



Moving from Agenda to Action:
Evaluating Local Climate Change Action Plans
Does Drought Matter?

Zhenghong Tang
University of Nebraska-Lincoln

June 8, 2011
Chicago, IL

Climate Change and Local Dimension



There is general scientific consensus that human-induced increases in atmospheric greenhouse gases are the predominant cause for climate change (IPCC, 2007).

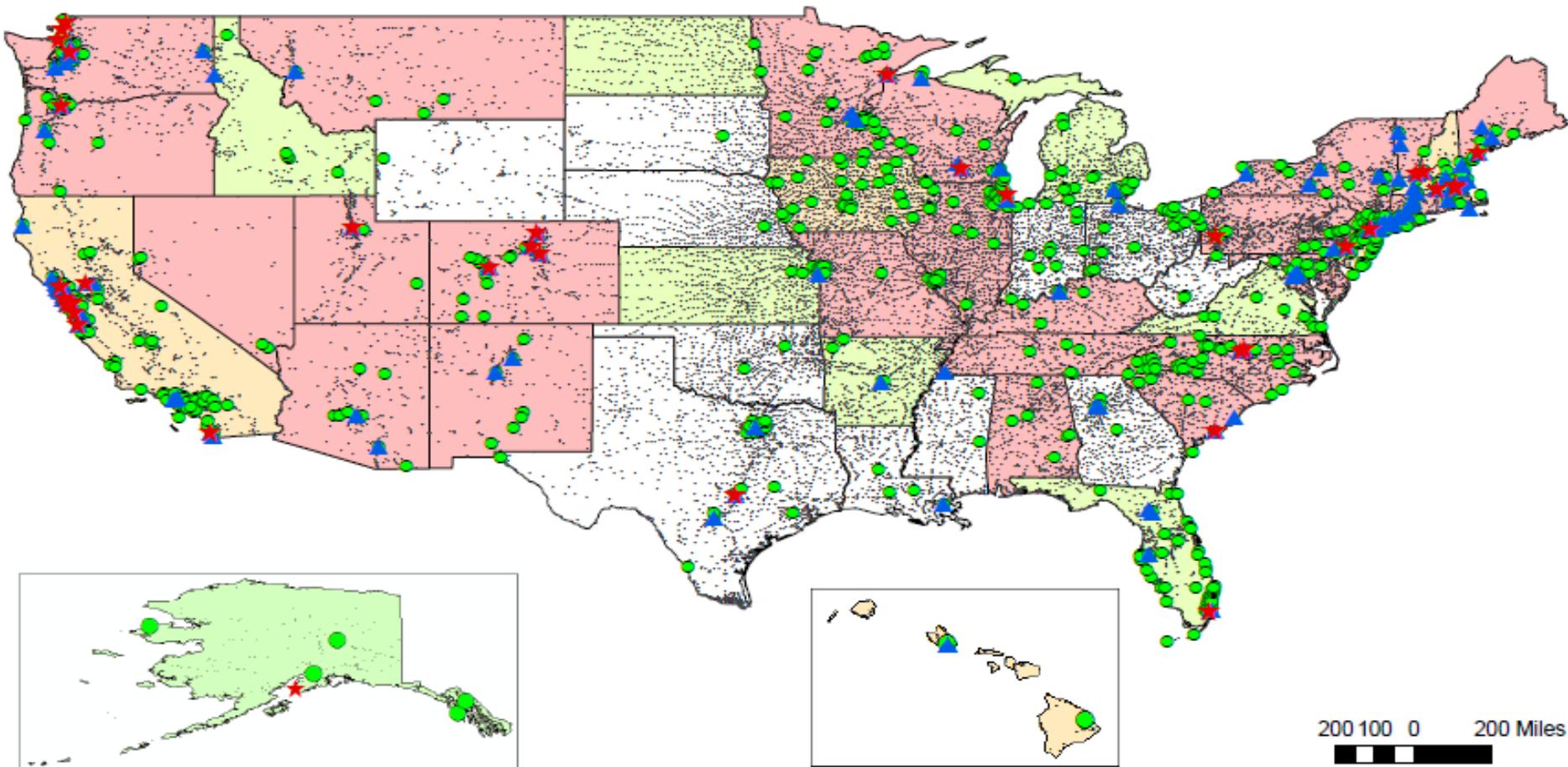
Climate change has an important “local dimension” (Betsill, 2000; Tang et al., 2010).

