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George Mason University
Center for Climate Change Communication

Linking extreme weather events to climate change: Communication challenge or opportunity?

NOAA Climate Attribution Workshop: Broomfield, CO

August 17, 2010

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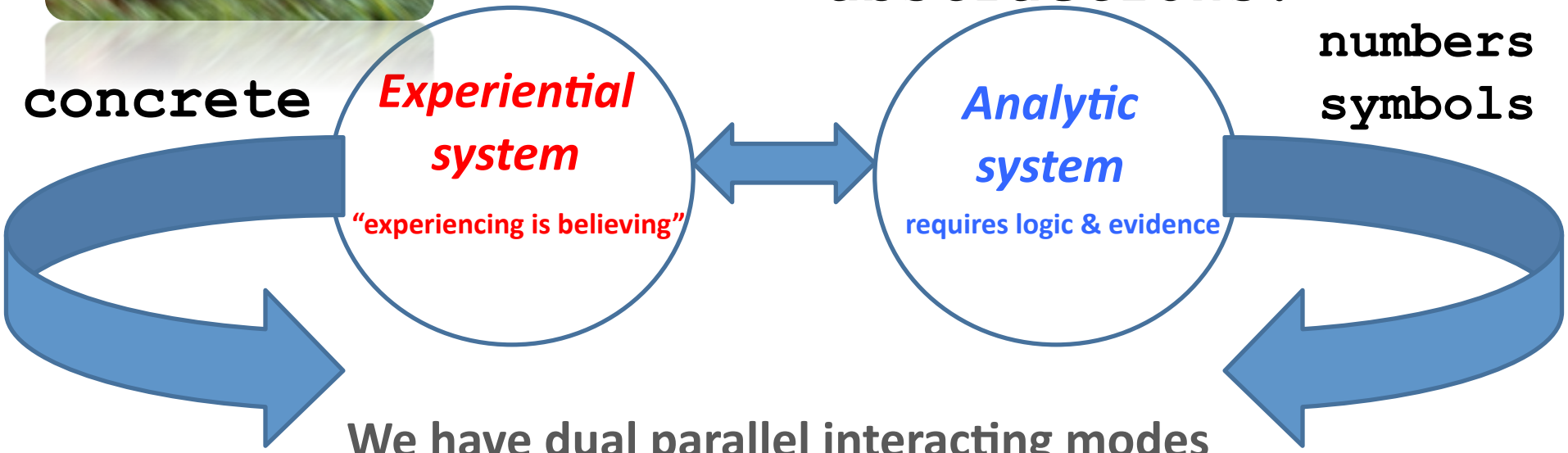
Why? What might we gain?

- Improve public understanding of the implications of climate change on our lives, our communities.
  - Help bridge the temporal and spatial gap between climate science and public understanding
- Help people make better decisions – both personally and as citizens of a community, a state, a nation – about climate change adaptation, and mitigation.

concrete

analytical logical deliberative abstractions: words numbers symbols



We have dual parallel interacting modes of information processing, learning and decision-making.

