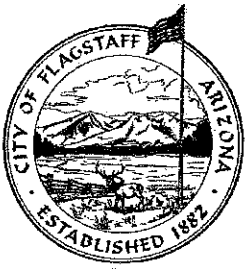


**WORK SESSION AGENDA**

**ITEM NO. 7**



Sustainability and Environmental  
Management Section

## Memo

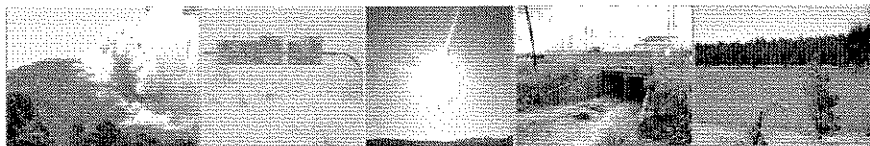
To: Honorable Mayor and City Council  
Through: Kevin Burke, City Manager  
Jerene Watson, Deputy City Manager  
Erik Solberg, Public Works Director  
Rebecca Sayers, Public Works Section Head  
Nicole Woodman, Sustainability Manager  
From: Stephanie Smith, Sustainability Specialist  
Date: September 7, 2011  
Re: Climate Adaptation and Management

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The purpose of this work session presentation is to review the City's existing climate adaptation and management efforts. As climate and related extreme weather conditions change, Flagstaff is beginning to plan and prepare to be more resilient to these changes. The impacts of the changes in climate will affect the local economy, natural environment and the community's well being. In close partnership with the community, and local, regional and national partners, Flagstaff can respond to this increasing challenge by integrating response and relief efforts with preparedness and prevention measures.

A proactive approach can reduce severity of risks and is less costly than responding to these impacts as they happen. Ensuring health and safety for the Flagstaff community today and in the future requires that the City be a leader and take action to prepare.

The City can be effective in reducing local vulnerability to the changing climate. It is to our advantage to be able to identify how vulnerable we are to climate change, where we lack sufficient capacity to adapt, and what the risks are if we do not act. Planning now to be more resilient to these changes can save money, while inaction now can lead to higher costs in the future. Resiliency builds a comprehensive and clear understanding of our community's critical social, economic and environmental resources. A Core Team has been identified by the City Manager to conduct a resiliency study. The core team will assess the vulnerability of systems vital to the City's operating efficiency, public health, and economic competitiveness. The results of the Flagstaff Resiliency Study will be presented to City Council in early 2012.



# BUILDING LOCAL RESILIENCE TO CLIMATE CHANGE IN FLAGSTAFF



September 27, 2011



## OVERVIEW

- What is climate adaptation?
- Why prepare and adapt to change?
- How to build local resilience?
- Flagstaff Resiliency Study
- Next steps

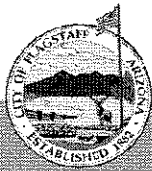


Building Local Resilience to Climate Change in Flagstaff 2



## WHAT IS CLIMATE ADAPTATION?

- Reduce our local vulnerability to the changes in climate and weather
- A diverse, thriving and responsive economy
- Prevent, Prepare, Respond, Recover



Building Local Resilience to Climate Change in Flagstaff 3



## WHY PREPARE AND ADAPT TO CHANGES?

- Avoid the Unmanageable –Manage the Unavoidable
- Capture future natural hazard scenarios
- Protect life, health, property and infrastructure
- Reduce severity of risks as a cost saving strategy



Building Local Resilience to Climate Change in Flagstaff 4



## HOW DO WE BUILD LOCAL RESILIENCE?

- Assess the growing risk from extreme events
- Prioritize local impact areas
- Integrate adaptability and resiliency into existing and future City operations



Building Local Resilience to Climate Change in Flagstaff

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## FLAGSTAFF RESILIENCY STUDY

- Understand future climate projections for Flagstaff
- Assess the vulnerability of the City's operations
- Utilize expertise of City staff (Fire, Finance, Utilities, Long-term Planning, etc.) and local resources



Building Local Resilience to Climate Change in Flagstaff

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## FLAGSTAFF RESILIENCY STUDY

*HOW TO DETERMINE WHAT/WHO IS VULNERABLE?*

Exposure: What/who could be impacted?

