SUPPLEMENTAL MATERIAL

The prevalence and rationale for presenting an opposing viewpoint in climate change reporting: Findings from a United States national survey of TV weathercasters

Kristin M. F. Timm, Edward W. Maibach, Maxwell Boykoff, Melissa A. Broeckelman-Post, and Teresa A. Myers

Weather, Climate, and Society DOI:10.1175/WCAS-D-19-0063.1

Census and survey participant demographics
Demographic comparison between survey participants and the census of U.S. broadcast meteorologists and broadcast weather professionals.

<table>
<thead>
<tr>
<th>Participant</th>
<th>Non-participant</th>
<th>Total N</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>596</td>
<td>32%</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>1293</td>
<td>68%</td>
</tr>
<tr>
<td>Chief Meteorologist</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>375</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>1514</td>
<td>80%</td>
</tr>
<tr>
<td>Meteorologist</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>1306</td>
<td>69%</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>583</td>
<td>31%</td>
</tr>
<tr>
<td>Lead Weather Anchor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>3</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>1303</td>
<td>69%</td>
</tr>
<tr>
<td>Weather Anchor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>124</td>
<td>7%</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>1265</td>
<td>63%</td>
</tr>
<tr>
<td>Weather Producer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>14</td>
<td>1%</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>1305</td>
<td>69%</td>
</tr>
<tr>
<td>Reporter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>50</td>
<td>3%</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>1839</td>
<td>97%</td>
</tr>
<tr>
<td>Temporary</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>6</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>1883</td>
<td>99%</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>49</td>
<td>3%</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>1840</td>
<td>97%</td>
</tr>
</tbody>
</table>

Central | 324 | 17% | 103 | 21% |
East North Central | 164 | 9% | 52 | 11% |
Northeast | 281 | 15% | 66 | 14% |
Northwest | 72 | 4% | 17 | 4% |
South | 333 | 18% | 77 | 16% |
Southeast | 408 | 22% | 97 | 20% | 10.738 (9), p = .294 |
Southwest | 91 | 5% | 15 | 3% |
West | 116 | 6% | 26 | 5% |
West North Central | 73 | 4% | 23 | 5% |
Other | | | |
(i.e. Alaska, Hawaii, or National) | 15 | 1% | 4 | 1% |
2017 Weathercaster Survey

January 2017 survey of TV weathercasters
You are invited to be part of a research project being conducted by George Mason University in partnership with the American Meteorological Society.

RESEARCH PROCEDURES
We are conducting this survey to improve the educational resources currently available to the broadcast meteorology community. If you agree to participate, the survey will take you about 10 to 15 minutes to complete. All survey participants will receive a full copy of the aggregate survey results.

RISKS
There are no foreseeable risks for taking part in this study.

BENEFITS
There are no direct benefits to you as a participant.

CONFIDENTIALITY
The data in this study will be kept confidential. Each participant will be given a study number so that his or her name will not be included in the data set or summary reports.

PARTICIPATION
We will donate $10 to the student scholarship fund at the American Meteorological Society (AMS) or the National Weather Association (NWA) for each person who participates in this study. Your participation is voluntary, you need not answer any question that you would prefer not to answer, and you may withdraw from the study at any time and for any reason. If you complete the study, you will be asked if you want the $10 donation to be directed to the AMS or the NWA student fund.

CONTACT
Professor Ed Maibach at George Mason University is conducting this research. He can be reached at 703.993.1587 if you have questions or wish to report a research-related problem. You may also contact the George Mason University Office of Research Subject Protections at 703.993.4121 if you have questions or comments regarding your rights as a participant in the research. This research has been reviewed according to George Mason University procedures governing your participation in this research.

CONSENT
By checking the box below, you are indicating that you have read this form and agree to participate in this study.
- I agree to participate in this survey  (1)
- I do not agree to participate in this survey  (2)

Skip To: End of Survey If January 2017 survey of TV weathercasters You are invited to be part of a research project being c... = I do not agree to participate in this survey

Q2 First, we will ask a few general questions about your role as a weathercaster.

Q3 Do you maintain separate social media accounts for personal use and station use?
- Yes  (1)
- No  (2)
Q4 Do you have full control of social media accounts that bear your name?
- Yes (1)
- No (please explain) (2) ________________________________________________

Q5 In the past 12 months, have you used an activity forecast or other secondary forecast (e.g., school, marine, allergy, recreation, commute) to engage your viewership?
- Yes (1)
- No (2)

Display This Question:
If In the past 12 months, have you used an activity forecast or other secondary forecast (e.g., school... = Yes

