

# Tools and Resources for Climate Change Adaptation



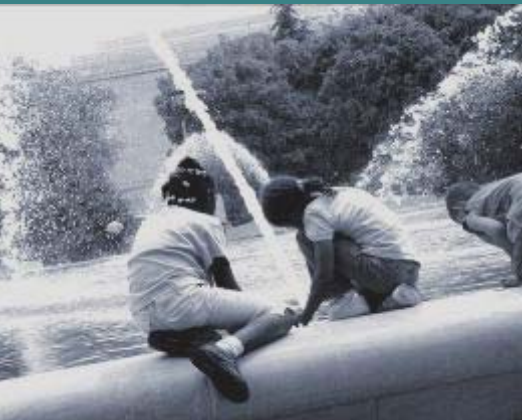
What ICLEI's Climate Resilient Communities Program Can Offer



# ICLEI's Mission

Our mission is to build, serve, and drive a movement of local governments to advance deep *reductions in greenhouse gas emissions* and achieve tangible *improvements in local sustainability*.

ICLEI strives to achieve this mission by delivering tools, resources, information, and networking experiences in three programmatic areas: climate mitigation, climate adaptation, and sustainability.



# Where do our tools come from

In 2005 members articulated a need to prepare for climate change

Conducted successful pilot planning process in 2007 (with funding from NOAA) leading some key resources

## Adaptation Steering Committee

- 22 Local Governments
- Range in size and region

## Experts Advisory Committee

- 12 International experts
- Range of expertise



# The Guidebook

## *Preparing for Climate Change: A Guidebook for Local, Regional and State Governments*

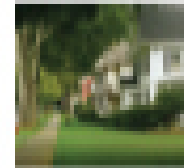
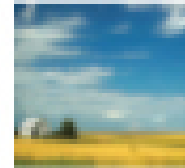
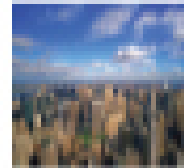
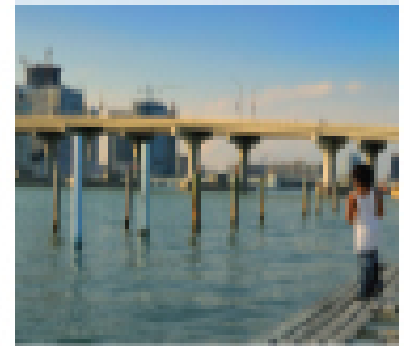
Created in partnership with climate impacts group and King County WA

Launched in 2008

Provides detailed guidance on how to plan for climate change adaptation

### PREPARING FOR CLIMATE CHANGE

A Guidebook for Local, Regional, and State governments



#### Developed by

Center for Science in the Built System (The Climate Impacts Group)

Center Institute for the Study of the Atmosphere and Ocean

University of Washington

King County, Washington

With funding provided by King County Executive's Office



King County



# ADAPT – Adaptation Database and Planning Tool

## What It Is

- An adaptation planning methodology
- A web based guide through the process
- A prioritization system

