

# Building Resilience to Climate Impacts

## Task Force Meeting

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INSTITUTE FOR SUSTAINABILITY, ENERGY, AND ENVIRONMENT



# Climate Leadership Commitments Signed by University of Illinois at Urbana-Champaign



## The Climate Commitment

Integrates a goal of carbon neutrality with climate resilience and provides a systems approach to mitigating and adapting to a changing climate. Designed to blend these two critical components of climate leadership.

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## The Carbon Commitment

Focused on reducing the emissions of harmful greenhouse gases to zero and mitigating campuses' contribution to climate change.



## The Resilience Commitment

Focused on climate adaptation-specific goals, as well as building community capacity to deal with a constantly changing climate and resulting extremes.



# Second Nature

- The Climate Leadership Commitments are a signature program of Second Nature
  - Carbon Commitment
  - Resilience Commitment
- Second nature is a non-profit organization with a mission for moving towards sustainability through actions and innovations at institutions of higher education
- Formed a Climate Leadership Network that includes more than 600 colleges and universities that have committed to
  - Take action on climate
  - Prepare students through research and education to solve the challenges of the 21<sup>st</sup> century



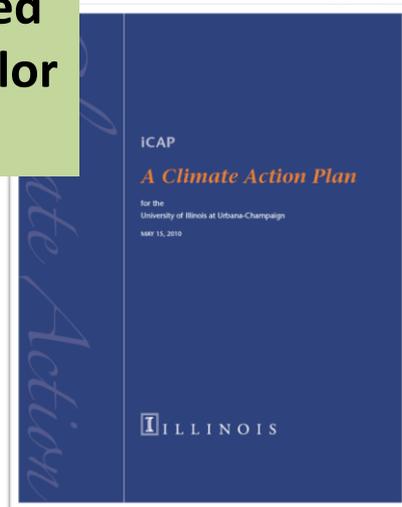
# Carbon Commitment

Signed by Chancellor  
Herman in 2008



AMERICAN COLLEGE & UNIVERSITY  
PRESIDENTS' CLIMATE COMMITMENT

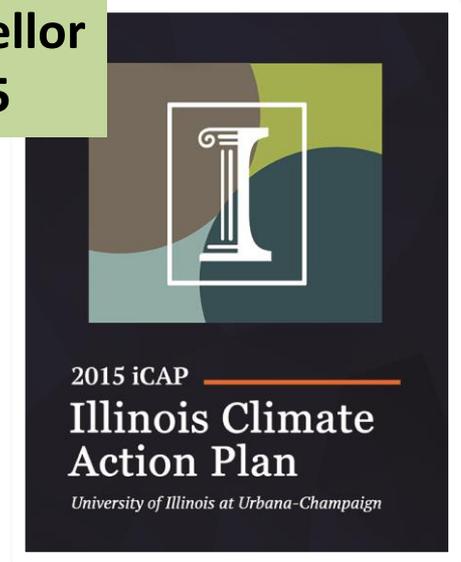
2010 iCAP approved  
by Interim Chancellor  
Easter in 2010