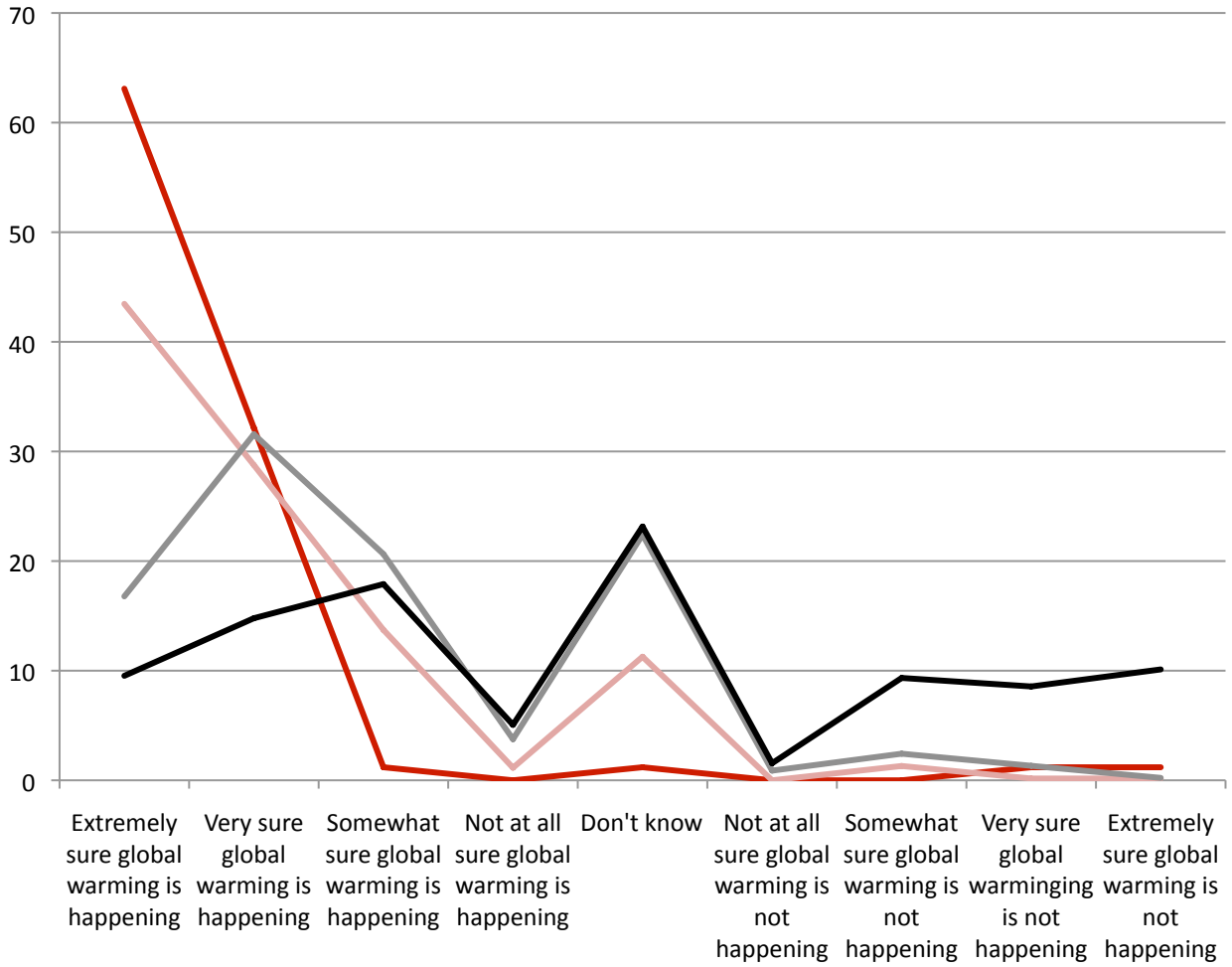
Experientially derived knowledge is often more compelling and more likely to influence behavior than is abstract knowledge.

Slovic, P., Finucane, M. L., Peters, E., & McGregor, D. G. (2004). Risk as analysis and risk as feelings: Some thoughts about affect, reason, risk, and rationality. *Risk Analysis, 24*(2), 311-322.

People who learn about climate change through personal experience are much more likely to engage with the issue than people who learn about it merely though exposure to analytical (didactic) information.

(Leiserowitz, 2004, 2006; Weber, 2006, 2010, Marx et al. 2007)

Do you think that global warming is happening?
How sure are you that global warming is happening?