Q6 In the past 12 months which types of activity or other secondary forecast(s) have you used, and how frequently? (Never (1), Once or twice (2), About once per quarter (3), About once every other month (4), About once a month (5), Two or three times per month (6), About once per week or more (7))
- Outdoor sports & recreation--not water related (1)
- Outdoor sports & recreation--water related (2)
- Marine forecast (3)
- Local events, festivals, concerts, etc. (4)
- School-related (5)
- Commute-related (6)
- Overnight travel-related (7)
- Allergy/pollen (8)
- Seasonal (e.g., gardening, fall foliage) (9)
- Ecological (e.g., mosquitoes, insects) (10)
- Other (please specify) (11)

Q7 In the past 12 months, has your station worked with a consultant who gave suggestions on your station's weather segments?
- Yes (1)
- No (2)
- Don't know (3)

Display This Question:
If In the past 12 months, has your station worked with a consultant who gave suggestions on your sta... = Yes
Q8 Did the consultant give the weather team each of the following types of advice? (Yes (1), No (2), Don't Know (3))
- Use more social media (1)
- Use more engagement tactics (i.e., teasers) (2)
- Simplify the messages (3)
- Better tailor the messages (i.e., provide lifestyle information) (4)
- Improve oral presentation (5)
- Improve dress (6)
- Improve graphics (7)
- Present local weather impacts (8)
- Make weather presentations event-driven (9)
- Make weather presentations forecast-driven (10)
- Discuss climate change (11)
- Don't discuss climate change (13)
- Other (please specify) (12)

Q9 Are you familiar with the American Meteorological Society’s (AMS) ‘Station Scientist’ initiative? The AMS defines this initiative as an effort for broadcast meteorologists to cover a broader range of science topics for their station in addition to tomorrow’s weather. This includes environmental and space issues, weather and climate impacts on public health, transportation, agriculture, energy use, and other topics.
- Yes (1)
- No (2)
- Don't know (3)

Q10 Do you currently fill the ‘station scientist’ role at your station?
- Yes (1)
- Somewhat (2)
- No (3)
- Other (please specify) (4) ________________________________________________

Display This Question:
If Do you currently fill the ‘station scientist’ role at your station? = No
Or Do you currently fill the ‘station scientist’ role at your station? = Other (please specify)

Q11 Would you like to fill the ‘station scientist’ role at your station?
- Yes (1)
- No (2)
- Don't know (3)

Q12 Are you currently reporting longer-format science stories on-air outside the weather segment?
- Yes (5)
- No (6)

Skip To: Q14 If Are you currently reporting longer-format science stories on-air outside the weather segment? = Yes
Q13 To what degree are you interested in reporting longer-format science stories on-air outside the weather segment?
  • Not at all interested (1)
  • Slightly interested (2)
  • Somewhat interested (3)
  • Moderately interested (4)
  • Very interested (5)

Skip To: Q15 If To what degree are you interested in reporting longer-format science stories on-air outside the w... = Not at all interested

Q14 What kinds of longer-format science stories do you – or would you like to – report on-air outside the weather segment?
[OPEN ENDED]

Q15 Next, we will ask some questions about your views on climate change.

Q16 Please read the following information:
The American Meteorological Society (AMS) defines climate change as:  “Any systematic change in the long-term statistics of climate elements (such as temperature, pressure, or winds) sustained over several decades or longer. Climate change may be due to: natural external forcings, such as changes in solar emission or slow changes in the earth’s orbital elements; natural internal processes of the climate system; or anthropogenic forcing.”
Regardless of the cause, do you think that climate change is happening?
  • Yes (1)
  • No (2)
  • Don’t know (3)

Skip To: Q19 If Please read the following information:  The American Meteorological Society (AMS) defines climate... = Don’t know

Display This Question:
If Please read the following information:  The American Meteorological Society (AMS) defines climate... = Yes

Q17 How sure are you that climate change is happening?
  • Extremely sure (1)
  • Very sure (2)
  • Somewhat sure (3)
  • Not at all sure (4)

Display This Question:
If Please read the following information:  The American Meteorological Society (AMS) defines climate... = No

Q18 How sure are you that climate change is not happening?
  • Extremely sure (1)
  • Very sure (2)
  • Somewhat sure (3)
  • Not at all sure (4)
Q19 Do you think that the climate change that has occurred over the past 50 years has been caused...
- Largely or entirely by human activity (81% to 100%) (1)
- Mostly by human activity (60% to 80%) (2)
- More or less equally by human activity and natural events (3)
- Mostly by natural events (60% to 80%) (4)
- Largely or entirely by natural events (81% to 100%) (5)
- Don't know (6)
- There has been no climate change over the past 50 years (7)

Q20 To the best of your knowledge, what percentage of climate scientists think that human-caused climate change is happening?
Please move the slider bar to indicate your answer (1-100)

Q21 Or if you are unsure...
- Don't know enough to say (1)

Q22 Over the next 50 years, to what extent can additional climate change be averted if mitigation measures are taken worldwide (i.e., substantially reducing emissions of carbon dioxide and other greenhouse gases)?
- Almost all additional climate change can be averted (1)
- A large amount of additional climate change can be averted (2)
- A moderate amount of additional climate change can be averted (3)
- A small amount of additional climate change can be averted (4)
- Almost no additional climate change can be averted (5)
- Don't know (6)
- I don't think there will be additional climate change over the next 50 years (7)

