## COLLABORATING ON CLIMATE

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### Outline

- Collaboration overview
- Types of university support
- Advice from local government

### **Collaborative Approach**

A collaborative planning process is informed by science and led through a participatory stakeholder process.



### Stakeholder Engagement Process

- Study Newsletter/Website
- Forums (2)
- Adaptation Work Groups (4)
- Community Meetings (3-4)
- Regional Symposium
- Advisory Committee
- Study Evaluation

**Municipal Officials** 

Homeowner Assoc.

State agencies

Builders

Insurance

City Staff Federal Agencies Lake Associations Developers Utilities

Regional Agencies Non-Profits Academia Landowners



# Why involve stakeholders that include the public?

What are the goals of public participation and involvement?





### Goals of Public Participation

 Key Concepts from the National Research Council (NRC) 2008 Report:

"Public Participation in Environmental Assessment and Decision Making"

## Goals of participation

- Improve quality
- Improve legitimacy
- Improve capacity of environmental assessment and decisions



### Improve Quality

- Drawing on local knowledge to improve decision making.
- By a public process that...
  - Identifies values, interests, and concerns of all who are interested in or might be affected by the process or decisions
  - Uses the best available knowledge
  - Incorporates new information, methods, and concerns

## Improve Legitimacy

- By fostering legitimate and equitable decision making by...
  - A process that is seen by the interested and affected parties as fair and competent
  - A process that follows the governing laws and regulations

## **Improve Capacity**

- By increasing resilience, adaptive capacity, and social capital by...
  - Engaging the public with vetted data on severe weather trends and best available climate change science
  - Fostering inter-town/region/watershed wide understanding, trust, and collaboration to increase resilience to stormwater risks
  - Developing widely shared understanding of the issues and decision challenges

### But How?

- National Climate Assessment Report Model
- National Research Council Model
- One model that I have used...

# Model: National Climate Assessment Report 2013:



# Model: NRC 2010 Report "Adapting to the Impacts of Climate Change"





### Tale of Two Regional Climate Change Adaptation Projects (NH and MN)

- Project Approach:
  - long-term environmental, economic, and social sustainability can only be reached by empowering individuals and communities to understand the root causes of local problems and to participate in creating solutions.

### Two Climate Change Adaptation Engaged Scholarship Projects



# Involving all stakeholders in data gathering, assessing findings, and policy development



### 1. Agenda Setting

Benchmarks for Success...Key Inputs 1. Agenda Setting

#### To Achieve these Outputs



Commonly...Natural disaster

There are Opportunities ...

- Raise awareness
- Engage local community members of policy makers
- Form a leadership team of key community leaders
- Communicate urgency



### Example of communicating urgency: Heavy Precipitation Trends

Percentage Change in Very Heavy Precipitation

7% 74% 21% 45% 12% 26% 19% 36% Percentage Change 0-10 10-20 20-30 30-40 40-50 >60

Percentage increase in very heavy precipitation (heaviest of 1% of all events) from 1958-2011

Karl et al. 2011

2. Convene community leaders and a broad list of stakeholders and assessing the situation



To Achieve these Outputs



Convened a broad cross-section of stakeholders that included representatives of: Who was present?

- Education/Acad. Students Education/Academic Organizations 2% Organizations 4% **State Agencies**  Local Officials State Staff Officials 7% Federal Government 11% **Regional official**  Municipal Employees 4% Local Officials NGO/Conservation Orgs. 28% **Private Sector** 18% Private Citizens/ Public Federal Regional official Government 4% Private Municipal State Agencies Staff Employees NGO/Conservati Citizens/General Public on Organizations 2% State Officials 9% 11%
- Students

## 2. Convening and Assessing the situation and affiliated problems

Benchmarks for Success...Key Inputs



To Achieve these Outputs



Assessment is through research by a science/technical team and the presentations and discussions during the stakeholder session(s). It seeks to:

- Collect and analyze essential data Science/technical team
- Document current conditions Science/technical team and stakeholders
- Include diverse views and perspectives in small and large group discussions
- Provide an opportunity to reflect on the situation
- Help participants understand the underlying causes or problems

### For Example: Guiding Questions...

- In what ways have you observed or heard about landuse/development and changing weather patterns impacting this region?
- Do you think some of these impacts might reoccur?
- What are the underlying causes and/or problems?
- Top reasons why these impact might reoccur?
  - Participants then voted (with dots) on the top reasons. Results were then grouped into categories for future Working Groups.

3. Visioning opportunities and articulate overall objectives

Benchmarks for Success...Key Inputs

 Visioning & Objectives

To Achieve these Outputs



From the previous assessment process...

- 1. An Overall Vision and Objectives are Developed
- **2. Work Groups are typically formed**, each with 3 to 5 Objectives identifying "What could be done."

### **Example of Work Groups:**

- A. Education, Outreach, and Stakeholder Engagement
- B. Land Use Planning and Policy
- C. Stormwater Infrastructure (Green/Grey) and LID
- D. Sustainable Funding: Stormwater Infrastructure



4. Identification of barriers preventing progress (economic, social, cultural, political, etc.)



4. Identification of Barriers





**Barriers/challenges** are...financial, political, social, cultural, logistical, and/or philosophical difficulties...that get in the way of accomplishing the objective.

5. Identification of strategies that recognize barriers and overall objectives



To Achieve these Outputs



Prioritizing strategies and tools for implementation

Assessing impact vs. feasibility of each alternative

### Impact Vs. Feasibility Grid



6. Identification and engagement of potential partners and types of resources required



6. Partners & Resources

#### To Achieve these Outputs



## 7. Formulating action plan based on data and social values

Benchmarks for Success...Key Inputs

7. Action Plan

#### To Achieve these Outputs



### "How to Proceed"

- •Action Steps,
- •Responsibilities,
- •Timeline, and
- Resources Required



## 8. Formalizing inclusive implementation leadership team

Benchmarks for Success...Key Inputs

8. Leadership Team

### To Achieve these Outputs







### 9. Initiating actions based on priorities, balancing highest return with ease of achieving results



## Embracing open and dynamic feedback on process and actions taken. Continue to build broad base of support.





## Types of University Support

- Doctoral Research
- Doctoral Service
- Master's Thesis & Projects
- Class Projects
- Collaborative Service Initiatives
- Masters Internships
- Collaborative Grant Funded Projects



### **Doctoral Research**

Community-based adaptation planning



### **Doctoral Service**

Climate communication



### Master's Thesis & Projects

Facilitated Community of Practice



Photo: NASA

### **Class Projects**

Vulnerability assessments



#### Photo: Charlie Boswell

### **Collaborative Service Initiatives**

### Sebago Lake Watershed Climate Change Adaptation Planning Assessment

An assessment of municipal ordinance and community capacity to address climate change in four communities of Maine's Sebago Lake watershed



**Manomet Adaptation Project** 

### **Masters Internships**

• GHG inventory in Keene



### **Collaborative Grant Funded Projects**

### Rain-garden: Green Infrastructure For Sustainable Coastal Communities (Under UNH, Antioch, & Rockingham Regional Planning Project working with local government)



# Exeter, NH Green Infrastructure – UNH Stormwater Center



### Making the most of working with universities

