OPINION

The climate crisis in the polar regions doesn't stay in the polar regions

Global warming occurs two to three times faster at the poles than anywhere else in the world due to what is known as the "polar amplification process." Climate change is accelerating natural processes of reshaping waterfront as close as Cape Cod.

By Prince Albert II Updated October 12, 2022, 3:00 a.m.

Lilliehook Glacier in Svalbard Bay, in the Svalbard archipelago in the Arctic Ocean COURTESY HSH PRINCE ALBERT II OF MONACO

In 2005, I stood in front of the Lilliehook Glacier in Svalbard Bay, in the Svalbard archipelago in the Arctic Ocean; the same location my great-great-grandfather explored 100 years prior. The integrity of glaciers and ice caps I observed, compared to his photographs, presented the reality that a climate crisis was coming sooner than

most believed and inspired my decision that the polar regions would become a priority for the foundation I founded in 2006, the Prince Albert II of Monaco Foundation.

While my expedition to the South Pole in 2009 emphasized the need to accelerate global action, my latest visit to the Arctic in June confirmed that the world community has not been paying enough attention to these remote areas and is not fully cognizant of the changes they are experiencing that will impact all nations worldwide.

What happens in the polar regions doesn't stay in the polar regions. It strikes the entire planet, knocking down our doors with dire consequences: rising sea levels; increased frequency and intensity of extreme weather events; catastrophic droughts and floods; accelerating ocean acidification; disruption of ecosystems; and loss of biodiversity.

Global warming occurs two to three times faster at the poles than anywhere else in the world due to what is known as the "polar amplification process," resulting in part from the highly reflective and absorbing power of the ice and heat transfer by oceanic currents to the poles. Effects are multifold: melting of the Arctic Sea ice in the summer; loss of the Greenland ice sheet; decay of the Antarctic ice sheet; permafrost degradation which leads to further CO_2 and methane emissions; changes to the chemistry of the Arctic and Southern oceans; modifications of the carbon cycle which drives ocean productivity; disruption to the composition of land and marine species; and geographical shifts of ecosystems and species.

All intertwine in a cascade of impacts and environmental responses within complex interconnected systems that have serious consequences for not only the communities living in the Arctic or around Antarctica, but for our planet and societies.

When the United Nations Intergovernmental Panel on Climate Change released its special report on ocean and cryosphere in the context of climate change in Monaco in 2019, IPCC experts highlighted the disruptive consequences of the melting of ice and thawing of permafrost while confirming the direct link to human-induced climate change.

Though the report identified that over 600 million people living in coastal areas would

see their lives impacted by 2050, many have already experienced homes and lives upended with catastrophic coastal flooding and beach erosion. Climate change is accelerating natural processes of reshaping waterfront as close as Cape Cod and, currently, the coastlines of Florida and South Carolina with the destruction brought on by Hurricane Ian.

Giving a voice to the polar regions through the eyes and minds of the experts and communities that know these regions best is imperative. My foundation's Polar Initiative is dedicated to identifying the connectivity between climate impacts and polar changes, and inspiring us to implement effective solutions.

Acknowledging both the risks and opportunities presented, it is critical to further study the magnitude, scale, and acceleration of changes in these regions. While experts can alert and inform us about the current changes and threats, it is up to all of us to take the appropriate mitigation and adaptation actions to secure a healthy planet.

The 21st century raises new challenges. There is no doubt that a global approach is urgently needed, collectively and individually, to reduce greenhouse gas emissions, as they are the main cause of degradation for the polar regions, and consequently for the

entire planet.

The poles are the engine of the planet's ocean and atmospheric flows. Our ability to monitor changes, predict evolution and influences, and study and anticipate impacts will greatly determine the road maps we need to put in place to strengthen collective resilience. Priority must be given to increase investments in polar research, identify the appropriate technologies suited for these harsh environments, and foster multidisciplinary and multi-stakeholder approaches across research and technical teams. Above all, we need to intensify international scientific cooperation involving specialists working on both poles, as per the solid groundwork laid out by the scientists who participated in the polar symposium cohosted by my foundation and our partners, Scientific Committee on Antarctic Research, International Arctic Science Committee, and the Oceanographic Institute of Monaco, in the Principality, in February 2022.

The solutions for change and progress require science-based facts with the commitment of global partnerships, and definitive local and national actions, solutions, and funds, dedicated to worldwide planetary health.

Not one foundation, not one country, not one individual or NGO can win this climate battle alone. The Arctic and Antarctic regions are among the most vulnerable places in the world. Our responsibility must be to collectively take action to protect and preserve these regions. By acknowledging and examining the warning signs sent by a disturbed environment, I am confident that together we can drive genuine societal changes and find the solutions for a sustainable future.

HSH Prince Albert II of Monaco is the founder of the Prince Albert II of Monaco Foundation.