Q23 Over the next 50 years, to what extent can harm from climate change be averted in the United States if adaptation measures (i.e., actions to reduce vulnerability) are taken?
- Almost all harm can be averted (1)
- A large amount of harm can be averted (2)
- A moderate amount of harm can be averted (3)
- A small amount of harm can be averted (4)
- Almost no harm can be averted (5)
- Don't know (6)
- I don't think there will be harm from climate change over the next 50 years (7)

Q24 Are you aware of any positive outcomes that have occurred in your community as a result of climate change mitigation or adaptation activities?
- Yes (1)
- No (2)

Display This Question:
If Are you aware of any positive outcomes that have occurred in your community as a result of clim... = Yes

Q25 Please briefly describe one or two of those positive outcomes that have occurred in your community as a result of climate change mitigation or adaptation activities:
[OPEN ENDED]
Q26 How well do you understand the science of climate change?
- Not well at all (1)
- Slightly well (2)
- Somewhat well (3)
- Moderately well (4)
- Very well (5)

Q27 Now we will ask some questions about your views on the local impacts of climate change, if any.

Q28 To the best of your knowledge, has the local climate in the area covered by your media market changed over the past 50 years?
- Yes (1)
- No (2)
- I don't know (3)

Skip To: Q32 If To the best of your knowledge, has the local climate in the area covered by your media market cha... = No

Q29 Which of the following best describes the impact(s) of local climate change in your media market over the past 50 years?
- The impacts have been exclusively beneficial (1)
- The impacts have been primarily beneficial (2)
- The impacts have been approximately equally mixed between beneficial and harmful (3)
- The impacts have been primarily harmful (4)
- The impacts have been exclusively harmful (5)
- Don't know (6)

Display This Question:
If Which of the following best describes the impact(s) of local climate change in your media market... = The impacts have been primarily beneficial
Or Which of the following best describes the impact(s) of local climate change in your media market... = The impacts have been approximately equally mixed between beneficial and harmful
Or Which of the following best describes the impact(s) of local climate change in your media market... = The impacts have been primarily harmful
Or Which of the following best describes the impact(s) of local climate change in your media market... = The impacts have been exclusively harmful
Or Which of the following best describes the impact(s) of local climate change in your media market... = Don't know
Q30 Have any of the following harmful impacts of climate change occurred in your media market over the past 50 years?  
(Yes (1), No (2), Don't Know (3))
- Harm to water resources (1)
- Harm to coastal property (2)
- Harm to ecosystems or forests (3)
- Harm to agricultural resources (4)
- Harm to human health (5)
- Harm to energy resources (6)
- Harm to tourism, recreation, or leisure (7)
- Harm to infrastructure (e.g., roads, buildings, utilities) (8)
- Harm to seasonal cycles (9)
- Harm to the economy (10)
- Harm to social cohesion (11)
- Other (please specify) (12)

Display This Question:
If Which of the following best describes the impact(s) of local climate change in your media market... =
- The impacts have been exclusively beneficial
Or Which of the following best describes the impact(s) of local climate change in your media market... =
- The impacts have been primarily beneficial
Or Which of the following best describes the impact(s) of local climate change in your media market... =
- The impacts have been approximately equally mixed between beneficial and harmful
Or Which of the following best describes the impact(s) of local climate change in your media market... =
- The impacts have been primarily harmful
Or Which of the following best describes the impact(s) of local climate change in your media market... =
- Don't know

Q31 Have any of the following beneficial impacts of climate change occurred in your media market over the past 50 years?  
(Yes (1), No (2), Don't Know (3))
- Benefits to water resources (1)
- Benefits to coastal property (2)
- Benefits to ecosystems or forests (3)
- Benefits to agricultural resources (4)
- Benefits to human health (5)
- Benefits to energy resources (6)
- Benefits to tourism, recreation, or leisure (7)
- Benefits to infrastructure (e.g., roads, buildings, utilities) (8)
- Benefits from milder seasons and/or more pleasant weather (9)
- Benefits to the economy (10)
- Benefits from increases in sustainable behavior (11)
- Other (please specify) (12)

Q32 Now we will ask some questions about reporting on climate change
FALSE BALANCE IN CLIMATE CHANGE REPORTING AMONG TV METEOROLOGISTS

Q33 How interested are you in presenting on-air about the following climate topics? *(Not at all interested (1), Slightly interested (2), Somewhat interested (3), Moderately interested (4), Very interested (5))*
- Local historical climate statistics (e.g., past 50 years) (1)
- Current local climate change impacts (2)
- Future projected local climate change impacts (3)
- Local adaptation efforts (i.e., vulnerability reduction) (4)
- Local mitigation efforts (i.e., carbon emission reduction) (5)
- What audience members can do to protect themselves (6)

