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"A foretaste of the future"

Sunrise from Miami Beach this month. Photo:Joe Raedle/Getty Images.

July media coverage of climate change or global warming in newspapers around the globe increased 14% from June 2023 and was also 2% higher than July 2022 levels. Figure 1 shows trends in newspaper media coverage at the global scale – organized into seven geographical regions around the world – from January 2004 through July 2023. International wire services increased 19% from June 2023 (see Figure 2). Compared to the previous month, coverage surprisingly dipped in North America (-2%) but increased in all other regions that we monitor as part of the Media and Climate Change Observatory (MeCCO): in Asia (+1%), Africa (+2%), Latin America (+8%), Oceania (+12%), the European Union (EU) (+31%), and especially in the Middle East (+115%).

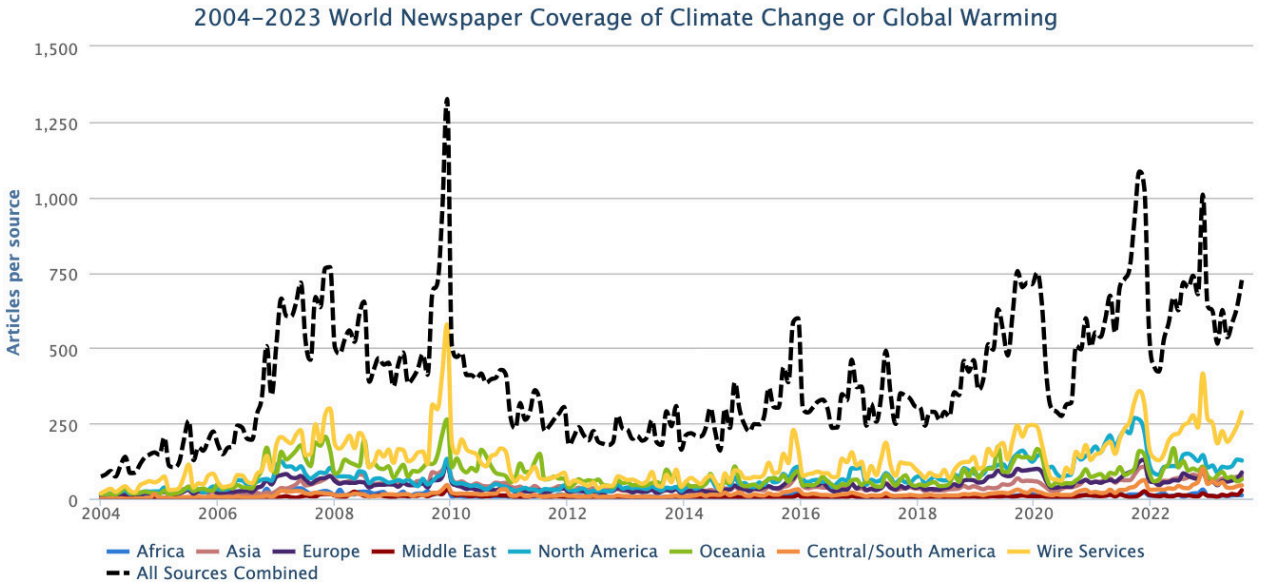

Figure 1. Newspaper media coverage of climate change or global warming in print sources in seven different regions around the world, from January 2004 through July 2023.

