



## NEWS ROUNDUP

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## ABC NEWS

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By: Munir Ahmed

ISLAMABAD -- Pakistan's foreign minister on Thursday said that about 50% of the water has receded in the country's worst-hit southern Sindh province, raising hopes that farmers will be able to sow wheat in a first step toward returning to a normal life.

## MALAYA BUSINESS INSIGHT

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## **NEWSWEEK**

### **[More Stink Bugs Will Invade the U.S. Amid Climate Change, Study Shows](#)**

By Anna Skinner

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## **NPR NEWS**

### **[How glaciers melted 20,000 years ago may offer clues about climate change's effects](#)**

By: Becky Sullivan

During Earth's ice ages, much of North America and northern Europe were covered in massive glaciers. About 20,000 years ago, those ice sheets began to melt rapidly, and the resulting water had to go somewhere — often, underneath the glaciers. Over time, massive valleys formed underneath the ice to drain the water away from the ice.

## **OPEN ACCESS GOVERNMENT (ASIA)**

### **[The toll of climate change on mental health](#)**

Although its health impacts vary between regions depending on geography, socio-economic status of affected communities, and political policies, climate change is the single greatest threat to human health.

## **PHILIPPINE DAILY INQUIRER**

### **[Manila Water flood-proofs sewage treatment plants near Marikina River](#)**

By: Dennis Gutierrez

Manila, Philippines — As the Marikina River usually swells beyond its banks, especially during typhoon season, Manila Water has continued to improve the flood resiliency of its facilities near the river to ensure that flooding would not disrupt nor endanger its operations.

### **[PH most disaster-prone country in the world—study](#)**

By: Cristina Eloisa Baclig

MANILA, Philippines—The Philippines, where Super Typhoon Karding (Noru) recently hit, was identified as the most disaster-prone country in the world due to its high risk, exposure, and vulnerability to disasters and calamities, an international report showed.

## **PHILIPPINE NEWS AGENCY**

### **[Karding-damaged houses now almost 100K: NDRRMC](#)**

By: Priam Nepomuceno

Manila – The number of houses damaged by Super Typhoon Karding has climbed to 99,852 in five regions, the National Disaster Risk Reduction and Management Council (NDRRMC) reported Thursday.

## **THE GUARDIAN**

### **[‘The mountains protect us’: safeguards sought for Philippines’ Sierra Madre shield against typhoons](#)**

Kaliwa dam project in the Sierra Madre would be disastrous for main island’s storm defences as well as biodiversity, say conservationists

## **THE MANILA TIMES**

### **[‘Climate change made 2022 drought likelier’](#)**

Paris: Human-caused climate change made this summer's drought across the Northern Hemisphere at least 20 times more likely, according to a rapid analysis released on Wednesday that warns such extreme dry periods would become increasingly common with global heating.

**Information and Knowledge Management Division**

## ABC NEWS

### [Pakistani FM says water receded 50% in flood-ravaged Sindh](#)

By: Munir Ahmed

ISLAMABAD -- Pakistan's foreign minister on Thursday said that about 50% of the water has receded in the country's worst-hit southern Sindh province, raising hopes that farmers will be able to sow wheat in a first step toward returning to a normal life.

"We are utilizing all of our resources for draining the remaining water in flood-affected areas in Sindh," Bilawal Bhutto Zardari told a news conference. It was the first time that any official confirmed that the water had dropped 50% in Sindh, where 400, 000 people are living in relief camps or in tents.

Bhutto-Zardari's remarks were a sign of hope for hundreds of thousands of farmers who had been uncertain about the sowing of the upcoming wheat crop, which usually starts in October.

Nearly 15% of Pakistan's rice crop and 40% of its cotton crop were lost in this year's flooding, according to officials. The waters wiped out the personal grain stores that many farming families rely on for food year-round.

On Thursday, international aid agency Mercy Corps warned that the approaching cold weather of the winter would pose further threats to disaster-ravaged areas of the country, even as the floodwaters recede. In a statement, Farah Naureen, the agency's country director for Pakistan, said there was an urgent need for winterized tents and other items for survivors.

The record-breaking flooding, blamed in part on climate change, affected 33 million people, killed nearly 1,700, damaged more than 2 million homes and overall wreaked damage estimated at \$30 billion.

Bhutto-Zardari said Pakistan alone cannot handle the devastation caused by climate change.

"We are thankful to the world community for helping us but we need more assistance," he told reporters in Karachi, the capital of his Sindh province, where 760 people died in floods and 350 survivors later lost life due to the outbreak of diseases.

The latest remarks of Bhutto-Zardari also came two days after the United Nations — amid a surge in diseases in flood-hit areas of Pakistan — raised its aid appeal for Pakistan to \$816 million from \$160 million, saying recent assessments pointed to the urgent need for long-term help lasting into next year.

Bhutto-Zardari said Pakistan has witnessed its worst-ever flooding because of climate change since June, although his country contributes less than 1% of global greenhouse gas emissions. August rainfall in the Sindh and southwestern Baluchistan provinces

was eight and nearly seven times normal amounts, while Pakistan as a whole this summer had three-and-a-half times its normal rainfall.

Bhutto-Zardari criticized former Prime Minister Imran Khan for continuing anti-government rallies even during floods. "I cannot hold such rallies when my people are dying in the floods," he said.

Khan was ousted from power in April through no-confidence in the parliament.

But he says he was ousted under a U.S. plot, a charge Washington denies.

