

The readings this week address the impact of climate change and specifically, the impact that extreme weather events can have on public health. In *Assessing Climate Stability*, Epstein and McCarthy suggest that the current state of the climate is not stable, and that this has profound implications on the environment, public health and the global economy. The authors suggest that a huge climate shift is occurring, evidenced by the great variances in weather patterns experienced across the globe (extreme heat waves, droughts, etc), and the quickening pace of these variances. Their argument is that urgent precautionary measures are necessary to reduce the impact that humans have on changes to the climate system.

In examining the implications of climate instability, Epstein and McCarthy point to the impact of climate change on land use, land cover, agriculture, water, fisheries, food safety and security, and the distribution of pests and pathogens. In *Is Global Warming Harmful to Health?* and *Climate and Health*, Epstein provides greater detail on the impact of climate change on public health, including water-borne diseases such as cholera and the mosquito-borne diseases of malaria and dengue fever. And once disease takes root, Epstein argues, it is hard to control or eradicate.

While Epstein and McCarthy concede that it might not be possible to predict when sudden, large-scale changes to climate may occur, they argue that that shouldn't deter from assessing the properties of systems and the potential for abrupt change. They state that continued emissions (of CO₂ and Nitrogen, for example) will lead to greater variability in the climate, but interestingly, they add that stabilization of CO₂ could also cause change or variability in climate, "tipping the balance." It forces one to acknowledge that our environment, while seemingly quite durable to the multitude of (unnatural) stresses put upon it, is in actuality quite fragile, and that stresses put upon it could eventually lead to damaging, even catastrophic events. It would appear that it is imperative to devote significant resources toward reducing human-induced emissions, and yet, a global consensus has not emerged (or better said, some of the states responsible for the highest emissions levels have not recognized or refuse to respond to the threat).

What else can be done? In *Climate and Health*, Epstein outlines several solutions, including developing satellite detection and early warning systems that can spot changes in sea surface temperatures and changes in vegetation and predict potential disease outbreaks in sufficient time to plan interventions. In general, greater surveillance of and response to outbreaks, Epstein asserts, is essential, as is the development of renewable energy and ecologically efficient technologies. However, as stated earlier, there need to be financial mechanisms, including incentives, subsidies, and funds to motivate actors to reverse current practices and reverse human-induced assaults on the environment.