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"The West Without Water"

By Lou Fancher



Authors B. Lynn Ingram and Frances Malamud-Roam
Photo provided

A new book by two Bay Area authors reads with the surprising velocity of a murder mystery and the intrigue of a rigorous, detective investigation. Why surprising? Because paleoclimatologists B. Lynn Ingram, of Moraga, and Frances Malamud-Roam write in measured, non-dramatic tones, braced with hard data - about water. It isn't homicide (at least, not in the traditional sense), but their storytelling momentum will have readers itching to flip to the final pages. Burning in their minds, the underlying question: How will the perpetrators pay for their crimes?

"The West Without Water" (University of California Press, 2013) introduces climate as an ancestral protagonist. As such, water is climate's offspring; liquid generations spanning 20 millennia revealing the underlying history of the West's relationship to its most precious resource. In a three-part treatment, Ingram and Malamud-Roam "crack the code" of climate and paleoclimate research, explain the methods and mindsets of pioneering efforts made by mankind to capture and control Earth's water resources, and merge past, present and future with an investigation of the emerging water crisis in light of global warming predictions. Infinitely readable due to the author's clear and compelling

storytelling abilities, the book's solid science is mostly easy to digest. Thankfully, final chapters offer thoughtful, real, and realistic solutions to the problems from the authors and a number of experts.

Ingram is a professor in the Earth and Planetary Science Department at the University of California, Berkeley. Cracking into fossil shells from basement core sediment in the San Francisco Bay, she writes in an introductory chapter of how she came to understand marsh ecosystems. Tracing the nomadic lifestyles of indigenous populations prior to gold-seeking, westerner's intrusion, the authors unearthed a wisdom often heralded by 21st century "green" activists as their own: respect the earth's resources, or perish. Stepping through archeological remains, she and Malamud-Roam, a Caltrans associate environmental planner and biologist and visiting scholar at Cal, chronicle past societies' symbiotic relationship with the natural world as they shifted according to environmental stresses. One example, natives fishing and hunting in wetlands, but not constructing permanent residential developments on what were potential floodplains, provides an instant, learn-from-elders lesson.

The book's Part I aims scrupulous science at why climate matters. What is "normal" for the semi-arid West? After all, Western history holds both devastating floods, like that of 1861-62, and the "Dust Bowl" of 1987-92, a cataclysmic, six-year drought. Climate emerges as a character; mischievous, capricious, prone to climatic (and climactic) bipolar disorder.

Part II digs beneath the surface, untangling the mysteries of 20,000 years of "water family" history. Understanding how climate grandparented change - from gigantic comings and goings, like the advent of ice ages or pueblo collapse, to miniature migrations, like that of diatoms, microscopic phytoplankton preferring fresh over salt water, or vice versa - the authors spin into technicalities the casual reader may find thick.

The immediacy of Part III, addressing today's water crisis, will revive and arouse any student, scholar, or reader interested in mankind's survival. Simple questions - "Why Does Spring Come Earlier?" - receive simply stated, factual answers. "Nine of the ten warmest years in the West have occurred since the year 2000," the authors write. "This warming is the result of changes in the earth's atmosphere: carbon dioxide levels have risen to 390 parts per million...."

And there is no "fishing around" in murky waters for clues to man's impact on wildlife. Instead, the authors examine the plight of fish. Dam building in West Coast rivers diverted water to thirsty agricultural fields and populous cities, but "The Salmon Story" makes plain the devastation caused by "hydraulic capture" altering the temperature and timing of salmon's natural environment. Adding to the gravity of disappearing food sources, Ingram and Malamud-Roam cite data-supported evidence of increasing wildfires, insect infestations, premature snowpack melting, levee-busting floods, and drought. "The recent trend in urban sprawl seems to dance on the edge of disaster," they write.

Admittedly, climate's shifting profile invites opposing perspectives: Is it Chicken Little's "the sky is falling" false panic, or the "recognize-the-truth" of the boy who announces the Emperor's new clothes are missing? The authors take a "no regrets" approach, suggesting a number of ways to reduce our water footprint, reverse environmental damage, responsibly remove dams, enable coalitions to collaborate, fund innovative technologies aimed at preserving the West's water, and support legislative change.

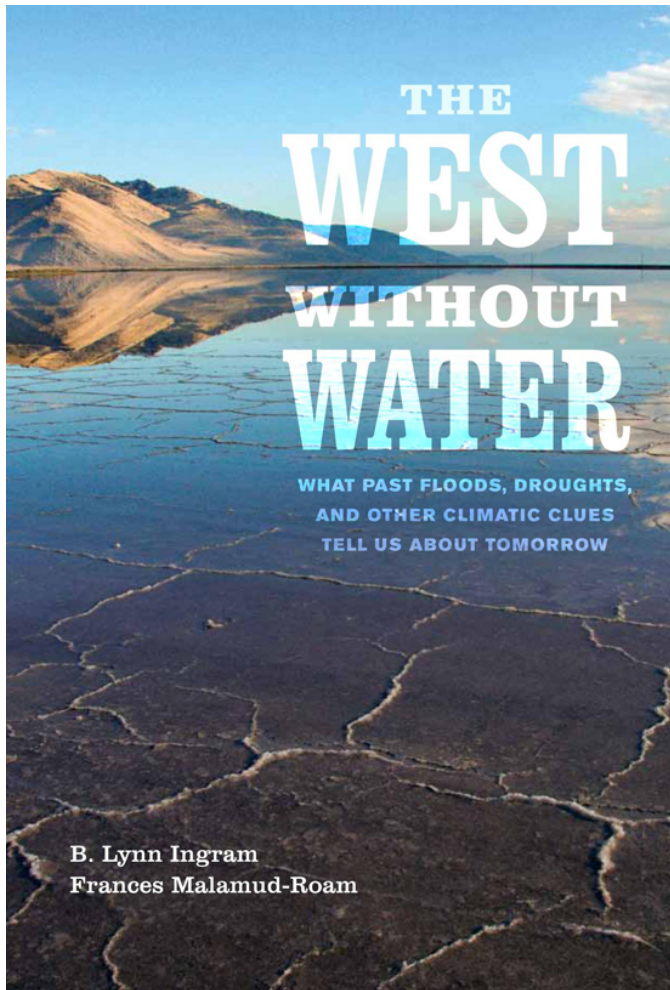


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