Bhutto-Zardari said Khan during his tenure strained Pakistan's ties with many countries, including Washington.

His remarks came after Khan vowed to march on Islamabad soon to force Prime Minister Shahbaz Sharif to hold snap elections which are due next year.

Bhutto-Zardari said Pakistan cannot afford to go to the elections when many areas are still submerged. He said Pakistan will first accomplish the task of helping people rebuild homes in flood-hit areas and return to their normal life.

"Elections will be held next year," he said, amid threats from Khan for a march on Islamabad.

## MALAYA BUSINESS INSIGHT

### [Road to green economy long; water roadmap readied](#)

By: Jocelyn Montemayor

President Marcos Jr. yesterday reaffirmed his administration's commitment to building the country's resiliency and improving climate change adaptation and called for a more robust collaboration from all sectors in protecting the environment while pushing for the country's development.

The President, at the opening of the 2022 Department of Environment and Natural Resources (DENR) Multi-Stakeholders Forum in Manila yesterday, said the road towards building a green economy will be long and tough, and everyone must stay strong, accept that it is a fight that must be waged by all, and, more importantly "a battle that must be won."

In a press conference on the sidelines of the same event, DENR Secretary Antonia Yulo-Loyzaga said the agency is crafting a roadmap which will be the basis in the creation of an umbrella body that will manage all water-related issues of the country.

The President assured the government is undertaking initiatives that will "enable us to become smarter, more responsible, more sustainable in all that we do."

Marcos said the effectiveness of a country's campaign and success in protecting the environment and addressing climate change will not be immediately visible and only be tested during certain moments such as when a global crisis is averted or the impact of the calamities on people are lessened, if even prevented.

The President said he expects the three-day forum to provide the government and private partners a chance to actively collaborate in translating an integrated and multi-stakeholder Resiliency Framework into actions that will sustain the growth of the sector.

Meanwhile, Loyzaga cited the need for an apex body to craft the strategy for the security of water which she said intimately linked with energy and food security.

"...As you know there are local water utilities, then we have other bodies, there is NIA (National Irrigation Administration), MWSS (Metropolitan Waterworks and Sewerage System) and various agencies and bodies that have water related functions," she said.

Loyzaga added: "There are so many demands for water supply and these demands need to be balanced. One example is Angat Dam, its multi-purpose and when the water level doesn't make the required level, which of the uses should be prioritized and typically that's both energy and agri and so, domestic supply in Metro Manila is affected."

The DENR yesterday signed with the Department of Labor and Employment an agreement meant to generate “green jobs” or occupations that help in preserving or restoring the quality of the environment in the country.

These include jobs related to protection, planting, forestation, monitoring and upkeep of areas, among others.

## NewsWeek

### [More Stink Bugs Will Invade the U.S. Amid Climate Change, Study Shows](#)

By Anna Skinner

A recent study found that climate change could make parts of America more palatable to brown marmorated stink bugs and lead to a sharp increase in the invasive pest.

Climate change has been found to cause a host of problems—everything from worsening natural disasters to affecting human health and changing weather conditions. Climate change can negatively affect animals in some areas, such as impacting polar bears in Arctic regions where ice is more prone to melt due to global warming. In other cases, climate change makes areas more appealing, such as with the brown marmorated stink bug, an invasive species from Asia that is now established in the United States and targets dozens of crops.

Researchers found that climate change could contribute to a 70 percent increase in suitable habitats for the pest. The study from Pest Management Science examined 543 sites over a three-year period and then estimated the stink bug's suitable habitat under various climate scenarios. Results found that the bug's habitat could increase greatly under various climate change scenarios.

"Many invasive insect species have wide host ranges and broad environmental tolerances, allowing them to rapidly expand their range in invaded regions," the study said. "Moreover, empirical evidence has shown that climate change has caused many species, including insects, to shift their native distributions or realized niche."

The Environmental Protection Agency (EPA) has a webpage about the insect that said it was introduced into the United States in the 1990s, where it likely stowed away on a shipping container. The Asia-native insect causes "major economic damage" to fruits, vegetables and field crops.

Brown marmorated stink bugs are most drawn to areas in the Mid-Atlantic region, the Great Lakes, southeastern states and valleys of the West Coast.

"These regions include highly productive croplands that are vulnerable to significant economic losses due to [brown marmorated stink bugs] each year," the study said.

Currently, the pests aren't much of a problem outside of the mid-Atlantic region of the United States, but that could change in the next 60 years if climate change makes other areas more habitable for the insect.



The study found that as climate change affects U.S. weather, there could be an increase in brown marmorated stink bugs in northern states. Other areas will see a decline in habitat suitability for the bug, such as some parts of the Sacramento Valley.

"According to our models, [the brown marmorated stink bug] may expand its range considerably in future decades, threatening crops in regions where it has not yet been detected," the study said.

The brown marmorated stink bug differs from other stink bugs, some of which are native to America. The brown marmorated stink bug can be identified by its brown coloring and banded brown and white antenna. True to their name, the insects, which can migrate indoors during the winter months, release an unpleasant smell when threatened or squashed.

## NPR NEWS

### [How glaciers melted 20,000 years ago may offer clues about climate change's effects](#)

By: Becky Sullivan

During Earth's ice ages, much of North America and northern Europe were covered in massive glaciers. About 20,000 years ago, those ice sheets began to melt rapidly, and the resulting water had to go somewhere — often, underneath the glaciers. Over time, massive valleys formed underneath the ice to drain the water away from the ice.

