

MeCCO

Media and Climate Change Observatory

A REVIEW OF MEDIA COVERAGE OF CLIMATE CHANGE AND GLOBAL WARMING IN 2021

SPECIAL ISSUE 2021

MeCCO monitors 127 sources (across newspapers, radio and TV) in 59 countries in seven different regions around the world. MeCCO assembles the data by accessing archives through the Lexis Nexis, Proquest and Factiva databases via the University of Colorado libraries.

Media and Climate Change Observatory, University of Colorado Boulder
<http://mecco.colorado.edu>



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At the global level, across the full year 2021 media attention increased 55% from 2020. This was somewhat of a rebound in attention from a 2020 that saw coverage 23% lower than 2019.



Compared to 2019, coverage was up 19%. 2021 coverage was more than double the amount of coverage in each 2016, 2017 and 2018, and 90% up from 2015.



2021 was the year with the highest the amount of coverage of climate change or global warming since our global-level monitoring began 18 years ago in 2004.

2021 was yet another critical year in which climate change and global warming fought for media attention amid competing interests in other stories, events and issues around the globe. Stories were told and written through primary and often intersecting, *political, economic, scientific, cultural* as well as *ecological* and *meteorological* themes.

At the global level, across the full year 2021 media attention increased 55% from 2020. This was somewhat of a rebound in attention from a 2020 that saw coverage 23% lower than 2019. Compared to 2019, coverage was up 19%. 2021 coverage was more than double the amount

of coverage in each 2016, 2017 and 2018, and 90% up from 2015. In fact, 2021 was the year with the highest amount of coverage of climate change or global warming since our global-level monitoring began 18 years ago in 2004.

In 2021 - for reasons explained in more detail below - October and November marked the highest levels of global coverage of climate change or global warming among the sources tracked by our Media and Climate Change Observatory (MeCCO) team (see Figure 1).

Of note, coverage of climate change or global warming reached all-time highs in 2021 in six countries:

- Canadian print media coverage - *The Toronto Star, National Post, and Globe and Mail*

2004–2021 World Newspaper Coverage of Climate Change or Global Warming

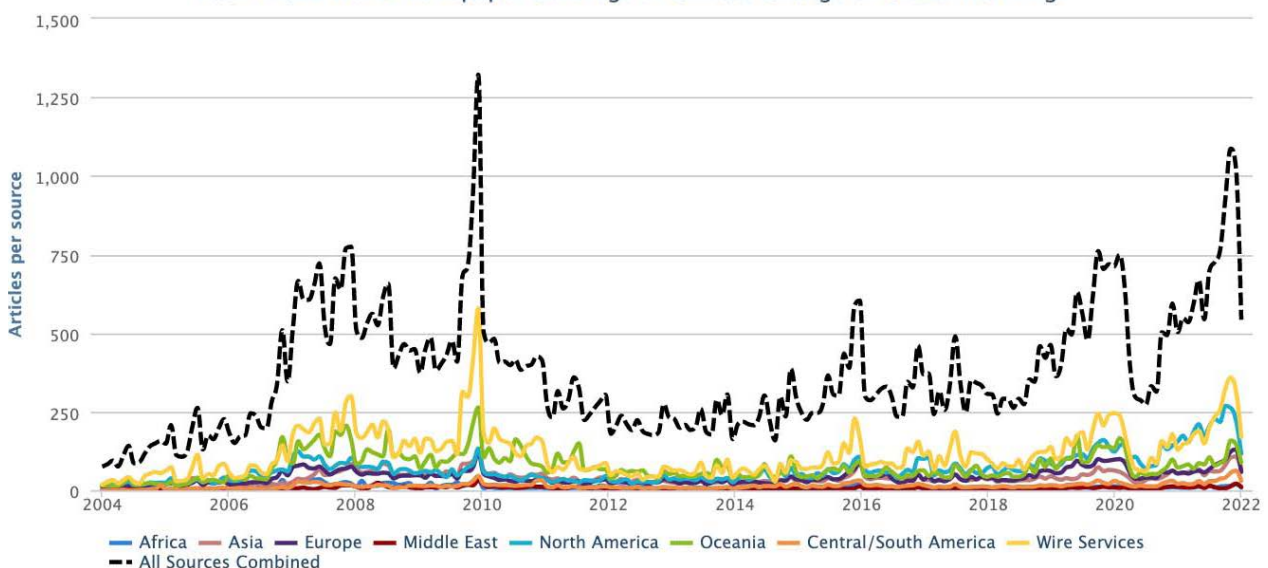


Figure 1. Media coverage of climate change or global warming in seven different regions around the world, from January 2021 through December 2021.

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- Finnish print media coverage - *Helsingin Sanomat*, and *Ilta-Sanomat*
- Russian print media coverage - *Izvestiya*, *Rossiskaya Gazeta*, *Nezavisimaya Gazeta*, and *Komsomolskaya Pravda*
- United Kingdom (UK) print media coverage - *The Daily Mail & Mail on Sunday*, *The Guardian & Observer*, *The Sun & Sunday Sun*, *The Telegraph & Sunday Telegraph*, *The Daily Mirror & Sunday Mirror*, and *The Times & Sunday Times*
- United States (US) print media coverage - *The New York Times*, *Los Angeles Times*, *USA Today*, *Washington Post*, and *Wall Street Journal*
- US television coverage - *ABC*, *CBS*, *CNN*, *Fox News*, *MSNBC*, *NBC*, and *PBS*

Also, coverage of climate change or global warming reached all-time highs in 2021 in six of the seven regions we monitor:

- African print media coverage - *El Watan* (Algeria), *Al Masry Al-Youm* (Egypt), *Business Day* (South Africa), *The Herald* (Zimbabwe), *Daily Trust* (Nigeria), *Vanguard* (Nigeria), *The New Times* (Rwanda), *Daily Nation* (Kenya), *The Times of Zambia* (Zambia), *New Era Namibia* (Namibia), *The Citizen* (Tanzania), *Le Potentiel* (Congo), *L'Observateur Paalga* (Burkina Faso), *La Nouvelle* (Morocco), and *Sud Quotidien* (Senegal)
- Asian print media coverage - *The Bangkok Post* (Thailand), *Philippine Daily Inquirer* (Philippines), *Hindu* (India), *Hindustan Times* (India), *Indian Express* (India), *Japan News [formerly Daily Yomiuri]* (Japan), *Asahi Shimbun* (Japan), *Yomiuri Shimbun* (Japan), *Mainichi Shimbun* (Japan), *Korea Times* (South Korea), *Manila Bulletin* (Philippines), *New Straits Times* (Malaysia), *South China Morning Post* (China), *Straits Times* (Singapore), *The Nation* (Thailand), *Times of India* (India), *Jakarta Post* (Indonesia), *Saigon Times Daily* (Vietnam), *The Malaysian Reserve* (Malaysia), *Today* (Singapore), *The Daily Mirror* (Sri Lanka), *The Daily News* (Sri Lanka), *The New Nation* (Bangladesh), *The Nation* (Pakistan), and *Dawn* (Pakistan)

- European print media coverage - *The Daily Mail* and *Mail on Sunday* (UK), *Guardian* and *Observer* (UK), *Telegraph* and *Telegraph on Sunday* (UK), *The Daily Mirror* and *Sunday Mirror* (UK), *Times* and the *Sunday Times* (UK), *Helsingin Sanomat* (Finland), *Ilta-Sanomat* (Finland), *Le Monde* (France), *Le Figaro* (France), *Jyllandsposten* (Denmark), *Politiken* (Denmark), *Berlingske Tidende* (Denmark), *Süddeutsche Zeitung* (Germany), *Die Tageszeitung* (Germany), *Irish Times* (Ireland), *Sun* and *Sunday Sun* (England), *La Repubblica* (Italy), *Corriere della Sera* (Italy), *Aftenposten* (Norway), *Dagbladet* (Norway), *VG* (Norway), *Correio da Manhã* (Portugal), *Izvestiya* (Russia), *Rossiskaya Gazeta* (Russia), *Nezavisimaya Gazeta* (Russia), *Komsomolskaya Pravda* (Russia), *El País* (Spain), *El Mundo* (Spain), *La Vanguardia* (Spain), *Expansión* (Spain), *Dagens Nyheter* (Sweden), *Aftonbladet* (Sweden), and *Expressen* (Sweden)
- Latin America print media coverage - *El Universal* (México), *Reforma* (México), *La Nación* (Costa Rica), *El Comercio* (Perú), *El Comercio* (Ecuador), *El País* (Uruguay), *La República* (Uruguay), *El Tiempo* (Colombia), *El Espectador* (Colombia), *La Razón* (Bolivia), *O'Globo* (Brasil), *Folha de S.Paulo* (Brazil), *La Nación* (Argentina), *Clarín* (Argentina), and *El Mercurio* (Chile)
- Middle East print media coverage - *Al Riyadh* (Saudi Arabia), *Al Sabah* (Iraq), *Annahar* (Lebanon), *Daily Star* (Lebanon), *Gulf Daily News* (Bahrain), and *Jerusalem Post* (Israel)
- North American print media coverage - *The Washington Post* (US), *Wall Street Journal* (US), *New York Times* (US), *USA Today* (US), *Los Angeles Times* (US), *Globe & Mail* (Canada), *Toronto Star* (Canada), *National Post* (Canada)

Throughout 2021, we continued our monitoring of media coverage of climate change or global warming. We continued to expand our work, now tracking stories in 13 languages (English, Arabic, Spanish, French, Italian, Japanese, Norwegian, Finnish, Russian, Swedish, Danish, German, and Portuguese) across 59 countries and 127 sources (TV, radio, and newspapers) in seven regions on planet Earth (Africa, Asia, Europe,

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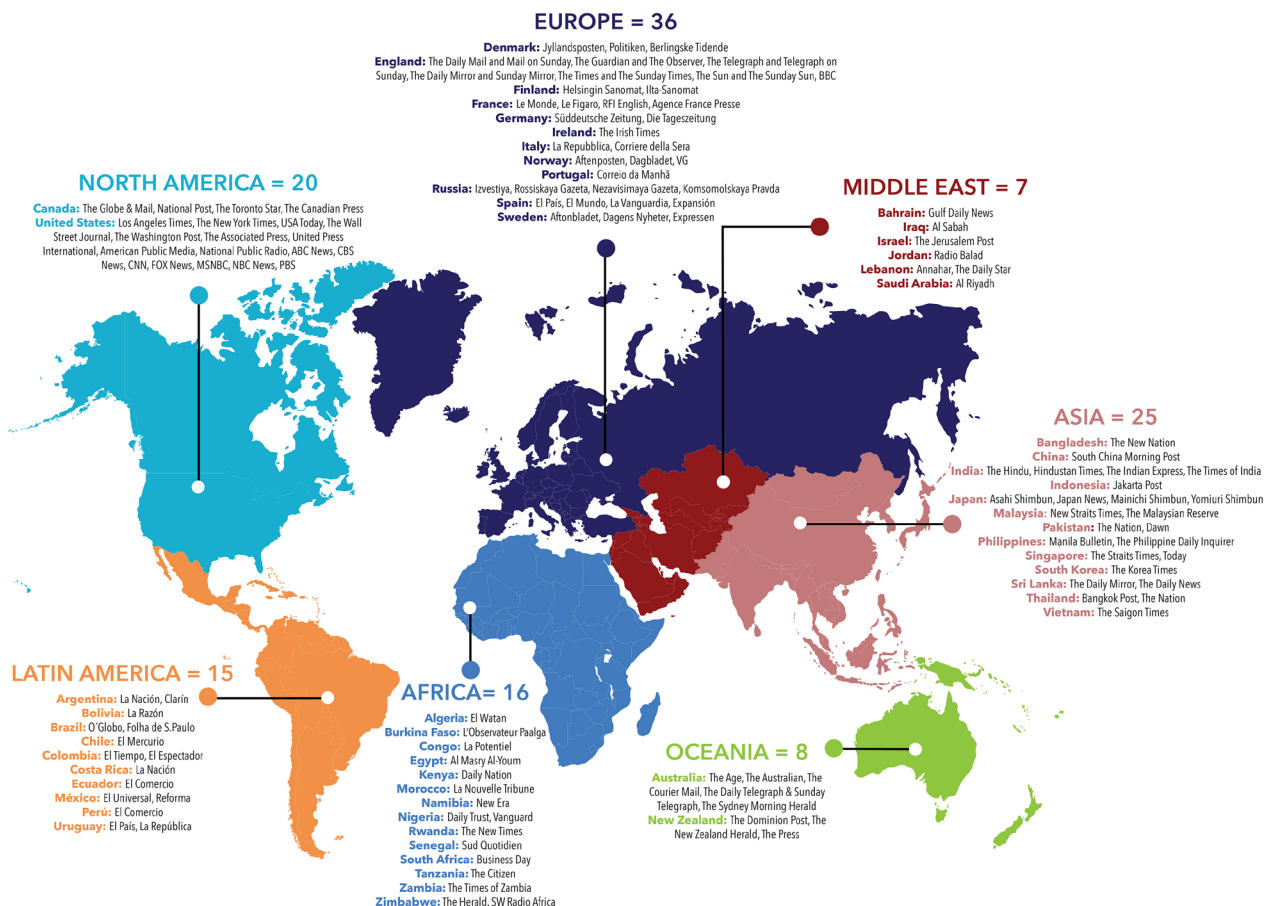


Figure 2. Map of the 127 media sources we monitor for coverage of climate change or global warming across seven different regions around the world.

Latin America, Middle East, North America, and Oceania). In partnership with the University of Colorado Libraries, on our website we now also provide 25 open-source downloadable datasets (as Excel files) that accompany our 50 monthly downloadable figures (as PNG, JPEG, PDF, or SVG vector images) capturing coverage across these media and at different scales.

In 2021, we at MeCCO further expanded media monitoring of climate change or global warming around the world:

- MeCCO team members Rogelio Fernández Reyes and Isidro Jiménez-Gomez began monitoring print sources print sources in Egypt (*Al Masry Al-Youm*), Saudi Arabia (*Al Riyadh*), Iraq (*Al Sabah*), and Lebanon (*Annahar*) in Arabic

"خازن لاريغت" OR "ي دار حل سابت حال"

- MeCCO team members Jari Lyytimäki and Erkki Mervaala began monitoring two print sources *Helsingin Sanomat* and *Ilta-Sanomat* in Finland

We also expanded our monitoring in nine languages, to now monitoring media coverage of climate change or global warming in 13 languages:

- Arabic: "تغير المناخ" or "الاحتباس الحراري"
- Danish: 'klimaforandring' or 'global opvarmning'
- English: 'climate change' or 'global warming'
- Finnish: 'ilmastonmuutos' or 'ilmaston lämpeneminen'
- French: 'changement climatique' or 'réchauffement climatique'
- German: 'klimawandel' or 'globale erwärmung'
- Italian: 'cambiamenti climatici' or 'riscaldamento globale'
- Japanese: '温暖化' or '気候変動'
- Norwegian: 'global oppvarming' or 'klimaendring'
- Portuguese: 'mudanças climáticas' or 'aquecimento global'
- Russian: 'изменение климата' or 'глобальное потепление'
- Spanish: 'cambio climático' or 'calentamiento global'
- Swedish: 'global uppvärmning' or 'klimatförändring'

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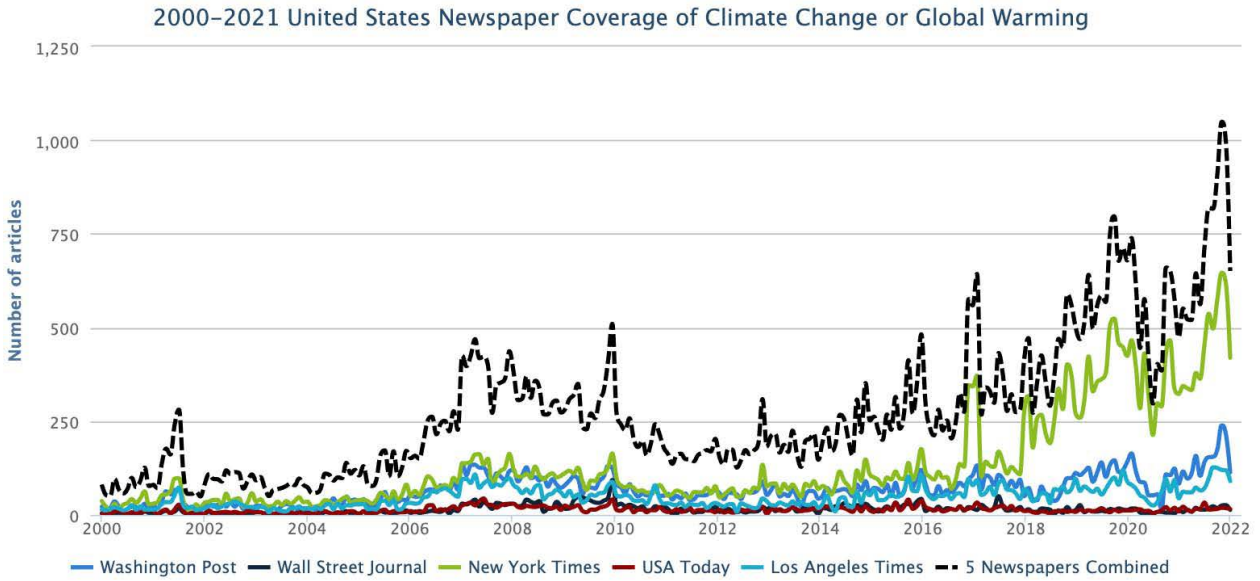


Figure 3. Media coverage of climate change or global warming month to month in *The Los Angeles Times*, *The New York Times*, *USA Today*, *The Washington Post*, and *The Wall Street Journal* in the US from January 2000 through December 2021.

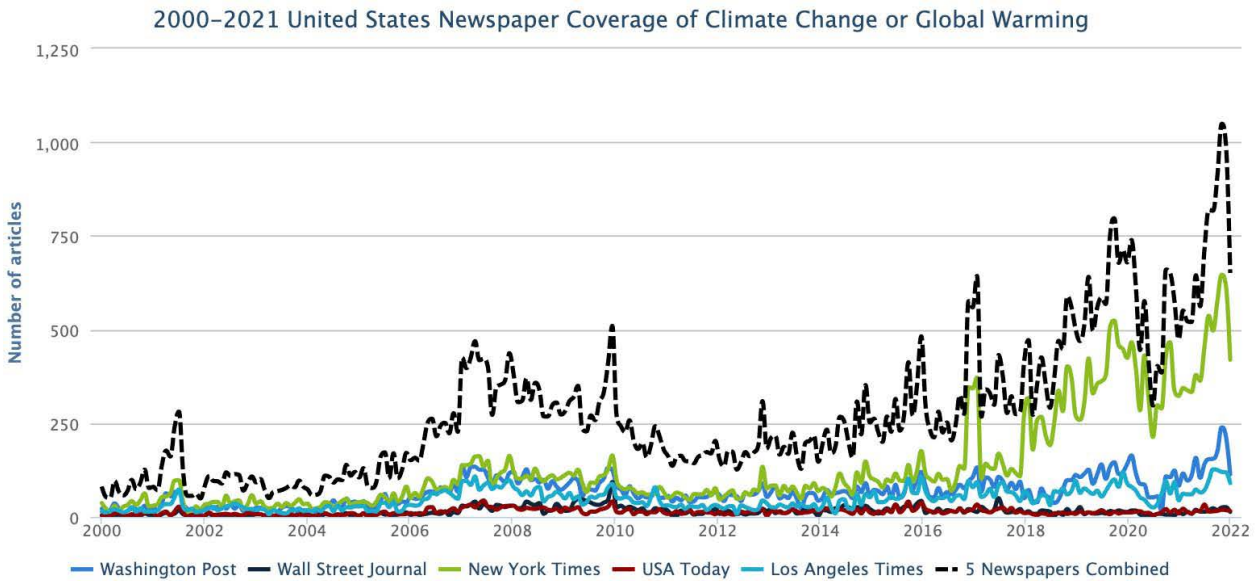


Figure 4. Media coverage of climate change or global warming month to month on *ABC*, *CBS*, *CNN*, *Fox News Network*, *MSNBC*, *NBC*, and *PBS* in the US from January 2000 through December 2021.

At the United States (US) country level, Figure 3 illustrates these trends month to month in US press accounts across five newspaper publications over the past two decades (2000–2021) – *The Washington Post*, *The Wall Street Journal*, *The New York Times*, *USA Today*, and *The Los Angeles Times*.

Figure 4 shows trends month to month over the past two decades (2000–2021) across US television news – *ABC*, *CBS*, *CNN*, *Fox News Network*, *MSNBC*, *NBC*, and *PBS*.

Figure 5 shows trends month to month over the past two decades (2000–2021) across UK print media in *The Daily Mail & Mail on Sunday*, *The Guardian & Observer*, *The Sun & Sunday Sun*, *The Telegraph & Sunday Telegraph*, *The Daily Mirror & Sunday Mirror*, and *The Times & Sunday Times*.

What follows are stories we detected that media paid attention to in terms of key events, issues, moments, movements, and developments through *political*, *scientific*, *cultural*, *ecological*, and *meteorological* themes that transpired

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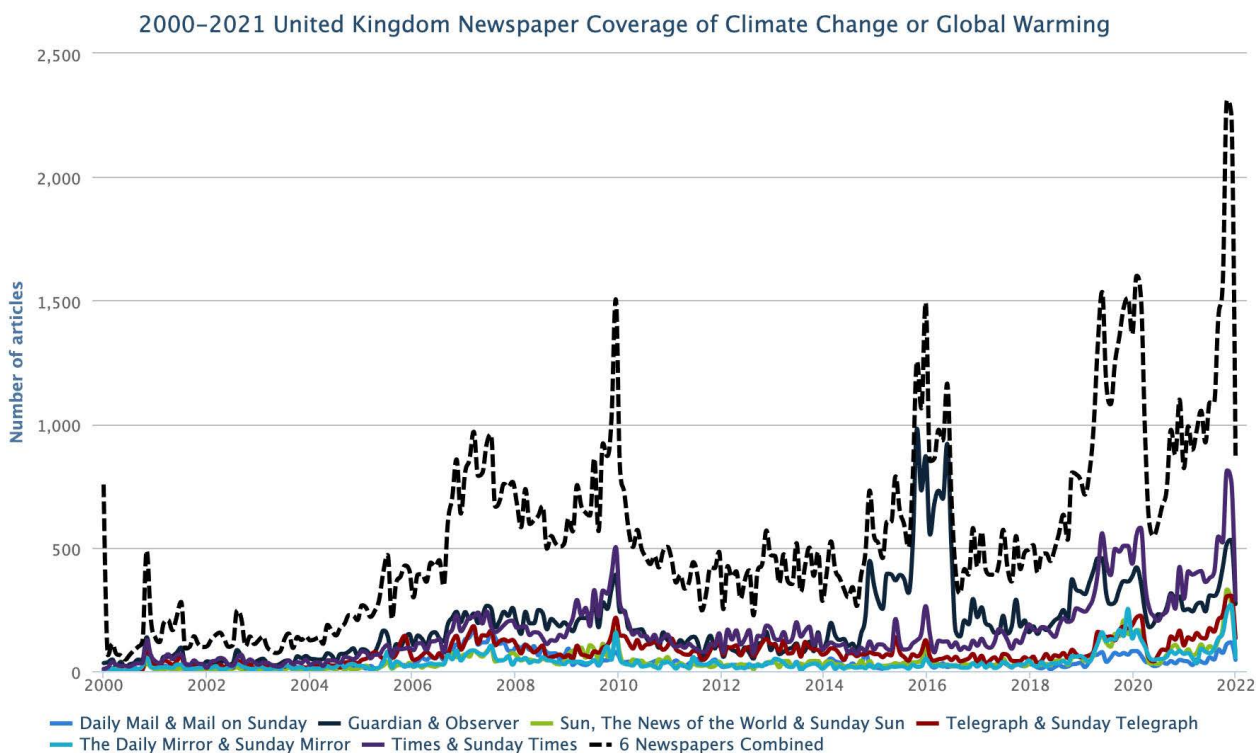


Figure 5. Media coverage of climate change or global warming month to month in *The Daily Mail & Mail on Sunday*, *The Guardian & Observer*, *The Sun & Sunday Sun*, *The Telegraph & Sunday Telegraph*, *The Daily Mirror & Sunday Mirror*, and *The Times & Sunday Times* in the UK from January 2000 through December 2021.

during the year 2021. As the calendar turned to 2022, several media accounts reflected on 2021 across these themes.

For example, [Guardian journalist Bibi van der Zee reported](#), “More than 400 weather stations around the world beat their all-time highest temperature records in 2021, according to a climatologist who has been compiling weather records for over 30 years. Maximiliano Herrera keeps track of extreme weather around the world, and publishes an annual list of records broken in the previous year. He and many other climatologists and meteorologists who follow these issues closely expect that 2021 will probably not be the hottest year in history...But it is likely to be in the top five or six, continuing the long-term upward trend. The past six years have been the six hottest on record”. Meanwhile, [New York Times journalist Raymond Zhong noted](#), “Last year [2021] was Earth’s fifth hottest on record, European scientists announced on Monday. But the fact that the worldwide average temperature didn’t beat the record is hardly reason to stop worrying about global warming’s grip on the planet, they said. Not when both the United

States and Europe had their warmest summers on the books. Not when higher temperatures around the Arctic caused it to rain for the first time at the Greenland ice sheet’s normally frigid summit. And certainly not when the seven hottest years ever recorded were, by a clear margin, the past seven. And, as is now the norm, a sheaf of new heat records have been broken, according to Herrera. Ten countries – Oman, UAE, Canada, the United States, Morocco, Turkey, Taiwan, Italy, Tunisia and Dominica – broke or tied their national highest record, 107 countries beat their monthly high temperature record, and five beat their monthly low temperature record”.

As a second example, [Associated Press journalist Seth Borenstein reported](#), “The United States staggered through a steady onslaught of deadly billion-dollar weather and climate disasters in an extra hot 2021, while the nation’s greenhouse gas emissions last year jumped 6% because of surges in coal and long-haul trucking, putting America further behind its 2030 climate change cutting goal. Three different reports released Monday, though not directly connected, paint a picture of a U.S. in 2021 struggling with global

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warming and its efforts to curb it. A report from the Rhodium Group, an independent research firm, on Monday said that in 2021 America's emissions of heat-trapping gas rebounded from the first year of the pandemic at a faster rate than the economy as a whole, making it harder to reach the country's pledge to the world to cut emissions in half compared to 2005 by 2030. And last year was the deadliest weather year for the contiguous United States since 2011 with 688 people dying in 20 different billion-dollar weather and climate disasters that combined cost at least \$145 billion, the National Oceanic and Atmospheric Administration said Monday. That was the second highest number of billion-dollar weather disasters – which are adjusted for inflation with records going back to 1980– and third costliest...Scientists have long said human-caused climate change makes extreme weather nastier and more frequent, documenting numerous links to wild and deadly weather events. They say hotter air and oceans and melting sea ice alter the jet stream which brings and stalls storm fronts, makes hurricanes wetter and stronger, while worsening western droughts and wildfires". Meanwhile, [CNN reporter Rachel Ramirez](#) added, "As in the US, extremes are becoming more frequent and more intense around the world due to the climate crisis. A recent report by the World Meteorological Organization found that an extreme weather event or climate disaster had occurred every day on average somewhere in the world over the

last 50 years, a five-fold increase in frequency over that period. Globally, the economic toll of these disasters has climbed seven-fold since the 1970s, the WMO reported".

For a third example, [New York Times](#) journalists [Krishna Karra](#) and [Tim Wallace](#) wrote (in an article with many visual representations), "Temperatures in the United States last year set more all-time heat and cold records than any other year since 1994...Heat waves made up most of these records. All-time heat records were set last year at 8.3 percent of all weather stations across the nation, more than in any year since at least 1948, when weather observations were first digitally recorded by the U.S. government. The world has been warming by almost two-tenths of a degree per decade. Extreme-temperature events can often demonstrate the most visible effects of climate change". Furthermore, [Guardian](#) journalist [Aliya Uteuova](#) noted, "2021 was the fourth hottest year for the US on record and winter is the fastest-warming season in 38 out of 49 American states, excluding Hawaii, since 1970".

The January through December month-to-month explainers or summaries that follow pull together the monthly summaries that our MeCCO team has compiled and posted each month [on our website](#). In aggregate, this is our fifth annual review of coverage.

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JANUARY “Take some comfort” that 64% now view climate change as an emergency”



French President Emmanuel Macron, left, speaks during the One Planet Summit, at The Elysee Palace, in Paris, on January 11, 2021. Photo: Ludovic Marin, Pool Photo via AP.



January 2021 saw media coverage around the world **increase 7%** from December 2020. However, January 2021 levels remain **28% lower** than coverage a year earlier. Elsewhere, media coverage decreased across global radio (**-9%**) in January 2021 from the previous month of December, and was **15% lower** than levels in January 2020.

January 2021 saw media coverage of climate change or global warming around the world increase 7% from December 2020. However, January 2021 levels remain 28% lower than coverage a year earlier (January 2020). These trends were also consistent across monitoring of international wires services, where coverage increased 14% from the previous month but was still 39% lower than a year previous. Elsewhere, media coverage of climate change or global warming decreased across global radio (-9%) in January 2021 from the previous month of December, and was 15% lower than levels in January 2020. Figure 1 shows trends in newspaper media coverage at the global scale – organized into seven geographical regions around the world – from January 2004 through January 2021.

In January 2021, newspaper attention to climate change or global warming increased in eight of the 13 countries we in the Media and Climate Change Observatory (MeCCO) monitor monthly: Australian coverage was up 5%, Canadian coverage was up 9%, German coverage was up 19%, New Zealand coverage was up 9%, Norwegian coverage increased 8%, Spanish coverage was up 15%, United Kingdom (UK) coverage increased 38% and United States (US) coverage was up 16%. Japanese coverage held steady compared to December 2020 while lower levels of media attention were detected in Denmark (down 11%), India (down 9%), Russia (down 22%) and Sweden (down 43%). Regionally, media attention increased most dramatically in Latin America in January 2021 (up 13%) followed by North America (up 12%), Europe (up 7%) and Oceania (up 6%). Media attention decreased in

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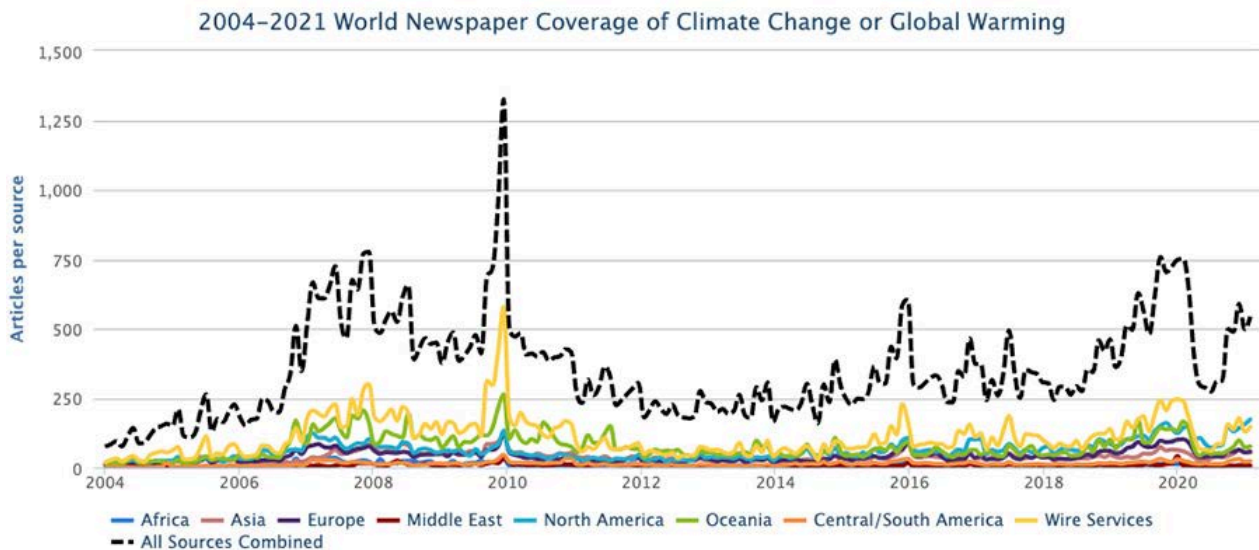


Figure 1. Newspaper media coverage of climate change or global warming in print sources in seven different regions around the world, from January 2004 through January 2021.

the Middle East (down 5%) and across Africa (down 23%) while it held steady in Asia from December 2020 to January 2021. Notably, US television media coverage increased 94% in January 2021 from the previous month and was also up 8% from January 2020.