Q34 How interested do you think your audience is in learning about the following climate topics? *(Not at all interested (1), Slightly interested (2), Somewhat interested (3), Moderately interested (4), Very interested (5))*
- Local historical climate statistics (e.g., past 50 years) (1)
- Current local climate change impacts (2)
- Future projected local climate change impacts (3)
- Local adaptation efforts (i.e., vulnerability reduction) (4)
- Local mitigation efforts (i.e., carbon emission reduction) (5)
- What audience members can do to protect themselves (6)

Q35 Over the past 12 months, did you use the following channels to inform your viewers, or other people in your community, about the local impacts of climate change? *(Yes (1), No (2), Don't know (3), Not applicable to me (4))*
- On-air (1)
- On my station's website (2)
- On my personal blog (3)
- On my social media (4)
- On my station's social media (5)
- On radio (6)
- In a newspaper column (7)
- At school visits (8)
- At community events (other than school visits) (9)

Q36 Over the past 12 months, about how often did you report on the local impacts of climate change on-air?
- Never (1)
- Once or twice (2)
- About once per quarter (3 or 4 times during the year) (3)
- About once every other month (5 to 9 times during the year) (4)
- About once a month (10 to 20 times during the year) (5)
- Two or three times per month (21 to 40 times during the year) (6)
- About once per week or more (more than 40 times during the year) (7)
Or Over the past 12 months, did you use the following channels to inform your viewers, or other peop... =
On my personal blog [ Yes ]
Or Over the past 12 months, did you use the following channels to inform your viewers, or other peop... =
On my social media [ Yes ]
Or Over the past 12 months, did you use the following channels to inform your viewers, or other peop... =
On my station's social media [ Yes ]

Q37 Over the past 12 months, about how often did you report on the local impacts of climate change in social media?

- Never (1)
- Once or twice (2)
- About once per quarter (3 or 4 times during the year) (3)
- About once every other month (5 to 9 times during the year) (4)
- About once a month (10 to 20 times during the year) (5)
- Two or three times per month (21 to 40 times during the year) (6)
- About once per week (40 to 52 times during the year) (7)
- More than once per week (8)

Skip To: Q39 If Over the past 12 months, about how often did you report on the local impacts of climate change in... = Never

Q38 When you report on the local impacts of climate change using social media, do you:

- Report mostly on the station's social media account(s) (1)
- Report mostly on your personal social media account(s) (2)
- Report about equally on the station's social media account(s) and your personal social media account(s) (3)

Q39 Over the past 12 months, about how often did you report a longer-format climate change story on-air outside the weather segment?

- Never (1)
- Once or twice (2)
- About once per quarter (3 or 4 times during the year) (3)
- About once every other month (5 to 9 times during the year) (4)
- About once a month (10 to 20 times during the year) (5)
- Two or three times per month (21 to 40 times during the year) (6)
- About once per week or more (more than 40 times during the year) (7)

Skip To: Q41 If Over the past 12 months, about how often did you report a longer-format climate change story on-a... = Never

Q40 What was the focus of the most recent longer-format climate change story that you reported outside the weather segment?
[OPEN ENDED]
Q41 How interested would you be in reporting longer-format climate change stories on-air outside the weather segment?

- Not at all interested (1)
- Slightly interested (2)
- Somewhat interested (3)
- Moderately interested (4)
- Very interested (5)

Skip To: Q43 If How interested would you be in reporting longer-format climate change stories on-air outside the... = Not at all interested

Q42 What kinds of longer-format climate change stories would you like to report on-air outside the weather segment?
[OPEN ENDED]

Q43 When you present climate change information, how often do you present an 'opposing viewpoint' to your main story?

- Never or rarely (1)
- Less than half the time (2)
- About half of the time (3)
- Most of the time (4)
- Always or almost always (5)
- I have not presented climate change information (6)

Skip To: Q45 If When you present climate change information, how often do you present an 'opposing viewpoint' to... = Never or rarely
Skip To: Q45 If When you present climate change information, how often do you present an 'opposing viewpoint' to... = I have not presented climate change information

Q44 Why do you present a opposing viewpoint?  
[OPEN ENDED]

Q45 Which of the following best describes the responses you get or would expect to get from management when reporting on climate change?

- Mostly or entirely negative (1)
- Mixed but leaning negative (2)
- Mixed--about 50/50 negative and positive (3)
- Mixed but leaning positive (4)
- Mostly or entirely positive (5)
- I get (or would expect to get) very few reactions either way (6)
- Other (please specify) (7) ________________________________________________

Q46 How confident do you feel in your ability to report effectively about climate change topics on-air?