A new study about how glaciers melted after the last ice age could help researchers better understand how today's ice sheets might respond to extreme warmth as a result of climate change, the study's authors say.

The study, published this week in the journal *Quaternary Science Reviews*, helped clarify how — and how quickly — those channels were formed.

"Our results show, for the first time, that the most important mechanism is probably summer melting at the ice surface that makes its way to the bed through cracks or chimneys-like conduits and then flows under the pressure of the ice sheet to cut the channels," said Kelly Hogan, a co-author and geophysicist at the British Antarctic Survey.

Researchers found thousands of valleys under the North Sea

By analyzing 3D seismic reflection data originally collected through hazard assessments for oil and gas companies, researchers found thousands of valleys across the North Sea. Those valleys, some of them millions of years old, are now buried deep underneath the mud of the seafloor.

Some of the channels were massive — as big as 90 miles across and three miles wide ("several times larger than Loch Ness," the U.K.-based research group noted).

What surprised the researchers the most, they said, was how quickly those valleys formed. When ice melted rapidly, the water carved out the valleys in hundreds of years — lightning speed, in geologic terms.

"This is an exciting discovery," said lead author James Kirkham, a researcher with BAS and the University of Cambridge. "We know that these spectacular valleys are carved out during the death throes of ice sheets. By using a combination of state-of-the-art subsurface imaging techniques and a computer model, we have learnt that tunnel valleys can be eroded rapidly beneath ice sheets experiencing extreme warmth,"

The meltwater channels are traditionally thought to stabilize glacial melt, and by extension sea level rise, by helping to buffer the collapse of the ice sheets, researchers said.

The new findings could complicate that picture. But the fast rate at which the channels formed means including them in present-day models could help improve the accuracy of predictions about current ice sheet melt, the authors added.

Today, only two major ice sheets remain: Greenland and Antarctica. The rate at which they melt is likely to increase as the climate warms.

"The crucial question now is will this 'extra' meltwater flow in channels cause our ice sheets to flow more quickly, or more slowly, into the sea," Hogan said.

## OPEN ACCESS GOVERNMENT (ASIA)

### [The toll of climate change on mental health](#)

Although its health impacts vary between regions depending on geography, socio-economic status of affected communities, and political policies, climate change is the single greatest threat to human health

The impact of climate change on human health is further complicated by the fact that it represents the cumulative effect of many interconnected processes. Ironically, those in developing countries and disadvantaged communities who have contributed the least to the global climate change crisis are at the greatest risk for adverse health effects. Those at most risk are least likely to have the resources to protect themselves and are more likely to have risk factors that increase their vulnerability to climate change-related health risks.

It is increasingly appreciated that climate change negatively affects not only physical health, but also mental health. Immediate climate change events like natural disasters can lead to physical injury or death. Long-term climate changes, such as rising global temperatures, can result in food and water insecurity, respiratory disease and allergies, and heat-related illnesses. Similarly, the mental health effects of climate change may be immediate or develop over time and may result from direct or indirect effects of climate change. Immediate and direct mental health effects are most obvious in the aftermath of an extreme weather event or natural disaster like flooding, hurricane, or wildfire.

Trauma and shock are among the most common psychological responses observed following an acute climate change-related disaster, and these effects often subside with the restoration of safety and security. However, survivors of acute climate change-related disasters may experience chronic or severe mental health disorders related to stress, such as post-traumatic stress disorder (PTSD), anxiety, depression, sleep disorders, and substance abuse.

Prolonged climate events like extreme heat and drought also affect mental health. Extreme heat can affect mood and behavior, and individuals with pre-existing mental health problems or substance abuse disorders, as well as those on psychiatric medication, tend to have more difficulty with maintaining thermal homeostasis and are therefore at a greater risk of experiencing heat-related health issues. Extreme heat events are associated with spikes in hospital admissions for mood and behavioral disorders, like schizophrenia.

Heatwaves can also exacerbate substance abuse because individuals with substance abuse disorders often turn to alcohol or other substances of abuse to cope with the discomfort caused by exposure to extreme heat.

Research on the toll climate change is exacting on human mental health is rapidly expanding as extreme weather events are becoming more frequent, intense, and complex. Here, we discuss the emerging scientific literature on this topic, and discuss

new terms that are used both in scientific publications and on social media platforms to describe the emotional responses triggered by climate change and the impacts of the climate crisis on mental well-being.

The impacts of the climate crisis on mental well-being: What is eco-emotion?

Climate change-related events are happening worldwide, and the globalization of climate-related news regarding geographically distant climate events allows this information to reach a global population. The framing of climate change coverage on social media and news platforms affects our perception and understanding of the climate crisis, which can in turn trigger negative emotions like grief, depression, anxiety, distress, or anger. Additionally, individual experience with the direct and indirect impacts of climate change combined with increasing awareness of the overarching problem facing humanity worldwide due to the growing climate crisis can trigger these eco-emotions.

- Eco-grief

Eco-grief is a type of emotional response to ecological change associated with the physical loss of a personally significant place, such as a home, natural place, ecosystem, or community. Eco-grief stems from the concept of biophilia, which refers to an innate connection with nature and other living beings that provides psychological and emotional benefits. Climate-related changes that trigger eco-grief may have already happened or be anticipated to happen, for example, the loss of land due to rising sea levels or the extinction of a species due to habitat loss.

