Executive Summary
The Center for Climate Change Communication (Mason 4C) celebrated its 13th year at George Mason University and the College of Humanities and Social Sciences in AY 2020-21.

Amid a global pandemic, an overdue awakening on racial injustice, and a climate crisis that the UN is now calling “code red for humanity” — our work and research is more important than ever. We know these global challenges are interconnected and inseparable, and through our research, practice, engagement and training, our Center is fully engaged in creating a safer, healthier, fairer and more prosperous world. While challenging, this is a prime moment for America and the world to rise to the climate crisis.

Our Center had many milestones and accomplishments this year. We now have more than a decade of climate communication research and data with our partners at the Yale Program on Climate Change Communication. We greatly influence the current body of climate and health communication research. Additionally, our Center’s programs put research into action by activating and mobilizing trusted voices and personalities to communicate on climate.

Major contributions this year:

- Our Climate Change in the American Mind polling data shows there has been a large increase in public concern about climate change over the past 5 years. The proportion of ‘Alarmed Americans’ on climate has doubled, and the proportion of ‘Dismissive Americans’ has reduced by more than one third. Our research on climate, communication, messaging, misinformation, and health has considerable influence in the academic and practice communities, but also in the public policy sphere.

- Our Climate Matters in the Newsroom program is now reaching more than 1,000 local TV weathercasters (that’s nearly half of America’s TV weathercasters). We support them with localized climate data which they are incorporating into their local weather broadcasts and reporting. In addition, more than 800 journalists also receive our localized climate reporting materials. In 2020, we published two papers in scientific journals (BAMS, and Weather, Climate & Society) that prove this reporting is making a difference in helping the public understand climate change as a “here, now, us” problem in their community.
• Our Medical Society Consortium on Climate & Health has also grown tremendously over the past several years. The Consortium now includes 32 national medical societies and more than 50 other health organizations representing 600,000+ health professionals. In February 2021, we sent a letter to President Biden encouraging him to “go big” on America’s Nationally Determined Contributions to the Paris Agreement. We also developed, solicited endorsement from other US health organizations, and then briefed senior Biden Administration officials on two sets of federal policy recommendations to advance equitable climate and health solutions—one set pertaining to how to mobilize an “all of government” approach, and the other focusing on how to fully mobilize the Department of Health and Human Services. Senior administration officials, including Climate Czar Gina McCarthy, expressed gratitude for the recommendations and expressed optimism that many of the recommendations would be implemented.

• In April 2021, we established a national workgroup called the Climate Justice and Solutions Network to bring together multiple public and private colleges and universities to launch a “middle-out” strategy on climate empowerment and climate justice as part of the United States’ commitment to the UN Paris Climate Agreement. We are currently in pursuit of funding through a Congressional appropriation, and have the enthusiastic support of senior members of the Biden Administration for the proposal.

• Former Rep. Bob Inglis (R-SC) is the driving force and voice behind our influential RepublicEN program aimed at engaging and encouraging climate leadership among conservatives. RepublicEN hosted dozens of events, trainings and webinars via Zoom and other virtual learning platforms, as well as publishing a weekly podcast EcoRight Speaks via Spotify and other major publishing platforms.

• Despite federal funding cuts from the previous administration, we carried on with our National Park Service Climate Internship program with bridge funding provided by our Center. Student interest in the program was greater than ever — with more than 500 applicants for three internship positions. In early Summer 2021, the virtual intern group began their efforts to archive and publish the important communication materials that have been developed over the past few years for Capital Area NPS brochures and communication materials. This library of content will be published on a new Mason 4C / NPS Internship website set to debut in September.

• In January 2021, 4C founder and director Dr. Edward Maibach was announced as the co-recipient of the prestigious Stephen H. Schneider Award for Outstanding Climate Science Communication by Climate One. In May 2021, Reuters announced their ‘Hot List’ ranking the world’s top climate scientists – Dr. Maibach is ranked #7 in a ranking of 1,000 climate academics according to how influential they are.

• In December 2020, Dr. John Cook released the Cranky Uncle critical thinking game, freely available on iPhone, Android, and browsers. Teachers from 36 U.S. states and 16 other countries have already signed up to use the game in their classes.
1) Research, Scholarship, and Creative Works (Full List: See Appendix)

- Our faculty published 59 peer-reviewed articles and research monographs generating new knowledge on climate, communication, messaging, misinformation and health. Their work appeared in 24 different academic journals. A full list of these papers appears at the end of this report.
- Our research is not only influential in the academic community, but also in the public sphere. In January 2021, former Secretary of State Hillary Clinton tweeted a link to our research revealing activist Greta Thunberg’s influence in inspiring others to participate in climate activism. Her tweet (pictured right) was liked and retweeted thousands of times.
- More than 26,500 stakeholders have read and interacted with the “Friends Notes” that we send via Mason 4C email which briefly describe each of our new research studies.