- Not at all confident (1)
- Slightly confident (2)
- Somewhat confident (3)
- Moderately confident (4)
- Very confident (5)
Display This Question:
If Over the past 12 months, did you use the following channels to inform your viewers, or other peop... =
On-air [ Yes ]

Q47 When you report about local climate change topics on-air, is the feedback you receive from viewers…
• Mostly or entirely negative (1)
• Mixed but leaning negative (2)
• Mixed--about 50/50 negative and positive (3)
• Mixed but leaning positive (4)
• Mostly or entirely positive (5)
• I get very few reactions either way (6)

Display This Question:
If Over the past 12 months, did you use the following channels to inform your viewers, or other peop... =
On my station's website [ Yes ]
Or Over the past 12 months, did you use the following channels to inform your viewers, or other peop... =
On my personal blog [ Yes ]
Or Over the past 12 months, did you use the following channels to inform your viewers, or other peop... =
On my social media [ Yes ]
Or Over the past 12 months, did you use the following channels to inform your viewers, or other peop... =
On my station's social media [ Yes ]

Q48 When you report about local climate change topics on social media, is the feedback you receive from viewers…
• Mostly or entirely negative (1)
• Mixed but leaning negative (2)
• Mixed--about 50/50 negative and positive (3)
• Mixed but leaning positive (4)
• Mostly or entirely positive (5)
• I get very few reactions either way (6)

Display This Question:
If Over the past 12 months, did you use the following channels to inform your viewers, or other peop... =
On-air [ No ]
Or Over the past 12 months, did you use the following channels to inform your viewers, or other peop... =
On-air [ Don't know ]
Or Over the past 12 months, did you use the following channels to inform your viewers, or other peop... =
On-air [ Not applicable to me ]

Q49 If you were to report about local climate change topics on-air, what kind of feedback would you expect from viewers…
• Mostly or entirely negative (1)
• Mixed but leaning negative (2)
• Mixed--about 50/50 negative and positive (3)
• Mixed but leaning positive (4)
• Mostly or entirely positive (5)
• I would expect to get very few reactions either way (6)
Q50 How much do you agree or disagree with each of the following statements?
(Strongly disagree (1), Moderately disagree (2), Slightly disagree (3), Neither agree nor disagree (4),
Slightly agree (5), Moderately agree (6), Strongly agree (7))
• I find educating people about climate change to be interesting (1)
• I consider educating people about climate change to be important (2)
• Educating people about climate change aligns with my personal values (3)
• Educating people about climate change is exciting (4)

Q51 Have the recent changes in the political climate in the United States altered how you present or plan to present climate change information to your viewers?
• Yes (1)
• No (2)
• Not sure (3)

Skip To: Q55 If Have the recent changes in the political climate in the United States altered how you present or plan to present climate change information to your viewers? = No

Q52 How have the recent changes in the US political climate changed your reporting or your plans to present climate change information? (select all that apply)
• Decrease in reporting (1)
• Increase in reporting (2)
• Change in reporting venue (e.g., on-air vs. on-line vs. social media) (3)
• Change in focus of reporting (4)
• Other (please specify) (5) ________________________________________________

Display This Question:
If How have the recent changes in the US political climate changed your reporting or your plans to present climate change information? = Change in reporting venue (e.g., on-air vs. on-line vs. social media)

Q53 In what ways have you changed or plan to change the reporting venue (on-air vs. on-line vs. social media)?
[OPEN ENDED]

Display This Question:
If How have the recent changes in the US political climate changed your reporting or your plans to present climate change information? = Change in focus of reporting

Q54 In what ways have you changed or plan to change the focus of your reporting?
[OPEN ENDED]

Q55 Now we have a few questions about a resource to TV weathercasters called Climate Matters.

Q56 Climate Matters is a program—produced by Climate Central in association with NOAA, NASA, AMS and George Mason University—that helps TV weathercasters report on climate change with free localized climate analyses, broadcast-ready visuals, peer-reviewed climate research, news, resources, and continuing education (CE) opportunities.

Before today, had you heard of Climate Matters?
• Yes (1)
• No (2)
FALSE BALANCE IN CLIMATE CHANGE REPORTING AMONG TV METEOROLOGISTS

- Not sure (3)

Skip To: Q58 If Climate Matters is a program—produced by Climate Central in association with NOAA, NASA, AMS and... = No

Q57 Do you currently receive Climate Matters materials (via email) from Climate Central?
- Yes (1)
- No (2)
- Not sure (3)

Skip To: Q60 If Do you currently receive Climate Matters materials (via email) from Climate Central? = Yes

Q58 Are you interested in signing up to receive free weekly Climate Matters materials, or in learning more about Climate Matters (via email) to determine your interest?
- Yes, sign me up for Climate Matters (1)
- Possibly. Provide me with more information about Climate Matters (2)
- No (3)
- Not sure (4)

Skip To: Q74 If Are you interested in signing up to receive free weekly Climate Matters materials, or in learning... = Yes, sign me up for Climate Matters

Display This Question:
If Are you interested in signing up to receive free weekly Climate Matters materials, or in learning... = No