A climate-related loss of personal significance can contribute to the loss of personal identity or disconnection from an individual's community. This has happened repeatedly to indigenous people all over the world with both physical and mental repercussions spanning generations. Now we are all experiencing eco-grief to some degree as we see changes in normal weather patterns exerting changes on ecosystems.

- Eco-depression

Eco-depression refers to feelings of depression triggered by predicted future effects of climate change. Individuals experiencing eco-depression often feel helpless or powerless to change the course of the climate crisis. Individuals who identify as being eco-depressed are more likely to experience other mental health issues, such as depression, anxiety, and stress. Eco-depression is often fueled by news reports, as well as information posted on social media platforms. Reported cases of depression increased sharply in the aftermath of the 2019 Australian bush fire that burned up to 19 million hectares of land (Figure 2) and the extreme flooding in South Korea during the summer of 2022. International media attention on such events are forcing people to realize that the climate crisis is not an isolated event and that it is disrupting the lives of ordinary people.

- Eco-anxiety

Climate anxiety and eco-anxiety are other eco-emotions caused by stress, fear, or worry about future global threats associated with climate change. Anxiety is an emotional flight response to avoid real or perceived danger.

Mechanisms for coping with eco-anxiety include becoming informed about and finding potential solutions for stressful or dangerous climate-related situations. However, because climate change is such a complex problem with no clear solution, anxiety about the changing climate can become intense and overwhelming. While some people cope with eco-anxiety by protesting to raise climate awareness (Figure 3), others are almost paralyzed by eco-anxiety and unable to act. They may feel shame and guilt, further intensifying their climate anxiety.

Increasingly experienced by the general population globally, eco-emotions, such as fear, worry, anger, grief, despair, guilt, and shame connected to climate anxiety, are considered a normal response as individuals globally become more aware of the situation, accept it, and develop mechanisms for coping with the climate crisis.

The rise of climate anxiety and depression in children, young adults and survivors  
Climate-related distress is especially prevalent among children and young adults as they consider their future, including whether to have children of their own. In 2018, the United Nations' Intergovernmental Panel on Climate Change announced that policy makers have 12 years to enact policies to prevent the potentially irreversible consequences of climate change.

Children and young adults today are realizing that they may be experiencing a “point of no return” for the planet and as a result are likely to experience the worst realities of climate change in their lifetime, even if the worst disasters may occur 70 to 90 years from now.

In a survey conducted by The Lancet involving 10,000 young adults aged 16 to 25 from ten different countries, 60% of the respondents indicated that they felt very or extremely worried about climate change and nearly half of the participants felt that their feelings toward climate change was impacting their daily lives.

A large proportion of respondents who identified as being extremely worried about climate change lived in India, Brazil, and the Philippines, countries already heavily affected by climate change. When asked about their perception of their government's response to climate change, over 60% of respondents felt that their government was failing them and believed that their government was either lying to them about the impact of the climate actions taken by the government and/or was dismissing their concerns. The growing psychological impact of climate change on children and young adults is partially rooted in relational factors with the adults in their lives. The former can feel confused, angered, betrayed, or abandoned when adults fail to acknowledge or mitigate climate change caused by the actions of older generations who may not care because they will not live to see the worst of climate change.

Emerging research on people who have experienced climate change-related disasters indicates that eco-anxiety lingers in survivors. A survey of 2005 Hurricane Katrina survivors found that while 5 to 8 months after the hurricane 14.9% of survivors experienced PTSD, the rate increased to 20.9% one year later. In another survey

conducted between 2002 and 2003, residents from 30 locations in Wales and England who experienced flooding or lived in at-risk flooding areas since 1998 self-reported having anxiety associated with rain 2.5 to 5 years after the flooding event. Heat-related climate change events like wildfires have similar mental health effects. In a survey of victims who experienced major losses in the Ash Wednesday Australian brush fire of 1983, 42% of the respondents were identified as a “potential psychiatric case” a year after the event. Thus, researchers are finding that the psychological impact of experiencing a climate change-related disaster can persist for years and be exacerbated by subsequent occurrences of the triggering event (e.g., rain, fire, heat).

#### Why our mental well-being is vulnerable to climate change

The mental health outcomes associated with climate change-related disasters, such as anxiety, depression, PTSD, fatigue, substance abuse, and other psychological disorders, are associated with not only experiencing the event, but also the stress and trauma caused by loss. Some individuals, and in particular children, seniors, people with pre-existing physical and mental health conditions, people with lower socio-economic status, immigrants, and homeless individuals, are especially vulnerable to the potential negative psychological impacts of climate disasters. An inability to access support can further contribute to adverse mental health impacts. Resources to treat anxiety and depression, such as counselling, may often become overwhelmed due to high demand or be inaccessible due to infrastructure damage after a climate-related disaster.

Prolonged climate events like extreme heat and drought can also directly affect mental health, particularly when there is no “end” in sight. Long-term effects of climate change can force change, such as loss of personal or social infrastructure, disruption of food and water supplies, worsening of health conditions, conflict within or between families and/or communities, or displacement. Climate-sensitive industries, like agriculture, are vulnerable to climate-related loss of income, employment, or assets. For example, air pollution resulting from prolonged periods of high temperature can lead to increased respiratory illness or allergies, resulting in increased demand for health care services and reduced capacity to work amongst agricultural workers. These losses are tied to decreased mental well-being.

