

#WEF24 – Tracking the effects of Climate on our Health

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Instead of focusing solely on degrees Celsius, we should measure our progress by the number of lives saved.

This is one of the most profound insights, shared during the World Economic Forum 2024 by several leaders, as it marks a significant milestone in the panel discussion addressing the nexus between climate change and human health.

In this context, we might agree on the fact that 2023 was one of the years characterized by the highest temperatures, right? The answer to this question is unleashing much more critical danger than what we may have expected just a couple of years ago.

In 2023, the Copernicus Climate Change Service recorded the warmest year on record, setting the stage for a series of alarming climate milestones. Current phenomena, such as CO₂ levels surpassing 50% above pre-industrial levels, command global attention due to their severe impact on human well-being. These phenomena not only amplify the risk of infectious diseases but also intensify socio-economic disparities, emphasizing the urgent need for action.

In fact, evidence also shows that a quarter of global diseases is intricately linked to weather patterns and the impacts of climate change. Particularly, climate change directly poses a direct

threat to health through the proliferation of diseases and mental health challenges, disproportionately affecting communities residing in the most vulnerable regions of the world.

Therefore, recognizing the urgent need for action, 123 nations have signed the COP28 UAE Declaration on Climate and Health. This event indicates governments' acknowledgment of the mounting health crisis induced by climate change and the profound need of substantive climate action such as reductions in air pollution and healthcare costs.

Immediate action is imperative, as also indicated by the WEF Insight report on this theme in collaboration with Oliver Wyman, which estimates an additional 14.5 million deaths and \$12.5 trillion in economic losses attributable to climate change impacts by 2050.

Consequently, perspectives from industry on adaptation, healthcare system resilience, and decarbonization are indispensable components of this effort, especially because the traditional metrics in use like global surface temperatures and atmospheric carbon dioxide levels fail to capture the human dimension of climate change, which would be fundamental for developing a global call for action.

As we know, it is not a mystery that natural disasters such as inundations, droughts, heatwaves, tropical storms, wildfires, and sea-level rise are no longer distant threats—they are already upon us. These events, underscored by the Intergovernmental Panel on Climate Change, profoundly impact health determinants and socio-economic well-being, and need targeted solutions informed by comprehensive data analysis.

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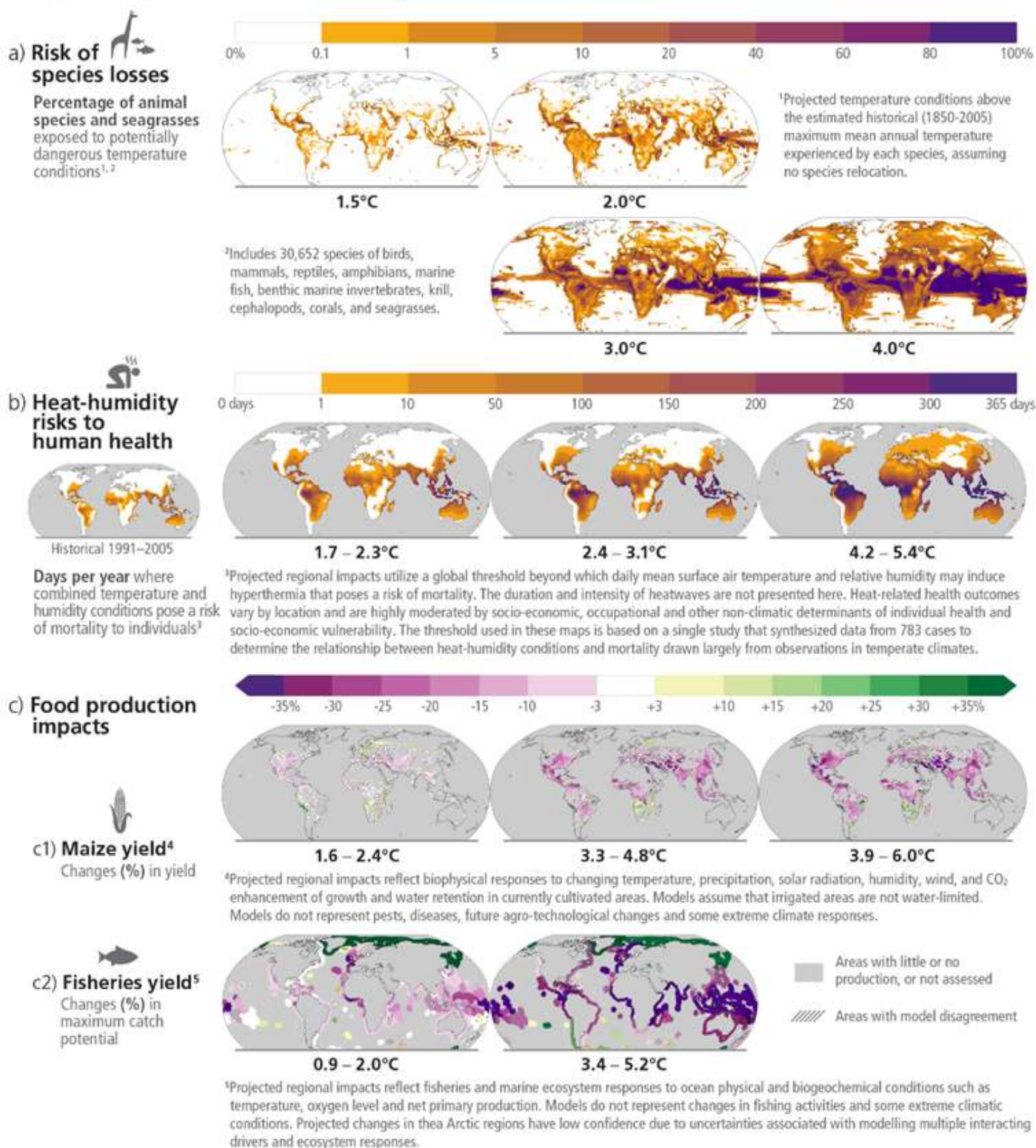
Going into detail, close repercussions include effects such as malnutrition, respiratory and cardiovascular disorders, or increased exposure to infectious diseases, while longer-term consequences may notice impaired child development due to malnutrition, respiratory ailments, or mental health disorders deriving from traumas.

