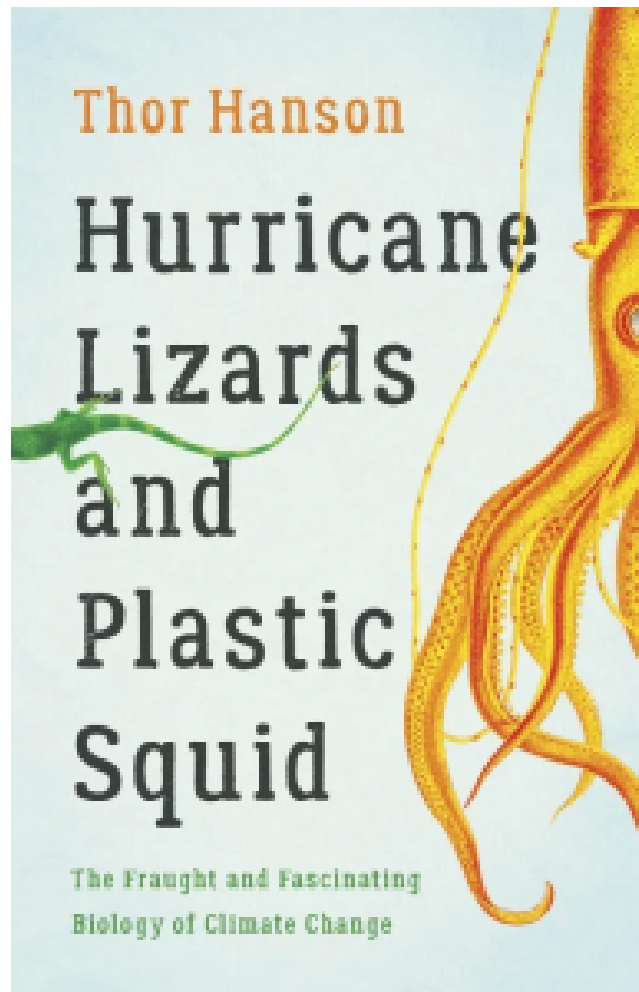


## Hurricane Lizards and Plastic Squid



I have always said that I'm an environmentalist but not a naturalist. I'm an environmentalist largely because I had so much pleasure outdoors as a kid: camp on the ever-magnificent Lake George in New York, climbing and hiking in the Adirondacks, skiing in the Green Mountains, traveling around the American West one memorable summer, playing ball in the fall and spring. I was blessed that way. My wife and daughter have imbibed much of that love of the great outdoors. I have never gained, however, a great deal of a grasp of the inner workings of the natural world. Birders are all around me in Central Park during migration, but I can't tell a hawk from a handsaw. The wonders of nature nevertheless never cease to astonish me. [An article from last year](#) absolutely mystified me with this fact: A species of beetle in South Africa, feeding on animal dung, like others of their cousins which are found on all the continents except Antarctica, roll their dung balls in a straight line at night **by orienting with the Milky Way**. Astonishing. The flash of color from a male Red-winged Blackbird once captivated me so thoroughly hitchhiking at dusk in Wisconsin that I realized it was my totem animal. When I watch trees waving in the wind, it seems to me that they are dancing in joy at the sunlight and air.

So, even though I have written and taught about climate change, energy and the environment, and clean tech for more than 15 years, and worked in public affairs for the NY State

environmental agency for a more than a decade before that, and was a Sierra Club activist before that, there is still much I can and should learn about the natural world.

Thor Hanson's [Hurricane Lizards and Plastic Squid – The Fraught and Fascinating Biology of Climate Change](#) has been a pot of gold for me. It brims with insights into how our brothers and sisters in nature have evolved and how they are re-evolving under the pressures of climate change – as if they didn't have enough to handle given the other depredations of *Homo sapiens* like habit destruction from mining, farming, ranching, and forestry, not to mention illegal hunting and overfishing, as well as invasive species. The book, according to the author himself, "is filled with dispatches from the front lines of a rapidly expanding field," namely biology in the context of climate change.

"Dispatches from the front lines" evokes, of course, one of the seminal books on the climate crisis: Betsy Kolbert's [Field Notes from a Catastrophe](#). Kolbert, for my money our preeminent environmental journalist, also wrote [The Sixth Extinction - An Unnatural History](#), covering some of the same ground that Hanson does here. (She won the Pulitzer for *The Sixth Extinction*.)

Hanson toggles back and forth in time with stories from his childhood, with his young son now, and from his college, graduate, and post-grad days. He also covers a fair bit of the earth's surface, with reporting from Thoreau's Walden Pond to Hanson's own backyard in the Pacific Northwest. He's looking through his own eyes and through the lenses of fellow scientists at African songbirds, tawny owls in Finland, sea butterflies in Arctic waters, macaws in Central America, lizards in the Caribbean (his "hurricane lizards"), lodgepole pines in Western North America, red oaks and white oaks in Iowa, butterfly fish in the Western Pacific, rockweed off the West Coast of Africa, even extinct Shasta giant ground sloths in the ancient American Southwest and fossil ferns in an alley in his old hometown in the state of Washington.

The book delves into a wide variety of topics beyond climate biology: history on evolutionary theory, the greenhouse effect, photosynthesis, ocean acidification, and the carbon cycle. (I love an old book on the carbon cycle by a now-retired NYU professor, Tyler Volk, called [CO<sub>2</sub> Rising](#). Funny thing too: I think that [Volk](#) and [Hanson](#) look a bit alike.)

The research tools he and his colleagues use are as varied as simple census taking and handwritten notes, to high-speed photography, the use of large databases and powerful computers, DNA analysis, artificial intelligence, and even SPRUCE – Spruce and Peatland Responses Under Changing Environments. [SPRUCE](#) is a large research station with huge open-topped terrariums mimicking the soil temperature, air temperature and carbon dioxide concentrations of various possible climate futures.

For a non-fiction writer and teacher like me and, for that matter, any general reader, there is great value in back matter like the glossary, excellent endnotes and bibliography, and index he provides. I am also partial to epigraphs which he uses to good effect. I was particularly taken with this one, from P.G. Wodehouse, for a chapter on the slow, insidious impact of climate stresses on species: "Unseen in the background, Fate was quietly slipping lead into the boxing-glove."

This book, wonderfully entertaining, is also very much a call to action. He says this in his author's note at the beginning: "Shouting from the rooftops carries farther when we all raise our voices together." He also makes the point again at the end. He quotes Gordon Orians, a distinguished biologist. "When asked what a concerned citizen should do to combat climate change, his response was immediate and concise: 'Everything you can.'" He further quotes Edward Everett Hale, the 19<sup>th</sup> Century American author, historian, and minister: "I cannot do everything, but still I can do something."

That last quote brings me to the eloquence of the Kenyan social, political, and environmental activist giant, Wangari Maathai. She was also a [Nobel Peace Laureate](#). In the marvelous blockbuster documentary [Dirt! the Movie](#), she tells the story of a hummingbird fighting a forest fire.