From the quantity to the quality and content of coverage, many *political* and *economic* themed media stories emerged in January about climate change or global warming. To begin, a set of country statements issued through the 'High Ambition Coalition for Nature and People' called for protecting at least 30% of land and oceans worldwide. This new ambition in 2021 generated media attention. For example, [Associated Press reporter Sylvie Corbet](#) wrote, "At least 50 countries committed to protecting 30% of the planet, including land and sea, over the next decade to halt species extinction and address climate change issues, during a global summit Monday aimed at protecting the world's biodiversity. About 30 leaders, government officials and heads of international organizations participated in the One Planet Summit, which was being held by videoconference because of the coronavirus pandemic. Top U.S. officials were notably absent, as were the leaders of Russia, India and Brazil. French President Emmanuel Macron announced that the High Ambition Coalition for Nature and People, which was launched in 2019 by

Costa Rica, France and Britain to set a target of protecting at least 30% of the planet by 2030, has now been joined by 50 countries". As a second example, [Guardian journalists Patrick Greenfield and Fiona Harvey](#) noted, "The High Ambition Coalition (HAC) for Nature and People, which includes the UK and countries from six continents, made the pledge to protect at least 30% of the planet's land and oceans before the One Planet summit in Paris...Scientists have said human activities are driving the sixth mass extinction of life on Earth, and agricultural production, mining and pollution are threatening the healthy functioning of life-sustaining ecosystems crucial to human civilisation. In the announcement, the HAC said protecting at least 30% of the planet for nature by the end of the decade was crucial to preventing mass extinctions of plants and animals, and ensuring the natural production of clean air and water". Meanwhile, in another angle [Guardian correspondent Kim Willshire](#) reported, "The French president, Emmanuel Macron, has pledged to invite young Africans rather than their political leaders to a key France-Africa summit in a video call with the actor Idris Elba. The Élysée Palace said Elba, a goodwill ambassador for the United Nations' international fund for agricultural development, had asked to speak to the French leader. The Guardian was the only newspaper invited to attend the discussion at the Élysée, which marked the start

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2000–2021 US Television Coverage of Climate Change or Global Warming

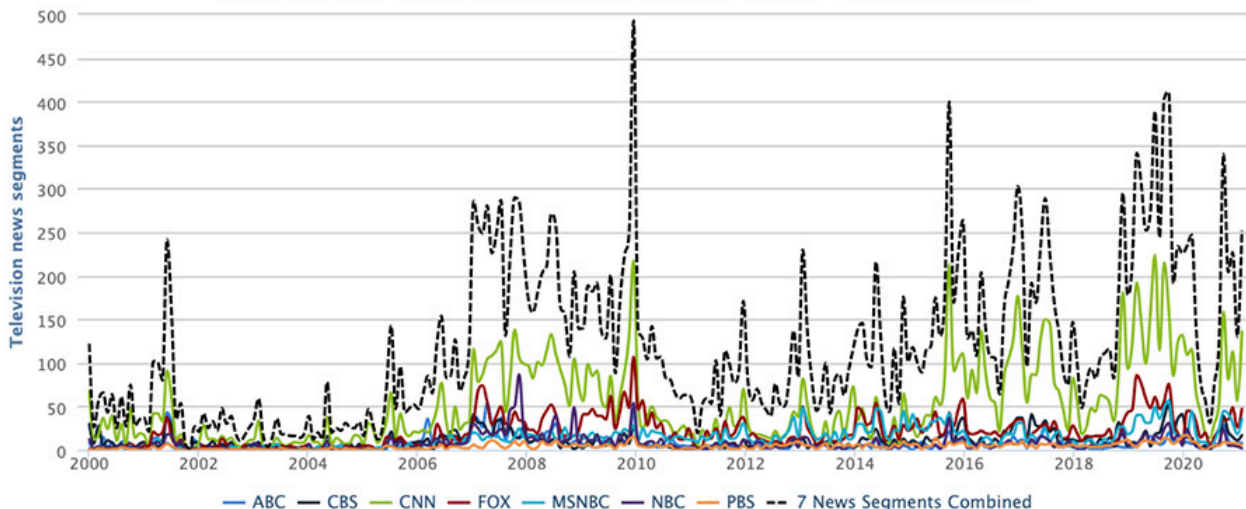


Figure 2. US television media coverage of climate change or global warming in *ABC News*, *CBS News*, *CNN*, *Fox News*, *MSNBC*, *NBC News* and *PBS Newshour* from January 2000 through January 2021.

of the One Planet biodiversity summit in Paris. Macron also announced that he would increase France's contribution to the International Fund for Agricultural Development from €57.8m to €86.7m".

On January 20, in US President Joe Biden's first day of office, his Executive Order for the US to rejoin the Paris Agreement generated media attention around the world. For example, [Guardian journalist Oliver Millman reported](#), "Joe Biden has moved to reinstate the US to the Paris climate agreement just hours after being sworn in as president, as his administration rolls out a cavalcade of executive orders aimed at tackling the climate crisis. Biden's executive action, signed in the White House on Wednesday, will see the US rejoin the international effort curb the dangerous heating of the planet, following a 30-day notice period. The world's second largest emitter of greenhouse gases was withdrawn from the Paris deal under Donald Trump". On the United States domestic front, for a second example [New York Times journalists Coral Davenport and Lisa Friedman wrote](#), "President Joseph R. Biden Jr. on Wednesday recommitted the United States to the Paris climate agreement, the international accord designed to avert catastrophic global warming, and ordered federal agencies to start reviewing and reinstating more than 100 environmental regulations that were weakened or rolled back

by former President Donald J. Trump. The moves represent a first step in healing one of the deepest rifts between the United States and the rest of the world after Mr. Trump defiantly rejected the Paris pact and seemed to relish his administration's push to weaken or undo major domestic climate policies. Mr. Biden has elevated tackling the climate crisis among his highest priorities".

In January, many **cultural** themes emerged in stories about climate change or global warming. Early in the month, survey results – from the largest poll to date on climate change – were released through a partnership with the United Nations Development Program and the University of Oxford. News outlets across the globe took note. For example, [NBC News reporter Adela Suliman noted](#), "the biggest global survey of its kind has found that almost two thirds of people believe climate change remains a global emergency, despite the ongoing Covid-19 pandemic. The Peoples' Climate Vote, published Wednesday, conducted by the United Nations Development Programme (UNDP) and the University of Oxford, surveyed 1.2 million people across 50 countries. In total, 64 percent of respondents agreed that climate change represented a pressing emergency. The survey also found a distinct age divide, with the majority of young people more concerned about climate change". Meanwhile, [BBC correspondent Matt McGrath added](#), "More

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than a million people in 50 countries took part in the survey, with almost half the participants aged between 14 and 18. Conserving forests and land emerged as the most popular solution for tackling the issue... The poll, called the “People’s Climate Vote”, has been organised by the United Nations Development Programme in conjunction with Oxford University. The organisers distributed poll questions through adverts in mobile gaming apps across 50 countries, between October and December last year. Around 1.22 million people of all genders, ages, and educational backgrounds took part, but with significant numbers of younger people... US President Joe Biden can take some comfort that 65% of those in the US taking part now view climate change as an emergency”. As a third example, [CNN journalist Laura Smith-Spark noted](#), “Nearly two-thirds of respondents believe that climate change is a “global emergency,” according to a survey of 1.2 million people in dozens of countries around the globe -- and many want urgent action to tackle the problem. The United Nations Development Programme (UNDP), which ran the poll with Oxford University, described it as the largest survey of public opinion on climate change ever conducted. Unusually, it captured the views of more than half a million people under the age of 18, a key but typically hard-to-reach constituency, the organization said. The “Peoples’ Climate Vote” was undertaken late last year in 50 high, middle and low income countries that together account for more than half of the world’s population, according to the UNDP report”.

Furthermore, [*ecological*](#) and [*meteorological*](#) dimensions of climate change and global warming were evident in January media accounts. For instance, in January the Copernicus Climate Change Service released its assessments of global surface temperatures across the planet in 2020. They reported that 2020 was part of the hottest decade on record (2011-2020) and was tied with 2016 as the hottest year in recorded history. News attention abounded. Writing in [The New York Times, journalist Henry Fountain noted](#), “Last year [2020] effectively tied 2016 as the hottest year on record, European climate

researchers announced Friday, as global temperatures continued their relentless rise brought on by the emission of heat-trapping greenhouse gases. The record warmth – which fueled deadly heat waves, droughts, intense wildfires and other environmental disasters around the world in 2020 – occurred despite the development in the second half of the year of La Niña, a global climate phenomenon marked by surface cooling across much of the equatorial Pacific Ocean. And while 2020 may tie the record, all of the last six years are among the hottest ever...” Elsewhere, [Guardian environment editor Damian Carrington wrote](#), “The climate crisis continued unabated in 2020, with the joint highest global temperatures on record, alarming heat and record wildfires in the Arctic, and a record 29 tropical storms in the Atlantic. Despite a 7% fall in fossil fuel burning due to coronavirus lockdowns, heat-trapping carbon dioxide continued to build up in the atmosphere, also setting a new record. The average surface temperature across the planet in 2020 was 1.25C higher than in the pre-industrial period of 1850-1900, dangerously close to the 1.5C target set by the world’s nations to avoid the worst impacts”.

Through separate monitoring in January at [NASA](#), [NOAA](#) and the [Met Office](#), these sad superlatives were confirmed. These corroborations also garnered media interest. For example, [USA Today journalist Doyle Rice reported](#), “Global warming didn’t take the year off in 2020: The planet was near record-hot again last year, climate groups announced Thursday. While NASA said 2020 essentially tied with 2016 as the Earth’s warmest year on record, other groups, such as the National Oceanic and Atmospheric Administration, said it was the second-warmest year”. As another example, [CBS News correspondent Jeff Berardelli noted](#), “NASA, NOAA and Berkeley Earth all released their assessments of Earth’s temperature in 2020 on Thursday. The conclusion: 2020 was nearly tied with 2016 for the warmest year globally on record. NOAA’s data shows global temperatures were just 0.04 of a degree Fahrenheit below the record high set in 2016 – making it officially

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the second warmest ever, but so close that it's "effectively tied," according to scientists from Berkeley Earth. Headlines like this have become commonplace every January when the major climate monitoring agencies tally the numbers for the year before. Because of human-caused climate change, the last six years have been the warmest six years in the record books, which date back into the 1800s. NOAA concludes the United States had its fifth warmest year on record, with all five of the warmest years occurring since 2012. This warmth was boosted by severe heat waves across the Southwest last summer, with much of the southwestern quarter of the nation experiencing its hottest year on record. The U.S. Climate Extremes Index (USCEI) for 2020 was 80% above average and ranked as seventh highest in the 111-year record due to extreme heat, drought and hurricane activity".

In January, there were also many media stories about *scientific* research and findings about aspects of climate change or global warming. To begin, *research results* documenting record ice loss sparked significant media attention. For example, *journalist Yereh Rosen from Reuters reported*, "Earth's ice is melting faster today than in the mid-1990s, new research suggests, as climate change nudges global temperatures ever higher. Altogether, an estimated 28 trillion metric tons of ice have melted away from the world's sea ice, ice sheets and glaciers since the mid-1990s. Annually, the melt rate is now about 57 percent faster than it was three decades ago, scientists report in a study published Monday in the journal *The Cryosphere*".

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been changed by the burning of fossil fuels and consequent climate change. For example, [Associated Press reporter Seth Borenstein](#) noted, "When Dr. Stanley Fineman started as an allergist in Atlanta, he told patients they should start taking their medications and prepare for the drippy, sneezy onslaught of pollen season around St. Patrick's Day. That was about 40 years ago. Now he tells them to start around St. Valentine's Day. Across the United States and Canada, pollen season is starting 20 days earlier and pollen loads are 21% higher since 1990 and a huge chunk of that is because of global warming...While other studies have shown North America's allergy season getting longer and worse, this is the most comprehensive data with 60 reporting stations and the first to make the required and detailed calculations that could

attribute what's happening to human-caused climate change".

Meanwhile, [USA Today correspondent Doyle Rice](#) wrote, "Allergies to airborne pollen can be more than just a seasonal nuisance to many. Allergies are tied to respiratory health and have implications for viral infections, emergency room visits and even children's school performance, according to a statement from the University of Utah. More pollen, hanging around for a longer season, makes those impacts worse. Climate change has two broad effects, according to the study. First, it shifts pollen seasons earlier and lengthens their duration. Second, it increases the pollen concentrations in the air so pollen seasons are, on average, worse".

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MARCH “Turbocharge the...transition from fossil fuels”



Wind turbines in a rapeseed field in Sandesneben, Germany. Photo: Jürgen, Creative Commons.



Media coverage **increased 10%** globally from the previous month while it nearly doubled from a year ago (**up 92%**). Media coverage across international wire services was **up 16%** from February 2021 and also **up 61%** from March 2020. US television media coverage **dropped 11%**.

March 2021 saw media coverage of climate change or global warming increase 10% globally from the previous month while it nearly doubled from a year ago (up 92%) when world media turned their attention to the emergent COVID-19 virus and pandemic. While media coverage has generally continued to rise again since the nadir in June 2020, the amount of coverage - as we track them in 120 sources (across newspapers, radio and TV) in 54 countries in seven different regions around the world - still remains lower than many points in previous years since our monitoring began in January 2004. Figure 1 shows trends in newspaper media coverage at the global scale - organized into seven geographical regions around the world - from January 2004 through March 2021. Climate change media coverage in March 2021 was down in Oceania (-17%) and Africa (-10%)

but up in all other regions: +6% in Central/South America, +11% in Asia and Europe, +22% in North America and +33% in the Middle East. Meanwhile, media coverage of climate change across international wire services - *The Associated Press*, *Agence France Presse*, *The Canadian Press*, and *United Press International* - was up 16% from February 2021 and also up 61% from March 2020 (see Figure 2).

At the country level, media coverage of climate change in March compared to the previous month was up most in Russia (+50%), followed by Canada (+39%), Spain (+27%), Japan (+22%) and Germany (+15%). Coverage decreased most dramatically in Norway (-32%), New Zealand (-27%) and India (-16%). In the United States (US), print media coverage of climate change or global warming remained just about level, while US television media coverage dropped 11%. Yet

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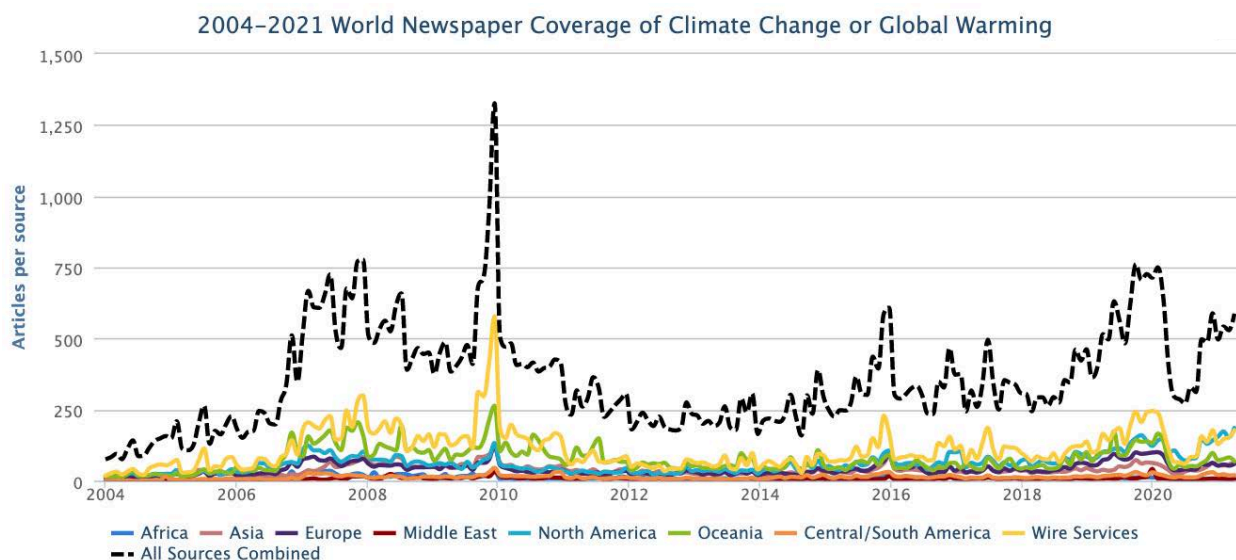


Figure 1. Newspaper media coverage of climate change or global warming in print sources in seven different regions around the world, from January 2004 through March 2021.

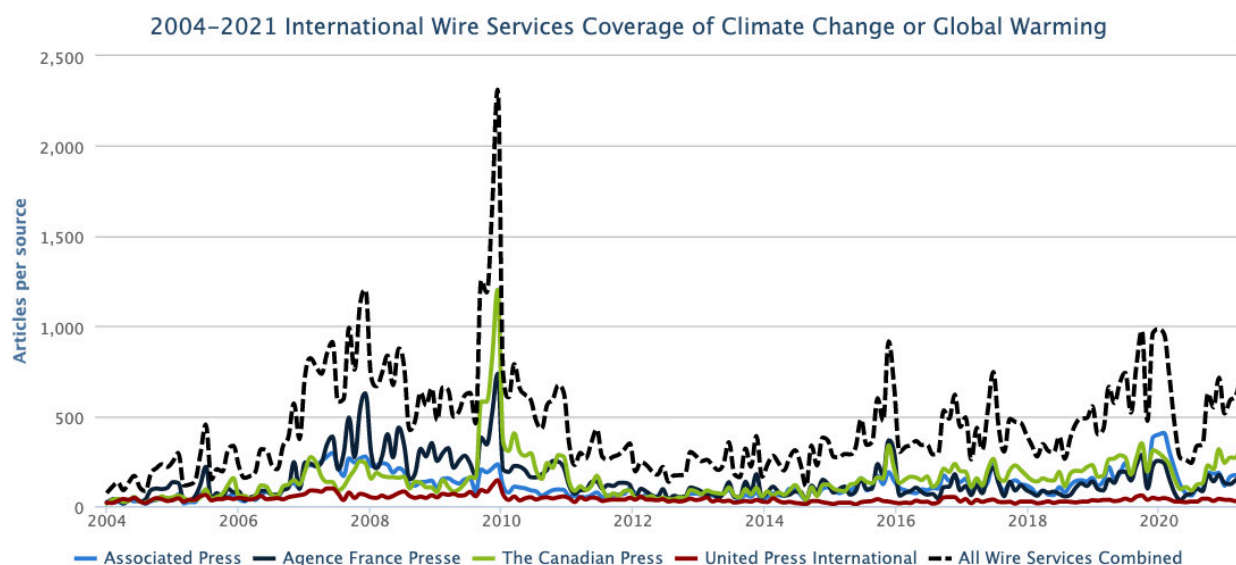


Figure 2. Media coverage of climate change or global warming across international wire services - *The Associated Press*, *Agence France Presse*, *The Canadian Press*, and *United Press International* - from January 2000 through March 2021.

March 2021 levels were up 17% in US print and up 50% from US television coverage a year ago (March 2020).

In terms of content of media coverage in March, several *political* and *economic* themed media stories ran about climate change or global warming. To illustrate, in early March the Chinese government’s announcement of their plans to reach net-zero emissions garnered significant media interest. For example, [ABC News reporters Huizhong Wu and Sam McNeil remarked](#), “China,

the world’s biggest emitter of greenhouse gases, announced generally moderate new energy and climate targets on Friday that give little sign that it will step up its pace in combatting climate change. On a smoggy day in Beijing, Premier Li Keqiang said the country will reduce carbon emissions per unit of economic output by 18% over the next five years. He was speaking at the annual meeting of the National People’s Congress, China’s ceremonial legislature that began Friday. The meeting is China’s highest-profile political event of the year, where the

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ruling Communist Party unveils new policies and legislation. The 18% target is the same as in the previous five-year economic plan. The country uses carbon emissions per unit of economic output, or carbon intensity, instead of absolute emission reduction targets” (see ABC News).

Similarly, plans in the United Kingdom (UK) also generated media buzz. For example, *Times of London* editors Ben Webster and Oliver Wright reported, “Britain is halfway to its goal of being carbon neutral by 2050, The Times can reveal, as Boris Johnson calls on world leaders to make binding commitments to follow suit. Greenhouse gases have fallen by 51 per cent against the government’s baseline for measuring progress towards net zero, an analysis of official data reveals. Carbon dioxide emissions fell by 13 per cent last year to the lowest level in nearly 150 years”.

In other political and economic developments about climate change making news, a new report about ongoing fossil fuel company financing by the world biggest banks (to the tune of \$3.8 trillion since the Paris Agreement in December 2015) earned attention around the world. For example, *Guardian* journalist Damian Carrington reported, “The world’s biggest 60 banks have provided \$3.8tn of financing for fossil fuel companies since the Paris climate deal in 2015, according to a report by a coalition of NGOs. Despite the Covid-19 pandemic cutting energy use, overall funding remains on an upward trend and the finance provided in 2020 was higher than in 2016 or 2017, a fact the report’s authors and others described as “shocking”...US and Canadian banks make up 13 of the 60 banks analysed, but account for almost half of global fossil fuel financing over the last five years, the report found. JPMorgan Chase provided more finance than any other bank. UK bank Barclays provided the most fossil fuel financing among all European banks and French bank BNP Paribas was the biggest in the EU”.

Similarly, media abundantly covered news of a survey released by New York University in March capturing the perspectives of over



Figure 3. The front page of *The Times of London* on March 18, 2021 with the headline ‘UK halfway to hitting its carbon neutral target by 2050’.

700 economists’ views on climate action. For example, *CNN* correspondent Matt Egan reported, “Worsening inequality, trillions of dollars in economic damage and depressed economic growth. Those are the outcomes that economists fear we will face unless the world aggressively confronts the climate crisis. Nearly three-quarters (74%) of economists agree “immediate and drastic” action is warranted to curb emissions, according to a survey released Tuesday from the Institute for Policy Integrity at the NYU School of Law. That’s up sharply from 50% in 2015”.

Then on the last day of March, US President Joe Biden’s \$2.25 trillion (over 10 years) infrastructure proposal – dubbed the ‘American Jobs Plan’ – garnered high domestic media interest along with some international stories. For example, *Wall Street Journal* correspondents Andrew Restuccia and Tarini Parti wrote, “President Biden unveiled a \$2.3 trillion infrastructure plan centered on fixing roads and bridges, expanding broadband internet access and boosting

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funding for research and development, plus higher corporate taxes to pay for the package". This story came with the headline 'Biden's \$2.3 Trillion Infrastructure Plan Takes Broad Aim: Proposal would increase corporate taxes to pay for fixing roads and bridges, boosting research and tackling climate change'. As a second example, [Washington Post](#) journalists [Steven Mufson and Juliet Eilperin](#) reported, "President Biden's infrastructure plan would turbocharge the country's transition from fossil fuels, using the muscle and vast resources of the federal government to intervene in electricity markets, speed the growth of solar and wind energy, and foster technological breakthroughs in clean power. The linchpin of Biden's plan, which he detailed in a speech Wednesday in Pittsburgh, is the creation of a national standard requiring utilities to use a specific amount of solar, wind and other renewable energy to power American homes, businesses and factories. The amount would increase over time, cutting the nation's use of coal, gas and oil over the next 15 years. While 30 states and the District of Columbia already direct their utilities to include some portion of renewable energy, Biden's strategy would amount to the most sweeping federal intervention in the electricity sector in generations. Biden said his plan would confront climate change, while putting the U.S. ahead of its economic competitors".

Relating to these political and economic themes, in March many [cultural](#) stories circulated about climate change or global warming. Several stories observed how climate change will continue to disrupt everyday lives and livelihoods across the planet. For example, [Business Day \(South Africa\)](#) correspondent [Kyle Hiebert](#) noted, "Discussions about the dangers of climate change tend to focus on economic impacts and vulnerabilities. The pandemic has also illustrated the increased likelihood of new contagions in a world where human activity relentlessly encroaches into nature. The heightened risk for terrorism and extremist violence, however, receives much less attention. One notable study by US economists found that a local temperature rise of 0.5°C is associated with a 10%-20% increase in the risk

for deadly conflict. The continent is among those being hardest hit by climate change and already has all the underlying variables that generate insurgencies and intercommunal fighting. From acute poverty, ethnic tensions, and abusive and corrupt ruling parties, to a thriving black market for small arms and vast rural spaces that are barely governed, if governed at all. Meanwhile, climate change is accelerating. National climate policies submitted to the UN ahead of the COP26 climate summit in November are "nowhere near" ambitious enough to achieve the Paris Agreement goal of holding global warming below 1.5°C, according to secretary-general António Guterres. Elsewhere, new research published in the journal *Nature Geoscience* in March has found that spiking heat and humidity levels in tropical regions are quickly nearing the upper limits suitable for human life. This includes almost all of Sub-Saharan Africa, from the Sahel down to southern Zambia. As climate change worsens, more destructive storms, heatwaves, floods and droughts will render swathes of Africa unfit for farming, tourism, and commercial development. Joblessness will skyrocket. The World Bank has warned that climate change threatens to push tens of millions of people into poverty across Africa, a region where the majority of the population two decades from now will still be in their thirties. This dynamic has been fast-tracked by the pandemic, which might wipe out much of the continent's fitful progress in poverty alleviation thus far. Unable to provide for themselves through subsistence farming or securing jobs in desperate and overcrowded labour markets, unemployed and alienated youth – economically adrift and incapable of fulfilling strong cultural expectations of raising a family – will be vulnerable to radicalisation and recruitment by malicious actors. This should sound alarm bells for Africa".

As a second example, [Associated Press](#) journalist [John Flesher](#) reported, "For generations, Brian Sackett's family has farmed potatoes that are made into chips found on grocery shelves in much of the eastern U.S. About 25% of the nation's potato chips get their start in Michigan, where reliably cool air during September

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resemble “inland seas”...Though Australia frequently experiences extreme weather events such as floods, bushfires, droughts and storms, climate change is making them worse. The State of the Climate 2020 report from Australia’s Bureau of Meteorology and Commonwealth Scientific and Industrial Research Organization (CSIRO) said heavy rainfall events in the country are becoming more intense, and climate change is influencing the “frequency, magnitude and impacts” of such extreme weather”.

Finally, *scientific* stories about climate change or global warming continued to make up part of the many stories in March. For example, a study appearing in *Nature* by Yi Zhang, Isaac Held and Stephan Fueglistaler found that tropical areas across the world could become uninhabitable in the coming decades without significant climate policy action to curb greenhouse gas emissions. For example, *New York Times* journalist Henry Fountain wrote, “Here’s one more reason the world should aim to limit warming to 1.5 degrees Celsius, a goal of the international Paris Agreement: It will help keep the tropics from becoming a deadly hothouse. A study published Monday suggests that sharply cutting emissions of greenhouse gases to stay

below that limit, which is equivalent to about 2.7 degrees Fahrenheit of warming since 1900, will help the tropics avoid episodes of high heat and high humidity – known as extreme wet-bulb temperature, or TW – that go beyond the limits of human survival”.

As a second example, a *National Academies of Sciences, Engineering and Medicine* report earned media interest as it explored geoengineering research possibilities to combat climate change. For example, *New York Times* correspondent Christopher Flavelle reported, “The idea of artificially cooling the planet to blunt climate change – in effect, blocking sunlight before it can warm the atmosphere – got a boost on Thursday when an influential scientific body urged the United States government to spend at least \$100 million to research the technology. That technology, often called solar geoengineering, entails reflecting more of the sun’s energy back into space through techniques that include injecting aerosols into the atmosphere. In a new report, the National Academies of Sciences, Engineering, and Medicine said that governments urgently need to know whether solar geoengineering could work and what the side effects might be”.

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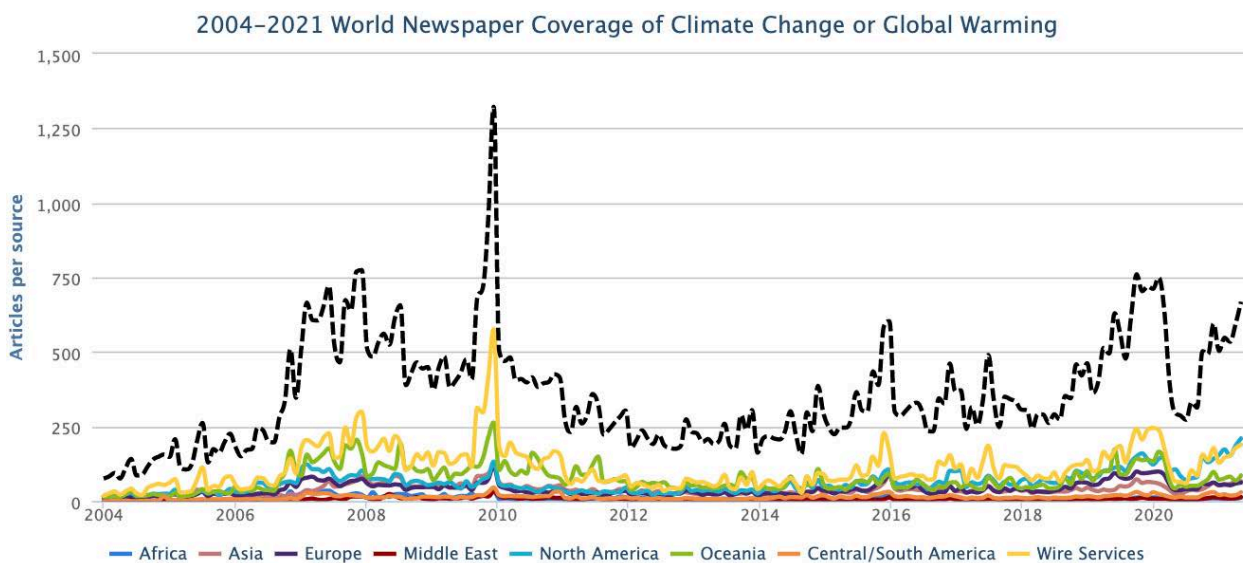


Figure 1. Newspaper media coverage of climate change or global warming in print sources in seven different regions around the world, from January 2004 through April 2021.

(+7%), the United Kingdom (UK) (+8%), Norway (+22%), New Zealand (+25%), Australia (+27%), Denmark (+28%) and Russia (+62%) in April 2021. Coverage was down in Sweden (-9%) and Germany (-18%) in addition to India (mentioned above) in April 2021 from March 2021.

With this month's monitoring and analysis we are delighted to add a new country profile in Finland, focusing on the two print sources *Helsingin Sanomat* and *Ilta-Sanomat*. Thanks to the work of new Media and Climate Change Observatory (MeCCO) team members Jari Lyytimäki and Erkki Mervaala at the Finnish Environment Institute and University of Helsinki, we now track media attention in these sources with the search terms 'ilmastonmuutos' or 'ilmaston lämpeneminen'.

Also, thanks to the work of ongoing MeCCO team members Rogelio Fernández Reyes and Isidro Jiménez-Gomez, we are now monitoring a new print source in Algeria (*El Watan*) in French with the search terms 'changement climatique' or 'réchauffement climatique'. We also have begun monitoring new print sources in Egypt (*Al Masry Al-Youm*), Saudi Arabia (*Al Riyadh*), Iraq (*Al Sabah*) and Lebanon (*Annahar*) with the Arabic search terms

“خاندل ريغت” OR “يدار حال سابت حال”

We now monitor 127 sources (across newspapers, TV and radio) in 59 countries and in 13 languages.

To begin, April was a month where several prominent **political** and **economic** themed media stories about climate change or global warming pervaded the airwaves, broadcasts and newsprint. For example, in the United States (US) there was abundant media attention on the Biden administration's infrastructure plan - with numerous connections made to confronting climate change.

For example, writing in *The New York Times* journalists Brad Plumer and Nadja Popovich noted, “If America is dominated by car culture and the call of the open road, there is a big reason for that: Over the past 65 years, the United States has spent nearly \$10 trillion in public funds on highways and roads, and just a quarter of that on subways, buses and passenger rail. But President Biden's \$2 trillion infrastructure plan, unveiled this week, represents one of the most ambitious efforts yet to challenge the centrality of the automobile in American life, by proposing to tilt federal spending far more toward public transportation and coax more people out of their cars. Experts say that transformation is necessary to tackle climate change, but could prove

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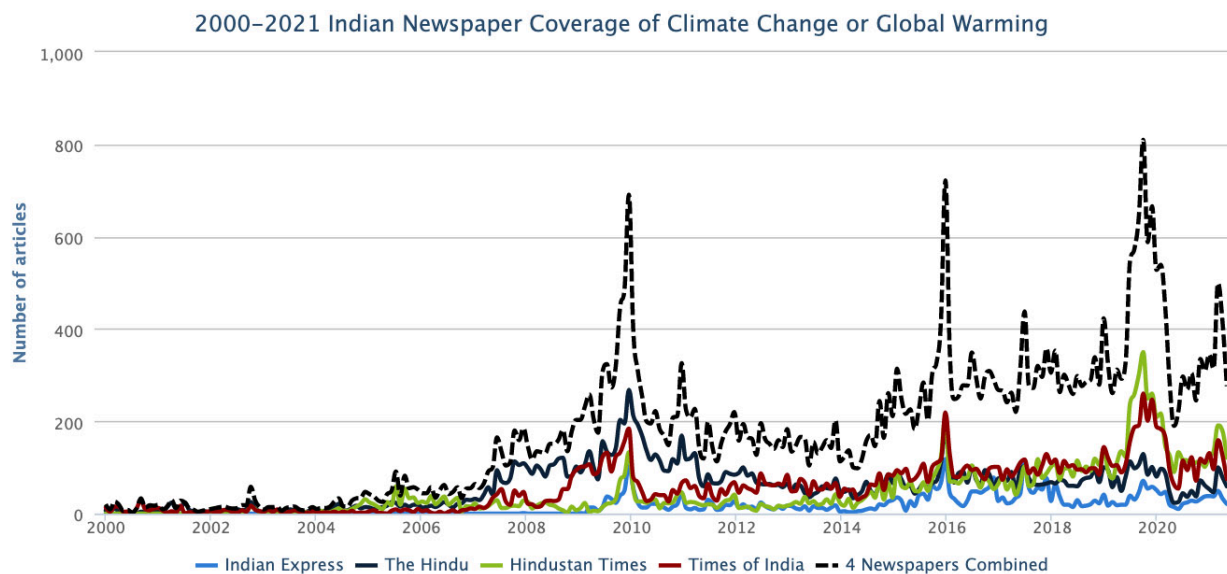


Figure 2. Indian media coverage of climate change or global warming in *The Indian Express*, *The Hindu*, *Hindustan Times*, and *The Times of India* from January 2000 through April 2021.

extremely difficult in practice...Transportation now accounts for one-third of America's planet-warming greenhouse gas emissions, with most of that from hundreds of millions of gasoline-burning cars and S.U.V.s. And, while Mr. Biden is proposing \$174 billion to promote cleaner electric vehicles, experts have said that helping Americans drive less will be crucial to meeting the administration's climate goals".

