4C

George Mason University
Center for Climate Change Communication

TV Meteorologists as Climate Educators

Presentation to the Climate Literacy Network

February 28, 2012

Edward Maibach, MPH, PhD

Abstract

- Surveys indicate that TV weathercasters are among America's the most trusted sources of climate change information – second only to scientists and government climate science agencies. Unlike most scientists, TV weathercasters have unparalleled educational access to American adults: a large majority of adults watch local TV news, especially the local weather, and TV is cited by most adults as their #1 source of weather information. Moreover, TV weathercasters' educational access is both timely (it can occur precisely when people are open to learning – e.g., when extreme weather events such as heat waves, heavy downpours and snowstorms, floods and droughts create an educational opportunity), and it is likely to be seen as relevant by viewers (it can focus on concrete local and regional manifestations of climatic conditions, rather than on more distant manifestations). Furthermore, TV weathercasters often have the opportunity to repeat their educational content in a variety of media channels (TV, radio, newspapers, station websites, and personal blogs), and through face-to-face education (at school and community events), thereby greatly increasing the odds of audience learning. In this talk, I will present what we have learned through two NSF-funded grants in which we have had the opportunity to work with America's weathercasters and explore their interests in educating their viewers about climate and climate change.

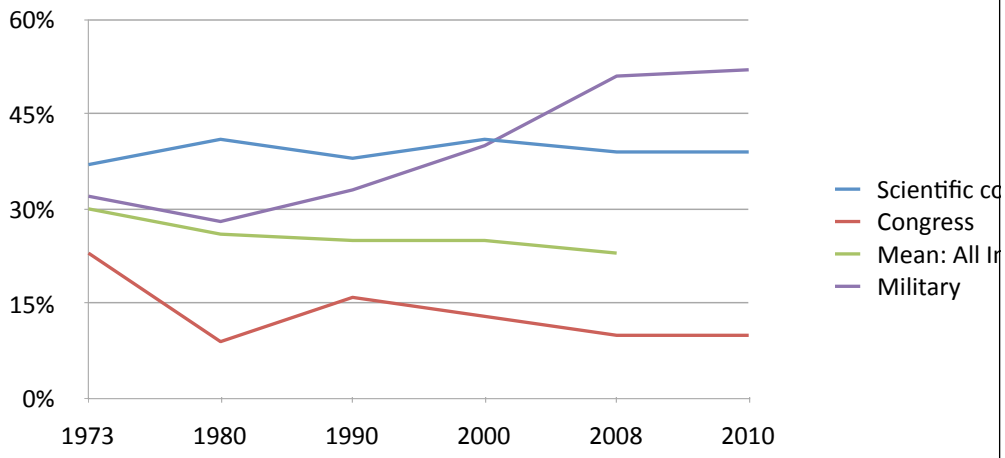
TRUST

Public trust in most institutions is
at an all-time low
(although trust in scientists remains high).

Education can only occur when there is trust.

Confidence in People Running Various Institutions

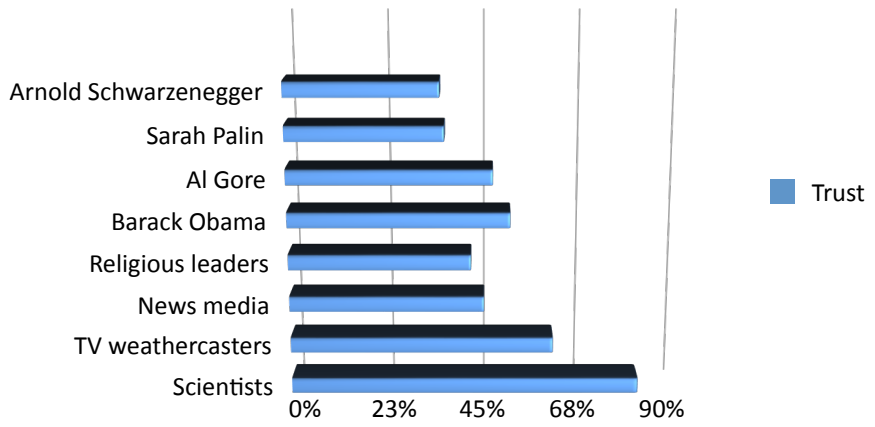
("A great deal of confidence")



Source: General Social Science Survey, NORC, University of Chicago.

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 & June 2010. Yale University and George* Mason University. New Haven, CT: Yale Project on Climate Change.

