

Insights into the UNSG announcement: The end of climate change and the arrival of the global boiling era, July 2023 confirmed as the hottest month recorded in the past 120,000 years

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ABSTRACT

This paper conducts an extensive review of existing research to present a comprehensive analysis of the global problems caused by climate change, with a particular focus on the events that occurred during the record-breaking hottest year, 2023. Climate change is widely recognized as the defining issue of our time, and we find ourselves at a critical juncture in addressing its repercussions. The effects of climatic changes permeate various aspects of life on Earth, including increasing occurrences of floods, landslides, droughts, storms, sea-level rise, and other natural disasters. With the notion of "global boiling," we aim to intensify awareness and prompt more radical actions to mitigate the worst consequences of climate change. It is designed to sound the alarm and trigger more radical action to stave off the worst of climate change. The escalating global warming, driven by human emissions of heat-trapping greenhouse gases, is already significantly altering the Earth's climate and leaving a profound impact on the environment. The melting of glaciers and ice sheets, earlier breakup of lake and river ice, shifts in plant and animal ranges, and earlier blooming of plants and trees are some of the observable manifestations. Furthermore, climate change has emerged as a critical factor in exacerbating the risk and severity of wildfires worldwide, with key influences stemming from temperature variations, soil moisture, and the presence of potential fuel sources such as trees and shrubs. These interconnected factors underscore the direct and indirect ties between climate variability, climate change, and the extent of wildfire risks.

Keywords: Climate change, wildfires, Global boiling, temperature, precipitation, economy, human health, hottest July 2023, UN.

INTRODUCTION

Climate change is acknowledged as being a crucial determinant of public health. It is a significant stressor on human health; it is causing social and cultural ties to break down and diminishing soil fertility, which ultimately affects crop productivity. Forced migration that is not adaptive is being imposed by climate change, along with territorial disputes, decreased ecosystem production, disease outbreaks, and unequal resource exploitation (Upadhyay, 2020). Since it is causing irreparable losses and harm to the physical, biological environment, and human existence, climate change is currently a very severe issue. Climate change is making people's issues worse as more and more people throughout the world experience hurricanes, blizzards, tornadoes, floods, draughts, earthquakes, and losses to human life, health, physical wealth, and habitat (IPCC, 2006). Changing climatic conditions are severely affecting human health mainly due to sudden drastic changes in climate or weather factors. Climate change is causing health issues that have never before been seen. The risk of communicable illnesses increasing is due mostly to their reemergence, which could cause an epidemic or turn into a pandemic (Wang *et al.*, 2019). The WHO predicts that both human and plant populations will be hardest damaged, and that individuals who live in coastal areas, small islands, and mountainous places would experience more disasters (Human Development Reports, 2011; WHO, 2004). The rate of snowfall in high mountain ranges has decreased due to global warming, which has reduced the amount of water available in rivers and rivulets. More precisely, delayed ice development and a high rate of disintegration due to

thermal shifts in the Polar Regions have worrying consequences for countries with coastlines.

It has overflowed glacier-fed river systems and sped up the water current (Smith, 2000; Jacobsen *et al.*, 2012). Mountain glaciers are melting and disintegrating as a result of global warming. It is causing sea levels to rise, which in turn causes storm surges from hurricanes and typhoons as well as increased coastal erosion. Substantial mountain ranges due to the rapid melting of glaciers and the migration of land masses towards tall mountains, the Alps to the Himalayas are becoming bare. Many climate-related risks are greater than those estimated in AR5 for any given level of future warming, and expected long-term impacts could be up to many times greater than those already being seen. As global temperatures continue to rise, the risks, anticipated adverse effects, and consequential losses and damages stemming from climate change are amplified. This escalation in climate-related and non-climatic risks will lead to more frequent interactions, giving rise to compound and cascading risks that pose greater challenges in terms of control and management (IPCC, 2023). The hottest July on record for Earth just ended. The lowest sea ice extent ever recorded. The ocean surface temperature on a worldwide scale reached a record high for the fourth consecutive month. The exceptional rate of climate change brought on by heat-trapping greenhouse gases in the atmosphere is confirmed by the monthly climate monitoring reports from NASA, the US National Oceanic and Atmospheric Administration, and the European Union's Copernicus Climate Change Service. The WMO uses the datasets to inform decision-makers all over the world and to produce its State of the



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Global Climate reports. It has been the third warmest year on record so far (WMO, 2023). The Copernicus Climate Change Service, run by the European Centre for Medium-Range Weather Forecasts, indicated that July was about 1.5°C warmer than the pre-industrial normal for 1850-1900. According to the report, July was 0.33°C hotter than the previous hottest month, July 2019. The hottest July ever was experienced in South America, Africa, and Asia, respectively. The largest monthly temperature anomaly on record occurred in South America. After a protracted period of exceptionally high temperatures starting in April 2023, the average sea surface temperature rose again, reaching record-high levels in July. Global average sea surface temperatures for the month were 0.51°C higher than the average between 1991 and 2020. In July, the North Atlantic was 1.05°C warmer than usual. Marine heatwaves emerged in the Labrador Sea, the Caribbean basin, and the Mediterranean Sea south of Greenland. At the beginning of an El Nio event, which is predicted to bring about greater temperatures, more marine heatwaves, and coral bleaching, the record ocean heat is being reported. The year 2024 is predicted to experience the greatest El Nio temperature effects. In July, C3S (2023) watched new all-time records set for both the global air temperature and the worldwide ocean surface temperature. According to Samantha Burgess, Deputy Director of the Copernicus Climate Change Service (C3S), "These records have dire consequences for both people and the planet exposed to ever more frequent and intense extreme events (WMO, 2023). In this present study, what happened to the temperatures in July due to climate change and the consequences of this change will be presented.

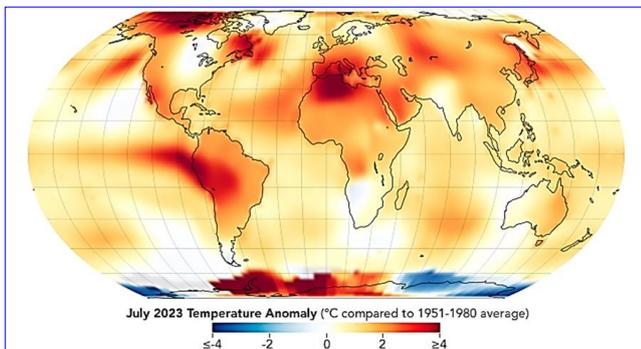


Figure (1): July 2023 Was the Hottest Month on Record NASA (<https://earthobservatory.nasa.gov/images/151699/july-2023-was-the-hottest-month-on-record>).

Surface air temperature for July 2023

It has been determined that July 2023 will have the highest worldwide average temperature of any month. The month was 0.3 °C warmer than the previous warmest month, July 2019, and 0.7 °C warmer than the July 1991–2020 average. July 2023 was hotter than any other month in the global temperature record, according to an analysis by scientists at NASA's as shown in figure (1) The month is thought to have been about 1.5 °C warmer than average for the period between 1850 and 1900. Southern Europe was among the areas of the Northern Hemisphere to endure heat waves. Temperatures well above average were recorded over a number of South American nations and a

large portion of Antarctica. Conditions indicative of El Nio persisted over the eastern Pacific Ocean near the equator. In some other areas, marine air temperatures were significantly higher than typical.

Over southern Europe, July 2023 temperatures were significantly higher than the climatological averages for the years 1991 to 2020. From Spain in the west to the Balkans in the east, there were heatwaves. While other records were on the verge of being broken, numerous new local temperature records were established. A location in Sardinia recorded a temperature of 48 °C, and an observatory in Palermo, Sicily, recorded a temperature of 47 °C. Greece experienced a top temperature of 46 °C (Copernicus, 2023). The month of July is on course to be the hottest July and the warmest month on record. The first three weeks of July have been the warmest three-week span in recorded history. These temperatures have been linked to widespread heatwaves in North America, Asia, and Europe, as well as wildfires in nations like Greece and Canada, which have had a significant negative impact on people's health, the environment, and economies (Bonn and Geneva, 2023). Numerous daily and station temperature records have been reported, and any new national temperature records must be verified by the national meteorological and hydrological agencies. As a result, the China Meteorological Administration reports that on July 16 (Turpan city in China's Xinjiang province), China established a new national temperature record of 52.2°C.

Wildfires

According to scientists, July 2023 is projected to surpass all existing heat records, as announced by U.N. Secretary-General António Guterres on 27 July (Reuters). The Copernicus Climate Change Service of the European Union and the U.N. World Meteorological Organization issued a joint statement, stating that it is "extremely likely" that July 2023 will break the record. The confirmation of this milestone does not necessitate waiting until the end of the month, as Guterres remarked in New York that July 2023 is set to break all previous records, with the exception of a hypothetical mini-Ice Age occurring within the next few days. During a press briefing, he expressed concern over the ongoing climate change, describing it as a distressing phenomenon that is just beginning to unfold. He went on to state that the era of "global boiling" has now commenced. The impact of July's heatwave has been felt worldwide, with notable occurrences including sweltering temperatures in the American Southwest, leading to discomfort for numerous travelers, and the evacuation of thousands of tourists due to wildfires on the Greek island of Rhodes. Additionally, a township in northwest China witnessed record-breaking heat, with temperatures soaring to an unprecedented 52.2 °C (126°F).

Wildfires require the alignment of a number of factors, including temperature, humidity, and the lack of moisture in fuels, such as trees, shrubs, grasses, and forest debris. All these factors have strong direct or indirect ties to climate variability and climate change. Fire is, in many cases, an essential ecosystem component that ensures the sustainability of its processes and communities. Since its

emergence, fire has played a key role as an environmental filter, selecting for species and their traits, and shaping ecosystems' communities. However, not all fires are the same, and ecosystems exposed to fire regimes out of their historical range of variability might become vulnerable and suffer irreversible changes (Bond and Keeley, 2005).

Heatwaves and historic milestones: A Recap of 2023's hottest month on record

Egypt – July 2023

The average temperature in Egypt has been rising faster over the past 20 years, which has significantly increased the energy needed for cooling during the summer. A recent heat wave has caused the perceived temperatures in much of Egypt to exceed 40 degrees Celsius, as evidenced by Photo (1). According to climate estimates, Egypt will warm faster than the rest of the globe by 2100 and suffer a considerable rise in electricity demand as a result of more frequent extreme heat events, urbanization, and population expansion. Increased environmental temperatures could put pressure on natural gas, solar PV, and wind power generation, reducing generation efficiency. A more resilient energy system is required given the rising demand for electricity for cooling and declining generation efficiency (IEA, 2023).

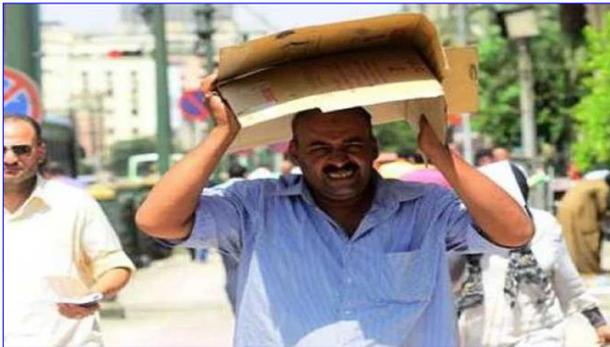


Photo (1): The extreme heat experienced in Egypt during the month of July has proven to be unbearable for a significant number of individuals (<https://www.almasryalyoum.com/news/details/2-947781>).

Chile - February 2023

Over 800,000 acres of land were burned in south-central Chile's wildfires, which also resulted in 24 fatalities and about 2000 injuries. These fires were caused by a phenomenon known as "La Nina," which accounts for the sporadic dropping of ocean temperatures that causes rainier and colder weather in the north as well as drier and warmer circumstances in southern regions, like Chile as shown in Photo (2).

Spain - March 2023

The start of Spain's current wildfire season as shown in photo (3) was signaled by fires that started in the province of Castellón. The fire, which covered more than 10,500 acres of land, forced nearly 1,800 residents to flee. Despite the damage caused by these fires, there was even more destruction in the nation last year, when there were around 500 wildfires that burned about 756,000 acres of land.

Russia - May 2023

At least 21 people have died and many more have been hurt as a result of wildfires in Siberia and the Russian Ural

Mountains. This fire destroyed hundreds of homes while burning 280,000 acres of land as shown in photo (4). The intensity of the destruction has been ascribed to a lack of supplies, the extreme isolation of the areas where these fires originated, and a heat wave that was probably brought on by climate change.



Photo (2): Wildfire smoke in Chile. Lacasadeljotta, CC BY-SA 4.0 (https://commons.wikimedia.org/wiki/File:Vista_Incendio_forestal_Boyen_Chillan_2023.jpg).



Photo (3): Wildfire in Spain. Sergio Torres, CC BY-SA 4.0 (<https://catalyst.cm/stories-new/2023/6/28/5-wildfires-around-the-world-in-2023>).



Photo (4): Wildfire damages in Russia. Ivan Simochkin, CC BY-SA 3.0 (<https://www.catalystplanet.com/travel-and-social-action-stories/5-wild-fires-around-the-world-in-2023>).

United States - June 2023

The United States, like Spain in 2022, had a terrible wildfire season, especially in the western states. For instance, in the year 2022 alone, fires in the state of Oregon

consumed nearly 400,000 acres of land. Oregon has already seen 18 wildfires this year, scorching more than 17,000 acres of property. There have recently been numerous wildfires in other US states, including Arizona and California as shown in photo (5).



Photo (5): Smoke from California wildfires. Frank Schulenburg. CC BY-SA 4.0. Source by <https://www.catalystplanet.com/travel-and-social-action-stories/5-wildfires-around-the-world-in-2023>.

Canada - June 2023

The worst wildfire on record in British Columbia, Canada, occurred in June. Donnie Creek was the location of the fire, which destroyed 2,063 square kilometers of land. Canada is expected to have its most destructive wildfire season on record in the summer of 2023 as a result of the country's unusually warm and dry weather. With an average of 1.7 million acres burning in July between 2002 and 2020, this month has historically seen the biggest wildfire devastation as shown in photo (6). Using this statistic, it may be concluded that wildfires will cause significantly more harm in 2023. More than 80% of wildfires are started by people, frequently through the use of cigarettes, campfires, and other everyday items and activities. Due to climatic circumstances brought on by climate change, fires are growing more deadly as the environment becomes more flammable and more prone to larger fires. In fact, it seems likely that human activity contributed to the flames in Chile, Spain, and Oregon. With this knowledge, it is crucial to raise awareness of wildfires and to be cautious of potential environmental harms. When numerous of wildfires broke out in Canada in June 2023, the skies over New York turned orange from haze and smoke.

New York topped the list of cities with the worst air quality for the first time, and locals were advised to stay indoors by health advisories. It served as a stark reminder that environmental catastrophes know no bounds and ought to worry us all. Every year, wildfires have a devastating impact on the environment, wildlife, human lives, and infrastructure from Canada and the United States to the Amazon and the Arctic, across Africa, Asia, and Europe. The acknowledged costs of wildfires are mostly focused on direct economic effects in the public sector, including expenses for fighting the fire, insurance, losing property, and, most importantly, the loss of lives. Wildfires, however, also have significant and enduring effects on the viability of the social, economic, and environmental systems.

Patterns of precipitation, relative humidity, and soil moisture in July 2023: A Comprehensive Analysis

Over most of northern Europe and in a region extending from the Black Sea and Ukraine to northwestern Russia, July 2023 was drier than typical. The Mediterranean basin witnessed drier-than-average weather, with the biggest anomalies occurring in Italy and southeast Europe. Beyond Europe, July 2023 saw above-average rainfall in northern and eastern Australia, Chile, Afghanistan, Pakistan, northeastern China, and northeastern North America. Mexico, the southwestern United States, central and southeast Asia, southwestern Australia, and portions of southern Brazil and Paraguay were among the extra-tropical areas that saw drier-than-average conditions as shown in figure (2) (Copernicus and ECMWF, 2023).

Five persons lost their lives as a result of severe flash flooding that slammed the Philadelphia suburbs and swamped highways. Heavy flooding earlier this month also caused road and building damage in Vermont, trapping many inside their houses as shown in photo (7), tens of millions of people nationwide were under a flood watch, while in the past year, devastation floods in nations like South Korea, Pakistan, and Turkey has caused millions of people to be uprooted and forced to evacuate (Li Zhou, 2023).



Photo (6): A member of the B.C. Wildfire Service watches a planned ignition on the Ross Moore Lake fire in Kamloops, British Columbia, Canada, in July. Photo: Jesse Winter/Bloomberg via Getty (<https://www.axios.com/2023/08/14/canada-wildfires-fall-fire-activit-y-threat>).

Implications of climate change on human health

Climate change is impacting people and ecosystems around the world; it is widely acknowledged that CC has a significant negative impact on human health (Costello *et al.*, 2009). Climate change affects global health via multiple direct and indirect pathways disasters involving weather- and climate-related risks cause thousands of fatalities globally and add to the world's disease burden Changes in temperature and precipitation, as well as human exposure to heat waves, wildfires, floods, and droughts, may have an immediate negative impact on health. The prevalence of chronic renal disease is notably higher among outdoor workers in hot climates. Intense heat periods have been associated with an increase in cardiovascular mortality rates. Moreover, inhaling fire smoke during wildfires has led to fatalities and various detrimental health effects. Climate change-induced environmental and ecosystem modifications, including



Photo (7): Hope Township, New Jersey, on July 16, 2023. cars were seen braving deep floodwaters on roads while houses were surrounded by rising water (Kyle Mazza/Anadolu Agency/Getty Images, <https://www.gettyimages.co.uk/detail/news-photo/vehicles-drive-through-heavy-flooding-on-road-ways-as-houses-news-photo/15-35923600>).

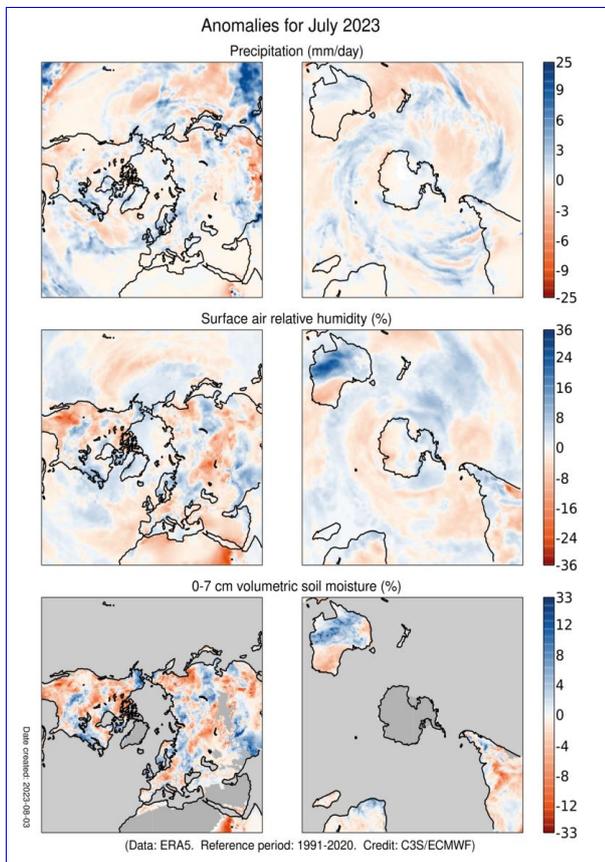


Figure (2): Precipitation, surface air humidity, top 7 cm of soil moisture content, and surface air temperature anomalies for July 2023 compared to July averages for the years 1991 to 2020. Where soil moisture cannot be seen due to ice cover or climatologically low precipitation, it is indicated by a darker shade of grey (ERA5 Credit: Copernicus Climate Change Service/ECMWF, <https://climate.copernicus.eu/precipitation-relative-hu-midity-and-soil-moisture-july-2023>).

crop failures, diminished marine food resources, the expansion of disease vectors' geographic range, and reduced labor capacity, can also trigger indirect impacts on human health. Other indirect effects may be mediated through social systems and responses to climate change. As a result of climatic changes, hazards, exposures, and vulnerabilities fluctuate throughout time and space, as do

their interconnections. Therefore, with a high degree of regional and temporal variability, climate change both initiates and suppresses new health effects, as well as amplifies or lessens those that already present. Long recognized as helpful analytical tools for tracking the health-climate system at all geographical scales, from local to global, geographic information systems and more specifically geospatial data (Napoli, *et.al*, 2022). Warmer temperatures, altered precipitation patterns, the increase in the frequency or severity of some extreme weather events, and rising sea levels are all effects of climate change. These effects have an impact on the food consuming, the drinking water, the air, and the weather, endangering our health. The extent of these health risks will be influenced by a person's behavior, age, gender, and economic status as well as how well public health and safety systems can handle or anticipate these evolving dangers. The effects will differ depending on a person's location, their sensitivity to health risks, how much they are exposed to the effects of climate change, and how well they and their community can adapt to change.

Climatic shifts and economic consequences: Exploring the impacts of climate change on global economy

Numerous researches suggest that global-scale human-ecological disasters will result from climate change. Consider the possibility that by 2030; South Africa may have lost more than 30% of its primary crop—maize—due to climate change. Losses of several local staples, including rice, millet, and maize, might approach 10% in South Asia. This shows that the likelihood of war increases significantly in warmer years. This historical reaction to temperature predicts a nearly 54% rise in armed conflict occurrence by 2030, or an additional 393,000 battle deaths assuming future conflicts are as lethal as recent wars, when combined with climate model forecasts of future temperature trends. However, according to most of their research's conclusions are based on estimates. However; the majority of their research's conclusions are based on projections from various social, economic, and biological models (Zhang and Lee, 2010). The majority of their study, nevertheless, But the majority of their research's conclusions are based on projections from various biological, economic, and social models. Climate change is a multifaceted and evolving phenomenon and a major source of uncertainty for the global economy and financial markets. The effects of climate on total productivity and economic growth are significant. CC has become one of the main concerns of both local and international environmental regulators due to its expanding worldwide existence and its effect on economic growth (Ferreira *et al.* 2020; Gleditsch 2021; Abbass *et al.*, 2021; Lamperti *et al.*, 2021). The negative effects of CC on the agriculture sector's overall productivity factor make it important to understand how local adaptation plans are developed and how productive climate policy contracts are put together. Global CC will affect the agriculture sector in several parts of the world, according to researchers. Researchers' focus has shifted to the investigation of the effects of CC on diverse agrarian activities in other demographic areas and the creation of appropriate methods to address effects (Chandio *et al.*,

2020; Gleditsch 2021; Mosavi *et al.*, 2020). Russia declared that it would not extend the Black Sea Grain Initiative (BSGI) on July 17, 2023. Because of ongoing geopolitical concerns, grain markets did not immediately react strongly to Russia's exit, with future prices for important grains and oilseeds only slightly rising. Despite a 3% increase on July 17, wheat futures were still trading significantly below their high levels from the previous year. Corn and soybean futures also rose sharply before dropping back to pre-announcement levels. Global commodity markets were remained largely positive despite Russia's move.

The Agricultural Market Information System Market Monitor for July 2023 showed improved prospects for wheat output in a number of nations, including Canada, Kazakhstan, and Turkey. Forecasts for maize production as well as rice and soybean production for 2023 have stayed mostly unchanged. Corn and soybean futures also rose sharply before dropping back to pre-announcement levels. Global commodity markets were remained largely positive despite Russia's move. The Agricultural Market Information System Market Monitor for July 2023 showed improved prospects for wheat output in a number of nations, including Canada, Kazakhstan, and Turkey. The projections for maize production in 2023 were essentially unaltered, while only minor changes were made to the projections for rice and soybean production more than half the world relies on rice as a primary food source. Yet, the essential crop faces a worrisome future as global warming cranks up the Earth's temperature and intensifies storms, droughts and heat waves as shown in photo (8).

The Indian government changed its export policy for non-basmati white rice from "Free with export duty of 20%," which it had imposed in September 2022, to "Prohibited," with immediate effect, on July 19 in order to ensure availability and prevent price increases in the domestic market. Given that India exports roughly 40% of the world's rice, it is likely that the export ban will cut domestic costs for consumers (and producers), but it might also result in significant increases in worldwide prices and price volatility. The export embargo is implemented at a time when worldwide concerns about food prices are at an all-time high as a result of Russia's withdrawal from the BSGI.

Unraveling the effects of climate change on biodiversity: A comprehensive assessment

Ecosystems and biodiversity are under constant and escalating threat from climate change. Climate change has an impact on certain species, their interactions with other living things, and their habitats, which changes how ecosystems work and what products and services are produced by natural systems for society. Human societies can more accurately predict these changes and make the appropriate adjustments if they have a better understanding of the direction and size of ecological reactions (Eissa *et al.*, 2023). A significant ecological problem is comprehending, anticipating, and mitigating climate change. In addition to affecting various species differently, climate change will modify species interactions, community structure, plant phenology, biodiversity, and



Photo (8): Implications of rising temperatures on rice-dependent regions: Assessing the impact on global food security. More than half the world relies on rice as a primary food source (Basri Marzuki Getty, <https://www.scientificamerican.com/article/wake-up-call-climate-change-threatens-rice-farming/>).

geographic ranges. Globally distributed organisms may have the genetic diversity to adapt to a variety of environmental and climatic gradients in a changing environment (Fouad *et al.*, 2023). All tiers of biodiversity, from organism to biome levels, are likely to be impacted by the numerous aspects of climate change as shown in figure (3). They primarily deal with diverse intensities and types of fitness decline, which manifest themselves at various scales and affect individuals, populations, species, ecological networks, and ecosystems. Due to directional selection and fast migration, climate change has the potential to reduce genetic diversity of population at the most fundamental levels of biodiversity, which could have an impact on the resilience and functioning of ecosystems. Beyond this, the "web of interactions" at the community level will probably change as a result of the varied effects on populations. Basically, the way some species react to climate change may have an indirect effect on the species that depend on them (Gilman *et al.* 2010; Walther 2010). Based on examining 9,650 interspecific systems, which included parasites and pollinators, about 6,300 species may become extinct as a result of the loss of their linked species (Koh *et al.*, 2004).