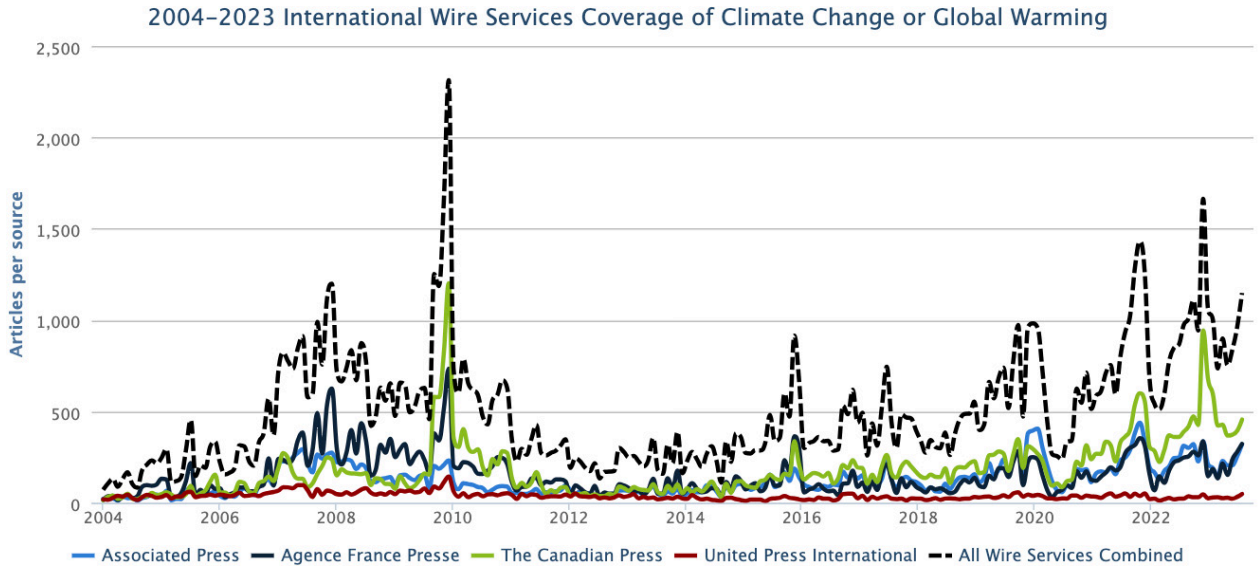

Figure 2. Media coverage of climate change or global warming in international wire services *The Associated Press* (AP), *Agence France Presse* (AFP), *The Canadian Press*, and *United Press International* (UPI) from January 2004 through July 2023.

Among countries that we at the Media and Climate Change Observatory (MeCCO) monitor, United States (US) print coverage increased 17% while Canadian print coverage went up 25% (see Figure 2) in June 2023 from the previous month. Coverage was up on the US and Canada respectively 11% and 12% in June 2023 from the previous year of June 2022.

To begin, in July abundant media attention was paid to ***ecological*** and ***meteorological*** themed-stories about climate change or global warming. For instance, news about heat and flooding were most apparent. For example, to start the month *Washington Post* journalist Scott Dance reported, "A remarkable spate of historic heat is hitting the planet, raising alarm over looming extreme weather dangers – and an increasing likelihood this year will be Earth's warmest on record. New precedents have been set in recent weeks and months, surprising some scientists with their swift evolution: Historically warm oceans, with North Atlantic temperatures already nearing their typical annual peak; unparalleled low sea ice levels around Antarctica, where global warming impacts had, until now, been slower to appear; and the planet experiencing its warmest June ever charted, according to new data".

Meanwhile, on July 5th *Associated Press* correspondents Seth Borenstein and Isabella O'Malley noted, "Earth's average temperature on Wednesday remained at an unofficial record high set the day before, the latest grim milestone in a week that has seen a series of climate-change-driven extremes. The average global temperature was 17.18 Celsius (62.9 degrees Fahrenheit), according to the University of Maine's Climate Reanalyzer, a tool that uses satellite data and computer simulations to measure the world's condition. That matched a record set Tuesday, and came after a previous record of 17.01 Celsius (62.6 degrees Fahrenheit) was set Monday".

Reflections from the high temperatures in first week of July earned further media coverage. For example, *The Guardian* staff noted, "The UN secretary general has said that "climate change is out of control", as an unofficial analysis of data showed that average world temperatures in the seven days to Wednesday were the hottest week on record. "If we persist in delaying key measures that are needed, I think we are moving into a catastrophic situation, as the last two records in temperature demonstrates," António Guterres said, referring to the world temperature records broken on Monday and Tuesday. The average global air temperature was 17.18C (62.9F) on Tuesday, according to data collated by the US National Centers for Environmental Prediction (NCEP), surpassing the record 17.01C reached

on Monday. For the seven-day period ending Wednesday, the daily average temperature was .04C (.08F) higher than any week in 44 years of record-keeping, according to the University of Maine's Climate Reanalyzer data. That metric showed that Earth's average temperature on Wednesday remained at the record high of 17.18C. Climate Reanalyzer uses data from the NCEP climate forecast system to provide a time series of daily mean two-metre air temperature, based on readings from surface, air balloon and satellite observations".

Taking a broader look *CNN* correspondent Helen Regan reported, "Governments must prepare for more extreme weather events and record temperatures in the coming months, the World Meteorological Organization warned Tuesday, as it declared the onset of the warming phenomenon El Niño. El Niño is a natural climate pattern in the tropical Pacific Ocean that brings warmer-than-average sea-surface temperatures and has a major influence on weather across the globe, affecting billions of people. "The onset of El Niño will greatly increase the likelihood of breaking temperature records and triggering more extreme heat in many parts of the world and in the ocean," said WMO Secretary-General Petteri Taalas. The declaration "is the signal to governments around the world to mobilize preparations to limit the impacts on our health, our ecosystems and our economies." To save lives and livelihoods, governments must establish early warning systems and prepare for further disruptive weather events this year, he said. The last three years have been some of the warmest on record, even with El Niño's sister phase, La Niña – which is marked by cooler-than-average ocean temperatures. A "double whammy" of a very strong El Niño and human-caused warming from the burning of fossil fuels led to 2016 becoming the hottest year on record, according to the WMO, the United Nations' agency for weather, climate and water resources. But the first El Niño to develop in seven years layered on top of human-caused global heating, could push 2023 or 2024 to break 2016's heat record, the WMO said. The WMO said there was a 90% probability of El Niño continuing during the second half of 2023 at moderate strength. Along with increased ocean warming, El Niño events are usually associated with increased rainfall in parts of southern South America, the southern United States, the Horn of Africa and central Asia. But it can also amplify severe droughts, heat waves and wildfires over Australia, Indonesia, parts of southern Asia, Central America and northern South America. Other impacts include dangerous tropical cyclones in the Pacific and the mass bleaching of fragile coral reefs. In India, a major rice producing nation, El Niño can weaken the monsoon that brings the rainfall the country relies on to fill aquifers and grow crops. El Niño this year could also dent US economic growth, potentially impacting everything from food prices to winter clothing sales, a recent