Invited talks:

Ed Maibach (selected talks)


John Kotcher
• Kotcher, J.E. Webinar on Clean Energy, Decarbonization, and Climate Action. Panelist. (April 16, 2021). Institute for a Sustainable Earth, George Mason University. Fairfax, VA.

Connie Roser-Renouf
• Engaging Women on Climate Change; Climate Access webinar, June 2021.
• Effective Communication Begins when We Meet Audiences Where They Are; University of Quebec webinar on Cognitive Challenges of Climate Change, June 2021.
• Discussing Climate Amid a Climate Crisis; University of Connecticut webinar, Nov. 2020.
• The Health Emergency of our Changing Climate; panelist, Oct. 2020.
• Communicating Climate Change Health Impacts to Diverse Audiences; University of Lisbon Medical School webinar, Sept. 2020.
• Strategic Climate Change Communication with Diverse Audiences; Humboldt Chapter of 350.org webinar, Aug. 2020.

John Cook
• “Building resilience against misinformation”, Invited speaker to “Misinformation/Disinformation and the Law” symposium, Saint Louis University, Missouri, USA, February 12, 2021.
“How to fight fake news about climate change”, Invited speaker to Environmental Speaker series, Gonzaga University, Washington, USA, February 9, 2021.

“Combining psychology, critical thinking & gamification to counter science misinformation”, Presentation to environmental team at 3M company, February 9, 2021.

“Combining psychology, critical thinking & gamification to counter science misinformation”, Invited speaker for Cyberpsychology Seminar Series, New Jersey Institute of Technology, New Jersey, USA, February 3, 2021.


“Building resilience against climate misinformation”, Fall seminar series, University of Delaware, October 2, 2020.


“How to fight fake news about climate change”, Invited speaker to Environmental Speaker series, Gonzaga University, Washington, USA, February 9, 2021.

“Combining psychology, critical thinking & gamification to counter science misinformation”, Presentation to environmental team at 3M company, February 9, 2021.

“Awards, prizes, recognitions or critical reviews received:

**Ed Maibach**

- #7 on Reuters “Hot 1,000 List” of the world’s most influential scientists working on climate change, 2021.
- Stephen H. Schneider Award for Outstanding Climate Science Communication (with Anthony Leiserowitz), Climate One at The Commonwealth Club, 2020.
Mona Sarfaty was awarded the Child Health Advocate Award 2020 by the Children's Environmental Health Network.

Ph.D. student Amanda Borth was awarded the 2021 Joe Witte Special Recognition in Science Communication Leadership award.

Proposals submitted for external funding:

Externally funded awards:


Maibach, E (2017-2021) – Enhancing the Effectiveness of NASA Climate Communication. NASA, Award # NNX17AC80G, $600,000.

Maibach, E. (2017-2020) Climate Change Communication Internship Program, National Park Service, Award # P17AC00691/P19ACO1060, $50,555

Kotcher, J.E. (2020-2021). Health professionals' views on climate change and health. World Health Organization, Award #223745, $12,000.


Maibach, E. (2021). Supporting the Medical Society Consortium on Climate and Health, High Tide Foundation, $150,000
Maibach, E. (2021). Core Support for the Center for Climate Change Communication and the Medical Society Consortium on Climate and Health, Johnson & Johnson, $164,900


**External research, scholarship or creative partnerships**

Ongoing partners include:
- Yale Program on Climate Change Communication
- Climate Nexus Polling
- Climate Central
- Climate Communication
- NOAA
- NASA
- American Meteorological Society
- Society of Environmental Journalists
- National Association of Hispanic Journalists
- Associated Collegiate Press and National
- Association of Scholastic Press
- National Park Service
- Health Care Without Harm
- American Lung Association
- American Public Health Association
- Alliance of Nurses for a Healthy Environment
- Physicians for Social Responsibility

New partners:
- Local Media Association
- Covering Climate Now
- HBCU Climate Change Coalition

2) **Educational Activities:**

Our Center mentors and financially supports several undergraduate, graduate students, and post-doctoral fellows:
- Master’s students: Ben Hubbert, Sophia Whitaker
- Ph.D students: Margaret Orr, Saahi Uppalapati, Amanda Borth, Eryn Campbell, Shaelyn Patzer, Kristin Timm, Yasas Wijesuriya
- Post-Doctoral: William Yagatich, Kate Luong
The Center engages in several educational and training activities. In 2020-21, we hosted a dozen virtual ‘Brown Bag’ discussions that support the scholarship of our faculty and partners of the Center, as well as nurture our spirit of collegiality and collaboration.

