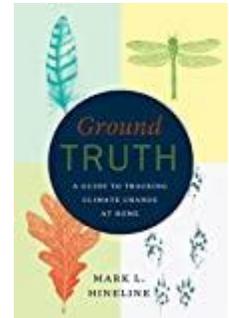


Mark L. Hineline. *Ground Truth: A Guide to Tracking Climate Change at Home.* Chicago: University of Chicago Press, 2018. Illustrations. xiii + 229 pp. \$20.00, paper, ISBN 978-0-226-34813-1.



Reviewed by Krista Hiser (Kapi'olani Community College)

Published on H-Environment (June, 2021)

Commissioned by Daniella McCahey (Texas Tech University)

In the spring of 2021, the cherry blossoms in Washington DC appeared four days ahead of the thirty-year average, making headlines as a harbinger of climate change. In Japan, this year's blossoms arrived earlier than ever recorded in seventy years of record keeping.[1] Such records are the subject of this book, *Ground Truth: A Guide to Tracking Climate Change at Home*. The practice of phenology, according to author Mark L. Hineline, a historian of science, means “noticing and then recording events that occur seasonally each year” (p. 12). The practice is described in detail, with applications for personal meditation, classroom pedagogy, and participatory science.

The book begins by asking to be set down—briefly, that is, so that the reader can take a short walk around his or her own neighborhood. The boundary of phenology begins at one's “door-yard,” a term that describes the intersectional space between the personal and community, and between human activity and nature. Phenology is practiced where you are, day after day. The book, thus, features Hineline's line drawings of his own

dooryards, including plants, places, people, clouds, and concepts. Personal observation, he argues, reveals the “ground truth” of climatic change, as a way of piercing the everyday denial that plagues even the well-intentioned reader.

It would be a fair criticism to say that this book does not quite know who it is for; the organization is an organic jumble of memoir, US history, naturalist know-how, and teacher's guide. If you happen to pick it up—perhaps you are a K-12 teacher or amateur birder or gardener, or community college professor of environmental science—then, it must be for you. The chapters might be read in any order, best bookmarked with a leaf or smudge of dirt.

After introducing the concept of the “door-yard,” Hineline explains, in chapter 2, the relationship between climate, weather, and temperature. Planetary warming will not proceed in a linear increase. “Instead,” he writes “changes caused by warming will revise and reconstitute patterns of circulation, rejigger oscillations, put feedbacks in

motion here and there” (p. 41). The reader is invited to remember the seasons with a personal connection to place and time. Chapter 3 is a history of phenology and “citizen science” in a Western tradition exemplified by Henry David Thoreau, Aldo Leopold, Rachel Carson, and the less well-known ornithologist Wells W. Cooke, who started organizing national bird counts in 1881.

Chapters 4 and 5 provide basic how-to instruction, including the four parts of a phenological observation: species identification, calendar notes, description, and metadata, which includes time of day and place. Such techniques as repeat photography, aerial mapping (with a drone, or preferably with a kite), and phenological trail tracking are described in detail. While the practice can be satisfying at a personal level with qualitative observations and sketches, the reader who is so inclined learns here how to keep databases and spreadsheets and how to connect with other practitioners to share data that can become a valuable record of the impacts of climate change in a particular place, or to a particular species of plant or animal.

Chapters 6 (plants), 7 (insects, worms, and toads), 8 (birds), and 9 (mammals) provide beginner-level information to entice readers new to the observation of nature, and chapter 10 covers meteorology and weather, including clouds, barometric pressure, precipitation, snow cover, and drought. Whether or not the book excites the reader to become a phenologist, these chapters are a unique overview of how such skills are learned and how such interest is activated. This is the skillset that leads young people to major in geography or become park rangers; these are also the practices that are built-in to the indigenous ways of knowing, which (while not the subject of this book) are reemerging as environmental science learns to come full circle, with humility, back to the simple act of seeing and sensing the place where one is.

The conclusion of the book applies the practice of phenology to the distress of living with and through anthropogenic climate change. The “ground truth” of this book is that “paying attention to changing nature (and taking careful notes), is crucial for understanding the effects that changing climate is having for ecological systems.” Hinline demonstrates that paying attention to nature is a way of helping scientists, appreciating nature, interacting with the world, and even learning about “who you are” (p. 209).

This book will have a profound impact on readers who may be transformed by the practice of phenology. It can also be read alongside the growing literature describing climate-related emotions, such as climate anxiety, solastalgia, and environmental melancholia.[2] The practice of phenology is another tool for comprehending the climate crisis, and *Ground Truth* is a good read for teachers, parents, and practitioners in settings from junior high schools to kitchen tables to community organizations and national networks of citizen science.

Notes

[1]. Lauren Gambino, “Early Cherry Blossoms in DC Point to Climate Crisis,” *The Guardian*, April 3, 2021, www.theguardian.com/environment/2021/apr/03/early-cherry-blossoms-bloom-washington-dc.

[2]. On climate anxiety, see Sarah Jaquette Ray, *A Field Guide to Climate Anxiety: How to Keep Your Cool on a Warming Planet* (Oakland: University of California Press, 2020). On solastalgia, see Glenn Albrecht, *Earth Emotions: New Words for a New World* (Ithaca, NY: Cornell University Press, 2019). On environmental melancholia, see Renee Lertzman, *Environmental Melancholia: Psychoanalytic Dimensions of Engagement* (New York: Routledge, 2015).

If there is additional discussion of this review, you may access it through the network, at <https://networks.h-net.org/h-environment>

Citation: Krista Hiser. Review of Hinline, Mark L. *Ground Truth: A Guide to Tracking Climate Change at Home*. H-Environment, H-Net Reviews. June, 2021.

URL: <https://www.h-net.org/reviews/showrev.php?id=56386>



This work is licensed under a Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 United States License.