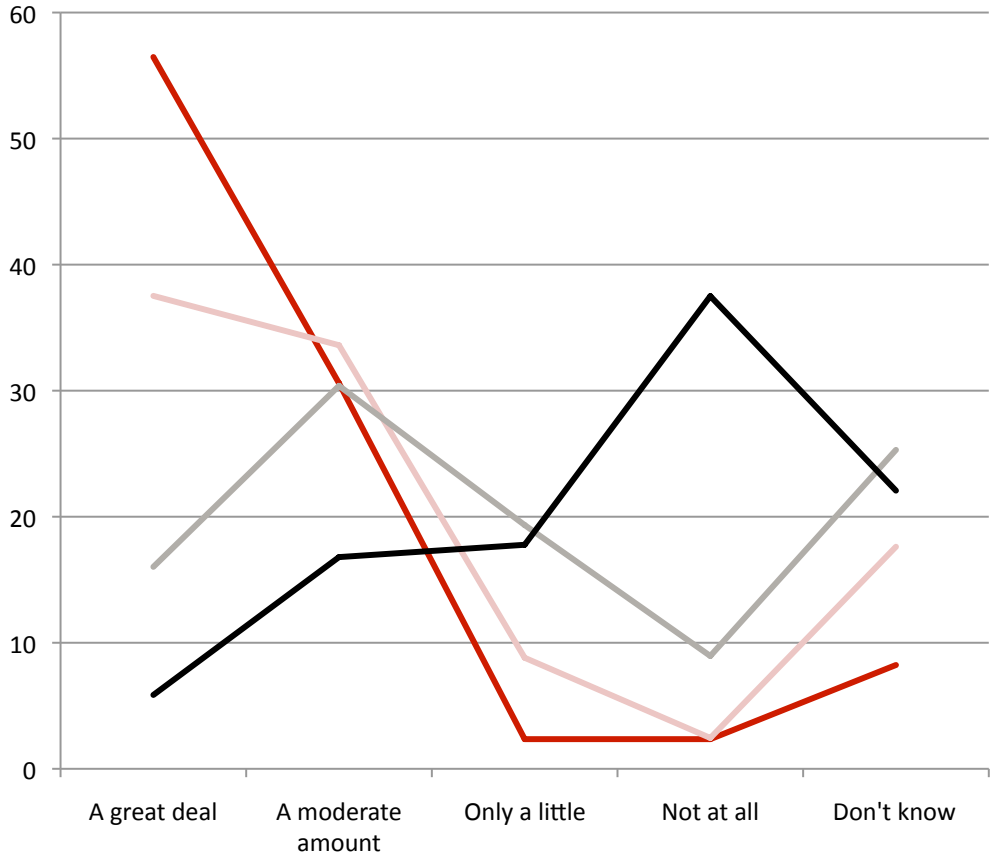


"I have personally experienced the effects of global warming."

Strongly Agree	4%
Somewhat Agree	29%
Somewhat Disagree	43%
Strongly Disagree	24%

Yale/George Mason (2008) unpublished data

How much do you think global warming will harm … people in the United States?



"I have personally experienced the effects of global warming."

Strongly Agree	4%
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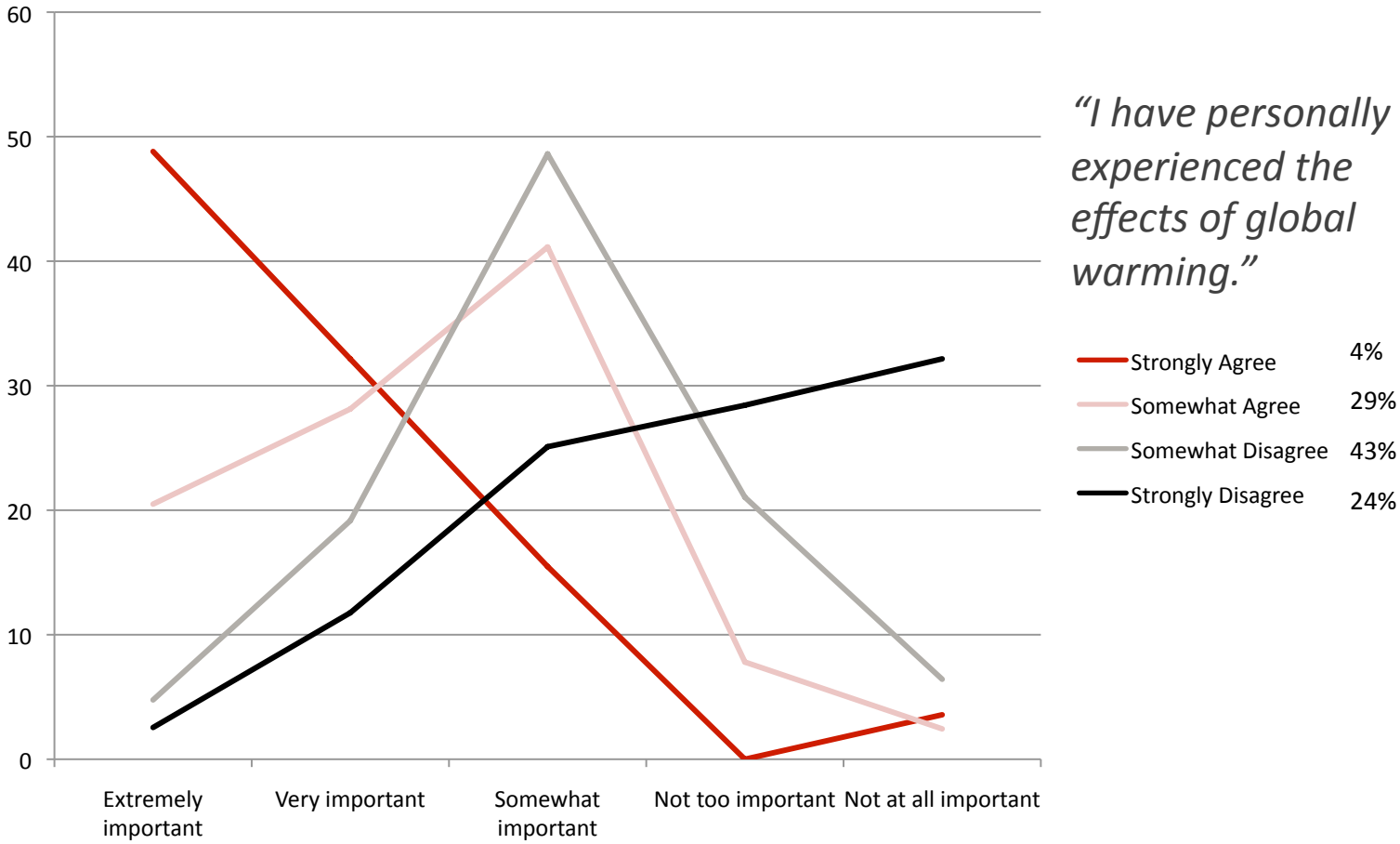
How important is the issue of global warming to you personally?