Disruption of the supply chain as a secondary effect of climate change threatens the economic stability of communities, countries, and regions, which also worsens the mental well-being of the affected individuals. Climate change-induced displacement and eco-migration are predicted to become major socioeconomic issues in the 21st century, especially for low-income individuals as they seek to mitigate the physical and mental strain associated with climate change. Children are especially vulnerable to the mental health effects associated with displacement. Disruption of routine and separation from family or friends along with parental stress contribute to children’s mental vulnerability after climate-related disasters. Adverse childhood experiences, such as living through a climate-related event and the aftermath, have been associated with an increased risk of serious mental and physical health issues throughout life.

The growing stressors caused by climate change-related weather events can be difficult for people already dealing with mental health disorders or those susceptible to anxiety,

depression, or suicidal thoughts and ideations. This includes not only experiencing a climate change-related event but also learning about others' negative experiences with climate change. The latter can exacerbate poor mental well-being because the affected individual identifies new stressors in their life and/or recognizes their own potential vulnerability.

How can we protect and maintain mental health during this climate crisis?

Access to adequate mental health care is the first line of defense against the psychological impacts of climate change. This is a challenge for both developing and developed nations. In many countries, particularly developing nations already disproportionately impacted by climate change, there is a significant gap in resources and social services for mental health. Even in developed countries, gaps in funding and insufficient numbers of trained personnel limit the availability of mental health resources, particularly in disadvantaged communities. Mental health problems like anxiety and depression cost the global economy about \$1 trillion U.S. dollars annually due to loss of productivity, but governments on average spend just 2% of their health budget on mental health.

There is also an urgent need to educate the general population about the potential mental health implications of climate change. With adequate training, health care professionals, educators, and other community and religious leaders can help individuals and groups recognize and identify climate change-related stressors in their lives. There are effective approaches for teaching resiliency and methods for reducing distress and reinforcing feelings of self-efficacy. Chronic stress during childhood can have long-term health impacts and increase the risk of developing mental health problems in adulthood, so it is especially important that children become familiar with the concept of climate change and all the different ways it can affect them. Educating people about climate change and eco-related mental health provides them with the vocabulary to talk about their feelings and formulate approaches for responding to the climate crisis.

Some countries have acknowledged the importance of considering mental health and psychological support for both individuals and communities in their preparedness and response plans for climate-related emergencies. After Typhoon Haiyan hit the Philippines in 2013, the Department of Health strengthened its mental health support system by creating a training program for health professionals and community health workers to provide mental health care and psychosocial support. In the Caribbean islands, which have been affected by increasingly strong hurricanes due to climate change, the Caribbean Development Bank worked with the Pan American Health Organization to develop a mental health awareness campaign to reduce the stigma of seeking help for mental health. The campaign leveraged the Caribbean cultural principle of "one love, one family" and equipped individuals' with tools for identifying symptoms of psychological distress and providing support for others in their community experiencing a mental health crisis. The program's overall goal was to teach caretakers, first responders and volunteers how to provide psychological first aid and how to safely respond and provide initial support for individuals in psychological distress during a disaster. Mental health professionals were heavily involved in planning these health



programs, which strengthened the greater mental health community health while reinforcing community connections and social collectiveness following a disaster.

#### Taking personal action to protect the climate

Taking personal action to mitigate the impacts of climate change, whether small or large, can help individuals confront their climate fears and feel empowered. Small steps include recycling, reducing personal use of plastic, or taking public transportation to reduce consumption of fossil fuels can reinforce feelings of hope and mitigate stress. This is especially true when people see others engaging in the same behavior, reinforcing the concept that the collective effect of individual small steps can make a significant difference. There are also increasing examples of individual actions that have a large impact. For example, in early 2022, the United Nations News covered the story of Nzambi Matee, an engineer from Kenya who started a company to convert plastic waste into building materials. Matee revealed that she was motivated to start her company because she was tired of watching her community in Nairobi, Kenya struggling to manage their plastic waste.

The importance of implementing effective and scientifically robust climate change policies in local and national governments cannot be ignored. This collective concern about climate change is also important to help individuals feel that their voices are being heard and their concerns are being met. Leaders need to enact policies that will mitigate climate change and provide support for climate-positive efforts.

Positive examples include the 26th United Nations Climate Conference (COP26), during which many government parties formed new policies and agreements to reduce forest loss and to decrease greenhouse emissions. In COP26, 100 nations signed a plan to cut methane emissions by 30% by reducing fossil fuel production. In addition, the U.S. along with the United Kingdom, Germany, and Norway pledged \$1.7 billion U.S. dollars to indigenous groups to support their work in forest and land conservation. By addressing both the gap in resources for climate change mitigation and mental health, governments can help their citizens adapt and prepare for the evolving climate crisis.

News media also have a significant role to play in mitigating the negative impacts of climate change on mental health. The framing of climate change media coverage strongly influences individual perception and understanding of current climate events. The tendency for media outlets to highlight the doom and gloom of the planet, while effective in gaining the reader's attention, may exacerbate eco-emotions if not balanced by information regarding mitigation efforts being developed. There is reason for hope as illustrated by a recent report published in Science News, in which researchers from the University of Oxford described an inexpensive way of using planes to capture atmospheric CO<sub>2</sub> for direct conversion into fuel. This news highlighting an innovative solution for reducing the carbon footprint of flying, which accounts for 12% of the global transportation carbon emissions, is inspiring and can have a significant positive effect on mental well-being.