Local Dimension of Climate Change



- Impacted by climate change
- Direct or indirect authority
- Substantial co-benefits

U.S. Climate Change Action Map



- States Completed Climate Action Plans
- States in Revision of Climate Change Plans
- States in Progress of Climate Action Plans
- States DO NOT Have Climate Action Plans

- Jurisdictions with Local Climate Action Plans
- Jurisdictions Joined the Climate Protection Campaign
- Jurisdictions Signed the Climate Protection Agreement
- Jurisdictions DO NOT Have Any Actions

Theoretical Framework For Local Climate Actions



Motivation

- *Sustainability motivation*
- *Economic motivation*
- *Environmental motivation*
- *Social motivation*

Power

- *Leadership power*
- *Regulatory power*
- *Spending and taxation power*
- *Acquisition power*
- *Coordination power*

Constraints

- *Awareness or perception constraints*
- *Institutional constraints*
- *Implementation constraints*

Motivation For Local Climate Actions



- 1) ***Sustainability motivation:*** climate change as a part of the sustainable development campaign ([Bai, 2007](#))
- 2) ***Economic motivation:*** create potential financial savings in reduced utility and fuel costs ([Andrews, 2008](#); [ICLEI, 2009](#))
- 3) ***Environmental motivation:*** bring a series of local environmental benefits and associated health benefits ([Betsill, 2000](#))
- 4) ***Social motivation:*** benefit employment, hazard mitigation, and social equity ([Rayner & Malone, 1997](#))

Power For Local Climate Actions



1) *Leadership power:* educate/persuade/encourage participation/consensus, and offer a vision of the future

2) *Regulatory power:* use zoning, building codes, design standards, growth boundaries

3) *Spending/taxation power:* use CIP and budget arrangement, local taxing policy, and preferential assessment

4) *Acquisition power:* purchase development rights, conservation easements

5) *Coordination power:* coordinate with multiple agencies

Constraints For Local Climate Actions



1) Awareness or perception constraints:

- Lack adequate awareness or perceptions (Tang, 2009)
- Contradictory interests and priorities (Bai, 2007),
- Uncertainty (Agyeman, et al., 1998)

2) Institutional constraints:

- Spatial: “Not in my yard” (Wilbanks and Kates, 1999;),
- Temporal: “Not in my term” (Bai, 2007),
- Organizational: “Not my business” (Lutsey and Sperling, 2008)

3) Implementation constraints:

- Technical
- Personnel
- Budgetary

Research Problems



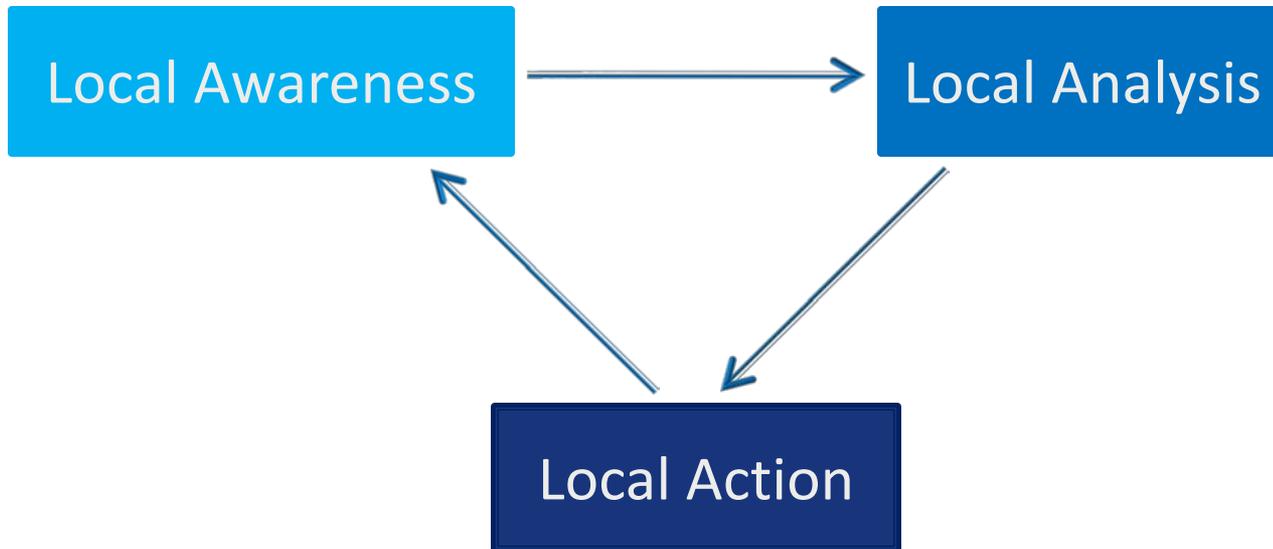
- Little research determines how to convert the concepts of climate change into local planning tools and empirically integrate climate change into local planning.
- To date, no empirical model has measured local climate change action plan quality.