Yale/George Mason (2008) unpublished data

Global Warming's "Six Americas"

Alarmed	Concerned	Cautious	Disengaged	Doubtful	Dismissive
13%	28%	24%	10%	12%	12%

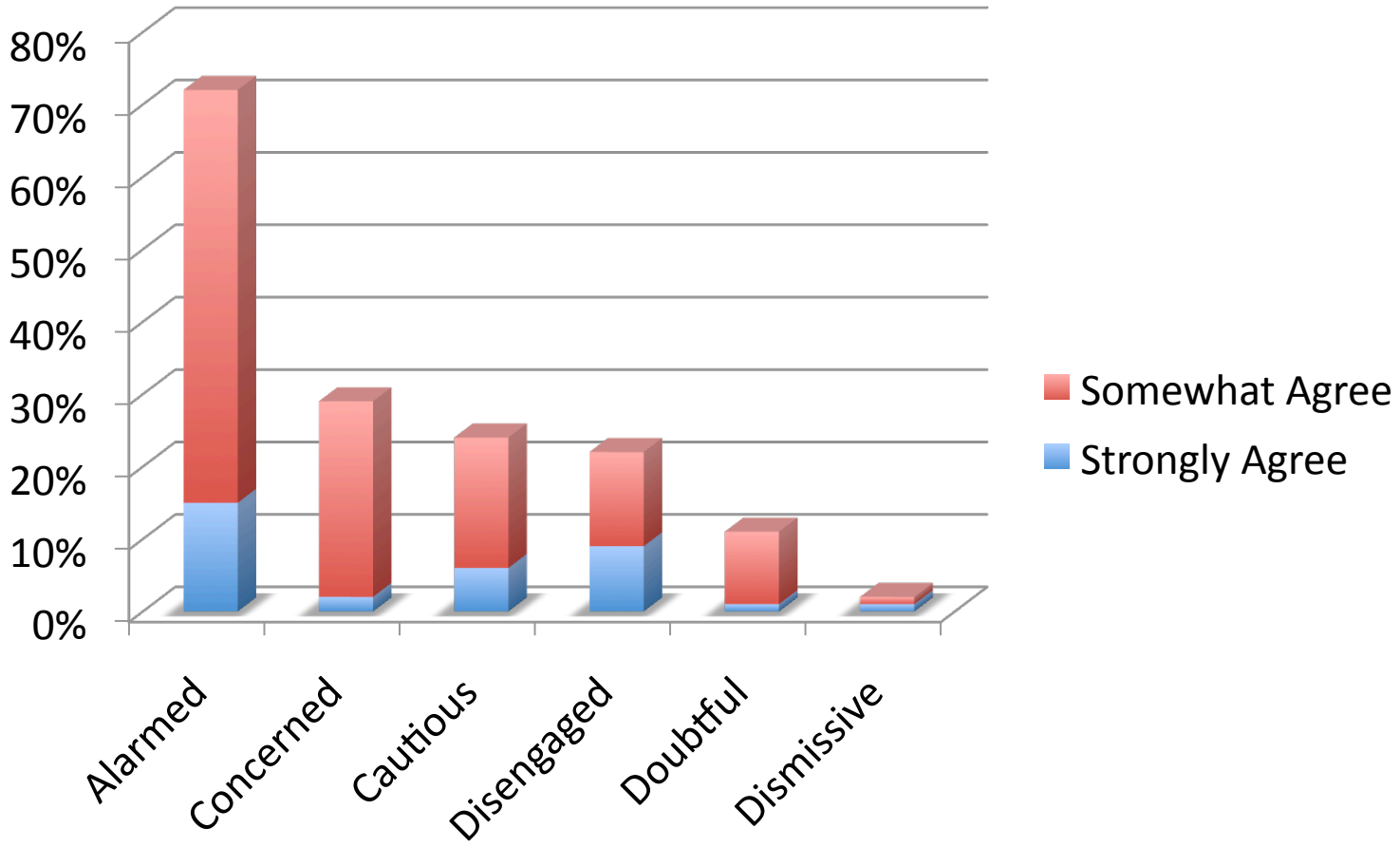
Highest Belief in Global Warming
Most Concerned
Most Motivated

