

A REVIEW OF MEDIA COVERAGE OF CLIMATE CHANGE AND GLOBAL WARMING IN 2022

SPECIAL ISSUE 2022

MeCCO monitors 130 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.

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A Review of Media Coverage of Climate Change and Global Warming in 2022



At the global level, across the full year of 2022, media attention dropped 11% from 2021 among the sources tracked by our MeCCO team. Yet, 2022 coverage was up 38% from 2020, and up 7% from 2019.



Going back over our 19 years of global-level monitoring, 2022 coverage was up from all other years besides 2021, making it the year with the second-highest amount of coverage of climate change overall.

was a year to remember. 2022 was a year that gave popular attention to terms like 'awesomesauce', 'omicron', and 'permacrisis'. 2022 was a year when terms like 'metaverse' and 'gaslighting', along with phrases such as 'quiet quitting' and 'goblin mode', spiked in everyday parlance. And, 2022 was one punctuated by intersecting *political*, *economic*, *scientific*, *cultural*, as well as *ecological* and *meteorological* themed climate change and global warming stories.

Flooding in Pakistan and Sudan with connections made to climate change, clandestine bombings of the Nord Stream pipelines in the Baltic Sea, heatwaves in China and across Europe, elections in Australia and Brazil seen to be won by candidates with ambitions to advance climate policy action, releases of Working Group 2 and Working Group 3 of the United Nations Intergovernmental Panel on Climate Change Sixth Assessment Reports, the passage of the Inflation Reduction Act in the US Congress with significant funds for climate action, increased sales of electric vehicles, solar panels and heat pumps, growth in renewable energy alongside record levels of global coal consumption, impacts on fossil gas availability and prices due to the Russian invasion of Ukraine, all have illustrated that climate change or global warming are not a single nor merely an environmental issue, but are intersectional matters - at times threat multipliers - that weave through most critical concerns in our shared world. Developments and events like these in 2022 also have pointed to the reality that changes in the climate lead to ongoing collective action challenges in 2023 and beyond. The fact is that changes in the climate are consequences of shared behaviors that have cut to the heart of how we live, work, play, pray, and relax in today's society.

At the global level, across the full year of 2022, media attention dropped 11% from 2021 among the sources tracked by our Media and Climate Change Observatory (MeCCO) team. Yet, 2022 coverage was up 38% from 2020, and up 7% from 2019. Going back over our 19 years of global-level monitoring (beginning January 2004), 2022 coverage was up from all other years besides 2021, making it the year with the second-highest amount of coverage of climate change or global warming overall.

Reflections on 2022 garnered media attention on many challenges, problems, and opportunities associated with human-caused climate change. Among them, Washington Post correspondents Chris Mooney and Brady Dennis noted, "The amount of excess heat buried in the planet's oceans, a strong marker of climate change, reached a record high in 2022, reflecting more stored heat energy than in any year since reliable measurements were available in the late 1950s...that eclipses the ocean heat record set in 2021 - which eclipsed the record set in 2020, which eclipsed the one set in 2019. And it helps to explain a seemingly ever-escalating pattern of extreme weather events of late, many of which are drawing extra fuel from the energy they pull from the oceans". Meanwhile, Guardian environment editor Damian Carrington wrote, "The world's oceans were the hottest ever recorded in 2022, demonstrating the profound and pervasive changes that human-caused emissions have made to the planet's climate. More than 90% of the excess heat trapped by greenhouse gas emissions is absorbed in the oceans. The records, starting in 1958, show an inexorable rise in ocean temperature, with an acceleration in warming after 1990".

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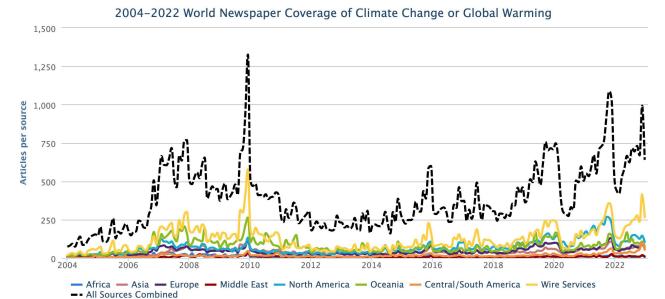


Figure 1. Media coverage of climate change or global warming in seven different regions around the world, from January 2022 through December 2022.

Atmospheric warming - despite the fact that La Niña years like 2022 dampen warming - also joined record levels, earning media attention, too. For example, New York Times journalists Henry Fountain and Mira Rojanasakul reported, "The world remained firmly in warming's grip last year, with extreme summer temperatures in Europe, China and elsewhere contributing to 2022 being the fifth-hottest year on record, European climate researchers said this week. The eight warmest years on record have now occurred since 2014, the scientists, from the European Union's Copernicus Climate Change Service, reported, and 2016 remains the hottest year ever. NASA and the National Oceanic and Atmospheric Administration also issued analyses of global temperatures for 2022 on Thursday, and their findings were similar. NASA's analysis ranked 2022 as tied with 2015 for fifth warmest, while NOAA had last year as the sixth warmest". Capturing regional records in Europe, Niels de Hoog and Ashley Kirk wrote in The Guardian that, "Twelve European countries broke monthly temperature records in 2022 as the continent recorded its hottest ever summer. new analysis shows. Of 27 European countries analysed by the Guardian, 12 recorded their highest ever temperature anomaly for at least one month in 2022. In each case, the anomalies were more than 1.9C above the average temperature recorded between 1991 and 2020 for at least one month" and "parts of western Europe, the

Middle East, central Asia and China, New Zealand, north-west Africa and the Horn of Africa had their warmest year on record. Temperatures were also more than 2C above the 1991-2020 average in parts of northern central Siberia and along the Antarctic peninsula".

An editorial in *The Scotsman* summed it up by asserting, "It was a year of records being smashed" and "Following the failures at the COP26 and COP27 summits to make sufficient progress on reducing fossil fuel use, the task of stabilising the world's climate will become ever more difficult and the risk of a genuinely existential crisis ever more real. This is the legacy we are bequeathing to future generations".

Of note, in 2022 some regions broke the record for the volume of mentions of 'climate change' or 'global warming' compared to the same months in the 18 previous years of our monitoring of print media outlets.

For example, in Africa the volume of stories in the months of February and March 2022 were at their highest recorded, while this was the case in Asia in May and August 2022, in Europe in July 2022, in the Middle East in August 2022, and across the world in the month of May 2022. Meanwhile, coverage was relatively high in Latin America throughout most of 2022.

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Position of the month in 2022 with respect to the same mont of previous years

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
World	6°	7°	4°	3°	1°	3°	2°	2°	3°	4°	2°	4°
Africa	2°	1°	1°	5°	6°	4°	11°	9°	7°	6°	3°	8°
Asia	3°	2°	2°	2°	1°	2°	2°	1°	2°	3°	2°	3°
Europe	5°	6°	5°	4°	3°	4°	1°	3°	3°	3°	3°	7°
Latin America	1°	1°	1°	1°	1°	1°	1°	2°	1°	1°	1°	1°
Middle East	2°	3°	2°	3°	2°	2°	3°	1°	2°	5°	2°	6°
North America	6°	5°	3°	3°	3°	4°	2°	2°	4°	4°	2°	7°
Oceania	8°	9°	5°	3°	2°	4°	5°	6°	7°	8°	7°	10°

Figure 2. Relative rankings of the volume of media coverage of climate change or global warming in seven different regions around the world, from January 2022 through December 2022 compared to previous years.

Throughout 2022, we continued our monitoring of media coverage of climate change or global warming. We continued to expand our work, now tracking stories in 14 languages (English, Arabic, Korean, Spanish, French, Italian, Japanese, Norwegian, Finnish, Russian, Swedish, Danish, German, and Portuguese) across television, radio, and newspapers in seven regions on this planet. In October 2022, we added four new sources in Korea – Chosun Ilbo, Dong-a Ilbo, Maeil Business Newspaper, and Hankyoreh – thanks to the work of two new team members Dr. Kyungsun Lee and Dr. Kyotaek Hwang.

In partnership with the University of Colorado Libraries, on our website, we continue to 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.

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 month to month in 2022. These January through December month-to-month explainers/ summaries have also been posted each month on our website. In aggregate, this is our sixth annual review of coverage.



Figure 3. Map of the media sources we monitor for coverage of climate change or global warming across seven different regions around the world.

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JANUARY "The seven hottest years ever recorded were, by a clear margin, the past seven"



Rising Atlantic Ocean waters erode land near the town of Muanda in the Democratic Republic of Congo. Photo: Alexis Huguet/AFP/Getty Images.

Media attention around the globe **dropped 13%** from December 2021. Furthermore, coverage **decreased 11%** from a year before. Meanwhile, January 2022 global radio coverage **dipped 67%** from December 2021, while coverage in international wire services went **down 20%** from the previous month.

anuary media attention to climate or global warming in newspapers around the globe dropped 13% December 2021. Furthermore, coverage decreased 11% from a year before (January 2021). Meanwhile, January 2022 global radio coverage of climate change or global warming dipped 67% from December 2021, while coverage in international wire services went down 20% from the previous month. Compared to the previous month coverage was down in all regions, but held steady in Latin America: Europe (-3%), Africa (-6%), Asia (-8%), the Middle East (-20%), North America (-26%), and Oceania (-34%). 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 2022.

At the country level, United States (US) print coverage diminished 21% while television coverage also decreased 37% from the previous month. Meanwhile, compared to the previous month, coverage decreased in all 14 countries that we at the Media and Climate Change Observatory (MeCCO) monitor, except in Germany, Spain and the United Kingdom (UK) where coverage was up 2% in the three countries. For example, coverage dropped 7% in Norway, 12% in Japan, 12.5% in Sweden, 17% in Finland, 37% in New Zealand, 41% in India, 41% in Australia, 48% in Denmark, and 65% in Canada in January 2022. Coverage in January 2022 in these countries was also down from a year before in most cases, with exceptions in Finland (+6%), Spain (+10%), and Australia (+16%) while holding steady in Germany.

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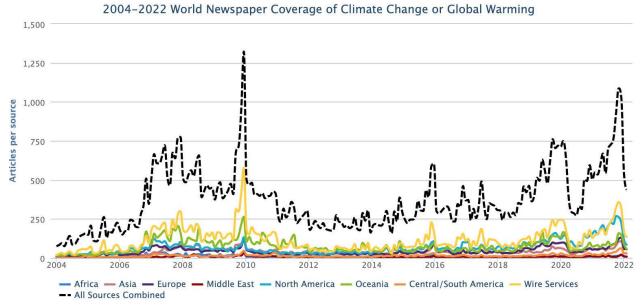


Figure 1. Newspaper media coverage of climate change or global warming in print sources in seven different regions around the world, from January 2004 through January 2022.

In January, many climate change or global warming stories in January focused on scientific themes. Among them, studies revealing continued increases in greenhouse emissions in 2021 along with ongoing increases in temperatures around the globe made news. 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 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 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". And, Guardian journalist Aliya Uteuova noted, "2021 was the fourth hottest year for the US on record and winter is the fastestwarming season in 38 out of 49 American states, excluding Hawaii, since 1970".

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2000-2022 Spain Newspaper Coverage of Climate Change or Global Warming

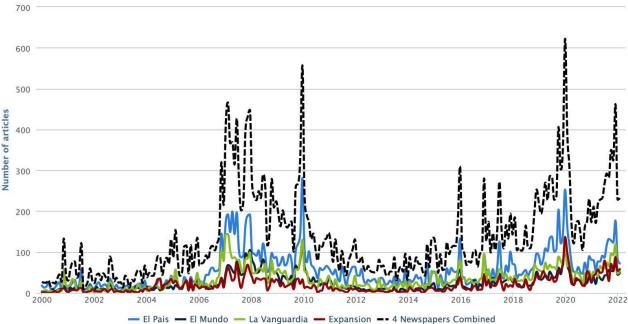


Figure 2. Spanish newspaper coverage of climate change or global warming from January 2000 through January 2022.

Furthermore, an Advances in Atmospheric Sciences study found that records were set not just in the atmosphere but also in the oceans. This generated media attention. For example, Washington Post correspondent Kasha Patel reported, "The warmth of the world's oceans hit a record. Again. A new analysis, published Tuesday in the journal Advances in Atmospheric Sciences, showed that oceans contained the most heat energy in 2021 since measurements began six decades ago - accelerating at a rate only possible because of human-emitted greenhouse gases. Since the late 1980s, Earth's oceans warmed at a rate eight times faster than in the preceding decades...The team analyzed data from a worldwide network of buoys in seven ocean basins. Overall, it found that the upper 2,000 meters (6,562 feet) of Earth's oceans absorbed more than 227 excess zettajoules of energy, compared with the 1981-2010 average. Last year broke the previous record set in 2020 by at least 14 zettajoules".

In other scientific findings making news, a study in the journal *Pediatric and Perinatal Epidemiology* published in January noted that climate change is harming human fetuses and babies. For example, *Guardian journalist Damian Carrington reported*, "The climate crisis is damaging the health of foetuses, babies and

infants across the world, six new studies have found. Scientists discovered increased heat was linked to fast weight gain in babies, which increases the risk of obesity in later life. Higher temperatures were also linked to premature birth, which can have lifelong health effects, and to increased hospital admissions of young children. Other studies found exposure to smoke from wildfires doubled the risk of a severe birth defects, while reduced fertility was linked to air pollution from fossil fuel burning, even at low levels. The studies, published in a special issue of the journal *Pediatric and Perinatal Epidemiology*, spanned the globe from the US to Denmark, Israel and Australia".

January media accounts also featured *cultural* stories relating to climate change or global warming. For example, *Washington Post* journalist Steven Mufson reported, "The public relations giant Edelman vaulted to the top of its profession with clever campaigns that burnished the images of leading corporations. Now, under fire for its work on behalf of fossil fuel companies, Edelman is scrambling to bolster its own reputation. On Wednesday, more than 450 scientists called on public relations and advertising firms, including the prestigious Edelman, to stop working for oil and gas companies. The firms' ad campaigns for

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Figure 3. Illustrative front-page newspaper coverage of climate change or global warming in January 2021.

these companies, the scientists said, "represent one of the biggest barriers to the government action science shows is necessary to mitigate the ongoing climate emergency." A group of 100 activists and former Edelman employees partnered with Clean Creatives, a campaign pressuring PR and ad agencies to quit fossil fuels, to issue the same demand. The question for the PR and ad business is whether this emboldened coalition of academics and advocates can turn fossil fuel companies into social pariahs – a sort of New Tobacco".

Also, in January several stories ran about climate change misinformation on media. For example, The South China Morning Post carried a story that noted, "The climate is changing, but misinformation about it on the major social media platforms is not. Climate change falsehoods, hoaxes and conspiracy theories are still prevalent on Twitter, Facebook, TikTok and YouTube despite pledges to crack down, a new report says. Social media posts and videos denying climate change, disputing its causes or underplaying its effects not only can still be found on these platforms, but they are often also missing warning labels or links to credible information, according to Advance Democracy, a research organisation that studies misinformation. Climate scientists say they're frustrated by the lack of progress in stemming the tide of climate change misinformation. For years, they've urged social media companies to identify, flag and take down the misinformation and the accounts that spread it".

And the film 'Don't Look Up' released at the end of December 2021 generated media attention and discussion in January. For example, New York Times journalist Maya Salam wrote, "In "Don't Look Up," a satirical incision from Adam McKay with only humor as an anesthetic, these themes are lampooned in equal measure and in no uncertain terms. Though heavy with metaphors - most important, the comet signifying climate change - its message is clear and not open to interpretation: Wake up! That the movie amassed 152 million hours viewed in one week, according to Netflix, which reports its own figures, suggests a cultural trend taking shape. There's a hunger for entertainment that favors unflinching articulation and externalization over implication and internalization - to have our greatest fears verbalized without restraint, even heavy-handedly, along with a good deal of style and wit".

January media accounts about climate change or global warming also were infused with several ecological and meteorological stories. For instance, a National Oceanic and Atmospheric Administration (NOAA) assessment of extreme weather events attracted reporting. 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

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directly connected, paint a picture of a U.S. in 2021 struggling with global 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 heattrapping 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".

As a second example in January, a report from the European Union's Copernicus Climate Change Service (C3S) concluded that the summer of

"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 family travels by boat to their home after it flooded during Hurricane Ida in Barataria, Louisiana. Photo: Brandon Bell/Getty Images.

2021 was the hottest and most extreme in Europe. Journalist Teresa Guerrero, from the newspaper El Mundo noted, "A summer that was not only marked by the heat waves suffered by Greece, Spain or Italy, but also by numerous and destructive extreme weather events: devastating fires in Greece, Turkey and other countries of the Mediterranean area and the heavy floods in Central Europe in July that affected Germany, Belgium, Luxembourg and the Netherlands and in which more than 200 people died. "These events are a stark reminder of the need for us to change our habits, take decisive and effective steps towards a sustainable society and work to reduce net carbon emissions," said Carlo Buontempo, Director of the Copernicus Climate Change Service, during the presentation of the results". On the other hand, there was an unusual episode of heat at the beginning of the year in Spain". Victoria Torres Benayas, a journalist for

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El País wrote, "In the space of a year, two consecutive winters, Spain has experienced a historic snowfall, the hardest cold wave in 45 years, and a heat wave in January. Is it due to the natural variability of the weather without anthropogenic causes, as the deniers allege, is this normal? It is not, say experts who, in the absence of attribution studies, link it "without a doubt" to climate change".

Last, *political* and *economic* themed media stories about climate change global warming continued in January. A subset of stories continued to focus on investing and climate change. For example, Guardian correspondent Kollewe wrote, "Larry Fink, the chief executive of BlackRock, the world's biggest investment fund manager, said pushing climate policies was about profits, not being "woke". In his annual letter to CEOs, Fink said businesses, cities and countries that do not plan for a carbon-free future risked being left behind. He argued that the pursuit of longterm returns was the main driver

behind climate policies, after being criticised for seeking to influence companies. "Stakeholder capitalism is not about politics. It is not a social or ideological agenda. It is not 'woke'," he wrote. "We focus on sustainability not because we're environmentalists, but because we are capitalists and fiduciaries to our clients"".

As a second example, in the European political arena there was a debate on whether to include gas and nuclear energy as green technologies. This issue appeared on the front pages of various European newspapers. In the newspaper El País, journalists Ignacio Fariza and Xosé Hermida narrated, "The Spanish Government rejects the European Commission's proposal that both nuclear energy and combined cycle plants, fueled by natural gas, be considered green technologies. In the European arena, the biggest proponent of nuclear receiving the label

"What is the greatest concern of businessmen and global leaders in 2022? Maybe the pandemic? The escalation of inflation? A possible puncture of the debt bubble? None of all this. What most worries the economic elite of the planet has little to do with the progress of the economy or health evolution: it is climate change. The climate first appeared as a risk in 2011: today it is the number one priority".



Photo: Pere Duran / Nord Media

of green energy is France, a country in which nuclear power plants provide two thirds of the electricity consumed. The most influential voice of environmentalists in the German Executive, Deputy Chancellor Robert Habeck, was guick on Saturday to express his discontent with the Brussels draft". On the other hand, in the economic field, the Davos Forum once again had climate change as the main challenge according to the Global Risk Report". Furthermore, journalist Piergiorgio M. Sandri wrote in La Vanguardia, "What is the greatest concern of businessmen and global leaders in 2022? Maybe the pandemic? The escalation of inflation? A possible puncture of the debt bubble? None of all this. What most worries the economic elite of the planet has little to do with the progress of the economy or health evolution: it is climate change. The climate first appeared as a risk in 2011: today it is the number one priority".

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FEBRUARY "Climate breakdown is accelerating rapidly"



Wildfires tearing through a forest in the Chefchaouen region of northern Morocco. Credit: Fadel Senna/AFP/Getty Images.

Media attention around the globe **dropped 7%** from January 2022. Furthermore, coverage **decreased 16%** from a year before. February 2022 global radio coverage **dipped 4%** from January, while coverage in international wire services went **down 6%** from the previous month.

ebruary media attention to climate change or global warming in newspapers around the globe - while it is a shorter month - dropped 7% from January 2022. Furthermore, coverage decreased 16% from a year before (February 2021). Meanwhile, February 2022 global radio coverage of climate change or global warming dipped 4% from January, while coverage in international wire services went down 6% from the previous month. Compared to the previous month coverage was down in five regions, and up in three regions: North America (-6%), Asia (-10%), Europe (-17%), the Middle East (-22%), Latin America (+5%), Oceania (+11%) and Africa (+49%). Figure 1 shows trends in newspaper media coverage at the global scale - organized into seven geographical regions around the world - from January 2004 through February 2022.

At the country level, United States (US) print coverage diminished 8% while television coverage also decreased 24% from the previous month. Looking at each print outlet, coverage in *The New York Times* increased 7% and increased 12% in *The Wall Street Journal*, but decreased 22% in *The Washington Post*, 33% in *USA Today*

and 34% in *The Los Angeles Times*. Looking at each television outlet, coverage on *Fox News* was up 23% and coverage on *ABC* jumped 58%. But coverage went down 12% on *CNN*, 37% on *PBS*, 53% on *MSNBC*, 80% on *CBS* and 95% on *NBC*.

Meanwhile, compared to the previous month, coverage decreased in several countries that we at the Media and Climate Change Observatory (MeCCO) monitor: Canada (-2%), Finland (-6%), Japan (-8%), Norway (-11%), Germany (-12%), New Zealand (-19%), the United Kingdom (UK) (-24%), Spain (-25%) and Sweden (-29%). Meanwhile, coverage increased 2% in Denmark, 23% in Australia and Russia (see Figure 2) and 33% India.

While coverage was curiously up in Russian print media, the general downward trend of media attention paid to climate change in February 2022 can be attributed in part to global media attention transfixed on the Russian invasion of Ukraine. As such, Figure 3 shows many front pages on February 28, the day that the United Nations (UN) Intergovernmental Panel on Climate Change (IPCC) released its second working group report of the Sixth Assessment Report on 'Impacts, Adaptation and Vulnerability'. While these reports

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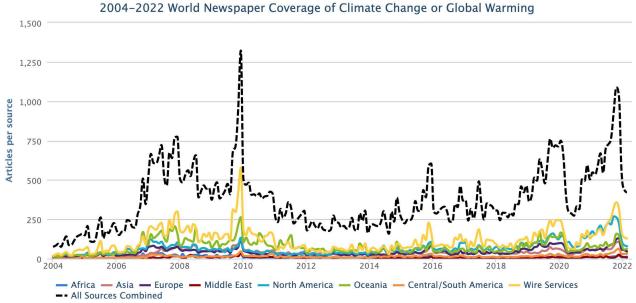


Figure 1. Newspaper media coverage of climate change or global warming in print sources in seven different regions around the world, from January 2004 through February 2022.

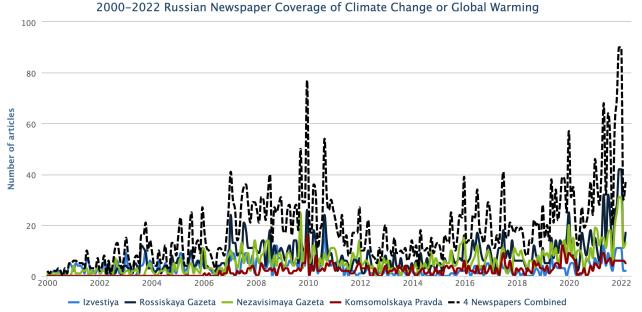


Figure 2. Russian newspaper coverage of climate change or global warming from January 2000 through February 2022.

have often generated substantial media attention (for example, see our August 2021 explainer documenting high levels of coverage of the first working group report on 'The Physical Science Basis'), there was moderate coverage (as we explain further below) but not abundant coverage through these 126 newspaper, television and radio sources that we monitor.