As the month of April unfolded, many media accounts focused on an [open letter](#) from 310 major corporations – from Adobe Inc. to Zurich Insurance group with others like Facebook and Philip Morris in between – that called on the Biden Administration to make even stronger commitments to greenhouse gas emissions reductions. For example, [Associated Press correspondent Matthew Daly](#) reported, "More than 300 businesses and investors, including such giants as Apple, Google, Microsoft and Coca-Cola, are calling on the Biden administration to set an ambitious climate change goal that would cut U.S. greenhouse gas emissions by at least 50% below 2005 levels by 2030. The target would nearly double the nation's previous commitment and require dramatic changes in the power, transportation and other sectors. President Joe Biden is considering options for expected carbon reductions by 2030 ahead of a virtual

climate summit the United States is hosting later this month. The so-called Nationally Determined Contribution is a key milestone as Biden moves toward his ultimate goal of net-zero carbon emissions by 2050. Biden has promised to reveal the nonbinding but symbolically important 2030 goal before the Earth Day summit opens April 22". Furthermore, [New York Times journalist Lisa Friedman](#) noted, "Organizers of the business letter said they hoped such a message coming from the private sector – including electric utilities like Exelon and Pacific Gas & Electric, as well as dozens of companies based in Republican districts – would resonate strongly with Congress. Other signatories include Target, Verizon and Philip Morris, the tobacco giant once considered a firm ally of the Republican Party. The effort also underscores the delicate path corporate leaders are treading in the post-Trump era. Their decisions to break with Republicans on issues like voting rights and racial justice have rankled their traditional allies in the G.O.P. Pressing the Biden administration to aggressively combat climate change could further alienate Republicans, who have long fought emissions regulations as "job killers" that would make American business less competitive".

Then, the high-profile April 22 (Earth Day) summit of 40 world leaders at the US White House

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Figure 3. The front pages of *The New York Times*, *Los Angeles Times*, *The Washington Post* and *The Wall Street Journal* one April 1, 2021, following the plan's release.

captured significant media attention as the focus was squarely on international climate policy action. As several countries released stronger and ratcheted-up Nationally Determined Contributions (NDCs) for greenhouse gas (GHG) emissions reductions as part of the ongoing United Nations Paris Agreement process. For example, *Wall Street Journal* China correspondents [Andrew Restuccia](#), [Timothy Puko](#) and [Sha Hua](#) reported, "President Biden is expected this week to call for cutting U.S. greenhouse-gas emissions roughly in half by 2030, according to people familiar with the matter, as he pushes to jump-start global efforts to tackle climate change. Mr. Biden will release the new goal during a virtual summit at the White House on Thursday and Friday, part of an effort to assert global leadership on climate issues amid tensions with China. The new target seeks to reduce over the next nine years emissions by 50% from levels in 2005. Emissions last year were already projected to be down 21% from that 2005 baseline, due in part to a slowdown related to the pandemic. But this year, emissions are tracking higher again as the economy recovers. Mr. Biden has invited 40 world leaders to the event, a group that comprises European allies and some autocrats from U.S. rivals that are among the world's biggest emitters and fossil-fuel producers, including Russian President Vladimir Putin. The White House has noted that invitees

include 17 countries responsible for about 80% of all global emissions, an effort to supercharge ambitions going into negotiations scheduled for November to raise targets for reducing emissions. Some developing countries are expected to use the summit to urge wealthier nations to help finance efforts to reduce emissions and to adapt to the effects of a warming planet. Brazil has asked the Biden administration for \$1 billion in exchange for it reducing deforestation by 40%. India, meantime, has also stressed to the U.S. the importance of industrialized countries making good on pledges to mobilize as much as \$100 billion a year in support of similar efforts."

In particular, the Biden administration commitments – cutting GHG pollution by 50-52% from 2005 levels by 2030 – garnered many media stories around the world about a new era of cooperation. For example, *CBS News* reporter [Cara Korte](#) noted, "President Biden pledged that the U.S. will cut greenhouse gas emissions by at least half from 2005 levels by 2030, making the announcement Thursday at the virtual Leaders Climate Summit, a two-day global meeting of more than 40 world leaders hosted by the White House. In his opening remarks, Mr. Biden said the U.S. can reach the emissions target through his jobs plan – a \$3 trillion infrastructure package meant to revitalize the nation's energy grid

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Figure 4. Front pages from *La Nación* (Argentina), *Folha De Sao Paulo* (Brazil), *People's Daily* (China), *Makkah News* (Saudi Arabia) and *Gulf News* (United Arab Emirates) carrying front page coverage of the US White House climate summit on April 22 and associated emissions reductions announcement made there.

and create a net-zero economy". As a second example, [Guardian environment correspondent Fiona Harvey reported](#) on UK Prime Minister Boris Johnson's comments, noting that he said "It's vital for all of us to show that this is not all about some expensive politically correct green act of 'bunny hugging' or however you want to put it," the prime minister told the possibly slightly puzzled leaders. "Nothing wrong with 'bunny hugging' but you know what I'm driving at... Cake have eat," he went on to suggest as an overriding motto, arguing that reducing carbon emissions could also be good for the economy".

Meanwhile, reports of Canada's actual increase in GHG emissions in recent years also generated media attention. For example, [New York Times correspondents Ian Austen and Christopher Flavelle reported](#), "Prime Minister Justin Trudeau of Canada will arrive for President Biden's climate summit on Thursday with an outside reputation for being a warrior in the global fight against climate change. But one facet of Canada's economy complicates his record: the country's insistence on expanding output from its oil sands. Between Mr. Trudeau's election in 2015 and 2019, Canada's greenhouse gas emissions increased by 1 percent, despite decreases in other rich nations during the same period, according to government data released last week. In fact, Canada is the only Group of 7 country whose emissions have risen since the Paris climate agreement was signed six years ago...As one of the world's largest oil reserves, the oil sands are also among the most polluting,

given the amount of energy required to extract it. But it's unlikely that Mr. Trudeau would end production there".

And in Europe, several April media stories discussed various national-level commitments. Among many examples, accounts appeared in countries like Spain, France, the United Kingdom (UK) and Germany:

- in Spain, a new Climate Law was approved. In an [Editorial in *El País*](#) entitled 'Important but insufficient step', the Editors noted that the law "sends an unequivocal signal: the decarbonization process is irreversible and by 2050 the country will have to have almost completely eradicated greenhouse gas emissions".
- in France, it was announced that it will ban flights that can be made in two and a half hours by train. [Le Figaro reported](#), "The National Assembly voted this Saturday night in first reading to eliminate certain national airlines, in case of alternatives in the process of less than 2:30, after a lively debate and differences even in the most. This emblematic measure of the climate law aims to eliminate the links between Paris (Orly) and Nantes, Lyon or Bordeaux. The Citizen's Climate Convention had demanded that domestic flights be waived in the case of alternatives of less than 4 hours by train, and not 2:30".
- in the UK, [Guardian environment correspondent Fiona Harvey reported](#), on

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the commitment of 78% GHG emissions reductions from 1990 levels by 2035 that “aims to help promote new actions by other governments, before from the vital UN climate talks, called COP26, to be hosted by the UK in Glasgow in November”.

- in Germany, *Associated Press correspondent Frank Jordans reported*, “In a ruling hailed as groundbreaking, Germany’s top court said Thursday the government must set clear goals for reducing greenhouse gas emissions after 2030, arguing that existing legislation risks placing too much of a burden for curbing climate change on younger generations. The verdict was a victory for climate activists from Germany and elsewhere who – with the support of environmental groups – had filed four complaints to the Constitutional Court arguing that their rights were at risk by the lack of sufficient targets beyond the next decade”.

Relating to these political and economic themes, in many *cultural* stories circulated about climate change or global warming in the month of April. For example, associated with Earth Day (April 22) over 400 news organizations – with a combined audience of nearly 2 billion people – worked in coordination to raise attention to climate change. Led by the initiative *Covering Climate Now*, the partnering media groups agreed to increase relevant coverage in the lead up to and through April 22 with a focus on the theme ‘Living through the Climate Emergency’. For example, *Guardian staff collectively noted*, “The climate emergency is here. The media need to act like it”.

As a different example, in April some fake news became several real news stories about fake news, involving the *erroneous claims by Fox News host Larry Kudlow* that the US Biden administration’s commitments to reduce would force Americans to “stop eating meat, stop eating poultry and fish, seafood, eggs, dairy and animal-based fats”. This false claim was traced further back to a *baseless Daily Mail story written by Emily Crane*. Yet, like red-winged blackbirds spotting a shiny object, many public figures discussed this as many

news organizations then ended up covering the coverage. For example, *Guardian journalist Oliver Milman reported*, “At a major summit hosted by Joe Biden last week, a procession of world leaders fretted over the spiraling dangers of the climate crisis, with some pledging further cuts to planet-heating emissions, others touting their embrace of electric cars and a few vowing the end of coal. In the US, however, Biden’s political opponents were focused on one pressing matter – meat. “Bye, bye burgers” screamed an on-screen graphic on Fox News, which ran the false claim that the US president would tyrannically allow Americans to devour just one burger a month. Larry Kudlow, a former economic adviser to Donald Trump now Fox Business host, baselessly envisioned Fourth of July celebrations where people would only be allowed to “throw back a plant-based beer with your grilled Brussels sprouts” on the barbecue. Prominent Republicans seized upon the supposed Biden climate diktat – which does not exist. The Texas governor, Greg Abbott, retweeted a claim of a 4lb-a-year meat allocation with the comment: “Not gonna happen in Texas!” The far-right conspiracy theorist Marjorie Taylor Greene, a Republican representative, called Biden the “Hamburglar” while Garret Graves, ostensibly a more moderate House Republican, said the president’s plan amounted to “dictatorship”. The unfounded claims, which appear to have somehow sprouted from a University of Michigan study on the impact of meat eating, do not reflect Biden’s actual proposals to tackle global heating, which make no mention of personal meat consumption. But they have dealt a hefty blow to Republicans’ latest efforts to present themselves as committed to taking on the climate crisis”.

Many *ecological* and *meteorological* dimensions of climate change and global warming were evident in media representations in April. For instance, tropical cyclone activities – and links to a changing climate – were discussed in several outlets around the globe. For example, *Washington Post journalist Rachel Pannet reported*, “A tropical cyclone battered Australia’s west coast Sunday night and into Monday, destroying homes and leaving thousands

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without electricity. Severe wind gusts of up to 105 miles per hour tore houses apart and sent debris flying all over Kalbarri, a coastal tourist town of 1,350 people in Western Australia. Authorities estimated some 70 percent of the town's buildings were damaged. Drone footage from the scene showed dozens of homes with their roofs ripped off. Power lines were down and roads were littered with shards of metal and other debris...These occurrences could become more common with climate change" (see [The Washington Post](#)).

Also, ongoing drought conditions and connections to climate change in Africa generated news attention in April media account. For example, [BBC News reporter Mark Kinver commented](#), "The worrying fact facing politicians, policymakers and civil society is that the continent is set to be hardest hit by climate change, yet the continent's capacity to adapt to the realities of a warming world are low. Areas of concern include water supplies, health, food security, droughts and floods, biodiversity. It is a list of concerns that is continuing to grow. Africa is on the front line of the battle against dangerous climate change".

In April 2021, many media stories about climate change or global warming continued to focus on [scientific](#) themes. Among them, new records of carbon dioxide concentrations in the atmosphere - due to the burning of fossil fuels and other human activities - detected through ongoing monitoring led to many press accounts. For example, [Washington Post journalists Matthew Cappucci and Jason Samenow wrote](#), "For the first time in recorded history, the concentration of atmospheric carbon dioxide, or

CO₂, was measured at more than 420 parts per million at the Mauna Loa Observatory on the Big Island of Hawaii. It's a disconcerting milestone in the human-induced warming of the planet, around the halfway point on our path toward doubling preindustrial CO₂ levels...When the station began collecting CO₂ measurements in the late 1950s, atmospheric CO₂ concentration sat at around 315 parts per million. On Saturday, the daily average was pegged at 421.21 parts per million - the first time in human history that number has been so high. Previously, it had never exceeded 420 parts per million".

Also in April, a National Oceanic and Atmospheric Administration [report](#) finding that atmospheric methane levels surged in 2020 attracted media attention. For example, [USA Today reporter Doyle Rice wrote](#), "the level of carbon dioxide in the Earth's atmosphere is now higher than it's been in at least 3.6 million years, federal scientists announced Wednesday. At that time, sea levels were as much as 78 feet higher, the average temperature was 7 degrees Fahrenheit higher than in pre-industrial times, Greenland was mostly green, and Antarctica had trees. Overall, levels of carbon dioxide (CO₂) and methane - the two most important greenhouse gases - continued their unrelenting rise in 2020 despite the economic slowdown caused by the coronavirus pandemic, according to scientists from the National Oceanic and Atmospheric Administration...NOAA's analysis also showed the annual increase in atmospheric methane - a far more potent greenhouse gas than carbon dioxide when it comes to global warming - for 2020 was 14.7 parts per billion, which is the largest annual increase recorded since measurements began in 1983".

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MAY “Big Oil’s day of reckoning on the climate is here”



Cars lined up at gas stations across much of the Southeast US after a ransomware attack prompted the operator of the Colonial Pipeline to shut down operations. Photo: Travis Long/The News & Observer, via Associated Press.



Media coverage **increased 10%** globally from the previous month while it nearly doubled from a year ago (**up 92%**). Media coverage across international wire services was **up 16%** from February 2021 and also **up 61%** from March 2020. US television media coverage **dropped 11%**.

May was a fascinating month regarding media attention to climate change or global warming around the world. At the global level, newspaper coverage decreased 18% from April 2021, yet it was 76% higher than a year ago (May 2020) – when global media attention continued to focus on the COVID-19 pandemic in a finite news hole. Similarly, global radio coverage decreased 27% from April 2021 but more than tripled the number of radio segments in May 2020. Figure 1 shows trends in newspaper media coverage at the global scale – organized into seven geographical regions around the world – from January 2004 through May 2021.

Regionally, compared to the previous month, coverage was down in all regions: in Oceania (-5%), Europe (-8%), North America (-18%), Africa

(-18%), Latin America (-35%) and the Middle East (-48%). At the country level, United States (US) print coverage decreased 13% and television coverage was down 40% from the previous month. Meanwhile, compared to the previous month, coverage rose in Spain (+2%), Finland (+7%), New Zealand (+10%) and Germany (+16%). But coverage diminished compared to April 2021 levels in all other countries monitored by our Media and Climate Change Observatory (MeCCO) team: Denmark (-1%), the United Kingdom (UK) (-12%), Australia (-12%), India (-13%), Sweden (-16%), Canada (-21%), Norway (-33%), Japan (-36%) and Russia (-53%).

To begin, May was a month with abundant **political** and **economic** themed media stories about climate change or global warming. Connections between the ongoing COVID-19

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A Review of Media Coverage of Climate Change and Global Warming in 2021

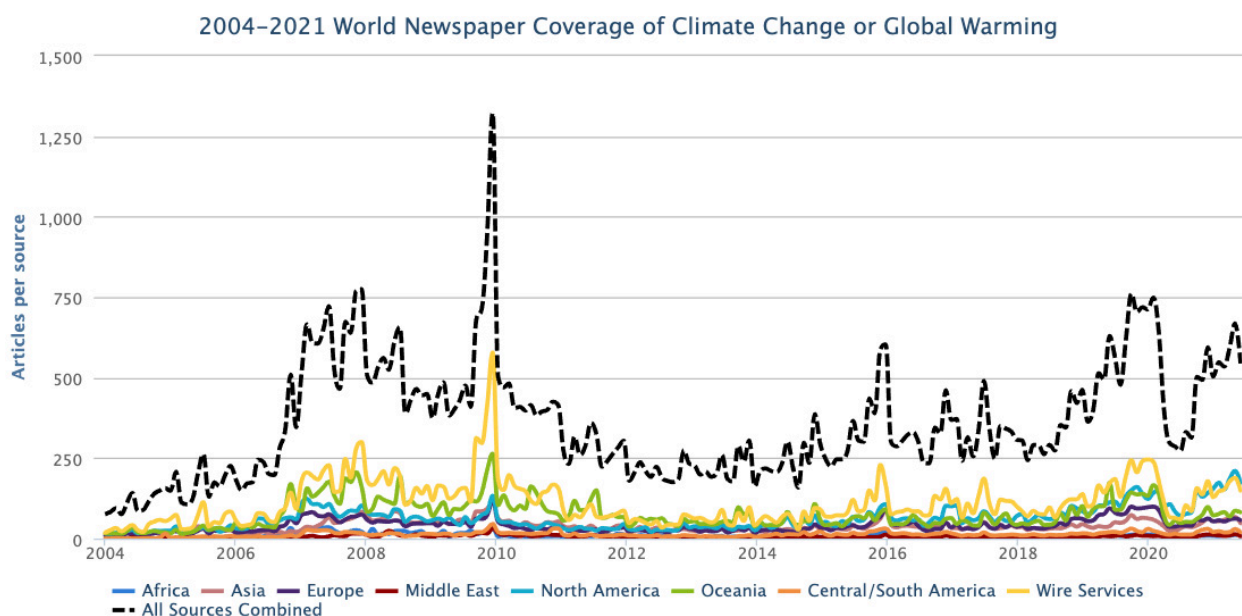


Figure 1. Newspaper media coverage of climate change or global warming in print sources in seven different regions around the world, from January 2004 through May 2021.

pandemic and climate politics generated several news stories. For example, *New York Times* journalist Somini Sengupta noted, “The vaccine gap presents an object lesson for climate action because it signals the failure of richer nations to see it in their self-interest to urgently help poorer ones fight a global crisis. That has direct parallels to global warming. Poor countries consistently assert that they need more financial and technological help from wealthier ones if the world as a whole is going to avoid the worst consequences of climate change. So far, the richest countries – which are also the biggest emitters of greenhouse gases – haven’t come up with the money. More immediately, this year’s vaccine shortages in the nations of the global South could hinder their ability to participate in the United Nations-led climate talks in Glasgow set for November, minimizing their voice in critical policy decisions about how to wean the global economy away from fossil fuels”.

Also in May, assessments of emissions in various countries attracting media attention. For example, *Washington Post* journalists Steven Mufson and Brady Dennis reported, “China’s greenhouse gas emissions in 2019 surpassed those of the United States and the developed world combined, according to an analysis published Thursday by the research

firm Rhodium Group. China’s share of global emissions rose to 27 percent of the world’s total, while the United States remained the second-largest emitter at 11 percent. India’s share came third at 6.6 percent, edging out the 27 nations in the European Union, which accounted for 6.4 percent, the report found. China, India and other developing nations have long noted that over the past century, the United States and Europe grew their economies while generating massive amounts of greenhouse gases, and that requiring the developing world to clamp down on emissions as they industrialize and bring millions of citizens into the middle class is unfair. But with the effects of climate change intensifying and pressure growing for countries to do more to hit the targets of the Paris climate accord, the developed world has sought to make China, India and other developing nations a central part of the global push to restrict emissions for the sake of the planet. Those emissions include six key gases, as well as changes resulting from deforestation and land use”.

In mid-May, the cyberattack of the Colonial Pipeline in the US was headline news. The initial set of stories then grew into stories making connections between these developments and a changing climate. For example, *New York Times* journalists Clifford Krauss and David E. Sanger

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reported, "Anxious drivers circled from one filling station to another, gasoline prices rose and thousands of stations were out of fuel in the Southeast on Wednesday as a ransomware attack continued to cripple a vital fuel pipeline... Transportation Secretary Pete Buttigieg, facing his first crisis in the job, said the episode was a test of the nation's ability to secure its infrastructure. "We need to make sure our infrastructure is resilient to climate security issues caused by the increased frequency and severity of weather events," he said. "But we also need to be sure that we are resilient in the face of cyberthreats". A week later, *New York Times* journalist Clifford Krauss reflected further, writing "Last week, cars lined up at gas stations across much of the Southeast after the Colonial Pipeline was paralyzed by a cyberattack by a criminal group seeking a ransom. The electric grid is also coming under greater stress because of climate change. In the last year, a heat wave in California and a deep freeze in Texas forced rolling blackouts as demand for power outstripped supply".

In late May, many stories recapping a big day of developments on Wednesday, May 26 regarding hydrocarbon giants ExxonMobil, Chevron and Shell appeared in radio, television and newspaper media outlets around the world. For example, in an article titled 'Big Oil's day of reckoning on the climate is here', *CNN* journalist *Sylvia Horowitz* reported, "The future of Big Oil could look very different following a critical shareholder meeting in the United States and a legal decision in Europe. On Wednesday, ExxonMobil (XOM) will face off against an activist investor looking to overhaul its strategy on sustainability. Meanwhile, a Dutch court is due to rule on a landmark case against Royal Dutch Shell (RDSA) as activists try to compel the company to move faster to cut emissions. That could make for a pivotal day for the oil industry".

Focusing on the ExxonMobil board vote in an article entitled 'A bad day for Big Oil', *Washington Post* correspondent *Steven Mufson* wrote, "ExxonMobil shareholders voted Wednesday to install at least two new independent directors to the company's board, a resounding defeat for



Figure 2. Front page from *The Washington Post* carrying front page coverage of the Chevron, Shell and ExxonMobil news in the May 27, 2021 print edition.

chief executive Darren Woods and a ratification of shareholders' unhappiness with the way the company had been addressing climate change and its lagging financial performance. The votes were part of a day of reckoning for an oil and gas industry already struggling over how to deal with climate change. In Europe, a Dutch court ordered Royal Dutch Shell, considered one of the more forward-thinking companies in the industry, to make deeper-than-planned cuts in greenhouse gas emissions. And in the United States, Chevron lost a shareholder vote directing the company to take into account its customers' emissions when planning reductions".

Meanwhile, commenting on the Royal Dutch Shell ruling, *Associated Press* journalist *Mike Corder*

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noted, "A Dutch court on Wednesday ordered Royal Dutch Shell to cut its carbon emissions by net 45% by 2030 compared to 2019 levels in a landmark case brought by climate activism groups, which hailed the decision as a victory for the planet. The Hague District Court ruled that the Anglo-Dutch energy giant has a duty of care to reduce emissions and that its current reduction plans were not concrete enough. The decision could set a precedent for similar cases against polluting multinationals around the world. Activists gathered outside the courtroom erupted into cheers as the decision was read out loud".

And with attention on the Chevron shareholders vote as well as the Exxon Board vote, [Guardian reporter Jillian Ambrose](#) wrote, "US oil giants ExxonMobil and Chevron have suffered shareholder rebellions from climate activists and disgruntled institutional investors over their failure to set a strategy for a low-carbon future. Exxon failed to defend its board against a coup launched by dissident hedge fund activists at Engine No. 1 which successfully replaced two Exxon board members with its own candidates to help drive the oil company towards a greener strategy. Meanwhile, a majority of Chevron shareholders rebelled against the company's board by voting 61% in favour of an activist proposal from - Dutch campaign group Follow This - to force the group to cut its carbon emissions".

Also, reports from the International Energy Agency (IEA) regarding the decarbonization of the energy sector and the limitation of global warming made news. The IEA requested, among other initiatives, that no more investments be made in new oil and gas facilities, that new cars with fossil fuels are not sold beyond 2035 and that global investment in energy be doubled. [Journalist Perrine Mouterde](#) reported in [Le Monde](#), "In recent years, a large number of states have committed to achieving net zero emissions in the coming decades. But despite this momentum, the account is not there. Even if all the promises were fulfilled, in 2050 around 22 billion tons of CO₂ would still be emitted. A

result inconsistent with limiting global warming to 1.5 ° C, a goal that the IEA clearly endorses for the first time. Above all, most of the commitments were not translated into concrete actions. "There is a huge gap between rhetoric and reality", says Fatih Birol, executive director of the IEA. This year is destined to be one of the worst in terms of CO₂ emissions yet. We produced this report to show policy makers that the energy sector must achieve a total transformation by 2050. Because, until now, many of them have misunderstood".

Relating to these political and economic themes, many [cultural](#) stories circulated about climate change or global warming in the month of May. To illustrate, heat exposure, pollution and public health relating to climate change generated news. For example, [Washington Post](#) journalist [Tik Root](#) noted, "As the world warms due to climate change, two studies released this week show that heat exposure and related health issues are already having an inordinate impact on people of color and low-income communities. One study, published in the journal *Nature Communications*, found that in all but six of the largest 175 U.S. cities it examined, people of color had higher exposures to heat than White residents. "We didn't expect the disparities to be this systematic," said T.C. Chakraborty, co-author of the study. Another study, which appears in the *Proceedings of the National Academy of Sciences (PNAS)*, analyzed hospitalization data in California during days when heat waves coincided with elevated pollution levels. The study found that the lower a ZIP code's median income, the higher the chance of hospitalization for unscheduled respiratory issues on those days. "Knowing where to prioritize resources can hopefully inform policies that protect the most vulnerable," said Lara Schwarz, co-lead author of the PNAS paper. The new studies reinforce other recent research highlighting environmental inequities in minority and low-income communities. And the authors, as well as outside experts, say they hope their work will bring greater attention to heat as a climate risk".

As a second illustration, [journalist Alexandra Urisman](#) from [El Mundo \(Spain\)](#) interviewed two

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renowned personalities – Greta Thunberg and David Attenborough – about climate change. The headline was ‘When David Attenborough met Greta Thunberg: We must tell the truth about the weather. It is very worrying but there is hope’. In the discussions, David Attenborough commented, “politicians tell us what we want to hear, but then they do not commit to anything in front of a camera”, while Greta Thunberg mentioned, “I do not see the pandemic as an opportunity, but as a situation that will force us to make decisions”.

Many **ecological** and **meteorological** dimensions of climate change and global warming were evident in media representations in May. For instance, Tropic Cyclone Tauktae – with connections to a changing climate – garnered media attention. For example, **CNN** correspondents **Jessie Yeung** and **Esha Mitra** reported, “India was slammed on Monday by the strongest storm on record to reach its west coast, hampering authorities’ response to the Covid-19 crisis in some of the country’s hardest hit regions. Tropical Cyclone Tauktae, a storm with wind speeds equivalent to a high-end Category 3 hurricane that formed in the Arabian Sea, made landfall Monday night local time in Gujarat. It strengthened slightly as it hit the western state with maximum sustained winds of 205 kilometers per hour (125 mph), according to the United States’ Joint Typhoon Warning Center...The monsoon season has gotten more intense over the years, as climate change has made weather more extreme and unpredictable”. Meanwhile, **Associated Press** reporter **Sheikh Saaliq** noted, “The Indian navy is working to rescue crew members from a sunken barge and a second cargo vessel that was adrift Tuesday off the coast of Mumbai after a deadly cyclone struck the western coast...Tropical cyclones are less common in the Arabian Sea than on India’s east coast and usually form later in the year. Experts say changing climate patterns have caused them to become more intense, rather than more frequent”.

In May 2021, many media stories about climate change or global warming focusing on **scientific**

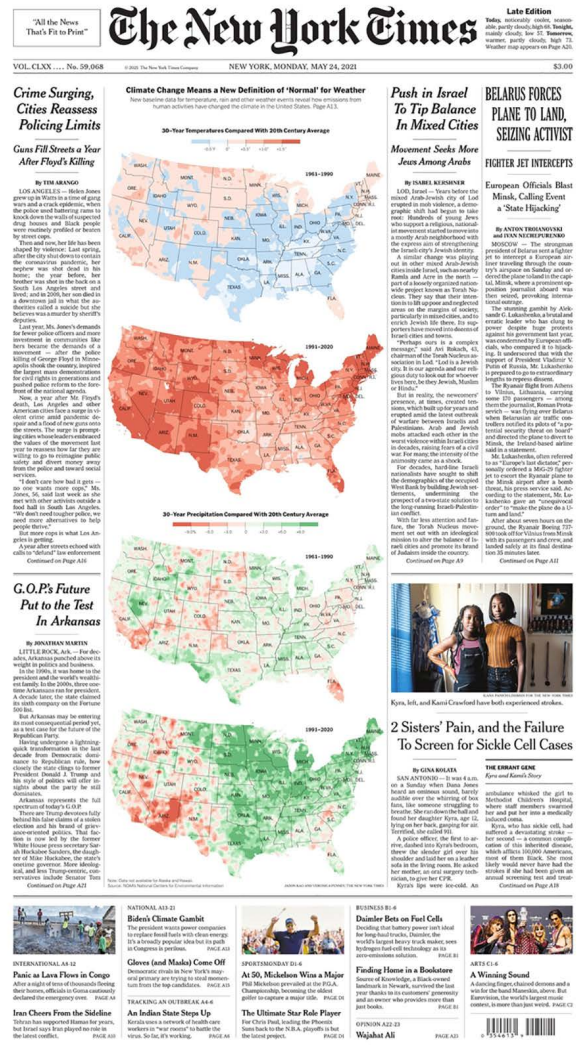


Figure 3. *New York Times* front page coverage of ecological/meteorological dimensions climate change in the May 24 2021 print edition.

themes pervaded the airwaves, broadcasts and newsprint. Among them, a **National Oceanic and Atmospheric Administration (NOAA)** report sparked media coverage. For example, **Bob Henson** and **Jason Samenow** – writing in *The Washington Post* – commented, “The official calculation of what constitutes “normal” U.S. climate has been updated – and to virtually nobody’s surprise, it’s a warmer picture than ever before...the National Oceanic and Atmospheric Administration released an updated set of climate averages for the contiguous United States based on the 30-year period from 1991 to 2020, including more than 9,000 daily reporting stations. It refers to these averages* as “climate normals,” and updates them once every decade.

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Compared with previous 30-year periods, the climate has turned unambiguously warmer". Furthermore, [Associated Press journalist Seth Borenstein reported](#), "The new United States normal is not just hotter, but wetter in the eastern and central parts of the nation and considerably drier in the West than just a decade earlier. Meteorologists calculate climate normals based on 30 years of data to limit the random swings of daily weather. It's a standard set by the World Meteorological Organization. Every 10 years, NOAA updates normal for the country as a whole, states and cities – by year, month and season. For the entire nation, the yearly normal temperature is now 53.3 degrees (11.8 degrees Celsius) based on weather station data from 1991 to 2020, nearly half a degree warmer than a decade ago. Twenty years ago, normal was 52.3 degrees (11.3 degrees Celsius) based on data from 1971 to 2000. The average U.S. temperature for the 20th century was 52 degrees (11.1 degrees Celsius). The new normal annual U.S. temperature is 1.7 degrees (0.9 Celsius) hotter than the first normal calculated for 1901 to 1930".

Also in May, a [peer-reviewed study](#) in *Nature* by Roberto DeConto (University of Massachusetts) and colleagues about glacial ice melt relating to global warming attracted media attention. For example, [Guardian correspondent Oliver Milman](#)

[wrote](#), "The current pace of global heating risks unleashing "rapid and unstoppable" sea level rise from the melting of Antarctica's vast ice sheet, a new research paper has warned. Unless planet-heating emissions are swiftly reduced to meet the goals of the Paris climate agreement, the world faces a situation where there is an "abrupt jump" in the pace of Antarctic ice loss around 2060, the study states, fueling sea level rise and placing coastal cities in greater peril".

In late May, scientific studies of methane emissions and climate impacts earned media coverage. For example, [BBC News reporter Justin Rowlatt noted](#), "Reducing emissions of methane gas is vital for tackling climate change in the short-term, a major UN report says...The UNEP report says the fossil fuel industry has the greatest potential for low-cost methane cuts. Plugging leaks in oil and gas wells and along production and transmission lines would significantly cut methane emissions at little to no cost, it concludes. Many of the reductions could quickly pay for themselves because reducing leaks means more gas available for sale. But the report warns the continued expansion of the use of natural gas is not compatible with keeping warming to 1.5C without what it calls "massive-scale deployment of unproven carbon removal technologies".

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JUNE

“This is not your grandparents’ climate”



Residents at a cooling center during a heatwave in Portland, Oregon, U.S., on Monday, June 28, 2021. Photo: CNN.



Media attention **increased 26%** at the global level from the previous month. Levels of coverage **increased in all media in June** from the previous month of May and from June 2020 with one exception: Denmark. Globally, radio coverage **increased 41%** from May 2021, while also **increasing 35%** across international wires services.

June media attention to climate change or global warming increased 26% at the global level from the previous month of May. Comparing the first six months (January-June) of 2020 to the first six months of 2021, coverage around the world has increased 27%. In fact, levels of coverage increased in all media and locations in June from the previous month of May and from June 2020 with one exception: Denmark (where coverage dropped 15% from May 2021). Figure 1 shows trends in newspaper media coverage at the global scale - organized into seven geographical regions around the world - from January 2004 through June 2021.

Globally in June 2021, radio coverage of climate change or global warming increased 41% from May 2021, while also increasing 35% across international wires services. Regionally, compared to the previous month coverage was up everywhere: Europe (+17%), North America

(+18%), Oceania (+28%), Latin America (+51%), Africa (+77%) and the Middle East (+98%).

At the country level, United States (US) print coverage increased 27% and television coverage was up 147% from the previous month. Of note, CNN coverage of climate change or global warming more than tripled from May 2021 while levels of coverage increased in each of the other outlets (*ABC, CBS, NBC, PBS, MSNBC* and *Fox News*) (see Figure 2).

Meanwhile, compared to the previous month coverage rose in Finland (+2%), Canada (+13%), Spain (+15%), the United Kingdom (UK) (+18%), Germany (+25%), Australia (+26%), New Zealand (+32%), Sweden (+32%), India (+36%) and Norway (+91%) in June 2021. Again, the one place we monitor where June 2021 coverage was down was Denmark (-15%) from May 2021.