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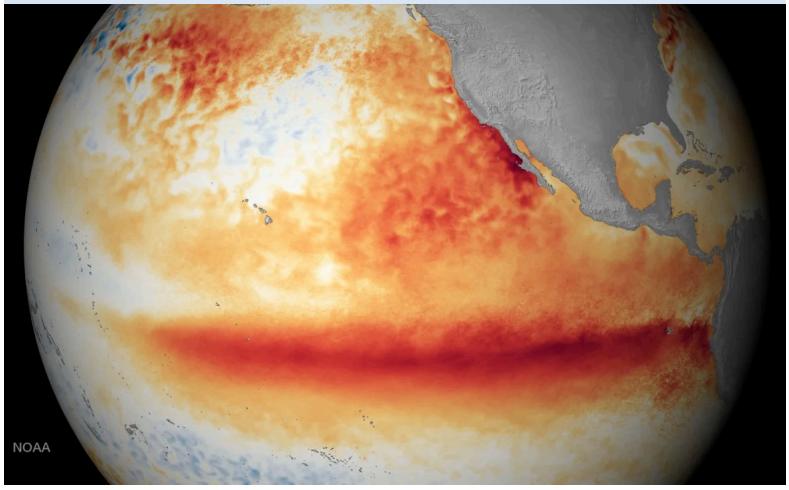

During the last major El Niño event in October 2015, above-average sea surface temperatures were found in places shown in orange and red. Image: NOAA.

study found. The study attributed $5.7 trillion in global income losses to the 1997-98 El Niño and $4.1 trillion in losses to the 1982-83 El Niño. The world could also be temporarily pushed past 1.5 degrees Celsius of warming above pre-industrial levels – a key tipping point beyond which the chances of extreme flooding, drought, wildfires and food shortages could increase dramatically".

In Asia, inundations of rain and consequent flooding – with links made to a changing climate – pervaded July news stories. For example, *Times of India* journalist Nishant Saxena reported, "Climate change is no longer a distant threat lurking in the future. It is here, it is real, and it is staring us in the face. As extreme weather events become the new normal, it is high time we acknowledge the urgency of the situation and take immediate action to mitigate the catastrophic consequences. The recent monsoon fury in India, with its unprecedented rainfall, flash floods, and landslides, serves as a grim reminder of the impact of climate change on our lives. The scientific community has been sounding the alarm for years, and now the evidence is undeniable. Rising temperatures, erratic rainfall patterns, and increased frequency of extreme weather events are all consequences of global warming. The very fabric of our environment is unraveling before our eyes, and it is our responsibility to act. Meteorologists and climate scientists attribute the current spell of heavy rains to a combination of factors, including the alignment of weather systems and changes in monsoon patterns". Furthermore, *Associated Press* correspondents Isabella O' Malley, Brittany Peterson and Drew Costley noted, "Although destructive flooding in India, Japan, China, Turkey and the United States might seem like distant events, atmospheric scientists say they have this in common: Storms are forming in a warmer atmosphere, making extreme rainfall a more frequent reality now. The additional warming that scientists predict is coming will only make it worse. That's because a warmer atmosphere holds more moisture, which results in storms dumping more precipitation that can have deadly outcomes. Pollutants, especially carbon dioxide and methane, are heating up the atmosphere. Instead of allowing heat to radiate away from Earth into space, they hold onto it. While climate change is not the cause of storms unleashing the rainfall, these storms are forming in an atmosphere that is becoming warmer and wetter".

Moving from atmospheric concerns, there were ample news stories of ocean warming and climate change or global warming in July. For example, *New York Times* journalists Catrin Einhorn and Elena Shao reported, "Florida's coral reefs are facing what could be an unprecedented threat from a marine heat wave that is warming the Gulf of Mexico, pushing water temperatures into the 90s Fahrenheit. The biggest concern for coral isn't just the current sea surface temperatures in the Florida Keys, even though they are the hottest on record. The daily average surface temperature off the Keys on Monday was just over 90 degrees Fahrenheit, or 32.4 Celsius, according to the National Oceanic and Atmospheric Administration. The real worry, scientists say, is that it's only July. Corals typically experience the most heat stress in August and September. "We're entering uncharted territories," Derek Manzello, an ecologist and the coordinator of NOAA's Coral Reef Watch program, said. Coral reefs are natural wonders that support myriad species and blunt damage from storms. In the United States, reefs generate economic benefits to the tune of $3.4 billion annually for fisheries, tourism and coastal protection, according to NOAA. But oceans have absorbed some 90 percent of the additional heat caused by humans as we burn fossil fuels and destroy forests. When sea temperatures rise too high, corals bleach, expelling the algae they need for sustenance. If waters don't cool quickly enough, or if bleaching events happen in close succession, the corals die. For decades, scientists have been warning that climate change is an existential threat to coral reefs. Already, the world has lost a huge proportion of its coral reefs, perhaps half since 1950".