The analysis presented in the World Economic Forum report has the aim to explain the deepest causes of these catastrophes and trace the workable solutions by looking at the future projections of these effects. The key insights origin from the study of diverse sources such as the World Health Organization (WHO) framework for climate change, the IPCC (Intergovernmental Panel on Climate Change), other UN-sponsored agencies, the World Meteorological Organization (WMO) and several scientific research sources.

Particularly, the IPCC highlights a strong human health risk detected in terms of days per year of exposure of the global population to hypothermic conditions leading to mortality risk caused by certain levels of surface air temperature and humidity for the historical period 1991 -2005 and a global warming level of 1.7°C–2.3°C (average = 1.9°C; 13 climate models) on the picture below, left side, 2.4°C– 3.1°C (average = 2,7°C; 16 climate models) in the middle and 4.2°C–5.4°C (average = 4.7°C; 15 climate models) on the right.

Future climate change is projected to increase the severity of impacts across natural and human systems and will increase regional differences

Examples of impacts without additional adaptation



Source: IPCC, 2023: Sections. In: *Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, H. Lee, and J. Romero (eds.)]. IPCC, Geneva, Switzerland, pp. 35-115, Doi: 10.59327/IPCC/AR6-9789291691647

Additionally, it has been shown that 3.3-3.6 billion people live in contexts that present a high rate of vulnerability to climate change. Over the last 15 years, and between 2010 and 2020, the level of human mortality due to floods, droughts and storms has been recorded as fifteen times higher in these types of geographical regions, compared to areas with a low level of vulnerability. For example, in the Arctic areas, the changes by which the cryosphere has been affected have been strongly felt by Indigenous populations, as the impacts on human and the ecosystem are strongly interdependent.

All these results make researchers reflect, because the vulnerability of ecosystems and people to different climate changes have reached high levels shaped between regions and within them with different intensities due to causes such as: different socioeconomic models and inequalities, unsustainable use of oceans and land, marginalization.

On this note, a confirmation of the critical effects of climate change on Indigenous communities directly arrives from the United States Environmental Protection Agency. As stated by the Agency, several Indigenous communities, especially those living in particularly remote areas, currently do not have drinking water and/or infrastructure to use water safely. On top of this, there is a further threat to water infrastructure, namely the melting of permafrost. This event creates a destabilization of the land, thus damaging the infrastructure.

But what exactly is permafrost?



It can be described as a rock or terrain characterized by the presence of ice that remains frozen for two or more years. Permafrost comes in many different forms and is found in areas near the Arctic. For example, about 80% of the land in Alaska is covered in permafrost.

An important variable influencing the state of permafrost is the temperature at the ground surface and at shallow depths. A warm climate that has raised temperatures in Alaska as in other areas of the world with permafrost has caused some of it to thaw.

This phenomenon, with its far-reaching implications, can have profoundly grave consequences for both people and the environment. As the ice-filled permafrost melts, it transforms into a mud mixture, posing risks of soil erosion and the release of trapped viruses and bacteria, potentially endangering human lives and ecosystem balance. The threat is exacerbated by the escalating infrastructure damage, which has compelled communities in western and southern Alaska to evacuate due to severe home damage caused by thawing permafrost.



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Furthermore, the melting of permafrost leads to remnants of soil and vegetation embedded in it to decompose, leading to the release of methane and carbon dioxide into the atmosphere. This dual impact underscores the urgent need for comprehensive strategies to mitigate the risks and dangers posed by this environmental shift.

Following this overview on the global scene and reconnecting these new reflections to the WEF Report, it underscores the importance of evaluating high-impact geographical zones based on four critical criteria, encompassing health and economic considerations. Such evaluations are pivotal for identifying potential adaptation and preparedness interventions essential for addressing these phenomena effectively.

The overarching goal is to encourage healthcare leaders worldwide to prioritize the development of flexible care models and resilient infrastructure to confront the anticipated surge in climate-related health issues. These proactive measures, championed by inspiring leaders within the healthcare sector and in collaboration with governments, represent the key strategies required to combat the disruptive forces of climate change.

It is imperative to explore and implement solutions at various levels—local, regional, and global—to effectively tackle the wide spectrum of health implications and ensure that no individual is left behind in this endeavour. By collectively working towards these goals, we can strive to mitigate the impacts of climate change, safeguarding lives and preserving the integrity of our planet for generations to come.

About the Author

Lucia Palomba has a background in economic studies at the University of Zurich. Moreover, she has also been able to deepen and develop her interest about the study of issues related to sustainability and sustainable investing.