To begin, there were several media stories laced with *ecological* and *meteorological* dimensions

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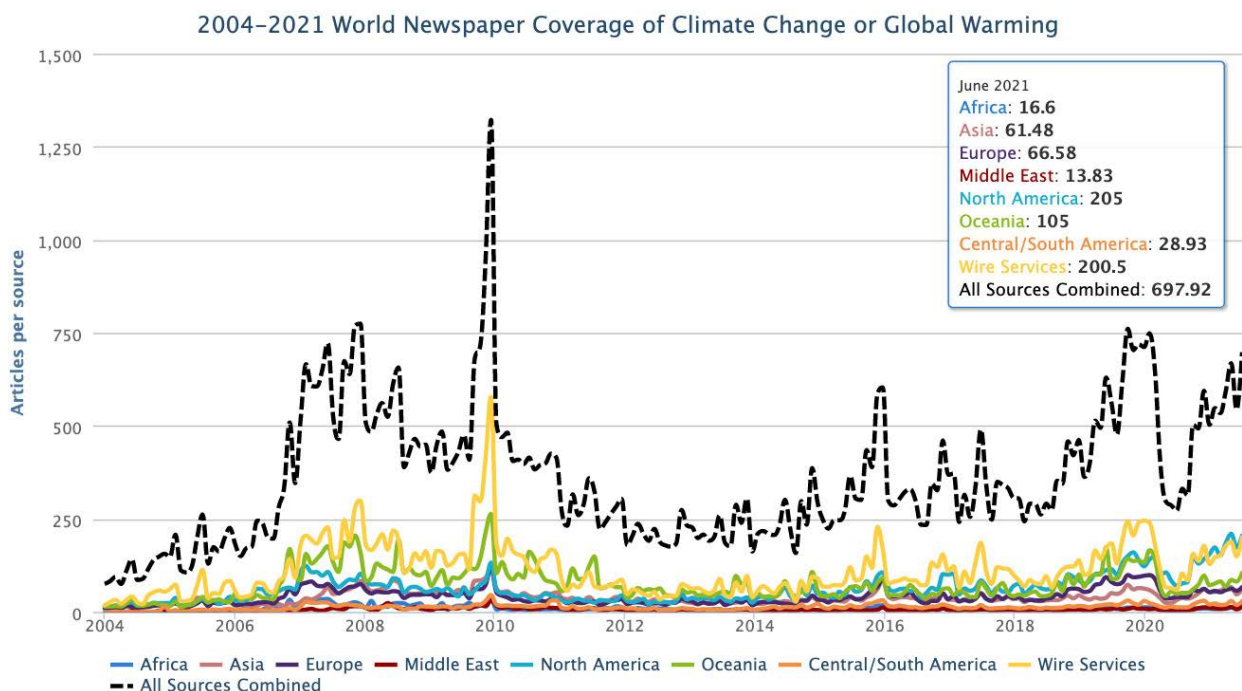


Figure 1. Newspaper media coverage of climate change or global warming in print sources in seven different regions around the world, from January 2004 through June 2021.

of climate change and global warming in June. For instance, findings that the planet's atmosphere now holds more carbon dioxide than at any time in the last four million years and 50% more than at the start of the Industrial Revolution sparked many media accounts. (This was garnered from the annual May peak assessment by the National Oceanic and Atmospheric Administration). For example, longtime [USA Today](#) climate journalist [Doyle Rice](#) wrote, "The COVID-19 pandemic barely registered as a blip as humanity continued to spew carbon dioxide into Earth's atmosphere over the past year to levels not seen in more than 4 million years, scientists announced Monday. Measurements of carbon dioxide (CO₂), the chief human-caused greenhouse gas, averaged 419 parts per million at Mauna Loa, Hawaii, for May, when carbon levels in the air peak, the National Oceanic and Atmospheric Administration said. That's 1.82 parts per million higher than in May 2020 and 50% higher than the stable pre-industrial levels of 280 parts per million. Overall, NOAA said, "there was no discernible signal in the data from the global economic disruption caused by the coronavirus pandemic". As a second example, [Associated Press](#) correspondent [Seth Borenstein](#) noted, "The annual peak of global heat-trapping

carbon dioxide in the air has reached another dangerous milestone: 50% higher than when the industrial age began. And the average rate of increase is faster than ever, scientists reported Monday. The National Oceanic and Atmospheric Administration said the average carbon dioxide level for May was 419.13 parts per million. That's 1.82 parts per million higher than May 2020 and 50% higher than the stable pre-industrial levels of 280 parts per million, said NOAA climate scientist Pieter Tans. Carbon dioxide levels peak every May just before plant life in the Northern Hemisphere blossoms, sucking some of that carbon out of the atmosphere and into flowers, leaves, seeds and stems. The reprieve is temporary, though, because emissions of carbon dioxide from burning coal, oil and natural gas for transportation and electricity far exceed what plants can take in, pushing greenhouse gas levels to new records every year".

Also in June, the heat wave and 'heat dome' that struck the US Pacific Northwest and Canada prompted many news stories that made connections with climate change or global warming. For example, [Washington Post](#) correspondent [Amanda Coletta](#) wrote, "Scientists say human-caused climate change

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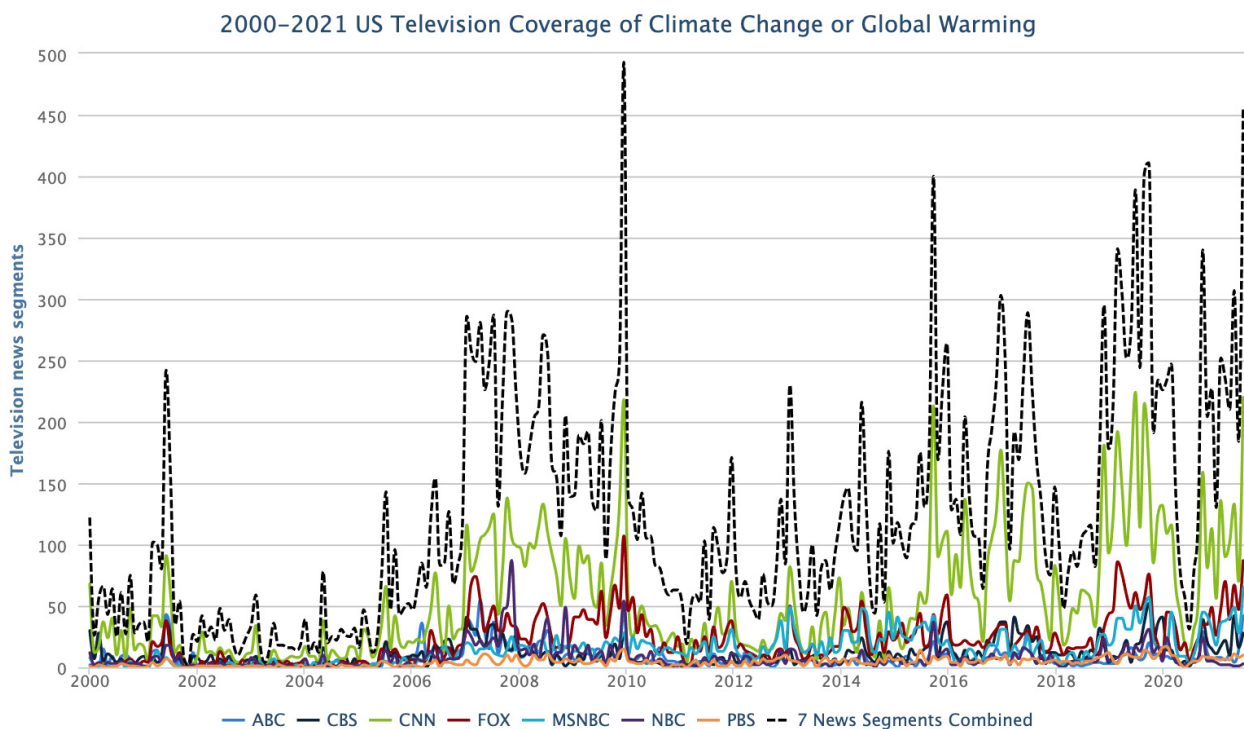


Figure 2. United States television coverage of climate change or global warming from January 2000 through June 2021.

has made unprecedented heat waves such as this one more probable". Moreover, *USA Today* journalist Elinor Aspegren noted, "Heat causes more deaths in the U.S. than all other natural disasters combined. Scientists expect more frequent and intense heat waves because of climate change and the worst drought in modern history". Meanwhile, *PBS Newshour* anchor Judy Woodruff and journalist David Phillips discussed it in this way: "every time we see an extreme event, we say, well, is this climate change? And I think we have hidden enough behind the fact that we say, well, climate change doesn't create weather, it doesn't create heat waves and forest fires and hurricanes. But, Judy, what it does is, it contributes to it. There are many factors that create extreme weather, and physical factors, but now we're realizing that there's human factors. And this heat wave would not have been as – nearly as brutal and deadly if it hadn't been for what's coming out of our tailpipes and smokestacks". In a *New York Times* guest essay, Michael Mann and Susan Joy Hassol noted, "In the old days, we could escape the summer heat by heading north – to the Adirondacks in the East or to the cool, forested Pacific Northwest in the West. But this is not your grandparents' climate".

As the heat wave continued, some international news outlets covered the record-breaking heat. For example, *The Guardian* ran an opinion piece by Simon Lewis where he observed, "Without an immediate global effort to combat the climate emergency, the Earth's uninhabitable areas will keep growing...As climate change drives temperatures upwards, heatwaves and accompanying unliveable temperatures are predicted to last longer and occur over larger areas and in new locations, including parts of Africa and the US south-east, over the decades to come".

Incidentally, many media outlets' persistence in accompanying these stories with photos of people frolicking in public fountains came under scrutiny by many social sciences researchers. There remains more work to do on appropriate imagery to describe such events that does not risk making light of the dangers associated with them.

In June 2021, many media stories about climate change or global warming continued to focus on *scientific* themes. Among them, a *Nature Climate Change* study that found that climate

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change contributes to more than one-third of global heat-related deaths each year garnered media attention. In the study, heat deaths in 732 cities from 1991-2018 were examined and they found 37% of deaths – 9,700 each year – ‘directly attributable to climate change’. For example, [New York Times](#) journalist [John Schwartz](#) reported, “More than a third of heat-related deaths in many parts of the world can be attributed to the extra warming associated with climate change, according to a new study that makes a case for taking strong action to reduce greenhouse gas emissions in order to protect public health. The sweeping new research, published on Monday in the journal *Nature Climate Change*, was conducted by 70 researchers using data from major projects in the fields of epidemiology and climate modeling in 43 countries. It found that heat-related deaths in warm seasons were boosted by climate change by an average of 37 percent, in a range of a 20 percent increase to 76 percent. Some earlier studies have performed similar analysis for individual cities during particular heat waves, but the new paper applies these ideas to hundreds of locations and across decades to draw broader conclusions”.

Another prominent [study from the journal *Science Advances*](#) attracted media attention in June. Researchers found that the ice shelf that holds Antarctica’s Pine Island Glacier is breaking up faster than previously thought, risking increased sea level rise (that Pine Island Glacier holds enough water to raise global sea levels by more than 19 inches). For example, [Associated Press](#) journalist [Seth Borenstein](#) wrote, “A critical Antarctic glacier is looking more vulnerable as satellite images show the ice shelf that blocks it from collapsing into the sea is breaking up much faster than before and spawning huge icebergs, a new study says. The Pine Island Glacier’s ice shelf loss accelerated in 2017, causing scientists to worry that with climate change the glacier’s collapse could happen quicker than the many centuries predicted. The floating ice shelf acts like a cork in a bottle for the fast-melting glacier and prevents its much larger ice mass from flowing into the ocean. That ice shelf has retreated by 12 miles (20 kilometers) between 2017 and 2020, according to a study in Friday’s

Science Advances. The crumbling shelf was caught on time-lapse video from a European satellite that takes pictures every six days”. Meanwhile, [Washington Post](#) correspondent [Sarah Kaplan](#) reported, “The Pine Island glacier was already scary. The 160-mile-long river of ice is known as “the weak underbelly” of West Antarctica. It contributes more to sea level rise than any other glacier on the continent and ranks among the fastest melting glaciers in the world. Unlike other Antarctic glaciers, Pine Island is not sheltered from the warming ocean by a vast expanse of sea ice. The only thing preventing it from flowing directly into the Amundsen Sea embayment is a shelf of floating ice that sticks out from the glacier’s edge. This shelf is like a cork in a bottle, pressing against the stable sides of the bay to contain the tremendous pressure at its back. But the ice shelf is tearing itself apart. It has lost one-fifth of its mass in the last five years, shedding icebergs the size of cities. Rifts have opened up in the center of the shelf, potentially adding to the instability. Now the world has a whole new reason to worry about Pine Island. According to research published Friday in the journal *Science Advances*, the glacier is flowing toward the ocean 12 percent faster than at the start of 2017 – a result of the weakened ice shelf’s inability to act like plug”.

Also, news at the other pole attracted media attention in June. News that the Arctic ice is thinning more rapidly than previously thought was captured in several media accounts. For example, [Guardian](#) journalist [Damian Carrington](#) reported that “Arctic ice thinning twice as fast as thought...Less ice means more global heating, a vicious cycle that also leaves the region open to new oil extraction”.

Several prominent [political](#) and [economic](#) themed media stories about climate change or global warming pervaded the airwaves, broadcasts and newsprint in June. For example, early in the month the story that first broke in late May (see our May summary for more) stories continued to follow the ExxonMobil board of directors elections. For example, [Guardian](#) journalist [Jasper Jolly](#) reported,

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“ExxonMobil expects to lose a third board seat to an activist hedge fund, Engine No 1, adding to the pressure on one of the world’s largest oil companies to introduce a more effective climate transition plan. The Texas-based producer announced late on Wednesday that lawyers counting shareholder votes had found a third director nomination was secured by Engine No 1, which argued Exxon had not done enough to prepare for the global shift from fossil fuels. The vote for the third director had been too close to call immediately after Exxon’s annual meeting last week, in which two rebel directors from Engine No 1 were voted in by shareholders. The rebellion came on the same day as a series of victories for climate activists – both shareholders and campaigners – as Chevron lost a vote calling for it to reduce the carbon emissions of the products it sells. Its Anglo-Dutch rival Royal Dutch Shell was ordered by a Dutch courtroom to cut its emissions by 45% by 2030, in a landmark ruling”. Meanwhile, *Wall Street Journal* correspondent [Christopher Matthews](#) noted, “The final vote hasn’t been certified, Exxon said, and could take days or weeks to be finalized, according to people familiar with the matter. Engine No. 1, which owns a tiny fraction of Exxon’s stock, had sought four seats on the board and argued the Texas oil giant should commit to carbon neutrality, effectively bringing its emissions to zero—both from the company and its products—by 2050, as some peers have. If the preliminary voting results hold, it will control a quarter of Exxon’s 12-person board. The vote culminated one of the most expensive proxy fights ever. It puts new pressure on Exxon Chief Executive Darren Woods, who personally campaigned against Engine No. 1 and could complicate his plans to maintain Exxon as the largest Western oil producer. Mr. Woods was re-elected to the board along with eight of Exxon’s candidates”.

In June, climate negotiations (held virtually) in the lead up to the Conference of Parties meeting (COP26) in Glasgow, Scotland took place. These generated media attention. For example, as the talks began [journalist Frank Jordans from The Associated Press](#) reported, “The U.N. climate

office in Bonn, Germany, has designed a schedule of virtual sessions that will see negotiators share the burden of joining meetings before dawn, during the afternoon or late at night – depending on their respective time zones...Negotiations will focus on resolving some of the outstanding issues arising from the 2015 Paris climate accord, including rules for international carbon markets, harmonizing countries’ timeframes for reducing greenhouse gas emissions and providing aid to developing nations. Progress on all of those issues is seen as key to making the U.N. climate summit in Glasgow, Scotland, in November a success. However, due to concerns about the format, no official decisions are expected at the virtual talks that run until June 17”.

Also, the Group of Seven (G7) summit garnered media attention as part of the talks related to climate policy action. For example, [CNN business correspondent Matt Egan](#) reported, “Investors managing more than \$41 trillion in assets are loudly calling on world leaders to immediately step up their climate game if they don’t want to miss out on a wave of clean energy investment. More than 450 major investors signed a letter that was released Thursday urging governments to set more ambitious emission reduction targets, detail “clear” road maps to decarbonize pollution-heavy industries and implement mandatory climate risk disclosure requirements. The letter, signed by Fidelity, State Street and other influential asset management firms, marks the strongest call yet from investors urging governments around the world to take bolder steps to fight the climate crisis. And it comes just as the leaders of G7 nations meet in the United Kingdom to discuss the Covid-19 pandemic, climate change and other major global issues”.

As the talks wrapped up, many media outlets assessed progress made regarding climate policy cooperation. For example, [Washington Post](#) journalists [Karla Adams](#), [Ashley Parker](#), [Tyler Pager](#) and [John Hudson](#) reported, “As Group of Seven leaders wrapped their three-day summit here on Sunday, President Biden said democratic governments face a defining challenge: to show they can meet tests such as global health crises

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and climate change better than autocracies such as China and Russia. “I think we’re in a contest, not with China per se, but a contest with autocrats, autocratic governments around the world, as to whether or not democracies can compete with them in a rapidly changing 21st century,” Biden told reporters during the first news conference of his first foreign trip as president. He singled out China and Russia for reprobation after working here to enlist U.S. allies in what he has repeatedly cast as the existential battle of the 21st century”. Elsewhere, [National Public Radio correspondents Franco Ordoñez and Asma Khalid](#) noted, “Leaders of the G-7 wrapped up their first in-person meeting in two years agreeing to work together to combat the coronavirus pandemic, confront climate change, and – in a win for President Biden – counter the rising influence of China...Biden had one-on-one meetings with leaders from Germany, Italy and Japan. He met with British Prime Minister Boris Johnson and Australian Prime Minister Scott Morrison – who as at the G-7 as a guest. He later met with South African President Cyril Ramaphosa, another guest invited to the summit. During his meetings with leaders, Biden also talked about the COVID-19 response, climate change, the drawdown of troops in Afghanistan and instability in the Sahel region of West Africa, the White House said”. And [Guardian environment correspondent Fiona Harvey](#) observed, “The G7 summit ended with rich nations reaffirming their goal to limit global heating to 1.5C, and agreeing to protect and restore 30% of the natural world by the end of this decade, but failing to provide the funds experts say will be needed to reach such goals. Boris Johnson badly needed a successful G7 deal on climate finance to pave the way for vital UN climate talks, called Cop26, to be held in Glasgow this November. Climate finance is provided by rich countries to developing nations, to help them cut greenhouse gas emissions and cope with the impacts of climate breakdown, and was supposed to reach \$100bn a year by 2020, but has fallen far short”.

And in June, several energy-themed media stories were published on climate change or

global warming. To illustrate, news about a report prepared by the international analysis group REN21 on the evolution of renewable energies in the world generated attention. For example, [El País journalist Manuel Planelles](#) wrote that “Humanity is still hooked on oil, natural gas and coal. The report indicates that 80% of the energy is generated with fossil fuels, the same as a decade ago. Why? Rana Adib, director of the study center answered “demand continued to increase without structural change and the increase in clean technologies, which went from 8.7% to 11.2%, was very insufficient to make a dent in that distribution of the energy cake. We need a drastic reduction in energy demand and we need to ban fossil fuels”, Adib argued”.

Relating to these political and economic themes, in many [cultural](#) stories circulated about climate change or global warming in June. For example, World Environment Day on June 5 prompted news stories relating to climate change. For example, [China Daily correspondent Candra Samekto](#) reported, “Smallholders and the rural poor have a crucial role to play in the restoration of ecosystems and the conservation of natural resources. The theme of this year’s World Environment Day focuses on restoring ecosystems. The past decades have been marked by the growing pressures on ecosystems, which support all life on Earth. The demands of a rapidly growing global population, coupled with climate change, and continuing pollution have magnified the degradation of global ecosystems. Marking World Environment Day is an important reminder of the need to take actions to protect our natural surroundings, without further delay. Continued degradation of global ecosystems will also influence poverty and inequality, with smallholders and the rural poor bearing the brunt of environmental and socioeconomic challenges. Smallholders are among those most vulnerable to the impact of environmental degradation and climate change, as their productivity and source of income are dependent on natural resources, including the availability of usable water and land”.

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JULY

“A comprehensive architecture to meet our climate ambitions”



The EU's most polluting industries have been subject to the EU's Emissions Trading Scheme for the past 15 years. Photo: Reuters.



Media attention in newspapers around the globe **increased 4%** from the previous month of June. However, July 2021 global radio coverage **decreased 6%**, while coverage in international wire services **increased 17%**. US print coverage **increased 15%** while television coverage **decreased 18%** from the previous month.

July media attention to climate change or global warming in newspapers around the globe increased 4% from the previous month of June. However, July 2021 global radio coverage of climate change or global warming decreased 6% from June 2021, while coverage in international wire services increased 17% from the previous month. Regionally, compared to the previous month, coverage was up in Europe (+17%), Latin America (+17%), and North America (+11%), but was down in Asia (-3%), Oceania (-25%), the Middle East (-28%), and across Africa (-54%). Figure 1 shows trends in newspaper media coverage at the global scale – organized into seven geographical regions around the world – from January 2004 through July 2021.

At the country level, United States (US) print coverage increased 15% while television coverage decreased 18% from the previous month. Of note,

while we noted last month that *CNN* coverage of climate change or global warming more than tripled from May 2021 to June 2021, *CNN* coverage dropped again 15% from June 2021 to July 2021 while levels of coverage increased only slightly at *CBS* (+14%), stayed level at *PBS* and dropped at all the other outlets (*ABC* (-55%), *MSNBC* (-14%), *NBC* (-67%) and *Fox News* (-22%).

Meanwhile, compared to the previous month coverage rose in Canada (+8%), Spain (+9%), Sweden (+10%), India (+16%), Germany (+55%) (see Figure 2), Norway (+83%), and Finland (+112%), and remained level in the United Kingdom (UK) while decreasing in Denmark (-9%), New Zealand (-12%), Japan (-13%), Russia (-17%), and Australia (-33%) in July 2021.

Much like in June, July media stories about climate change or global warming were

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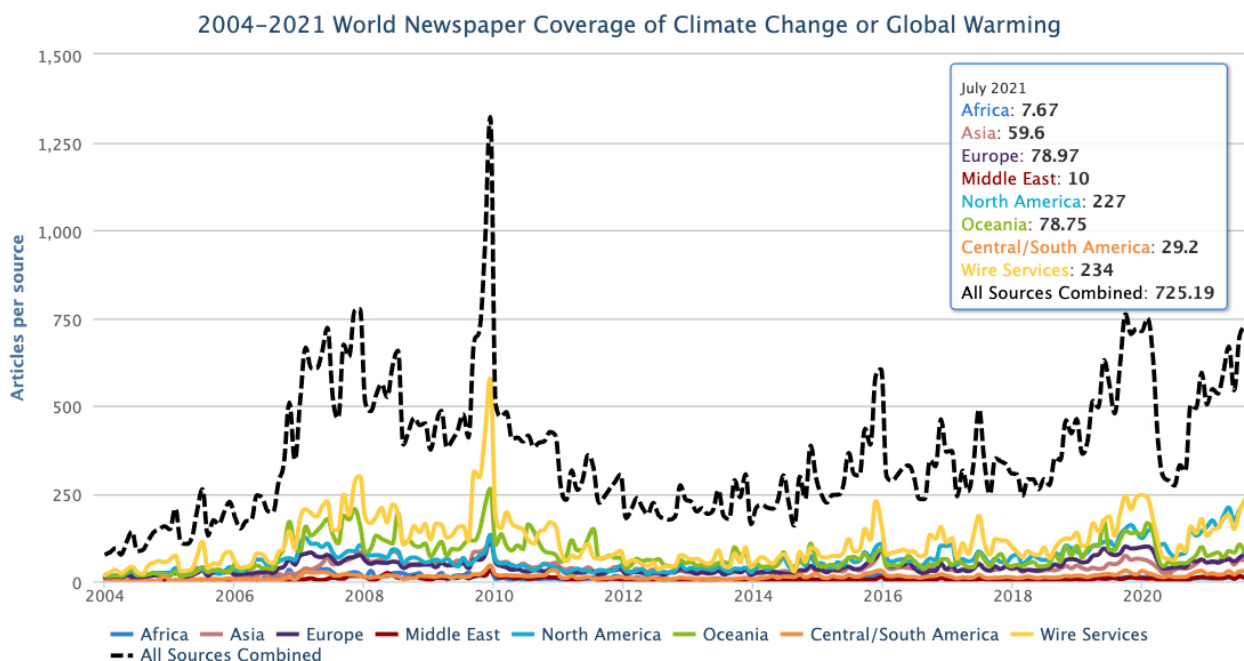


Figure 1. Newspaper media coverage of climate change or global warming in print sources in seven different regions around the world, from January 2004 through July 2021.

dominated by *ecological* and *meteorological* stories. For instance, at the beginning of the month, flooding in Germany and Belgium – with connections to a changing climate – captured international media attention. For example, reporting from Europe [Associated Press correspondent Frank Jordans](#) noted, “Malu Dreyer, the governor of Rhineland-Palatinate state, said the disaster showed the need to speed up efforts to curb global warming, which experts say could make such disasters more frequent. She accused Laschet and Merkel’s center-right Union bloc of hindering efforts to achieve greater greenhouse gas reductions in Germany, Europe’s biggest economy and a major emitter of planet-warming gases. “Climate change isn’t abstract anymore. We are experiencing it up close and painfully,” she told the Funke media group. Steinmeier, the German president, echoed her calls for greater efforts to combat global warming. “Only if we decisively take up the fight against climate change will we be able to limit the extreme weather conditions we are now experiencing,” he said”. Meanwhile, [CNN journalist Angela Dewan](#) reported, “European officials have said climate change contributed to this week’s extreme flooding, which has left entire towns submerged and more than 120 people dead. Scientists have

for decades warned that climate change will make extreme weather events, including heavy rain and deadly flooding, more likely. Around 100 of those killed after torrential rainfall since Wednesday were in Germany’s western states of Rhineland-Palatinate and North Rhine-Westphalia, where local leaders are urging the world for swifter action on climate change as villages under their watch become a new and unexpected epicenter of global warming. Neighboring Belgium has also been hit hard by the floods, which have killed 20 people in the country and could rise further”. And among several *New York Times* articles covering the flooding, [journalist Somini Sengupta](#) quoted former president of the Maldives Mohamed Nasheed, when he remarked, “While not all are affected equally, this tragic event is a reminder that, in the climate emergency, no one is safe, whether they live on a small island nation like mine or a developed Western European state”.

Reflecting further on the tragic events, [Guardian journalist Jonathan Watts](#) reported, “The intensity and scale of the floods in Germany this week have shocked climate scientists, who did not expect records to be broken this much, over such a wide area or this soon. After the deadly heatwave in the US and Canada, where temperatures rose

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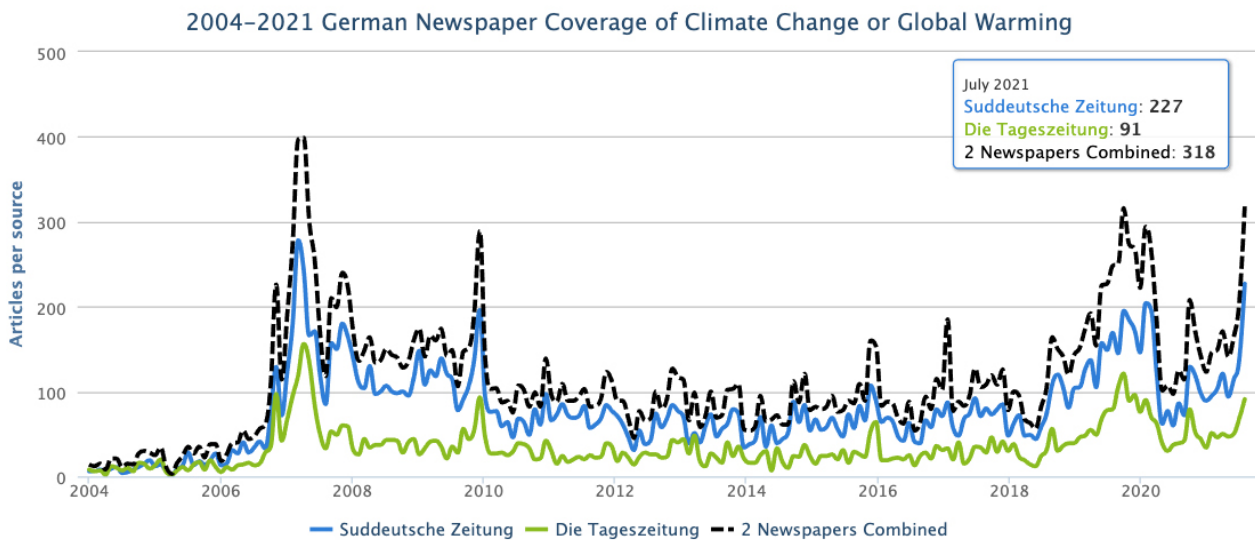


Figure 2. German newspaper coverage of climate change or global warming from January 2000 through July 2021.

above 49.6C two weeks ago, the deluge in central Europe has raised fears that human-caused climate disruption is making extreme weather even worse than predicted...Climate scientists have long predicted that human emissions would cause more floods, heatwaves, droughts, storms and other forms of extreme weather, but the latest spikes have surpassed many expectations". Furthermore, *Associated Press correspondent Rafe Casert* noted, "Just as the European Union was announcing plans to spend billions of euros to contain climate change, massive clouds gathered over Germany and nearby nations to unleash an unprecedented storm that left death and destruction in its wake. Despite ample warnings, politicians and weather forecasters were shocked at the ferocity of the precipitation that caused flash flooding that claimed more than 150 lives this week in the lush rolling hills of Western Europe. Climate scientists say the link between extreme weather and global warming is unmistakable and the urgency to do something about climate change undeniable. Scientists can't yet say for sure whether climate change caused the flooding, but they insist that it certainly exacerbates the extreme weather that has been on show from the western U.S. and Canada to Siberia to Europe's Rhine region".

Further to the east in Siberia, media coverage of 300 fires that were devouring 1.4 million hectares in the Yakutia region, sitting on permafrost garnered attention with connections to climate

change. For example, *El País* journalist *María Sahuquillo* noted, "The effects of the climate emergency are palpable in this region of northern Siberia, which year after year breaks records for high temperatures: in 2020, Verkhoyansk, a small town in the Arctic circle, which can register 60 degrees below zero in winter and that competes for the record of the coldest in the world, registered 37.4 suffocating degrees. The heat, which has already changed part of the orography of the area, combines with increasingly dry soil and fuels forest fires. Fires are part of the ecology of the Arctic, according to a report by the European Center for Medium-Range Weather Forecasts, which nevertheless warns that their increasing frequency and intensity are "worrisome" and that they can contribute to the thawing of permafrost".

Meanwhile, wildfires in the western US - with connections to climate change or global warming - captured media attention. Prominently, the 'Bootleg Fire' burning in the southern state of Oregon drove media stories. For example, *USA Today* journalist *Doyle Rice* wrote, "The ferocious 2021 wildfire season in the West showed no signs of letting up Friday, as thousands of firefighters continued to battle dozens of blazes across the parched, overheated region... The nation has set 585 all-time heat records in the past 30 days, according to the National Oceanic and Atmospheric Administration. Extremely dry conditions and heat waves tied to climate change have swept the West, making wildfires harder to

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still threatened by the flames. In a press briefing Tuesday, the governor pointed to drought across the state and much of the West, climate change, a series of heat waves this summer and longer and more intense fire seasons as contributing factors to the challenges facing firefighters today”.

On the other side of the globe, flooding in central China sparked many media accounts. For example, *BBC* reported, “Twelve people have died after record-breaking rainfall flooded underground railway tunnels in Henan province, leaving passengers trapped in rising waters. Video shared on social media shows evening commuters just managing to keep their heads above water. Water is seen rushing onto platforms. More than 500 people were eventually rescued from the tunnels in Henan province, officials said. Days of rain have caused widespread damage and led to 200,000 evacuations. Above ground, roads have been turned into rivers, with cars and debris swept along in fast moving currents. A number of pedestrians have had to be rescued...Zhengzhou saw 624mm of rainfall on Tuesday, with a third of that amount falling between 16:00 and 17:00 alone, which “smashed historical records”. It forecasted that parts of the region would continue to see “severe or extremely severe storms” and that the heavy rain would likely only end on Thursday. Many factors contribute to flooding, but a warming atmosphere caused by climate change makes extreme rainfall more likely”. As a second example, in the days of reflection after the event *New York Times* journalists [Steven Lee Myers](#), [Keith Bradsher](#) and [Chris Buckley](#) reported, “China’s breakneck growth over the last four decades erected soaring cities where there had been hamlets and farmland. The cities lured factories, and the factories lured workers. The boom lifted hundreds of millions of people out of the poverty and rural hardship they once faced. Now those cities face the daunting new challenge of adapting to extreme weather



Figure 4. July front page coverage in *The Washington Post* (US) and *The Guardian* (UK) reporting on the northwest US and Canada, noting links with a changing climate.

caused by climate change, a possibility that few gave much thought to when the country began its extraordinary economic transformation. China’s pell-mell, brisk urbanization has in some ways made the challenge harder to face. No one weather event can be directly linked to climate change, but the storm that flooded Zhengzhou and other cities in central China last week, killing at least 69 as of Monday, reflects a global trend of extreme weather that has seen deadly flooding recently in Germany and Belgium, and severe heat and wildfires in Siberia”.

Also in Asia, July media coverage of climate change or global warming also covered flooding in refugee camps in Bangladesh. For example, *Associated Press correspondent Julhas Alam* reported, “days of heavy rainfall have pounded Rohingya refugee camps in southern Bangladesh, destroying dwellings and sending thousands of people to live with extended families or in communal shelters. In the 24 hours until Wednesday afternoon, more than 30 centimeters (11.8 inches) of rain fell on the camps in Cox’s Bazar district hosting more than 800,000 Rohingya, the U.N. refugee agency said. That’s nearly half the average July rainfall in one day, and more heavy downpours are expected in the next few days and the monsoon season stretches over the next three months”. Meanwhile, *Guardian* journalist [Kaamil Ahmed](#) noted, “Shelters swept

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away as activists say people stuck in Cox's Bazar are highly vulnerable to the 'rapidly changing climate'" and quoting Jamie Munn, director of the Norwegian Refugee Council in Bangladesh who said "Sadly, it is a sign of our times; we are accustomed to conflicts, displacements and the climate crisis cycling through our news and through the attention of the international community, including donors".

