASU