



Book News



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LIFE IN THE HOTHOUSE: HOW A LIVING PLANET SURVIVES CLIMATE CHANGE

Melanie Lenart

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256 pages, 6 x 9
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Everyone is talking about climate change. From scientists and policymakers to environmentalists and everyday citizens, humans across the globe are concerned about the state of the planet. In *Life in the Hothouse: How a Living Planet Survives Climate Change*, Melanie Lenart offers an alternative view of the issues at hand—explaining in fascinating, user-friendly terms how the Earth’s natural systems help deal with climate change and what we can do to support that process.

Climate skeptics challenge the link between rising carbon dioxide levels and temperature. Yet, a look back in deep time shows temperature and carbon dioxide rising and falling in synch in a long-term relationship that’s outlasted many a mountain. In turn, forest cover changes as climate does – but often in a way that might surprise people accustomed to hearing a doomsday scenario.

So asserts author Melanie Lenart. An award-winning journalist before moving into the world of science to get a Ph.D. and then work as a climate researcher, Lenart synthesizes research about the past 100 million years to consider how our planet responds to different climates, past and present. Stronger hurricanes, rising seas, bigger floods – warming temperatures spur these on. Do these imply a planet taking revenge for human-caused greenhouse gas heating? No, Lenart argues, they merely demonstrate some survival techniques of a living system doing what it takes to stay alive.

Much as humans produce sweat to cool off, the Earth produces hurricanes, floods and forests in its own temperature-balancing effort. Lenart bases this interpretation on the concept of Gaia theory, which says that the planet is a living system with some ability to keep its temperature within a life-sustaining range. Sometimes it just comes down to physics.

Does that mean humans can leave it to the planet to take care of the extra heat-trapping greenhouse gases filling the air? No. The planet can survive with ice-free poles, higher sea levels, and intense hurricanes that would potentially be off the charts by today’s standards. Clearly, under such conditions, society would face many challenges.

In modern times, scientists are not projecting the total meltdown of the poles in the foreseeable future. Yet these examples from hothouse times and ice ages illustrate the extremes to which the planet can go. What's more, learning more about what the Earth does naturally during times of excessive warming can help society plan better for modern ways of handling the heat.

It turns out some of the Earth's survival mechanisms can also help with problems that come with higher temperatures. For instance, wetlands and forests help moderate extremes during floods and heat waves. It's speculative but possible that the brief pause in the temperature rise we've seen in the past few years relates to some planetary defenses to balance the heat. Even in a warming world, climate variability is to be expected.

Read Lenart's book and learn more about these past excursions into hothouses—and what they mean for life on Earth.

ABOUT THE AUTHOR:

Melanie Lenart, Ph.D., is an environmental scientist and writer who specializes in climate change and forests. As a scientist, she studied forest dynamics in China, Colorado, and Puerto Rico, where she lived during two major hurricanes. She was involved in an Arizona agricultural experiment testing how plants responded to elevated levels of carbon dioxide, the main greenhouse gas responsible for the ongoing warming of the planet. While working as a postdoctoral researcher with the University of Arizona's Climate Assessment for the Southwest (CLIMAS), she researched forest policy in the aftermath of an Arizona wildfire that torched nearly half a million acres. Some of the many feature articles she wrote for CLIMAS have been pulled into a book compilation, *Global Warming in the Southwest*. An award-winning journalist, Lenart worked as an environmental writer for Puerto Rico's daily San Juan Star in the mid-1990s. She lives with her husband in Tucson, where she teaches environmental writing and writes about the many facets of climate change and its impacts—including what we can do about it.

PRAISE FOR *LIFE IN THE HOTHOUSE*:

"A highly entertaining yet superbly informative look at earth's climate and its intricate dance with life, including us." —Kerry Emanuel, author of Divine Wind: The History and Science of Hurricanes

"The interwoven tapestry of Earth system science as manifested through weather, oceans, rocks, organisms, wetlands, plants, and forests is portrayed by Melanie Lenart in all of its wonderful regulatory interactions that help make Earth habitable. This book deals with the vulnerability, resilience, and adaptability of natural systems and the inhabitants of space-ship Earth." —Kevin E. Trenberth, author of Climate System Modeling

"What do you get when you mix earth, wind, water, and fire with biology and the chemicals of life? A living, self-organizing entity facing 21st century challenges. Through research, experience, and interviews, the author explores Gaiia's current struggles, and the ways in which we can help the Earth regulate the human-induced impacts of climate change." —Tim Brown, Director, Western Regional Climate Center

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