Following these many ecological and meteorological stories of climate change or global warming came many other stories in July that continued to focus on **scientific** themes. Among them, media stories of rapid attribution studies - while not yet having passed through peer-review - garnered significant media attention as journalists sought to make sense of connections between floods, wildfires, heat waves and human-caused climate change. For example, **journalist Nada Farhoud from The Mirror in the UK wrote**, "Catastrophic extreme weather on five continents at the same time prove we are experiencing the impacts of climate change, say scientists. Siberian forest wildfires, fatal floods in Europe, North America's roasting temperatures and our Met Office's first heat warning show the climate crisis is accelerating faster than scientists and campaigners expected...With rapid attribution studies, which compare data with a simulated world where there are no carbon emissions, the urgency has become clearer. In one, scientists found last month's Pacific Northwest heatwave was virtually impossible without human-caused climate change and "our rapidly warming climate is bringing us into uncharted territory"". As another example, **Washington Post correspondent Sarah Kaplan reported**, "In Oregon, Washington and western Canada, authorities are investigating more than 800 deaths potentially linked to the punishing heat. It will be months before experts know precisely how many of those deaths can be specifically attributed to climate change. But researchers who specialize in the science of attribution say they are "virtually certain" that warming from human greenhouse gas emissions played a pivotal role. It is a sign of how dangerous the climate crisis has gotten - and how much worse it can still become".



Figure 5. July front page coverage in *El País* (Spain) noting links between ecological and meteorological events and climate change.

Also in July, several prominent **political** and **economic** themed media stories about climate change or global warming pervaded the airwaves, broadcasts and newsprint. For example, **New York Times journalist Somini Sengupta reported**, "European officials are preparing to introduce ambitious legislation designed to wean one of the world's biggest and most polluting economies off fossil fuels far more quickly than other nations have pledged to do. The proposals could include phasing out coal as an electricity source as well as imposing tariffs on polluting imports - an idea with the potential to set off global trade disputes. An ambitious blueprint to reduce emissions 55 percent by 2030 promises tough haggling among 27 states, industry and the European Parliament. The European Commission's package of around a dozen legislative proposals, expected on Wednesday, is designed to swiftly reduce the emissions of planet-warming gases and meet an ambitious climate goal, already enshrined in law: The 27-nation bloc has said it will cut its emissions of greenhouse gases by 55

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percent by 2030, compared to 1990 levels. The legislation is expected to be in sharp contrast to vague aspirations by various other countries to neutralize their emissions by midcentury". As a second example, [CNN journalist Luke McGee observed](#), "The package of measures looks to fundamentally transform the world's single largest trading bloc. It touches on almost every area of economic activity -- from how citizens heat their homes and commute, to a total upheaval of manufacturing practices. The EU last month enshrined in law its target to reduce emissions by 55% by 2030, compared with 1990 levels, but on Wednesday unveiled the aggressive 10-step program, titled "Fit for 55," which is a roadmap for how it will achieve its reduction". And [journalist Jonathan Eyal from *The Straits Times* in Singapore noted](#), "Europe is now the very first continent that presents a comprehensive architecture to meet our climate ambitions," Dr Ursula von der Leyen, the president of the European Commission, the European Union's executive body, said this week".

Meanwhile, coverage of a similar US tariff in the Democrats' budget plan made news. For example, [New York Times journalist Lisa Friedman noted](#), "Democrats have agreed to include a tax on imports from nations that lack aggressive climate change policies as part of a sweeping \$3.5 trillion budget plan stocked with other provisions aimed at ratcheting down fossil fuel pollution in the United States. The move to tax imports was made public Wednesday, the same day that the European Union outlined its own proposal for a similar carbon border tax, a novel tool that is designed to protect domestic manufacturing while simultaneously pressuring other countries to reduce the emissions that are warming the planet. The two actions in concert suggest that government leaders are turning toward trade policy as a way to attack climate change. Top Democrats called the timing coincidental but said both the United States and Europe must work together to put pressure on China and other heavy polluting countries to reduce emissions".

And also in July, many [cultural](#) stories continued to drive coverage related to climate change or global warming. For example, [New York Times correspondent Farnaz Fassihi reported](#), "Iran is struggling with a fifth wave of the coronavirus pandemic, an economy strained by American sanctions and stalled talks on rescuing a nuclear agreement that was once seen as an economic salvation. Now the country is contending with a different but easily foreseen crisis: a severe water shortage. A prolonged drought and rising temperatures from climate change, combined with decades of government mismanagement of natural resources and lack of planning, have turned the water crisis into a volatile incubator of protests and violent unrest. For the past week, demonstrators have surged into the streets of parched Khuzestan Province in the southwest, the epicenter of the protests. They have been met by security forces whose crackdowns have sometimes turned deadly – fueling more anger that is spreading elsewhere".

And billionaires going in rocketships to sub-orbital space in July generated some media stories about links between future space travel and climate change. For example, [New York Times correspondent Sarah Kessler observed](#), "It is not yet understood exactly how an increasing number of rocket launches would affect the planet. The space industry is the only direct source of emissions into the stratosphere above 20 kilometers. Particles that rockets leave behind can absorb sunlight or reflect sunlight, potentially changing the climate of the stratosphere or affecting the ozone layer...Aside from whether space tourism will contribute to climate change, there's skepticism over space companies' claims that they can help address it. Some say Mr. Bezos' vision for colonizing space isn't feasible, and Mr. Bezos himself calls it a "long-range problem." Billionaires going to space should first consider climate disasters on Earth, critics argue".

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AUGUST “Nothing cool about it”



Iraqis buy ice blocks at a factory in Sadr City, east of the capital, Baghdad, on July 2 amid power outages and soaring temperatures. Photo: Ahmad Al-Rubaye/AFP via Getty Images.



Media attention in newspapers around the globe **increased 6.5%** from the previous month. August 2021 global radio coverage **increased 53%** from July 2021, while coverage in international wire services **increased 9.5%** from the previous month. Media attention in August 2021 was the highest levels of coverage over nearly 12 years.

August media attention to climate change or global warming in newspapers around the globe increased 6.5% from the previous month of July. August 2021 global radio coverage of climate change or global warming increased 53% from July 2021, while coverage in international wire services increased 9.5% from the previous month. Media attention to climate change or global warming in August 2021 was the highest levels of coverage over nearly 12 years; the highest levels were recorded in December 2009 when attention was paid to the United Nations (UN) Conference of Parties (COP) climate talks that were held in Copenhagen, Denmark, shortly after the University of East Anglia email hacking scandal. Figure 1 shows trends in newspaper media coverage at the global scale – organized into seven geographical regions around the world – from January 2004 through August 2021.

Regionally, compared to the previous month coverage was up in Asia (+3%), Oceania (+9%),

Europe (+10%), Latin America (+23%), and across Africa (+52%), but was down in North America (-4%), and the Middle East (-45%). Figure 2 shows trends in newspaper media coverage across Latin America from January 2004 through August 2021.

At the country level, United States (US) print coverage was down 0.2% while US television coverage also decreased 10% from the previous month. Meanwhile, compared to the previous month coverage dropped in Spain (-3%), Canada (-7.5%), Japan (-17%), Finland (-27%), Germany (-27%), New Zealand (-30%), Russia (-62%), while coverage increased in India (+21%), the United Kingdom (UK) (+32%), Norway (+35%), Australia (+39%), Sweden (+45%), and Denmark (+52%) in August 2021.

Like the preceding months (summer in the Northern Hemisphere), August media accounts about climate change or global warming were dominated by *ecological* and *meteorological* stories. The month began with news that the

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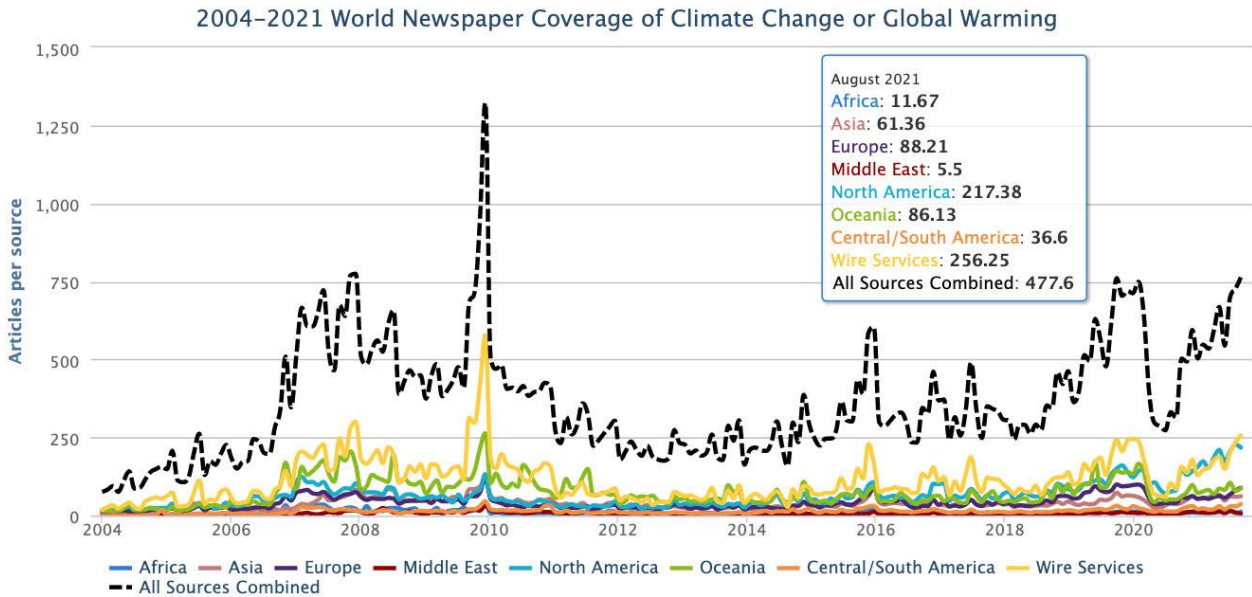


Figure 1. Newspaper media coverage of climate change or global warming in print sources in seven different regions around the world, from January 2004 through August 2021.

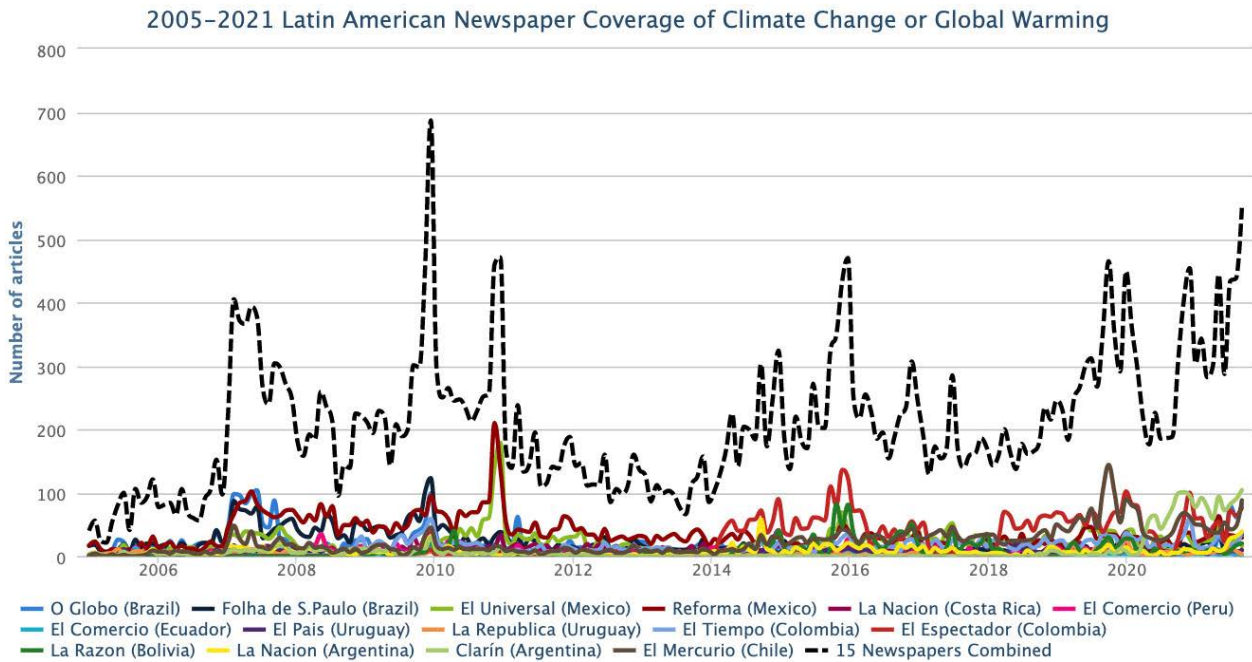


Figure 2. Newspaper media coverage of climate change or global warming in print sources across Latin America, from January 2004 through August 2021.

preceding month - July 2021 - was the hottest month on Earth in the 142 years of record keeping. To illustrate, “July was the world’s hottest month ever recorded, US government scientists have confirmed, a further indication of the unfolding climate crisis that is now affecting almost every part of the planet. The global land and ocean surface temperature last month was one degree Celsius, 0.9C (1.6F), hotter than the 20th-century average of 15.8C (60.4F), making it

the hottest month since modern record keeping began 142 years ago”. Meanwhile, *US National Public Radio* correspondent [Joe Hernandez](#) noted, “There was nothing cool about it. July was the hottest month ever recorded in human history, according to new data from the National Oceanic and Atmospheric Administration”.

Also, in August, a spate of extreme events linked to climate change garnered several media

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accounts connecting wildfires, floods and droughts around the globe. For example, [US National Public Radio](#) journalist Rachel Treisman interviewed Lauren Sommer and Rebecca Hersher from NPR's climate team and asked about flood events and their connection to climate change. They responded, "It's been a wild few weeks for flash flood disasters, from Central China to western Europe to Mumbai to Arizona. These fast-moving waters have killed hundreds of people, but they're not a surprise to climate scientists, who have been sounding the alarms for years. Even though these floods happened around their world, their root cause was the same: extreme rain. And it's getting more common as the Earth gets warmer (hot air + hot water = more moisture in the air). Plus, as the planet heats up, some climate models show winds in the upper atmosphere slowing down in certain places, which would mean that extreme weather would linger there longer". As a second example, *Associated Press* correspondents Seth Borenstein and Frank Jordans noted, "As the world staggers through another summer of extreme weather, experts are noticing something different: 2021's onslaught is hitting harder and in places that have been spared global warming's wrath in the past. Wealthy countries such as the United States, Canada, Germany and Belgium are joining poorer and more vulnerable nations on a growing list of extreme weather events that scientists say have some connection to human-caused climate change" (see Figure 3).

Furthermore, the official death toll from climate change-connected one-in-1,000 years flooding in China's Henan province in June increased to over 300 in reporting in early July. For example, [New York Times](#) correspondent Austin Ramzy observed, "The number of people who died in recent floods in central China has increased dramatically to 302, officials said on Monday, more than tripling the previously reported total and raising questions about the full scale of the disaster...Flooding is a complex phenomenon



Figure 3. An *Associated Press* story by Seth Borenstein and Frank Jordans (appearing in *The Boulder Daily Camera*) reflecting on the many 2021 extreme events and connections with a changing climate.

with many causes, including land development and ground conditions. While linking climate change to a single flood event requires extensive scientific analysis, climate change, which is already causing heavier rainfall in many storms, is an increasingly important part of the mix. Warmer atmosphere holds, and releases, more water, whether in the form of rain or heavy winter snowpack".

Meanwhile, Siberian wildfires garnered media attention as stories associated these fires with a changing climate. For example, [Washington Post](#) journalist Robyn Dixon reported, "For Russia, there are two types of fires raging across Siberia: the kind the authorities are fighting and the others they are allowing to burn. That's because Siberia is so vast that huge fires can burn without threatening any major settlements, transportation systems or infrastructure – but are still part of a swath of infernos that together are larger than all the other blazes around the world. On one level, the Siberian fires are part of an annual cycle. But many climate experts see the staggering scope of this year's fires as another sign of greater fire risks on a warming planet that is potentially being made even hotter by huge carbon emissions from the blazes".

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This was also the case in August with wildfires in Turkey, Greece and Algeria. For example, [Associated Press correspondents Thanassis Stavrakis, Nicholas Paphitis and Suzan Fraser reported](#), “Thousands of people have fled wildfires that are burning out of control in Greece and Turkey, including a large blaze just north of Athens that left one person dead, as a protracted heatwave turned forests into tinderboxes and flames threatened populated areas, electricity installations and historical sites. Turkey’s wildfires, described as the worst in decades, have swept through swathes of the southern coast for the past 10 days, killing eight people. In Greece, firefighters were battling 56 active wildfires on Friday, Civil Protection chief Nikos Hardalias said. Multiple evacuation orders were issued for inhabited areas of the mainland and the nearby island of Evia, while the fire near Athens burned forests and houses in its path heading toward Lake Marathon, the capital’s main water reservoir... Greek and European officials have blamed the climate crisis for the multiple fires burning through swathes of southern Europe, from southern Italy to the Balkans, Greece and Turkey. Massive fires have been burning across Siberia in the north of Russia for weeks, while hot, bone-dry, gusty weather has also fueled devastating wildfires in California, destroying whole towns in some cases”. As another example, [El País journalists A. Naya Mercadal and C. Álvarez reported](#) “Fires devour the eastern Mediterranean fueled by extreme heat. The exceptional high temperatures, with records of 47.1 degrees in the north of Greece, multiply the fires in the countries of the area. “It is a new normal that we are going to see with climate change”, warns an expert”. The Copernicus Emergency Management Service showed through satellite observation the existence of numerous active fires in Greece, Turkey, Italy, Albania, North Macedonia and the countries of North Africa”. As a third illustration, [The Associated Press reported](#), “At least 25 soldiers died saving residents from wildfires ravaging mountain forests and villages east of Algeria’s capital...Climate scientists say there is little doubt climate change from the burning of coal, oil and natural gas is driving extreme

events, such as heat waves, droughts, wildfires, floods and storms. A worsening drought and heat – both linked to climate change – are driving wildfires in the U.S. West and Russia’s northern region of Siberia. Extreme heat is also fueling the massive fires in Greece and Turkey”.

Other extreme events in August – torrential rains, hurricane and floods – garnered media attention as they were connected with climate change and global warming. For example, tropical depression Grace in the Caribbean basin with its impacts on Haiti and the Dominican Republic in early August generated news attention. To illustrate, [New York Times reporters Alyssa Lukpat, Jesus Jiménez, Neil Vigdor, Maria Abi-Habib and Andre Paulte wrote](#), “Grace, which made landfall in Haiti on Monday as a tropical depression, restrengthened into a tropical storm early Tuesday morning, the National Hurricane Center said. The storm’s heavy rains brought the potential for mudslides and flooding that could hamper recovery efforts from a 7.2-magnitude earthquake that struck the country three days earlier. Several inches of rain could complicate search-and-rescue efforts after the earthquake collapsed thousands of homes and made some roads and bridges impassable...The links between hurricanes and climate change are becoming more apparent. A warming planet can expect to see stronger hurricanes over time, and a higher incidence of the most powerful storms – though the overall number of storms could drop, because factors like stronger wind shear could keep weaker storms from forming. Hurricanes are also becoming wetter because of more water vapor in the warmer atmosphere; scientists have suggested storms like Hurricane Harvey in 2017 produced far more rain than they would have without the human effects on climate. Also, rising sea levels are contributing to higher storm surge – the most destructive element of tropical cyclones. A major United Nations climate report released in August warned that nations have delayed curbing their fossil-fuel emissions for so long that they can no longer stop global warming from intensifying over the next 30 years, leading to more frequent life-threatening heat waves and severe droughts. Tropical cyclones

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have likely become more intense over the past 40 years, the report said, a shift that cannot be explained by natural variability alone”.

As a second example, severe flooding in the Black Sea coast of Turkey generated media accounts. To illustrate, [Associated Press correspondent Suzan Fraser noted](#), “The death toll from floods and mudslides in northern Turkey rose to at least 38 on Friday, officials said, as emergency crews searched collapsed buildings, swamped homes, and submerged basements for more victims and survivors. An opposition politician said more than 300 people may be unaccounted for... Scientists say there is little doubt that climate change from the burning of coal, oil and natural gas is driving more extreme events, such as heat waves, droughts, wildfires, floods and storms. Such calamities are expected to happen more frequently as the planet warms”. Meanwhile, [El País journalist Andrés Mourenza](#) noted “Experts attribute these extreme phenomena, such as the heat wave on the Mediterranean coast that has led to huge fires and the torrential rains on the north coast, to climate change, one of the consequences of which is that these events are reproduced with greater frequency and intensity”.

A third example was US and international media coverage of Hurricane Ida that struck the US Gulf Coast and traveled through the US East up through New York. For instance, [New York Times journalist Henry Fountain reported](#), “Hurricane Ida, which struck the Louisiana coast on Sunday with winds of 150 miles an hour, gained power faster more than most storms. Because of climate change, such rapid strengthening is happening more often as hurricanes pick up more energy from ocean water that is warmer than before. But in a summer of extreme weather, Ida’s intensification was extreme. According to the National Hurricane Center’s forecast bulletins, the storm’s maximum sustained winds as of Saturday morning were about 85 m.p.h., making it a Category 1 hurricane. Less than 24 hours later they were 65 m.p.h. stronger, bringing Ida close to a Category 5. The storm intensified more than the hurricane center’s forecast, which had called for maximum winds reaching 140

m.p.h. The hurricane center’s definition of rapid intensification is at least a 35-m.p.h. increase in wind speed in 24 hours. Ida strengthened that much in just six hours overnight. Climate change is part of the reason. Researchers have found that the frequency of rapidly intensifying Atlantic hurricanes has increased over the past four decades as ocean temperatures have risen, in large part because warmer water provides more of the energy that fuels these storms. In the 1980s, there was about a 1 percent chance that a hurricane would undergo rapid intensification. Now, there’s a 5 percent chance”.

Many climate change or global warming stories in August also continued to focus on [scientific](#) themes. Among them, [NBC News journalist Denise Chow reported on new research in the journal Nature Communications](#) finding human’s influence on contemporary climate change. She wrote, “For decades, Earth’s energy system has been out of whack. Stability in Earth’s climate hinges on a delicate balance between the amount of energy the planet absorbs from the sun and the amount of energy Earth emits back into space. But that equilibrium has been thrown off in recent years – and the imbalance is growing, according to a paper published Wednesday in the journal Nature Communications. The changes to Earth’s energy system have major ramifications for the planet’s future climate and humanity’s understanding of climate change. The Princeton University researchers behind the paper found that there’s a less than 1 percent probability that the changes occurred naturally. The findings undercut a key argument used by people who do not believe human activity is responsible for the bulk of climate change to explain trends in global warming, demonstrating that the planet’s energy imbalance cannot be explained just by Earth’s own natural variations. The research also offers important insights into how greenhouse gas emissions and other consequences of human-caused climate change are upsetting the planet’s equilibrium and driving global warming, sea-level rise and extreme weather events”. Meanwhile, [New York Times journalist John Schwartz reported](#), “What is the cost of our carbon footprint – not just in dollars, but in lives?

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According to a paper published on Thursday, it is soberingly high, and perhaps high enough to help shift attitudes about how much we should spend on fighting climate change. The new paper, published in the journal *Nature Communications*, draws on multiple areas of research to find out how many future lives will be lost as a result of rising temperatures if humanity keeps producing greenhouse gas emissions at high rates – and how many lives could be saved by cutting those emissions. Most of the deaths will occur in regions that tend to be hotter and poorer than the United States. These areas are typically less responsible for global emissions but more heavily affected by the resulting climate disasters”.

In August, [new research in *Nature*](#) found that tens of millions of people across planet Earth have been moving into flood zones just as climate change increases risks in these places. For example, [BBC reporter Matt McGrath noted](#), “Satellite images were used to document the rise, which is far greater than had been predicted by computer models. The analysis shows that migration and a growing number of flood events are behind the rapid increase. By 2030, millions more will experience increased flooding due to climate and demographic change, the authors say”. Meanwhile, [CNN journalist Rachel Ramirez reported](#), “Amid a deadly summer of flooding in different parts of the world, scientists have found the number of people at risk to extreme flooding has grown significantly in the past two decades. In Germany, severe flooding claimed the lives of at least 173 people. In Nigeria, Lagos Island experienced one of its worst floods in recent years, submerging cars and houses. And, earlier this week, officials announced that the death toll from China’s July floods had climbed to 302 -- more than triple the previous estimate. Climate change is making extreme flooding worse, and a study published Wednesday in the journal *Nature* concluded the population exposed to those floods since 2000 is 10 times higher than previous estimates, as more people migrate into flood-prone areas”.

Further into August, [new research published in *Nature Climate Change*](#) published in found that the Atlantic Meridional Overturning Circulation

(AMOC) was being destabilized by climate change. Media covered this new set of AMOC findings as they related to the Gulf Stream and other associated atmosphere-ocean circulations. For example, [Washington Post correspondent Sarah Kaplan reported](#), “Human-caused warming has led to an “almost complete loss of stability” in the system that drives Atlantic Ocean currents, a new study has found – raising the worrying prospect that this critical aquatic “conveyor belt” could be close to collapse. In recent years, scientists have warned about a weakening of the Atlantic Meridional Overturning Circulation (AMOC), which transports warm, salty water from the tropics to northern Europe and then sends colder water back south along the ocean floor. Researchers who study ancient climate change have also uncovered evidence that the AMOC can turn off abruptly, causing wild temperature swings and other dramatic shifts in global weather systems. Scientists haven’t directly observed the AMOC slowing down. But the new analysis, published Thursday in the journal *Nature Climate Change*, draws on more than a century of ocean temperature and salinity data to show significant changes in eight indirect measures of the circulation’s strength. These indicators suggest that the AMOC is running out of steam, making it more susceptible to disruptions that might knock it out of equilibrium, said study author Niklas Boers, a researcher at the Potsdam Institute for Climate Impact Research in Germany. If the circulation shuts down, it could bring extreme cold to Europe and parts of North America, raise sea levels along the U.S. East Coast and disrupt seasonal monsoons that provide water to much of the world”. Furthermore, [USA Today journalist Doyle Rice noted](#), “A large system of ocean currents in the Atlantic – which includes the Gulf Stream – has been disrupted due to human-caused climate change, scientists reported in a new study published Thursday. If that system collapses, it would lead to dramatic changes in worldwide weather patterns. The Atlantic Meridional Overturning Circulation, or AMOC, transports warm, salty water from the tropics northward at the ocean surface and cold water southward at the ocean bottom”.

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Figure 4. Front pages of newspapers around the world covering the UN IPCC release of the Sixth Assessment report of WG1 in the August 10, 2021 print editions.

Yet the overwhelming majority of scientific-related climate change coverage was devoted to the release of the [UN Intergovernmental Panel on Climate Change \(IPCC\) assessment report from the first working group](#). For example, [CNN journalists Angela Fritz and Rachel Ramirez reported](#), “As the world battles historic droughts, landscape-altering wildfires and deadly floods, a landmark report from global scientists says the window is rapidly closing to cut our reliance on fossil fuels and avoid catastrophic changes that would transform life as we know it. The state-of-the-science report from the United Nations’ Intergovernmental Panel on Climate Change says the world has rapidly warmed 1.1 degrees Celsius higher than pre-industrial levels, and is now careening toward 1.5 degrees – a critical threshold that world leaders agreed warming should remain below to avoid worsening impacts. Only by making deep cuts to greenhouse gas emissions, while also removing carbon

dioxide from the atmosphere, can we halt the precipitous trend”. As a second example among many, [Guardian environment correspondent Fiona Harvey noted](#), “Human activity is changing the Earth’s climate in ways “unprecedented” in thousands or hundreds of thousands of years, with some of the changes now inevitable and “irreversible”, climate scientists have warned. Within the next two decades, temperatures are likely to rise by more than 1.5C above pre-industrial levels, breaching the ambition of the 2015 Paris climate agreement, and bringing widespread devastation and extreme weather. Only rapid and drastic reductions in greenhouse gases in this decade can prevent such climate breakdown, with every fraction of a degree of further heating likely to compound the accelerating effects, according to the Intergovernmental Panel on Climate Change, the world’s leading authority on climate science”. Figure 4 captures many front pages around the

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world as print outlets covered this IPCC WG1 release.

As a final example of scientific-themed stories in August relating to climate change, a new attribution [study](#) examined the July flooding in Germany and Belgium and found that climate change made the rare event as much as nine times more likely. Media portrayals addresses this research. For example, [Associated Press correspondent Frank Jordans reported](#), “Scientists say that global warming makes the kind of extreme rainfall that caused deadly flash flooding in western Europe last month more likely, though it remains unclear exactly how much. At least 220 people died in Germany and Belgium on July 14-15 when swollen streams turned into raging rivers, sweeping away houses, roads and bridges, and causing billions of euros (dollars) in damage. A study released Tuesday by the World Weather Attribution group used historical records and computer simulations to examine how temperatures affected rainfall from the late 19th century to the present. While the study hasn’t been assessed by independent scientists yet, its authors use widely accepted methods to conduct rapid assessments of specific weather events such as floods, droughts and heat waves. It found that across a large strip of western Europe – stretching from the Netherlands to Switzerland – the amount of rainfall in a single day increased by 3% to 19% over the period, during which global temperatures increased by 1.2 degrees Celsius (2.2 degrees Fahrenheit). Experts say that for every 1 degree Celsius (1.8 F) the planet warms, the air can absorb 7% more water. When that water is released, it causes more extreme rainfall. The study, conducted by almost 40 researchers from six European countries and the United States, calculated that downpours of the kind that caused last month’s floods are now 1.2 to 9 times more likely – and this will increase further if the planet continues to heat up”.

In August, several prominent [political](#) and [economic](#) themed media stories about climate change or global warming circulated in the public sphere. For example, ongoing anticipation of the November UN COP climate talks in Glasgow, Scotland generated several media stories. For

example, [Daily Mail journalist Martin Beckford reported](#), “Britain’s climate tsar was accused of hypocrisy last night for flying to at least 30 countries – and not isolating afterwards. Alok Sharma has travelled tens of thousands of miles over the past seven months to prepare the ground for the COP26 global environment summit this autumn. But despite visiting at least six countries on the travel ‘red list’, he has been given a ministerial exemption from hotel quarantine each time. He has also been able to avoid having to isolate at home following ‘amber list’ trips. Ordinary travellers face fines of up to £10,000 for breaking travel quarantine rules”. Meanwhile, [Guardian reporter Miranda Bryant wrote](#), “Alok Sharma, the government minister responsible for vital UN climate talks, has been accused of undermining environmental efforts and failing to set an example after reports that he has flown to 30 countries in the past seven months. The president of Cop26, which is being hosted in Glasgow in October and November, has visited countries including Brazil, Indonesia and Kenya since February.

Meanwhile, Alok Sharma’s comments sparked many other stories on climate change in August. For example, [Guardian journalist Fiona Harvey reported](#), “The world will soon face “catastrophe” from climate breakdown if urgent action is not taken, the British president of vital UN climate talks has warned. Alok Sharma, the UK minister in charge of the Cop26 talks to be held in Glasgow this November, told the Observer that the consequences of failure would be “catastrophic”: “I don’t think there’s any other word for it. You’re seeing on a daily basis what is happening across the world. Last year was the hottest on record, the last decade the hottest decade on record.” But Sharma also insisted the UK could carry on with fossil-fuel projects, in the face of mounting criticism of plans to license new oil and gas fields. He defended the government’s record on plans to reach net zero emissions by 2050, which have been heavily criticised by the UK’s independent Committee on Climate Change, and dismissed controversies over his travel schedule”.

Finally, many [cultural](#) stories continued to drive coverage related to climate change or global

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Figure 5. Examples of Japanese print media stories on the closing of the summer Olympics (August 8-9) and connections with a changing climate.

warming in August. For example, UNICEF announced that half the planet's 2.2 billion children are a 'extremely high risk' from climate change and associated pollution. This grabbed media attention. For example, *Times (of London) Environment Editor Ben Webster* wrote, "Children living in 33 countries face a "deadly combination" of exposure to multiple climate and environmental factors and inadequate essential services such as water, healthcare and education. The Children's Climate Risk Index by UNICEF, the UN children's agency, is the first comprehensive analysis of the dangers. It ranks countries based on children's exposure to climate and environmental shocks, such as cyclones and heatwaves, as well as their vulnerability to those shocks based on their access to essential services". Also, *Guardian* journalist *Damien Carrington* reported, "Almost half the world's 2.2 billion children are already at "extremely high risk" from the impacts of the climate crisis and pollution, according to a report from UNICEF. The UN agency's head called the situation "unimaginably dire". Nearly every child around the world was at risk from at least one of these impacts today, including heatwaves, floods, cyclones, disease, drought, and air pollution, the report said. But 1 billion children live in 33 countries facing three or four impacts simultaneously. The countries include

India, Nigeria and the Philippines, and much of sub-Saharan Africa. The report is the first to combine high-resolution maps of climate and environmental impacts with maps of child vulnerability, such as poverty and access to clean water, healthcare and education".

Also in August, the impacts of Brazilian President Jair Bolsonaro's actions as they related to climate change generated media interest. For example, *El País* journalist *Naiara Galarraga Gortázar* wrote "Jair Bolsonaro is the first president in the last 35 years in Brazil who has not created a single indigenous land or an ecological reserve. He has not marked a single centimeter since he took possession. It is not a surprise because he promised to do so in the campaign and it has been his position for decades, but it is a decision that directly harms native peoples, encourages the invasion of lands by white people and even hampers efforts to contain the deforestation and global warming".