2015 iCAP objectives  
are in progress



2015 iCAP approved  
by Interim Chancellor  
Wilson in 2015



# Resilience Commitment



Develop a Climate Action Plan to increase resilience to climate impacts

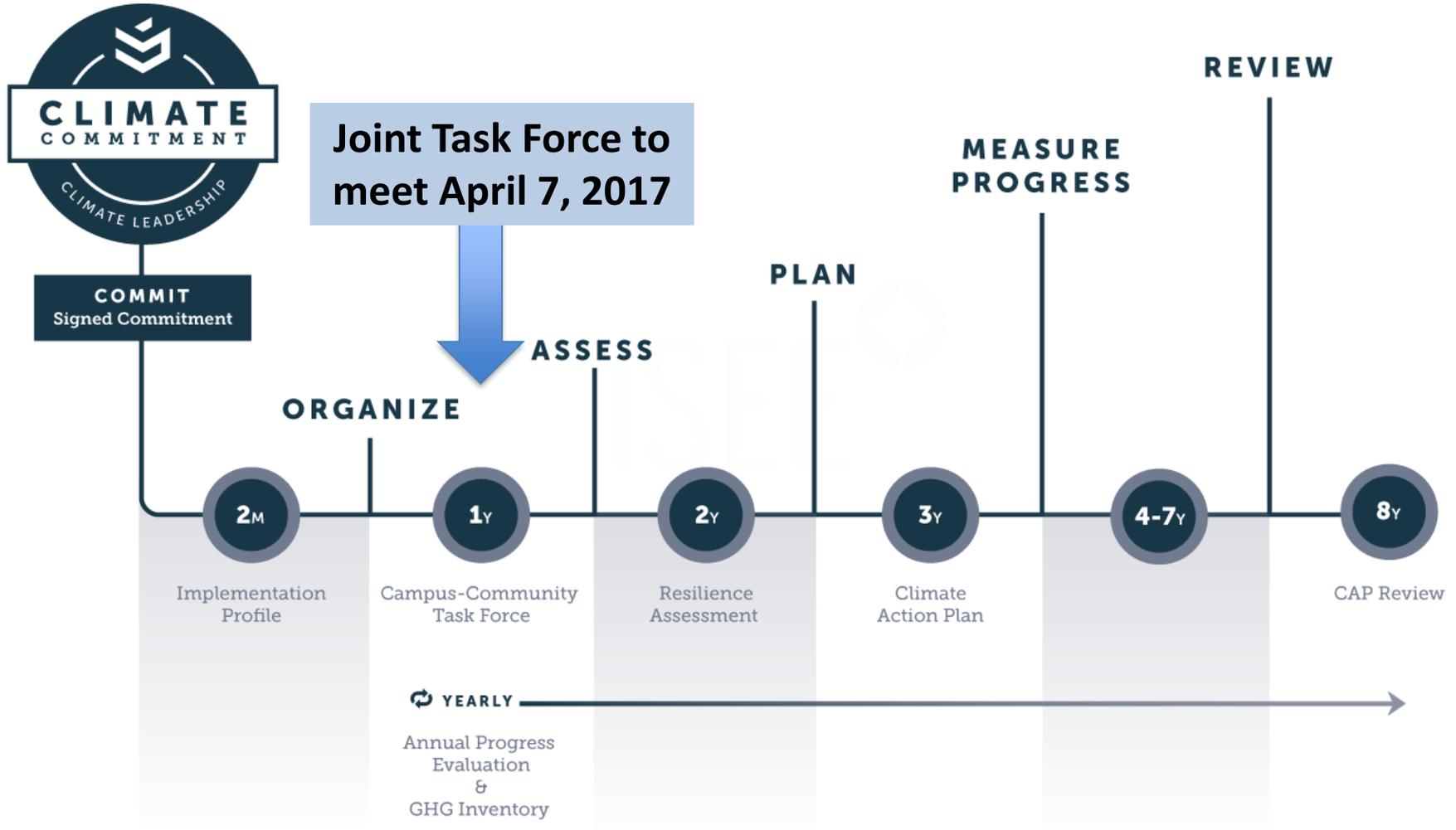
Support a joint campus-community task force to ensure alignment of the Plan with community goals to facilitate joint action

Campus-Community resilience assessment

Identify thresholds of resilience

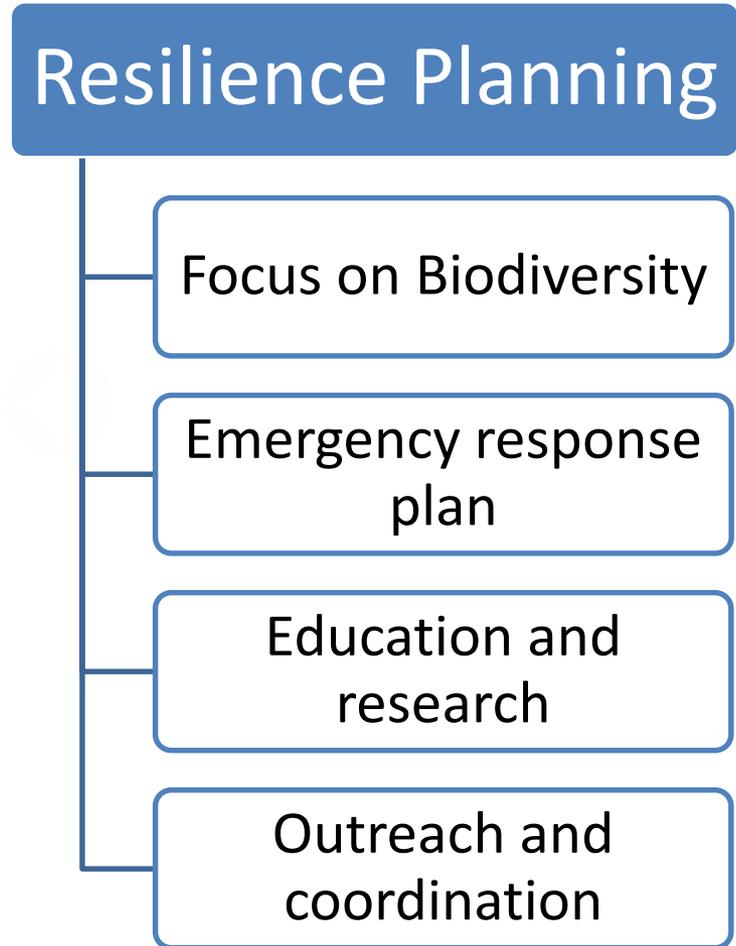
Targets for meeting milestones for increasing resilience