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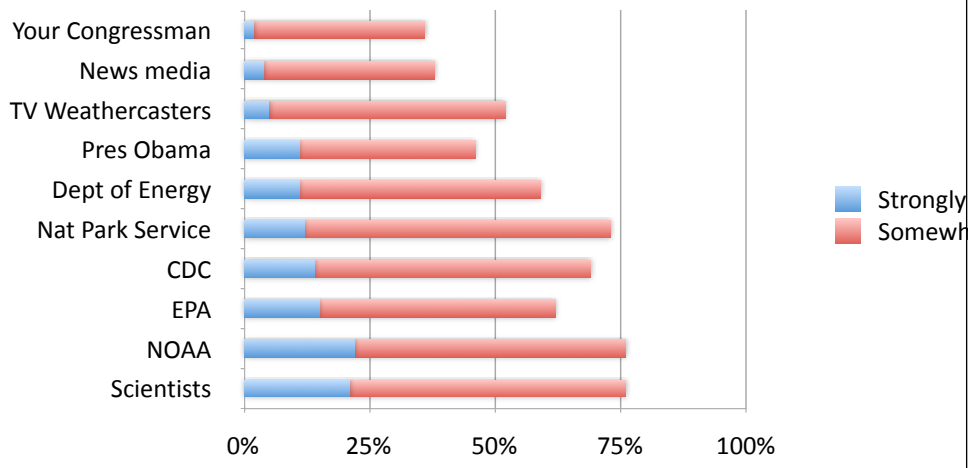
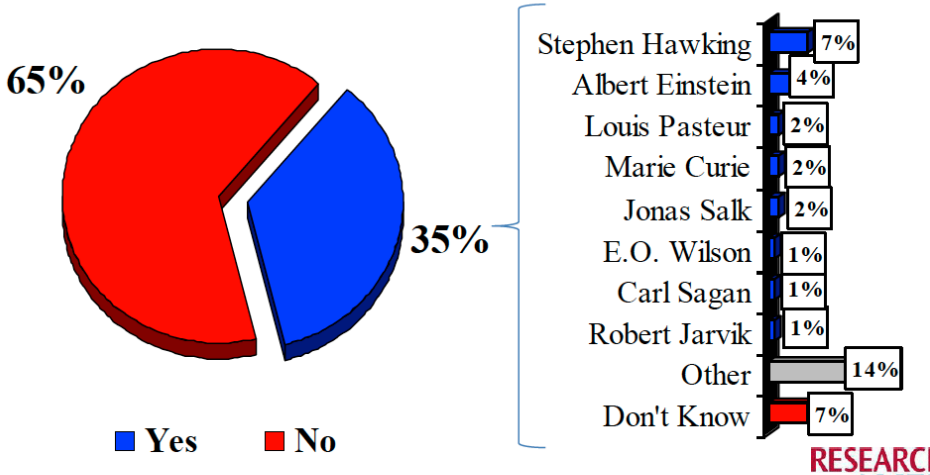


Source: Leiserowitz A, Maibach E, Roser-Renouf, C & Smith N. (2011) *Climate change in the American Mind: Americans' global warming beliefs and attitudes in May 2011.*

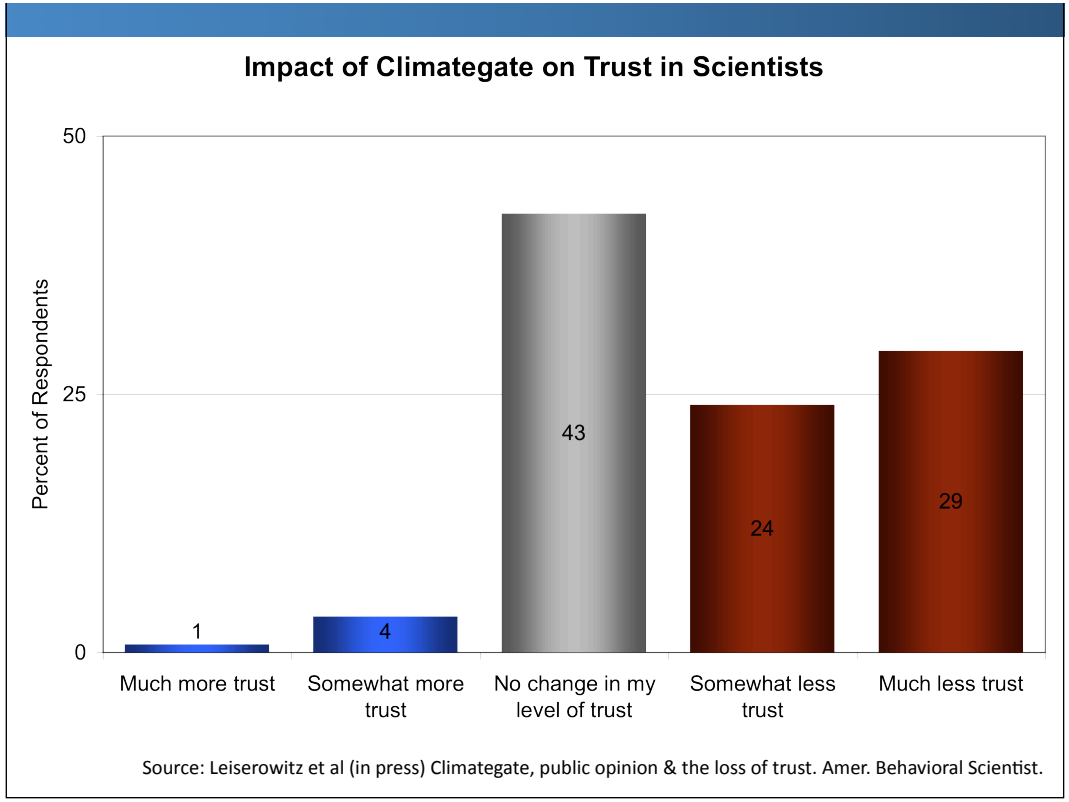
Most Americans Can't Name A Living Scientist

Can you name a living scientist? (*total mentions n=278*)



Source: Your Congress–Your Health Survey, June 2009
Charlton Research Company for Research!America

RESEARCH AMERICA
AN ALLIANCE FOR DISCOVERIES IN HEALTH


Impact of Climategate on Trust in Scientists
Percent of Respondents
50
25
0
1
4
43
24
29
Much more trust
Somewhat more trust
No change in my level of trust
Somewhat less trust
Much less trust
Source: Leiserowitz et al (in press) Climategate, public opinion & the loss of trust. Amer. Behavioral Scientist.

