Water’s connection to public perceptions about climate change
How communication around extreme weather events shapes public attitudes and engagement

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Background: What is Climate Change Communication?

Understanding how different audiences form opinions about climate change so that we can develop better messages.
Low Immediate Concern Among Americans Over Climate Change

One in Three Americans Thinks People in the U.S. Are Being Harmed “Right Now” by Global Warming

When do you think global warming will start to harm people…?
Low Immediate Concern Among Americans Over Climate Change

Over Half of Americans Are Worried About Global Warming, But Few Are “Very” Worried

How worried are you about global warming?
Low Immediate Concern Among Americans Over Climate Change

Global Warming Is Seen as a Relatively Distant Threat

How much do you think global warming will harm...?
Base: Americans 18+ (n=1,013). April, 2014.
Background: What is Climate Change Communication?

Extreme weather events provide cognitive connection to climate change and make it more local and less abstract.
How People Perceive Climate Change Through Weather Events – The role of communication?

• What about less visible conversations?
  – What prompts discussions? News media? Personal experiences?

• How do different communication sources prompt concern over climate change?
How People Perceive Climate Change Through Weather Events

TV broadcast using a trusted source (weathercaster) and a familiar analogy increases risk perceptions of global warming among viewers

Sept. 2013 Floods in Colorado: Case Study for Exploring Communication Around Extreme Weather Events
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- Two data sources
  1. Online survey of Coloradans
  2. Twitter posts related to the floods
Why study social media?

- People who engage with energy and climate change issues on social media sites consider themselves to be opinion leaders and have a strong sense of political efficacy.
Sept. 2013 Floods in Colorado: Communication Activities among Coloradans

- Read about it in news media source
- Discussed news media stories with family/friends
- Discussed personal experiences with family/friends
- Read about it in social media
- Shared personal experiences on social media
- Shared information from news media sources on social media

%
Influence of Colorado floods on climate change perceptions?
At least some influence of global warming on ...

Flooding of rivers and lakes
Droughts
Heat waves
Reduced snowpack in the mountains
Wildfires

June 2013
June 2014
The following are at least somewhat likely to occur in Colorado in the next 50 years due to global warming ...

- Heat waves
- Power outages
- Droughts and water shortages
- Worse storms or tornadoses
- Flooding of major cities
Relationship between communication of Colorado floods and climate change perceptions?
People form higher risk perceptions about global warming when they read and discuss information about the flood event in general.

<table>
<thead>
<tr>
<th>DV: Global Warming Risk Perceptions</th>
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<tbody>
<tr>
<td><strong>Media Use</strong></td>
<td></td>
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<tr>
<td>Attention to local and international news</td>
<td>-.020</td>
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<tr>
<td>Attention to science news</td>
<td>-.004</td>
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<tr>
<td>Attention to stories about extreme weather events</td>
<td>.060*</td>
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<tr>
<td>General social media use</td>
<td>.003</td>
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<tr>
<td><strong>Global warming belief certainty</strong></td>
<td>.203***</td>
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<tr>
<td><strong>Flood-related communication</strong></td>
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<tr>
<td>Discuss it with family and friends</td>
<td>.070**</td>
</tr>
<tr>
<td>Read about it in media</td>
<td>.095**</td>
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</tbody>
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Note: Entries are unstandardized regression coefficients. * p < .05, ** p < .01, *** p < .001.
Influential Role of Flood-related Communication & Media Use on Global Warming Perceptions

• Communication of flood event plays a role in developing concern over global warming’s impact on self, community, and other entities

• Practical implications for communication interventions (e.g., weathercasts, social media campaigns) during extreme weather events.

• Next step…adding both reported and observed personal flood experiences into the analyses
How did people discuss Colorado floods on Twitter?
Media sources prompt Twitter discussions about flooding and climate change

Sept. 18, 2013 — Content from multiple sources (e.g., Mother Jones, Salon, Grist.com, DemocracyNow.org) discuss the potential impact of climate change on the floods.

Sept. 26, 2013 — Christian Science Monitor publishes article questioning influence of climate change, which is retweeted by other sites (e.g., junkscience.com). Treehugger.com posts article supporting influence of climate change, which is retweeted multiple times.

Oct. 10, 2013 — ThinkProgress.org profile on flooding impacts to the Four Mile Canyon burn area is published, shared/retweeted.
Of tweets related to the environment during the flood, majority were about climate change.
People more likely to mention a link between climate change and the floods than mention not connected.
People more likely to mention a link between climate change and the floods than mention not connected

Is anyone following the flooding in Colorado? Extreme weather events are increasing in frequency! Is this climate change? What do you think?

Hey there Climate Change Deniers... Deadly flash floods in Colorado nbcnews.com /id/52996149/ns …

Seriously? The left is blaming Colorado floods on global warming? wtf.....
People who describe themselves as opinion leaders talk about climate change and local impact.
Social media discussions point out connections to climate change and related topics

- Discussions about extreme weather event …
  - Are prompted by mainstream media stories
  - Link to the issue of climate change
  - Make concrete connections to their local environment

- Practical implications for communicating about climate change
  - Better understanding of where opinion leaders get their information and what they discuss

- Next steps … connecting audience characteristics (e.g., politics) to different themes and tones of discussion
Public Engagement with Science: The intersection of science and communication

Interpersonal (e.g., public forums)
- Two-way communication among lay audiences and scientists

Mediated (e.g., op-ed)
- Reaching specific audiences

Intersection of interpersonal/mediated (e.g., social media)