In summary, the climate crisis is real, and it is having documented adverse effects on human mental health. It is incumbent on individuals, communities, news media and

governments to consider not only how we educate each other on climate change, but also how we protect against the potentially devastating impacts of climate change on mental well-being. After all, good mental health is critical to the development of creative and effective solutions to the climate crisis.

## PHILIPPINE DAILY INQUIRER

### [PH most disaster-prone country in the world—study](#)

By: Cristina Eloisa Baclig

MANILA, Philippines—The Philippines, where Super Typhoon Karding (Noru) recently hit, was identified as the most disaster-prone country in the world due to its high risk, exposure, and vulnerability to disasters and calamities, an international report showed.

The World Risk Report 2022 by Germany-based Bündnis Entwicklung Hilft and the Institute for International Law of Peace and Armed Conflict at Ruhr University Bochum (IFHV) showed that the global hot spots of disaster risk from natural hazards are in the Americas and Asia.

The World Risk Index, a part of the annual risk report which calculates the disaster risk for 193 countries, showed that the Philippines has the highest disaster risk, with an index score of 46.82.

India trailed behind with an index score of 42.31, Indonesia with 41.46, Colombia with 38.37, and Mexico in fifth place with 37.55. Myanmar, Mozambique, China, Bangladesh, and Pakistan were also among the top 10 countries with the highest disaster risk.

“The risk assessment in the WorldRiskReport is based on the general notion that the emergence of a disaster not only depends on how severely natural hazards hit a society but also on how vulnerable society is to their effects,” the report read.

The report noted that the World Risk Index focuses “on the risk of disasters as a result of extreme events and adverse impacts of climate change.”

“The WorldRiskIndex is a model that aims to raise awareness about the relevance of social capacities in disaster preparedness among the public and decision-makers in all sectors of society, to provide guidance for practitioners in the prevention of humanitarian crises, and to support decisions in the allocation and prioritization of resources,” it continued.

“The aim is to create an understanding that the emergence and progression of disasters are highly dependent on the social conditions of the people, regions, and countries affected, to accompany the shift from reactive to proactive action,” it added.

‘New structure’

The Philippines’ current ranking in the World Risk Index was a huge jump from its previous records.

At least four years ago, in 2018, the country ranked third on the list of countries with the highest disaster risk, with an index score of 26.70. In 2019, the country dropped to ninth after registering an index value of 20.69.

In 2020, as the COVID-19 pandemic hit countries across the globe, the Philippines was still among the top 10 countries with the highest disaster risk while remaining in ninth place with the same index score.

Last year, the Philippines ranked eighth with an index score of 21.39.

However, this year's report emphasized that the World Risk Index has been updated, which now follows 100 indicators compared to the previous 27.

"The WorldRiskIndex now comprises a "total of 100 indicators instead of the previous 27," said IFHV Research Associate Daniel Weller.

"In particular, the inclusion of indicators on how populations have been affected by disasters and conflicts in the past five years, as well as on refugees, displaced persons, and asylum seekers in the new index—also against the backdrop of the major global migration movements—results in a significantly more accurate representation of the realities of life in many countries," Weller said.

The report also highlighted that "disaster risks are not solely shaped by the occurrence, intensity, and duration of extreme natural events, but that social factors, political conditions, and economic structures are equally responsible for whether disasters occur in the context of extreme natural events."

"This expressed the conviction that every society is capable of taking direct or indirect precautions, such as the establishment and maintenance of effective disaster protection to counter the effects of natural hazards or climate change."

Still, the World Risk Index continues to offer crucial estimates of the latent risk of nations suffering a calamity brought on by catastrophic natural occurrences and allows for cross-national comparisons of these risks.

The World Risk Report maintained that no forecasts are provided regarding the impending disaster's date, severity, or likelihood.

Very high exposure, vulnerability

The report also found that the Philippines was among the top 10 countries with the highest exposure to disasters. The country ranked fourth with 39.99 exposure, trailing China, Japan, and Mexico.

"Exposure is the extent to which populations in hazard-prone areas are exposed to and burdened by the impacts of extreme natural events or the negative consequences of climate change," the report said.

"Thus, exposure consists of the aspects of hazardousness, which include the frequency and intensity of earthquakes, tsunamis, coastal and river floods, cyclones, droughts, and sea-level rise in an area (hazard zone), and populations (hazard object)," it added.

The country, however, was not included in the top 10 most vulnerable countries to disasters.

Vulnerability focuses on the tendency of populations to be vulnerable to damage from extreme natural events or the negative impacts of climate change.

“As a sphere of economic, political, social, and environmental factors, vulnerability maps the capacities and dispositions of people, households, and societies and indicates how easily and to what degree they can be destabilized, damaged, or even destroyed by extreme events,” the report explained.

“It is composed of the three dimensions of susceptibility, lack of coping capacities, and lack of adaptive capacities, which are subdivided into further categories.”

Still, the country’s vulnerability score was “very high,” at 54.81.

In terms of the country’s susceptibility—or the overall likelihood of populations suffering damage from extreme natural events and entering a state of disaster—the Philippines scored 51.35, categorized as “very high.”

The country’s coping capabilities and adaptive capacities scores were 57.81 (very high) and 55.48 (high), respectively.