Who is Canada's most trusted person?

Hint: He's a scientist
(not a hockey player)

The long-time host of "The Nature of Things" and Chair of the David Suzuki Foundation, this eco champion has reached out to millions all across the globe, telling people about the danger the environment faces and we can make a differences with small changes.

Honest, compassionate, and communicating a clear message, it's easy to see why Canadians voted him the Most Trusted for the third year in a row.

"He knows how to reach out and explain things so the common man understands," says 59-year-old respondent Jacqueline Fitzpatrick of Thunder Bay, summarizing the general take on her No. 1 pick.

Only one of these scientists suffered a loss of trust as a result of “Climategate.”

What's going on here?

Familiarity ➔ Liking

Liking ➔ Trust

QED: Familiarity ➔ Trust

David is familiar, liked and trusted.

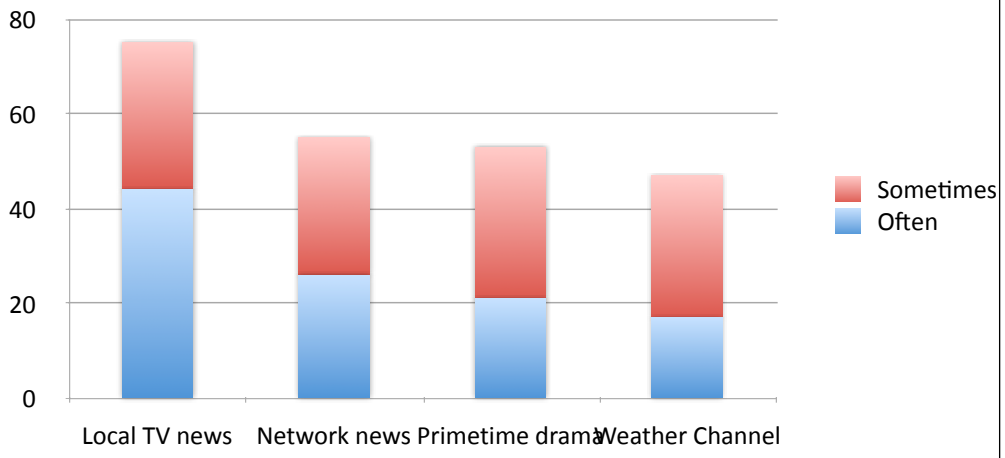
Proximity ➔ Familiarity

Familiarity ➔ Liking

Liking ➔ Trust

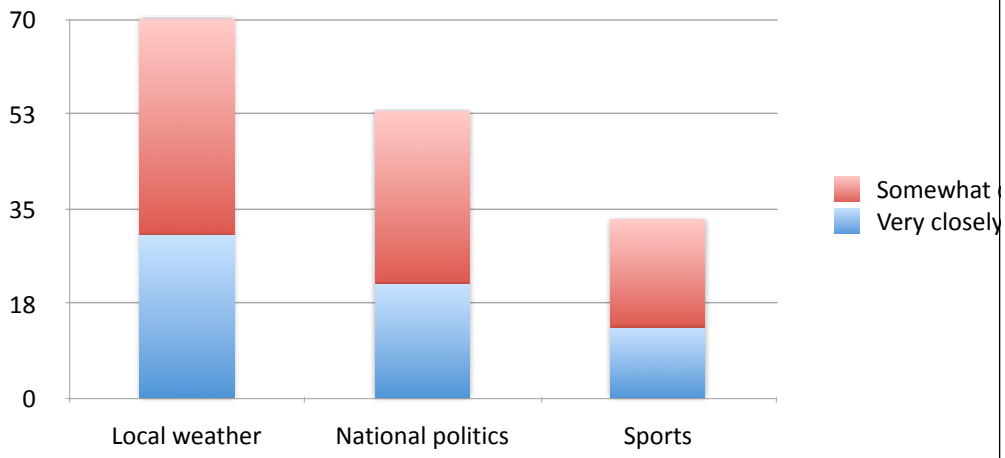
TV weathercasters are seen as being close, familiar, likable and trusted. Moreover, American adults listen to them with remarkable frequency.

How often do you watch or listen to the following shows?



Source: Yale & George Mason, 2009

How closely do you follow news about each of the following?



