

Climate Change Biological and Human Aspects (Second Edition)

By Jonathan Cowie. 2013. Cambridge University Press, 32 Avenue of the Americas, New York, NY, USA, 10013-2473. 558 pages, 66.00 USD, Paper.

A bland academic text which when combined with the plethora of new books on this “hot” topic is more likely to contribute to climate change through deforestation required to print the book’s 558 pages than provide much needed practical solutions (though I would be the first to admit practical solutions to reigning in humans remain wishful thinking at best). The first four of eight chapters plough through earth’s climate of the past 4.6 billion years reviewing how we unravel past climates and reciting variation of key biotic and abiotic variables associated with the earth’s variable climate. Material that provides important context for the current human-driven climate anomaly, but, if biological and human aspects are the intended focus of the book far too much time is spent presenting material that is well documented in existing literature.

The remaining chapters presenting human and biological dimensions tend to be simplistic, for instance the “dust bowl” of the Midwest United States that occurred between 1934 to 1936 is attributed solely to drought, whereas a deeper understanding should consider complex socio-economic factors such as the expansion of mechanized farming, the Great Depression and concurrent falling prices for wheat which lead to desperation among farmers who embarked on massive expansion of unsustainable agricultural practices in an attempt to turn a profit from a larger harvest. Would there have been a dust bowl if the land cover was drought resistant native grasses and forbs?

Cycles of drought that are part of “normal” climate can be disastrous when human ambitions ignore the role of climate variation within the landscape; the Sahel is an example where traditional transhumance practices that used a wide-mesh “net” of animals was able to sustainably capture meagre resources and provide a secure “living food-store” which expanded and

contracted from year depending on the prevailing climate and availability of resources. When this was transformed by installing bore holes, sedentarization of the human population, large scale irrigation, and mechanized farming techniques the result was an initial success that happened to be combined with a pluvial period, followed by disaster, including great human suffering, during what was a “normal” drought period.

The take home lesson is, human well-being is intimately linked to past and present climates in complex social-political-economic-ecological relationships and while there are some examples of these presented in Cowie’s treatise, the magnitude of likely impacts given the current trajectory of climate change is not conveyed. The discussion of “extreme weather events” in three and half pages is more cautionary (i.e. statistically a single extreme weather event may be within the normal range of variability) than visionary. What is needed is a catalogue of recent social-economic-ecological costs of individual events such as have occurred in the past twelve months, rainstorms causing flooding and landslides in Brazil, tornadoes in Bangladesh, storm surge causing flooding in New York City, high wind event in Calgary, snow storms in Eastern Europe.

Human systems have adapted to operate within climate limits, as climate limits change there is a need to re-adapt human systems to the new climate world. Simply understanding the science of climate change will not, as the author suggests, be sufficient to drive the enormous social-political-economic change needed for future human well-being, not to mention the survival of the rest of life we share this planet with.

BRENT TEGLER

35 Crawford Crescent, Unit U5, P.O. Box 518, Campbellville,
Ontario L0P 1B0