“Coping capacities [refer] to the abilities and measures of societies to counter adverse impacts of natural events or climate change through direct actions and available resources in the form of formally or informally organized activities and measures, as well as to reduce damage in the immediate aftermath of an event and initiate recovery,” the report stated.

“Adaptive capacities, in contrast to coping capacities, refers to long-term processes and strategies to achieve anticipatory changes in societal structures and systems to counteract, mitigate, or purposefully avoid future negative impacts,” it added.

#### Focus on digitalization

This year’s World Risk Report focused on digitalization and how it has created new opportunities in all phases of disaster management.

The report highlighted how information and communication technologies (ICTs) used by people provide important data for risk analysis, make essential information available in the event of an emergency, and accelerate the start of relief measures.

ICTs, according to the report, also offer tools to fight against issues including hunger, poverty, and social inequality, “as well as for improved healthcare and educational opportunities, and consequently also for sustainable development and reduced vulnerability.”

“Digitalization has significantly changed disaster preparedness and management. Information and communication technologies (ICT) are used in all phases of disaster management for knowledge acquisition, information dissemination, communication, as well as control,” the report said.

“Examples include the use of global databases for risk analysis, digital early warning systems, apps for recording damage, and communication with those affected via social media platforms,” it added.

However, Wolf-Christian Ramm—chairman of the Board of Bündnis Entwicklung Hilft—and Pierre Thielbörger—executive director IFHV, Ruhr University Bochum—noted that digitalization is also accompanied by many issues to which solutions are yet to be found.

“With the rapid digitalization of disaster management, new weak spots and vulnerabilities are inevitably emerging,” they said.

“To counter these new vulnerabilities and to maintain the integrity of disaster relief, proactive leadership, digital security training, technical legal knowledge, and cybersecurity investments are essential. Issues around data privacy, accountability, and ethics are particularly significant at the moment.”

To make better use of the potential of digitalization for disaster management—as well as to make it more sustainable, local, and socially just—the report suggested the following requirements:

Requirement 1: Digital technologies and competencies must be equally accessible to everyone.

Requirement 2: Digital structures must be in place and structure.

Requirement 3: Data and digital techniques must be accessible and transparent.

Requirement 4: Data must be protected and regulated.

## **PHILIPPINE NEWS AGENCY**

### **Karding-damaged houses now almost 100K: NDRRMC**

By: Priam Nepomuceno

Manila – The number of houses damaged by Super Typhoon Karding has climbed to 99,852 in five regions, the National Disaster Risk Reduction and Management Council (NDRRMC) reported Thursday.

In its latest situation report, the agency said these houses are located in the regions of Ilocos, Cagayan Valley, Central Luzon, Calabarzon, and Cordillera.

Classified as damaged are 85,825 houses and categorized as destroyed are 14,027.

Meanwhile, the number of families affected by Karding has climbed to 364,741, equivalent to 1,380,974 individuals, residing in 1,984 barangays in the Ilocos region, Cagayan Valley, Central Luzon, Calabarzon, Mimaropa, Bicol, Cordillera, and the National Capital Region.

As of this posting, only 419 families or 1,684 persons are sheltering in 19 evacuation centers. The rest have returned home or are being assisted by families and friends.

The typhoon's casualty count stands at 12 dead, five missing, and 68 injured.

Nine of the fatalities have been confirmed – five in Central Luzon and four in Calabarzon. Still undergoing validation are three deaths in Central Luzon long and five missing persons in Bicol.

Confirmed injured are 66, all in Central Luzon, while two in Calabarzon are undergoing validation.

## THE GUARDIAN

### ['The mountains protect us': safeguards sought for Philippines' Sierra Madre shield against typhoons](#)

Kaliwa dam project in the Sierra Madre would be disastrous for main island's storm defences as well as biodiversity, say conservationists

As Super Typhoon Noru made landfall in the Philippines last month and people across the main island of Luzon braced for impact, the country's largest mountain range – the Sierra Madre – began to trend online.

One image shared widely on Twitter was taken from a weather report, showing Noru moving over the range.

The Sierra Madre was “doing her thing”, said the tweet. Noru's force appeared to be weakening.

Weather tracker: Typhoon Noru wreaks havoc across south-east Asia  
Read more

The Sierra Madre, which stretches for 500km, has long shielded the island of Luzon, including the capital, Manila, from the worst of the typhoons that form in the Pacific Ocean. While the rugged mountain slopes can mitigate strong winds, the forests also absorb heavy rains.

The arrival of Noru, the strongest typhoon so far this year, prompted renewed calls for the protective mountain range to itself be protected from mining, logging and development projects, including the controversial Chinese-backed Kaliwa dam.

Former president Rodrigo Duterte, whose term ended in June, had argued the dam would provide a new water source to meet the rising demand of populations across Metro Manila, Rizal and Quezon.

Officials say the project will bring benefits that outweigh disruption to the environment. The project footprint is less than 0.1% of the total area of the Southern Sierra Madre, said Ryan James V Ayson, project manager of the Kaliwa Dam, at the Metropolitan Waterworks and Sewerage System. Most of the project affected areas “are already disturbed and are used for agricultural purposes,” he said.

“There are about 16 thousand trees to be affected and more than half of those are coconut trees. The rest are mostly fruit bearing trees for the livelihood of the people in the area,” he said.

Ayson added that there are communities downstream that are built on floodplains and which are already exposed to floods, but that the dam would help monitor water levels and so that people can be warned of future floods. It will be built with higher safety



standards than regular structures such as buildings or roads, and a dam break scenario is improbable, he said.