As the month continued to unfold, record-breaking temperatures across the globe continued to earn media attention. For example,

in North America *Washington Post* journalist Janice Kai Chen reported, "A coast-to-coast heat dome has caused record-breaking temperatures in places like Las Vegas and Death Valley, but the persistence of these temperatures makes this period of extreme heat particularly notable. The southern United States has seen some locations with more than two weeks of 100-plus-degree maximum temperatures, with record-breaking streaks in Roswell, N.M., and Midland, Tex. The median duration of a record-breaking streak in 2023 – 14 days – is the longest in almost 90 years. This year has seen more than 90 days with maximum temperatures exceeding 100 degrees at weather stations across the continental United States, with ongoing streaks expected to continue into next week. The heat wave adds to extreme weather events across the globe that are expected to intensify in coming years due to worsening climate change". As another example, in Europe *Guardian* journalist Angela Giuffrida reported, "A fierce anticyclone named after Cerberus, a three-headed monster-dog that features in Dante's Inferno, had not even ended before Italians were warned that a more intense one called Caronte, or Charon, who in Greek mythology was the ferryman of the dead, was on its way. Italy sweltered in temperatures reaching highs of 38C over the weekend, while Caronte will grip the country from Monday, sending the mercury beyond 40C in central and southern regions, with the islands of Sicily and Sardinia possibly hitting a peak of 48C. Italians are used to hot summers. But not this hot, especially as the consecutive heatwaves struck abruptly, and followed a spring and early summer marked by storms, flooding and below average temperatures".

A third example made links between North America, Europe and Asia together. On July 18 *New York Times* journalist Alan Huhas wrote, "Punishing heat waves gripped three continents on Tuesday, breaking records in cities around the Northern Hemisphere less than two weeks after the Earth recorded what scientists said were likely its hottest days in modern history. Firefighters in Greece scrambled to put out wildfires, as parched conditions raised the risk of more blazes throughout Europe. Beijing logged another day of 95-degree heat, and people in Hangzhou, another Chinese city, compared the choking conditions to a sauna. From the Middle East to the American Southwest, delivery drivers, airport workers and construction crews labored under blistering skies. Those who could stay indoors did. The temperatures, afflicting so much of the world all at once, were a withering reminder that climate change is a global crisis, driven by human-made forces: the emissions of heat-trapping gases, mainly caused by the burning of fossil fuels".

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A helicopter crew fights fires in Mandra, Greece, west of Athens. Photo: Petros Giannakouris/Associated Press.

As the month drew to a close, several stories took stock of the record-breaking month of heat in the face of climate change and global warming. For example, on July 20 *New York Times* reporter Delger Erdenesanaa noted, "Last month was the planet's warmest June since global temperature record-keeping began in 1850, the National Oceanic and Atmospheric Administration said in its monthly climate update on Thursday. The agency also predicts unusually hot temperatures will occur in most of the United States, almost everywhere except the northern Great Plains, during August. The first two weeks of July were also likely the Earth's warmest on human record, for any time of year, according to the European Union's Copernicus Climate Change Service". Meanwhile, on July 20 *Guardian* journalist Dharna Noor wrote, "July will likely be Earth's hottest month in hundreds if not thousands of years, Gavin Schmidt, the director of Nasa's Goddard Institute for Space Studies, told reporters on Thursday, as a persistent heatwave baked swaths of the US south. Schmidt made the announcement during a meeting at Nasa's Washington headquarters that convened agency climate experts and other leaders, including Nasa administrator Bill Nelson and chief scientist and senior climate adviser Kate Calvin. The meeting came during a summer that has put the climate crisis on full display. Deadly floods have struck New England. Canadian wildfire smoke has choked US cities. And tens of millions of people have been placed under heat advisories, with areas across the US south and west breaking temperature records. "We are seeing unprecedented changes all over the world," Schmidt said. Though the changes may feel shocking, they are "not a surprise" to scientists, he added. "There has been a decade-on-decade increase in temperatures throughout the last four decades." Earth saw its hottest June on record, according to Nasa's global temperature analysis, the agency announced last week".

Focusing on warming oceans, on July 26 *New York Times* journalist Hiroko Tabuchi reported, "The reading from a buoy off Florida this week was stunning: 101.1 degrees Fahrenheit, or just over 38 Celsius, a possible world record for sea surface temperatures and a stark indication of the brutal marine heat wave that's threatening the region's sea life. But determining whether that reading was in fact a world record is complicated. First things first: The buoy's reading is so off-the-charts, could it have been malfunctioning? Allyson Gantt of the National Park Service, which monitors and maintains the buoy, said there was no reason to doubt the measurement. The data was consistent with high water temperatures seen in the area, Florida Bay, between the southern end of the Florida mainland and the Florida Keys, in recent weeks, she said. Then, there's the fact that there is no official keeper of ocean temperature records. The World Meteorological Organization tracks land surface temperature records, but not ones set at sea. Experts have pointed to a reading of 99.7 degrees Fahrenheit, recorded in the middle of Kuwait Bay in 2020 and reported in a 2020 research paper, as the world record to date. An ocean's "tipping point." Currents in the Atlantic Ocean that regulate the climate for a swath of the planet could slow sharply by century's end, according to a new analysis. The study adds to a growing body of scientific work that describes how humankind's continued emissions of heat-trapping gases could set off rapid and hard-to-reverse changes in the environment. Still, comparing the Kuwait reading, taken in the open sea, to a reading in shallow waters off the coast of Florida could be tricky. Just like it's easier to heat up a shallow bath than a deep one, the depth of the water is going to affect temperatures, said Jeff Masters, a former hurricane scientist with the National Oceanic and Atmospheric Administration and a co-founder of Weather Underground, a Web-based weather service".