That said, in February, nonetheless many climate change or global warming stories in February focused on *scientific* themes, including the UN IPCC second working group report of the Sixth Assessment Report on 'Impacts, Adaptation and Vulnerability'. To begin the month, a study examining the ongoing and extreme drought in the US West garnered media attention. For example, *ABC News* reporter Julia Jacobo reported, "Southwest experiencing driest conditions in at least 1,200 years due to climate change...The megadrought that has been plaguing the Southwestern U.S. for at least two decades is causing the region to experience its driest conditions in 1,200 years, according to new research. Researchers analyzed tree ring patterns, which provide insights about soil

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Figure 3. Front page headlines on February 28 that focused on the war in Ukraine displaced attention that may have otherwise been paid to the UN IPCC second working group report of the Sixth Assessment Report on 'Impacts, Adaptation and Vulnerability' that was released that day.

moisture levels over long timespans, and found that the current megadrought has exceeded the severity of one experienced in the late 1500s and is the driest since the year AD 800".

Also in early February, a study by the National Oceanic and Atmospheric Administration (NOAA) found that predicted sea level rise of one foot in the next 28 years in the US will make some coastal areas uninhabitable while putting hundreds of thousands of homes at risk from frequent flooding. For example, Washington Post journalists Sarah Kaplan and Brady Dennis noted, "The shorelines of the United States are projected to face an additional foot of rising seas over the next three decades, intensifying the threat of flooding and erosion to coastal communities across the country, according to a report released Tuesday by the National Oceanic and Atmospheric Administration. Human-caused climate change, driven mostly by the burning of fossil fuels, has accelerated global sea level rise to the fastest rate in more than 3,000 years. The report by NOAA, NASA and five other federal agencies – updating a study from 2017 – predicts that ocean levels along U.S. coasts will increase as much by 2050 as they did over the past century. This amount of water battering the coasts "will create a profound increase in the frequency of coastal flooding, even in the absence of storms or heavy rainfall," NOAA said".

In mid-February, a United Nations report that found that climate change was driving a global increase in extreme wildfires drove media coverage. For example, journalist Rachel Ramirez from CNN reported, "Wildfires have intensified around the globe, providing a stark reminder of how the climate crisis is upending lives and inflicting billions of dollars a year in damage. And it will only get worse, according to dozens of global fire experts. A report released Wednesday by the UN Environment Programme suggests it's time we "learn to live with fire" and adapt to the uptick in the frequency and severity of wildfires that will inevitably put more lives and economies in harm's way. The number of extreme wildfire events will increase up to 14% by 2030, according to the report's analysis. By 2050, the increase will climb to 30%. Even with the most ambitious efforts to slash heat-trapping emissions, the report shows that those near-term consequences are locked in".

But then on the last day of the month (February 28), the UN IPCC second working group report of the Sixth Assessment Report on 'Impacts, Adaptation and Vulnerability' did generate substantial media stories across radio, television and newspaper outlets. For example, *USA Today* journalists Dinah Voyles Pulver and Doyle Rice reported, "Life in some locations on the planet is rapidly reaching the point where it

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will be too hot for the species that live there to survive, international climate experts said in a report Monday...The report assesses scientific literature documenting the devastating effects of human-caused climate change on society and ecosystems worldwide. The group studied the vulnerability of people and ecosystems to the changing climate and how adaptation could help reduce the risks, said Pörtner and co-chair Deborah Roberts of South Africa". Meanwhile, Guardian correspondent Fiona Harvey noted, "Climate breakdown is accelerating rapidly, many of the impacts will be more severe than predicted and there is only a narrow chance left of $avoiding its worst \, ravages, the \, Intergovernment al \,$ Panel on Climate Change (IPCC) has said. Even at current levels, human actions in heating the climate are causing dangerous and widespread disruption, threatening devastation to swathes of the natural world and rendering many areas unlivable, according to the landmark report published on Monday. "The scientific evidence is unequivocal: climate change is a threat to human wellbeing and the health of the planet," said Hans-Otto Pörtner, a co-chair of working group 2 of the IPCC. "Any further delay in concerted global action will miss a brief and rapidly closing window to secure a livable future"".

Next, several political and economic themed media stories about climate change or global warming continued in February. To begin, news of the European Commission's announcement of a proposal to classify some nuclear and gasfired power plants as 'climate friendly' circulated widely. For example, Wall Street Journal reporter Joe Wallace wrote, "Hopes are rising that Europe will avoid a winter energy crisis that some feared would play to Russian President Vladimir Putin's advantage as Moscow prepares for a possible invasion of Ukraine. A record influx of liquefied natural gas, combined with mild and windy weather, has slowed withdrawals from the region's heavily depleted underground gasstorage caverns. A boost to flows of gas from Russia via Ukraine is helping, too". Meanwhile, CNN journalists Ivana Kottasová and Angela Dewan reported, "The European Commission is coming under criticism after unveiling a longdelayed proposal to designate natural gas and nuclear power "sustainable" sources of energy Wednesday. Including the energy sources on the EU's green list could unlock a wave of private investment into new nuclear and gas projects. But the plans have angered climate activists and could still be blocked by European lawmakers, who are also deeply divided over the issue along national and political lines. EU Financial Services Commissioner Mairead McGuinness, presenting the proposal to journalists in Brussels after more than a year of horse-trading between member states, was forced to deflect accusations of EU "greenwashing" and concede that the proposal was 'imperfect'". And El País journalist Bernardo de Miguel noted, "Nuclear, yes, why not. And the gas too. After months of hesitation and consultations with the capitals, the president of the European Commission, Ursula von der Leyen, managed to approve this Wednesday the draft regulation that will classify nuclear and gas as energies that can contribute to the fight against change climate and, therefore, deserving of a green label that can attract multi-million dollar investments. Von der Leyen has assumed the controversial decision knowing that it contradicts the opinion of the majority of the technicians consulted and that it exposes itself to a complaint by several EU partners before the European Court of Justice".

Also, the increasingly covered US Federal Energy Regulatory Commission generated news interest in early February as it adopted a proposal to now consider gas infrastructure's impacts on climate change on affected BIPOC and lowincome communities. For example, Washington Post journalist Maxine Joselow reported, "The Federal Energy Regulatory Commission will now consider how pipelines and related natural gas projects affect climate change and environmental justice communities, the commission ruled in a 3-to-2 vote on Thursday. The ruling marks the first time that FERC, an independent agency that regulates the interstate transmission of electricity, oil, and natural gas, has updated its policy for reviewing gas projects since 1999. Environmental advocates hailed the move, saying it will provide a crucial new avenue for blocking new fossil fuel infrastructure and staving off the worst effects of the climate crisis. But conservatives and industry groups slammed

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the decision, asserting that it will prevent millions of Americans from accessing affordable energy".

Meanwhile, news of the European Renewable Energy Index increases - relating to the European Commission's strategy to reduce dependence on Russian oil and gas imports - circulated in February. For example, Washington Post journalists Michael Birnbaum and Steven Mufson reported, "For years, Europe's dependence on Russian energy has held it back from taking powerful action against Kremlin mischief. But now, the Russia-Ukraine conflict is forcing a change unlike any before, driving the European Union to make plans for a permanent, far-reaching break from Russian oil and gas, European policymakers said. The strategy to split from Russian energy in the works before the invasion of Ukraine and expected to be announced by the European Commission next week - would give Europe a freer political hand against Russia than it has had in the past. It would take years and come with a hefty bill for European taxpayers. And it comes with the crucial backing of Germany, a nation so entangled with Russia that one of its former chancellors, Gerhard Schröder, is the chairman of Rosneft, Russia's biggest oil company...Longer term, Russian energy officials have already been trying to sell more gas to China, since they acknowledged that Europe's climate plans have set it on a path toward buying less Russian fossil fuel". Similarly, concerns about the price of energy in February generated various news about the energy transition. For example, the journalist Pilar Blázquez wrote in La Vanguardia, "Brussels predicts that the price of electricity will remain high beyond spring. Energy prices are still at an unprecedented level and are responsible for half of the eurozone's inflation". As a second example, journalist Camilla Hodgson noted in Financial Times, "The gas crisis casts a shadow over the road to COP27 in Egypt. Rising energy prices may work against climate leaders developing green policies in time for the upcoming November summit in Sharm el-Sheikh".

Relatedly, the then-impending Russian invasion of Ukraine sent shockwaves through the international oil and gas industry. This generated many media accounts. For example, *New York Times* journalist

"As crisis looms in Ukraine, U.S. energy leadership is more important than ever."



A pumpjack in the Inglewood Oil Field in Los Angeles County, Calif. Photo: Mario Tama/Getty Images.

Hiroko Tabuchi reported, "Russian troops hadn't yet begun their full-on assault on Ukraine late Wednesday when the rallying cry came from the American oil and gas industry. "As crisis looms in Ukraine, U.S. energy leadership is more important than ever," the American Petroleum Institute, the powerful industry lobby group, wrote on Twitter with a photo that read: "Let's unleash American energy. Protect our energy security." The crux of the industry's argument is that any effort to restrain drilling in America makes a world already reeling from high oil prices more dependent on oil and gas from Russia, a rival and belligerent fossil fuel superpower. The industry's demands have focused on reversing steps the Biden administration has taken to start reining in the production of fossil fuels, the main driver of climate change".

February media accounts also featured *cultural* stories relating to climate change or global warming. For example, connections between climate change and the winter Olympics (that took place in Beijing in February) were made in several news stories. For example, *CNN* journalist Amy Woodyatt reported, "Although the Summer Games are often heralded as a melting pot -11,417 athletes from 206 countries and regions across 33 sports participated in Tokyo 2020 - the Winter Games are nowhere near as diverse, with 91 delegations taking part at Beijing 2022. That's five times more than the number of teams represented in the first Winter Games in Chamonix, France in 1924. But athletes from Africa, South Asia, as

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well as those from smaller island nations still find themselves struggling to qualify for competition in the Winter Olympics due to warmer climates, the prohibitively high cost of equipment, lack of infrastructure and limited opportunities to practice and compete". Meanwhile, US National Public Radio reporter Jaclyn Diaz noted, "Outside of the window of a passing train from Beijing to Yanging are rows and rows and rows of trees. This succession of perfectly arranged seedlings and saplings stretches for acres. Some look hardly more than three twigs tied together on the ground - and at serious risk of falling victim to a gust of wind. But at the base of each tree is a system of ropes and wood keeping them standing. Much of this obviously recent tree planting is tied to the 2022 Winter Olympics. Authorities in Beijing and Zhangjiakou (locations for the Games' venues) said before the Games that they had planted more than 80,000 hectares (about 198,000 acres) of forest and green areas combined. China is also in the midst of a years-long "greening" effort. Trees are being planted in and around Beijing to cut down on choking sandstorms from the Gobi Desert. Put together, the Chinese government and Olympic officials paint the tree planting as a win for the environment and one that offsets climate change and carbon emissions from these Games. The reality is much different, researchers and environmental experts say".

Last, February media accounts about climate change or global warming with ecological and meteorological themes proliferated. For instance, news of endangered Australian koalas due to climate change appeared in a number of media accounts. For example, The Associated Press reported, "Koalas were declared officially endangered Friday in eastern Australia as they fall prey to disease, lost habitat and other threats. Federal Environment Minister Susan Lev downgraded their conservation status across the country's east coast, in Queensland, New South Wales and the Australian Capital Territory, on a recommendation by the government's Threatened Species Scientific Committee..."There have been many pressures on the koala. The Black Summer fires, of course, was a tipping point. But we know the koala is vulnerable to climate change and to disease," Ley told reporters". Meanwhile, New

York Times journalist Manan Luthra added, "The announcement, by the country's environment minister, came two years after a parliamentary inquiry predicted that koalas could be extinct by 2050 without urgent government intervention".

In mid-February, mudslides from torrential rains near Rio de Janeiro - with links made to a changing climate - appeared in media accounts. For example, BBC journalist Katy Watson reported, "More than 100 people have died in landslides and flash flooding in the Brazilian city of Petrópolis, officials say. The city, which is located in the mountains north of Rio de Janeiro, was hit by torrential rainfall. Houses in hillside neighbourhoods were destroyed and cars swept away as floodwaters raced through the city's streets. Search and rescue teams are combing the mud for survivors...It is the latest in a series of heavy rains to hit Brazil in the past three months, which scientists say are being made worse by climate change".

Last, media stories of drought in continental Europe appeared in February. For example, in Spain an editorial in the newspaper La Vanguardia noted, "Spain is a traditionally dry country. The impact of climate change accelerates this dryness with the progressive increase in temperatures and the decrease in rainfall. The result is less water available for further consumption. But there is still no awareness of the seriousness of this situation and the need to adopt urgent measures to improve efficiency in water consumption". This issue was also addressed in another editorial in the newspaper El País, which commented, "Water restrictions are the last remedy in a severe drought situation like the current one and no expert rules it out today for spring. Nor do the meteorologists have any indication that the situation will change. The hydrological year started very badly in October and continues badly. After an autumn with very low rainfall, winter has not brought the amount of rain and snow that would be necessary, so it is not expected that the aguifers will be filled in spring with melting ice. In the last four months it has rained 36% less than the average for the same period between 1981 and 2010 and the reserves of the swamps are dangerously close to the levels of the extreme drought of 2017-2018."

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MARCH "You ain't sneezed nothing yet"



Dominika Zarzycka / Getty Images.

Media attention around the globe **increased 19%** from February 2022. However, coverage **decreased 7%** from a year before. Meanwhile, global radio coverage dipped again from the previous month, this time is was **down 2%**. Coverage in international wire services **increased 14%** from February 2022.

arch media attention to climate change or global warming in newspapers around the globe increased 19% from February 2022. However, coverage decreased 7% from a year before (March 2021). Meanwhile, March 2022 global radio coverage of climate change or global warming dipped again from the previous month, this time is was down 2%. Meanwhile, coverage in international wire services increased 14% from February 2022. Compared to the previous month coverage bounced back and increased in all regions except Latin America (-4%): Asia (+14%), Europe (+17%), Africa (+19%), North America (+24%), the Middle East (+26%), and Oceania (+36%). 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 2022.

At the country level, United States (US) print coverage increased 22% while television coverage actually dropped 10% from the previous month. Looking at each print outlet, coverage increased 9% in *The Washington Post*, while *The New York Times* and *The Wall Street Journal* both increased 21%, there was an increase of 31% in *The Los Angeles Times* and there was a jump of 162% in *USA Today*. Looking at each television outlet, it was a more mixed picture: coverage on *Fox News* was up 16% while it increased 40% on *PBS* while doubling on *CBS* and quintupling on *NBC* (after a steep drop in February. Meanwhile, coverage decreased on *ABC* and *MSNBC* 21%, and 59% on *CNN*.

Meanwhile, compared to the previous month, coverage decreased in Russia (-57%). But, among the rest of the countries that we at the Media and Climate Change Observatory (MeCCO) monitor,

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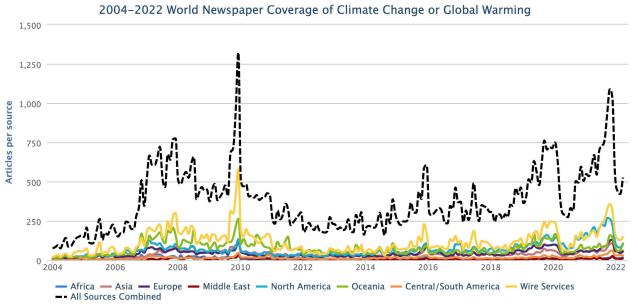


Figure 1. Newspaper media coverage of climate change or global warming in print sources in seven different regions around the world, from January 2004 through March 2022.

coverage increased from February everywhere else: Japan (+5%), Denmark (+8%), Finland (+10%), Germany (+12%), Spain (+19%), India (+22%), Australia (+23%), the United Kingdom (UK) (+29%), Norway (+42%), Sweden (+47%), Canada (+61%), and New Zealand (+115%).

Many climate change or global warming stories focused on scientific themes in the month of March. To begin the month, a new study on increased pollen levels and a longer allergy season - with links to climate change - generated several news stories. For example, Associated Press reporter Seth Borenstein (appearing on ABC News) noted, "Climate change has already made allergy season longer and pollen counts higher, but you ain't sneezed nothing yet. Climate scientists at the University of Michigan looked at 15 different plant pollens in the United States and used computer simulations to calculate how much worse allergy season will likely get by the year 2100. It's enough to make allergy sufferers even more red-eyed. As the world warms, allergy season will start weeks earlier and end many days later - and it'll be worse while it lasts, with pollen levels that could as much as triple in some places, according to a new study Tuesday in the journal Nature Communications. Warmer weather allows plants to start blooming earlier and keeps them blooming later. Meanwhile, additional carbon dioxide in the air from burning fuels such as coal, gasoline and natural gas helps plants produce more pollen, said study coauthor Allison Steiner, a University of Michigan climate scientist. It's already happening. A study a year ago from different researchers found that from 1990 to 2018, pollen has increased and allergy season is starting earlier, with much of it because of climate change. Allergists say that pollen season in the U.S. used to start around St. Patrick's Day and now often starts around Valentine's Day. The new study found that allergy season would stretch even longer and the total amount of pollen would skyrocket. How long and how much depends on the particular pollen, the location and how much greenhouse gas emissions are put in the air".

Yet in March, Russia's invasion of Ukraine limited print newspapers from publishing the results of IPCC Working Group II that was released on the final day of February. Some newspaper coverage around the world addressed it. For example, Spain is one of the European countries most vulnerable to global warming. Climate change will generate 8,000 deaths a year from extreme heat in this country. The journalist Teresa Guerrero narrated in El Mundo, "According to the IPCC, crop losses due to drought and extreme heat have tripled across Europe in

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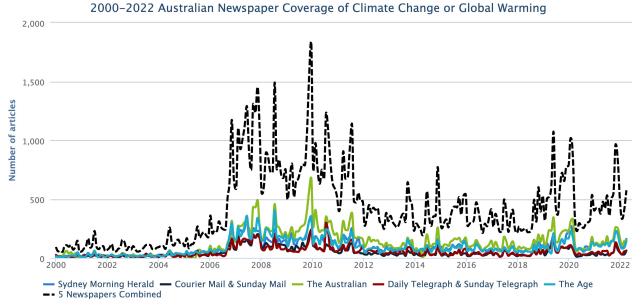


Figure 2. Australian newspaper coverage of climate change or global warming from January 2000 through March 2022.

the last 50 years and are projected to increase with continued warming, with most of these losses occurring in southern Europe, as the most suitable agricultural areas will move north. Droughts cost Spain already annual losses of around 1,500 million euros."

Further into March, a publication in Proceedings of the National Academies of Sciences entitled 'Tripling of western US particulate pollution from wildfires in a warming climate' grabbed news attention. For example, CNN journalist Rachel Ramirez reported, "Only a few months into 2022 and it's already a dreadful year for wildfires. More than 14,781 separate wildfires have scorched over half a million acres as of this week, according to the National Interagency Fire Center, the largest number of fires year-to-date the agency has recorded in the past decade. But many of these recent fires haven't been igniting in California or the Pacific Northwest - which have endured several devastating fire seasons in a row - they've been popping up in places like Colorado and Texas, and have burned hundreds of thousands of acres in the past few weeks alone. Earlier in March, scientists at the National Oceanic and Atmospheric Administration predicted drought conditions would expand eastward this spring and worsen in some locations - conditions that are now priming the landscape in the Southern Plains for dangerous, fast-moving fires...Climate researchers have said two major factors have contributed to the West's multiyear drought: the lack of precipitation and an increase in evaporative demand, also known as the "thirst of the atmosphere." Warmer temperatures increase the amount of water the atmosphere can absorb, which then dries out the landscape. That's also true for places like Colorado and interior Texas, away from the Gulf Coast, Swain said. When the atmosphere extracts moisture from the soil without returning that water in the form of precipitation, there's going to be less water available to those plants".

Several political and economic themed media stories about climate change or global warming continued in March. To begin, in the legal arena a group called 'ClientEarth' sued Shell for 'failing to properly prepare for the net zero transition' and this drew media attention. For example, CNN journalist Angela Dewan reported, "Environmental lawyers ClientEarth said they were preparing legal action against the directors of Shell over the company's climate transition plan, in what they said would be the first such case of its kind. The lawyers from ClientEarth - which is a Shell shareholder - said they are seeking to hold the oil and gas company's 13 directors personally liable for what they consider to be a failure to adequately prepare for the global shift to a low-carbon economy. They say that the board has failed to adopt and

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Figure 3. A sampling of front page print coverage of climate change or global warming in the month of March.

implement a climate strategy that aligns with the 2015 Paris Agreement, claiming that amounts to an alleged breach of the directors' duties under the UK Companies Act. ClientEarth said it had written to Shell notifying it of its claim and was waiting for it to respond before filing papers at the High Court of England and Wales. For the case to proceed, ClientEarth would then need permission from the court to do so".

Also in March, a report from the International Energy Agency about how to build resilience against shocks to fossil fuel supplies as well as impacts on climate change made news headlines. For example, CNN journalist Matt Egan reported, "Governments around the world must consider drastic steps to slash oil demand in the face of an emerging global energy crisis caused by Russia's invasion of Ukraine, the International Energy Agency warned on Friday. The energy watchdog detailed a 10-point emergency plan that includes reducing speed limits on highways by at least 6 miles per hour, working from home up to three days a week where possible and carfree Sundays in cities. The recommendations for advanced economies like the United States and European Union would aim to offset the feared loss of nearly one-third of Russia's oil production due to sanctions leveled on Moscow. Other steps in the emergency plan include increasing car sharing, using high-speed and night trains instead of planes, avoiding business air travel when possible and incentivizing walking, cycling and public transportation. An oil pumpjack pulls oil from the Permian Basin oil field on March 14, 2022 in Odessa, Texas. If fully implemented, the moves would lower world oil demand by 2.7 million barrels per day within four months - equal to the oil consumed by all the cars in China, the IEA said. And the impact would be greater if emerging economies like India and China adopted them in part or in full. However, the emergency steps would disrupt or even slow down a world economy that remains largely addicted to fossil fuels, especially for transportation. The IEA is suggesting the headaches would be better than the alternative". Furthermore, New York Times journalists Catrin Einhorn and Lisa Friedman wrote, "The International Energy Agency said countries should encourage use of mass transit and car pooling, among other things. That could also help the climate crisis...Clean energy is the ultimate solution to tackling global warming and reducing energy dependency on other countries, many experts say. But it can't come online fast enough to meet immediate demand. To make matters worse, countries were already far behind on the emissions reductions needed to meet the Paris Agreement, a global pledge intended to avoid the worst effects of climate change. While Western nations try to deal with the humanitarian crisis and the energy problems resulting from the war in Ukraine, "we should not forget a third crisis, which is the climate crisis," Dr. Birol of the International Energy Agency said. "And as a result, all of the 10 measures we put on the table not only address the crude oil market tightness, but also help to pave the way to reach our climate goals"".

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Further into March, in the US the Securities and Exchange Commission's proposed regulation to require corporations to disclose their exposure to climate change risks was found to be newsworthy across several media outlets. For instance, Washington Post reporters Maxine Joselow and Douglass MacMillan wrote, "The Securities and Exchange Commission on Monday approved a landmark proposal to require all publicly traded companies to disclose their greenhouse gas emissions and the risks they face from climate change. The proposed rule from the Wall Street regulator mandates that hundreds of businesses report their planet-warming emissions in a standardized way for the first time. It reflects the Biden administration's broader push to confront the dangers that climate change poses to the financial system and the nation's economic stability. At an open meeting, the SEC's three Democratic commissioners voted to approve the proposal, while the sole Republican commissioner voted against it. SEC Chair Gary Gensler, who was nominated by President Biden, said the rule would provide "consistent, comparable information" to Environmentalists hailed the rule as a crucial first step in forcing the private sector to confront the economic risks of a warming world, even as some said the SEC should have gone further in requiring all businesses to disclose the emissions generated by their supply chain and customers. Some conservatives and business groups have opposed the federal government mandating any climate disclosures, and observers expect them to challenge the SEC proposal in court".