Q59 Why aren’t you interested in receiving Climate Matters materials?
- I'm already subscribed (1)
- I unsubscribed because I did not find them useful (2)
- I don't report about climate-related topics (3)
- The content isn't relevant to me (4)
- I'm subscribed to too many email lists (5)
- I'm skeptical of the information (6)
- Other (please specify) (7) ________________________________________________

Skip To: Q74 If Why aren’t you interested in receiving Climate Matters materials?(I'm already subscribed) Is Displayed

Display This Question:
If Do you currently receive Climate Matters materials (via email) from Climate Central? = Yes
Or Do you currently receive Climate Matters materials (via email) from Climate Central? = Not sure

Q60 Do you use Climate Matters materials from Climate Central?
- Yes (1)
- No (2)
Skip To: Q74 If Do you use Climate Matters materials from Climate Central? = No
Q61 This next brief section will help give us feedback to improve Climate Matters products in the future.

Q62 What do you like most about the weekly Climate Matters emails?
[OPEN ENDED]

Q63 What do you dislike most about the weekly Climate Matters emails?
[OPEN ENDED]

Q64 How easy or hard is it for you to use Climate Matters graphics in your reporting?
(Very easy (1), Somewhat easy (2), Neither easy nor hard (3), Somewhat hard (4), Very hard (5), Not applicable (6))
- On-air (1)
- On my station's website (2)
- In social media (3)
- On my personal blog (4)

Q65 Over the past 12 months, how often have you visited the Climate Matters archives on-line?
- Never (1)
- Once or twice (2)
- About once per quarter (3 or 4 times during the year) (3)
- About once every other month (5 to 9 times during the year) (4)
- About once a month (10 to 20 times during the year) (5)
- Two or three times per month (21 to 40 times during the year) (6)
- About once per week or more (more than 40 times during the year) (7)

Skip To: Q68 If Over the past 12 months, how often have you visited the Climate Matters archives on-line? = Never

Q66 Briefly describe what you were looking for in the on-line archive:
[OPEN ENDED]

Q67 How easy or hard is it for you to find what you are looking for in the on-line Climate Matters archive?
- Very easy (1)
- Somewhat easy (2)
- Neither easy nor hard (3)
- Somewhat hard (4)
- Very hard (5)

Q68 Over the past 12 months, about how often did you visit the Climate Matters Facebook page?
- Never (1)
- Once or twice (2)
- About once per quarter (3 or 4 times during the year) (3)
- About once every other month (5 to 9 times during the year) (4)
- About once a month (10 to 20 times during the year) (5)
- Two or three times per month (21 to 40 times during the year) (6)
- About once per week or more (more than 40 times during the year) (7)
Skip To: Q71 If Over the past 12 months, about how often did you visit the Climate Matters Facebook page? **= Never**

Q69 How useful do you find the content on the Climate Matters Facebook page?
- Not at all useful  (1)
- Slightly useful  (2)
- Somewhat useful  (3)
- Moderately useful  (4)
- Very useful  (5)

Q70 How could the information on the Climate Matters Facebook page be made more useful to you? [OPEN ENDED]

Q71 Climate Matters offers regular one-hour on-line webinars that discuss climate science and the impacts of climate change. Which of the following options best describes you?
- I attend them regularly  (1)
- I'm interested but find them difficult to attend  (2)
- I have not attended but would like to learn more  (3)
- I'm not interested in attending  (4)

Skip To: Q73 If Climate Matters offers regular one-hour on-line webinars that discuss climate science and the imp... = I'm not interested in attending

Q72 What time of day is best for you to join the one-hour on-line webinars from Climate Matters? (select all that apply)
- Early morning (8am ET to 10am ET)  (1)
- Late morning (10am ET to noon ET)  (2)
- Early afternoon (noon ET to 2pm ET)  (3)
- Mid afternoon (2pm ET to 4pm ET)  (4)
- Late afternoon (4pm ET to 6pm ET)  (5)
- Early evening (6pm ET to 8pm ET)  (6)

Q73 What, if anything, can Climate Central, NOAA, NASA, and/or George Mason University do to help you become a more effective climate educator?
- Provide more localized content  (1)
- Make changes or updates to graphics (please specify)  (2)
- Place a greater emphasis on how climate change impacts people  (3)
- Interact more with news management and consultants  (4)
- Provide more social media content  (5)
- Provide information to help refute common misperceptions regarding climate change  (6)
- Include more specific evidence in releases  (7)
- Other (please specify)  (8)  

Q74 Lastly, we have just a few final questions about you: your personal outlook on life, your professional background, and some demographics.
Q75 Please indicate your agreement with the following statements:
(I agree a lot (1), I agree a little (2), I neither agree nor disagree (3), I disagree a little (4), I disagree a lot (5))
- In uncertain times, I usually expect the best (1)
- I hardly ever expect things to go my way (2)
- I rarely count on good things happening to me (3)
- Overall, I expect more good things to happen to me than bad (4)