Research Questions



- 1) How well do local jurisdictions be aware of/ analyze/take actions in local climate change action plans?
- 2) Do the traditional contextual variables affect local climate change action plan quality?

Conceptual Framework



Conceptual Measurement

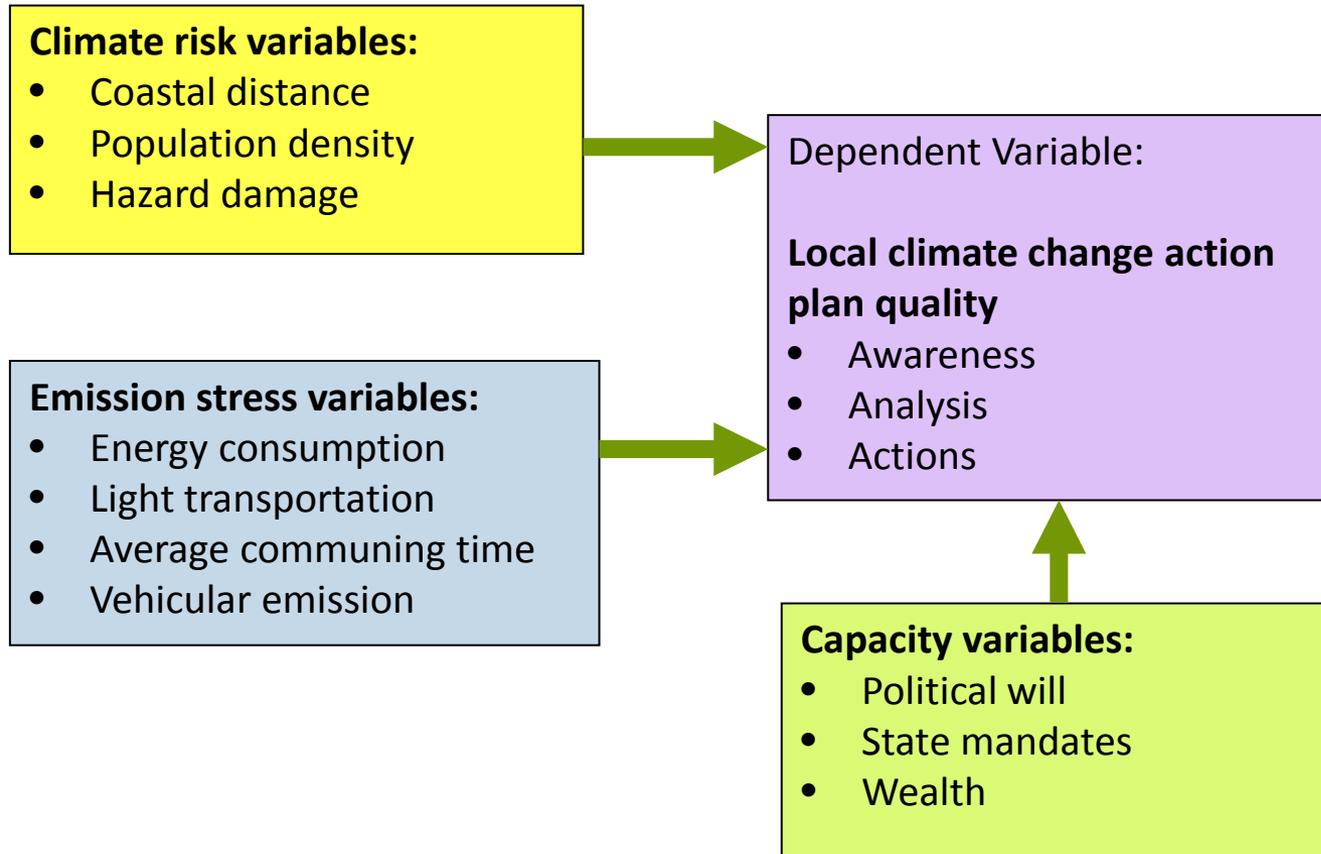


Awareness measures whether policy makers in localities understand the concepts

Analysis identifies/assesses the risks of climate change in localities (e.g. drivers, sources to climate change, possible impacts)

Action involves relative policies to address climate change mitigation and adaptations in the natural/built environment and human health

Conceptual Framework



Study Area



The population for this study is all of the jurisdictions in the U.S. that have adopted a local climate change action plan.