As a final cultural example, many headlines and stories in Japan in August discussed climate change and the closing of the Tokyo Olympics. Stories in *Asahi Shimbun* and *Mainichi Shimbun* illustrate these accounts. Figure 5 shows front pages in Japan print media of these stories.

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SEPTEMBER “Praised Be”



Pope Francis and Orthodox Ecumenical Patriarch Bartholomew of Constantinople arrive for the meeting, 'Faith and Science: Towards COP26', with religious leaders in the Hall of Benedictions at the Vatican Oct. 4, 2021. Photo: Paul Haring/CNS.



Media attention in newspapers around the globe **increased 19%** from the previous month, and coverage **increased 79%** from a year before. Global radio coverage was **up 2%**, while coverage in international wire services **increased 26%** from the previous month. US print coverage **increased 11%** while TV coverage doubled from the previous month.

September media attention to climate change or global warming in newspapers around the globe increased 19% from the previous month of August, and coverage increased 79% from a year before (September 2020). Meanwhile, September 2021 global radio coverage of climate change or global warming was up 2% from August 2021, while coverage in international wire services increased 26% from the previous month. Compared to the previous month coverage was up in all regions: Latin America (+9%), the Middle East (+9%), Europe (+11%), Asia (+13%), Africa (+13%), Oceania (+17%), and North America (+23%). Figure 1 shows trends in newspaper media coverage at the global scale - organized into seven geographical regions around the world - from January 2004 through September 2021.

At the country level, United States (US) print coverage increased 11% while television coverage doubled from the previous month (see Figure 2).

In September, there were many *political* and *economic* themed media stories about climate change or global warming. To start, a *new report by the Atlantic Council* noted that historically marginalized racial/ethnic and socio-economic groups are found to be at the greatest risk to a changing climate. This report was also confirmed by a *US Environmental Protection Agency report* released the same day. For example, *CBS News journalist Cara Korte reported*, "Over the last 30 years, heat has caused more deaths than hurricanes, tornadoes and extreme cold combined. And if climate and demographic trends stay the same, by 2050, more than 59,000 people could die every year from heat, according to a new report from the Atlantic Council...As soon as 2030, experts say, excess heat could kill more than 8,500 people per year...And the socioeconomic ramifications of extreme heat are numerous and can compound in a domino effect. Those working outside or without air conditioning - such as agriculture or construction workers - require more breaks in

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2004–2021 World Newspaper Coverage of Climate Change or Global Warming

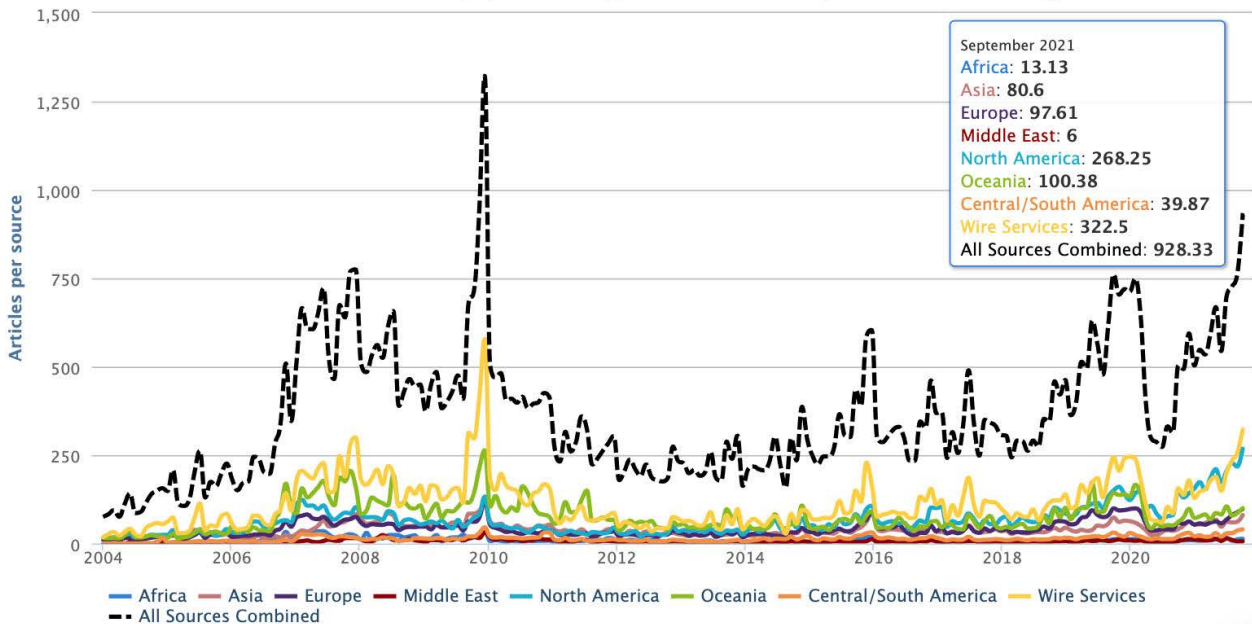


Figure 1. Newspaper media coverage of climate change or global warming in print sources in seven different regions around the world, from January 2004 through September 2021.

2000–2021 US Television Coverage of Climate Change or Global Warming

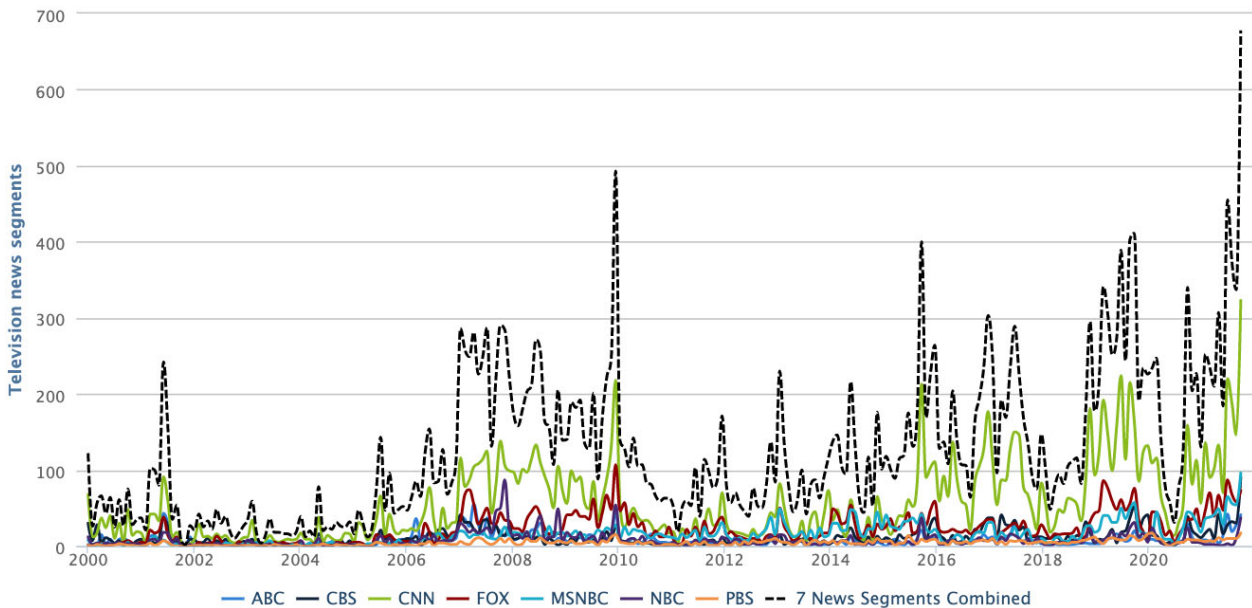


Figure 2. US television coverage of climate change or global warming from January 2000 through September 2021.

extreme heat, causing their productivity to suffer. People who are physically uncomfortable at work tend to make more mistakes. They're also more likely to get sick or injured, forcing them to miss work or work through pain. Heat also contributes to mechanical stress, meaning machines break down and slow production. Interruptions in a professional life can do the same for a personal life. If someone is out of work due to injury or

illness, not only are they possibly not getting paid, they're accumulating medical costs. The groups most affected by this cycle, according to the report, are people of color".

Also in September, news of US and EU pledges to reduce methane pollution drew media attention. For example, *Wall Street Journal* correspondents Timothy Puko and Anthony Restuccia reported,

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"President Biden said the U.S. is working with the European Union on a pledge to help cut global methane emissions by nearly a third by 2030, and he encouraged other countries to sign on to the effort. "This will not only rapidly reduce the rate of global warming, but it will also produce a very valuable side benefit, like improving public health and agricultural output," Mr. Biden said Friday during remarks at the Major Economies Forum on Energy and Climate, a long-dormant event that Mr. Biden revived ahead of United-Nations-led climate negotiations scheduled for November in Glasgow. The U.S. and the EU issued a press release Saturday detailing the pledge. Other countries that have signed on are Argentina, Ghana, Indonesia, Iraq, Mexico and the United Kingdom. The pledge would be the first global commitment to cut emissions of methane, a greenhouse gas less prevalent than carbon dioxide in the atmosphere but far more potent at trapping heat. Biden administration officials have been working for weeks to get the EU and others to sign on, focusing in particular on the world's largest economies and oil and gas producers".

Yet the main focus in September on political and economic stories relating to climate change were attached to the United Nations (UN) General Assembly (and 'Climate Week') in New York City. Seen as the final large meeting of heads of state before the November UN climate talks in Glasgow, Scotland, this was seen as an opportunity to draw attention to climate change awareness and action. Leading into the meeting, for example [Washington Post](#) journalists [Brady Dennis](#) and [Steven Mufson](#) reported, "As world leaders gather at the United Nations this week, they face no shortage of divisive issues: An ongoing global pandemic, economic strife on numerous continents, and conflict and human rights concerns from Afghanistan to Haiti. But with only six weeks left until a crucial global climate summit in Scotland, presidents and prime ministers also face pressure to set aside these diplomatic tensions and act quickly and collectively to slow the warming of the planet – something they have struggled to do in the past. "We have reached a tipping point on the need for climate action," U.N. Secretary-General António Guterres warned Thursday, in

one of his latest pleas for unity and urgency. "The disruption to our climate and our planet is already worse than we thought, and it is moving faster than predicted... We must act now to prevent further irreversible damage." This week's U.N. General Assembly marks one of the last high-profile opportunities for countries to publicly commit to more ambitious, concrete action to cut greenhouse gas emissions ahead of November's climate summit in Glasgow. So far, such promises from some of the world's biggest economies have failed to materialize, despite a full-court press from the Biden administration, the European Union and other advocates".

At the UN General Assembly, several media stories focused on how the US and China – the two biggest carbon polluters – discussed climate policy plans and actions. For example, [Associated Press](#) journalists [Seth Borenstein](#) and [Christina Larson](#) wrote, "The two biggest economies and largest carbon polluters in the world announced separate financial attacks on climate change Tuesday. Chinese President Xi Jinping said his country will no longer fund coal-fired power plants abroad, surprising the world on climate for the second straight year at the U.N. General Assembly. That came hours after U.S. President Joe Biden announced a plan to double financial aid to poorer nations to \$11.4 billion by 2024 so those countries could switch to cleaner energy and cope with global warming's worsening impacts. That puts rich nations close to within reach of its long-promised but not realized goal of \$100 billion a year in climate help for developing nations...This could provide some momentum going into major climate talks in Glasgow, Scotland, in less than six weeks, experts said. Running up to the historic 2015 Paris climate deal, a joint U.S.-China agreement kickstarted successful negotiations. This time, with China-U.S. relations dicey, the two nations made their announcements separately, hours and thousands of miles apart".

Climate change or global warming elements shaping the German elections also made news stories across Europe in September. For example, journalists [Elena. G. Sevillano](#) and [Luis Doncel](#) in a headline in the newspaper [El País](#):

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"Greens and liberals will have the key to form the next government". The climate issue has been an electoral issue that has been given relevance by all parties, except the ultra-conservatives".

September media accounts were punctuated by many *cultural* stories relating to climate change or global warming. To start the month, media covered several actions by medical professionals to draw attention to the changing climate. For example, *Guardian* journalist *Diane Taylor* reported, "Sixty doctors, nurses and other health professionals have staged a die-in protest outside JP Morgan's Canary Wharf headquarters in London to highlight the bank's investment in fossil fuels. The protest on Friday was organised by one of Extinction Rebellion's groups, Doctors for Extinction Rebellion. The climate activist medics said this was their biggest protest so far and that JP Morgan was the biggest funder of coal, oil and gas extraction. The demonstration was part of a two-week series of XR protests against organisations supporting fossil fuels. The medics delivered a letter referring to the recent Intergovernmental Panel on Climate Change report and the International Energy Association's "net zero by 2050" report".

As a second example, media attention was paid to a statement by the editors of over 200 medical journals that called for immediate action to combat climate change. For example, *Wall Street Journal* correspondent *Robert Lee Hotz* reported, "Editors of 220 leading medical, nursing and public-health journals from around the world called for urgent action on climate change, in a joint editorial published on Sunday. The editorial, which appeared in journals including the *New England Journal of Medicine*, the *British Medical Journal* and *The Lancet*, warns that current efforts aren't enough to address health problems resulting from rising global temperatures caused by emissions of carbon dioxide and other greenhouse gases. "Health is already being harmed by global temperature increases and the destruction of the natural world," the journals' editors say in the editorial. If unchecked, they say, rising temperatures "risk catastrophic harm to health that will be impossible to reverse".

In cultural arenas of religion, climate change stories arose in September as well. For instance, a joint statement by the heads of the Anglican Communion, the Roman Catholic Church and the Eastern Orthodox Church focused on action to address climate change and social inequality. As an example of coverage, *Associated Press* correspondent *Nicole Winfield* reported, "The world's top Christian leaders – Pope Francis, the Archbishop of Canterbury and the spiritual leader of Orthodox Christians – on Tuesday issued a joint appeal for delegates at the upcoming U.N. climate summit to "listen to the cry of the Earth" and make sacrifices to save the planet. In their first-ever joint statement, the three Christian clerics said the coronavirus pandemic gave political leaders an unprecedented opportunity to rethink the global economy and make it more sustainable and socially just for the poor... The statement was dated Sept. 1, when their churches celebrate the world day for the care of creation. There was no official explanation for why it was released a week late, though the Vatican is essentially closed for business in August, suggesting summer holidays might have been to blame. While the joint statement was a first, Francis has frequently cited Bartholomew's teachings on the environment, including in his landmark 2015 environmental encyclical "Praised Be." Welby, a former oil executive, has spoken out about the moral crisis of climate change though his Church of England has declined to divest fully from carbon-intensive companies arguing that it can force greater change on the fossil fuel industry as a shareholder".

In the US in September - in cultural events associated with United Nations 'Climate Week' in New York City, there were media stories of how members of the entertainment community confronted climate change from late night comedy show platforms. For example, *journalist Jeff Berardelli from CBS News* noted, "Climate change, which is responsible for magnifying this summer's deadly heat waves, hurricanes, wildfires and floods, is typically no laughing matter. But for one night, seven popular late-night comedy shows hope they can change that. On Wednesday, September 22, the hosts are dedicating a portion of each of their shows to

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giving climate change a very unusual platform. The goal of the unprecedented, coordinated effort is to reach a wide audience and convey the seriousness of the challenge faced by humanity. CBS' "The Late Show with Stephen Colbert" and "The Late Late Show with James Corden," ABC's "Jimmy Kimmel Live!," NBC's "The Tonight Show Starring Jimmy Fallon" and "Late Night with Seth Meyers," Comedy Central's "The Daily Show with Trevor Noah" and TBS' "Full Frontal with Samantha Bee" are all participating in Climate Night". As a second example, *New York Times* journalist [Trish Bendix](#) rounded up the shows, noting, "Seven late-night hosts came together for Climate Night on Wednesday, using their respective shows to raise awareness about climate change. "You can't escape," Jimmy Kimmel said in his monologue. "It's basically an intervention".

And around the world on Friday, September 24, ongoing youth climate strikes - reportedly more than 1,500 demonstrations across the planet - garnered media attention. For example, *CNN* journalists [Rachel Ramirez](#), [Angela Dewan](#), [Aditi Sangal](#), [Isabelle Jani-Friend](#), [Melissa Mahtani](#) and [Meg Wagner](#) reported, "The theme for today's Global Climate Strike is "Uproot The System" which is meant to spotlight the most climate-vulnerable communities. Organizers say uprooting the system means addressing the historical legacies of injustice that exacerbate the most severe impacts of the climate crisis. Meanwhile, *New York Times* journalist [Melissa Eddy](#) noted, "Hundreds of thousands of young people around the world on Friday returned to the streets in the first global climate protest since the coronavirus pandemic forced them into lockdowns. Protesters gathered in Bangladesh, in Kenya, the Netherlands and in many other countries. But nowhere was the call to action more urgent than in Germany, where an estimated several hundred thousand people turned out in more than 400 cities, putting pressure on whoever wins a national election Sunday to put climate protection at the top of their agenda".

A final illustration of media coverage of cultural elements of climate change or global warming



Figure 3. *Helsingin Sanomat* (Finland) coverage of climate change on September 26 focusing on travel and climate change and tourism in Finland.

was noted in Finland's *Helsingin Sanomat* (see Figure 3). With the English-translated headline 'Return to the Sun', [this story by correspondent Anni Keski-Heikkilä](#) focused on travel restrictions associated with the ongoing COVID-19 pandemic and reduced greenhouse gas emissions.

September media accounts about climate change or global warming were also populated by *ecological* and *meteorological* stories. To begin, hurricane Ida in the Caribbean - and its impacts on the US Gulf Coast in particular - drew media attention. Also, as the storm continued to move through the eastern US over the following days - causing flooding and other meteorological events - it garnered further media attention. For example, *Washington Post* correspondents [María Luisa Paúl](#), [Lateshia Beachum](#), [Paulina Firozi](#), [Mark Berman](#), [Ben Guarino](#), [Jason Samenow](#), [Philip Bump](#), [Jacob Bogage](#), [Holly Bailey](#), [Jaclyn Peiser](#) and [Will Oremus](#) reported, "Three days after making landfall in Louisiana, the remnants of Hurricane Ida tore into the Northeast, where

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a historic deluge caused flooding that killed at least 44 people across New York, New Jersey, Pennsylvania and Connecticut. The barrage that ended Thursday did more than evoke harrowing memories of the region's last deadly storm and leave cities at a standstill. For New York officials, the storm's onslaught sounded the alarms for the need of aggressive moves to adapt to a changing climate". Meanwhile, [New York Times reporter Andy Newman noted](#), "Three days after Hurricane Ida made landfall in Louisiana, its weakened remnants tore into the Northeast and claimed at least 43 lives across New York, New Jersey and two other states in an onslaught that ended Thursday and served as an ominous sign of climate change's capacity to wreak new kinds of havoc".

In ecological developments, announcements from the US Fish and Wildlife Department about threatened and extinct species from climate change garnered headlines and stories. For example, [Associated Press correspondent Matthew Brown reported](#), "Death's come knocking a last time for the splendid ivory-billed woodpecker and 22 more birds, fish and other species: The U.S. government on Wednesday declared them extinct. It's a rare move for wildlife officials to give up hope on a plant or animal, but government scientists say they've exhausted to find these 23. And they warn climate change, on top of other pressures, could make such disappearances more common as a warming planet adds to the dangers facing imperiled plants and wildlife... Climate change is making species recovery harder, bringing drought, floods, wildfires and temperature swings that compound the threats species already faced".

Finally, many climate change or global warming stories in September remained focused on [scientific](#) themes. Among them, a new World Meteorological Organization report in early September examining weather- and climate-related disasters got media attention in several outlets. For example, [Associated Press journalists Seth Borenstein and Jamey Keaten reported](#), "Weather disasters are striking the world four to five times more often and causing seven times more damage than in the 1970s,

the United Nations weather agency reports. But these disasters are killing far fewer people. In the 1970s and 1980s, they killed an average of about 170 people a day worldwide. In the 2010s, that dropped to about 40 per day, the World Meteorological Organization said in a report Wednesday that looks at more than 11,000 weather disasters in the past half-century. The report comes during a disaster-filled summer globally, including deadly floods in Germany and a heat wave in the Mediterranean, and with the United States simultaneously struck by powerful Hurricane Ida and an onslaught of drought-worsened wildfires".

In a second example, news stories emanated from the release of a [Nature Climate Change study](#) assessing the world's remaining oil, coal and gas reserves in the context of a changing climate. For example, [CNN journalist Rachel Ramirez reported](#), "To avoid the worst consequences of climate change – worsening extreme weather, irreversible ecosystem shifts, loss of life and economic hardship – scientists say the world must limit global warming to 1.5 degrees Celsius above pre-industrial levels. The only way to do that, they say, is by making deep cuts to fossil fuel emissions. New research quantifies exactly what it would take: keeping a vast majority of Earth's remaining fossil fuels tucked underground. The study, published in the journal *Nature* on Wednesday, found that nearly 60% of the planet's remaining oil and natural gas and 90% of its coal reserves should remain in the ground by 2050, underscoring that most regions around the world must reach peak fossil fuel production now or within the next decade to avoid the critical climate threshold". As a second example, [Associated Press reporter Drew Costley noted](#), "Researchers who estimate how much of the world's coal, oil and natural gas reserves should be left unburned to slow the increase in climate-changing gases in the atmosphere say even more of these fossil fuels should be left in the ground...They now calculate that nearly 60% of the world's oil and gas reserves and 90% of the coal reserves need to stay in the ground by 2050 to meet climate goals of the Paris Climate Agreement. Those limits would give the world

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a 50-50 chance of limiting global warming to 1.5 degrees Celsius (2.7 degrees Fahrenheit) compared to pre-industrial times, according to their study”.

Later in September, a [World Bank report](#) that found dire climate impacts on vulnerable human communities generated media attention. For example, [Associated Press correspondent Renata Brito reported](#), “Climate change could push more than 200 million people to leave their homes in the next three decades and create migration hot spots unless urgent action is taken to reduce global emissions and bridge the development gap, a World Bank report has found. The second part of the Groundswell report published Monday examined how the impacts of slow-onset climate change such as

water scarcity, decreasing crop productivity and rising sea levels could lead to millions of what it describes as “climate migrants” by 2050 under three different scenarios with varying degrees of climate action and development. Under the most pessimistic scenario, with a high level of emissions and unequal development, the report forecasts up to 216 million people moving within their own countries across the six regions analyzed. Those regions are Latin America; North Africa; Sub-Saharan Africa; Eastern Europe and Central Asia; South Asia; and East Asia and the Pacific. In the most climate-friendly scenario, with a low level of emissions and inclusive, sustainable development, the world could still see 44 million people being forced to leave their homes”.

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OCTOBER “The sobering realization that we’re going completely in the wrong direction”



Deforestation next to a palm oil plantation after fires in South Kalimantan Province, Indonesia. Land clearing is a major source of carbon dioxide in the atmosphere, a driver of climate change. Photo: Willy Kurniawan/Reuters.



Media attention in newspapers around the globe reached its second highest levels on record (behind December 2009). Coverage **increased 22%** from the previous month, and coverage **increased 114%** from a year before. Global radio coverage was **up 29%** and international wire services **increased 11%** from the previous month.

October media attention to climate change or global warming in newspapers around the globe reached its second highest levels on record (behind December 2009). Coverage increased 22% from the previous month of September, and coverage increased 114% from a year before (October 2020). Meanwhile, October 2021 global radio coverage of climate change or global warming was up 29% from September 2021, while coverage in international wire services increased 11% from the previous month. Compared to the previous month coverage was up in all regions except North America (-2%): Africa (+6%), Europe (+26%), Asia (+29%), Latin America (+39%), Oceania (+58%), and the Middle East (+114%). Of note, coverage in Europe and Latin America are at record high levels. Figure 1 shows trends in newspaper media coverage at the global scale - organized into seven

geographical regions around the world - from January 2004 through October 2021.

At the country level, United States (US) print coverage increased 16% while television coverage increased 3% from the previous month (see Figures 2 & 3). These are the highest levels of coverage on record to date.

Meanwhile, compared to the previous month, coverage decreased in Canada (-15%), Spain (-7%), and Germany (-26%), but rose in all the other countries that we at the Media and Climate Change Observatory (MeCCO) monitor: Denmark (+5%), Norway (+12%), Sweden (+13%), India (+14%), New Zealand (+20%), Russia (+21%), Finland (+39%), the United Kingdom (UK) (+48%), Japan (62%), and Australia (+75%) in October 2021. Of note, this is a record high level of coverage in the UK as well (see Figure 4).

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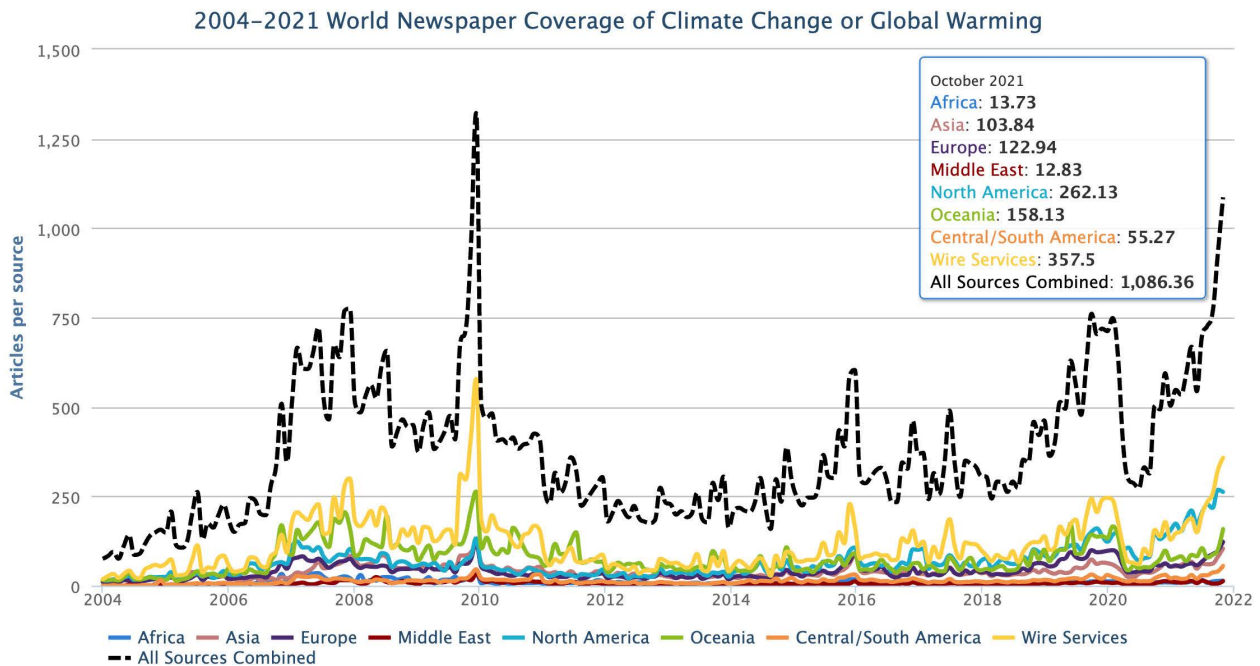


Figure 1. Newspaper media coverage of climate change or global warming in print sources in seven different regions around the world, from January 2004 through October 2021.

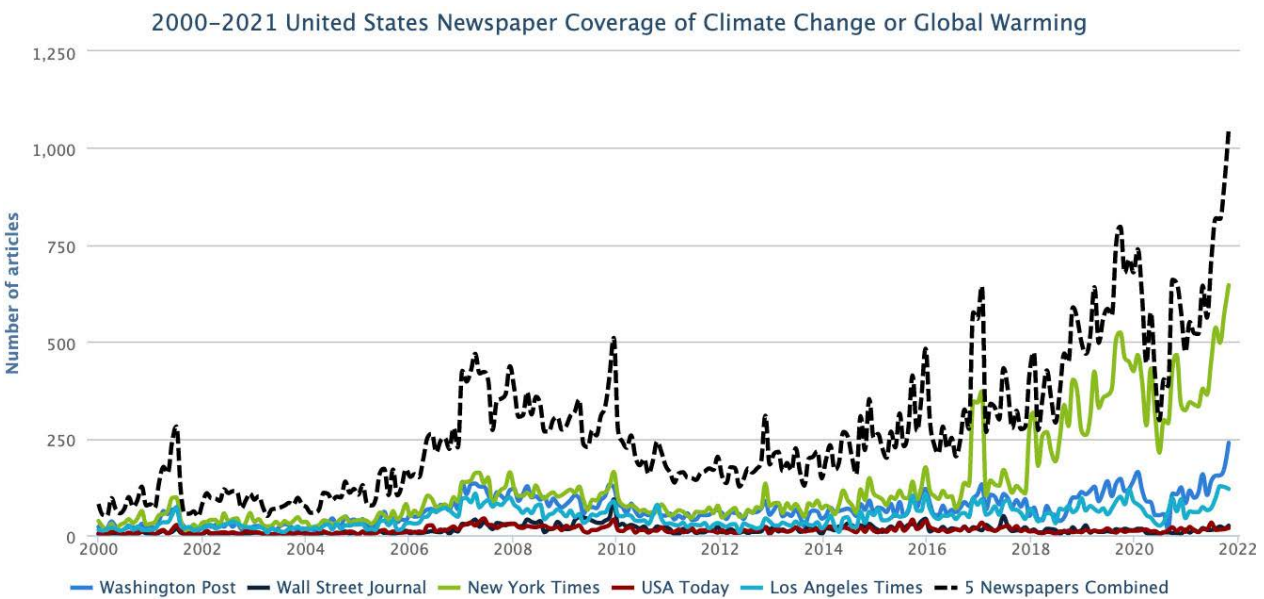


Figure 2. US print coverage of climate change or global warming from January 2000 through October 2021.

In October, there were many *political* and *economic* themed media stories about climate change or global warming. To start, policy efforts to cut methane emissions – with more than 30 countries signing a pledge and with philanthropic support – influenced news coverage at the beginning of the month. For example, *New York Times* journalist Lisa Friedman reported, “32 countries ha[ve] joined the United States in a pledge to reduce methane emissions, part of an

effort to set new targets to slow global warming before a major United Nations climate summit in Glasgow next month. Methane is the second-most prevalent greenhouse gas after carbon dioxide but much more potent in the short term in its ability to heat the planet. It is the main component of natural gas and is also released into the atmosphere from landfills, livestock and thawing permafrost. The pledge, developed with the European Union, commits nations to cut

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2000–2021 US Television Coverage of Climate Change or Global Warming

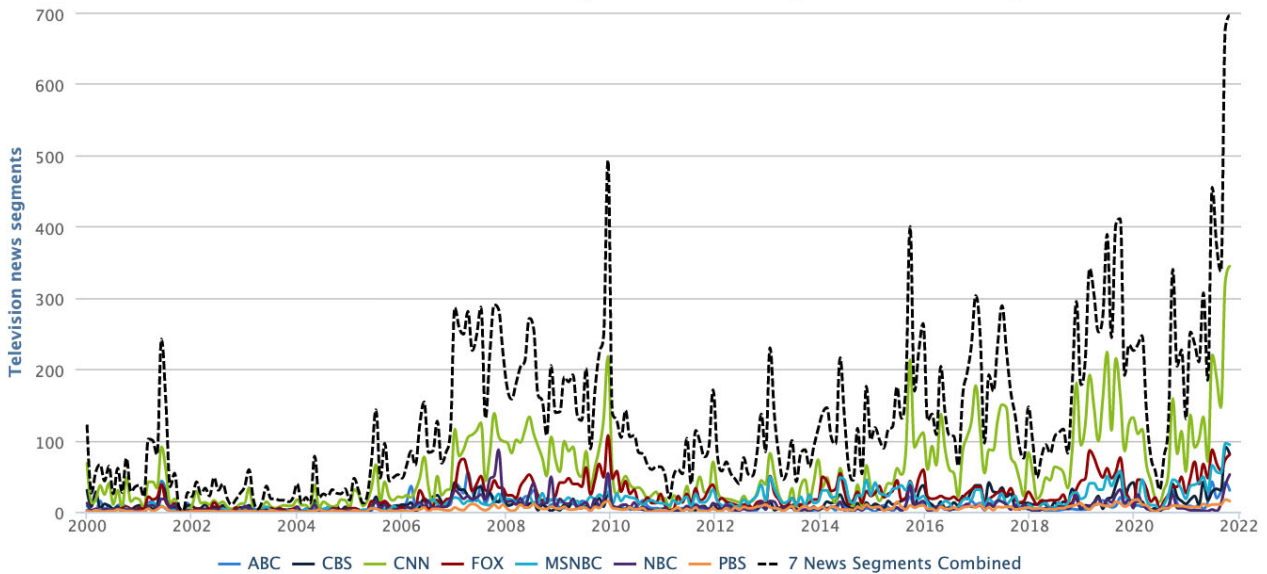


Figure 3. US television coverage of climate change or global warming from January 2000 through October 2021.