Sensitivity: To what extent are we exposed?

Adaptive Capacity: What resources are available to respond?



Less run off=dry forests=more fires

Building Local Resilience to Climate Change in Flagstaff 7

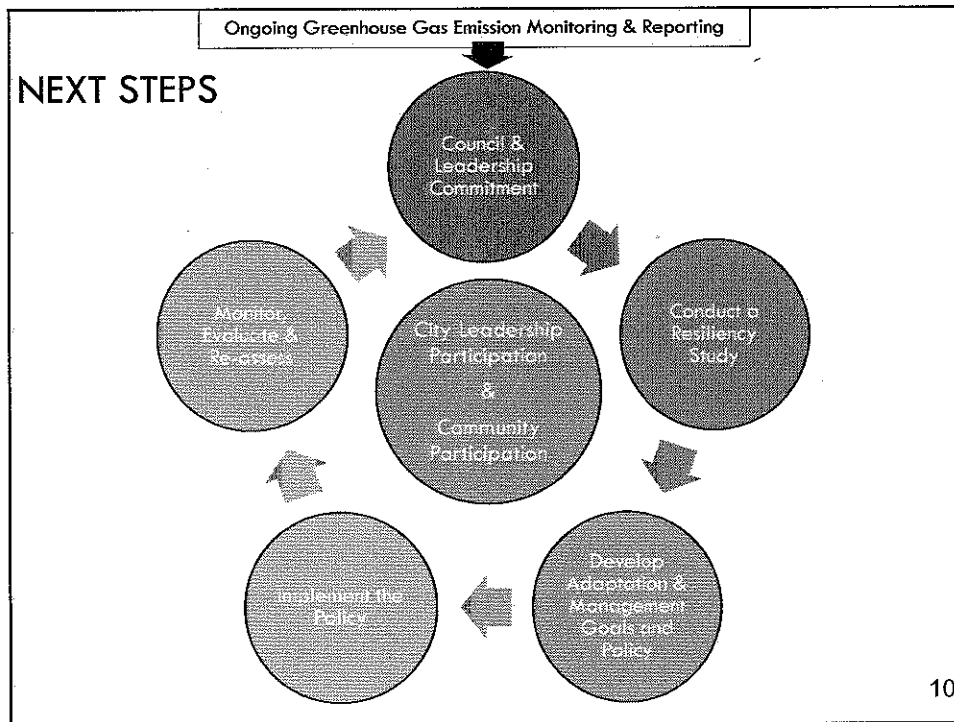
Exposure		
Who or what could be impacted	How do weather and / or climate currently affect this system	Description of Potential Climate Change Impact
Surface water diminished	Lake Mary no more (100% dependent on groundwater)	Increased demand for more wells
More intense/severe but less frequent precipitation events	Stormwater infrastructure built for peak/flood	Increased localized flooding, expanded flood plain, more potholes
Soil/forests/drought	More extreme wildfire events	Reduced run off=dry forests=more fires
Economy - dependence on forest	Forest closures can result in decline in tourism and View-shed	Impacted quality of life, economic vitality

Temperature: 5-8 °F increase  
Precipitation: 5% decrease

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Sensitivity	Adaptive Capacity			Vulnerability
What additional non climate factors currently effect this population and / or location	What Does This System Currently Have That Will Help it to Adapt	What Does This System Need in Order to Adapt	Highest Priority Needs	Vulnerability Ranking
Adequacy of water infrastructure, local economy, emergency response	Active water and forest management, re-use system, conservation mindset exists	Master planning, money, system redundancy, manage peak/storage needs, healthy forest, systems to mobilize		

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## NEXT STEPS

- Present results of the Resiliency Study
- Participate in local and regional efforts
- Develop strategic and responsive policy