Q76 To what degree do you agree or disagree with each of the following statements?
(Strongly disagree (1), Moderately disagree (2), Slightly disagree (3), Neither agree nor disagree (4), Slightly agree (5), Moderately agree (6), Strongly agree (7))
- I feel driven to make a difference in my community, and maybe the world (1)
- If I see something I don't like, I fix it (2)
- No matter what the odds, if I believe in something, I will make it happen (3)
- I love being a champion for my ideas, even against other's opposition (4)

Q77 How many years have you worked at your current news station? (please round to the nearest year)
[OPEN ENDED]

Q78 How many years have you worked as a broadcast meteorologist? (please round to the nearest year)
[OPEN ENDED]

Q79 Which, if any, AMS and NWA Seals of approval do you have? (check all that apply)
- the AMS CBM Seal (1)
- the AMS Seal of Approval (2)
- the NWA Seal of Approval (3)
- no Seal of Approval (4)

Q80 Is your job in broadcast meteorology:
- Full-time (1)
- Part-time (2)
- Internship (3)
- Other (please specify) (4) ________________________________________________

Q81 Which best describes your current position? (select all that apply)
- Chief meteorologist (1)
- Primary weather anchor (2)
- Weekend weather anchor (3)
- Weekend meteorologist (4)
- Morning/noon/mid-day weather anchor (5)
- Morning/noon/mid-day meteorologist (6)
- Weather producer (7)
- Reporter (8)
- On-call weather anchor/meteorologist (9)
- Environmental reporter (10)
- Other (please specify): (11) ________________________________________________
Display This Question:
If Which best describes your current position? (select all that apply) q://QID29/SelectedChoicesCount
Is Greater Than or Equal to 2
Carry Forward Selected Choices - Entered Text from "Which best describes your current position? (select all that apply)"

Q82 Please indicate what percentage of your time you spend working in each of the roles associated with your current position:
• Chief meteorologist: _______ (1)
• Primary weather anchor: _______ (2)
• Weekend weather anchor: _______ (3)
• Weekend meteorologist: _______ (4)
• Morning/noon/mid-day weather anchor: _______ (5)
• Morning/noon/mid-day meteorologist: _______ (6)
• Weather producer: _______ (7)
• Reporter: _______ (8)
• On-call weather anchor/meteorologist: _______ (9)
• Environmental reporter: _______ (10)
• Other (please specify): _______ (11)
• Total: _______

Q83 Have you received formal or academic training on the topic of climate change in any of the following venues?
(Yes (1), No (2))
• Continuing education (CE) or certification course in climate science (8)
• Certificate program coursework (1)
• Undergraduate: part of a course devoted to climate science (2)
• Undergraduate: entire course devoted to climate science (3)
• Undergraduate: major and/or minor devoted to climate science (4)
• Graduate: part of a course devoted to climate science (5)
• Graduate: entire course devoted to climate science (6)
• Graduate: major and/or minor devoted to climate science (7)
• Other (please specify) (9)
Q84 Which educational degrees do you hold (check all that apply)
**STEM= Science, Technology, Engineering, Mathematics
Certificate in meteorology / broadcast meteorology (1)
• AA or AS (2)
• BS in meteorology or atmospheric science (3)
• BS in STEM science other than meteorology or atmospheric science (4)
• BS or BA in broadcast meteorology (5)
• BA in journalism / mass communication (6)
• BA in education (7)
• BA or BS in another discipline (please specify): (8)
• MS in meteorology or atmospheric science (9)
• MS in STEM science other than meteorology or atmospheric science (10)
• MS or MA in broadcast meteorology (11)
• MA in journalism / mass communication (12)
• MA in education (13)
• MA or MS in another discipline (please specify): (14)
• Ph.D in meteorology or atmospheric science (15)
• Ph.D in STEM science other than meteorology or atmospheric science (16)
• Ph.D in another discipline (please specify): (17)
• Other degrees, diplomas or credits (please specify): (18)

Q85 What is your gender?
• Male (1)
• Female (2)

Q86 What is your age? (please round to the nearest year)
[OPEN ENDED]

Q87 My station's zip code is:
[OPEN ENDED]

Q88 Is there anything else you feel we should know to understand your views about any topic(s) on this survey?
If so, please briefly tell us here:
[OPEN ENDED]

Q89 Thank you for completing the survey. As a participant you are eligible to direct a donation of $10 to either the AMS or NWA student fund of your choice. Which do you prefer?
• A $10 donation to the AMS student fund (1)
• A $10 donation to the NWA student fund (2)
### Codebook Version: May 8, 2019