Lowest Belief in Global Warming
Least Concerned
Least Motivated

Proportion represented by area

Source: Yale & George Mason, June 2010

“I have personally experienced the effects of global warming.”



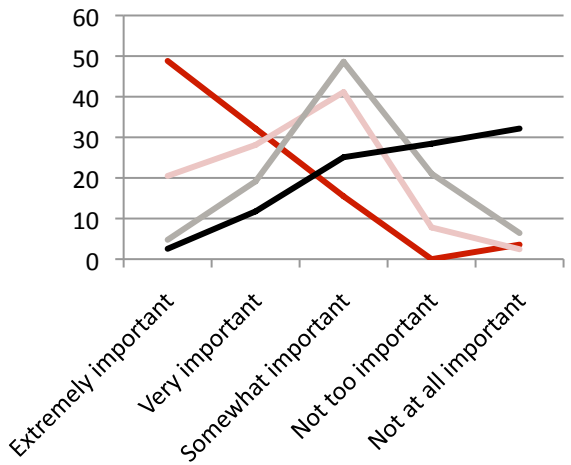
Source: Leiserowitz, A., Maibach, E., & Roser-Renouf, C. (2010) *Global Warming’s Six Americas, January 2010. Yale University and George* Mason University. New Haven, CT: Yale Project on Climate Change.

"Personal experience with noticeable and serious consequences of global warming is still rare in many regions of the world."

Weber, E. U. (2006). Experience-based and description-based perceptions of long-term risk: Why global warming does not scare us (yet). Climatic Change, 77, 103-120.

Human Experience of Global vs. Local Impacts

- Global
  - Abstract
  - Analytical
  - Impersonal
  - Pallid
  - Easily ignored



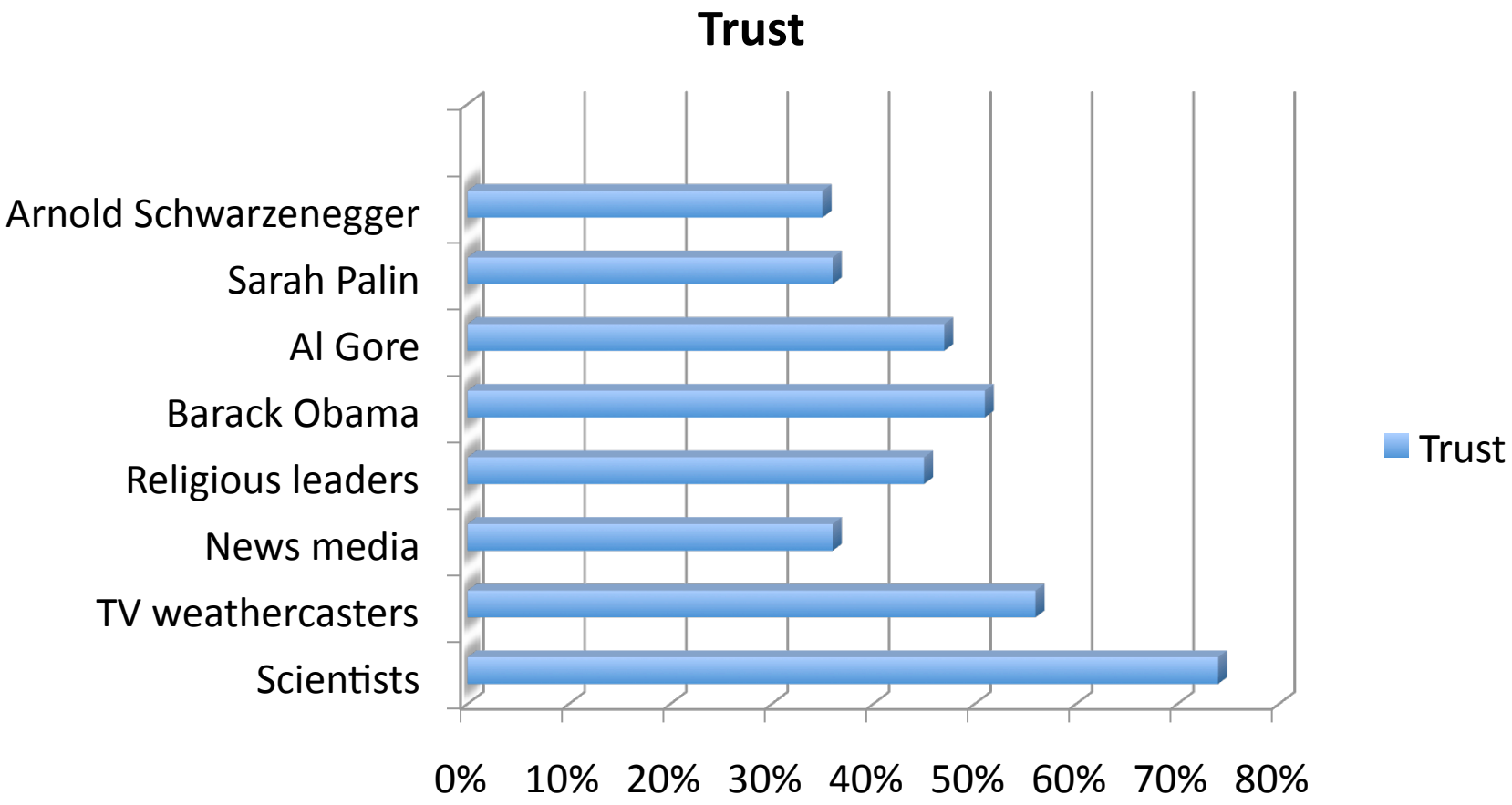
- Local
  - Concrete
  - Experiential
  - Personal
  - Vivid
  - Easily recalled