2000–2021 United Kingdom Newspaper Coverage of Climate Change or Global Warming

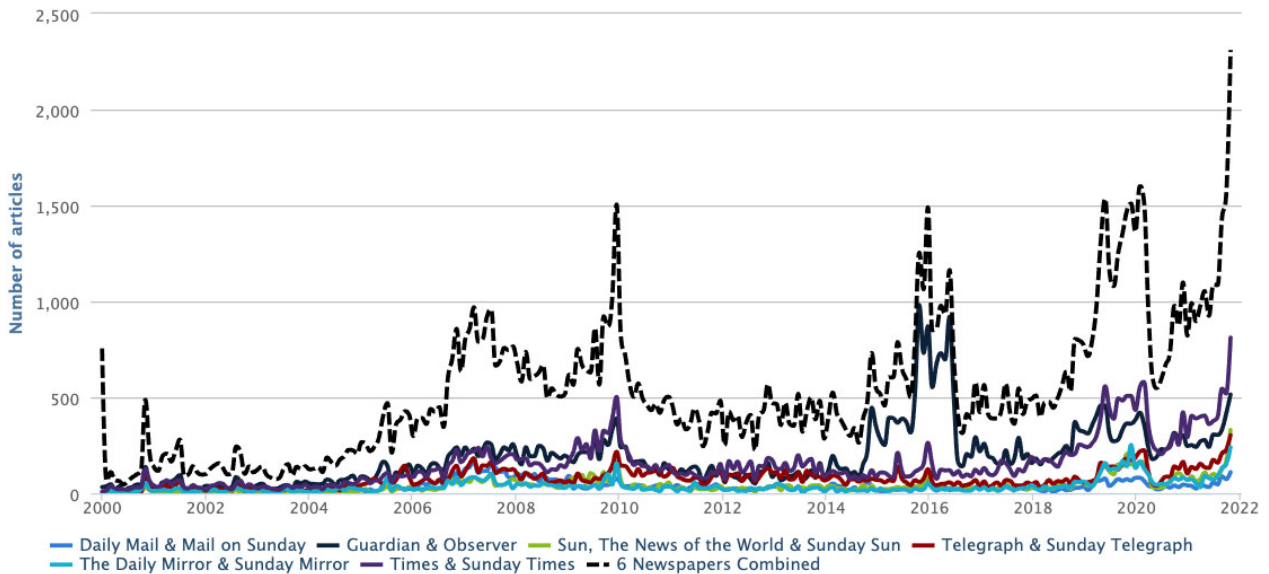


Figure 4. UK newspaper coverage of climate change or global warming from January 2000 through October 2021.

emissions from methane 30 percent by 2030. While the four heaviest emitters of methane – China, India, Russia and Brazil – have not joined the pledge, the administration announced that nine of the world’s top 20 methane polluters had signed on. In addition to the United States and the European Union, they are Canada, Indonesia, Pakistan, Mexico, Nigeria, Argentina and Iraq”.

October was also punctuated with anticipation of the United Nations (UN) Conference of Parties (COP) meeting negotiating how to address climate change, taking place in

Glasgow, Scotland October 31–November 12. For example, *Wall Street Journal* reporters Max Colchester and Mike Cherney noted, “The U.K. called on countries including India and China to update their plans to reduce greenhouse-gas emissions, ratcheting up pressure on a handful of states as preparations for a United Nations climate summit in Glasgow accelerate...A key foundation of the talks, aimed at limiting global warming, is individual countries’ own technical plans to cut emissions. Several major economies including the U.K., the U.S. and the EU have

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recently updated their plans to pivot from fossil fuels. Some major polluters, including China and India, haven't yet made public their own fresh commitments ahead of the meeting. Other countries, such as Australia, Indonesia and South Africa, have updated climate targets or are considering revisions, though some environmental groups are concerned policy makers aren't moving fast enough. In Mexico, President Andrés Manuel López Obrador has moved to give priority to fossil fuel on the national grid over renewable energy sources, which environmentalists say will hurt Mexico's emission-reduction goals". As a second example, in an article entitled 'Earth gets hotter, deadlier during decades of climate talks' *Associated Press* journalist [Seth Borenstein](#) reported, "World leaders have been meeting for 29 years to try to curb global warming, and in that time Earth has become a much hotter and deadlier planet. Trillions of tons of ice have disappeared over that period, the burning of fossil fuels has spewed billions of tons of heat-trapping gases into the air, and hundreds of thousands of people have died from heat and other weather disasters stoked by climate change, statistics show". Furthermore, [journalist Anne-Laure Frémont, from *Le Figaro*](#) noted, "At the moment, the world is still far from a path to achieve carbon neutrality by 2050, a prerequisite, albeit essential, to hope to limit warming below this 1.5 ° C threshold".

Meanwhile, a UN report finding that fossil fuel extraction has been out of step with climate policy plans generated media attention in mid-October. For example, [CNN journalist Rachel Ramirez](#) reported, "Ahead of a critical global climate conference in November, a UN report released Wednesday shows that many of the world's largest fossil fuel producers are still planning to ramp up production in the coming years, and will be burning far more fossil fuels in 2030 than what is consistent with global climate pledges. The UN Environment Programme analysis shows that 15 major fossil fuel-generating countries will produce roughly 110% more coal, oil, and gas in 2030 than what would be necessary to limit warming to 1.5 degrees Celsius above pre-industrial levels, and



Figure 5. Front page print coverage in *The Observer* (UK) capturing initial anticipation of the UN COP climate negotiations.

45% more than what would be consistent with 2 degrees. Scientists have said limiting warming to those thresholds is critical to avoid the worst consequences of the climate crisis. Researchers call this disconnect between government plans and international climate commitments the "production gap," which they conclude remains "largely unchanged" compared to previous assessments since the annual report first launched in 2019. The latest analysis found that the production gap is widest for coal, of which governments plan to produce roughly 240% more in 2030. They are also planning to produce 57% more oil and 71% more natural gas than what is in line with the 2015 Paris Agreement".

In later October, the US Financial Stability Oversight Council issued a report about economic instability resulting from unchecked climate change and this generated US media coverage as well as some international media attention. For example, [New York Times](#) journalists [Alan Rappaport](#) and [Chris Flavelle](#) reported, "Climate change is an "emerging threat" to the stability of the U.S. financial system, top federal regulators

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warned in a report on Thursday, setting the stage for the Biden administration to take more aggressive regulatory action to prevent climate change from upending global markets and the economy. The report, produced by the Financial Stability Oversight Council, is the clearest expression of alarm to date about the risks that rising temperatures and seas pose to the economy and could herald sweeping changes to the kinds of investments made by banks and other financial institutions...The report by the Financial Stability Oversight Council, which is led by the Treasury secretary and includes leaders from the major financial regulatory agencies, portrayed the financial threat of climate change in stark terms. Higher temperatures are leading to more natural disasters, such as hurricanes, wildfires and floods. These, in turn, are resulting in damaged property, lost income and disruptions to business activity that threaten to alter how assets, such as real estate, are valued. At the same time, the move away from fossil fuels could cause a sudden drop in the price of stocks and other assets tied to oil, gas, coal and other energy companies, or sectors that rely on them such as carmakers and heavy manufacturing. Such a shift could hurt the stock market, retirement savings and other parts of the financial sector”.

And despite the Chinese government’s absence at the UN COP negotiations, their updated pledge for emissions reductions generated media coverage in October. For example, [South China Morning Post](#) journalist [Echo Xie](#) reported, “China submitted its updated emissions reduction commitment, known as Nationally Determined Contributions (NDCs), to the United Nations on Thursday, just days ahead of the COP26 climate conference in Glasgow. But climate observers described it as modest and said it failed to improve China’s ambition by much. The updated document includes President Xi Jinping’s pledge last September that China will reach peak carbon emissions before 2030 and achieve neutrality – also known as net zero – before 2060. Compared with China’s previous NDC, submitted in 2016, there are also higher commitments to reducing emissions by 2030. The previous goal to increase China’s share of

non-fossil fuels in primary energy consumption has been raised from 20 per cent to 25 per cent. China also aims to reduce carbon intensity – measured as emissions per unit of GDP – by 65 per cent on 2005 levels, another 5 per cent increase on its 2016 pledge. The country also aims to increase its forest stock volume by 6 billion cubic metres, up from its previous target of around 4.5 billion. Installed wind and solar capacity will more than double, from last year’s 535 gigawatts to 1,200GW by 2030, according to the documents published on the website of the UN Framework Convention on Climate Change (UNFCCC)”.

Finally, in political and economic coverage to round out the month of October, the Group of 20 (G20) meeting in Rome, Italy – which brings together 80% of world GDP and greenhouse gas emissions – garnered media attention as world leaders discussed climate policy initiatives. For example, [New York Times](#) journalists [Somini Sengupta](#) and [Jason Horowitz](#) reported, “Leaders of the Group of 20 nations sent a symbolic message on Sunday as one of the most important climate conferences began, pledging to “pursue efforts” to keep the average global temperature rise to 1.5 degrees Celsius by the end of this century. While the mention of the number, seen as a critical threshold for limiting the severest effects of climate change, is a step forward, the leaders did not say how their countries would reduce their emissions more aggressively to achieve that goal...At the moment, however, achieving a 1.5-degree cap is a highly ambitious goal. Even if all countries achieve the targets they set for themselves in the Paris Agreement, average global temperatures are on track to rise by 2.7 degrees Celsius by the end of the century. Reaching the target would require big polluting countries to strengthen those targets, or Nationally Determined Contributions, as they are known, by committing to reduce emissions much faster between now and 2030. The leaders committed “to take further action this decade” and to update their plans as necessary”. Furthermore, [journalist Giovanni Spinazzola](#), from [Corriere della Sera](#), titled it “United against the virus and climate change” on the cover of October 30th and [La Repubblica](#)

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Figure 6. Front page print coverage in *Corriere Della Sera* (Italy), *La Vanguardia* (Spain), *Le Figaro* (France), and *La Repubblica* (Italy) discussing the G20 summit in Rome, Italy.

also dedicated the cover of the 31st to him, whose headline was “Climate, the road is uphill”. The subtitle noted that “emissions reduction negotiations were difficult in the G20. China, Russia and India are holding back, and there is Anglo-Italian mediation. Mattarella’s appeal: the world looks to us to agree on a global minimum tax and for vaccines for the poorest countries”.

In addition, many climate change or global warming stories in October remained focused on **scientific** themes. Among them, a new International Energy Agency’s World Energy Outlook publication documenting clean energy growth generated media attention. For example, *Guardian* journalist [Rob Davies noted](#), “Current plans to cut global carbon emissions will fall 60% short of their 2050 net zero target, the International Energy Agency has said, as it urged leaders to use the upcoming Cop26 climate conference to send an “unmistakable signal” with concrete policy plans. In its annual World Energy Outlook, redesigned this year as a “guidebook” for world leaders attending the summit in Glasgow, the IEA predicted that carbon emissions would decrease by just 40% by the middle of the century if countries stick to their climate pledges. The organisation said the difference between current plans and the change necessary to reach the net zero target was “stark”, requiring up to \$4tn (£2.94tn) in investment over the next decade alone to bridge the divide”. Yet, *Wall Street Journal* correspondent [Jinjoo Lee reported](#), “The International Energy Agency’s

closely watched World Energy Outlook confirms what the world is starting to feel in its bones: The coming energy transition could be painful and expensive. Fatih Birol, executive director of the IEA, in a statement accompanying the report lamented the failure to invest enough to meet future energy needs, saying the situation is “setting the stage for a volatile period ahead.” Worth noting in the report, which was released Wednesday, is that the agency for the first time forecasts an eventual decline in oil demand in all three of its scenarios—from the most status quo assumption to the most ambitiously green (net-zero emissions by 2050). Under its most conservative “stated policies scenario,” which is based on climate policies that are already in place and those that are under development, the IEA expects oil demand to peak in the mid-2030s at roughly 104 million barrels a day from almost 100 million today, with a slow decline through 2050”.

Also, an [open-access study](#) in the journal *Environmental Research Letters* that found a vanishingly small number of publications that questioned human’s role in a changing climate earned media attention. For example, *Guardian* journalist [Jonathan Watts reported](#), “The scientific consensus that humans are altering the climate has passed 99.9%, according to research that strengthens the case for global action at the Cop26 summit in Glasgow. The degree of scientific certainty about the impact of greenhouse gases is now similar to the level of

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agreement on evolution and plate tectonics, the authors say, based on a survey of nearly 90,000 climate-related studies. This means there is practically no doubt among experts that burning fossil fuels, such as oil, gas, coal, peat and trees, is heating the planet and causing more extreme weather. A previous survey in 2013 showed 97% of studies published between 1991 and 2012 supported the idea that human activities are altering Earth's climate. This has been updated and expanded by the study by Cornell University that shows the tiny minority of sceptical voices has diminished to almost nothing as evidence mounts of the link between fossil-fuel burning and climate disruption. The latest survey of peer-reviewed literature published from 2012 to November 2020 was conducted in two stages. First, the researchers examined a random sample of 3,000 studies, in which they found only four papers that were sceptical that the climate crisis was caused by humans. Second, they searched the full database of 88,125 studies for keywords linked to climate scepticism such as "natural cycles" and "cosmic rays", which yielded 28 papers, all published in minor journals".

In October, the annual [Lancet Countdown report](#) (to which two members of the MeCCO team - Lucy McAllister and Olivia Pearman contributed - grabbed media attention around the world. For example, [Washington Post correspondent Sarah Kaplan wrote](#), "Climate change is set to become the "defining narrative of human health," a top medical journal warned Wednesday - triggering food shortages, deadly disasters and disease outbreaks that would dwarf the toll of the coronavirus. But aggressive efforts to curb greenhouse gas emissions from human activities could avert millions of unnecessary deaths, according to the analysis from more than 100 doctors and health experts. In its annual "Countdown on health and climate change," the Lancet provides a sobering assessment of the dangers posed by a warming planet. More than a dozen measures of humanity's exposure to health-threatening weather extremes have climbed since last year's report". As a second example, [Associated Press correspondent Seth Borenstein reported](#), "Health problems tied to climate change are all getting worse...

The annual reports commissioned by the medical journal Lancet tracked 44 global health indicators connected to climate change, including heat deaths, infectious diseases and hunger. All of them are getting grimmer, said Lancet Countdown project research director Marina Romanello, a biochemist...Vulnerable populations - older people and very young - were subject to more time with dangerous heat last year. For people over 65, the researchers calculated there were 3 billion more "person-day" exposures to extreme heat than the average from 1986 to 2005. More people were in places where climate-sensitive diseases can flourish. Coastline areas warm enough for the nasty Vibrio bacteria increased in the Baltics, the U.S. Northeast and the Pacific Northwest in the past decade. In some poorer nations, the season for malaria-spreading mosquitoes has expanded since the 1950s. "Code Red is not even a hot enough color for this report," said Stanford University tropical medicine professor Dr. Michele Barry, who wasn't part of the study team. Compared to the last Lancet report, "this one is the sobering realization that we're going completely in the wrong direction."

Also in October, a [new paper in Science](#) documented how land dispossession from native peoples in the US has also increased their vulnerability to climate change. This work generated news. For example, [New York Times journalist Christopher Flavelle reported](#), "Centuries of land loss and forced relocation have left Native Americans significantly more exposed to the effects of climate change, new data show, adding to the debate over how to address climate change and racial inequity in the United States. The findings, which took seven years to compile and were published Thursday in the journal Science, mark the first time that researchers have been able to quantify on a large scale what Native Americans have long believed to be true: That European settlers, and later the United States government, pushed Indigenous peoples onto marginal lands".

October media accounts were punctuated by [cultural](#) stories relating to climate change or global warming. For example, protesters

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demonstrating outside the G20 summit that commenced at the end of the month earned media coverage. For example, *New York Times* journalists [Elisabetta Povoledo](#) and [Emma Bubola](#) reported, “Several thousand protesters marched in Rome on Saturday afternoon, dancing, drumming and singing “Bella Ciao,” a song identified with the resistance movement during World War II. And they vented their rage and disenchantment with the current world order: “You are the G20, we are the future,” they chanted, as they wound down a Rome avenue, setting off red and green flares. At least 5,000 people joined the march, according to police officials, though organizers said the number was more than twice that. This year is the 20th anniversary of the Group of 8 summit that Italy hosted in the northern city of Genoa that was marred by rioting. It is also a moment of tension between the authorities and opponents of the Italian government’s coronavirus vaccination requirements, which have resulted in violent clashes”.

Meanwhile, in Glasgow and Edinburgh – Scotland’s largest two cities – demonstrators also drew attention through media accounts. For example, *Guardian* reporter [Matthew Taylor](#) observed, “Climate justice campaigners held events in Scotland’s two biggest cities on Sunday as world leaders arrived in Glasgow for the start of the Cop26 summit. Hundreds of activists in Halloween costumes marched through Edinburgh and held a rally outside the Scottish parliament. Meanwhile the Cop26 Coalition, which includes civil society groups, indigenous communities, anti-racist groups and frontline activists from the global south, launched its campaign just a few hundred metres from the official conference venue in Glasgow”.

Last, October media accounts about climate change or global warming were also populated by [ecological](#) and [meteorological](#) stories. To begin, vanishing glaciers and extreme precipitation

events – as they relate to a changing climate – earned media coverage. For example, *USA Today* reporter [Jordan Mendoza](#) noted, “The last three mountain glaciers in Africa are receding so much that they may disappear in the next 20 years, according to a recent United Nations report that outlines the many issues facing the continent due to global warming. Ahead of the United Nations’ climate change conference on Oct. 31, the World Meteorological Organization released a report on the state of Africa’s climate in 2020, detailing how much the continent’s estimated 1.3 billion people will be affected in the coming years. The three mountain glaciers remaining – Mount Kenya in Kenya, the Rwenzori Mountains in Uganda and the famous Mount Kilimanjaro in Tanzania – aren’t big enough to provide water resources, but have become tourist attractions. Mount Kilimanjaro, the highest mountain in Africa, is one of the most popular climbs in the world. However, the glaciers on the mountains are receding higher than the global average. If they continue to do so, they will be completely gone by the 2040s, the report says. Mount Kenya is on pace to deglaciate by 2030”.

Also, news of increasing concentrations of greenhouse gas emissions in the atmosphere – after a slowdown during the coronavirus pandemic – was prevalent. For example, *US National Public Radio* [Scott Neuman](#) reported, “Despite a world economy that slowed significantly because of COVID-19, the accumulation of greenhouse gases in the atmosphere reached a new record last year, putting the goal of slowing the rise of global temperatures “way off track,” according to the World Meteorological Organization (WMO). The United Nations body said Monday that carbon dioxide had risen by more than the 10-year average in 2020 to 413.2 parts per million, despite a slight decrease in emissions due to the coronavirus pandemic. Methane and nitrous oxide, two other potent greenhouse gases, also showed increases”.

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NOVEMBER “The real mask-to-mask climate negotiations”



Last minute resistance at the COP26 summit over efforts to phase out coal left many countries disappointed, but the agreement still marked new progress. Photo: Jeff J Mitchell/Getty Images.



Media attention in newspapers around the globe **increased 19%** from the previous month, and coverage **increased 79%** from a year before. Global radio coverage was **up 2%**, while coverage in international wire services **increased 26%** from the previous month. US print coverage **increased 11%** while TV coverage doubled from the previous month.

November media attention to climate change or global warming in newspapers around the globe remained at high levels that were found in October 2021. While coverage stayed at similar levels to the previous month, coverage increased 81% from a year before (November 2020). Meanwhile, November 2021 global radio coverage of climate change or global warming was up 45% from October 2021, while coverage in international wire services decreased 12% from the previous month. Compared to the previous month coverage was up in all regions except Oceania (-8%) and North America (-15%): Asia (+3%), Europe (+5%), Latin America (+13%), Africa (+33%), and the Middle East (+66%). Of note, coverage in Europe and Latin America remain at record high levels. Figure 1 shows trends in newspaper media coverage at the global scale – organized into seven geographical regions around the world – from January 2004 through November 2021.

At the country level, United States (US) print coverage decreased 5% while television coverage also decreased 4% from the previous month (see Figures 2 & 3). These are slight dips from the highest levels of coverage on record to date that were detected in October 2021.

Meanwhile, compared to the previous month, coverage decreased in Germany (-1%), the United Kingdom (UK) (-2%), Sweden (-5%), Japan (-9%), Finland (-13%), Australia (-14%), and Canada (-25%), but rose in other countries that we at the Media and Climate Change Observatory (MeCCO) monitor: New Zealand (+13%), India (+15%), Denmark (+16%), Spain (+43%), and Norway (+56%) in November 2021. Of note, this slight decrease in UK print coverage in November follows a record high level of coverage in the UK in October 2021 (see Figure 4).

In November, there were many *political* and *economic* themed media stories about climate

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2004–2021 World Newspaper Coverage of Climate Change or Global Warming

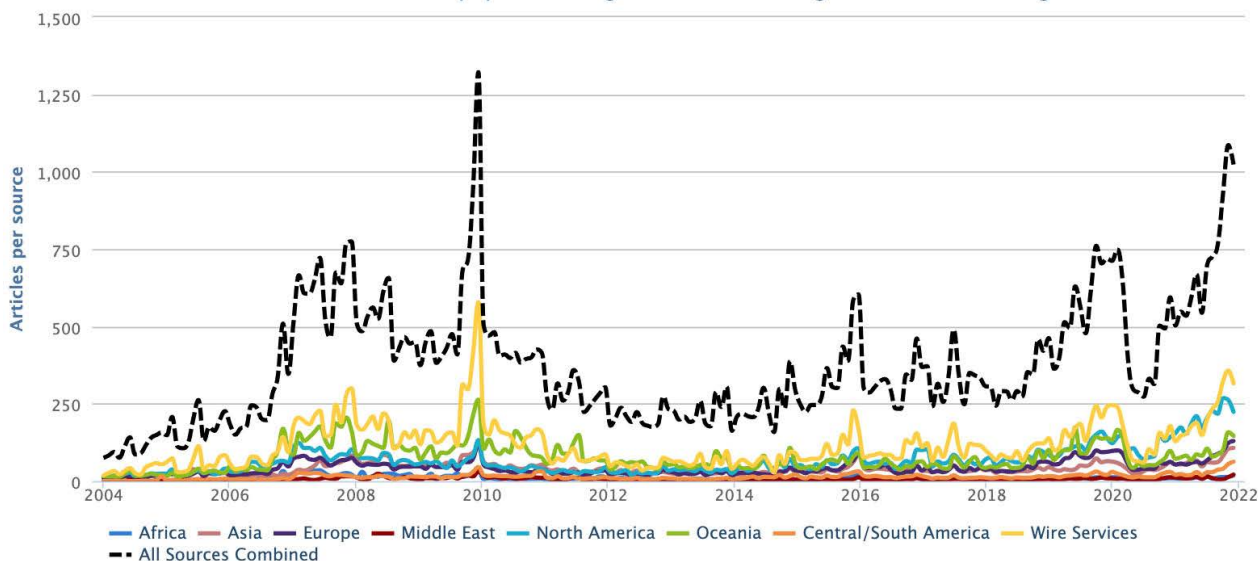


Figure 1. Newspaper media coverage of climate change or global warming in print sources in seven different regions around the world, from January 2004 through November 2021.

2000–2021 United States Newspaper Coverage of Climate Change or Global Warming

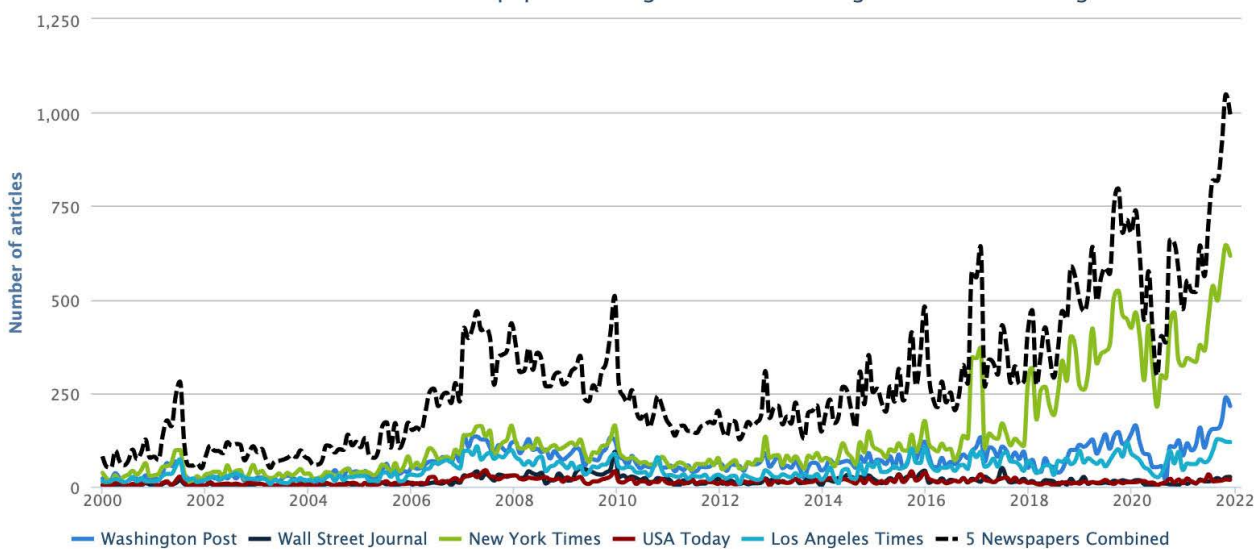


Figure 2. US print coverage of climate change or global warming from January 2000 through November 2021.

change or global warming. As the G20 Summit wrapped up in Rome at the end of October, the United Nations Conference of Parties (COP26) meeting began in Glasgow, Scotland. And news associated with COP26 proliferated throughout the two week conference ending November 13.

As the month began, in the US new rulemaking from the Environmental Protection Agency (EPA) regarding methane emissions reductions generated news attention. For example, [Washington Post](#) journalists [Dino Grandoni](#)

and [Steven Mufson](#) reported, “More than 100 countries have signed the Global Methane Pledge, which requires a 30 percent cut in methane emissions by 2030, one of the Biden administration’s priorities for the COP26 climate summit in Glasgow, Scotland. The pledge’s signatories now represent nearly half of human-caused methane emissions. On Tuesday, the Biden administration also unveiled a sweeping set of domestic policies to cut emissions of methane from oil and gas operations across the United States. The proposals, announced

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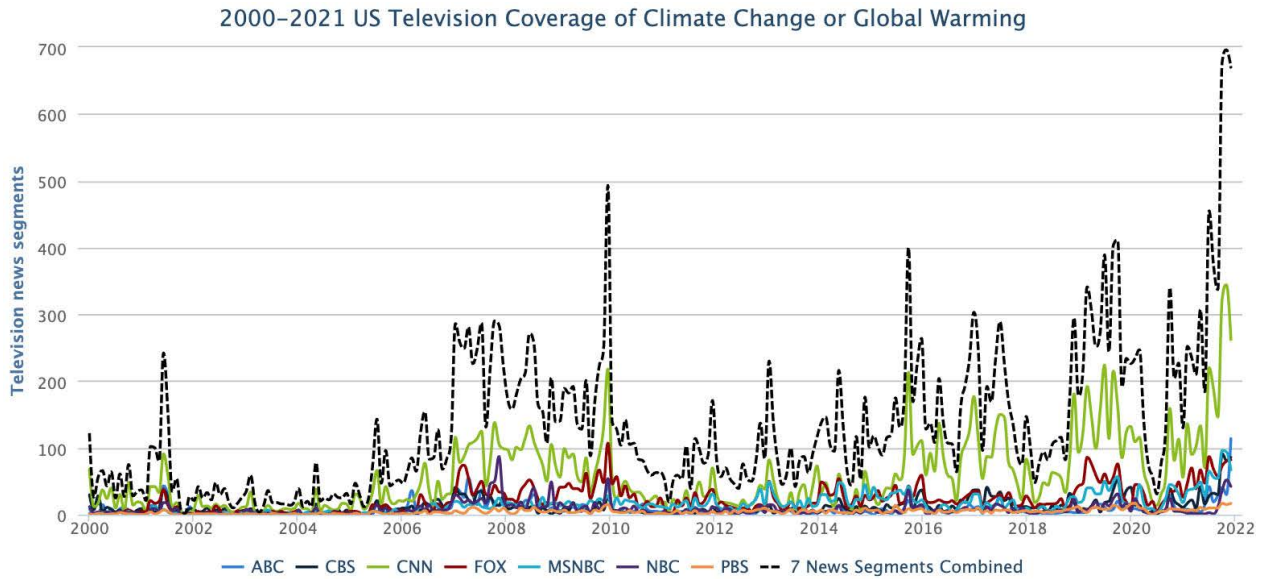


Figure 3. US television coverage of climate change or global warming from January 2000 through November 2021.

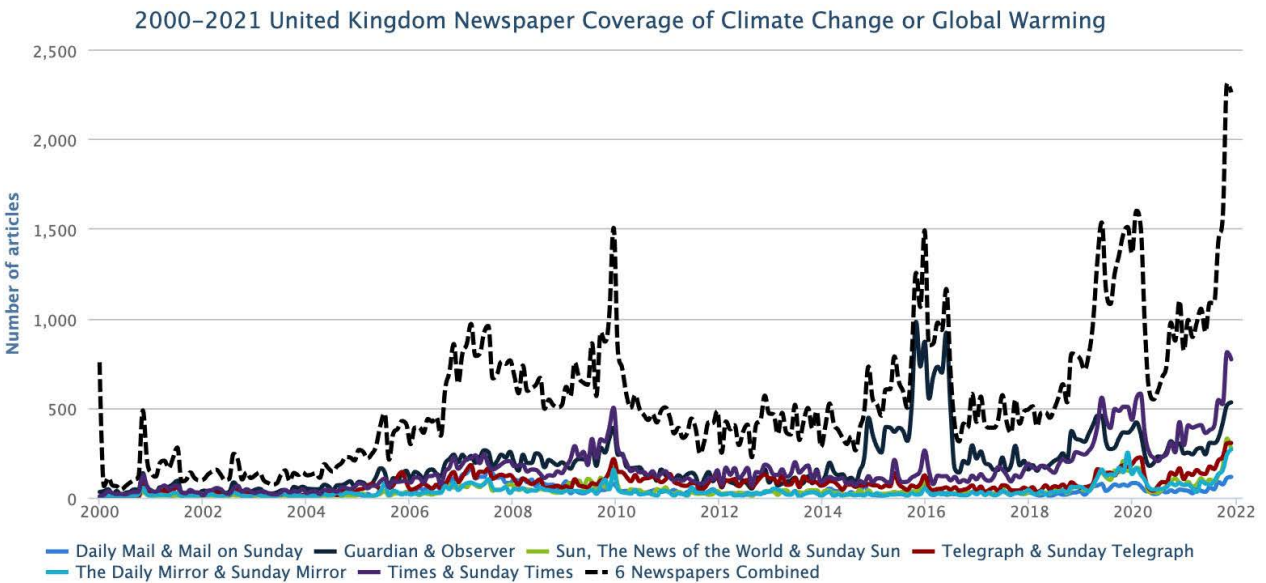


Figure 4. UK newspaper coverage of climate change or global warming from January 2000 through November 2021.

at the U.N. climate summit, represent one of the president’s most consequential efforts to combat climate change. Proposed rules from the Environmental Protection Agency would establish standards for old wells, impose more frequent and stringent leak monitoring, and require the capture of natural gas that is found alongside oil and is often released into the atmosphere. They mark the first time the federal government has moved to comprehensively tackle the seepage of methane from U.S. oil and gas infrastructure. President Biden told delegates in Glasgow that cutting methane emissions is essential to

keeping global warming to 1.5 degrees Celsius (2.7 degrees Fahrenheit) above levels in the late 1800s before widespread industrialization”.

Also in early November, a new constellation of banks and financial firms called ‘The Glasgow Financial Alliance for Net Zero’ earned media attention as the COP26 climate negotiations began. For example, *Wall Street Journal* correspondent David Benoit reported, “Most of the world’s big banks, its major investors and insurers, and its financial regulators have for the first time signed up to a coordinated pledge that will incorporate carbon emissions into

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Johnson failed to mention that even as the United Kingdom hosts the U.N. climate summit, it is also considering plans to open a new coal mine, the country's first in decades".

Meanwhile, back in the US the passing of the infrastructure bill in the House of Representatives - with funding for climate policy actions - grabbed some media attention away from COP26. For example, [journalist Jennifer Hiller from *The Wall Street Journal* reported](#), "The roughly \$1 trillion infrastructure package passed by Congress on Friday provides a spark to efforts to build a national network of electric-vehicle charging stations. The bipartisan measure touches on nearly every aspect of the electric-vehicle industry and eclipses previous efforts in the U.S. It also includes funding to help transform the nation's aging electric grid by upgrading high-voltage transmission lines and other infrastructure set to become even more crucial as the country electrifies more of its transportation system. It directs \$5 billion to expanding electric-vehicle highway charging, which once in place would let drivers take longer road trips without the fear of running out of power. Proponents consider long-distance charging networks a critical missing ingredient for wider adoption of EVs. A further \$2.5 billion in federal grant funding could go toward electric-vehicle charging or alternatives such as hydrogen-fueling infrastructure, while \$2.5 billion is set aside for electrifying school buses. Even more money for EVs could come through a separate \$2.5 billion for low-emissions school buses, or measures such as \$2.25 billion for ports that could be tapped for electrification projects".

This House of Representatives action though fed into ongoing COP26 activities as House Speaker Nancy Pelosi and others visited Glasgow and announced that the US government has re-engaged in national and international climate policy action. For example, [journalist Lisa Friedman from *The New York Times* reported](#), "Speaker Nancy Pelosi and nearly two dozen House Democrats barnstormed global climate talks here on Tuesday, claiming that "America is back" in the effort to slow global warming, even as their party remains divided over a \$1.85

trillion budget bill upon which their climate agenda depends. Ms. Pelosi noted that she was accompanied by a record number of lawmakers attending a U.N. climate summit and said they had flown to Glasgow "ready to take on the challenge, to meet the moment." But they haven't yet. The stalled legislation includes \$555 billion in tax credits and incentives to promote wind and solar power, electric vehicles, climate-friendly agriculture and forestry programs, and a host of other clean-energy programs. Those measures would bring the country about halfway to Mr. Biden's goal of cutting the country's greenhouse gas emissions by 50 to 52 percent from 2005 levels by 2030. Ms. Pelosi said it would be "the most ambitious and consequential climate and clean energy investment of all time".