Also in March, an announcement of a US and EU joint task force to reduce Europe's dependence on Russian fossil fuels garnered media attention. For example, *Associated Press* correspondent Raf Casert reported, "With stunning speed, Russia's war in Ukraine is driving Western Europe into the outstretched arms of the United States again, especially apparent when President Joe Biden offered a major expansion of natural gas shipments to his European Union counterpart Friday. Talking to European Commission President Ursula von der Leyen, Biden said the core issue was "helping Europe reduce"

its dependency on Russian gas as quickly as possible." And Europe, which relies on Moscow for 40% of the natural gas used to heat homes, generate electricity and drive industry, needs the help. An economic miscalculation with massive geopolitical consequences, many European Union nations let themselves become ever more reliant on Russian fossil fuels over the years, vainly hoping trade would overcome Cold War enmity on a continent too often riven by conflict. That longstanding practice meant the 27-nation bloc could not simply stop Russian energy imports as part of Western sanctions to punish Moscow for the invasion a month ago. And changing energy policy is about as cumbersome as turning around a liquefied natural gas carrier on a rough sea. In reality, it will take years. This is where Biden stepped in Friday. Under the plan, the United States and a few like-minded partners will increase exports of liquefied natural gas, or LNG, to Europe by 15 billion cubic meters this year. Those exports would triple in the years afterward, a necessary move if the EU can back up its claim to be rid of Russian imports in five years...Although the U.S.-EU initiative will likely require new facilities for importing liquefied natural gas, the White House said it is also geared toward reducing reliance on fossil fuels in the long run through energy efficiency and alternative sources of energy. But climate campaigners criticized the agreement and called instead for the U.S. and EU to focus on renewable energy and reducing fossil fuel demand".

Furthermore, journalist Victor Martínez wrote in El Mundo, "Russia has historically been the great energy supplier of Europe through its coal, oil and gas. Until now, a reliable and vital partner for a continent weighed down by its enormous dependence on foreign energy. But these links have now become Europe's great weakness in its campaign of economic punishment of the Government of Vladimir Putin for the invasion of Ukraine". The newspaper El País dedicated the editorial "Energy crisis and Europe" to him: "Russia's attack on Ukraine exposes the fragilities of the Union and will affect its plans against climate change. The energy price

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crisis, generated by the war, adds to the energy transition process undertaken by the European Union, which has led to the establishment decarbonization objectives of 55% by 2030 and to achieve carbon neutrality in 2050. The delay in starting this transition is now being paid in two bills: that of the climate crisis, which is having worse effects than expected, as the Intergovernmental Panel on Climate Change (IPCC) has just pointed out, and that derived from Russian dependency." In this way, the ecological transition is slowed down.

March media accounts also featured cultural stories relating to climate change or global warming. For example, stories of highways, Amazon deforestation and climate change were part of the media landscape. To illustrate, Washington Post journalist Terrence McCoy reported, "Stretches of the highway have been improved in recent years, making travel easier and unleashing a surge of deforestation. Many in the

rainforest want the government to complete the job. President Jair Bolsonaro, who has worked to ease and undermine environmental regulations to promote development, says paving the highway would fulfill "a wish of the Amazonian people." His vice president, a general in reserve, said he'd eat his own military beret if current officials don't get it done. For many in Manaus, a city of 2.2 million cut off from Brazil's main highway system, the road symbolizes something close to freedom – a lifeline that connects them to the rest of the country and paves the path toward development... In a region of both vast resources and pervasive poverty, many say the time has come to use what's there for the taking, to seize the better life long denied by isolation and geography, to push back against federal laws and environmentalists who seem to care far more for trees than people. The outcome of the emotional political clash, scientists say, has

"Lake Powell's fall to below 3,525 feet (1,075 meters) puts it at its lowest level since the lake filled after the federal government dammed the Colorado River at Glen Canyon more than a half century ago — a record marking yet another sobering realization of the impacts of climate change and megadrought."



A houseboat rests in a cove at Lake Powell. Photo: Rick Bowmer/AP.

implications not only for the rest of the forest but the world. The Amazon is a crucial bulwark against global warming, helping to slow the inexorable march of climate change. But researchers warn that finishing the highway and subsequent state roads would open up its core to destruction".

Last, March media accounts about climate change or global warming with *ecological* and *meteorological* themes proliferated. For instance, *Associated Press* journalists Sam Metz and Felicia Fonseca reported, "A massive reservoir known as a boating mecca dipped below a critical threshold on Tuesday raising new concerns about a source of power that millions of people in the U.S. West rely on for electricity. Lake Powell's fall to below 3,525 feet (1,075 meters) puts it at its lowest level since the lake filled after the federal government dammed the Colorado River at Glen Canyon more than a half century ago — a record marking yet

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another sobering realization of the impacts of climate change and megadrought. It comes as hotter temperatures and less precipitation leave a smaller amount flowing through the overtapped Colorado River. Though water scarcity is hardly new in the region, hydropower concerns at Glen Canyon Dam in Arizona reflect that a future western states assumed was years away is approaching – and fast".

Also in March, heat waves in various parts of the world such as the Arctic prompted several news accounts making links to a changing climate. For example, Guardian journalist Fiona Harvey wrote, "Startling heatwaves at both of Earth's poles are causing alarm among climate scientists, who have warned the "unprecedented" events could signal faster and abrupt climate breakdown. Temperatures in Antarctica reached record levels at the weekend, an astonishing 40C above normal in places. At the same time, weather stations near the north pole also showed signs of melting, with some temperatures 30C above normal, hitting levels normally attained far later in the year. At this time of year, the Antarctic should be rapidly cooling after its summer, and the Arctic only slowly emerging from its winter, as days lengthen. For both poles to show such heating at once is unprecedented. The rapid rise in temperatures at the poles is a warning of disruption in Earth's climate systems. Last year, in the first chapter of a comprehensive review of climate science, the Intergovernmental Panel on Climate Change warned of unprecedented warming signals already occurring, resulting in some changes - such as polar melt - that could rapidly become irreversible. The danger is twofold: heatwaves at the poles are a strong signal of the damage humanity is wreaking on the climate; and the melting could also trigger further cascading changes that will accelerate climate breakdown. As polar sea ice melts, particularly in the Arctic, it reveals dark sea that absorbs more heat than reflective ice, warming the planet further. Much of the Antarctic ice covers land, and its melting raises sea levels".

Also in March, the collapse of the Glenzer Conger ice shelf holding back two glaciers

"Startling heatwaves at both of Earth's poles are causing alarm among climate scientists, who have warned the "unprecedented" events could signal faster and abrupt climate breakdown."



A drop of water falls off an iceberg in the Nuup Kangerlua Fjord in Greenland. Photo: David Goldman/AP.

sparked many media stories. For example, Guardian journalist Donna Lu reported, "An ice shelf about the size of Rome has completely collapsed in East Antarctica within days of record high temperatures, according to satellite data. The Conger ice shelf, which had an approximate surface area of 1,200 sq km, collapsed around 15 March, scientists said on Friday. East Antarctica saw unusually high temperatures last week, with Concordia station hitting a record temperature of -11.8C on 18 March, more than 40C warmer than seasonal norms. The record temperatures were the result of an atmospheric river that trapped heat over the continent...Prof Matt King, who leads the Australian Centre for Excellence in Antarctic Science, said because ice shelves are already floating, the Conger ice shelf's break-up would not in itself impact sea level much. He said that fortunately the glacier behind the Conger ice shelf was small, so it would have a "tiny impact on sea level in the future". "We will see more ice shelves break up in the future with climate warming," King said. "We will see massive ice shelves - way bigger than this one - break up. And those will hold back a lot of ice - enough to seriously drive up global sea levels"".

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"A litany of broken climate promises" **APRIL**



Smoke and steam rise from a coal processing plant in Hejin in central China's Shanxi Province. Photo: Sam McNeil/AP.



Media attention around the globe increased 4% from March 2022. However, coverage was down 13% from a year before. Meanwhile, coverage in international wire services increased 23% and radio coverage was up 28% from March 2022.

pril media attention to climate change or global warming in newspapers around the globe increased 4% from March 2022. However, coverage was down 13% from a year before (April 2021). Meanwhile, coverage in international wire services increased 23% and radio coverage was up 28% from March 2022. Compared to the previous month coverage decreased in Africa (-102%), the Middle East (-32%) and slightly in Asia (-2%), but increased slightly in North America (+2%) and the European Union (EU) (+2%), while coverage was up more substantially in Latin America (+13%) and Oceania (+14%). Figure 1 shows trends in newspaper media coverage at the global scale - organized into seven geographical regions around the world from January 2004 through April 2022.

At the country level, United States (US) print coverage decreased 2% while television coverage actually increased 86% from the

previous month. Among other countries that we at the Media and Climate Change Observatory (MeCCO) monitor, coverage dropped in Finland (-7%), Norway (-15%), Spain (-18%), Japan (-18%), and Denmark (-23%). However, coverage in April 2022 increased in the United Kingdom (UK) (+1%), India (+8%), New Zealand (+8%), Sweden (+9%), Canada (+12%), Germany (+27%) (see Figure 2), Australia (+41%), and Russia (+69%).

Many climate change or global warming stories focused on scientific themes in the month of April. To begin the month, United Nations (UN) Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (AR6) report on 'Mitigation and Policy' drew significant media attention after its April 4 release. For example, Associated Press journalists Frank Jordan and Seth Borenstein reported, "Temperatures on Earth will shoot past a key danger point unless greenhouse gas emissions fall faster than countries have committed, the world's top body

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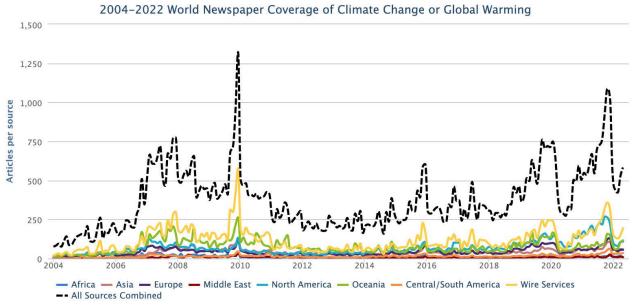


Figure 1. Newspaper media coverage of climate change or global warming in print sources in seven different regions around the world, from January 2004 through April 2022.

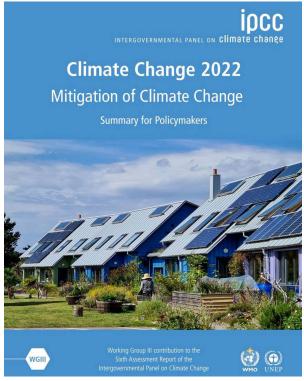


Figure 2. The front cover of the April 4 United Nations (UN) Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (AR6) report on 'Mitigation and Policy'.

of climate scientists said Monday, warning of the consequences of inaction but also noting hopeful signs of progress. U.N. Secretary-General Antonio Guterres said the report by the Intergovernmental Panel on Climate Change revealed "a litany of broken climate promises" by governments and corporations, accusing them of stoking global warming by clinging to harmful fossil fuels. "It is a file of shame, cataloguing the empty pledges that put us firmly on track toward an unlivable world," he said".

As a second of many examples, PBS Newshour reporter Isabella Isaacs-Thomas noted, "We have the knowledge, money, technology and affordable clean energy that we need to cut our carbon emissions in half by 2030. That's the good news from the Intergovernmental Panel on Climate Change's Working Group III report released Monday. What's standing in the way is lack of political will and sufficient funding to make the necessary rapid, widespread, crosssector changes a reality, according to the report. The authors warn that "it's now or never" if humanity wants to achieve its long-standing goal of curbing global warming to a maximum of 1.5 degrees Celsius above pre-industrial levels, which will "impossible" without swift and sweeping greenhouse gas emissions. But funding is currently three to six times lower than it needs to be to ensure that the global average temperature does not rise beyond 2 degrees Celsius. The money needed to bridge that gap does exist, the report emphasizes, and making it available is a matter of "stronger alignment of public sector finance and policy"".

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2004-2022 German Newspaper Coverage of Climate Change or Global Warming

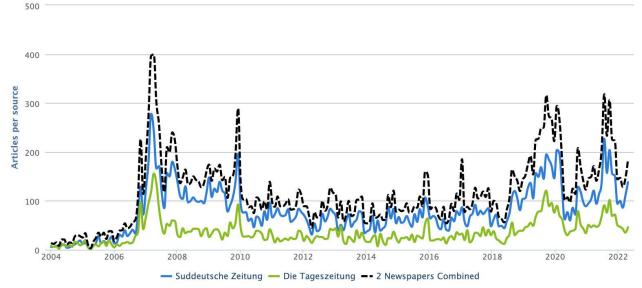


Figure 3. German newspaper coverage of climate change or global warming from January 2000 through April 2022, where several stories in April 2022 linked Germany's dependence on Russian oil and natural gas, the war in Ukraine and contributions to climate change.

While the Russian invasion of Ukraine may have somewhat stymied climate change coverage in April, newspapers still dedicated many column inches to the findings. As yet another example, in a front page story Guardian journalist Fiona Harvey wrote, "The world can still hope to stave off the worst ravages of climate breakdown but only through a "now or never" dash to a lowcarbon economy and society, scientists have said in what is in effect a final warning for governments on the climate. Greenhouse gas emissions must peak by 2025, and can be nearly halved this decade, according to the Intergovernmental Panel on Climate Change (IPCC), to give the world a chance of limiting future heating to 1.5C above pre-industrial levels".

In further science-themed climate change news in April, attention paid to findings of record-breaking methane emissions fueled media stories. For example, journalist Victoria Albert from CBS News reported, "The atmospheric concentration of methane – a greenhouse gas that contributes significantly to global warming – increased by a record amount in 2021 for the second year in a row, the National Oceanic and Atmospheric Administration said Thursday. Levels of carbon dioxide also increased at a "historically high rate," NOAA said. A preliminary analysis showed atmospheric methane levels

increased by 17 parts per billion (ppb) in 2021, which NOAA said was "the largest annual increase recorded since systematic measurements began in 1983." Atmospheric methane levels averaged 1,895.7 ppb in 2021, which is approximately 162% higher than pre-industrial levels. This graph shows globally-averaged, monthly mean atmospheric methane abundance determined from marine surface sites since 1983. Values for the last year are preliminary. NOAA's findings also provided alarming news about carbon dioxide, which it said was the primary contributor to human-caused global warming. Last year was the 10th year in a row that saw a more than 2 parts per million increase, which NOAA said is the "fastest sustained rate of increase in the 63 years since monitoring began." Approximately 36 billion tons of carbon dioxide were emitted due to human activity in 2021, NOAA said".

Several *political* and *economic* themed media stories about climate change or global warming continued in April. To begin, the Russian war in Ukraine garnered media stories that linked energy and Russian oil and gas exports to climate change or global warming. For example, *Wall Street Journal* reporter Julia-Ambra Verlaine noted, "Natural-gas prices extended their climb Thursday, bucking seasonal trends as demand from overseas continues to pressure

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Figure 4. A sampling of front page print coverage of the IPCC report on climate change in early April.

inventories. U.S. natural-gas futures for May delivery rose 4.3% Thursday to \$7.3000 per million British thermal units—a 96% rise in the year to date. While natural gas stockpiles rose modestly during the week ended April 8, they remain nearly 25% below last year's levels and 18% below the five-year average for this time of year, according to data released Thursday by the U.S. Energy Information Administration".

As the month of April wore on, Russian oil giant Gazprom's actions to cut off Poland and Bulgaria from oil and gas supplies – along with connections to climate change – grabbed media attention. For example, *Associated Press* journalists Vanessa Gera and Monika Scislowska wrote,

"Polish and Bulgarian officials said Tuesday that Moscow is cutting off natural gas deliveries to their countries due to their refusal to pay in Russian rubles, a demand made by President Vladimir Putin after sanctions were levied against his nation over the invasion of Ukraine. Russian state-owned energy giant Gazprom informed the two EU and NATO member nations that gas supplies will be suspended starting Wednesday, their governments said. The suspensions would be the first since Putin's announcement last month that "unfriendly foreign buyers" would have to transact with Gazprom in rubles instead of dollars and euros. Only Hungary has agreed to do so, with other countries rejecting the demand as an unacceptable, one-sided breach of contracts and a violation of sanctions. If

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deliveries are halted to other countries as well, it could cause economic pain in Europe, driving natural gas prices up and possibly leading to rationing - but it would also deal a blow to Russia's own economy. Wednesday's cutoffs will affect deliveries of Russian gas to Poland through the Yamal-Europe pipeline, according to Polish state gas company PGNiG, and to Bulgaria via the TurkStream pipeline, that country's Energy Ministry said. The Yamal-Europe line carries gas from Russia to Poland and Germany, via Belarus. Poland has been receiving some 9 billion cubic meters annually, fulfilling some 45% of the country's need. PGNiG said it was considering legal action over Moscow's payment demand. But Climate Minister Anna Moskwa said Poland is prepared to make do after having worked to reduce its reliance on Russian energy sources. Several years ago the country opened its first terminal for liquefied natural gas, or LNG, in Swinoujscie, on the Baltic Sea coast, and later this year a pipeline from Norway is to become operational".

Beyond the conflict in Ukraine, April contained political news about climate change in the French presidential campaign. For example, *Expansión* published an article by journalist Sara White entitled, "Macron opts for green credentials in the fight against Le Pen". She wrote, "The president accentuates his support for renewable energy to appeal to leftist voters and environmentalists, but he faces criticism for his record".

April media coverage about climate change or global warming with *ecological* and *meteorological* themes also kept pace with science stories. For instance, heavy rainfall across southeast Africa - with linkages made to climate change - drew attention. For example, *Associated Press journalist Wanjohi Kabukuru reported*, "Extreme rainfall in southeast Africa has become heavier and more likely to occur during cyclones because of climate change, according to a new analysis released Monday by an international team of weather scientists. Multiple tropical storms that pummeled Madagascar, Malawi and Mozambique earlier

this year were analyzed by the World Weather Attribution group, who determined that the storms were made worse by the increase in global temperatures. In just six weeks between January and March the region saw a record three tropical cyclones and two tropical storms make landfall. The heavy rains, storm surges and floods left more than 230 people dead and displaced hundreds of thousands across the region. The countries remain vulnerable to devastating weather this year, with cyclone season set to end in May".

Also, in late April heatwaves in India and Pakistan were connected with climate change in several media accounts. For example, New York Times journalists Hari Kumar and Mike Ives reported, "Across a wide swath of the Indian subcontinent, scorchina temperatures have damaged harvests. People are suffering from heat stroke. And the lights are flickering in some cities amid surging demand for air-conditioning. Now, the heat wave that has been pummeling India and Pakistan for weeks is expected to intensify over the weekend. In some hard-hit areas, it may be weeks before the region's annual monsoon sweeps in to provide relief...Heat-related watches were in effect on Thursday afternoon for all but a few of India's 28 states, encompassing hundreds of millions of people and most of the country's major cities. An alert - one notch up in severity – was in effect for the northwestern state of Rajasthan. The subcontinent's scorching weather is a reminder of what lies in store for other countries in an era of climate change. Climate scientists say that heat waves around the world are growing more frequent, more dangerous and lasting longer. They are certain that global warming has made heat waves worse because the baseline temperatures from which they begin are higher than they were decades ago".

Finally, ecological and meteorological stories related to climate change or global warming were generated when a report on the state of the climate in Europe by the Copernicus Climate Change Service (C3S) was published. For example, journalist Antonio Cerrillo wrote

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in La Vanguardia, "Climate change has already caused an average rise in temperatures of 2.2 °C in Europe. The increase experienced in the Old Continent is much higher than the world average of the planet, estimated between 1.1°C and 1.2°C since pre-industrial times. The Old Continent recorded in 2021 its hottest summer since there are records, according to the Copernicus service".

April media coverage featured *cultural* stories relating to climate change or global warming. Some related to political stories about the ongoing war in Ukraine. For example, El País journalist Manuel Planelles wrote that the "War in Ukraine threatens global fight against climate change", noting "Increased support for fossil fuels and oil and gas extraction contradict efforts against warming. Experts warn of the impacts of the conflict for multilateralism". El País also published an editorial with the title "For the energy transition", as a European bet on "the path to disassociate its economy from the current dependence on gas and oil supplies from Russia", concluding, "The best way to guarantee energy sovereignty is to stop depending on fossil fuels".

Furthermore, climate misinformation across social media made news. For example, Guardian journalist Alex Hern reported, "Pinterest is to block all climate misinformation, as the imagefocused social network seeks to limit the spread of false and misleading claims. Under the new policy the site is committing to take down content that distorts or denies the facts of the climate crisis, whether posted as adverts or normal "organic" content. Pinterest is defining misinformation broadly: the company will take down content that denies the existence or effects of climate change or its human causes, as well as content that "misrepresents scientific data" in order to erode trust in climate science and harmful, false or misleading content about natural disasters and extreme weather events". As a second example, New York Times reporter Tiffany Hsu noted, "Pinterest will prohibit ads and posts that feature climate misinformation in its latest attempt to block harmful content "War in Ukraine threatens global fight against climate change", noting "Increased support for fossil fuels and oil and gas extraction contradict efforts against warming. Experts warn of the impacts of the conflict for multilateralism".



A man at a climate change protest in Kyiv, Ukraine. Photo: Valentyn Ogirenko/Reuters.

on its virtual pinboard service, the company said...The ban includes any content that denies the existence or impacts of climate change, or denies that humans influence global warming and that the phenomenon is supported by scientific consensus. Inaccurate posts about natural disasters and extreme weather events will also be removed, as will misrepresentations of scientific data through omission or cherry-picking meant to erode trust in climate science. Searches about sustainability are on the rise on Pinterest, with queries about "zero waste lifestyle" surging 64 percent in the past year".

Stories were not limited to Pinterest, but also drew attention to Twitter. For example, *CNN* journalist Ramishah Maruf reported, "Twitter is banning misleading advertisements that go against the scientific consensus of climate change, the company announced on Friday, which was Earth Day. "We believe that climate denialism shouldn't be monetized on Twitter,

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and that misrepresentative ads shouldn't detract from important conversations about the climate crisis," Twitter said in a blog post. Those denying the effects of climate change have targeted sites such as Twitter and Facebook, enabling them to reach hundreds and thousands of those platforms' users with false claims. The announced change did not indicate whether Twitter would ban or delete the accounts of users who post climate change misinformation. Twitter's blog post cited the Intergovernmental Panel on Climate Change, whose recent report called for "immediate and deep emissions reductions" to combat the impacts of global warming. The tech giant said it is working toward adding more "reliable, authoritative context" to conversations about the climate on its platform. Twitter's move follows action taken by other tech companies. Earlier this month, Pinterest announced it will prohibit users from sharing climate misinformation on its site, banning the content outright. It will also remove posts that deny climate change. And last year, Google, announced it was banning ads on content from climate change deniers on its platform, as well as prohibiting advertisements that deny climate change. Separately, hours after Twitter's policy update, European policymakers reached agreement on sweeping tech regulations that included stricter rules on how platforms regulate misinformation and illegal content on social media and other platforms. Big Tech has been facing increased pressure to combat the spread of climate misinformation on their platforms".

Relating to those stories, media coverage associated with US Earth Day on April 22 prompted culturally-themed stories. For example,

Washington Post journalist Douglas MacMillan reported, "As big businesses face more pressure to act on climate change, corporations have unleashed a tsunami of environmental pledges, net-zero commitments and sustainability certifications, all designed to show they are part of the solution. Often, critics say, these claims are just "greenwashing" - environmental marketing with little or no substance behind it. One recent review of 500 commercial websites by Britain's Competition and Markets Authority found 40 percent of environmental claims to be misleading in some way, such as using terms like "sustainable" without defining them or omitting pertinent information about environmental harms. "Carbon neutral" usually does not mean a firm has zero carbon emissions. A green certification label on a product's packaging may have no connection to a standard-setting group. For the average consumer, it can be difficult to assess which companies are taking meaningful steps to combat climate change, said Frederic Hans, a climate policy analyst at the NewClimate Institute, an independent, Germany-based organization that promotes measures to slow Earth's warming".