Source: Yale & George Mason, 2009

Most Americans Rely on Local TV News for Weather Reports

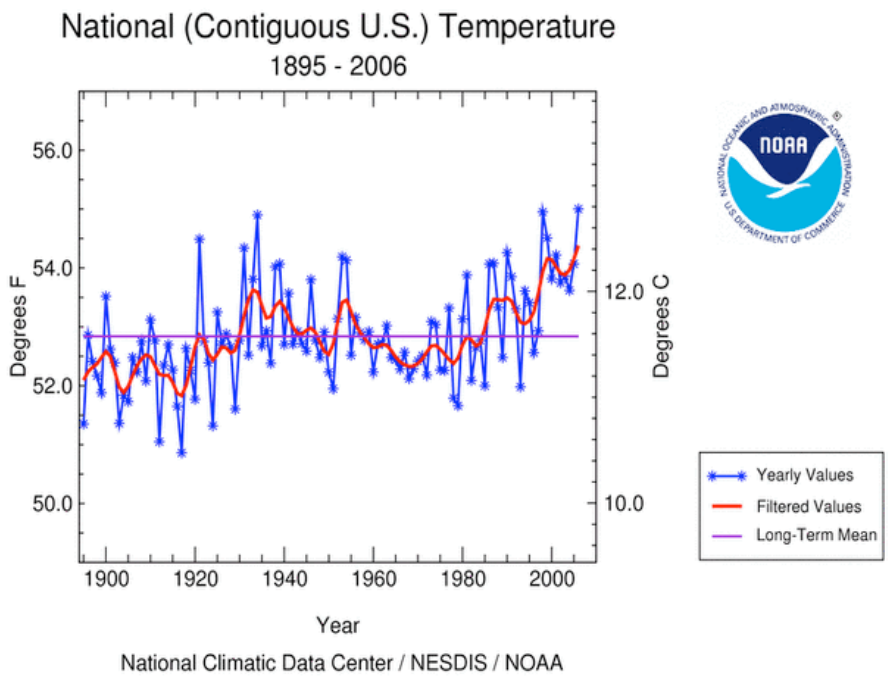
- A December 2010 national telephone survey found that 54% of Americans watch local TV news for most of their weather information, while 19% tune in to cable TV. Twenty percent (20%) rely on the Internet for most of their weather news. Five percent (5%) listen to the radio, and two percent (2%) get the bulk of their weather news from newspapers.

The Rasmussen Reports survey of 1,000 Adults was conducted on December 30, 2010. The margin of sampling error is +/- 3 percentage points with a 95% level of confidence.

Premise #1: Because of their trust and access, TV weathercasters have an unrivaled opportunity to educate the public about climate change

Premise #2. Weathercasters can use extreme weather events to help viewers understand the abstraction of climate change in a concrete and personally experienced manner.

Abstract

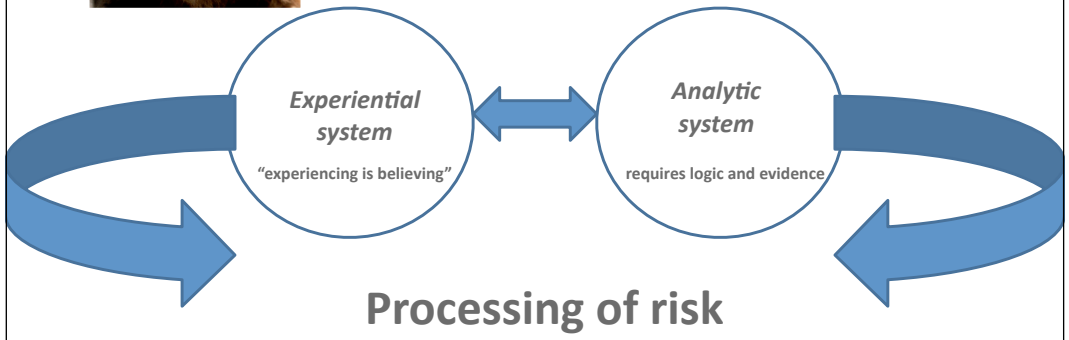

National (Contiguous U.S.) Temperature
1895 - 2006
Degrees F
56.0
54.0
52.0
50.0
Degrees C
12.0
10.0
1900
1920
1940
1960
1980
2000
Year
Yearly Values
Filtered Values
Long-Term Mean
National Climatic Data Center / NESDIS / NOAA