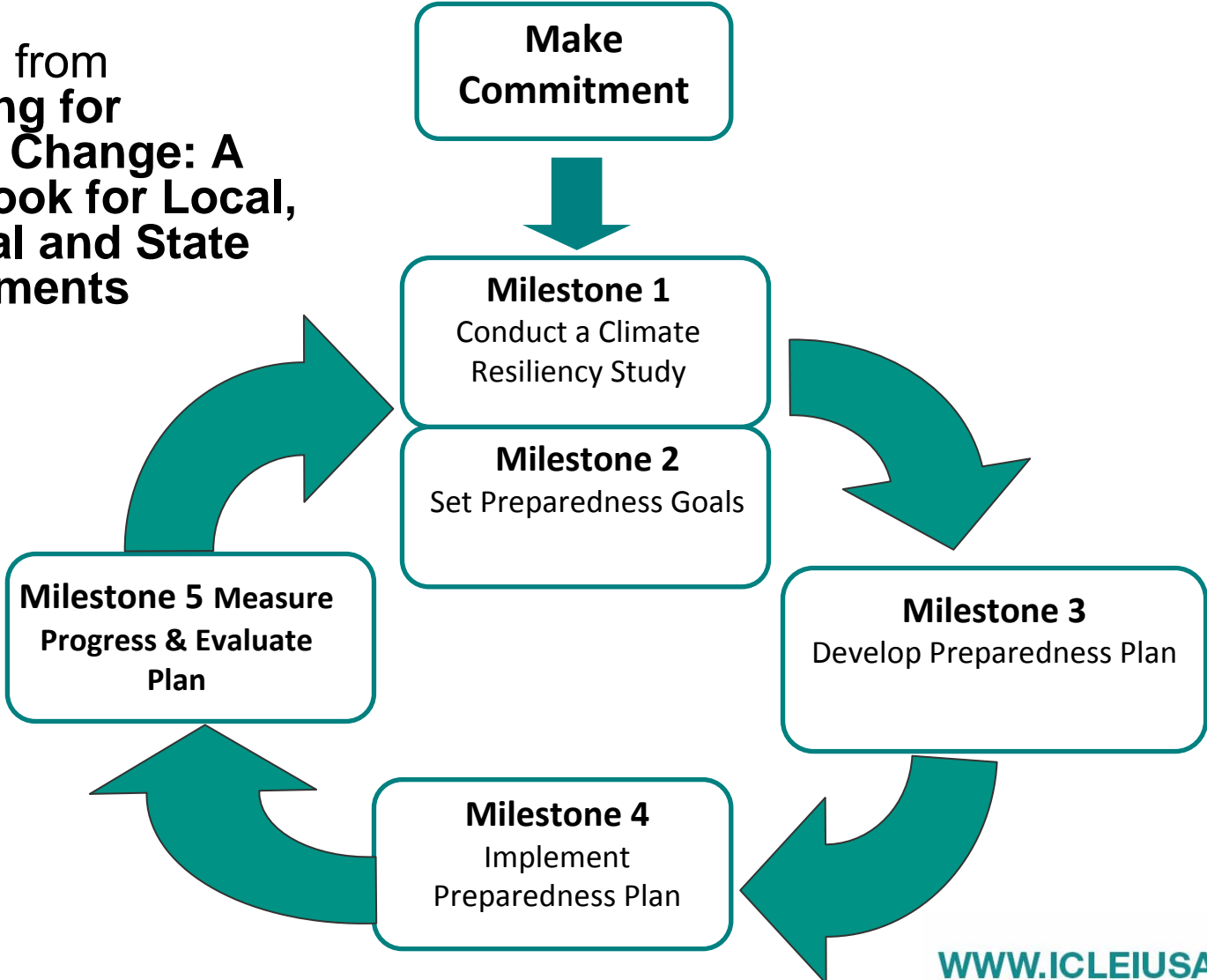
## What It Is Not

- A decision support tool
- A climate science provider
- An expert in all fields



# Five Milestones for Climate Adaptation

Adapted from  
**Preparing for  
Climate Change: A  
Guidebook for Local,  
Regional and State  
Governments**