While July was dominated by these ecological and meteorological-themed stories, several ***political*** and ***economic***-themed media stories about climate change or global warming continued to earn attention in print, screens and on the airwaves. To begin, further stories (see June 2023 Issue 78) of retreating insurance coverage in the face of climate change made news. For example, *CBS News* reporter

Figure 3. Examples of newspaper front pages with climate change stories in July, largely related to ecological and meteorological stories connected to climate change or global warming.

Khristopher J. Brooks noted, "AAA will not renew the auto and home insurance policies for some customers in Florida, joining a growing list of insurers dialing back their presence in the Sunshine State amid a growing risk of natural disasters. "Unfortunately, Florida's insurance market has become challenging in recent years," the company said in a statement emailed to CBS MoneyWatch. "Last year's catastrophic hurricane season contributed to an unprecedented rise in reinsurance rates, making it costlier for insurance companies to operate." AAA declined to say how many customers won't have their policies renewed, saying only that the change will affect "a small percentage" of policy holders. The company is the fourth insurer over the last year say it is backing away from insuring Floridians, a sign extreme weather linked to climate change is destabilizing the insurance market. Farmers Insurance recently said it will no longer offer coverage in the state, affecting roughly 100,000 customers…Insurers are staging a similar exodus in California, where AIG, Allstate and State

Farm have stopped taking on new customers, saying that wildfires are driving up the costs of underwriting policies. Scientists say climate change has made the West warmer and drier over the last three decades and will continue to make weather more extreme and wildfires more frequent and destructive. According to data compiled by the industry-supported Insurance Information Institute, California has more than 1.2 million homes at risk for extreme wildfire, far more than any other state. Insurance premiums are also rising in Colorado because of wildfire risks, and an Oregon effort to map wildfire risk was rejected last year because of fears it would cause premiums to skyrocket".

Meanwhile, *Wall Street Journal* correspondent Jean Eaglesham wrote, "Insurers are caught in the crossfire of an escalating battle over climate change. The biggest U.S. insurance firms are facing pressure from three sides. They are raising premiums and are cutting back coverage because of more damaging storms and wildfires, made worse by climate change. They insure the fossil-fuel producers whose products are blamed for causing climate change. And, as big investors, they fund these same companies. Most try to promote their climate bona fides. This is a recipe for making lots of powerful people unhappy. Texas lawmakers want to ensure that insurance companies "do not hinder" oil companies. Connecticut lawmakers want the opposite. Republican state attorneys general accuse insurers of going too far in the fight against climate change. Democratic senators are asking if the companies are going far enough".

US climate envoy John Kerry's plans to meet with Chinese counterparts in July also gained traction in a busy media environment in July. For example, *Wall Street Journal* correspondent Sha Hua reported, "Temperatures in a Chinese village hit a searing 126 degrees Fahrenheit, the highest ever recorded in the country, on the same day that U.S. climate envoy John Kerry arrived in Beijing to try to revive stalled cooperation on climate change between the world's two largest emitters of carbon dioxide. The record was set on Sunday in Sanbao, a remote township outside the city of Turpan in China's northwestern Xinjiang region, according to state media. Four other townships in the Turpan Depression, a 19,000 square mile basin of sand dunes and dried up lake beds, recorded temperatures of more than 122 degrees. Heat waves have been ravaging the globe in recent days. More than 100 million Americans are suffering from a streak of 110-degree days blanketing the South and Southwest, while extreme heat is sweeping across Italy, Spain and Greece. Last week was the Earth's hottest week on record, and followed the hottest June on record". As a second example, *New York Times* journalists Vivian Wang and Lisa Friedman noted, "In the sandstone desert of China's far west, a local meteorological station recorded an all-time high temperature of 126 degrees. In central China, heat-induced mechanical problems trapped tourists riding on a cable car in midair. The heat wave choking China is so intense that it even became a repeated talking point for John Kerry, President Biden's special envoy for climate change, as he met with China's premier on Tuesday in Beijing to discuss cooperation on slowing global warming. "You and I know things are changing," Mr. Kerry told the premier, Li Qiang, while sitting in the Great Hall of the People, on the edge of Tiananmen Square. He mentioned the reports of the temperature in the western region of Xinjiang on Sunday; a commentator at China's meteorological association had called it the highest he knew of in the country. "In the last weeks, scientists have expressed greater concern than ever about what is happening on the planet," said Mr. Kerry, who also met separately with Wang Yi, China's top foreign policy official".