Finally, in April there were stories of scientists calling for activism to demand action against climate change. For example, journalist Teresa Guerrero from the Spanish newspaper El Mundo noted, "Coinciding with the publication of the last part of the IPCC report, the main scientific analysis on climate change, researchers from 25 countries grouped in the Scientific Rebellion movement launch non-violent civil disobedience actions to demand measures against the climate crisis".

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MAY "Together we can end the climate wars"



The Abbot Point coal terminal in Queensland. Australia spends billions each year on subsidies for fossil fuel industries. Photo: David Maurice Smith/New York Times.



Media attention around the globe **increased 13%** from April 2022. Additionally, coverage was **up 20%** from the year before. Meanwhile, coverage in international wire services **increased 9%** and radio coverage was **up 19%** from April 2022.

ay media attention to climate change or global warming in newspapers around the globe increased 13% from April 2022. Additionally, coverage was up 20% from the year before (May 2021). Meanwhile, coverage in international wire services increased 9% and radio coverage was up 19% from April 2022. Compared to the previous month coverage increased in all regions except Latin America. While dropping in Latin America 5% coverage increased in Africa (+1%), North America (+1%), the Middle East (+9%) Asia (+10%), and the European Union (EU) (+10%), while coverage was up more substantially in Oceania (+14%). 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 2022.

At the country level, United States (US) print coverage increased 2% while television coverage actually decreased 15% from the previous month. Among other countries that we at the Media and Climate Change Observatory (MeCCO) monitor, (May 2022) coverage dropped only in Germany (-6%) while it stayed steady in Canada compared to the previous month. Coverage increased in the remaining 14 countries monitored: Japan (+3%), Sweden (+8%), the United Kingdom (UK) (+12%), Canada (+12%), India (+17%), Russia (+19%), Finland (+20%), Spain (+34%) (see Figure 2), Australia (+35%), Norway (+48%), New Zealand (+71%), and Denmark (+74%).

Many climate change or global warming stories focused on *scientific* themes in the month of May. To begin, coral bleaching and links to climate change made news through new research. For example, journalist Tori B. Powell

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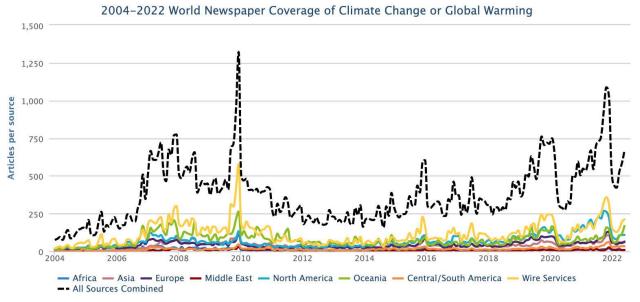


Figure 1. Newspaper media coverage of climate change or global warming in print sources in seven different regions around the world, from January 2004 through May 2022.

from CBS News reported, "Ninety-one percent of reefs surveyed along the Great Barrier Reef in Australia were affected by coral bleaching to some degree during the summer of 2021-22, according to a government study. Researchers say climate change is "the greatest threat to the Reef" and that the warming ocean is a key factor behind the recent mass bleaching event. "Climate change is escalating, and the Reef is already experiencing the consequences of this," the study stated...In the annual Reef Summer Snapshot - conducted by the Great Barrier Reef Marine Park Authority, the Australian Institute of Marine Science, and the Commonwealth Scientific and Industrial Research Organization - scientists conducted surveys of 719 reefs across regions. Aerial surveys revealed that 654 reefs displayed coral bleaching". Also in May, several studies linked soil loss with food and climate challenges. For example, CNBC journalist Andrea Miller reported, "Soil can be considered black gold, and we're running out [of] it." The United Nations declared soil finite and predicted catastrophic loss within 60 years. "There are places that have already lost all of their topsoil," Jo Handelsman, professor at the University of Wisconsin-Madison and author of "A World Without Soil," told CNBC. The impact of soil degradation could total \$23 trillion in losses of food, ecosystem services, and income

worldwide by 2050, according to the United Nations Convention to Combat Desertification. "We have identified 10 soil threats in our global report ... Soil erosion is number one because it's taking place everywhere," Ronald Vargas, the secretary of the Global Soil Partnership and Land and Water Officer at the Food and Agriculture Organization of the United Nations, told CNBC. According to the U.N., soil erosion may reduce up to 10% of crop yields by 2050, which is the equivalent of removing millions of acres of farmland. And when the world loses soil, food supply, clean drinking water and biodiversity are threatened. What's more, soil plays an important role in mitigating climate change: Soil contains more than three times the amount of carbon in the earth's atmosphere and four times as much in all living plants and animals combined, according to the Columbia Climate School".

May media coverage also featured many *cultural* stories relating to climate change or global warming. For example - among several stories on the topic - *New York Times* journalist David Gelles wrote, "John Doerr, one of the most successful venture capitalists in the history of Silicon Valley, is giving \$1.1 billion to Stanford University to fund a school focused on climate change and sustainability. The gift, which Mr. Doerr is making with his wife Ann, is the largest

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— El Pais — El Mundo — La Vanguardia — Expansion — 4 Newspapers Combined
Figure 2. Spanish newspaper coverage of climate change or global warming from January 2000 through May 2022.

ever to a university for the establishment of a new school, and is the second largest gift to an academic institution, according to the Chronicle of Higher Education. Only Michael R. Bloomberg's 2018 donation of \$1.8 billion to his alma mater, Johns Hopkins University, ranks higher. The gift establishes the Doerrs as leading funders of climate change research and scholarship, and will place Stanford at the center of public and private efforts to wean the world off fossil fuels." Also, cultural attention was paid in May to climate researchers themselves taking action in the face of a changing climate. For example, Washington Post reporter Casey Quackenbush wrote, "As time runs out for the planet to avert a future of climate chaos, scientists around the world are throwing down the gauntlet. Climate change science has been settled for decades, yet policymakers have yet to take sweeping action, and greenhouse gas emissions continue to climb to record highs. Climate scientists began to publicly make policy recommendations based on their research in the late '80s, and their warnings have become increasingly strident. In April, the U.N. Intergovernmental Panel on Climate Change said emissions must peak by 2025 to avoid catastrophic consequences. Now this inaction is driving some scientists to engage in civil disobedience, while others are striking against the IPCC, calling for a halt of further reports until governments mobilize. It's a dire situation that's taking a toll on the mental

health of scientists, and raising the question of what climate advocacy scientists should engage in as politicians imperil the planet." Finally, infrastructure and climate change continued to make news stories in May. For example, Los Angeles journalist Dánica Coto reported, "Lax oversight, dwindling budgets, and permits illegally issued by the government have led to an increase in construction in protected areas and regions, some of them prone to flooding or landslides. The ongoing probe into homes built illegally in Puerto Rico's second-largest estuary, where officials say more than 3,600 mangrove trees were cut, has led to public hearings, the launch of a criminal investigation by Puerto Rico's Justice Department and to scrutiny of similar cases. Environmentalists warn that these cases are leaving the U.S. territory even more vulnerable to climate change amid wetter and more intense hurricane seasons."

Several *political* and *economic* themed media stories about climate change or global warming continued in May. To begin, the Australian election - with connections made to the candidates' climate stances - garnered media attention around the globe. For example, Australian-based *New York Times* journalist Damien Cave reported, "A few minutes after taking the stage to declare victory in Australia's election on Saturday, Anthony Albanese, the incoming Labor prime minister, promised

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to transform climate change from a source of political conflict into a generator of economic growth. 'Together we can end the climate wars,' he told his supporters, who cheered for several seconds. 'Together we can take advantage of the opportunity for Australia to be a renewable energy superpower.' With that comment and his win - along with a surge of votes for candidates outside the two-party system who made combating global warming a priority - the likelihood of a significant shift in Australia's climate suddenly policy has increased." As a second example, NBC News correspondent Patrick Galey reported, "One topic dominated Australia's election: climate change. Following a string of climate-related catastrophes in recent years, Australian voters this weekend returned the opposition Labor Party to power, with incoming Prime Minister Anthony Albanese vowing to 'end the climate wars' and turn Australia into a 'renewable energy superpower.' Analysts said the result showed how the public is increasingly

demanding great climate commitments from leaders in a shift that could hold lessons for lawmakers in other developed countries. 'This was the climate change election for Australia,' said Ben Oquist, executive director of the Australia Institute, an independent think tank based in Canberra, the capital of Australia. 'A decade of electoral frustration spilled over into a wave of support for candidates that supported stronger climate action,' he said."

Additional stories in May 2022 relating to political themes included those circulating about climate change or global warming and Ukraine. For example, the European Union presented a plan of 195,000 million euros to divest itself of Russian oil and gas in 2027. Journalists Valentina Pop, Alice Hancock and Sam Fleming narrated an article in Expansión.com (published in Financial Times) wrote, "Today the energy independence plans are published and EU environmental

"The expansion of photovoltaic and wind power allowed almost the entire peninsular demand to be covered punctually with clean energy on the first Saturday in April. It was for a short time...But it's a true picture of what's to come."



Photovoltaic plant in Trujillo, Cáceres. Photo: Paco Puentes/ El Pais

protection, known as RePower EU, including plans to install solar panels on all buildings...The RePower EU draft suggests that the changes of behavior could reduce the global consumption of EU gas by 5% in the short term, and that the measures adopted by the industry could save up to 35,000 million cubic meters of natural gas by 2030." The war in Ukraine influenced other economic and climate change issues that captured news attention. For example, Máster Brooke wrote an article published in La Expansión "BlackRock warns it will vote against more climate resolutions this year." Furthermore, there was abundant news coverage about climate change and renewable energy in May. Spanish media discussed ambitions of 100% renewable electricity. For example, journalists Manuel Planelles and Ignacio Fariza wrote in El Pais, "The expansion of photovoltaic and wind power allowed almost the entire peninsular demand to be covered punctually with clean energy on the first Saturday in April. It was for

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a short time...But it's a true picture of what's to come."

May media coverage about climate change or global warming with ecological and meteorological themes also kept pace with science stories. For instance, heatwaves and floods throughout South Asia - with links to a changing climate - grabbed media attention. As an example of the latter, New York Times journalists Karan Deep Singh and Saif Hasnat reported, "Heavy pre-monsoon rains in India and Bangladesh have washed away train stations, towns and villages, leaving millions of people homeless as extreme weather events, including heat waves, intense rainfall and floods, become more common in South Asia...Climate scientists have said that India and Bangladesh are particularly vulnerable to climate change because of their proximity to the warm tropical waters of the Indian Ocean and the Bay of Bengal, which are increasingly experiencing heat waves. The rising sea temperatures have led to 'dry conditions' in some parts of the Indian subcontinent and 'a significant increase in rainfall' in other areas."

Also in May, ecological and meteorological themed stories related to climate change or global warming touched on temperature rise around the world. From El País journalist Manuel Planelles, experts from the Met Office (the UK's meteorological agency) and the World Meteorological Organization (WMO) maintained that "in the next five years there is a probability of around 50% that the average global temperature of the planet's surface will exceed 1, 5 degrees in any of those five years." Planelles also noted, "Global warming is advancing steadily and is approaching the safety thresholds established by the nations of the world when they signed the Paris Agreement in 2015." In May 2022, there was also coverage of high temperatures regionally. For example, Spanish newspaper La Vangardia reported, "Summer is forty days longer now

"Climate scientists have said that India and Bangladesh are particularly vulnerable to climate change because of their proximity to the warm tropical waters of the Indian Ocean and the Bay of Bengal, which are increasingly experiencing heat waves."



A road washed away by flooding on Thursday in the state of Assam, India. Photo: Biju Boro/Agence France-Presse.

than it was in the 1980s. According to a study by the AEMET (Agencia Estatal de Meteorología), every ten years summer is brought forward by almost 2.7 days in Seville due to the effects of climate change. This month of May, where there should have been milder temperatures, is a great example of this phenomenon. For a few years now, what was the exception has become common: an exaggerated heat during spring. In fact, summer is eating spring." Furthermore, journalist Antonio Cerrillo wrote in La Vanguardia, "The climate crisis robs us of spring. Summer has lengthened an average of 30 days in 50 years in Spain."

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JUNE

"Fossil fuel producers and financiers have humanity by the throat"



Joe Biden addresses the Major Economies Forum at the White House. António Guterres told the conference fossil fuels 'don't make political or economic sense'. Photo: Mandel Ngan/AFP/Getty Images.



Media attention around the globe was **down 3%** from May 2022 and **down 8%** from June 2021. Coverage in international wire services **increased 2%** and radio coverage was **up 13%** from May 2022.

une media attention to climate change or global warming in newspapers around the globe was down 3% from May 2022 and down 8% from June 2021. Coverage in international wire services increased 2% and radio coverage was up 13% from May 2022. Compared to the previous month coverage increased in Asia (+8%), Latin America (+22%), Africa (+24%), and the Middle East (+34%), while coverage decrease in North America (-2%), the European Union (EU) (-2%), and Oceania (-62%). 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 2022. At the country level, United States (US) print coverage decreased 3% while television coverage increased 16% from the previous month. Among other countries that we at the Media and Climate Change Observatory (MeCCO) monitor, coverage dropped in

Sweden (-3%), India (-5%), Russia (-6%), the United Kingdom (UK) (-12%), Germany (-13%), Norway (-19%), New Zealand (-34%), Denmark (-34%), and Australia (-40%). However, coverage in June 2022 increased in Canada (+2%), Finland (+12%), Japan (+15%) (see Figure 2), and Spain (+17%).

Many climate change or global warming stories focused on *scientific* themes in the month of June. To begin, a study published in early June made connections between life expectancy, air quality, and climate change. This generated media attention. For example, *Washington Post journalist Claire Parker wrote*, "Breathing is more dangerous than smoking cigarettes or drinking alcohol. That's according to the latest report from the Energy Policy Institute at the University of Chicago, which says that air pollution now takes more than two years off the global average life expectancy – more than

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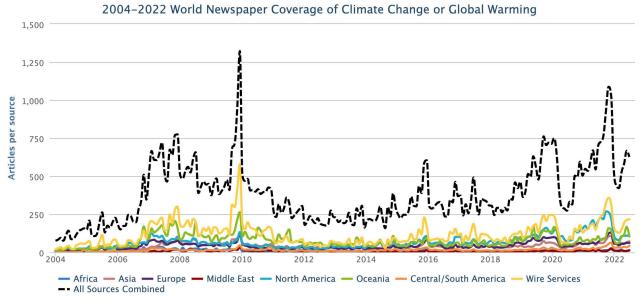


Figure 1. Newspaper media coverage of climate change or global warming in print sources in seven different regions around the world, from January 2004 through June 2022.

cigarettes, alcohol, or conflict and terrorism. The annual report, known as the Air Quality Life Index, or AQLI, was released Tuesday. It found that particulate air pollution - a mixture of contaminants such as smoke, fumes, dust and pollen - has remained high, even as the coronavirus pandemic slowed the global economy and brought blue skies to some of the world's most polluted areas. At the same time, evidence of the health risks associated with pollution has grown, the index says, adding that world leaders aren't treating the problem with the urgency it deserves..."Among the fossil fuels, coal is the champion in terms of producing particulate air pollution that causes people to lead shorter and sicker lives today, and increasing the rate of climate change," he said. Air pollution is "deeply intertwined" with climate change, the report says, so tackling it can kill two birds with one stone. "Policy can simultaneously reduce dependence on fossil fuels that will allow people to live longer and healthier lives and reduce the costs of climate change," the researchers wrote".

Then in mid-June, a **new study** in the *New England Journal of Medicine* about vulnerability of children and fetuses to the effects of burning fossil fuels grabbed media attention. For example, *CNN* reporter Rachel Ramirez noted, "When Aaron Bernstein became a pediatrician

15 years ago, it didn't occur to him that the climate crisis would grow into a critical health problem for his young patients. But over the years he started to notice more children visiting emergency rooms for heat-related illnesses, and some even suffered from climate-induced mental health issues...Frederica Perera. lead author of the review and the founding director of the Columbia Center for Children's Environmental Health at Columbia University, said the purpose of the study was to not only show the link between the planet's heavy reliance on fossil fuels and children's health. but to also point out the available solutions that could prevent climate change-fueled disasters from putting the world's youngest people at risk...And as parts of the world continue to ramp up fossil fuel production, which will worsen the already accelerating crisis, Perera said she hopes the paper would motivate physicians and healthcare providers, who are a "trusted voice" around the world, to take on a larger role in advocating for climate policies to protect children from a warming planet.

Also in June, stories of record high carbon dioxide concentrations in the atmosphere in the month of May made news. For example, *Associated Press* journalist Seth Borenstein reported, "The amount of heat-trapping carbon dioxide in

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2000-2022 Japanese Newspaper Coverage of Climate Change or Global Warming

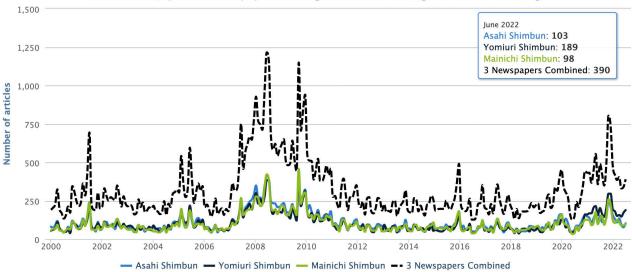


Figure 2. Japan newspaper coverage of climate change or global warming in Asahi Shimbum, Yomiuri Shimbun, and Mainichi Shimbun from January 2000 through June 2022.

the atmosphere has shot past a key milestone -- more than 50% higher than pre-industrial times -- and is at levels not seen since millions of years ago when Earth was a hothouse oceaninundated planet, federal scientists announced Friday. The National Oceanic and Atmospheric Administration said its long-time monitoring station at Mauna Loa, Hawaii, averaged 421 parts per million of carbon dioxide for the month of May, which is when the crucial greenhouse gas hits its yearly high. Before the industrial revolution in the late 19th century carbon dioxide levels were at 280 parts per million, scientists said, so humans have significantly changed the atmosphere. Some activists and scientists want a level of 350 parts per million. Industrial carbon dioxide emissions come from the burning of coal, oil and gas. Levels of the gas continue to rise, when they need to be falling, scientists say. This year's carbon dioxide level is nearly 1.9 ppm more than a year ago, a slightly bigger jump than from May 2020 to May 2021".

June media coverage also featured many cultural stories relating to climate change or global warming. Social movements of various kinds pushing for climate action peppered coverage throughout the month. For example, New York Times correspondent Jeffrey Gettleman reported, "a different brand of activist – young, mostly female and mostly from Eastern Europe – who believes that the Ukraine

war is a brutal manifestation of the world's dependence on fossil fuels. They have joined two causes - antiwar activism and climate change - to take full advantage of this moment when the world's attention is focused on Ukraine...They circulate around the continent, riding trains, staying in cheap hotels, powering themselves on cornflakes and almond milk, trying to corner Europe's top politicians and business people. While perhaps not as famous as Greta Thunberg, they are cut from the same hardy cloth and work closely with her Fridays for Future movement. Their message, which Ms. Thunberg and Ms. Lasota emphasized in a recent video, is that humankind's addiction to fossil fuels is driving misery and bloodshed. They point not only to Russia but also to Saudi Arabia, Venezuela and other petrostates with long histories of conflict and repression. "These things are connected," Ms. Thunberg said. "More and more fossil fuel expansion means more power to autocrats. This enables them to start wars like the one in Ukraine"."

Furthermore, in June several news reports surfaced that discussed punishments for climate protestors. For example, in Australia, *New York Times* journalist Yan Zhuang wrote, "When climate protesters took to the streets of Sydney this week, including blocking one of its busiest traffic tunnels for over an hour, they faced the fury of government officials who

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labeled them "professional pests" and warned that they'd see "the book being thrown at them." The 24 people arrested during the protests this week face up to two years in jail and fines of up to \$15,000 under a new state law passed in April covering protests that disrupt economic activity. Previously, the penalty was a fine of up to \$400, with no jail time. Human rights activists and legal groups are now questioning whether the law imposes an overly harsh punishment for nonviolent protests and is primarily being used against climate activists".

Then, in the month of June, there was media coverage of citizen initiatives related to the climate. For example, several Spanish outlets ran stories about proposals of the Citizen Assembly for Climate. For example, journalist Antonio Cerrillo wrote in La Vanguardia, "the independent civic think tank made up of 100 people chosen at random and promoted by the Government, proposes in its final conclusions that the administrations promote teleworking and the four-day working week" and also "recommend that electricity companies be forced to make most of their production from renewable sources and that the macro-farms of industrial livestock be reduced and that domestic flights be 'minimized' when there is an alternative by train and that the law against waste in the food system".

Several *political* and *economic* themed media stories about climate change or global warming continued in June. To begin, media stories emanated from the Summit of the Americas early in the month. For example, Washington Post journalist Maxine Joselow reported, "President Biden and Vice President Kamala Harris on Thursday will announce two initiatives at the Summit of the Americas in Los Angeles aimed at tackling climate change and boosting clean energy in a region often overlooked in U.S. foreign policy. The initiatives showcase the White House's push to promote cooperation on climate change across the Western Hemisphere, even as Mexican President Andrés Manuel López Obrador skips the summit in a blow to Biden's pleas for regional unity. Harris will unveil the first initiative, dubbed the U.S.-Caribbean Partnership to Address the Climate Crisis 2030, before meeting with Caribbean leaders on Thursday. The goal of the partnership is to "elevate U.S. cooperation with Caribbean countries to support climate adaptation and strengthen energy security, while building the resilience of critical infrastructure and local economies to the climate crisis," according to a White House fact sheet. The second major program, dubbed the Renewable Energy in Latin America and the Caribbean initiative, calls for reaching 70 percent installed capacity for renewable energy generation in the region's electricity sector by 2030. Five new countries - Barbados, Jamaica, Guyana, Argentina and Brazil – will announce their intent to participate on Thursday, joining 15 existing members". Following that meeting, media coverage

emanated from the Major Economies Forum - a climate conference organized by the White House - making links between climate challenges and several connected issues. For example, Guardian journalist Fiona Harvey reported, "António Guterres compared fossil fuel companies to the tobacco companies that continued to push their addictive products while concealing or attacking health advice that showed clear links between smoking and cancer, the first time he has drawn such a parallel. He said: "We seem trapped in a world where fossil fuel producers and financiers have humanity by the throat. For decades, the fossil fuel industry has invested heavily in pseudoscience and public relations - with a false narrative to minimise their responsibility for climate change and undermine ambitious climate policies. They exploited precisely the same scandalous tactics as big tobacco decades before. Like tobacco interests, fossil fuel interests and their financial accomplices must not escape responsibility."

Similarly, climate-related discussions from the Group of 7 (G7) summit earned media attention in June. In particular, the formation of a 'Climate Club' generated news stories. For example, journalist Carmen Valero from *El Mundo* noted, "a new intergovernmental forum has been proposed by Germany with

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the aim of accelerating the application of measures to curb climate change and with a focus on the industry sector. "We note with concern that at this time neither global climate ambitions nor their implementation is sufficient to achieve the goals of the Paris Agreement through the reduction of greenhouse gases," they said in a statement. The members of the Climate Club, which will be established before the end of the year, will collaborate to mitigate climate change, in particular by promoting the energy transition and accelerating the coal phase-out process." Also, discussion of climate change and the ongoing invasion of Ukraine also prompted news accounts. For example, La Vangardia journalist Celeste López wrote, "There is not one [challenge], there are three: the war in Ukraine, which has depleted the continent of cereals, climate change (four years of drought have destroyed agriculture) and COVID-19 (the flow of humanitarian aid is minimal)".