# Resilience Commitment



# RESILIENCE PLANNING AT OTHER CAMPUSES IN THE US

- A new issue at most campuses
  - taken up since 2015.
- Resilience plans in the process of formulation mostly by 2020
- Different campuses has taken different approaches to resilience/adaptation strategy



# FOCUS ON BIODIVERSITY

## UNIVERSITY OF ILLINOIS, CHICAGO

### **UIC climate commitments:**

*Biodiverse Campus. UIC will create a resilient campus landscape supportive of a variety of life, such as plants, animals, and people. (Climate Commitment Overview, April 2016)*

### **Short-Term Action Items**

#### **I. Promote Local Produce on Campus**

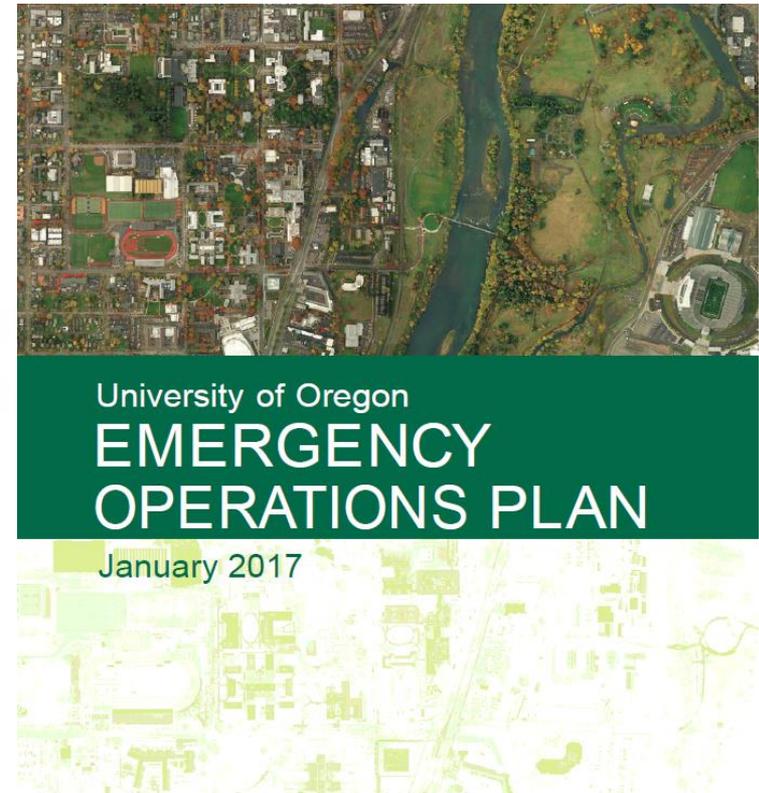
- i. Host a farmers market and bring local and regional food to the campus community.
- ii. Investigate the utilization of UIC'S greenhouse area near the Plant Research Laboratory for food production.
- iii. Include provisions to increase local food sourcing in future food service contracts.

#### **II. Enhance Tree Canopy and Diversity**

- i. Increase tree biodiversity by planting no more than 5% of the campus tree inventory with trees of the same species and 10% of the same genus.
- ii. Increase tree canopy coverage to 25% by 2030.
- iii. Use sustainable landscaping methods on campus.