As these three days of meeting wrapped up, further stories captured the progress as well as challenges. For example, *Guardian* correspondent Helen Davidson reported, "John Kerry has said the climate crisis is a "universal threat" and must be separated from politics during talks between the US and China. Kerry, the US climate envoy and former secretary of state, is in Beijing for talks with senior Chinese officials. It is hoped the talks can help repair relations between the two sides – the world's

two largest economies and carbon emitters – before the Cop28 climate talks in Dubai at the end of the year. On Wednesday Kerry met the Chinese vice-president, Han Zheng, saying the two days of talks so far had been constructive but complex. Acknowledging the diplomatic difficulties between the US and China in recent years, Kerry said climate issues should be treated as a "free-standing" challenge that required the collective efforts of the world's largest economies to resolve".

In July, many ***cultural*** stories relating to climate change or global warming also punctuated a competitive news landscape. To illustrate, environmental organizations' and unions' demonstrations and protests garnered attention. Much of the news about these actions were documented in the UK and in Europe. For example, *Guardian* correspondent Nadeem Badshah reported, "Two Just Stop Oil protesters disrupted the opening night of the BBC Proms at the Royal Albert Hall after running on to the stage. The pair were taken off stage at the west London venue within moments of unfurling their orange banners on Friday evening, according to footage on social media. The climate campaign group wrote on Twitter 'We cannot afford to fiddle while Rome burns'. "Two Just Stop Oil supporters have ran onto the stage at the Royal Albert Hall on the opening night of the BBC proms." One stage invader was Kate Logan, 38, from London. In quotes posted on the Just Stop Oil Twitter account, she said 'Many years ago, I sang with a youth choir at the Albert Hall, never imagining I would one day disrupt a performance here to draw attention to the planetary crisis we find ourselves in'".

Later in the month, *Guardian* journalist Alexandra Topping wrote, "New arrivals in Wimbledon in the past few weeks have been bombarded with a huge banner as they exit the station en route to the tennis. "Always like never before," it booms. That has certainly been true of the 2023 edition, in which there have been protests and geopolitical rows, breakout stars and sparkling runs, doily dresses and – quite possibly – a finale that will prove to be a pivotal moment

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A Just Stop Oil protest interrupted Katie Boulter's first-round match against Daria Saville on day three of the tournament. Photo: Adam Davy/AP.

in modern tennis…The tournament opened to glorious sunshine but there was unprecedented chaos in the normally polite and orderly queue. This year, organisers implemented stricter security measures, which included the use of undercover police officers, in an attempt to halt climate protesters who had already disrupted several events this year".

Further, *Associated Press* correspondent Tales Azzoni reported, "Environmental activists briefly interrupted play at the British Open on Friday by throwing orange powder beside the 17th green at Royal Liverpool, prompting American player Billy Horschel to intervene. Police and security guards quickly took action to keep the Just Stop Oil protesters from causing a bigger disruption during the second round. Play resumed not long after the protesters were removed. Horschel was playing the hole at the time and helped a greenside marshal lead one of the protesters away. The other players at the

17th were Corey Conners and Alex Noren. They were marking their balls and getting ready to hit their second shots when the disruption started. All three players made par on the hole".

As the month wrapped up, *Associated Press* correspondent David Keyton reported, "Hours after a Swedish court fined Greta Thunberg for disobeying police during an environmental protest at an oil facility last month, the climate activist once again attempted to block access to the facility and was removed by police. Earlier on Monday, Thunberg, 20, admitted to the facts but denied guilt, saying the fight against the fossil fuel industry was a form of self-defense due to the existential and global threat of the climate crisis. "We cannot save the world by playing by the rules," she told journalists after hearing the verdict, vowing she would "definitely not" back down. The court rejected her argument and fined her 2,500 kronor (about $240). Charges were brought against Thunberg and several other youth activists from the Reclaim the Future movement for refusing a police order to disperse after blocking road access to an oil terminal in the southern Swedish city of Malmö". Moreover, *Guardian* reporter Damien Gayle noted, "Greta Thunberg has been fined by a Swedish court after she was found guilty of disobeying a police order to leave a climate protest. The 20-year-old climate activist, who from 2018 became the face of the youth climate movement, had admitted taking part in the protest in Malmö in June, but pleaded not guilty on the grounds she had acted out of necessity. "My actions are justifiable," Thunberg told the court in Malmö, according to local media. "I believe that we are in an emergency that threatens life, health and property. Countless people and communities are at risk both in the short term and in the long term." Five years ago, Thunberg, then 15, began skipping school each Friday and staging solo climate protests outside the Swedish parliament in Stockholm, holding up a sign reading: "Skolstrejk för klimatet" (school strike for climate). Her weekly demonstrations snowballed into a global wave of youth climate protest, as she gained fame for her youth and her blunt speaking on the dire future faced by young people staring down the barrel of the climate crisis. Although the school strikes movement lost some of its momentum with the outbreak of the coronavirus pandemic, Thunberg has continued to travel the world joining climate protests and speaking at international summits, urging world leaders to act on the climate crisis. It is believed that Monday's trial is her first conviction for climate protest. Thunberg was part of a group of protesters that blocked the road for oil trucks in Malmö harbour. She was charged for failing to leave when ordered to do so by police".