Climate can cause changes in vegetation communities that are projected to be significant enough to impact biome integrity at higher levels of biodiversity as shown in figure (3). For 5 to 20% of Earth's terrestrial ecosystems, the Millennium Ecosystem Assessment predicts changes, particularly for cold conifer forests, tundra, scrubland, savannahs, and boreal forests (Sala *et al.* 2005). The "tipping points" where environmental thresholds might cause irreversible changes in biomes are of special concern (Leadley *et al.* 2010).

A species may no longer be adapted to the particular set of environmental variables in a certain place as a result of climate change, and it may then move outside its climatic niche. Individuals, groups, or species must create adaptive responses in order to survive, while other elements of their ecological niche are not expected to alter immediately. These responses can take a variety of forms and are given by two sorts of mechanisms (Bellard *et al.*, 2012).



Figure (3): According to a report by Stockholm (NordSIP) in 2019, climate change has wide-ranging impacts on biodiversity across all levels of life on Earth, <https://nordsip.com/2022/01/31/where-biodiversity-protection-and-decarbonization-meet/>.

Interpreting July 2023 as a Boiling Era: Unprecedented heatwave and climate change implications

Because of its complexity, climate change calls for a wide range of creative responses. A possible strategy for coping with climate change is the merging of indigenous knowledge, AI, and climate communication channels. The potential of this strategy is demonstrated by the case of fighting mega fires. To fully realize this potential and contribute to a sustainable and resilient future, more study and cooperation are necessary. An urgent worldwide problem, climate change poses serious risks to our society, economy, and environment. A few aspects of this problem include sea level rise, harsh weather, and rising temperatures. Due to the extreme heat wave events that will affect multiple continents in 2023, the UN Secretary General has changed the term "global warming" to "global boiling."

The era of global warming has now transitioned to the era of global boiling, characterized by inhospitable air quality and unbearable heat. The term "global boiling" was initially coined in a 1991 World Development Report assessment by a journalist who highlighted the challenges faced by the 4 billion inhabitants of underdeveloped countries. Global warming will undoubtedly turn into global boiling if everyone adopts Uncle Sam's lifestyle, and many types of pollution, which are frequently unavoidable byproducts of growth, may become intolerable (8 July 1991, Financial Times).

Addressing the arrival of the global boiling era: Key recommendations in the face of escalating climate change

Mitigation, or slowing down climate change, entails cutting back on the production of greenhouse gases that trap heat in the atmosphere. This can be done by cutting back on the burning of fossil fuels for transportation, electricity, or heating, or by improving the "sinks" for these gases, like the oceans, forests, and soil. In order to prevent significant human influence on Earth's climate, mitigation efforts aim to "stabilize greenhouse gas levels in a timeframe sufficient to allow ecosystems to adapt naturally to climate change, ensure that food production is not threatened, and to enable economic development to

proceed in a sustainable manner" (United Nations IPCC, 2014). Eliminate Fossil Fuels; the first obstacle is to stop burning coal, oil, and eventually natural gas. The same amenities are also desired and perhaps deserved by inhabitants of developing countries, thanks in large part to the energy contained in such fuels.

Oil is the lubricant of the world economy and is essential for the transportation of both people and things. It is concealed in everyday items like plastic and corn. According to the International Energy Agency, coal serves as the substrate for about half of the power used worldwide and in the United States, a figure that is expected to rise. There are no ideal solutions for reducing reliance on fossil fuels, but every little amount counts. For instance, carbon-neutral biofuels can increase food prices and cause forest devastation. Nuclear power does not produce greenhouse gases, but it does produce radioactive waste. So, try to employ alternatives, when possible, plant-derived plastics, biodiesel, wind power, and to invest in the change, be it by divesting from oil stocks or investing in companies practicing carbon capture and storage.

Stop felling trees, thirty-three million acres of woods are cleared each year. Just the tropics' timber harvesting adds 1.5 billion metric tons of carbon to the sky. That accounts for 20% of greenhouse gas emissions caused by human activity and is an easy source to avoid. This substantial portion of emissions might be quickly eliminated through improved farming practices, paper recycling, and forest management, which balances the amount of wood harvested with the number of new trees sprouting.