This study collects 40 local climate change action plans.

Findings in plan quality



- (1) Higher awareness:** A majority of jurisdictions have active awareness and adequate understanding of climate change because they are at the forefront of climate change action planning.
- (2) Medium analysis:** Localities feel that climate change is a global issue and this creates an inability or reluctance to integrate global scientific input into local action plans.
- (3) Varied actions:** Plans focus predominantly on the *built environment* (e.g. energy, transportation, wastes, and buildings) and pay little attention to the *natural environment*.

Findings in factors



(1) The most significant predictor: **State Mandates**

Mandates thus provide the essential motivation for localities to adopt strong climate change plans while the issue is still relatively novel in the local governmental consciousness.

Findings in factors



(2) **Transportation-related issues** can significantly contribute to local climate change plan quality.

Localities with a poor history of planning may find it politically difficult to abruptly enact strong development controls or may be less interested in adopting plans that genuinely address the potential adverse impacts of climate change.

Findings and Implications



(3) **Hazard damage variable:** runs counter to previous studies in which hazards are positive motivators for climate change initiatives.

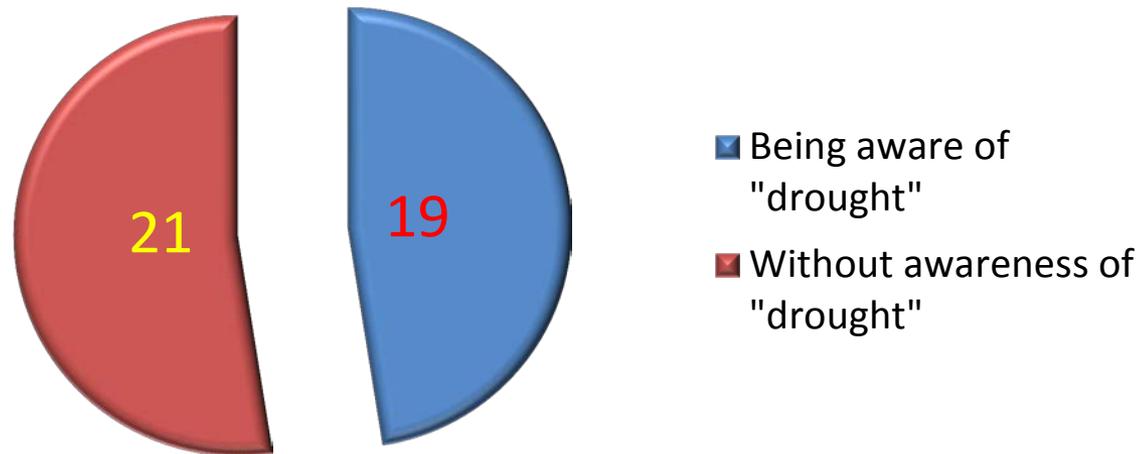
The past studies show frequent experience with hazards will more likely lead to participation in climate programs.

Localities may be preoccupied with the immediate, short-term concern of reducing hazard damage than longer, more abstract issues like climate change.

Does **drought** matter in local climate change action plans?