At the end of June, a US Supreme Court decision to strike down an Environmental

Protection Agency (EPA) tool to regulate carbon dioxide from power-generation plants garnered many news stories. For example, PBS Newshour anchor Judy Woodruff reported, "Many environmental advocates acknowledged today the decision is the EPA – in the EPA case is a significant blow in the government's efforts to limit greenhouse gases in the near term". She interviewed US Environmental Protection Agency Administrator Michael Regan who commented, "I am deeply disappointed in the Supreme Court's decision today, actually very frustrated. The decision does constrain what we do. But let me be clear. It doesn't take us out of the game. We still will be able to regulate climate pollution. And we're going to use all of the tools in our toolbox to do so. The constraint that we're seeing today just prevents us as a country from making the progress as quickly as we need to. Climate action presents an opportunity for this country to ensure global competitiveness, create jobs, lower costs for families and protect

"There is not one [challenge], there are three: the war in Ukraine, which has depleted the continent of cereals, climate change (four years of drought have destroyed agriculture) and COVID-19 (the flow of humanitarian aid is minimal)".



A baby is fed with a therapeutic treatment, the only effective remedy for him to survive and whose price has risen by 16%. Photo: UNICEF/UM0649099.

people's health and well-being, especially those who have suffered from the burden of inaction for far too long. And so, yes, today's action is a disappointing action. It's devastating in many ways, as the president has said, but it doesn't take us out of the game. And we're going to continue to use every tool we have to keep pace with tackling the climate crisis". Meanwhile, among several media reports around the US and the world, Washington Post correspondent Maxine Joselow pointed out, "the decision did not go as far as many climate advocates had feared. In particular, the majority did not take away the EPA's ability to regulate greenhouse gases from power plants, vehicle tailpipes or other major sources of planet-warming pollution. Instead, the justices said the agency cannot resurrect President Barack Obama's Clean Power Plan, a now-defunct rule that would have forced utilities to engage in "generation shifting," or switching from coal-fired power generation to natural gas or renewable energy".

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Figure 3. Front pages of European newspapers *El País* (Spain), *Le Monde* (France) and *Suddeutsche Zeitung* (Germany) covering heat waves in June.

June media coverage about climate change or global warming with ecological and meteorological themes also kept pace with science stories. For instance, heavy flooding in Asia - with connections to climate change earned media interest. As an example, Guardian journalist Helen Davidson wrote, "Recordbreaking rains that have battered parts of China and east Asia in the last week are expected to worsen, with authorities warning of an increased risk of floods. In the first week of China's flood season, extreme rainfalls have caused floods and landslides, destroyed roads and infrastructure, and led to the deaths of at least 15 people. Floods, landslides and disruptions to water and electricity were reported in Shaoguan, in northern Guangdong province, and more than 800,000 people in Jiangxi were reportedly affected by torrential rains that have so far hit 80 of the province's counties and damaged more than 76,000 hectares (188,000 acres) of cropland...China experiences extreme weather events, in particular flooding during the rainy seasons, but the climate crisis is exacerbating the severity and impact". As a second example, Associated Press journalists Aniruddha Ghosal and Al-Emrun Garjon wrote, "Scientists say climate change is a factor behind the erratic and early rains that triggered unprecedented floods in Bangladesh and northeastern India, killing

dozens and making lives miserable for millions of others. Although the region is no stranger to flooding, it typically takes place later in the year when monsoon rains are well underway. This year's torrential rainfall lashed the area as early as March. It may take much longer to determine the extent to which climate change played a role in the floods, but scientists say that it has made the monsoon – a seasonable change in weather usually associated with strong rains – more variable over the past decades. This means that much of the rain expected to fall in a year is arriving in a space of weeks".

Also in June, many media stories covered early summer heatwaves across several Northern Hemisphere regions on the planet, such as in Europe and North America. For example, CNN reported, "Spain is seeing its hottest early summer temperatures, one area of France banned outdoor events, and drought stalked Italian farmers as a heatwave sent Europeans hunting for shade and fretting over climate change. Such was the heat that England's upscale Royal Ascot Racecourse even saw a rare change of protocol: guests were allowed to shed hats and jackets once the royals had passed... Mediterranean nations are more and more concerned about how climate change may affect their economies and lives". As another example,

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Washington Post journalist Matthew Cappucci reported, "A stubborn and unrelenting dome of excessive heat and humidity is languishing over the Lower 48 for the third calendar week in a row, bringing record temperatures and heat index values topping 110 degrees in spots. Heat advisories and excessive-heat warnings blanket the Upper Midwest, including Milwaukee and Detroit, a prelude to even more intense heat pushing into the South and Southeast. More than 55 million Americans are predicted to face triple-digit highs this week, and overnight lows could remain in the upper 70s to lower 80s in spots. That will contribute to heat stress that could be dangerous for vulnerable populations. The National Weather Service is calling the combination of heat and humidity "extreme" and "dangerous." ... There are no immediate signs of the heat relenting. Instead, the National Weather Service Climate Prediction Center continues to forecast odds of above-average temperatures through the end of June and perhaps into July. Warm weather and high pressure "heat domes" are a staple of any summer, but their intensity and duration are exacerbated by humaninduced climate change."

As another example that provided a larger context regarding these early summer northern hemisphere heat waves, *New York Times* journalist Raymond Zhong wrote, "Millions of Americans are once again in the grips of dangerous heat. Hot air blanketed Europe last weekend, causing parts of France and Spain to feel the way it usually does in July or August. High temperatures scorched northern and central China even as heavy rains caused flooding in the country's south. Some places in India began experiencing extraordinary heat in March, though the start of the monsoon rains has brought some relief. It's too soon to say whether climate change is directly to blame

for causing severe heat waves in these four powerhouse economies - which also happen to be the top emitters of heat-trapping gases - at roughly the same time, just days into summer. While global warming is making extreme heat more common worldwide, deeper analysis is required to tell scientists whether specific weather events were made more likely or more intense because of human-induced warming. (A team of researchers who studied this spring's devastating heat in India found that climate change had made it 30 times as likely to occur.) ...Simultaneous weather extremes in numerous locations aren't just meteorological curiosities. Individual heat waves can lead to illness and death, wildfires, and crop failures. Concurrent ones can threaten global food supplies, which have been under perilous strain this year because of Russia's invasion of Ukraine. While heat waves are shaped by complex local factors such as urbanization and land use, scientists no longer have much doubt about whether climate change is making them worse. Soon, the world's most devastating heat waves may simply have no historical analogue from the time shortly before humans starting pumping greenhouse gases into the atmosphere, some scientists argue, rendering obsolete the question of whether climate change is a main driver".

Furthermore, *La Vanguardia* journalist Antonio Cerrillo noted, "the World Meteorological Organization (WMO) warned of that the current situation, which has brought temperatures above 40°C in Spain and France, "is a foretaste of the future" extreme weather that awaits humanity if there is no climate action by governments. The forecast is that more extreme weather events will occur due to global warming in a scenario of high greenhouse gas emissions."

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JULY "We have a choice"



A board warns passengers about high temperatures and their impact on rail traffic at Euston train station in central London on July 19. Photo: Niklas Halle'n/AFP/Getty Images.



Media attention around the globe was **up 14%** from June 2022 and **up 1%** from July 2021. Coverage in international wire services **increased 11%** and radio coverage was **up 13%** from June 2022.

uly media attention to climate change or global warming in newspapers around the globe was up 14% from June 2022 and up 1% from July 2021. Coverage in international wire services increased 11% and radio coverage was up 13% from June 2022. Compared to the previous month, coverage decreased in Asia (-8%), Latin America (-16%), Africa (-144%), and the Middle East (-26%), while coverage increased in North America (+27%), the European Union (EU) (+28%), and Oceania (+17%). 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 2022.

At the country level, United States (US) print coverage increased 51% while television coverage increased 122% from the previous month.

July saw significant media coverage about climate change or global warming with ecological and meteorological themes. To begin, early in July low snow levels and avalanches at high elevations with links to climate change generated several media stories. For example, Guardian journalist Helena Horton reported, "The snow at the highest observatory in the world to be operated all-year-round is expected to completely melt in the next few days, the earliest time on record. Scientists at the Sonnblick observatory in the Austrian Central Alps, which is 3,106 metres (10,190ft) above sea level, have been shocked and dismayed to see the snow depleting so quickly. Some years the peak is covered in snow all summer. But this year it has melted more than a month before the previous record time, which was 13 August in 1963 and 2003. The heating climate in Europe, where there have been scorching heatwaves, has caused much

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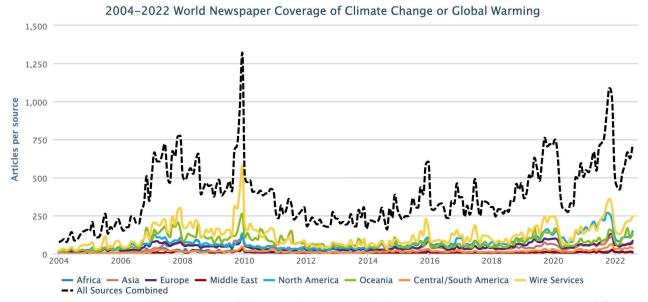


Figure 1. Newspaper media coverage of climate change or global warming in print sources in seven different regions around the world, from January 2004 through July 2022.

of the snow and ice on the mountains to melt unusually quickly. This had a tragic outcome this week at the Marmolada mountain in Italy, where at least seven people died after a glacier collapsed, causing an avalanche. Scientists linked the disaster to the climate crisis, as the ice has become weakened due to sustained heat".

Throughout July, extreme heat as well as flooding events across several continents grabbed media attention. For example, Guardian environment editor Damian Carrington reported, "The UK and continental Europe are sweltering in a heatwave due to last until at least the weekend. and the climate crisis is playing a clear role in intensifying extreme temperatures...Scientists are clear that human-caused global heating is making every heatwave more intense and more likely. "When it comes to summer heat, climate change is a complete gamechanger and has already turned what would once have been called exceptional heat into very frequent summer conditions," said Dr Friederike Otto, of Imperial College London. "Every heatwave we experience today has been made hotter because of the fossil fuels we have burned over the last decades in particular"".

As heatwaves and flooding continued, *The* Associated *Press* reported, "Flooding and

extreme high temperatures have caused multiple deaths in eastern China as summer heat descends earlier than usual. Recordhigh temperatures have been reported in Zhejiang province, just east of the global business hub of Shanghai, topping out above 42 degrees Celsius (107 degrees Fahrenheit) on Wednesday...Floods have also struck much of the country, with three people reported killed and five missing in Sichuan province's Pingwu county as of midday Wednesday. One person was reported dead and eight missing in Heilongjiang in the northeast. Experts say such extreme weather events are becoming more likely because of climate change. Warmer air can store more water, leading to bigger cloudbursts when it's released".

Furthermore, stories connecting to wildfires also fueled coverage. For example, *New York Times* correspondents Aurelien Breeden and Isabella Kwai wrote, "Britain is bracing for its hottest day ever as a heat wave sweeps across Europe. Crews in the south of France were battling wildfires on Saturday that had consumed more than 22,000 acres and prompted the evacuation of 12,000 people, the local authorities said. The wildfires are among dozens across Europe, driven by a heat wave that has gripped parts of the continent and threatens to bring recordbreaking temperatures to Britain early next

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week. The most serious fires in France were in the Gironde area, near the city of Bordeaux, where more than 1,200 firefighters had been deployed...Climate scientists have said that global warming is making extreme temperatures more common, but they are investigating whether specific weather events are intensifying or becoming more likely because of human-induced warming of the climate".

As a second example, *El Mundo* journalist María Crespo reported, "Fires spread in Portugal and

France. More than 30,000 hectares burned in Portugal exceed the total area burned last year. In France, almost 10,000 people have been evicted". As a third example, *El País* journalist Victoria Torres wrote, "Experts warn that the current episode of high temperatures, enhanced by climate change, will be "extraordinary" and may exceed the dimension of the worst suffered in Spain".

Then, the news of the United Kingdom's hottest day on record - hitting 40°C (or 104°F) garnered media attention around the world. For example, Washington Post journalist William Booth reported, "Has it ever, in human history, been this hot in the British Isles? Maybe not. If you want to mark an unnatural, scary, real-world data point for climate change, it is here in Britain, right now, which saw its hottest day on record Tuesday. Temperatures in six locations reached 40 Celsius or higher, with London Heathrow and St. James Park hitting 40.2 Celsius - or 104.3 Fahrenheit. It's an extreme-weather episode, a freak peak heat, not seen since modern record keeping began a century and a half ago. Hitting 40C, for British climate scientists, is a kind of a unicorn event that had appeared in their models but until recently seemed almost unbelievable and unattainable this soon. Cairo? Karachi? Phoenix? They are world-beating furnaces. But London? The high-latitude city - with its recorded history dating back to the Romans



Figure 2. Fareed Zakaria discussing climate change on CNN, July 24, 2022.

- had probably never before experienced temperatures such as those on Tuesday. Surely no Britons alive now - or their Britain-based great- or great-great-grandparents - had felt 40C without traveling abroad. Queen Victoria, William Shakespeare, Henry VIII? They probably never faced down a 40C day within the British Isles. This nation was not built to withstand such heat. Its homes, workplaces, roads, rails, hospitals and infrastructure were constructed for temperate weather - Shakespeare's "other Eden, demi-paradise" – not this inferno. Britain has some of the most extensive weather records in the world, logged via diaries, observation and instruments as far back as the Age of Enlightenment, including daily records archived since the 1770s and monthly maximums and minimums dating back to the 1660s. Until Tuesday, the highest official temperature was 38.7C (101.7F), recorded at the Cambridge Botanic Garden on July 25, 2019. The Met Office reported that at least 34 observation sites across the country topped that previous maximum on Tuesday. Almost all the highest recorded temperatures have occurred in recent years".

Similarly, in North America media stories of waves of heat with connections to climate change were abundant in July. For example, *New York Times* journalist Isabella Grullón Paz reported, "About 100 million Americans from California to New England were sweating

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Figure 3. Front page coverage of ecological and meteorological challenges - such as heat waves, droughts and wildfires - with links to climate change or global warming in July 2022.

through heat advisories and warnings from the National Weather Service on Wednesday, with a brutal heat wave across the central part of the country showing no signs of letting up...Heat warnings and advisories were in place for parts or all of 28 states. People in the Southeast and the Southern Plains faced the most oppressive temperatures".

Several *political* and *economic* themed media stories about climate change or global warming continued in July. To begin, in the larger international context many stories pointed to shortcomings in climate policy action in many governments. For example, *Associated Press* reporter Seth Borenstein noted, "For most of the major carbon-polluting nations, promising to fight climate change is a lot easier than actually doing it. In the United States, President Joe Biden has learned that the hard way. Among the 10 biggest carbon emitters, only the European Union has enacted polices close to or consistent with international goals of limiting warming to just a few more tenths of a degrees,

according to scientists and experts who track climate action in countries". Furthermore, *Washington Post* journalists Darryl Fears and Andrea Eger noted, "Many European nations are working to shift away from fossil fuels, but the combination of intense summer heat and energy shortages stemming from the war in Ukraine threatens to delay this transition. In the United States, President Biden is struggling to advance his environmental agenda in the face of intense opposition from Republicans and Sen. Joe Manchin III (D-W.Va.)".

The United Nations Secretary General António Guterres' comments at the Petersberg Climate Dialogue grabbed media attention. For example, New York Times reporter Jesus Jímenez wrote, "The United Nations secretary general, António Guterres, issued a dire warning on Monday to representatives from 40 countries at the Petersberg Climate Dialogue, calling for more concrete action to tackle what he called a "climate emergency." "We have a choice," Mr. Guterres said in a video message. "Collective action or

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collective suicide. It is in our hands...Half of humanity is in the danger zone from floods, droughts, extreme storms and wildfires," Mr. Guterres said. "No nation is immune." The Petersberg Climate Dialogue serves as a forum for discussing climate protection agreements before the U.N. climate change conference, known as COP27, in Egypt this November. In his address, Mr. Guterres highlighted the need to reduce emissions, treat climate adaptation with urgency, offer financial backing for developing countries, and create a "concrete global response" to help the most vulnerable. Mr. Guterres said that people in Africa, South Asia, and Central and South America are 15 times more likely to die from extreme weather events. "In facing this global crisis, we are failing to work together as a multilateral community," Mr. Guterres said. "Nations continue to play the blame game instead

of taking responsibility for our collective future. We cannot continue this way"".

Stories also focused on US Congressional debates on a spending package that could allow for significant climate action. With the US as the second-largest emitter of greenhouse gases, such policy action would impact ongoing international climate mitigation and adaptation ambitions. For example, USA Today journalists Kyle Bagenstose and Elizabeth Weise reported, "For more than a decade, congressional Democrats and a growing share of their political base have chased a dream: legislation to combat climate change, large enough to transform our society into one equipped to avert the worst catastrophes of a rapidly warming planet. On Wednesday, the dream made a giant leap toward reality. In a stunning reversal from when he appeared to kill a climate deal just two weeks ago, Sen. Joe Manchin, a conservative West Virginia Democrat, announced support for the Inflation Reduction Act of 2022, a bill that would invest about \$370 billion into a range of policies aimed at reducing U.S. greenhouse gas emissions. That would make it the most substantial effort by the federal government to tackle climate change in history. A vote on the bill could come within

"Nations continue to play the blame game instead of taking responsibility for our collective future. We cannot continue this way".

- United Nations Secretary General António Guterres



United Nations Climate Change Conference COP27 in Sharm el-Sheikh, Egypt. Photo: Max Boykoff.

a week, though supporters are bracing for any last-minute hurdles. Early reaction suggests the bill could transform the American energy and transportation sectors. Tens of billions of dollars would go toward supporting renewable energy development, lowering the costs of electric vehicles, building out public charging stations, weatherizing homes, plugging leaks of greenhouse gases from pipelines and wells, lowering emissions from the agricultural sector, and supporting communities near polluting industries. In total, the measures could, by 2030, reduce U.S. greenhouse gas emissions 40% from where they were a quarter-century earlier. That would leave the nation within striking distance of the emissions reductions international scientists say are needed to avoid the worst effects of climate change. It could even set an example for other nations to also reduce emissions".

In July, ongoing invasion of Ukraine had effects on European climate policy and this was captured in several news accounts. For example, the front page of *El País* on July 18 had as its main news: "The EU proposes to relax the control of polluting emissions". *El País* journalist Bernardo de Miguel wrote, "The EU will relax emissions controls to compensate for

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the lack of Russian gas with other more polluting energy sources. Brussels considers it essential to recover production with coal and even encourage it with public subsidies".

Last, July media accounts also featured economic stories of the European Central Bank (ECB) encouragement for other banks to prepare for a climate crisis. For example, Expansión journalist Álvaro Sánchez reported, "The ECB estimates the losses of the big banks in the face of a climate crisis at 70,000 million. The agency believes that European banking is not preparing as it should in the face of climate risk (...)"Eurozone banks must urgently redouble efforts to measure and manage climate risk, filling current data gaps and adopting good practices that are already present in the sector," said Andrea Enria, Chairman of the Supervisory Board of the ECB".

July media coverage also featured many *cultural* stories relating to

climate change or global warming. For example, the Tour de France was halted at times due to climate protests, and this sparked media coverage. For example, Guardian journalist Jeremy Whittle noted, "Senior officials from the Tour de France organisation were seen dragging climate crisis protesters into a ditch during the 10th stage of the race from Morzine to Megève. Despite being chained together around the neck, a small group of young protesters were dragged off the race route by tour officials. At around 36 kilometres from the finish, on a section of straight road, the protesters sat on the course and set off red flares. The stage breakaway and peloton were both halted until the road was cleared. Climate activists from the Derniere Renovation movement said, "Since the government doesn't care about the climate crisis, we need to come

"Since the government doesn't care about the climate crisis, we need to come and take over the Tour de France to refocus attention on what matters for our survival. We need to make our government react as they lead us to the slaughterhouse. Non-violent disruption is our last chance to be heard and avoid the worst consequences of global warming."



Climate protesters stop 10th stage of race the Tour de France in July 2022. Credit: The Guardian.

and take over the Tour de France to refocus attention on what matters for our survival. We need to make our government react as they lead us to the slaughterhouse. Non-violent disruption is our last chance to be heard and avoid the worst consequences of global warming," the group said". Also, CNN reporters David Close and Matt Foster observed, "The statement said that the group "can no longer remain spectators of the ongoing climate disaster...Our goal is to force legislation to drastically reduce France's emissions, starting with energy reform, the area most likely to bring together social and climate justice today. This is our last chance to avoid catastrophic and irreversible consequences: deadly heat, extreme weather events, famines, mass migrations, armed conflicts... and this is for all the next generations of humans"".

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Sports provided other news hooks in July, such as media coverage of climate change and golfing during the British Open. For example, New York Times journalist Alan Blinder wrote, "It is the rare golfer who does not fret over weather that could wash out a round or starve shots of distance. But along the North Sea on a blustery edge of Scotland, heralded for centuries as golf's birthplace, this era's greenskeepers fear a far more damning forecast. In that nightmare, what they call a perfect storm, striking at high tide and packing an easterly wind, would hit, likely speeding coastal erosion...golf has had little choice but to start weighing its own role in climate change - most notably through the vast, lush and thirsty courses that sometimes take the place of trees and then require fertilizer and mowing - while puzzling over how to preserve fairways and greens around the world. Scientists have spent years warning how a warmer planet, which can lead to more severe storms and to more sea-level rise, could change sports. Citing climate change, the International Olympic Committee's president has said that Games organizers "may have to have a look into the overall calendar and whether there must be a shift." Winter sports are facing a future of events on artificial snow, and activities like dogsledding and fishing are being transformed in the Arctic. Golf will not be an exception".

Protestors took to the streets elsewhere in July too. For example, Guardian media editor Jim Waterson reported, "Extinction Rebellion protesters have smashed windows at the London headquarters of Rupert Murdoch's media company, in protest at his outlets' coverage of the climate crisis. Activists targeted the News UK building next to London Bridge station early on Tuesday morning, destroying glass panels and putting up posters reading "tell the truth" and "40 degrees = death" next to the entrance used by journalists at the Sun and the Times. Extinction Rebellion said it was taking nonviolent action to highlight the way that the record-breaking heat in the UK was being treated as an upbeat story in parts of the media".

Many climate change or global warming stories focused on *scientific* themes in the month of July. To begin, early in July The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) released a report on climate change and extinction that grabbed media attention amid a busy news cycle during that time. For example, Associated Press correspondent Fabio Maisonnave reported, "Every day billions of people depend on wild flora and fauna to obtain food, medicine and energy. But a new United Nations-backed report says that overexploitation, climate change, pollution and deforestation are pushing one million species towards extinction...unless humankind improves the sustainable use of nature, the Earth is on its way to losing 12% of its wild tree species, over a thousand wild mammal species and almost 450 species of sharks and rays, among other irreparable harm. Humans use about 50,000 wild species routinely and 1 out of 5 people of the world's 7.9 billion population depend on those species for food and income, the report said. 1 in 3 people rely on fuel wood for cooking, the number even higher in Africa".

Further, connections between eating habits and climate change in a Boston Consulting Group report also generated media interest. For example, Guardian journalist Damien Carrington reported, "Investments in plantbased alternatives to meat lead to far greater cuts in climate-heating emissions than other green investments, according to one of the world's biggest consultancy firms...for each dollar, investment in improving and scaling up the production of meat and dairy alternatives resulted in three times more greenhouse gas reductions compared with investment in green cement technology, seven times more than green buildings and 11 times more than zeroemission cars. Investments in the plant-based alternatives to meat delivered this high impact on emissions because of the big difference between the greenhouse gases emitted when producing conventional meat and dairy products, and when growing plants. Beef, for example, results in six-to-30 times more emissions than tofu".