**Opposing Viewpoint Codes & Descriptions**

<table>
<thead>
<tr>
<th>Theme</th>
<th>Description</th>
</tr>
</thead>
</table>
| Strengthen the story          | Present an opposing viewpoint to strengthen their argument or point out the flaws in the counter argument.  
  - Lay out other argument to strengthen my argument  
  - Present the opposing viewpoint to point out its flaws / strengthen my argument  
  - Present opposing viewpoint to explain why people came to think that way |
| Essential to balanced         | Balance, fairness, integrity, etc. are a responsibility or characteristic of ethical journalism. It is a heuristic that guides journalistic decision making.  
  - Keywords: balance, fairness, integrity, ethical, responsibility, and objective  
  - Any mention of “two sides”  
  - Utilitarian view – My job is to inform people; I present the information and the viewer makes their own decision or conclusion  
  - Basic tenant of journalism  
  - Balance is institutionalized or mandated. For example, it’s their company’s policy or that their management demands it. |
| journalism                    |                                                                                                                                                                                                             |
| Acknowledge different         | Realize that not everyone agrees, so may have to present or interview people with other views.  
  - Keyword: view or viewpoints (two or multiple)  
  - Not everyone agrees, people have different perspectives on this issue, and it’s my job to present those different perspectives  
  - Sometimes an opposing viewpoint is presented as, “some may say this…”  
  - Other times opposing viewpoint only included if it was something an interviewee said  
  - Some people may also explain how ‘popular’ one view is over another  
  - They hear the opposing viewpoint elsewhere, I may as well address it  
  - To engage in civil conversation, have to present all viewpoints |
<p>| views                         |                                                                                                                                                                                                             |</p>
<table>
<thead>
<tr>
<th>Maintain reliability and credibility</th>
<th>Showing one side will make viewers dismiss or be skeptical of the information. Prevent getting negative viewer feedback or concern about other negative outcomes.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keywords: credible, reliable, bias, unbiased</td>
<td>Any discussion about avoiding bias or appearing unbiased, maintaining credibility</td>
</tr>
<tr>
<td>Showing one side makes viewers skeptical of the information</td>
<td>Viewers will dismiss or respond negatively if their view isn’t represented</td>
</tr>
<tr>
<td>Being one sided makes it seem like you have an agenda, avoid showing personal viewpoints</td>
<td>If it is an institutional, organizational or management policy to be balanced, but the outcome of not obeying the policy is not discussed, it should be coded as “Essential to balanced journalism” and should not be coded here.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Represents scientific uncertainty</th>
<th>Expresses that climate change is natural, not happening, the science is still uncertain, not settled</th>
</tr>
</thead>
<tbody>
<tr>
<td>We don’t know what will happen, there isn’t proof, it’s not certain, it’s not settled science, therefore, there are multiple, competing theories to present</td>
<td>Science is all about debates</td>
</tr>
<tr>
<td>Opposing viewpoint is the uncertainty associated with the scientific results being presented</td>
<td>Watch for “I” statements (I don’t think… I think… I believe… I’m unsure… etc.)</td>
</tr>
<tr>
<td>Anthropogenic climate change is not happening</td>
<td>Climate has always changed</td>
</tr>
</tbody>
</table>

| Other | Avoids stories with two sides, sticks to forecast, unclear responses, etc. |
### Intercoder Reliability Values for Open-Ended Responses

<table>
<thead>
<tr>
<th></th>
<th>Percent Agreement</th>
<th>Scott’s Pi</th>
<th>Cohen’s Kappa</th>
<th>Krippendorff’s Alpha</th>
<th>N Agreements</th>
<th>N Disagreements</th>
<th>N Cases</th>
<th>N Decisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strengthen story</td>
<td>96.8%</td>
<td>0.78</td>
<td>0.78</td>
<td>0.78</td>
<td>120</td>
<td>4</td>
<td>124</td>
<td>248</td>
</tr>
<tr>
<td>Essential to balanced journalism</td>
<td>91.1%</td>
<td>0.82</td>
<td>0.82</td>
<td>0.82</td>
<td>113</td>
<td>11</td>
<td>124</td>
<td>248</td>
</tr>
<tr>
<td>Acknowledge different views</td>
<td>91.9%</td>
<td>0.71</td>
<td>0.71</td>
<td>0.71</td>
<td>114</td>
<td>10</td>
<td>124</td>
<td>248</td>
</tr>
<tr>
<td>Maintain reliability &amp; credibility</td>
<td>96.8%</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>120</td>
<td>4</td>
<td>124</td>
<td>248</td>
</tr>
<tr>
<td>Represents scientific uncertainty</td>
<td>94.4%</td>
<td>0.82</td>
<td>0.82</td>
<td>0.82</td>
<td>117</td>
<td>7</td>
<td>124</td>
<td>248</td>
</tr>
<tr>
<td>Other</td>
<td>87.9%</td>
<td>0.48</td>
<td>0.48</td>
<td>0.49</td>
<td>109</td>
<td>15</td>
<td>124</td>
<td>248</td>
</tr>
</tbody>
</table>