Concrete

Our brains process risk information in two ways

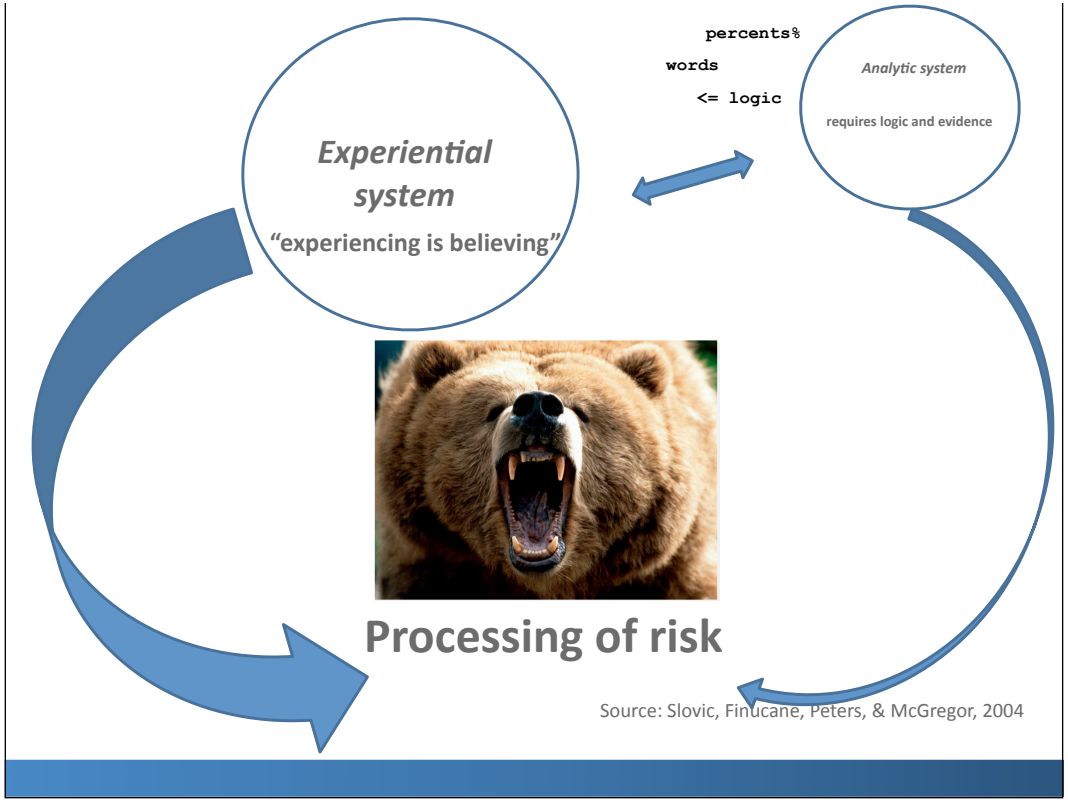
percents%

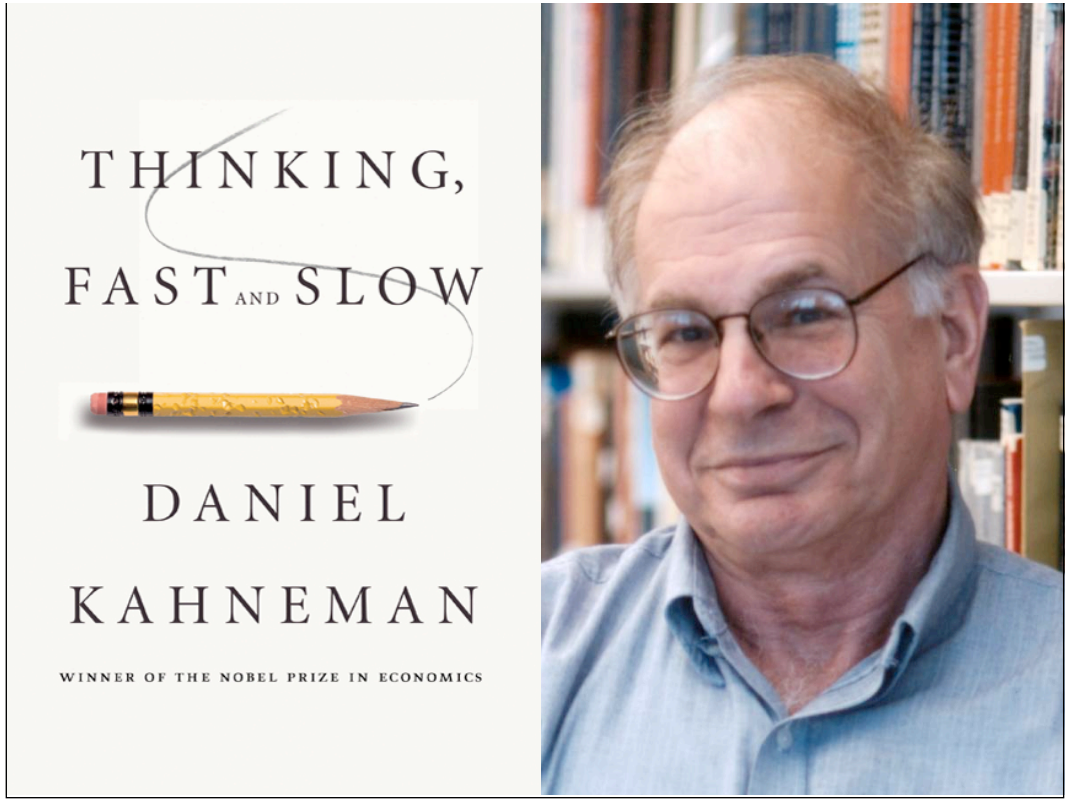
words <= logic



Processing of risk

Source: Slovic, Finucane, Peters, & McGregor, 2004

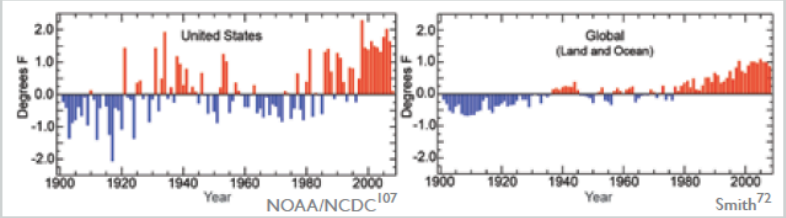

percents%
words
<= logic
Analytic system
requires logic and evidence
Experiential system
"experiencing is believing"
Processing of risk
Source: Slovic, Finucane, Peters, & McGregor, 2004