In partnership with Climate Communication and Climate Matters, we co-hosted nine workshops for broadcast meteorologists and other working professionals as part of a ‘Climate Masterclass’:

- University of Missouri, June 25, 2020
- Society of Environmental Journalists, Sept 30, 2020
- University of Florida, Nov. 17, 2020
- Great Lakes Region: Building Climate Reporting Confidence March 11, 2021 (Co-hosted by Covering Climate Now and Climate Matters in the Newsroom)
- Deep South (Alabama, Mississippi, Louisiana): Building Climate Confidence on Every Beat, March 25, 2021 (Co-hosted by CCNow and CMN)
- Texas: Building Climate Confidence on Every Beat, April 7th, 2021 (Co-hosted by CCNow and CMN)
- South Carolina: Reporting Local Climate Stories in South Carolina April. 13, 2021 (Co-hosted by Coastal Conservation League and CMN)
- Online News Association 21: Telling Climate Change Stories That Matter: From Impacts to Solutions, June 23rd, 2021
- National Assoc. of Hispanic Journalists 21: Climate Reporting by and for the Latinx Community on July 8th, 2021

We also sponsored the Local Climate Change and Reporting Competition, awarding a cash prize to the best student storytelling on climate — in association with American Collegiate Press and the National Scholastic Press Association.

3) Training and Dissemination Activities:

We disseminate our research and findings to thousands each year via mass email, the Mason 4C website, social media, and internal/external University communications. More 26,000 read and interacted with our email marketing efforts via Constant Contact, while 180,000+ visited our website during the academic year. Our research notes are sent in parallel with our research partner at Yale, which extends the reach of our work to the general public, science/social science, journalism, academic and policy communities. Almost all of our research and reports are open access and published on the Mason 4C website to increase availability and to maximize dissemination efforts.

Our faculty and work regularly appears in the news, which we also document on our Center’s website. Major publications including The New York Times, Washington Post, Wall Street

In April 2021, Mason 4C director Ed Maibach was featured in George Mason University President Gregory Washington’s podcast Access to Excellence on climate change and misinformation. Mason 4C was an integral part of the University’s Earth Day 2021 presentations on social media, including an interview with Associate Director Dan Reed promoting the Center’s work and impact on campus.

4) **Translational Activities:**
Partnerships are critical to Mason 4C’s success and effectiveness. Selected collaborations:

**Climate Matters in the Newsroom** is a partnership with government agencies (NOAA, NASA), NGOs (Climate Central, Climate Communication), and professional societies (American Meteorological Society, Society of Environmental Journalists, National Association of Hispanic Journalists) to encourage and support science-based local climate reporting.

The **Medical Society Consortium on Climate and Health** is a partnership with medical societies (currently 32), state “clinician for climate action” groups (currently 17), and dozens of other health organizations (currently 60)—including the American Lung Association, American Heart Association, and American Cancer Society—to educate the public and policymakers about the human health relevance of climate change, and to advocate for equitable climate and health solutions.

The **National Park Service/Mason Center for Climate Change Communication Internship Program** recruits, trains, and supports undergraduate and graduate students to help national parks in the Washington, DC region advance their climate communication objectives.
5) Budget Overview:
Several Mason 4C programs had banner years in fundraising, especially the Medical Society Consortium on Climate and Health and RepublicEN. The following charts reveal the types of funding as well as a breakdown of funding by program within the center.

<table>
<thead>
<tr>
<th>Program Area</th>
<th>Contracts/Grants</th>
<th>Donations</th>
<th>Total Program Revenues</th>
<th>Total FY21 Expenses</th>
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<tbody>
<tr>
<td>Improving Place-Based Public Engagement</td>
<td>$0.00</td>
<td>$22,780.00</td>
<td>$22,780.00</td>
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<td>RepublicEN</td>
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<td>Climate Matters</td>
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<td>Climate Change in the American Mind</td>
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<td>4D Project</td>
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<td>$500.00</td>
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<td>Program on Climate and Health</td>
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<tr>
<td>Totals</td>
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<td>$1,222,346.01</td>
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<td>$2,663,781.09</td>
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</table>

**Revenues by Type**
- Grants/Contracts: 41%
- Donations: 42%
- College/University Support: 17%

**Total Expenses by Program Area**
- Improving Place-Based Public Engagement: 25%
- RepublicEN: 36%
- Climate Matters: 31%
- Climate Change in the American Mind: 3%
- 4D Project: 2%
- Program on Climate and Health: 1%

<table>
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<th>Revenue Type</th>
<th>Amount</th>
</tr>
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<tbody>
<tr>
<td>Grants/Contracts</td>
<td>$1,216,468.00</td>
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<td>Donations</td>
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Appendix – Mason 4C: Research, Scholarship and Awards

Books / Booklets:


Book Chapters:


Peer Reviewed Articles:


**Reports:**


Other Publications:


Works in progress:


Wynes, S., Kotcher, J.E., Donner, S. Can citizen pressure influence politicians' communication about climate change? Results from a field experiment. Revise and resubmit.


Levine, A.S., Kotcher, J.E., Stenhouse, N., & Maibach, E. Legitimizing nervousness motivates people to take risky political actions. Manuscript submitted for publication.