Campaigners say construction of the Kaliwa dam could pave the way to further development, undermining a powerful defence against typhoons in a country that is especially vulnerable to extreme weather. It would also disturb its rich flora and fauna, and displace Indigenous communities, they say.

“Projects like the Kaliwa Dam will serve as precedents for other projects to come in, and will invariably be used as an example by other dam proponents who wish to enter the Sierra Madre area,” said Jon Bonifacio, national coordinator of Kalikasan People’s Network for the Environment, a group of non-government organisations and environmental advocates.

There is a risk, he added, not only of the physical wearing down of the mountain, but also of destroying large sections of biodiversity.

The MWSS has also been accused of railroading the consultation process with affected communities. Earlier this year, some indigenous leaders and elders accused the government of only allowing certain leaders to participate in negotiations before an agreement was signed. At the time, the body rejected claims that the process was unfair, and said all issues were addressed.

According to MWSS, 41 households would need to be relocated due to the Kaliwa Dam Project.

“The provisions of the Indigenous Peoples’ Rights Act have been strictly complied with in the acquisition of consent from the communities. The National Commission on Indigenous Peoples ensures that all procedures are properly conducted in accordance with the law,” said Ayson.

Super Typhoon Noru caused US\$50.4m worth of damage to agriculture and affected 911,404 people when it struck the Philippines. Twelve people, including five rescuers, were killed and six were missing. The destruction could have been even worse were it not for the mountain range, say experts.

After Noru, lawmaker Fidel Nograles reiterated calls to pass a bill creating a government body that would be tasked with the conservation and management of the mountain range. “Sierra Madre has once again shown just how crucial it is in protecting us against extreme weather events.”

onifacio said there was growing awareness among the public of the need to protect the Sierra Madre, but that conservation areas across the Philippines continue to face threats.

“If the current administration is really genuine about their promise about addressing climate change, these kinds of attacks, or these kinds of projects, need to be acted

upon,” Bonifacio said, referring to the government of Ferdinand Marcos Jr, who took office in June. “I’m seeing no indication of that, unfortunately, from above.”

China Energy Engineering Corporation Limited, which was selected to build the dam, did not respond to a request for comment. Nor did the Chinese embassy; however, in 2020 it defended the project, saying the Philippine authorities had ordered a critical evaluation of the project’s “economic practicality and compliance of environmental protection rules and bidding procedures”, they said.

## THE MANILA TIMES

### 'Climate change made 2022 drought likelier'

Paris: Human-caused climate change made this summer's drought across the Northern Hemisphere at least 20 times more likely, according to a rapid analysis released on Wednesday that warns such extreme dry periods would become increasingly common with global heating.

Last June, July and August were the hottest months in Europe since records began, and the exceptionally high temperatures led to the worst drought the continent has witnessed since the Middle Ages.

Crops withered in European breadbaskets, as the historic dry spell drove record wildfire intensity and placed severe pressure on the continent's power grid.

Successive heat waves between June and July, which saw temperatures top 40 degrees Celsius (104 degrees Fahrenheit) in the United Kingdom for the first time, saw some 24,000 excess deaths in Europe.

China and North America also experienced unusually high temperatures and exceptionally low rainfall over the period.

An international team of climate scientists has determined the warming caused by human activity made such extreme weather significantly more likely than it would have been at the dawn of the industrial age.

The World Weather Attribution service calculated that the agricultural and ecological drought over the Northern Hemisphere was at least 20 times likelier, thanks to global heating.

"The 2022 summer has shown how human-induced climate change is increasing the risks of agricultural and ecological droughts in densely populated and cultivated regions of the North Hemisphere," said Sonia Seneviratne, a professor at the Institute for Atmospheric and Climate Science at ETH Zurich in Switzerland and one of the study contributors.

'Faster than expected'

To quantify the effect of human-caused climate change on soil moisture levels, the team analyzed weather data and computer simulations to compare the real climate as it is today — that is, some 1.2 C hotter than pre-industrial levels — with a climate absent of any human-induced heating.

They found that western and central Europe experienced particularly severe drought and substantially reduced crop yields.

Moisture in the top 7cm of soil across the Northern Hemisphere was made five times likelier to experience severe drought due to climate change, the study found.

For the top one meter of soil — known as the root zone — this summer's dryness was made at least 20 times likelier on account of global heating.

"Really, what is most relevant for agriculture and ecological impacts is the top one meter of the soil because that's where plants have their roots," Seneviratne said.

Overall, a Northern Hemisphere drought such as this summer's was now likely to occur once every 20 years in today's climate, compared to once every 400 years in the mid-18th century.

Producers in Europe and China have warned of significantly lower than expected harvests in crop staples due to the dry spell, after food prices spiked to multiyear highs following Russia's invasion of Ukraine on February 24.

Friederike Otto, senior lecturer in climate science at the Imperial College London, called the crop shortfall "particularly worrying."

"It followed a climate change-fueled heat wave in South Asia that also destroyed crops, and happened at a time when global food prices were already extremely high due to the war in Ukraine," she said.

Otto also said the Northern Hemisphere in general was showing a "pure climate change signal" in its overall warming trends.

Maarten van Aalst, director of the Red Cross Red Crescent Climate Center and professor of climate and disaster resilience at the University of Twente, said governments needed to do far more to prepare for future heat and drought shocks, which would become ever more frequent as temperatures rise.

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