THINKING,
FAST AND SLOW
DANIEL
KAHNEMAN
WINNER OF THE NOBEL PRIZE IN ECONOMICS

SEVERE WEATHER

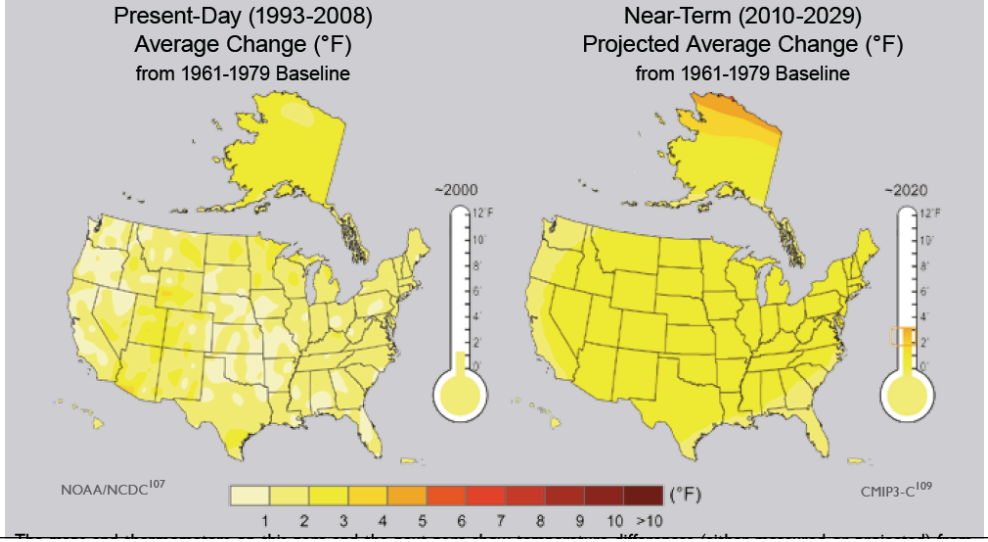
Weathercasters can provide context to extreme weather events, by explaining them as **a manifestation of an observed trend**

Annual Average Temperature
(Departure from the 1901-2000 Average)



From 1901 to 2008, each year's temperature departure from the long-term average is one bar, with blue bars representing years cooler than the long-term average and red bars representing years warmer than that average. National temperatures vary much more than global temperatures, in part because of the moderating influence of the oceans on global temperatures.

Weathercasters can also provide context to extreme weather by explaining it as **a harbinger of conditions projected to become more frequent**



Premise #3. There are large numbers of weathercasters across America who welcome the opportunity to educate their viewers about climate change, but they require some assistance

NSF grant (DRL-0917566):
Enabling TV meteorologists to provide viewers with climate change-related science education based on ISE "best practices."

1. In-depth interviews with "early adopters" (n=17)
2. National survey of TV weathercasters (and news directors) – January & February, 2010
3. Pilot-test of broadcast-ready climate change educational materials at WLTX, Columbia, SC

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TV Meteorologists as Climate Educators

Home | About | Site Map | Contact | Login

Resource Database | Links | Register | "Ready to use" Resources | Contributors

EARLY ADOPTERS

- Causes and Evidence
  - natural causes of climate change
  - human causes of climate change
  - basics of climate mechanisms
  - methods and tools of science
- Observed Changes and Impacts
- Projected Changes and Impacts
- Adaptation Actions
- ISE Best Practices

USER CONTRIBUTIONS

- Causes and Evidence
- Observed Changes and Impacts
- Projected Changes and Impacts
- Adaptation Actions
- ISE Best Practices

TV Meteorologists as Climate Educators

- INTRODUCTION
- WHO WE ARE
- WHO ARE THE "EARLY ADOPTERS"?
- HOW YOU CAN CONTRIBUTE YOUR CLIMATE EDUCATION MATERIALS
- CONTACT US

Register & Upload

Your Climate Science and Education Materials

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USER CONTRIBUTIONS

- Causes and Evidence
- Observed Changes and Impacts
- Projected Changes and Impacts
- Adaptation Actions
- ISE Best Practices

Early Adopters » Causes and Evidence » methods and tools of science

Expand Content Media Types

Q & A with Viewers

Author	Claire Martin, Senior Meteorologist
Location	CBC Vancouver, CAN
Description	Claire Martin responds to questions from viewers with answers informed by her reading of peer-reviewed scientific literature or discussions with scientists

4C Comments

Why ISE BP 2 and 5: People learn science best when concepts are explained (BP 2), and they actively engage in scientific activities such as raising questions, exploring relevant research, and having discussions with scientists (BP 5).