In North America, there were also additional actions that earned mediated storytelling. For example, *Washington Post* journalist Ellie Silverman reported, "Nine protesters with the advocacy group Climate Defiance were arrested Wednesday after disrupting a meeting in a House office building, the group and police said. A Capitol Police spokesperson confirmed the nine people were arrested under a D.C. code that prohibits crowding, obstructing or incommoding. The code is often cited when arresting protesters during peaceful, planned and coordinated actions of civil disobedience… The demonstrators targeted a meeting in the Rayburn House Office Building of the House Sustainable Energy and Environment Coalition where Mary Frances Repko, the deputy national climate adviser, was also present, said Michael Greenberg, the founder of Climate Defiance. The advocacy group, which opposes fossil fuels, has disrupted meetings, speeches and events with Democratic leaders to bring attention to the climate crisis".

As July ended, the Teamsters Union and UPS reached a tentative agreement that avoided a strike. This contained some language that included drivers' protections from extreme heat attributed to climate change and this generated news. For example, *NBC News* reporters J.J. McCorvey and Annie Probert noted, "UPS agreed last month to a range of new heat-safety protections, including bringing air conditioning to its iconic brown delivery fleet for the first time. The Teamsters hailed those changes as a major breakthrough after years of complaints that working in hot weather has grown more

dangerous, with climate change fueling record-breaking summer heat waves across the country".

Finally, several ***scientific*** findings and developments sparked media stories during the month of July. Among them, in early July research by Joan Ballester and colleagues in *Nature Medicine* earned media attention in several outlets. For example, *CNN* correspondent Rachel Ramirez wrote, "Nearly 62,000 people died heat-related deaths last year during Europe's hottest summer on record, a new study has found – more heartbreaking evidence that heat is a silent killer, and its victims are vastly under-counted. The study, published Monday in the journal Nature Medicine, found that 61,672 died in Europe from heat-related illness between May 30 and September 4 last year. Italy was the hardest-hit country, with around 18,000 deaths, followed by Spain with just over 11,000 and Germany with around 8,000. Researchers also found the extreme heat disproportionately harmed the elderly and women. Of the nearly 62,000 deaths analyzed, heat-related mortality rate was 63% higher in women than in men. Age was also an important factor, with the death toll increasing significantly for people aged 65 and over. The planet saw its hottest day on record this week. It's a record that will be broken again and again. "It's a very big number," Joan Ballester, an epidemiologist at ISGlobal and the lead author of the study, told *CNN*. Eurostat, which is Europe's statistical office, attempted to quantify the heat wave's death toll last year by tallying excess deaths – or how many people died more than a typical summer. But Ballester, who lives in Spain and sweated through last year's heat wave, said the study published Monday was the first to analyze how many deaths last summer were specifically caused by heat. Researchers analyzed temperature and mortality data between 2015 and 2022 for 35 European countries – representing a total population of 543 million people – and used it to create epidemiological models to calculate heat-related deaths". Meanwhile, *New York Times* reporter Delger Erdenesanaa noted, "The findings suggest that two decades of efforts in Europe to adapt to a hotter world have failed to keep up with the pace of global warming. "In an ideal society, nobody should die because of heat," said Joan Ballester, a research professor at the Barcelona Institute for Global Health and the study's lead author. This summer is likely to be even worse: On top of climate change, the Earth has entered a natural El Niño weather pattern during summer for the first time in four years, bringing about conditions that will turn up the heat in many parts of the world. The season is already shattering various global temperature records. The researchers who studied last year's heat waves used data collected by the European Union from 35 countries, including some nonmember states".

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Paramedics help a patient into an ambulance during a heat wave in Barcelona, Spain. Photo: Angel Garcia/Bloomberg/Getty Images.

Relating to ecological- and meteorological-themed news stories connected to climate change or global warming in July, scientific research further bolstered attention in the public sphere. For example, *Washington Post* correspondent Dan Stillman reported, "Not only is Florida sizzling in record-crushing heat, but

the ocean waters that surround it are scorching, as well. The unprecedented ocean warmth around the state – connected to historically warm oceans worldwide – is further intensifying its heat wave and stressing coral reefs, with conditions that could end up strengthening hurricanes. Much of Florida is seeing its warmest year on record, with temperatures running 3 to 5 degrees above normal. While some locations have been setting records since the beginning of the year, the hottest weather has come with an intense heat dome cooking the Sunshine State in recent weeks. That heat dome has made coastal waters extremely warm, including "downright shocking" temperatures of 92 to 96 degrees in the Florida Keys, meteorologist and journalist Bob Henson said Sunday in a tweet. "That's boiling for them! More typically it would be in the upper 80s," tweeted Jeff Berardelli, chief meteorologist and climate specialist at WFLA-TV in Tampa. The temperatures are so high that they are off the scale of the color contours on some weather maps… The hot waters around Florida are connected to record-breaking ocean heat worldwide. About 40 percent of the world's oceans are facing a marine heat wave, NOAA reported. That is the highest percentage on record, and it could reach 50 percent by September. Scientists also attribute the widespread heat of the global ocean waters to human-caused climate change, which has helped boost the oceans to record-warm levels".