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AUGUST "Climate change is evident"



Villagers try to retrieve bodies from a minibus partly submerged in the Nabuyonga River in Namakwekwe, eastern Uganda. Photo: Badru Katumba/AFP/Getty Images.



Media attention in newspapers around the globe was **down 4%** from July 2022 and **down 9%** from August 2021. Coverage in international wire services **increased 4%** and radio coverage was **up 12.5%** from July 2022.

ugust media attention to climate change or global warming in newspapers around the globe was down 4% from July 2022 and down 9% from August 2021. Coverage in international wire services increased 4% and radio coverage was up 12.5% from July 2022. Compared to the previous month, coverage increased in North America (+2%), the Middle East (+2%), Asia (+5%), and Africa (+38%), while coverage decreased in Latin America (-4%), the European Union (EU) (-10%), and Oceania (-25%). 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 2022.

At the country level, United States (US) print coverage increased 1% while television coverage also decreased 6% from the previous month. Among other countries that we at the Media and Climate Change Observatory (MeCCO) monitor, coverage dropped in Finland

(-2%), India (-4%), Spain (-7%), Norway (-10%), Germany (-14%), the United Kingdom (UK) (-17%), New Zealand (-24%), and Australia (-26%). However, coverage in August 2022 increased in Canada (+7%), Sweden (+20%), and Denmark (+22%) (see Figure 2).

August saw significant media coverage about climate change or global warming with ecological and meteorological themes. To begin, early August saw flooding in Uganda with connections made with a changing climate in media accounts. For example, Guardian reporter Caroline Kimeu wrote, "At least 24 people have died and more than 5,600 people have been displaced by flash flooding in eastern Uganda. Two rivers burst their banks after heavy rainfall swept through the city of Mbale over the weekend, submerging homes, shops and roads, and uprooting water pipes. About 400,000 people have been left without clean water, and more than 2,000 hectares (5,000 acres) of crops have been destroyed. Rescue efforts have been

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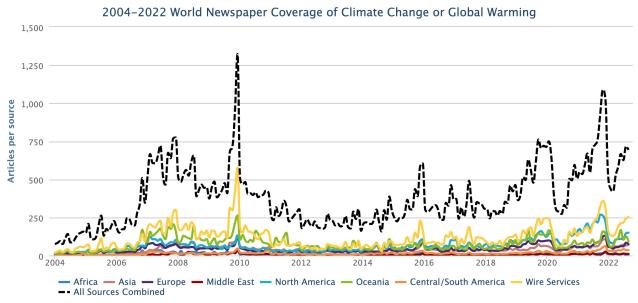


Figure 1. Newspaper media coverage of climate change or global warming in print sources in seven different regions around the world, from January 2004 through August 2022.

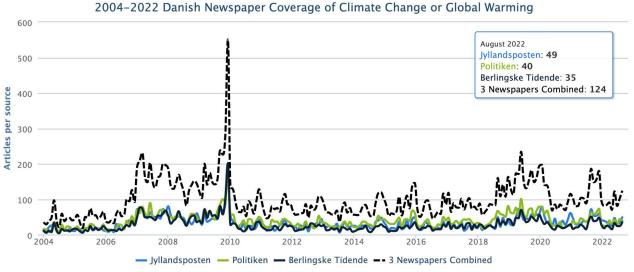


Figure 2. Denmark newspaper coverage of climate change or global warming in *Jyllandsposten*, *Politiken*, and *Berlingske Tidende* from January 2000 through August 2022.

hampered by rainfall, with a number of areas still inaccessible...The head of communications at the office of the prime minister, Julius Mucunguzi, said: "The long-term solution is to protect the environment, stay clear of wetlands, riverbanks and avoid destroying river pathways. Climate change is evident. You can no longer predict when the rains will come and how intense they will be." About 300km north of Mbale, the Karamoja region has experienced severe drought over the last few months. A World Bank report predicts that at least 86 million Africans will migrate within their own countries by 2050 as a result of climate change".

August media stories about floods - with connections to climate change - also emerged through events in South Korea. For example, *CNN* correspondents Gawon Bae and Jessie Yeung reported, "Record downpours flooded homes, roads and subway stations in the South Korean capital Seoul this week, killing at least nine people, as forecasters warned of more rain to come. South Korean President Yoon Suk Yeol sent his condolences to the victims on Tuesday, saying he would conduct an on-site inspection and work to prevent additional damage. He also pointed out the need to review the country's disaster management system, since extreme

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Figure 3. Examples of front page stories in UK and European newspapers in August 2022.

weather is expected to become increasingly common due to the climate crisis".

In August, several meteorological-themed media stories were published on climate change or global warming throughout Europe. For example, Spain suffered a summer of record extreme heat. El País journalist Manuel Planelles noted, "The country has suffered three episodes of soaring temperatures that have gone off the charts due to their harshness, geographic spread, and duration. Added to this is an also historical lack of rain and a devastating fire season. Between the months of June and August, there have been 42 days with a heat wave". Meanwhile, La Vanguardia journalist Antonio Cerrillo reported, "This July will go down in history for its extreme temperatures and its serious consequences (deaths and fires). According to data from the Carlos III Health Institute (ISCIII) from July 1 to 29, it is estimated that 2,124 people have died as a result of high temperatures, an average of 72 per day". A main theme of the front page of El País was titled "Extreme weather breaks into the Spanish political agenda". El País journalists Manuel Planelles and Natalia Junqueras wrote, "The parties prepare their programs for the municipal and regional elections in the midst of an environmental crisis plagued by heat waves, fires and lack of water".

Meanwhile, in August Europe continued to suffer its worst drought in the last 500 years. La Vanguardia journalist Joaquím Elcacho noted, "64% of the territory of EU countries is on warning or alert, with a serious impact on agriculture and livestock, ecosystems and the danger of the expansion of fires The data from

Copernicus and the Drought Observatory add to the Report of the Joint Research Center of the European Commission (JRC). Data from this month of August indicate that 47% of the territory of the European Union is on alert due to drought and 17% on alert due to low rainfall". One of the consequences, for example, is that the drought chokes traffic on the German river Rhine. Meanwhile, La Vanguardia journalist Mary Paz López wrote, "The lowering of the water level of the Rhine River due to the drought it is reducing transport and therefore affects the supply chain for the industry in Germany, especially in matters such as coal, crude oil and chemical products. The barges continue sailing, but with reduced load".

In France and Spain there were also big fires that sparked media attention. For example, *El Mundo* journalist Nuria López reported, "[France] is suffering one of the worst waves of fires in its history. More than 7,000 hectares destroyed, 10,000 residents evacuated and 1,100 firefighters fighting to put it out with European help". Also, *El País* journalist Patricia Ortega noted about the burned Spain, "45 large fires and 250,000 hectares. This summer's fires have burned more mountains than ever before, breaking statistics and leaving a black blanket of ash on the affected towns".

Several *political* and *economic* themed media stories about climate change or global warming continued in August. To begin, there were several media reports that unabated climate change will mean many challenges for the European economy. For example, *El País* journalist Álvaro Sánchez wrote, "The climate against the economy: heat and drought

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affect Europe. Agriculture, construction, tourism and energy face changes that can make the exceptional structural".

Also in early August, an Organization for Economic Co-operation and Development (OECD) report was covered by several media outlets. For example, Associated Press correspondent Wanjohi Kabukuru reported, "Richer countries failed to keep a \$100 billion-a-year pledge to developing nations to help them achieve their climate goals, according to an analysis by the Organization for Economic Cooperation and Development, or OECD. \$83.3 billion in climate financing was given to poorer countries in 2020, a 4% increase from the previous year, but still short of the proposed goal. The United Nations-backed payment plan was first agreed in 2009 to help poorer nations adapt to the effects of climate change and reduce emissions. The pledge, which was originally set up as an annual commitment from its inception until 2020,

has never been fulfilled. "We know that more needs to be done" to address the shortfall. admitted OECD Secretary-General Mathias Cormann. Who pays for tackling and adapting to climate change has been a key sticking point between richer nations and poorer ones since international climate negotiations began 30 years ago. Harsen Nyambe, who heads the African Union climate change and environment division, told the Associated Press the continent will continue to put pressure on richer nations to ensure the \$100 billion-a-year agreement is fulfilled. He added that the funds will give the continent better access to required technology and will help nations transition to green energy in a fair way. But others believe that after decades of unmet promises, it's unlikely that richer countries will start to step up".

In mid-August, media coverage of US Speaker of the House of Representatives Nancy Pelosi traveling to Taiwan - with many reverberations therein - earned media coverage of China's reaction regarding retaliatory stoppage of

"Richer countries failed to keep a \$100 billion-a-year pledge to developing nations to help them achieve their climate goals. \$83.3 billion in climate financing was given to poorer countries in 2020, a 4% increase from the previous year, but still short of the proposed goal."



Climate activist engage in a 'Show US The Money' protest at the COP26 U.N. Climate Summit in Glasgow, Scotland. Photo: Alastair Grant/AP.

bilateral climate negotiation. For example, South China Morning Post journalist Echo Xie reported, "China's decision to suspend cooperation with the United States on issues such as climate change and drug trafficking after Nancy Pelosi's visit to Taiwan has raised questions about how long the situation will drag on and whether things can get worse. Officials from both sides have previously cited climate change and narcotics as examples of how they could try to work together despite confrontations in almost every other sphere, ranging from trade and the South China Sea to Xinjiang and Hong Kong".

August media coverage also featured many cultural stories relating to climate change or global warming. For example, some celebrity Instagram posts led to greater scrutiny about private air travel. Among these stories, New York Times journalist Constant Méheut reported, "As France reels from a summer of extreme temperatures and soaring energy prices, prompting increasingly urgent calls to rein in polluters contributing to global warming, one

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high-flying culprit is finding itself in the cross hairs: the private jet. In recent days, France's transportation minister called for flights by such planes to be restricted because of their outsized contribution to climate change, while a prominent lawmaker for the Green Party said he would soon introduce a bill to ban them altogether. The announcements have struck a chord in France, where weeks of severe drought and wildfires have brought home the realities of global warming, stoking a larger debate about consumer responsibility for addressing climate change. Calls for better conservation of energy are also growing in France, like in much of Europe, as the war in Ukraine squeezes supplies of gas and oil".

Meanwhile, Washington Post journalist Allyson Chiu wrote, "Popular celebrities are no strangers to being at the top of rankings. But several big names recently found themselves featured on a new list: "Celebs with the Worst Private Jet CO₂ Emissions." The analysis of flight data, which was published online Friday by a U.K.-based sustainability marketing agency Yard, came on the heels of other celebrities such as Kylie Jenner and Drake weathering intense public criticism after it was revealed that their emissions-spewing private jets logged trips as short as 17 minutes and 14 minutes, respectively. Using data from a popular Twitter account that tracks celebrity jet movements based on public information, the report stated that planes affiliated with celebrities emitted an average of more than 3,376 metric tons of CO2 – roughly 480 times more than an average person's annual emissions. The report, which was not peer-reviewed and features a prominent disclaimer about its analysis, includes the names of a handful of celebrities, at least two of whom have publicly disputed the list, saying that the flight data affiliated with them does not reflect their actual usage. Taylor Swift's plane was identified by the report as the "biggest celebrity CO2e polluter this year so far," racking up 170 flights since January with emissions totaling more than 8,293 metric tons. A plane affiliated with boxer Floyd Mayweather came in second, emitting about 7,076 metric tons of CO2, with one logged trip only lasting 10 minutes. Jay-Z,

who could not be reached for comment, was listed third. After publication, a lawyer for Jay-Z told The Washington Post the rapper does not own the private jet in question; Rolling Stone reported that the flight data used in the analysis is from a plane tied to Puma and attributed to Jay-Z for his relationship with the brand".

Finally, many climate change or global warming stories focused on *scientific* themes in the month of August. To begin, early in August a study in the journal Lancet Planetary Health earned media coverage in several outlets. For example, US National Public Radio correspondent Ayana Archie noted, "Rising nighttime temperatures may increase the mortality rate worldwide by up to 60% by the end of the century, according to a study whose authors say is the first research to estimate the impact of hotter nights on climate change-related mortality risks. More heat at night can disrupt sleep patterns as the body attempts to cool down, leading to adverse effects on the immune system. This could contribute to the probability of developing cardiovascular disease, chronic illnesses, inflammation and mental health challenges, the authors of the study concluded. By 2090, nighttime temperatures could double from an average of 68.7 degrees Fahrenheit to 103.5 degrees Fahrenheit in 28 cities across China, South Korea and Japan that the study examined".

In mid-August a study in Communications Earth & Environment also earned media attention. For example, CBS News correspondent Li Cohen reported, "Scientists have known for years that the Arctic has suffered from more warming than the rest of the world. But a new study shows that it's much worse than previously thought. Researchers have long estimated that the Arctic warms twice as fast as the rest of the world – a phenomenon known as Arctic amplification - but a new study published in Nature Communications Earth & Environment on Thursday found that it's actually double that. The Arctic is warming nearly four times faster than anywhere else on Earth. In some areas of the Arctic Ocean, the warming rate is even up to seven times as fast".

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SEPTEMBER

"The latest extreme weather calamity"



Navigating floodwaters in the Dadu district of Sindh Province, of Pakistan. Photo: Fareed Khan/Associated Press.



Media attention around the globe **increased 5%** from August 2022 yet remained **20% lower** than September 2021 levels. Coverage in international wire services **increased 10%**, and radio coverage **dipped 15%** from August 2022.

eptember media attention to climate change or global warming in newspapers around the globe increased 5% from August 2022 yet remained 20% lower than September 2021 levels. Coverage in international wire services increased 10%, and radio coverage dipped 15% from August 2022. Compared to the previous month, coverage increased in Oceania (+7%), Asia (+18%), Latin America (+34%), and Africa (+39%), while coverage decreased in North America (-7%), the European Union (EU) (-9%), and the Middle East (-20%). 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 2022.

At the country level, United States (US) print coverage decreased 8% while television coverage also decreased 17% from the previous month. Among other countries that we at the Media and Climate Change Observatory (MeCCO) monitor, coverage dropped in

Denmark (-4%), Canada (-5%), Finland (-9%), Spain (-10%), the United Kingdom (UK) (-12%), Germany (-14%), Sweden (-20%), and Norway (-49%). However, coverage in September 2022 increased in Australia (+1%), Japan (+4%), India (+11%), New Zealand (+17%), and Russia (+24%) (see Figure 2).

The month of September was dominated by high levels of media coverage about climate change or global warming with *ecological* and *meteorological* themes. To begin, *La Vanguardia* journalist Antonio Cerrillo wrote, "How many additional deaths did the heat wave produce this summer in Spain, can we know? The Carlos III Health Institute estimates that, so far this year, there have been 30,861 more deaths than expected for that period. And of this total, 3,833 deaths are attributable to the high temperatures recorded in July and August, almost triple that of a year ago, when 1,356 people died from the heat in those two months. But according to some experts they could be

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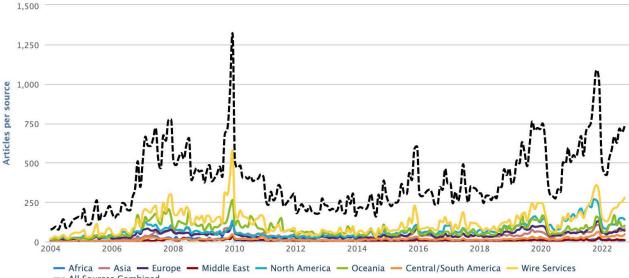


Figure 1. Newspaper media coverage of climate change or global warming in print sources in seven different regions around the world, from January 2004 through September 2022.

2000-2022 Russian Newspaper Coverage of Climate Change or Global Warming

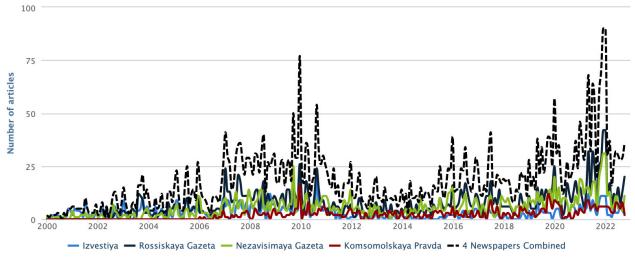


Figure 2. Russian newspaper coverage of climate change or global warming in *Izvestiya*, Rossiskaya Gazeta, Nezavisimaya Gazeta, and Komsomolskaya Pravda from January 2000 through September 2022.

more..." Furthermore, journalist Antonio Cerrillo also published in La Vanguardia an article titled 'Autumn: hotter than normal' that highlighted, "This summer has been the warmest so far and exceeded the climatic average by 2.2° and Arid zones are advancing at a rate of 1,500 km2 per year, at the expense of temperate zones".

In September, devastating flooding across Pakistan - with links to climate change - made news. For example, *Associated Press* correspondent Munir Ahmed reported, "The rains started early this year - in mid-June - and

swept away entire villages, bridges and roads, leaving hundreds of thousands homeless. At one point, a third of the country's territory was inundated with water. Authorities said the overall death toll reached 1,481 on Tuesday, with 54 more people dying in rain-related floods in the past 24 hours, with the majority of those deaths in the hard-hit province of Sindh. Experts have said that climate change has been blamed in large part for the deluge, the worst in recent memory. Sherry Rehman, Pakistan's minister for climate change, warned that the rains, which had abated late last month only to restart this

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week, are predicted to continue lashing much of the country in the coming weeks. Rehman also expressed fears the downpours would hamper ongoing rescue and relief operations in flood-hit areas, where swirling deluges from overflowing rivers, fast melting glaciers and floods have already affected 33 million people. So far, rescuers have evacuated 179,281 people from flood-hit areas". As a second example drawing in lives impacted and lives lost - New York Times journalists Christina Goldbaum and Zia ur-Rehman reported, "Mr. Jamali, 84, migrated from the outskirts of Jacobabad, a city in Sindh, to the port city of Karachi late last month after flooding consumed his small farm. The floods this year were the latest extreme weather calamity to uproot his family. The 2010 floods that hit Sindh also forced Mr. Jamali, along with his 18-member extended family, to migrate to Karachi, after their house was damaged. For five years, he saved money to reconstruct their home, he said. But in recent years, life in the district has become almost impossible to survive. Jacobabad is one of Pakistan's most climate-change-hit districts and is considered one of the hottest places on earth. In May, the temperatures rose to 124 degrees Fahrenheit - 51 degrees Celsius - making it one of the hottest cities in the world. Then the flooding in August destroyed his home yet again".

Later in the month of September, Hurricane Fiona caused catastrophic flooding on Puerto Rico. Many media accounts made connections to climate change. For example, NBC journalist Denise Chow reported, "Powerful storms battered three disparate, far-flung corners of the planet over the weekend, but they had one thing in common: They were made stronger and wetter by climate change. From Hurricane Fiona barreling over Puerto Rico and the Dominican Republic to Typhoon Nanmadol pounding Japan, to the remnants of Typhoon Merbok wreaking havoc in Alaska, the past 72 hours have demonstrated the devastating effects of heavy rain and flooding. The three weekend storms add to a trend of wetter storms in a warmer future, said Michael Wehner, a senior scientist at the Lawrence Berkeley National Laboratory".

"Jacobabad is one of Pakistan's most climate-change-hit districts and is considered one of the hottest places on earth. In May, the temperatures rose to 124 degrees Fahrenheit — 51 degrees Celsius — making it one of the hottest cities in the world.



Temporary housing under construction for flood victims in Sindh, Pakistan. Photo: Fareed Khan/AP.

Making that connection to an unusual cyclone hitting northwestern Alaska, several news accounts connected the event with a changing climate. For example, Washington Post journalists Zach Rosenthal and Jacob Feuerstein wrote, "A powerful ocean cyclone is blasting the western coast of Alaska - bringing major flooding to coastal communities and wind gusts to 90 mph. The National Weather Service in Fairbanks, which issued issue warnings for both the water and the wind, said the storm was "producing water levels above higher than any seen over at least 50 years"... In the Fourth National Climate Assessment, a comprehensive climate change report looking at impacts in the United States published in 2018 - scientists expressed concern that climate change has set the stage for greater impacts from large nontropical cyclones in Alaska. Warmer summers and oceans have caused a greater-

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than-normal seasonal loss of sea ice, which makes the region more vulnerable to ocean inundation".

Then in late September, the powerful Hurricane lan devastated Cuba before making landfall in the US states of Florida and South Carolina. Many news stories discussed how climate change fueled the storm. For example, Associated Press journalist Seth Borenstein reported, "Hurricane lan is quickly gaining monstrous strength as it moves over oceans partly heated up by climate change, just like 30 other Atlantic tropical storms since 2017 that

became much more powerful in less than a day. This turbocharging of storms is likely to become even more frequent as the world gets warmer, scientists say...lan's rapid intensification occurred after it traveled over Caribbean waters that are about 1.8 degrees Fahrenheit (1 degree Celsius) warmer than normal, largely because of climate change. Colorado State University hurricane researcher Phil Klotzbach said the warm water creates "a lot more rocket fuel for the storm." Climate change has other effects. The buildup of heat-trapping gases from burning fossil fuels is making storms slower and wetter. It exacerbates deadly storm surges through sea-level rise, worsens freshwater flooding and increases the proportion of monster Category 4 and 5 storms, like Fiona last week, several studies show. The current hurricane season had been uncharacteristically mild until about a week ago because of dry air in the Atlantic. Yet while storms aren't necessarily more frequent, they are getting nastier because of global warming, experts say".

As a second example among many stories about hurricane lan, *New York Times* journalists Elena Shao, Nadja Popovich and Mira Rojanasakul reported, "New data from NASA reveals how warm ocean waters in the Gulf of Mexico fueled Hurricane lan to become one of the most powerful storms to strike the United States in



Figure 3. Newspaper front pages covering Hurricane lan's destruction, making links with a changing climate.

the past decade. Sea surface temperatures were especially warm off Florida's southwest coast, allowing the storm to pick up energy just before crashing into the state north of Fort Myers. The storm brought fierce winds, unrelenting rains and catastrophic flooding to southwest Florida. As it moved inland, it lost power and was downgraded to a tropical storm, but grew into a hurricane again as it traveled across the warm Atlantic toward South Carolina. Storms usually weaken as they move over land and lose access to their main source of moisture and energy. Hurricane Ian was able to, over the course of its path, pull a lot of energy out of the ocean, which could have sustained it for longer than normal, said Christopher Slocum, a physical scientist at the National Oceanic and Atmospheric Administration. September is the peak of hurricane season, spurred by temperatures in the Gulf that are warmer than at other times of the year, experts say. The climate phenomenon known as La Niña has also contributed to more favorable conditions for hurricanes in the North Atlantic over the past three years. However, waters off the coast were also two to three degrees Fahrenheit warmer than usual for this time of year, according to preliminary data from NASA...More than 90 percent of the excess heat from human-caused global warming over the past 50 years has been absorbed by the oceans, and a majority of it is stored in the top few hundred meters. Scientists say that while

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climate change has not necessarily increased the number of hurricanes, it has made them more powerful, as warmer ocean waters strengthen and sustain those storms. The proportion of the most severe storms – Categories 4 and 5 – has increased since 1980, when satellite imagery began reliably tracking hurricanes".

While the bulk of news accounts relating to climate change focused on meteorological events in September, a steady stream of scientific themes emerged in September media stories. For instance, research published in the journal Science regarding methane flaring, venting and leaking prompted several news accounts. For example, Wall Street Journal reporter Eric Niiler wrote, "Emissions of methane from oil and natural gas wells are far higher than previously thought because a technique the facilities use to prevent the greenhouse gas from escaping into the atmosphere isn't working as expected, scientists said in a study published Thursday in the journal Science. Called flaring, the technique involves burning natural gas that leaks from wells-much as a stove's pilot light burns gas. The study, which involved testing the air around 300 flares in four states, showed that many flares were unlit or operating inefficiently. As a result, emissions from the flaring facilities of methane-the principal constituent of natural gas-are five times greater than previous estimates by the U.S. Environmental Protection Agency. That means overall methane emissions from U.S. oil and gas production are about 10% higher than previous EPA estimates, according to the study".