"Communication designed to create, recall and highlight relevant personal experience and to elicit affective responses can lead to more public attention to, processing of, and engagement with forecasts of climate variability and climate change."

Marx, S. M., Weber, E. U., Orlove, B. S., Leiserowitz, A., Krantz, D. H., Roncoli, C., & Phillips, J. (2007). Communication and mental processes: Experiential and analytical processing of uncertain climate information. *Global Environmental Change, 17*, 47-58.

Trust in Sources of Information about Climate Change:

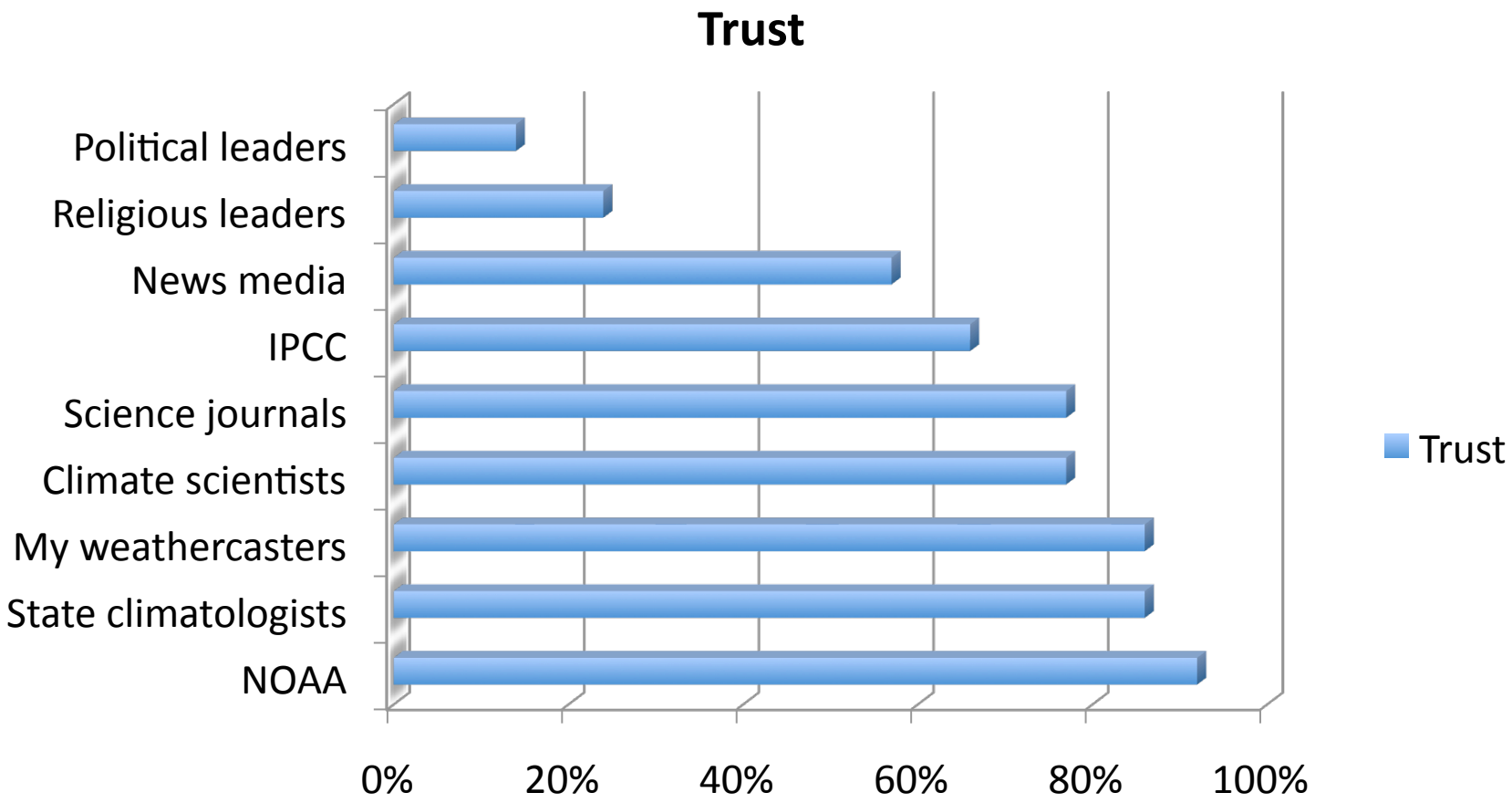
General Public



Source: Leiserowitz, A., Maibach, E., & Roser-Renouf, C. (2010) *Climate change in the American Mind: Americans' global warming beliefs and attitudes in January 2010. Yale University and George* Mason University. New Haven, CT: Yale Project on Climate Change.

Trust in Sources of Information about Climate Change:

Local TV News Directors



Source: Maibach et al (2010). Forthcoming report. Please do not circulate or cite.

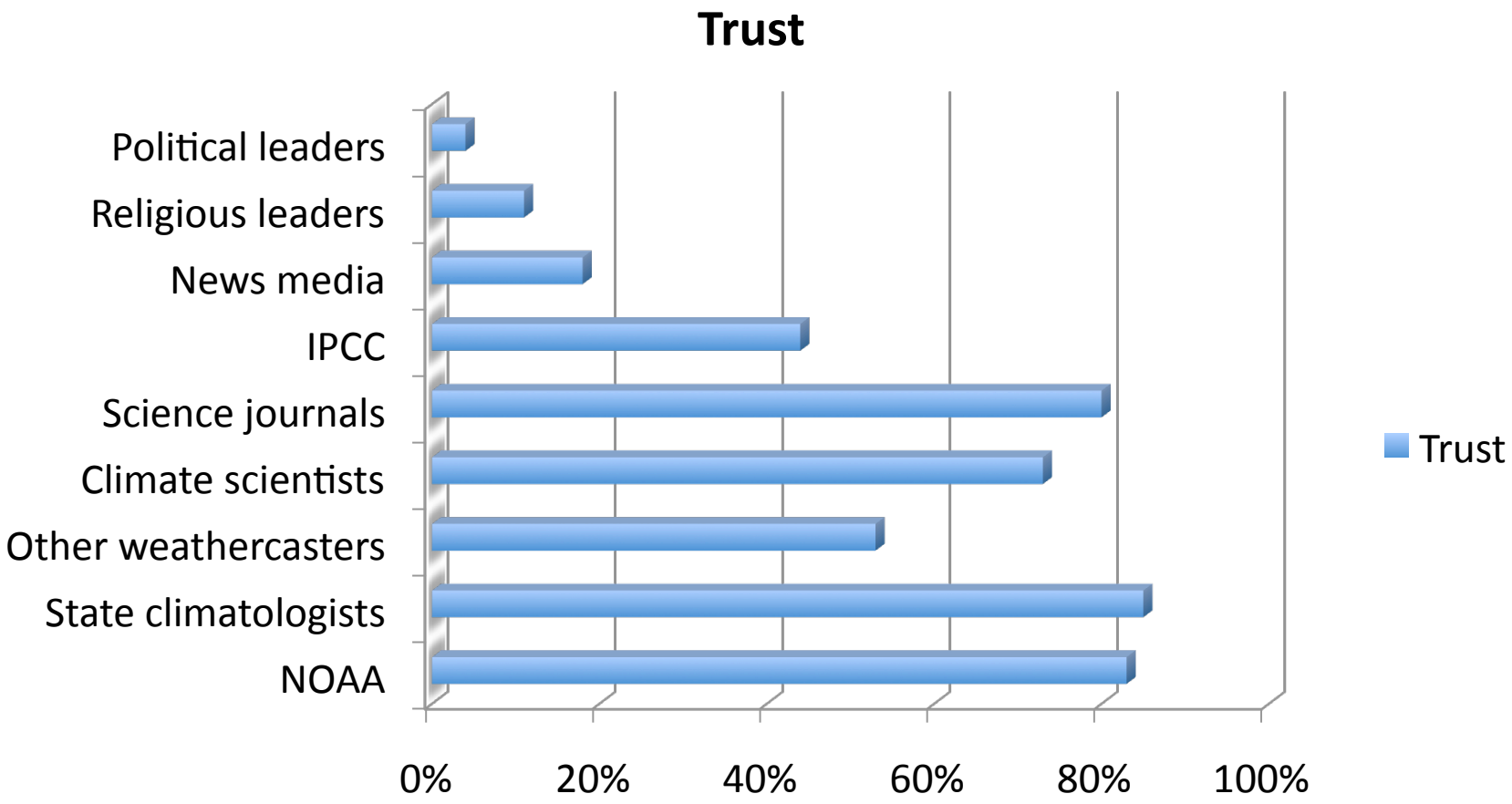
Unusual Weather Events as Teachable Moments. They provide opportunities to…