- Causes and Evidence
  - basics of climate mechanisms
  - methods and tools of science
- Observed Changes and Impacts
  - atmosphere
  - ocean
- ISE Best Practices
  - Best Practice 2: Understanding Science Knowledge
  - Best Practice 5: Engaging in Scientific Activities

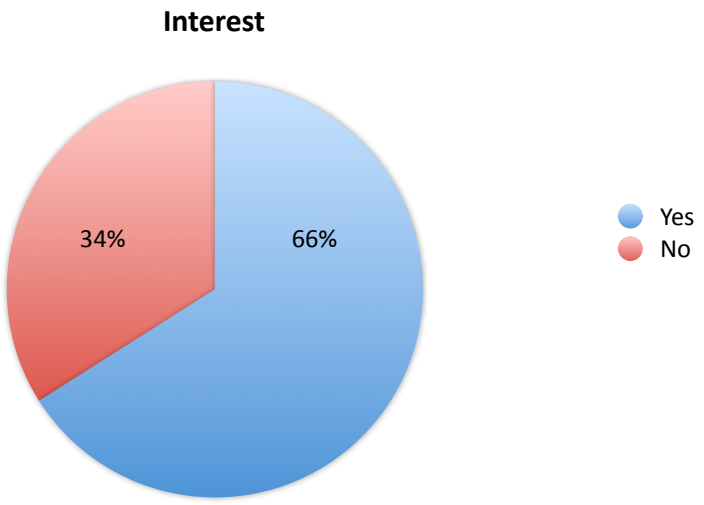
Open Website

External Website Link

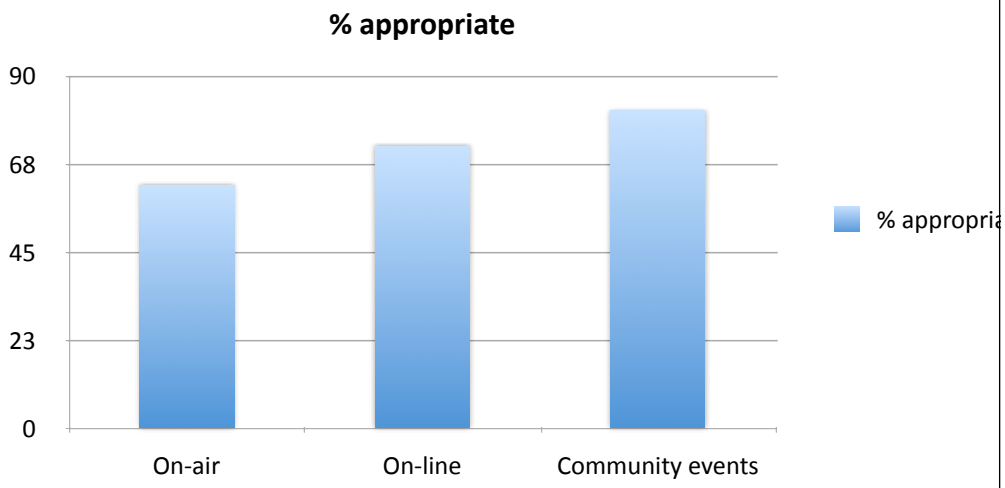
Jim Gandy Web Content

Author	Jim Gandy, Chief Meteorologist
Location	WLTX Columbia, SC
Description	Jim Gandy reports on climate science and responds to readers' questions on his blog

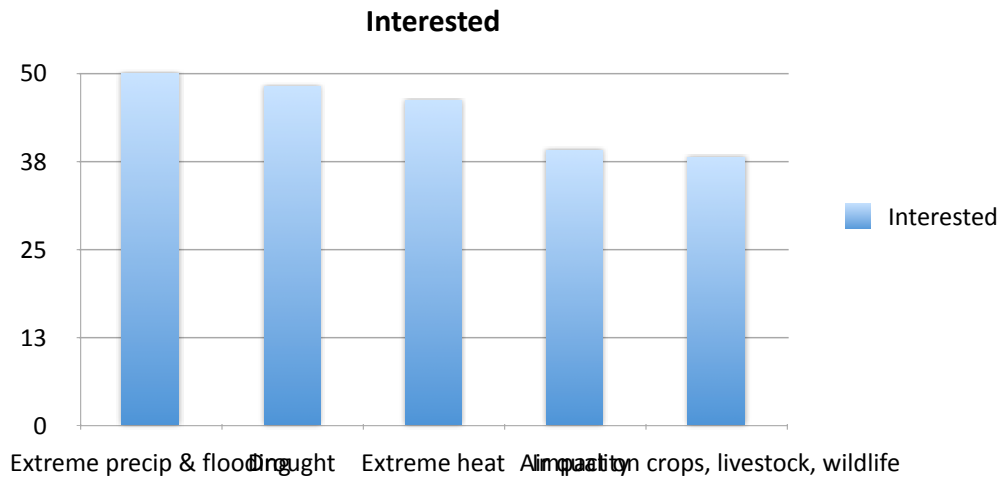
Are you interested in reporting on climate change?