Meanwhile, several *political* and *economic* themed media stories about climate change or global warming continued in September. To begin, *InfluenceMap's* published examinations of major oil and gas companies' public communications messaging revealed that rhetoric contrasted materially with ongoing investment activity. For example, *CNN* journalist Lauren Kent reported, "Big oil companies are spending millions to portray themselves as taking action on climate change, but their investments and lobbying activities don't live up



Figure 4. A newspaper front page of *Le Monde* covering energy concerns relating to the Russian invasion of Ukraine and with links to a changing climate.

to their planet-friendly claims, according to a new report. An analysis from London-based energy and climate think-tank InfluenceMap found that the amount of climate-positive messaging used by five major oil and gas companies -- BP, Chevron, ExxonMobil, Shell, and TotalEnergies -- is inconsistent with their spending on lowcarbon activities. The report comes as scientists have grown increasingly urgent in their warning that the world must slash the use of fossil fuels to prevent catastrophic consequences of the climate crisis. It also comes amid fresh criticism of oil companies' growing profits as consumer energy costs soar. The think tank analyzed 3,421 items of public communications materials for 2021 across the five companies and found that 60% of their messaging contained at least one "green" claim. InfluenceMap then calculated the amount of money the energy companies expected to spend on green investments last year and found on average just 12% of their

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capital expenditure budgets were going toward what the companies themselves consider low-carbon or renewable activities".

Meanwhile, the Global Registry of Fossil Fuels released a 'Carbon Tracker and Global Energy Monitor' database that generated several media stories. For example, Guardian journalist Oliva Milman reported, "Burning the world's proven reserves of fossil fuels would emit more planet-heating emissions than have occurred since the industrial revolution, easily blowing the remaining carbon budget before societies are subjected to catastrophic global heating, a new analysis has found. An enormous 3.5tn tons of greenhouse gas emissions will be emitted if governments allow identified reserves of coal, oil and gas to be extracted and used, according to what has been described as the first public database of fossil fuel production. The database, which covers around three-quarters of global energy production, reveals that the US and Russia each have enough fossil fuel reserves to single-handedly eat up the world's remaining carbon budget before the planet is tipped into 1.5C (2.7F) or more of heating compared to the pre-industrial era".

Last, several September media accounts featured political stories relating to climate change or global warming. For example, Carlos III would accede to the British crown after the death of Elizabeth II, nicknamed the Green King, for his tireless environmental activism,

as the article stated "How Carlos III thinks". For example, La Vanguardia journalist Alexis Rodríguez noted, "The green floods his activism. Vehemently. Even with thick words. She worries about climate change. He supports organic farming. And green energy. And all this from his youth. To that end he founded The Prince's Charities when he was barely in his twenties. He keeps at it. At the most recent climate conference COP26 of Glasgow, Scotland, last year, for example, the still Prince Carlos called on world leaders who should adopt a "position of war" to face the global threat of change climate and biodiversity loss. The new monarch, at the COP26 in Glasgow, invited world leaders "that they should adopt a "position of war" to face the global threat of climate change and the loss of biodiversity".

Last, in September media coverage also featured many *cultural* stories relating to climate change or global warming. To begin, coverage continued regarding the use of private planes. For example, *El País* journalist Clemente Álvarez wrote, "France has put the planes of the richest at the center of the debate, which, although globally contribute little to climate change, represent one of the most extreme cases of inequality in the way they pollute". Meanwhile, *La Vanguardia* journalist Antonio Cerrillo noted, "PSG striker Kylian Mbappé burst out laughing a few days ago when his coach, Christophe Galtier, was questioned by a journalist about whether the club planned to



Figure 5. Newspaper front pages covering the vandalism/terrorism of the Nord Stream pipelines, with links to climate change and climate risks.

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use the train on certain routes, instead of the plane, to reduce the carbon footprint. Hearing the question, a theatrical Galtier smiled, shook his head and pinched his nose, before blurting out, "The company that organizes our tours is trying to see if we can travel by sailboat." The mocking response triggered Mbappé's fit of laughter; and, although the coach apologized the next day, criticism has been heaped on the star striker, accused of "lack of respect, contempt and disdain" towards policies to reduce emissions and mitigate global warming".

Meanwhile, human rights and climate change concerns combined in several September news accounts as Egypt gets set to host the next round of United Nations climate negotiations. For example, an Associated Press wire story reported, "Amnesty International accused Egypt on Wednesday of attempting to cover up a decade of "unrelenting violations of human rights" in order to improve its international standing ahead of hosting the world climate summit. Egypt's human rights record has come under intensified scrutiny ahead of the November global COP27 summit in the Red Sea resort of Sharm el-Sheikh. Dozens of international rights groups have called on Egypt to end its crackdown on civil society and protect freedom of expression. Wednesday's 48-page report by Amnesty urged the Egyptian government to implement changes and stop abuses, citing a relentless clampdown on dissent, rollback of personal freedoms and mass incarcerations after President Abdel Fattah el-Sissi came to power in 2013. Rights groups estimate that thousands of political prisoners are held in Egyptian jails".

Last, perhaps both a cultural and political economic story generated many media accounts in late September. The apparent sabotage of the Nord Stream 1 and 2 methane gas pipelines in the Baltic Sea – and the release

"Scientists fear methane erupting from the burst Nord Stream pipelines into the Baltic Sea could be one of the worst natural gas leaks ever and pose significant climate risks."



Scientists estimate the leaks could release up to 400,000 tonnes of methane into the atmosphere. Photo: Danish Defence/AFP/Getty.

of climate change-inducing methane gas into the atmosphere - generated several news stories. For example, Guardian correspondents Karen McVeigh and Philip Oltermann noted, "Scientists fear methane erupting from the burst Nord Stream pipelines into the Baltic Sea could be one of the worst natural gas leaks ever and pose significant climate risks. Neither of the two breached Nord Stream pipelines, which run between Russia and Germany, was operational, but both contained natural gas. This mostly consists of methane - a greenhouse gas that is the biggest cause of climate heating after carbon dioxide. The extent of the leaks is still unclear but rough estimates by scientists, based on the volume of gas reportedly in one of the pipelines, vary between 100,000 and 350,000 tonnes of methane. Jasmin Cooper, a research associate at Imperial College London's department of chemical engineering, said a "lot of uncertainty" surrounded the leak".

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OCTOBER "Increasingly ruling out fossil fuel projects"



Climate activists lie after painting "stop funding fossil fuels" on the square in front of the Euro sign in Frankfurt. Photo: Michael Probst/AP.



Media coverage around the globe **dipped 5%** from September 2022 and 37% from September 2021 levels. Meanwhile, coverage in international wire services **decreased 15%**, as radio coverage **rose 21%** from September 2022.

ctober media coverage of climate change or global warming in newspapers around the globe dipped 5% from September 2022 and 37% from September 2021 levels. Meanwhile, coverage in international wire services decreased 15%, as radio coverage rose 21% from September 2022. Compared to the previous month, coverage decreased in the European Union (EU) (-4%), Asia (-6%), , Oceania (-6%), the Middle East (-7%) and North America (-11%). But, coverage was up from the previous month in Africa (+14%), and Latin America (+19%). 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 2022.

At the country level, United States (US) print coverage decreased 18% while television coverage also decreased 33% from the

previous month. Among other countries that we at the Media and Climate Change Observatory (MeCCO) monitor, coverage increased in Spain (+6%), Canada (+7%), India (+11%), Denmark (+13%), and Norway (+76%). However, coverage in October 2022 decreased in Japan (-1%), Finland (-4%), New Zealand (-5%), the United Kingdom (UK) (-5%), Australia (-7%), Germany (-10%), Sweden (-12%), and Korea (-23%) (see Figure 2). You may note that we have added four new sources in Korea – Chosun Ilbo, Dong-a Ilbo, Maeil Business Newspaper, and Hankyoreh – thanks to the work of our two new team members Dr. Kyungsun Lee and Dr. Kyotaek Hwang.

Turning to the content of coverage, in October media coverage featured many *cultural* stories relating to climate change or global warming. Pro-climate action protesters in Europe garnered significant media attention through their slightly whimsical yet daring actions. For example,

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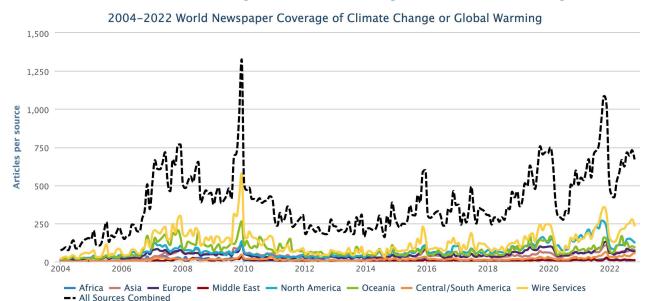


Figure 1. Newspaper media coverage of climate change or global warming in print sources in seven different regions around the world, from January 2004 through October 2022.

The Guardian journalist Damien Gayle noted,

"There were gasps, roars and a shout of "Oh my gosh!" in room 43 of the gallery as two young supporters of the climate protest group threw the liquid over the painting, which is protected by glass, just after 11am. They removed jackets to reveal Just Stop Oil T-shirts before gluing themselves to the wall beneath the artwork, which is one of the gallery's most important treasures. "What is worth more, art or life?" said one of the activists, Phoebe Plummer, 21, from London. She was accompanied by 20-year-old Anna Holland, from Newcastle. "Is it worth more than food? More than justice? Are you more concerned about the protection of a painting or the protection of our planet and people?"" These actions generated a debate among activists between angry protest and civil disobedience. For example, La Vanguardia journalist Antonio Cerrillo wrote, "Division of opinions before the launch of tomato soup against a VanGogh". Meanwhile, Steven Duncombe opined in The Guardian, "Last week two activists from Just Stop Oil who threw tomato soup on a landscape painting by Vincent Van Gogh in the National Gallery and then glued themselves to the wall, symbolizing, um, well, ah... I'm really not quite sure. The head-scratching disconnect between the activists' tactics and the message they were trying to convey - linking oil to the climate crisis, in case you hadn't figured it out - has been widely discussed, and ridiculed, in the media". Elsewhere, *New York Times* journalist Eduardo Medina reported, "Two climate activists threw mashed potatoes on a glass-covered painting by the celebrated French Impressionist Claude Monet on Sunday inside a German museum, the latest art attack intended to draw attention to climate change".

Later in October, protesters in London stopped traffic to draw attention to climate change. Many stories followed. For example, Guardian correspondent Sophie Zeldin-O'Neill reported, "Motorists dragged Just Stop Oil protesters out of the way as activists halted traffic flow across four central London roads on Saturday. The group said 61 Just Stop Oil supporters stopped traffic on Charing Cross Road, Kensington High Street, Kennington Road and Blackfriars Road, "demanding that the government halts all new oil and gas consents and licences". They posted a series of videos on Twitter shortly after midday on Saturday, showing protesters in bright orange vests sitting across some of the city's major roads. In several instances, members of the public shouted abuse and dragged the protesters on to the nearby pavement. Drivers dragged protesters out of the road, but they persistently returned to retake their places". Meanwhile, Guardian journalist Damian Carrington noted, "A large majority of the

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2000–2022 Korean Newspaper Coverage of Climate Change or Global Warming

500

400

200

2002

2004

2006

2008

2010

2012

2014

2016

2018

2020

2022

Chosun Ilbo — Dong-a Ilbo — Maeil Business Newspaper — Hankyoreh — 4 Newspapers Combined

Figure 2. Newspaper coverage of climate change or global warming in Korean newspapers *Chosun Ilbo*, *Dong-a Ilbo*, *Maeil Business Newspaper*, and *Hankyoreh* from January 2004 through October 2022.

UK public supports nonviolent direct action to protect the environment, according to an opinion poll. People also strongly backed solar power on farmland and opposed fracking. The poll indicates the unpopularity of a recent swathe of government policies, with more than twice as many people saying they trusted Labour to protect the environment as said they trusted the Conservatives...In the poll, 66% of people supported taking nonviolent direct action to protect the UK's nature, with 34% opposed. Support for such action dropped to 44% among Tory supporters. Recent direct action has included protesters throwing soup at a Van Gogh painting and blocking the Dartford Crossing".

And, European scientists announced actions of nonviolent civil disobedience. La Vanguardia journalist Antonio Cerrillo wrote, "Rebelión Científica (Scientist Rebellion), the branch made up of expert climatologists and ecologists related to the international movement Rebellion or Extinction, has announced a series of initiatives with protest actions and civil disobedience in protest against what it considers government inaction on climate change. The result is that more than 100 scientists and academics from 12 countries are going to risk arrest and imprisonment in Germany to demand that the government admit that staying below the 1.5°C

global warming limit is no longer possible, set by the Paris Agreement, and call for the cancellation of the debt of the countries of the global south and the immediate decarbonization of their transport sector".

The month of October was also marked by media coverage about climate change or global warming with ecological and meteorological themes. Early in October, Hurricane Roslyn made landfall on Mexico's Pacific coast as a Category 3 hurricane, and several stories made links between the storm and climate change. For example, Washington Post correspondent Matthew Cappucci noted, "Roslyn emerged after a group of thunderstorms off the west coast of Mexico congealed into a tropical depression and eventually a named storm on Thursday. It wasn't until 11 p.m. Eastern time Friday that Rosslyn became a hurricane, but it rapidly intensified into a major hurricane, defined as Category 3 or higher, on Saturday morning, just six hours later. Rapid intensification, defined as a spike of 35 mph or more in a storm's maximum sustained winds within 24 hours, is more likely in the presence of warmer waters and calm upperlevel winds. There are emerging links between human-induced climate change and the frequency and severity of rapid intensification". In late October, Tropical Storm Nalgae slammed into the Philippines and several stories made connections to climate change as they described

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Figure 3. Newspaper front pages stories in October with links to climate change and climate risks.

the devastation. For example, an Agence-France Presse story detailed, "The Philippines has significantly revised down the death toll from a tropical storm ravaging the country, saying only 45 people have been killed... The storm struck at the beginning of a long weekend in the Philippines, when millions return to their home towns to visit the graves of their relatives. The Philippines is hit by an average of 20 major storms a year that kill hundreds of people and keep vast regions in perpetual poverty. Scientists have warned that such storms, which also kill livestock and destroy key infrastructure, are becoming more powerful as the world gets warmer because of climate change".

Several stories then took a wider look at recent ecological and meteorological events. For example, *El País* journalist Manuel Planelles wrote, "From the United States to China to Europe, the summer of 2022 has been marked by drought in much of the northern hemisphere. With a climate crisis that every two times three shows its most damaging face anywhere on the planet, the question is almost inevitable: is global warming behind this time too? A group of scientists specializing in the attribution

of extreme phenomena to climate change the World Weather Attribution (WWA) - has presented a study in which they explain that the high and unusual temperatures of June, July and August were the main cause of the enormous soil dryness. The researchers conclude that human-caused climate change has made these dry conditions at least 20 times more likely in the extratropical region of the Northern Hemisphere". Furthermore, an editorial in El País, entitled 'Drought and poverty' noted, "Only in Europe, which has experienced the hottest summer since at least 1880, the European Drought Observatory estimates that 47% of the continental territory is in danger of suffering it and the 17% in serious alert conditions". Drought is also present in Africa. Also, an editorial in La Vanguardia entitled 'Famine in East Africa' noted, "the increase in grain and fuel prices due to the war in Ukraine, the serious effects of the climate crisis, the economic consequences of the pandemic and the Tribal violence has caused famine to spread across East Africa, mainly affecting South Sudan." This country is dying of starvation: "71% of the population needs urgent help".

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In October, there continued to be a steady stream of *scientific* themes that emerged in media stories. For example, NBC News reporter Evan Bush wrote, "Little relief is expected for farmers, ranchers and reservoirs this winter in the Western U.S., as extreme drought is forecast to continue plaguing the region. That's according to forecasters with the National Oceanic and Atmospheric Administration, who predict "widespread extreme drought to persist across much of the West," according to Jon Gottschalck, chief of the operational prediction branch at NOAA's Climate Prediction Center... New research suggests climate change might be influencing circulation in a way that favors La Niña in the short term".

Last, several political and economic themed media stories about climate change or global warming continued in October. To illustrate, a new report from Insure our Future generated media attention. For example, Guardian journalist Isabella Kaminski reported, "New coal power projects are becoming "effectively uninsurable" outside China because so many insurance companies have ruled out support for them, a report has found. Recent commitments to stop underwriting coal by prominent US insurers AIG and Travelers have brought the number of coal insurance exit policies to 41, according to the latest industry scorecard by the climate campaign Insure Our Future. The scorecard ranks the top global fossil fuel insurers on the quality of their fossil fuel exclusion policies. It shows that 62% of the reinsurance market and 39% of the primary insurance market are now covered by coal exclusions, with Allianz, Axa and Axis Capital ranking top for the robustness and breadth of their policies. Many of the remaining insurers without coal exclusions are not active in the fossil fuel sector". Meanwhile, **Associated Press correspondent Frank Jordans** noted, "Insurance companies that have long said they'll cover anything, at the right price, are increasingly ruling out fossil fuel projects because of climate change - to cheers from environmental campaigners. More than a dozen groups that track what policies insurers have on high-emissions activities say the industry is

"Little relief is expected for farmers, ranchers and reservoirs this winter in the Western U.S., as extreme drought is forecast to continue plaguing the region."



A man walks by a formerly sunken boat at the Lake Mead National Recreation Area near Boulder City, Nevada. Photo: John Locher/AP.

turning its back on oil, gas and coal...In part, investors are demanding it. But insurers have also begun to make the link between fossil fuel infrastructure, such as mines and pipelines, and the impact that greenhouse gas emissions are having on other parts of their business".

Also, stories about the ongoing invasion in Ukraine, the economy, fossil fuel transport and climate change dotted the media landscape in October. For example, Expansión journalist Pedro Biurrun noted, "Criticism of the IMF and the World Bank, defections from the alliance for decarbonization... Governments, companies and organizations suffer from the tensions between the green revolution and the economic crisis". According to the EU Commissioner for International Partnerships, Jutta Urpilaine, "Russia's war of aggression in Ukraine and its economic repercussions have had a dramatic impact on countries around the world and widen the financing gap needed to achieve the Sustainable Development Goals. Public resources continue to play an important role, but they are not enough".

A Review of Media Coverage of Climate Change and Global Warming in 2022

NOVEMBER "Chronicle of climate chaos"



Climate activists staged a number of protests during the conference, demanding end of fossil fuels and climate finance. Photo: Sean Gallup/Getty Images.



ovember media coverage climate change or global warming in newspapers around the globe increased 41% from October 2022 but remained 12% lower than November 2021 levels. In a larger context, the levels of November 2022 coverage was the fourth highest monthly total, following December 2009, November 2021, and October 2021. International wire services were a strong contributor to this increase as coverage in these sources jumped 76%. Radio coverage also rose 27% from October 2022. Compared to the previous month, coverage went up in all regions: Oceania (+15%), North America (+17%), Asia (+31%), the European Union (EU) (+40%), Africa (+57%), Latin America (+80%), and the Middle East (+122%). 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 2022.

At the country level, United States (US) print coverage increased 20% while television coverage also was up 25% from the previous month. Among other countries that we at the Media and Climate Change Observatory (MeCCO) monitor, coverage increased in Canada (+11%), Finland (+15%), India (+15%), Denmark (+19%), Australia (+33%), Norway (+37%), the United Kingdom (UK) (+40%), Germany (+42%), Japan (+46%), Spain (+49%), Sweden (+75%), Korea (+77%), and Russia (+81%) (see Figure 2). Coverage in November 2022 only decreased at the country level in those we monitor in New Zealand (-15%).

Turning to the content of coverage, in November media coverage featured many *political* and *economic* themed media stories about climate change or global warming. To illustrate, the United Nations (UN) climate negotiations (COP27) in November generated many media accounts. For example, in the lead up to the two-week event, *Washington Post* reporters

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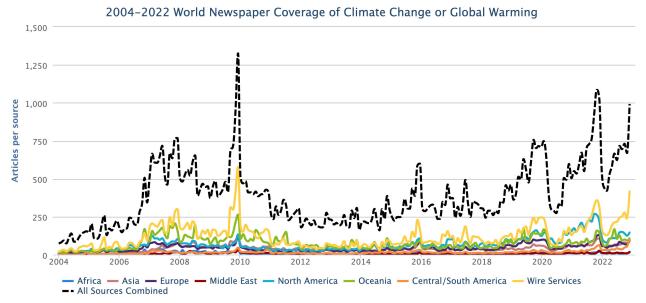


Figure 1. Newspaper media coverage of climate change or global warming in print sources in seven different regions around the world, from January 2004 through November 2022.

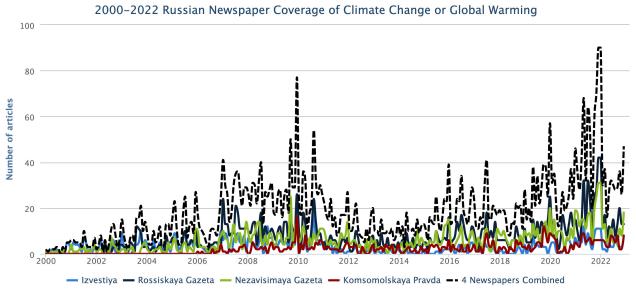


Figure 2. Newspaper coverage of climate change or global warming in Russian newspapers *Izvestiya*, *Rossiskaya Gazeta*, *Nezavisimaya Gazeta*, *Komsomolskaya*, and *Pravda* from January 2000 through November 2022.

Brady Dennis and Harry Stevens wrote, "Last fall, at a high-profile global climate summit in Scotland, the countries of the world embraced what seemed like a significant commitment in the quest to combat climate change. Acknowledging that progress had been too slow, leaders agreed to "revisit and strengthen" their national climate targets if possible over the coming year – rather than waiting every five years, as envisioned under the 2015 Paris climate accord. The push came as part of the effort to hold average global warming to no more than 1.5 degrees Celsius, or 2.7 degrees

Fahrenheit, compared with preindustrial levels – a key threshold past which scientists have said disastrous impacts become far more likely. But... almost none of the globe's biggest emitters have come forward with stronger commitments. Few nations overall have ramped up their ambition, despite another year of floods, fires and other climate-related catastrophes. According to the independent Climate Action Tracker, as of Thursday only 21 countries have submitted updated national climate commitments as leaders are set to gather at the summit, which starts Nov. 6 in Egypt – and not even all those

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newer plans contain more ambitious goals. Meanwhile, another 172 countries have not updated their targets, the group said."

Media attention was paid to elements of the COP27 negotiations such as 'loss and damage'. For example, Wall Street Journal correspondent Eric Niiler reported, "The last eight years have each been warmer than all years before that period on record, according to a report by the World Meteorological Organization that was released Sunday as the United Nations opened two weeks of climate talks. The WMO, which is a branch of the U.N., combined multiple scientific studies to compare temperatures since recordkeeping began in the late 19th century. The group also reported that the rate of sea-level rise has doubled since satellite measurements began in 1993. European glaciers are expected to suffer a record melt in 2022. Greenland's ice sheet experienced rainfall, rather than snow, for the first time in September". Meanwhile, BBC journalist Esme Stallard noted, "Secretary-General Antonio Guterres was responding to a UN report released on Sunday saying the past eight years were on track to be the warmest on record. More than 120 world leaders are due to arrive at the summit known as COP27, in the Red Sea resort of Sharm el-Sheikh. This will kick off two weeks of negotiations between countries on climate action. COP27 president, Egyptian Foreign Minister Sameh Shoukry, urged leaders to not let food and energy crises related to Russia's invasion of Ukraine get in the way of action on climate change...Mr Guterres sent a video message to the conference in which he called the State of the Global Climate Report 2022 a "chronicle of climate chaos"."