# EMERGENCY RESPONSE UNIVERSITY OF OREGON

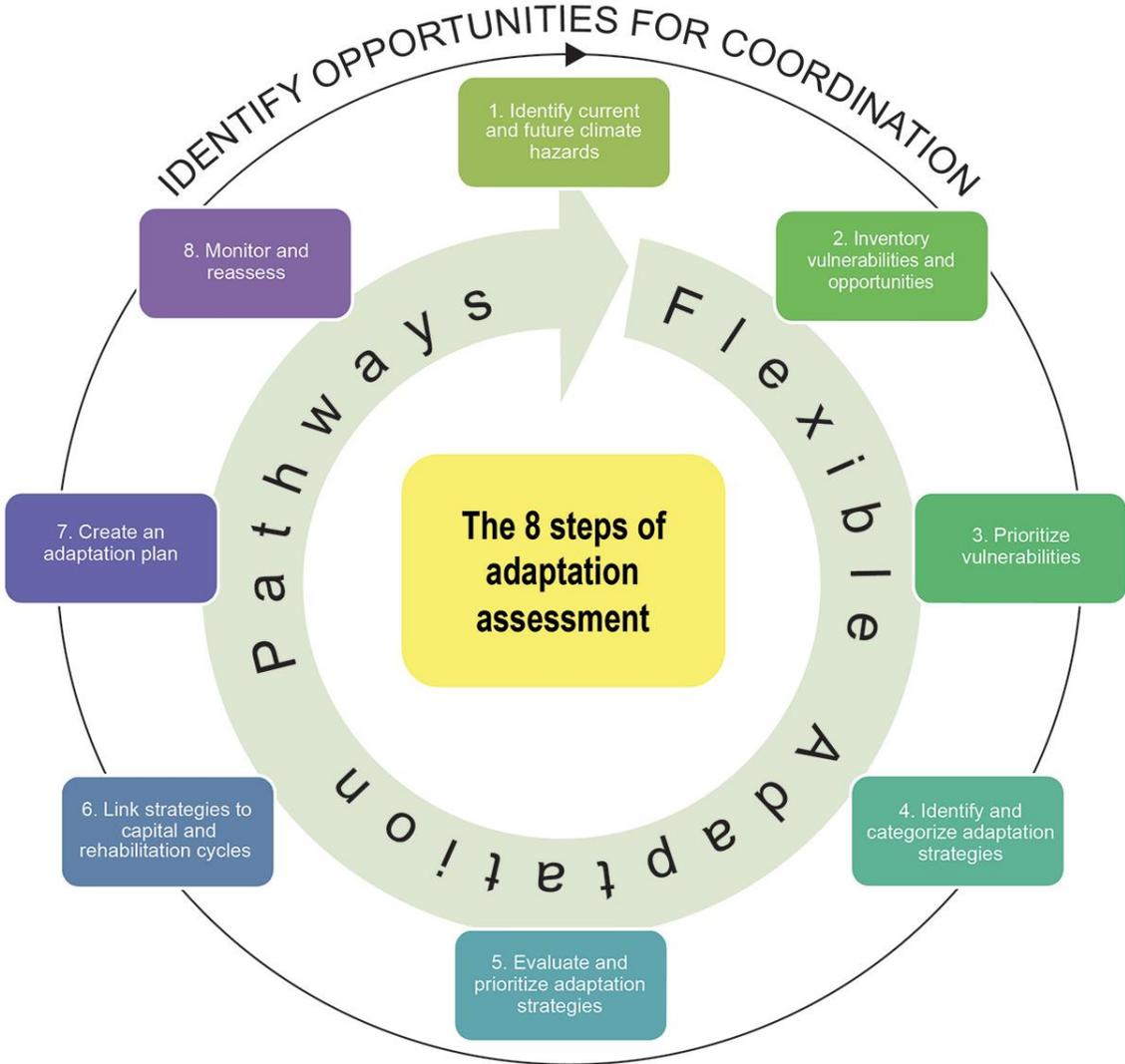
- Overview of possible hazards
- Emergency response Protocol
- Emergency management structure
- Emergency Management training
- Plan development and maintenance



# EDUCATION AND RESEARCH

- Undergraduate/graduate level courses
  - Climate Change Minor, Earth and Atmospheric sciences, College of Agricultural and Life sciences, Cornell Engineering
  - Risk and resilience, Master in Design Studies, Graduate School of Design, Harvard University
- Institutes dedicated to climate and resilience research
  - Institute for Climate Change and Agriculture at Cornell.
  - The Harvard Office for Sustainability (OFS)
  - Climate Readiness Institute (CRI), UC Berkeley and UC Davis

# FRAMEWORK FOR RESILIENCE PLAN



Cornell University

# Some Concepts

## Vulnerability

Vulnerability to climate change is the degree to which systems are susceptible to, and unable to cope with, adverse impacts of climate change.

## Adaptation

Actions that reduce the level of physical, social, or economic impact of climate change and variability, or take advantage of new opportunities emerging from climate change.

## Exposure

The degree to which elements of a climate-sensitive system are in direct contact with climate variables and/or may be affected by long-term changes in climate conditions or by changes in climate variability, including the magnitude and frequency of extreme events.

## Sensitivity

The degree to which a system will respond to a change in climate, either beneficially or detrimentally.

## Adaptive Capacity

The ability of a system to adjust to actual or expected climate stresses or to cope with the consequences.

# U OF I RESILIENCY PLANNING

- Identify likely climate impacts for Champaign county
- State of knowledge on assessment of the level of vulnerabilities
- Current state of preparedness to deal with climate hazards and risks
- Develop priorities for addressing vulnerabilities
- Strategies for adaptation

# FOR TODAY'S DISCUSSION

- What are the climate impacts we should be considering?
- Formation of the task force
- Existing resources for assessment of vulnerabilities
- Ongoing efforts to assess and address vulnerabilities