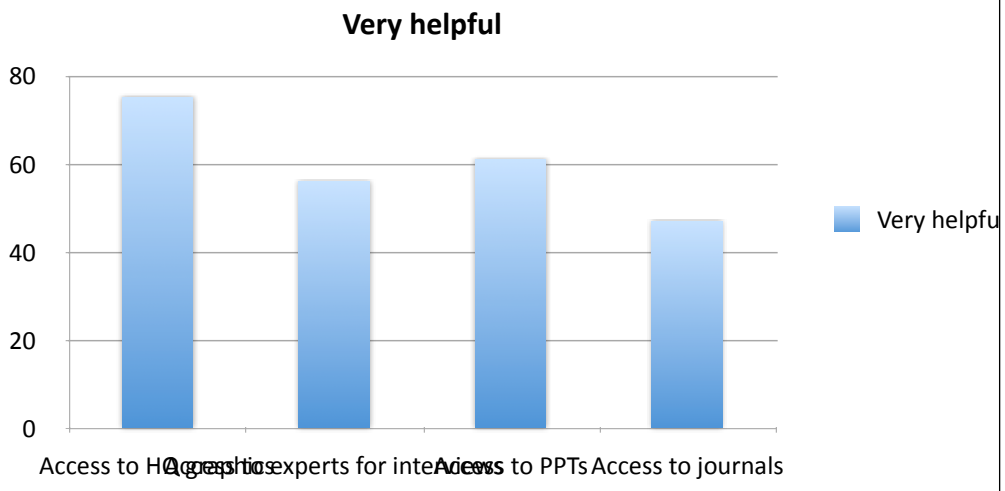
It is appropriate for me to discuss the science of climate change…



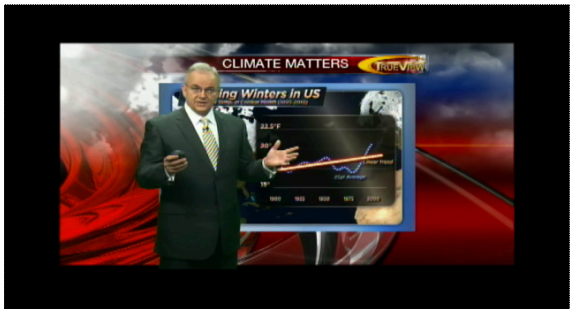
What local climate change stories would you like to report?



How helpful would the following be in increasing your ability to report on climate change?



WLTX, Columbia, SC



Jim Gandy, Senior Meteorologist, WLTX, Columbia, SC

Privacy
TAKE on THE DAY
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FLORIDA ORANGE JUICE

CLIMATE MATTERS

Like | Follow @WLTX 7,526 follo | +1 | 0

Climate Change Education Partnership (CCEP) Program, Phase I (CCEP-I)

[Program Solicitation](#)
NSF 10-542

- **National Science Foundation**

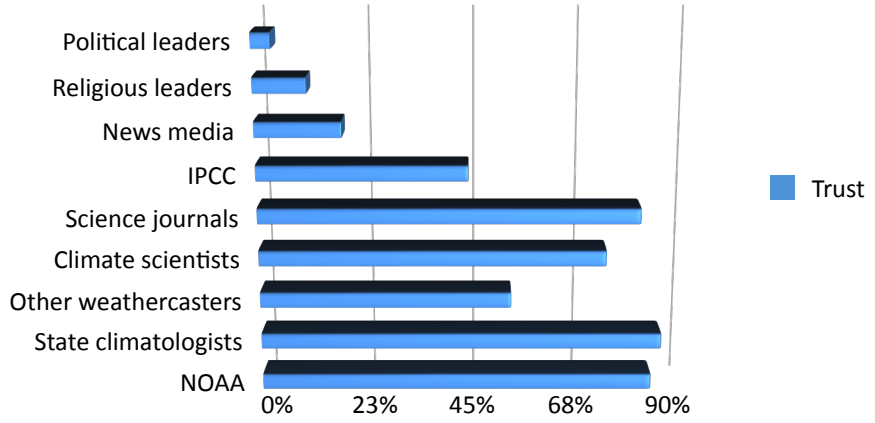
  Directorate for Education & Human Resources

  Directorate for Geosciences

  Directorate for Biological Sciences

  Office of Polar Programs

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



Source: 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.

AMERICAN METEOROLOGICAL SOCIETY 1919

National Weather Association Founded in 1975

AASC

AGU

NOAA

NASA

CLIMATE CENTRAL

National Environmental Education Foundation

UCAR • NCAR 50 Years 2010 Science Serving Society

CORNELL UNIVERSITY FOUNDED A.D. 1865

YALE PROJECT ON CLIMATE CHANGE COMMUNICATION BRIDGING SCIENCE + SOCIETY

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Global Warming's "Six Americas"
GLOBAL WARMING'S
SIX AMERICAS 2009:
An Audience Segmentation Analysis
SAVING ENERGY
AT HOME
AND ON THE RO
A survey of Americans' ener
intentions, motivations, an
TE CHANGE
AMERICAN MIND
imate change beliefs, attitudes,
nces, and actions

All 4C reports can be downloaded at: climatechange.gmu.edu

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