Additionally, when buying wood products like flooring or furniture, try to buy old items if possible. If that is not an option, look for wood that has been sustainably sourced. The Amazon and other forests are not only the planet's lungs; they might also represent humanity's best immediate chance to slow down climate change. Adjusting to the current or anticipated future climate is referred to as adaptation or adapting to living in a changing environment. The objective is to lessen our risks from climate change's negative effects, such as rising sea levels, more intense extreme weather events, or food insecurity. Making the most of any potential advantages brought on by climate change, such as longer growing seasons or higher yields in particular areas, is also included. With varied degrees of success throughout history, people and cultures have learned to adapt to and deal with climatic shifts and extremes. The rise and fall of civilizations have at least in part been caused by climate change, particularly drought. For the past 10,000 years, Earth's climate has been comparatively stable, which has facilitated the growth of our current civilization and agriculture. Instead of the much warmer environment of the ensuing thousand years, our modern lifestyle is designed for this constant climate. We must adjust as our climate changes. It will be harder as the climate changes more quickly (NASA, 2023).

Wildfire risks associated with anticipated climate change should be reduced. People are encouraged to take action now to reduce losses in the future by learning how to adapt to living with wildfires through the fire-wise

concept. The project's activities are focused on analyzing risks and determining vulnerability to wildland fires as a result of climate change, piloting locally relevant adaptation strategies, strengthening the capacity for integrated fire management, and mainstreaming climate change and integrated fire management into local and regional government planning.

Aiding the environment by empowering localities to fight wildfires and avoid them, catastrophic fires that threaten the biosphere are reduced. The restoration of the landscape is also aided by related actions including slashing, chipping, assisted prescribed burning, and invasive weed control.

Helping people in addition to defending homes and property, this effort is boosting the communities' resilience and coping mechanisms. Benefits should be concentrated on low-income dwellings and informal settlements, which are most at risk from fires. The project also generates employment.

Scaling up any community that lives near a landscape that is adapted to fire can mimic how the fire-wise strategy inspires and supports self-help initiatives. The element that promotes climate awareness can branch out into other initiatives to combat climate change.

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نظرة شاملة على إعلان الأمين العام للأمم المتحدة: نهاية تغير المناخ وبداية عصر الغليان العالمي، يوليو 2023 هو الشهر الأكثر سخونة خلال الـ120,000 سنة الماضية

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الملخص العربي

تجري هذه الدراسة كمراجعة واسعة النطاق للأبحاث الحالية و السابقة لتقديم تحليل شامل للمشاكل العالمية الناجمة عن تغير المناخ، مع التركيز بشكل خاص على الأحداث التي وقعت خلال العام الأكثر سخونة، وهو العام الحالي 2023 وفي شهر يوليو بالتدريج. ومن المعترف به على نطاق واسع أن تغير المناخ هو العامل الحاسم قضية عصرنا، ونحن نجد أنفسنا أمام منعطف حاسم في معالجة تداعياتها. وأصبح تتخلل تأثيرات التغيرات المناخية كبيره في مختلف جوانب الحياة على الأرض، بما في ذلك تزايد حدوث الفيضانات والانهيئات الأرضية والجفاف والعواصف وارتفاع مستوى سطح البحر وغيرها من الكوارث الطبيعية. ومن خلال فكرة "الغليان العالمي"، والتي أصبحت تهديد الكون بأكمله، نهدف إلى تكثيف الوعي والحث على اتخاذ إجراءات أكثر جذرية للتخفيف من أسوأ العواقب المترتبة على تغير المناخ. وهي بمثابة ناقوس الخطر الذي يدق لتحفيز واتخاذ المزيد من الإجراءات الجذرية لدرء أسوأ ما في تغير المناخ. إن الاحتباس الحراري العالمي المتصاعد، الناجم عن الانبعاثات البشرية من غازات الدفيئة المسببة لزيادة الحرارة، يؤدي بالفعل إلى تغيير مناخ الأرض بشكل كبير ويترك أثرا عميقا على البيئة. كما إن ذوبان الأنهار الجليدية والصفائح الجليدية، والتفكك المبكر لجليد البحيرات والأنهار، والتحولت في نطاقات النباتات والحيوانات، والازدهار المبكر للنباتات والأشجار هي بعض المظاهر التي يمكن ملاحظتها وتشير الي قرب حدوث هذه الكارثة العالمية. علاوة على تلك الظواهر ظهور تغير المناخ كعامل حاسم في تفاقم مخاطر وشدة حرائق الغابات في جميع أنحاء العالم، مع التأثيرات الرئيسية الناجمة عن التغيرات في درجات الحرارة، ورطوبة التربة، ووجود مصادر الوقود المحتملة مثل الأشجار والشجيرات. وجميعا يؤكد ان هذه العوامل مترابطة مباشرة أو غير المباشرة بين تقلب المناخ وتغيره تعبر مدى المخاطر التي سوف تلحق بالعالم اكملة اذا لم يتخذ الإجراءات المناسبة للحد من تفاقم هذه الظواهر.