As the negotiations wrapped up with initial agreement on a loss and damage fund, many stories covered these developments. For example, *CNN* journalists Ivana Kottasová, Ella Nilsen and Rachel Ramirez reported, "The world has failed to reach an agreement to phase out fossil fuels after marathon UN climate talks were "stonewalled" by a number of oil-producing nations. Negotiators from nearly 200 countries at the COP27 UN climate summit in Egypt took

the historic step of agreeing to set up a "loss and damage" fund meant to help vulnerable countries cope with climate disasters and agreed the globe needs to cut greenhouse gas emissions nearly in half by 2030". Meanwhile, Wall Street Journal correspondents Matthew Dalton and Stacy Meichtry noted, "Poorer countries secured a deal at United Nations climate talks to create a fund for climate-related damage as part of a broader agreement that failed to yield faster cuts in emissions sought by wealthy nations to avert more severe global warming. The accord at the COP27 summit in this Egyptian seaside resort hands a victory to poorer nations that have demanded that money since the first U.N. climate treaty was signed three decades ago".

As the second week of COP27 unfolded, leaders of the Group of 20 (G20) nations met in Bali, Indonesia and climate-related news emanated from that meeting as well. For example, New York Times journalists Brad Plumer, David Gelles, and Lisa Friedman reported, "At last year's global climate talks in Glasgow, world leaders, scientists and chief executives rallied around a call to "keep 1.5 alive." The mantra was in reference to an aspirational goal that every government endorsed in the 2015 Paris climate agreement: try to stop global average temperatures from rising more than 1.5 degrees Celsius (2.7 degrees Fahrenheit) above preindustrial levels. Beyond that threshold, scientists say, the risk of climate catastrophes increases significantly. Now, 1.5 is hanging on for dear life. At the United Nations climate summit that is underway in this Red Sea town, countries are clashing over whether they should continue to aim for the 1.5-degree target. The United States and the European Union both say that any final agreement at the summit, known as COP27, should underscore the importance of limiting warming to 1.5 degrees. But a few nations, including China, have so far resisted efforts to reaffirm the 1.5-degree goal, according to negotiators from several industrialized countries. Failing to do so would be a major departure from last year's climate pact and, to some, a tacit admission of defeat".

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Figure 3. Newspaper front pages stories in November with links to climate change and climate risks

The month of November was also marked by media coverage about climate change or global warming with ecological and meteorological themes. Early in the month, hurricane Lisa's landfall in Belize generated stories making connections with climate change. For example, Washington Post journalist lan Livingston reported, "The tropical Atlantic remains unusually busy for November, with forecasters monitoring multiple systems at a time when activity is usually tamping down. After battering Belize as a hurricane Wednesday, where it caused flooding and wind damage, Tropical Depression Lisa is raining itself out over southeast Mexico. Meanwhile, Hurricane Martin, fueled by unusually warm ocean waters, is sweeping across the North Atlantic as the

farthest-north hurricane on record during November. When Lisa and Martin coexisted as hurricanes on Wednesday, it marked only the third instance on record of multiple Atlantic hurricanes during the month. Statistically, a November hurricane should form in the Atlantic just once every two or three years...Humancaused climate change is warming ocean waters around the world, and research has already shown storms are gaining strength farther north than they used to." An article in The New York Times by Christine Hauser and colleagues added, "The links between hurricanes and climate change have become clearer with each passing year. Data shows that hurricanes have become stronger worldwide during the past four decades. A warming planet can expect

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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. Also, rising sea levels are contributing to higher storm surge – the most destructive element of tropical cyclones."

Scoping out, there were several news stories connecting meteorological disasters, and climate events, change. For example, Associated Press correspondent Drew Costley reported, "Ninety percent of the counties in the United States suffered a weather disaster between 2011 and 2021...Some endured as many as 12 federally-declared disasters over those 11 years. More than 300 million people - 93% of the country's population live in these counties... The National Centers for Environmental Information estimate over \$1 trillion was spent on weather and climate events between

2011 and 2021. The report recommends the federal government shift to preventing disasters rather than waiting for events to happen". Furthermore, La Vanguardia journalist Antonio Cerrillo noted, "The rise in temperatures observed in Europe in the last 30 years has been more than double the average increase in temperature recorded worldwide. On no other continent have temperatures been so high. And, as the warming trend continues, society, economies and ecosystems will be affected by exceptional heat episodes, forest fires and major avenues, among other effects. This is indicated by the World Meteorological Organization (WMO) in the report on the State of the climate in Europe prepared jointly with the Copernicus service and the European Union".

In November, there continued to be a steady stream of *scientific* themes that emerged

"Ninety percent of the counties in the United States suffered a weather disaster between 2011 and 2021...Some endured as many as 12 federally-declared disasters over those 11 years. More than 300 million people — 93% of the country's population — live in these counties..."



People are evacuated from floods in the aftermath of Hurricane Ida in LaPlace, Louisiana in 2021. Photo: Gerald Herbert/AP.

in media stories. To begin, a new report from World Weather Attribution that found connections between climate pollution and extreme rainfall attracted media attention. For example, Washington Post correspondent Amudalat Ajasa wrote, "Devastating floods this summer and fall displaced 1.5 million Nigerians and killed 612. In all of West Africa, more than 800 people died. Researchers have determined that human-caused climate change made the excessive rainfall behind the flooding 80 times more probable, according to a new analysis... The researchers, from the World Weather Attribution group, which evaluates the impact climate change has on extreme-weather events, made several related findings: The rainy season in West Africa was 20 percent wetter than it would have been without the influence of climate change. Throughout West Africa, prolonged rain events such as the one just experienced now have a 1 in 10 chance of happening each year;

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previously they were exceptionally rare. Short periods of intense downpours, which worsened the recent floods, have become twice as likely in the Lower Niger Basin region because of climate change. In their analysis, researchers uncovered what they described as a "very clear fingerprint of anthropogenic," or humancaused, climate change. The analysis employed weather data and climate models to compare present climate conditions to the past. The researchers focused on the Lake Chad Basin, which saw a wetter-than-average rainy season, and the Lower Niger Basin, which saw short spikes in very heavy rain, to analyze climate change impacts. Running simulations with and without the influences of greenhouse gas emissions and aerosol pollution, the researchers were able to quantify how climate change altered the risk of extreme rainfall".

Last, several cultural stories relating to climate change or global warming were evident in wider news coverage of climate change or global warming in the month of November. For example, global attention paid to the World Cup in Qatar also led to several stories making links to climate change. For example, Associated Press correspondent Suman Naishadham reported, "In the 12-year run-up to hosting the 2022 men's World Cup soccer tournament, Qatar has been on a ferocious construction spree with few recent parallels. It built seven of its eight World Cup stadiums, a new metro system, highways, high-rises and Lusail, a futuristic city that ten years ago was mostly dust and sand. For years, Qatar promised something else to distinguish this World Cup from the rest: It

would be 'carbon-neutral,' or have a negligible

overall impact on the climate. And for almost as

long, there have been skeptics - with outside

"Qatari organizers and FIFA projected that the World Cup will produce some 3.6 million metric tons of carbon dioxide from activities related to the tournament between 2011 and 2023. That's about 3% of Qatar's total emissions in 2019 of roughly 115 million metric tons, according to World Bank data..."



Solar panels sit in front of Khalifa International Stadium in Doha, Qatar. Photo: Nariman El-Mofty/AP.

experts saying Qatar and FIFA's plan rests on convenient accounting and projects that won't counteract the event's carbon footprint as they advertise...in an official report estimating the event's emissions, Qatari organizers and FIFA projected that the World Cup will produce some 3.6 million metric tons of carbon dioxide from activities related to the tournament between 2011 and 2023. That's about 3% of Qatar's total emissions in 2019 of roughly 115 million metric tons, according to World Bank data.... Qatar famously moved the tournament to the winter to protect players and spectators from extreme heat. Even so, the gas-rich nation will air condition seven stadiums that are open to the sky. For water, it will mostly rely on energyguzzling desalination plants that take ocean water and make it drinkable to satisfy the more than 1.2 million fans expected to touch down for the monthlong event. The Gulf Arab sheikdom is

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normally home to 2.9 million people. Qatar and FIFA say the largest source of emissions will be travel - mostly the miles flown from overseas. That will make up 52% of the total. Construction of the stadiums and training sites and their operations will account for 25%, the report said. Operating hotels and other accommodations for the five weeks, including the cruise ships Qatar hired as floating hotels, will contribute 20%. But in its report, Carbon Market Watch said those figures are not the whole story. It said Qatar vastly underestimated the emissions from building the seven stadiums by dividing the emissions from all that concrete and steel by the lifespan of the facilities in years, instead of just totaling them". As a second example, El País journalists Miguel A. Medina and Clemente Álvarez wrote, "Idols of the ball, villains of the climate: the climate emergency does not reach the soccer bubble. Many of the World Cup stars in Qatar are part of the small percentage of the population that multiplies the emissions that warm the planet...any teams have oil companies and airlines as sponsors".

Climate protests and demonstrations in November also led to media portrayals in various news outlets. For example, The Associated **Press reported**, "Hundreds of climate protesters blocked private jets from leaving Amsterdam's Schiphol Airport on Saturday in a demonstration on the eve of the COP27 U.N. climate meeting in Egypt. Greenpeace and Extinction Rebellion protesters sat around private jets to prevent them leaving and others rode bicycles around the planes". As a second example, Guardian journalist Kevin Rawlinson wrote, "Parts of the M25 have been closed after activists demanding action on the climate crisis climbed gantries, police have said. The disruption followed seven arrests in Scotland Yard's pre-emptive operation against the Just Stop Oil group". A third example - covering protest actions at various European museums - by La Vanguardia journalists Teresa Sesé and Justo Barranco noted, "Two activists tried to glue Munch's The Scream to the National Museum in Oslo by proclaiming that "there will be no screaming when people

"Hundreds of climate protesters blocked private jets from leaving Amsterdam's Schiphol Airport on Saturday in a demonstration on the eve of the COP27 U.N. climate meeting in Egypt. Greenpeace and Extinction Rebellion protesters sat around private jets to prevent them leaving and others rode bicycles around the planes".



Climate activists protest against environmental pollution from aviation at Amsterdam's Schiphol Airport, in Schiphol, Netherlands. Photo: Piroschka van de Wouw/Reuters.

die", but museum guards prevented the action and called the police. A few days ago it was the Parisian Musée d'Orsay that stopped an activist who first tried to attack Van Gogh's self-portrait and then a Gauguin with tomato soup. A clear sign that Western museums are on high alert and taking urgent measures to confront the actions of climate activists, who in recent months have attached themselves to picture frames and thrown tomato soup against the windows of pieces iconic works such as Van Gogh's Sunflowers or Goya's Majas in the Prado".

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DECEMBER

"Recent events are a continuation of a decades long destabilization in the Arctic region"



Melting ice on the Kuskokwim River on the Yukon Delta in Alaska. Scientists have found that Alaska has been warming twice as fast as the global average. Photo: Mark Ralston/AFP/Getty Images.



Media coverage around the globe **dropped 36%** from November 2022 but remained **8% higher** than December 2021 levels. International wire services similarly **decreased 36%**. Radio coverage also **dipped 45%** from November 2022.

ecember media coverage climate change or global warming in newspapers around the globe dropped 36% from November 2022 but remained 8% higher than December 2021 levels. International wire services similarly decreased 36%. Radio coverage also dipped 45% from November 2022. Compared to the previous month, coverage was pretty consistently down in all regions: North America (-29%), Asia (-30%), Oceania (-30%), the European Union (EU) (-40%), the Middle East (-45%), Latin America (-46%), and Africa (-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 2022.

At the country level, United States (US) print coverage decreased 36% while television coverage also was down 45% from the previous

month. Among other countries that we at the Media and Climate Change Observatory (MeCCO) monitor, coverage decreased across the board.

Turning to the content of coverage, media attention to climate change or global warming was punctuated with ecological and meteorological themes. For instance, El País journalist Victoria Torres Benayas noted, "Spain exceeds 15° on average for the first time in 2022, the warmest year in more than a century. The heat of 2022 is unprecedented in Spain. In the absence of nine days left until the end of December and which will register abnormally high temperatures, it has already become the warmest year for which there is data. "It is, with an overwhelming difference, the warmest year in the series, which starts in 1961. But highly reliable climate reconstructions allow us to affirm that it has been warmer for at least more

A Review of Media Coverage of Climate Change and Global Warming in 2022

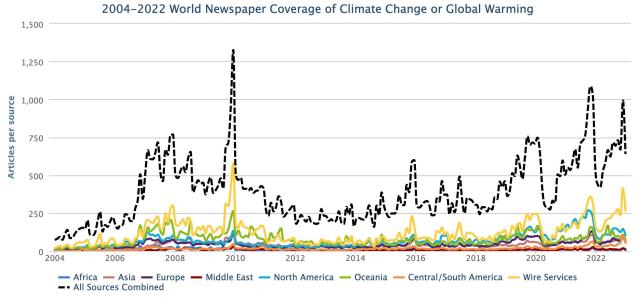


Figure 1. Newspaper media coverage of climate change or global warming in print sources in seven different regions around the world, from January 2004 through December 2022.

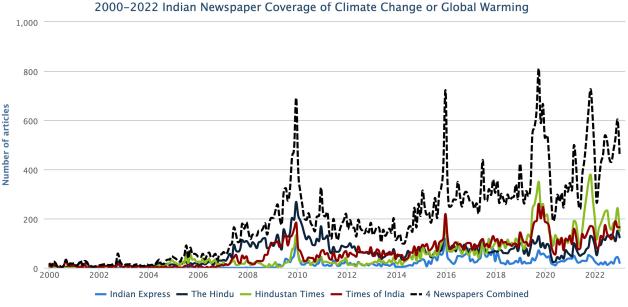


Figure 2. Newspaper coverage of climate change or global warming in Indian newspapers *Indian Express, The Hindu, Hindustan Times,* and *Times of India* from January 2004 through December 2022.

than a century, since 1915," explains the Agency spokesperson. State Meteorology Department (Aemet) Rubén del Campo who, together with his counterpart Beatriz Hervella, makes a preliminary analysis of the year. For the first time, the country's average annual temperature will exceed 15° –for the moment 15.3° – which is 1.6° above normal".

Elsewhere, heavy rains in Kinshasa, Congo - with links made to climate change - populated several news accounts in December. For

example, New York Times correspondent Elian Peltier noted, "At least 141 people died in the Democratic Republic of Congo on Tuesday after heavy rains caused floods and landslides in the capital, Kinshasa, Congolese officials said. It was the latest in a series of deadly environmental disasters to hit West and Central African countries this year. Many neighborhoods, major infrastructure and key roads were still underwater or in ruins on Wednesday after the previous day's all-night downpour brought the worst floods in years to the city of 15 million

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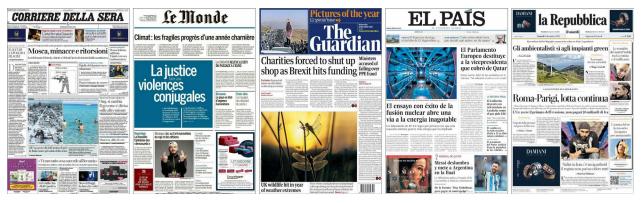


Figure 3. Newspaper front pages stories in December with links to climate change and climate risks.

people. Nearly 40,000 households were flooded and 280 collapsed, according to an official document seen by The New York Times. President Félix Tshisekedi, who is in Washington for a U.S.-Africa summit, declared three days of mourning and said he would cut his trip short, flying back to Kinshasa on Thursday after meeting with President Biden. West and Central Africa have suffered from devastating floods this year, highlighting a deadly mix of chaotic urban development and climate change faced by dozens of fast-growing African cities. In Chad, the worst floods in decades displaced thousands in September and left the capital, Ndjamena, navigable only by boat. In Nigeria, Africa's most populous country, hundreds of people died, a million were displaced and at least 200,000 houses were destroyed in November after the nation's worst flooding in a decade. Scientists said in a report last month that the rainy season, which runs from April to November, had been 20 percent wetter than it would have been without climate change".

Also, cold weather across North America at the end of December generated several news accounts that connected to changes in the climate. For example, *New York Times* reporter Henry Fountain wrote, "The winter storm that ravaged much of the United States and Canada through Christmas was expected to be bad, and it was. Forecasters billed it as a "once in a generation" event even before ice began coating the steep streets of Seattle, white-out conditions spread from the Plains to the Midwest and more than four feet of snow was dumped on Buffalo in a storm that killed more

than two dozen people. The links between climate change and much extreme weather are becoming increasingly clear. In a warming planet, heat waves are hotter, droughts are prolonged, summer downpours are more severe".

December media coverage also featured various cultural stories relating to climate change or global warming were evident in wider news coverage of climate change or global warming. To illustrate, new findings regarding school textbooks found that there remains only scant attention paid to climate change in typical science textbooks. News media focused on this. For example, Washington Post journalist Caroline Preston reported, "Evidence is mounting fast of the devastating consequences of climate change on the planet, but college textbooks are not keeping up. A study released Wednesday found that most college biology textbooks published in the 2010s had less content on climate change than textbooks from the previous decade and gave shrinking attention to possible solutions to the global crisis".

Many *scientific* themes continued to emerge in media stories during the month of December through new studies, reports, and assessments. One such report was the annual 'Arctic Report Card' published by researchers at the US National Oceanic and Atmospheric Administration (NOAA). Stories about report findings dotted the media landscape around the world, particularly in temperate zones. For example, *Washington Post* correspondent

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Kasha Patel wrote, "The bison couldn't crack the ice. As Christmastime wound down last year, unseasonably warm temperatures and heavy rain in Alaska's Delta Junction melted snow and ice, which quickly refroze due to subzero temperatures near the surface. Usually, the bovine can shovel through snow with their heads and horns, but the frozen snow and ice persisted like a layer of cement atop the grasses and plants they need to feed on. And the bison couldn't get through. About 180 bison, or a third of the Delta herd, starved to death. Those that survived were skinny and in poor form. Bison season in the Delta Junction area, one of the most popular hunting seasons in Alaska, was cut short from six months to two weeks. It was one of several exceptional events the Arctic experienced over the past year, all intensified by a warmer world. A typhoon, formed in unusually warm waters in the North Pacific, hit the western coast of Alaska as the state's strongest storm in decades. A late heat wave in Greenland caused unprecedented melt in September, which can contribute to sea level rise. Despite decent winter snow in Alaska,

the rapid onset of summer created devastating conditions for wildfires that burned a record million acres by June. The recent events are a continuation of a decades-long destabilization in the Arctic region, researchers said in the 2022 Arctic Report Card".

Last, many *political* and *economic* themed media stories about climate change or global warming continued to roll out in the month of December. At the start of the month, documents released by the US House of Representatives Committee on Oversight and Reform revealed that rhetoric and action was quite divergent from top officials in major oil companies such as Shell, Chevron, Exxon, and BP. For example, *CNN* correspondent René Marsh reported, "Big Oil companies have engaged in a "longrunning greenwashing campaign" while raking

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Activists protest fossil fuels as part of Earth Day activities on April 22, 2022. Photo: Michael Reynolds/EPA.

in "record profits at the expense of American consumers," the Democratic-led House Oversight Committee has found after a yearlong investigation into climate disinformation from the fossil fuel industry. The committee found the fossil fuel industry is "posturing on climate issues while avoiding real commitments" to reducing greenhouse gas emissions. Lawmakers said it has sought to portray itself as part of the climate solution, even as internal industry documents reveal how companies have avoided making real commitments". Meanwhile, Guardian journalist Oliver Milman wrote, "Some of the world's largest oil and gas companies have internally dismissed the need to swiftly move to renewable energy and cut planet-heating emissions, despite publicly portraying themselves as concerned about the climate crisis, a US House of Representatives

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committee has found. Documents obtained from companies including Exxon, Shell, BP and Chevron show that the fossil fuel industry "has no real plans to clean up its act and is barreling ahead with plans to pump more dirty fuels for decades to come", said Carolyn Maloney, the chair of the House oversight committee, which has investigated the sector for the past year. The committee accused the oil firms of a "long-running greenwashing campaign" by committing to major new projects to extract and burn fossil fuels despite espousing their efforts to go green. In reality, executives, the documents show, were derisive of the need to cut emissions, disparaged climate activists and worked to secure US government tax credits for carbon capture projects that would allow them to continue business as usual".

Also in the political sphere, ongoing stories of the Russian invasion of Ukraine - with consequent impacts on energy supplies and policy - proliferated, particularly in Europe. For example, La Vanguardia journalist Piergiorgio M. Sandri noted, "World coal consumption marks a new record due to the energy crisis. War fuels a cheap resource but a major emitter of carbon dioxide. Never before has so much coal been consumed and produced in the world. At a time when the fight against climate change forces us to reconsider the energy supply towards less polluting sources, the facts say that one of the resources responsible for the most emissions not only refuses to die, but is booming and in top form. This is stated in the report published yesterday by the International Energy Agency (IEA). High gas prices after Russia's invasion of Ukraine and consequent supply disruptions (particularly from Russia) have led some countries to turn to relatively cheaper coal this year, albeit the biggest source of carbon dioxide emissions of the world energy system".

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The dry bed of the Gan River, in China's Jiangxi province. Photo: Thomas Peter/Reuters.

Meanwhile in related economics news, British NGO Christian Aid published a list of the 10 costliest 2022 weather disasters. This grabbed European media attention as well. For instance, *El País* journalist Manuel Planelles noted, "The economic impact of these ten events linked to the climate crisis calculated in the study of this organization exceeds 168.100 million dollars. But the authors caution that most of their estimates are based only on losses covered by insurers, so it is very likely that "the true financial costs are even higher, while the human costs are often not accounted for", warns the NGO".

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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. Let us stay tuned to see how climate change or global warming media coverage unfolds in 2023.

The project continues to be based in the Cooperative Institute for Research in Environmental Sciences (CIRES) at the University of Colorado Boulder. However, contributions made through collaborations partnerships with MeCCO members at these 14 other institutions across seven countries: Aarhus University (Denmark), Arizona State University (US), Cornell University (US), Deakin University (Australia), Denison University (US), Finnish Environment Institute (Finland), National Institute for Environmental Studies (Japan), Oslo Metropolitan University (Norway), United States Geological Survey (US), University of Arizona (US), University of Helsinki (Finland), Universidad de Sevilla (Spain), University of Tasmania (Australia), and Universidad Complutense de Madrid (Spain).

Our 26 contributing MeCCO team members in 2022 were Midori Aoyagi, Anne Gammelgaard Ballantyne, Max Boykoff, Patrick Chandler, Presley Church, Meaghan Daly, Kaori Doi, Rogelio Fernández-Reyes, Lauren Gifford, Erin Hawley, Isidro Jiménez Gómez, Kyotaek Hwang, Jennifer Katzung, Kyungsun Lee, Jari Lyytimäki, Lucy McAllister, Marisa McNatt, Erkki Mervaala, Gabi Mocatta, Ami Nacu-Schmidt, David Oonk, Jeremiah Osborne-Gowey, Olivia Pearman, Lars Kjerulf Petersen, Anne Hege Simonsen, and Andreas Ytterstad.

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

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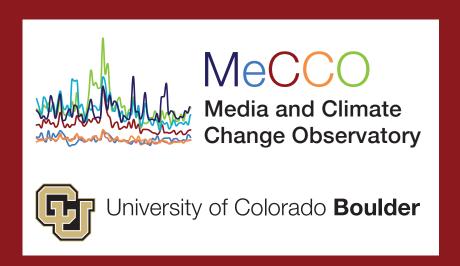




Thank you for your ongoing interest in the work we do through MeCCO. We remain committed to our work monitoring media coverage of these intersecting dimensions and themes associated with climate change.

Our ongoing work is dependent on financial support so please consider contributing:

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