- Help the public understand the difference between weather and climate;
- Show how global climate change increases or decreases the likelihood and severity of extreme weather events;
- Show how an individual extreme weather event can never be wholly attributed to climate change, yet is consistent with observed changes in the climate and forecasts of further future change;
- Show how an individual event can be a harbinger of future events;
- Show how a series of extreme weather events in a wider geographic context or longer temporal scale provide evidence of global climate change.

Weathercasters are a natural cadre of communicators to make this case

- Many people tend to watch television to interpret and manage extreme weather events.
- Extreme weather events often create strong emotional reactions. When feelings are aroused, especially fear, learning may occur.
- People are best able to manage their fear, learn from, and improve their circumstances following a crisis such as an extreme weather event when they have access to informational, emotional, and social support from family, friends, and experts.
- TV weathercasters who assist viewers in understanding extreme weather events will be doing so in a context where their help is truly needed and where viewer capacity for learning may be high.

Trust in Sources of Information about Climate Change:
Local TV Weathercasters



Source: Maibach et al (2010). Maibach, E., Wilson, K & Witte, J. (2010) *A National Survey of Television Meteorologists about Climate Change: Preliminary Findings. George Mason University.* Fairfax, VA: Center for Climate Change Communication.


I DON'T BELIEVE IN
GLOBAL WARMING


CLIMATE
TRUE VIEW
CLIMATE CENTRAL

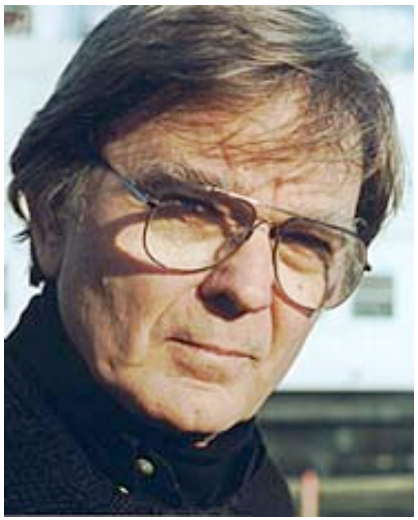

CLIMATE MATTERS
TRUE VIEW
climate
matters

Effective science communication 101

- Scientific “findings” have little to no meaning to audiences other than scientists.
- Science communicators must use stories to suggest what the findings mean.
  - Simple clear messages, repeated often, by a variety of trusted sources.”
- Effective stories
  - focus on a topic the audience cares about
  - are concrete and grounded in a familiar context
  - are emotional

"We need story, otherwise the tremendous randomness of experience overwhelms us. Story is what penetrates."

— Robert Coover



"People simplify. Our job is to help them simplify appropriately."

— Baruch Fischhoff

When failure (of the communication) is not an option, create a communication team.

- Content experts
- Decision science experts
- Communication experts

Baruch Fischhoff (2007). Non-persuasive Communication about Matters of Greatest Urgency: Climate Change. Environmental Science & Technology Online. 41:7204-8.