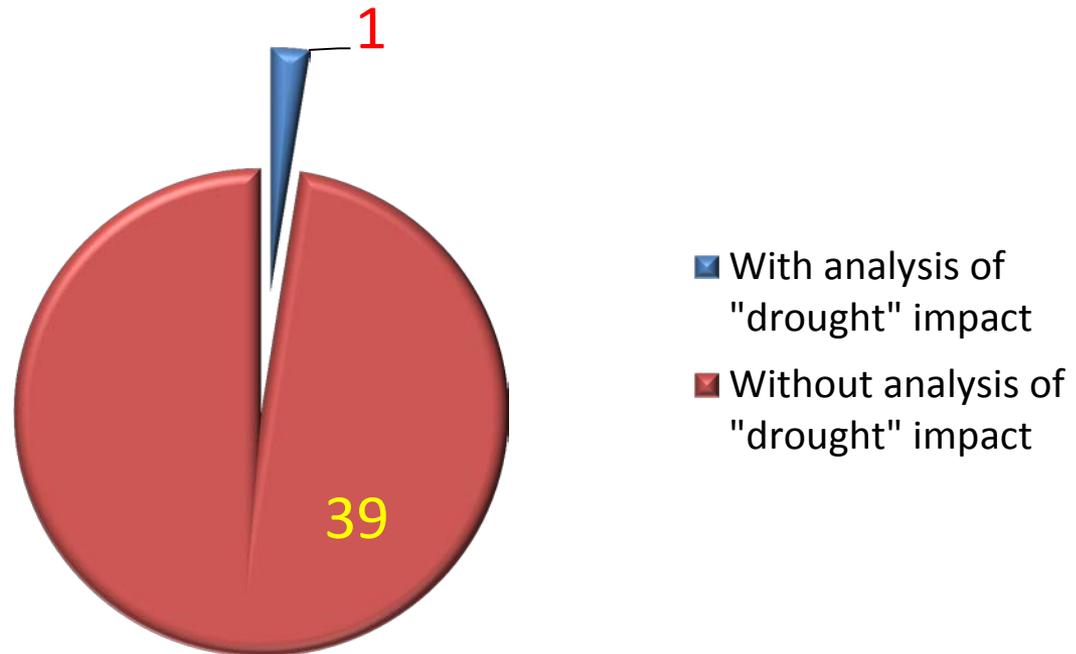
Awareness



Does **drought** matter in local climate change action plans?



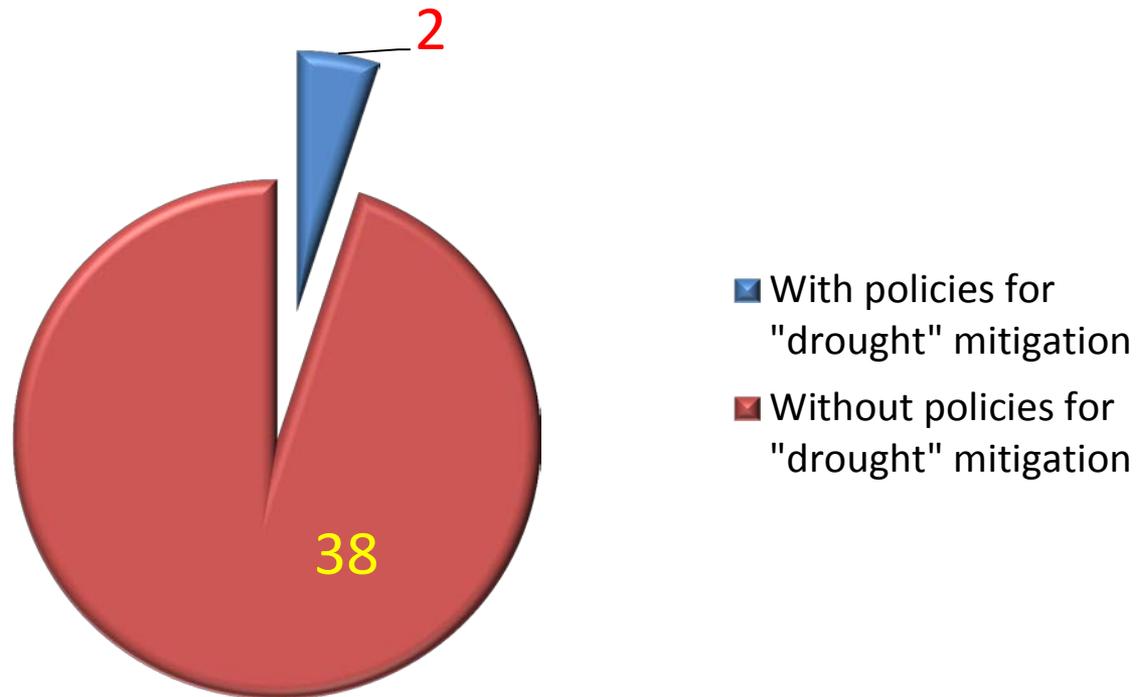
Analysis



Does **drought** matter in local climate change action plans?



Actions



Does **drought** matter in local climate change action plans?



Overall

1.7 words to describe “drought”
in each climate change action plans

Conclusion



Does a local community need a drought plan under the climate change scenario?

Yes!.....but how?

Conclusion



Drought Plan

**Local
Comprehensive
Plan**

**Local
Emergency
Management
Plan**

**Local All-
Hazards
Plan**

**Local
Climate
Change
Plan**

**Local Stand-
Alone
Drought
Plan**

Questions?



ztang2@unl.edu