Taking a slightly different tack, media attention to scientific research about oceans turning greener due to climate change were also evident in July. Stories stemmed from a *Nature* study. For example, *New York Times* journalist María Luisa Paúl wrote, "In the new study, the researchers first analyzed data from NASA's Aqua MODIS satellite, which since 2002 has been monitoring ocean color changes, some of which are too subtle for human eyes to see. Twenty years-worth of data showed that colors had shifted in more than half of the world's oceans, the study states. And scientists said the changes went beyond what's expected due to natural occurrences. Then, to find out whether that trend was related to climate change, the researchers compared those findings with the results of two models. One of them, Dutkiewicz said, simulated what would happen to the ocean's colors if greenhouse gases weren't heating the planet. The other model added in the presence of emissions, which resulted in a shift in color in 50 percent of the ocean – a pattern consistent with the satellite's observations. Dutkiewicz said it was a worrisome sign for the future of the planet".

Then, in late July World Weather Attribution research findings earned media coverage around the globe. For example, *CNN* reporter Laura Paddison noted, "Extreme heat waves across three continents this month were made significantly more likely by the human-caused climate crisis, according to a new analysis released Tuesday as temperatures are still blazing in parts of the Northern Hemisphere. The "heat hell" searing parts of the United States and southern Europe would have been "virtually impossible" without climate change, while climate change made China's heat wave at least 50 times more likely, according to a rapid attribution analysis from the World Weather Attribution initiative. The WWA, a group of international scientists who assess the role of climate change in extreme weather events, spent a week analyzing the dangerous heat waves that have swept the Northern Hemisphere in July, destroying crops and livestock, triggering wildfires, exacerbating water stress and killing people across three continents". Moreover, *New York Times* correspondent Delgar Erdenesanaa reported, "Some of the extreme temperatures recorded in the Southwestern United States, southern Europe and northern Mexico at the beginning of the month would have been "virtually impossible" without the influence of human-caused climate change, according to research made public Tuesday. During the first half of July hundreds of millions of people in North America, Europe and Asia sweltered under intense heat waves. A heat wave in China was made 50 times as likely by climate change, the researchers said. World Weather Attribution, an international group of scientists who measure how much climate change influences extreme weather events, focused on the worst heat so far during the northern hemisphere summer. In the United States, temperatures in Phoenix have

reached 110 degrees Fahrenheit, roughly 43 Celsius, or higher for more than 20 days in a row. Many places in southern Europe are experiencing record-breaking, triple-digit temperatures. A remote township in Xinjiang, China, hit 126 degrees, breaking the national record".

Later in the month, research published in *Nature Communications* earned several media accounts. For example, *New York Times* journalist Raymond Zhong reported, "The last time there was a major slowdown in the mighty network of ocean currents that shapes the climate around the North Atlantic, it seems to have plunged Europe into a deep cold for over a millennium. That was roughly 12,800 years ago, when not many people were around to experience it. But in recent decades, human-driven warming could be causing the currents to slow once more, and scientists have been working to determine whether and when they might undergo another great weakening, which would have ripple effects for weather patterns across a swath of the globe. A pair of researchers in Denmark this week put forth a bold answer: A sharp weakening of the currents, or even a shutdown, could be upon us by century's end. It was a surprise even to the researchers that their analysis showed a potential collapse coming so soon, one of them, Susanne Ditlevsen, a professor of statistics at the University of Copenhagen, said in an interview. Climate scientists generally agree that the Atlantic circulation will decline this century, but there's no consensus on whether it will stall out before 2100. Which is why it was also a surprise, Dr. Ditlevsen said, that she and her co-author were able to pin down the timing of a collapse at all". Meanwhile, US *National Public Radio* correspondent Lauren Sommer noted, "The Atlantic circulation is a bedrock of the climate system…And the way humans are changing the planet, drastic shifts could happen. It's really a question of when".

As July concluded, the *World Meteorological Organization* and the *European Copernicus Climate Change Service* released this report that found that Earth experienced the hottest July of at least the last 120,000 years: this gained traction across many media outlets. For example, *CBS News* reporter Pamela Falk noted, "The United Nations said Thursday that new data from its World Meteorological Organization, gathered in partnership with the European Copernicus Climate Change Service, shows July will be the hottest month ever recorded on the planet. "Climate change is here. It is terrifying, and it is just the beginning," U.N. Secretary-General Antonio Guterres told reporters Thursday. "Anthropogenic [human-caused greenhouse gas] emissions are ultimately the main driver of these rising temperatures," said Carlo Buontempo, director of the Copernicus service. "Extreme weather which has affected many millions of people in July is unfortunately the harsh reality of climate change and a foretaste of the future"".

Thanks for your interest in our ongoing Media and Climate Change Observatory (MeCCO) work.

~ report prepared by Max Boykoff, Rogelio Fernández-Reyes, Jennifer Katzung, Ami Nacu-Schmidt and Olivia Pearman

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.

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Media and Climate Change Observatory

MONTHLY SUMMARIES

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