# A First Look at Impacts

Primary Region <small>Select your region of the U.S. from the drop down ↓</small> <b>Southeast</b>	Reference	Primary Planning area likely to be impacted	Additional Planning Areas Likely to be Impacted	Relevant to my community?
<b>CURRENT IMPACTS</b>		<small>Select planning area in your community that is vulnerable to the identified impact ↓</small>		
Since 1970, the annual average temperature has risen about 2°F, with the greatest seasonal increase in temperature occurring during the winter months.	Source: NOAA 2009 - Unified Synthesis Product: Global Climate Change Impacts in the United States			
Average autumn precipitation has increased by 30 percent for the region since 1901.	Source: NOAA 2009 - Unified Synthesis Product: Global Climate Change Impacts in the United States			
There has been an increase in heavy downpours in many parts of the region, while the percentage of the region experiencing moderate to severe drought increased over the past three decades.	Synthesis Product: Global Climate Change Impacts in the United States			
The area of moderate to severe spring and summer drought has increased by 12 percent and 14 percent, respectively, since the mid-1970s.	Source: NOAA 2009 - Unified Synthesis Product: Global Climate Change Impacts in the United States			
<small>The destructive potential of Atlantic hurricanes has increased since 1980, correlated with an increase in sea surface temperature. A similar relationship with the frequency of land falling hurricanes has not been established.</small>	Source: NOAA 2009 - Unified Synthesis Product: Global Climate Change Impacts in the United States			
<b>PROJECTED IMPACTS</b>	Source: NOAA 2009 - Unified Synthesis Product: Global Climate Change Impacts in			
The projected rates of warming are more than double those experienced in the Southeast since 1975, with the greatest temperature increases projected to occur in the summer months.	Synthesis Product: Global Climate Change Impacts in the United States			
average temperature. Under a lower emissions scenario, average temperatures in the region are projected to rise by about 4.5°F by the 2080s, while a higher emissions scenario yields about 8°F of average warming.	Source: NOAA 2009 - Unified Synthesis Product: Global Climate Change Impacts in			

# Conducting a Vulnerability Assessment



# Understanding Vulnerability

**Vulnerability:** The degree to which a system is susceptible to (sensitivity), and unable to cope with (adaptive capacity), adverse effects of climate change (including climate variability and extremes)

**Sensitivity:** The degree to which a built, natural, or human system is directly or indirectly affected by changes in climate conditions or specific climate change impacts. If a system is likely to be affected as a result of climate change, it should be considered sensitive to climate change

**Adaptive Capacity:** The ability of a system to adjust to climate change, to moderate potential damages, to take advantage of opportunities, or to cope with consequences



# Assessing Vulnerability

To assess vulnerability, a user needs to know:

1. How the climate is changing
2. What systems could be affected by changes in climate
3. How those changes could (or already are) leading to impacts in identified systems

From here, users assess the sensitivity and adaptive capacity of systems likely to be impacted by climate change



# Adaptation Resource Toolbox (ART)



Will conduct a needs assessment for the resources desired

Will be a single source for accessing all adaptation tools

Will interact with ADAPT, but will provide different information

Will be coming out in a year



# Other ICLEI Adaptation Tools

- Series of FAQs and discussion documents
- Case Studies on Keene, NH and Homer, AK
- *Mitigation-Adaptation Connection: Milestones, Synergies and Contradictions*
- Adaptation Talking Points
- Networking with other local governments

## Climate Adaptation

by michael — last modified June 07, 2010 1:29 AM



**Introducing Climate Resilient Communities™:** ICLEI's new program to help local governments plan for the impacts and costs of climate change.

This leading-edge program, set to launch later in 2010, will assist local governments in preparing for the impacts and costs of projected climate change, also known as climate adaptation. Participants will assess vulnerabilities, establish goals, plan and take preparatory actions that foster more resilient communities.

### Why Local Governments Must Act

Many of the unavoidable impacts of climate change -- changing temperature and weather patterns, drought, flooding, erosion, and sea level rise -- will be felt directly at the local level.

Local governments nationwide have a responsibility to protect their people, property, and resources. But they must start planning *now*.

- [>> Learn More](#)

### New Case Studies



ICLEI has released two new case studies on climate adaptation planning in Keene, NH, and Homer, AK.

- [Get the Case Studies](#)

### Recap: Resilient Cities 2010

Read our summary of ICLEI's first world congress on climate adaptation.

**Get Adaptation Updates:** Sign up now to receive occasional e-mails from ICLEI with news and resources.



# Adaptation – Mitigation Synergies

## Energy

### Mitigation

Reduce emissions by expanding use of renewable sources



### Adaptation

Reduce vulnerability to widespread power grid outages by encouraging distributed generation from multiple renewable sources (solar, wind, biogas, landfill methane, etc.)

## Water

### Mitigation

Reduce emissions by reducing water use (less energy required for treating and transporting water)



### Adaptation

Conserve water so more is available during more frequent and severe droughts



# Questions



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