As COP26 came to a close, early drafts of the 'Glasgow Climate Pact' were leaked to the press. Stories proliferated about what was in and what was out of this draft agreement. For example, [CNN journalists Angela Dewan, Ivana Kottasová, Ingrid Formanek and Amy Cassidy reported](#), "UK Prime Minister Boris Johnson has called on leaders and delegates to just "get on and do it" as the COP26 climate talks appear to have stalled. A draft of a summit agreement was published on Wednesday by the COP26 presidency. It includes language that says the world should be aiming to limit global warming to 1.5 degrees Celsius and acknowledges the role of fossil fuels in the climate crisis, a first for the annual Conference of the Parties on climate. If the draft is agreed in current form, it could pave the way for deeper emissions cuts by the end of next year. But details of opposition by Saudi Arabia, among other fossil fuel producing nations, have emerged and appear to be a major hurdle in progressing. "Now is the time for everyone to come together and show the determination needed to power on past the blockages," Johnson said in a press conference Wednesday, acknowledging that there were still gaps between what different nations want in the final text. The document is not final and COP26 delegates from nearly 200 countries will now negotiate the details over the next few days. Consensus from all nations is required".

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protesters took to the streets of Glasgow on Saturday to demand stronger climate action from world leaders as the climate crisis summit reached its halfway stage. Protests were also held in London and other parts of Britain. There were rallies in South Korea, Indonesia, the Netherlands and France. Environmental groups, charities, climate activists, trade unionists and indigenous people all joined the Glasgow march in heavy rain. Extinction Rebellion activists dressed as Ghostbusters while another group, Scientist Rebellion – wearing white lab coats – blocked King George V bridge, one of the city's busiest routes. Organisers claimed more than 100,000 people turned up for the march, which began in Kelvingrove Park in the city's west end and finished at Glasgow Green in the east".

Meanwhile, in a story entitled 'Frustrations grow as marchers demand faster climate action'. [Associated Press](#) journalists [Ellen Knickmeyer](#), [Seth Borenstein](#) and [Frank Jordans](#) observed, "Tens of thousands of climate activists marched Saturday through the Scottish city hosting the U.N. climate summit, physically close to the global negotiators inside but separated by a vast gulf in expectations, with frustrated marchers increasingly dismissive of the talks and demanding immediate action instead to slow global warming. The mood at the protest in Glasgow was upbeat despite the anger and bursts of rain. Similar protests were also held in London, Amsterdam, Paris, Dublin, Copenhagen, Zurich and Istanbul. Many of the marchers condemned government leaders for failing to produce the fast action they say is needed, with some echoing activist Greta Thunberg's view Friday that the talks were just more "blah, blah, blah".

As another example, [Guardian](#) journalist [Tom Ambrose](#) reported, "The UK has received the ironic "Fossil of the Day" award for failing to make Cop26 the most accessible climate summit and "hindering civil society's access to the negotiations". The prize, organised by Climate Action Network International (CAN), is traditionally awarded every day during the Cop conferences to countries that "have done their best to block negotiations". CAN said the UK presidency of Cop26, along with the United Nations Framework

Convention on Climate Change (UNFCCC), received the award also in part for a lack of organisation after long queues formed to access the conference venue on Monday".

Elsewhere, stories of who was in the climate talks (e.g. lobbyists) and who remained outside the security gates (e.g. civil society) earned media attention. For example, [BBC correspondent Matt McGrath](#) reported, "Campaigners led by Global Witness assessed the participant list published by the UN at the start of this meeting. They found that 503 people with links to fossil fuel interests had been accredited for the climate summit. These delegates are said to lobby for oil and gas industries, and campaigners say they should be banned. "The fossil fuel industry has spent decades denying and delaying real action on the climate crisis, which is why this is such a huge problem," says Murray Worthy from Global Witness. "Their influence is one of the biggest reasons why 25 years of UN climate talks have not led to real cuts in global emissions." About 40,000 people are attending the COP. Brazil has the biggest official team of negotiators according to UN data, with 479 delegates. The UK, which is hosting the talk in Glasgow, has 230 registered delegates". Meanwhile, [CNN correspondent Angela Dewan](#) noted, "More than 100 fossil fuel companies are understood to have sent 500 lobbyists to the COP26 climate talks in Glasgow, Scotland, more than any single country at the summit, according to the environmental campaign group Global Witness. The group analyzed the UN's provisional list of named corporate attendees and found at least 503 people linked with coal, oil and gas companies were at the conference. Fossil fuel use is the biggest driver of human-made climate change. The list included people either directly affiliated with fossil fuel companies, including Shell, Gazprom and BP, as well as those attending as members of delegations and groups that act on behalf of the fossil fuel industry. The analysis found that the fossil fuel lobby had around two dozen more than the largest country delegation. They also outnumber the event's official Indigenous constituency by around two to one, as well as the number of delegates from the eight-worst affected countries by climate

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change over the last two decades -- Puerto Rico, Myanmar, Haiti, the Philippines, Mozambique, the Bahamas, Bangladesh and Pakistan.

Last, November media accounts about climate change or global warming were also populated by *ecological* and *meteorological* stories. For instance, torrential rains and flooding in south India generated news accounts linking the extreme events to a changing climate. For example, *The Associated Press* reported, "At least 14 people have died in the southern Indian state of Tamil Nadu during days of heavy rains, officials said Thursday. Several districts in the state are on high alert, bracing for more torrents as a depression over the southwest Bay of Bengal was set to cross northern Tamil Nadu on Thursday evening. The Indian Meteorological Department warned of intense rains in isolated places...Rains at this time in Tamil Nadu are not unusual, but experts have warned that climate change has exacerbated the problem, making the downpours more intense and frequent. Last month, flooding and landslides caused by heavy rains killed at least 28 people in neighboring Kerala state".

Also in November, rain and flooding in the Pacific Northwest US and in British Columbia in Canada earned media attention as links were made to climate change and global warming. For example, *Guardian* journalist *Leyland Cecco* noted, "Communities in western Canada who were forced to flee their homes this summer by wildfires and extreme heat are once again under evacuation orders after overwhelming floods across the region. The heavy rainfall and pounding storms are also taking a toll on the US Pacific north-west, where flooding

and mudslides in Washington state have also forced evacuations and school closures. Helicopters were dispatched on Monday to Highway 7, more than 100 kilometres (62 miles) east of Vancouver, to rescue about 275 people, including 50 children, who had been stranded on the road since it was blocked by a mudslide late on Sunday. Footage from the area shows stranded travelers heading toward a yellow emergency helicopter during the rescue operation. The surrounding landscape is littered with debris from a landslide blocking access to the highway...Since June, the province has experienced a record-setting "heat dome", huge wildfires that destroyed two towns and choked the air for weeks, extreme events that experts say were worsened by the climate crisis. Last week, Vancouver, British Columbia's largest city, was briefly placed under tornado watch, a rare event for the region". A story by journalists *Jim Morris* and *Rob Gillies* from *The Associated Press* a few days later described, "The Canadian Pacific coast province of British Columbia declared a state of emergency Wednesday following floods and mudslides caused by extremely heavy rainfall, and officials said they expected to find more dead. Every major route between the Lower Mainland of British Columbia, where Canada's third largest city of Vancouver is, and the interior of the province has been cut by washouts, flooding or landslides following record-breaking rain across southern British Columbia between Saturday and Monday. The body of a woman was recovered from one of the mudslides late Monday...The weather events are all connected and can be attributed to climate change, said John Clague, a professor in the Earth Sciences Department at Simon Fraser University".

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DECEMBER “The latest in a string of alarm bells about our changing climate”



Smoke from forest fires is seen over Kyzyl-Sir, Russia in August 2021. The UN Weather agency has certified a 100.4 degree reading in Verkhoyansk, Russia last year as the highest temperature ever recorded in the Arctic. Photo: Nikolay Petrov/AP.



Media attention in newspapers around the globe **dropped 49%** from November 2021 but remained **8% higher** than a year ago. Global radio coverage **dropped 67%** and international wire services **decreased 46%** from the previous month. US print coverage **decreased 35%** while TV coverage also **decreased 52%** from the previous month.

December media attention to climate change or global warming in newspapers around the globe dropped 49% from November 2021 but remained 8% higher than a year ago (December 2020). Meanwhile, December 2021 global radio coverage of climate change or global warming dropped 67% from November 2021, while coverage in international wire services decreased 46% from the previous month.

Compared to the previous two months of coverage (October and November 2021) where media coverage of climate change or global warming reached near-record levels globally, coverage decreased in all regions: Oceania (-40%), Asia (-42%), North America (-48%), the Middle East (-50%), Latin America (-52%), Africa (-52%), and Europe (-56%). Figure 1 shows trends in newspaper media coverage at the global scale – organized

into seven geographical regions around the world – from January 2004 through December 2021.

At the country level, United States (US) print coverage decreased 35% while television coverage also decreased 52% from the previous month (see Figures 2 & 3). These are somewhat predictable dips from the highest levels of coverage on record to date that were detected in October and November 2021.

Meanwhile, compared to the previous month of November 2021, December 2021 coverage decreased in each of the 14 countries that we at the Media and Climate Change Observatory (MeCCO) monitor: India (-27%), Sweden (-33%), Japan (-35%), Germany (-35%), New Zealand (-38%), Australia (-41%), Finland (-44%), Denmark (-48%), Spain (-51%), the United Kingdom (UK) (-62%), Canada (-65%), and Norway (-66%).

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2004–2021 World Newspaper Coverage of Climate Change or Global Warming

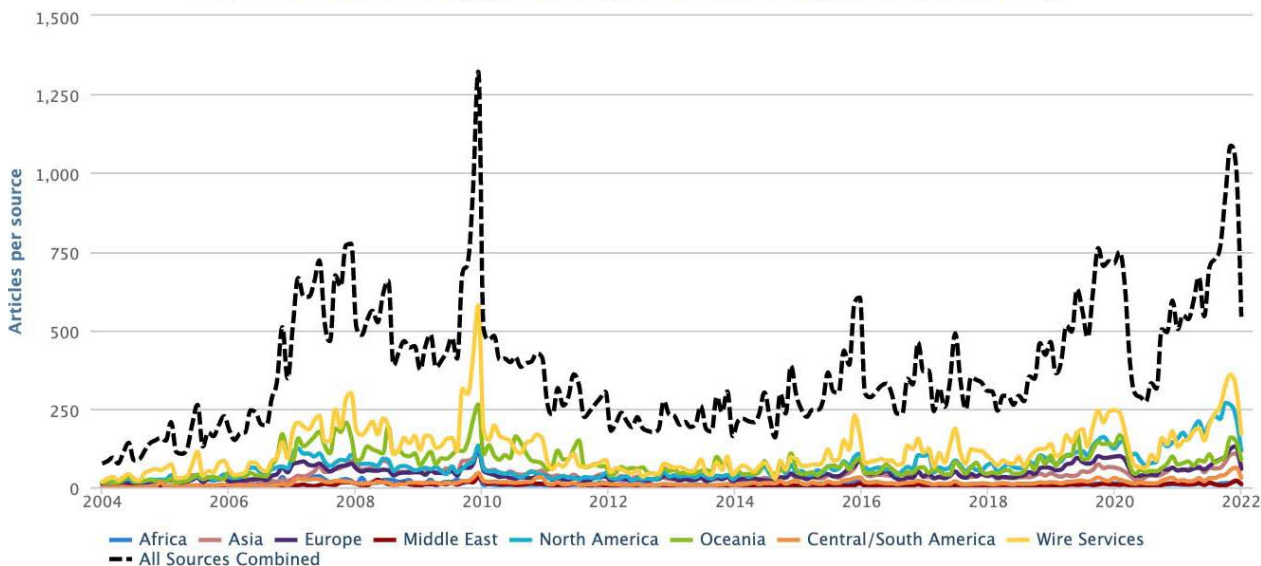


Figure 1. Newspaper media coverage of climate change or global warming in print sources in seven different regions around the world, from January 2004 through December 2021.

2000–2021 United States Newspaper Coverage of Climate Change or Global Warming

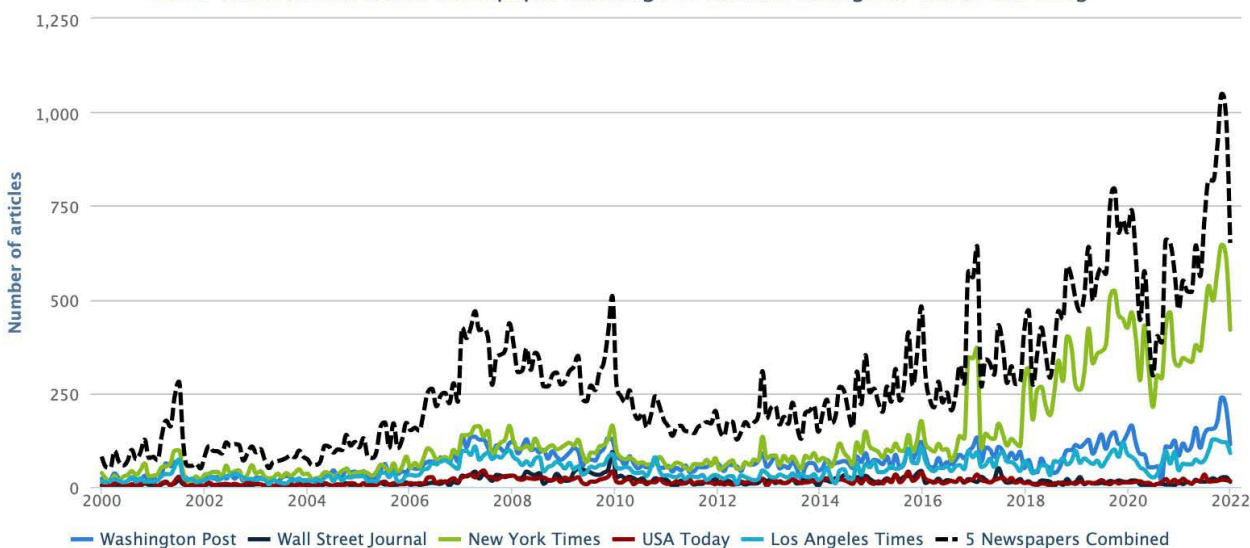


Figure 2. US print coverage of climate change or global warming from January 2000 through December 2021.

In terms of the content of coverage, to begin many climate change or global warming stories in December remained focused on *scientific* themes. Among them, media accounts of research into the year of many extreme weather disasters and links to a change climate proliferated. For example, the [World Inequality Lab report](#) was covered by [correspondent Aimee Picchi from CBS News](#) who noted, “The globe’s 2,750 billionaires now control 3% of all wealth, up from 1% in 1995 – that makes them wealthier than half the planet...the report’s global approach underscores the challenges of coping with crises

such as COVID-19 and climate change in a time of extreme concentration of wealth. Indeed, governments are becoming poorer, according to the report’s data. Public wealth – or public ownership of infrastructure such as schools and hospitals as well as financial assets (minus public debt) – stood at between 15% to 30% of total wealth in the early 1980s. But that’s dropped to “near 0% in most rich countries,” and actually is negative in the U.S., the report noted. “The current weak wealth position of governments has important implications for governments’ ability to tackle inequality in the future, as well as

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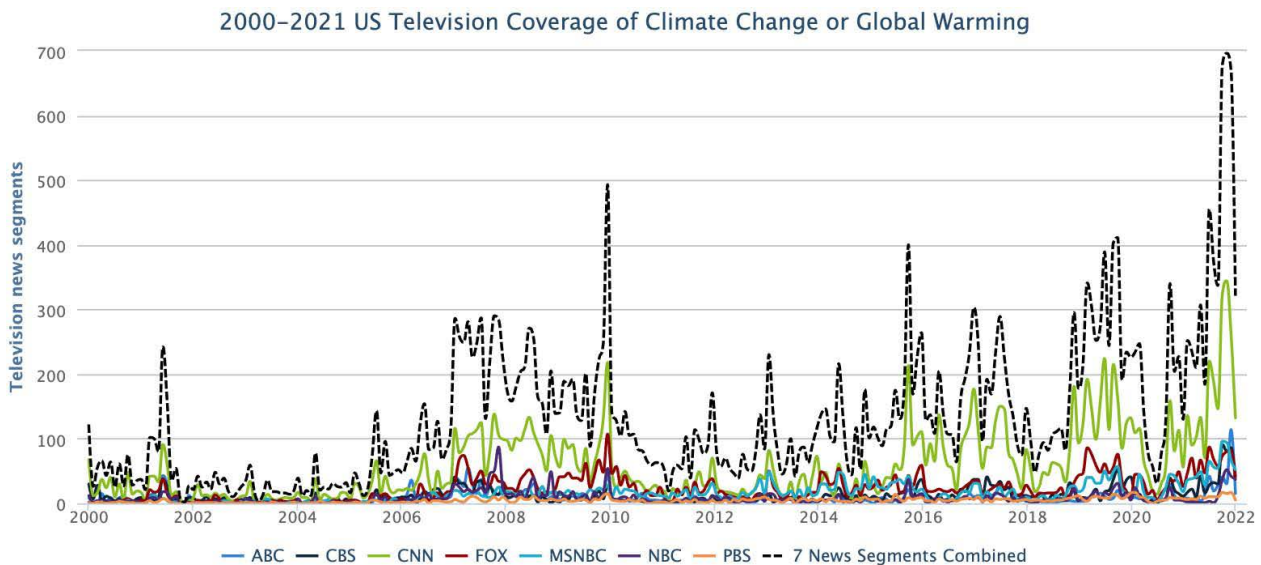


Figure 3. US television coverage of climate change or global warming from January 2000 through December 2021.

key challenges of the 21st century such as facing climate change,” the report said”.

Furthermore, [a report from the US Surgeon General](#) made links between climate change and mental health. This generated media attention. For example, [US National Public Radio reporter L. Carol Ritchie](#) commented that the report warns that “children and young adults were already facing a mental health crisis before the coronavirus pandemic began” and “cites gun violence, the specter of climate change, racism and social conflict as sources of stress”.

Scientific examinations by way of the annual ‘Arctic Report Card’ also garnered news attention. For example, [USA Today journalist Doyle Rice](#) reported, “An all-time Arctic high temperature of 100.4 degrees Fahrenheit, a record set in the northern Russian town of Verkhoyansk in 2020, was certified as accurate by the United Nations’ weather agency on Tuesday. The World Meteorological Organization called it the latest in a string of “alarm bells about our changing climate.” The organization also said the temperature was “more befitting the Mediterranean than the Arctic” and was set on June 20, 2020, during a heat wave that swept across Siberia and stretched north of the Arctic Circle. Global weather records can take months, if not years, to certify. Average temperatures over Arctic Siberia reached as high as 18 degrees above normal for much of the summer last year,

fueling devastating fires, driving massive sea ice loss and playing a major role in 2020 being one of the three warmest years on record”. As a second example, [Globe & Mail journalist Ivan Semeniuk](#) wrote, “The Arctic is facing a complex and ever-widening cascade of environmental changes that will increasingly challenge northern communities and affect people around the globe. That is the takeaway from this year’s Arctic Report Card, an annual compilation of observations and trends by the U.S. National Oceanic and Atmospheric Administration, with contributions from Canada and other circumpolar countries. Now, 15 years since the first report card was issued, scientists say those trends are abundantly clear in a part of the world that is warming two to three times faster than the global average owing to climate change. According to the latest report card, released Tuesday, the transformation of the Arctic is both “rapid and pronounced.” It includes long-observed effects such as reductions in sea ice and snow cover, retreating glaciers and thawing permafrost. Other, more recently observed phenomena range from a proliferation of woody shrubs and beaver dams across the tundra to a Bering Strait awash in marine garbage owing to increased shipping traffic”.

Finally, media stories tracking scientific monitoring of warming and snowfall grabbed attention. For example, [Associated Press journalist Seth Borenstein](#) wrote, “A white

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Christmas seems to be slowly morphing from a reliable reality to a dream of snowy holidays past for large swaths of the United States in recent decades. Analysis of 40 years of December 25 U.S. snow measurements shows that less of the country now has snow for Christmas than in the 1980s. That's especially true in a belt across the nation's midsection – from Baltimore to Denver and a few hundred miles farther north. And snow that falls doesn't measure up to past depths".

In December, there were also many *political* and *economic* themed media stories about climate change or global warming. To begin, news ran in early December about ongoing oil and gas profits in the face of increased policy rhetoric emerging from the November United Nations (UN) climate negotiations (COP26) in Glasgow, Scotland. Media stories emerged. For example, *Guardian* journalist *Oliver Milman* wrote, "The largest oil and gas companies made a combined \$174bn in profits in the first nine months of the year as gasoline prices climbed in the US, according to a new report. The bumper profit totals, provided exclusively to the Guardian, show that in the third quarter of 2021 alone, 24 top oil and gas companies made more than \$74bn in net income. From January to September, the net income of the group, which includes Exxon, Chevron, Shell and BP, was \$174bn. Exxon alone posted a net income of \$6.75bn in the third quarter, its highest profit since 2017, and has seen its revenue jump by 60% on the same period last year. The company credited the rising cost of oil for bolstering these profits, as did BP, which made \$3.3bn in third-quarter profit. ...the oil and gas industry is a leading driver of the climate crisis, the reality of which it sought to conceal from the public for decades, and is a key instigator of the air pollution that kills nearly 9 million a year, a death toll three times that of the Covid-19 pandemic in 2020. The American Petroleum Institute, a leading industry lobby group, pointed to a blog that blamed the Biden administration for policies that "significantly weaken the incentives to invest in America's energy future" but did not answer questions on production rates of oil companies".

Meanwhile, in the US climate policy rhetoric continued into December as the Biden

Administration called for the federal government to achieve net-zero climate emissions by mid-century. This garnered media interest. For example, *Associated Press* correspondent *Matthew Daly* reported, "President Joe Biden on Wednesday signed an executive order to make the federal government carbon-neutral by 2050, aiming for a 65% reduction in planet-warming greenhouse gas emissions by 2030 and an all-electric fleet of car and trucks five years later. The White House said the order shows how the government will "leverage its scale and procurement power to lead by example in tackling the climate crisis." The order will reduce emissions across federal operations, as part of a government-wide effort to confront climate change. "As the single largest land owner, energy consumer and employer in the nation, the federal government can catalyze private-sector investment and expand the economy and American industry by transforming how we build, buy and manage electricity, vehicles, buildings and other operations to be clean and sustainable", the order said. It directs that government buildings use 100% carbon pollution-free electricity by 2030; that the U.S. fleet of cars and trucks become all-electric by 2035; and that federal contracts for goods and services be carbon-free by 2050. Government buildings should be carbon-free by 2045, including a 50% emissions cut by 2032".

However, in the push-pull of politics and economics associated with climate change there was news of the last coal-fired power station being retired in Scotland in December. This generated news. For example, *The Scotsman* journalist *Allan Crow* reported, "The 600ft chimney stack at the former Longannet power station was demolished. First Minister Nicola Sturgeon pushed the button to ignite the 700kg of explosives to bring down the chimney stack which was the largest free-standing structure in Scotland. It also marked the end of an era for the plant which once employed thousands of people. The Kincardine site ceased operating in 2016. In the wake of COP26 in Glasgow, ScottishPower projected Global Warming Stripes on to chimney stack and the slogan "Make Coal History" was beamed on to it".

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Another economic issue that emerged in December media coverage was the announcement that several European supermarkets would stop selling meat from Brazil linked to deforestation. For example, [journalist Emiko Terazono from Financial Times noted in Expansión](#), “The European supermarket chains Sainsbury, Carrefour and Ahold Delhaize will stop selling several meat products of Brazilian origin after an investigation discovered that they contributed to the destruction of the forest Amazonian. Pressure to curb deforestation has increased since last month’s climate summit in Glasgow. At COP26, a hundred countries pledged to end by 2030 the production of meat from cattle raised on land where forests and savannas, one of the main sources of CO2 emissions, have been cut down”.

To end the month, the failure of the US Senate to pass the ‘Build Back Better’ bill in December – with many policy actions designed to address climate change – also generated media attention. For example, [New York Times journalists Brad Plumer and Nadja Popovich noted](#), “The fate of the imperiled Build Back Better bill in Congress will have major consequences for America’s ability to tackle climate change...If the climate bill dies altogether, the Biden administration will have fewer options for cutting emissions. The Environmental Protection Agency is working on regulations to reduce pollution from power plants, cars and trucks, but those efforts could face court challenges or be overturned by a new administration. And, while some states like California and New York continue to move forward with their own climate policies, those only cover a fraction of the country”.

Furthermore, December media accounts were punctuated by [cultural](#) stories relating to climate change or global warming. For example, there were several stories of cultural dimensions of German Social Democrat Olaf Scholz Ayer succeeding Angela Merkel in the German Chancellery. [An editorial in the newspaper La Vanguardia](#) reported on the coalition with the Greens and Liberals: “in the medium and long term, the policies of the new German Chancellor and his government will find in the fight against climate change one of the main

horses of battle of him. The objectives are, in this sense, clear: to accelerate the elimination of coal as fuel, advancing it from 2036 to 2030; achieve that by 2030 80% of the energy consumed comes from renewables, and that, in that same year, no less than fifteen million electric vehicles circulate on German roads.”

Also, stories linking cultural considerations of human population and climate change appeared in December. For example, [journalist Emilia G. Morales from El Mundo wrote](#), “Spain is the third country in Europe with the highest water stress, with 70% of its territory at risk of desertification and 27 million Spaniards in danger of suffering from scarcity of water in 2050...climate change is compromising the water resources of the peninsula and any step taken in this area by institutions and social agents should be aimed at reversing this trend and ensuring the sustainability of the Spanish water system.”

On December 25, the film ‘Don’t Look Up’ was released. The film was an allegory about the threat of an incoming comet, with many deliberate connections to (in)action relating to anthropogenic climate change. Many media stories dissected the plot as well as analyzed its influence. For example, [CNN journalist Brian Lowry commented](#), “In a grand science fiction tradition, “Don’t Look Up” uses a disaster-movie framework as a metaphor for a reality-based crisis, with a huge comet hurtling toward Earth as a surrogate for indifference to addressing climate change. Yet this star-studded, extremely provocative satire at times veers off course itself, partially undermining its admirable qualities with the broadness of its tone. At its core, writer-director Adam McKay (who wrote the script with journalist/activist David Sirota) delivers a very pointed treatise on the dysfunctional state of current politics and media, in which everyone is so myopic as to be unable to focus on an existential threat. The title reflects the inevitable endpoint of that, with a bury-your-head-in-the-sand approach to impending doom”.

Last, December media accounts about climate change or global warming were also populated by [ecological](#) and [meteorological](#) stories. For

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instance, wildfires in December in the US and around the world grabbed media attention. For example, [journalist Emma Newburger from NBC News reported](#), “Wildfires worsened by climate change produced a record amount of carbon emissions in parts of Siberia, the U.S. and Turkey this year, scientists with the Copernicus Atmosphere Monitoring Service said on Monday. Intense and prolonged blazes emitted an estimated total of 1.76 billion tons of carbon – the equivalent of more than a quarter of U.S. annual carbon emissions...Human-caused climate change has fueled hotter temperatures and drier conditions across the world, which have contributed to longer and more intense wildfire seasons. 2020 was one of the hottest years on record, and 2021 is virtually certain to be among the 10 hottest years ever recorded. In July, the Dixie fire started in Northern California and burned for more than three months. It became the second-largest wildfire in the state’s history. Fires in California, Canada and the U.S. Pacific Northwest this year emitted about 83 million tons of carbon, and plumes of smoke from those blazes traveled across the Atlantic Ocean and reached large swaths of Europe. Many countries around the eastern and central Mediterranean also suffered several days of intense wildfires over the summer that led to high concentrations of fine particulate matter and degraded air quality. In July, fires in Turkey prompted widespread evacuations and killed thousands of animals”.

Also in December, [Washington Post journalist Matthew Cappucci reported abnormally high temperatures in the lower 48 states in the US](#). He wrote, “Winter technically starts on Dec. 21 but, for the two weeks leading up to it, it will feel more like spring across much of the United States. The central and eastern Lower 48 are in line for an extended period of unseasonable warmth. The National Weather Service’s Climate Prediction Center is projecting high chances of above-average temperatures for the eastern two-thirds of the nation both six to 10 and eight to 14 days into the future. The core of the warmth in the eight-to-14-day outlook is centered over the mid-South, Tennessee and Ohio valleys, southern Great Lakes and interior Mid-Atlantic, where there’s a 90 to 100 percent

chance of above-average temperatures. In other words, unusually mild weather is virtually a lock. According to Brian Brettschneider, a climatologist and researcher in Alaska, the Climate Prediction Center hasn’t been this confident in such extensive warmth eight to 14 days into the future since 2015”.

Furthermore, rare December tornadoes in the US sparked media stories of possible links with a warming world. This devastating set of events raised several questions and discussions. For example, [CNN correspondent Rachel Ramirez reported](#), “The series of weekend tornadoes that ripped through the parts of the US this weekend adds to another stretch of deadly and potentially unprecedented weather disasters that plagued the planet this year. Meteorologists and climate scientists say the latest outbreak is historic. And as these extreme weather events intensify, occur more often and exacerbate the country’s growing economic toll, science is running to keep up to answer emerging questions of whether climate change is intensifying every single disaster. With this weekend’s tornadoes, climate researchers say it’s too early to determine the link, but the uncertainty doesn’t mean it is unlikely. In Kentucky, the series of tornadoes uprooted trees, tore down homes and infrastructure, and killed at least 74 people. Gov. Andy Beshear said at a news conference that the tornado event reached a “level of devastation unlike anything I have ever seen,” he said. Global scientists made clear that weather events, no matter how severe, are occurring against the backdrop of human-caused climate change; nevertheless, it all comes down to discerning how a warming planet is altering weather patterns, including geographical location and frequency, as well as severity. Scientists say the short-lived scale of tornadoes, coupled with an extremely inconsistent and unreliable historical record, makes connecting outbreaks to long-term, human-caused climate change extremely challenging. Unlike large-scale and slow-trending weather events such as droughts, floods and hurricanes, scientific research about the link between climate change and tornadoes has not been as robust”.

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Meanwhile, at the bottom of the world, a key Antarctic ice shelf melting into the Southern Ocean – called Thwaites Glacier – led to several media stories. For example, [BBC journalist Jonathan Amos reported](#), “Scientists are warning of dramatic changes at one of the biggest glaciers in Antarctica, potentially within the next five to 10 years. They say a floating section at the front of Thwaites Glacier that until now has been relatively stable could “shatter like a car windscreen”. US and UK researchers are currently engaged in an intense study programme at Thwaites because of its melt rate. Already it is dumping 50 billion tonnes of ice into the ocean each year. This is having limited impact on global sea-levels today, but there is sufficient ice held upstream in the glacier’s drainage basin to raise the height of the oceans by 65cm – were it all to melt. Such a “doomsday” scenario is

unlikely to come about for many centuries, but the study team says Thwaites is now responding to a warming world in really quite rapid ways”.

Elsewhere in Asia, a December category 5 Typhoon generated media accounts relating to climate change. For example, [Washington Post journalists Ian Livingston and Regine Cabato reported](#), “Super Typhoon Rai, called Odette in the Philippines, slammed into the eastern portion of the islands on Thursday afternoon. Making first landfall on Siargao island, the storm was packing sustained winds of 160 mph. Rai became the fourth Category 5-equivalent typhoon in the western Pacific Ocean this year. It is one of the strongest storms of 2021... The country is among the most vulnerable in the world to climate-related weather disasters. Rising seas and warming waters are likely to lead to more frequent and intense storms in the future”.

This year-end retrospective can help us recall, reflect on, and learn from what has emerged in news coverage of climate change over the past year, as well as what may still be emergent in 2021. We’ll see what 2022 brings.

The project is based in the Cooperative Institute for Research in Environmental Sciences (CIRES) at the University of Colorado Boulder. However, contributions are made through collaborations and partnerships with MeCCO members at institutions across eight countries: Aarhus University (Denmark), Deakin University (Australia), Technical University of Munich (Germany), National Institute for Environmental Studies (Japan), Oslo Metropolitan University (Norway), University of Helsinki (Finland), Universidad de Sevilla (Spain), and Universidad Complutense de Madrid (Spain).

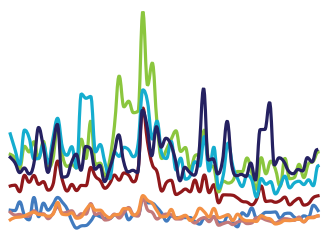
Our 25 contributing MeCCO team members in 2021 were Midori Aoyagi, Andrew Benham, Max Boykoff, Patrick Chandler, Presley Church, Meaghan Daly, Kaori Doi, Rogelio Fernández-Reyes, Anne Gammelgaard Ballantyne, Lauren Gifford, Erin Hawley, Isidro Jiménez Gómez, Jennifer Katzung, Jari Lyytimäki, Lucy McAllister, Marisa McNatt, Erkki Mervaala, Gabi Mocatta, Ami Nacu-Schmidt, David Oonk, Jeremiah Osborne-Gowey, Olivia Pearman, Lars Kjerfulf Petersen, Anne Hege Simonsen, and Andreas Ytterstad.

With many challenges associated with climate change in mind, we nonetheless still look to 2022 with optimism. We at MeCCO will continue to monitor and analyze media coverage of climate change throughout the next year. So stay tuned for our monitoring, summaries and analyses in the coming months regarding media portrayals of climate change and global warming. Onward we go.

Brought to you by your MeCCO team: Midori Aoyagi, Andrew Benham, Max Boykoff, Patrick Chandler, Meaghan Daly, Kaori Doi, Rogelio Fernández-Reyes, Anne Gammelgaard Ballantyne, Lauren Gifford, Erin Hawley, Isidro Jiménez Gómez, Jennifer Katzung, Jari Lyytimäki, Lucy McAllister, Marisa McNatt, Erkki Mervaala, Gabi Mocatta, Ami Nacu-Schmidt, David Oonk, Jeremiah Osborne-Gowey, Olivia Pearman, Lars Kjerfulf Petersen, Anne Hege Simonsen, and Andreas Ytterstad

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