

## Reaction Paper Amy Mowl

In "Assessing Climate Stability," Epstein and McCarthy document evidence of climate change. To assess if the current system is stable, they insist that it is important to focus on rates of change and accelerations to demonstrate that the climate is responding to severe stresses in ways that threaten human health. A few of the indicators they believe useful include changes in the rate of warming, changes in the variance in weather, the frequency of outlier events, changing temperature and pressure gradients, changing atmospheric concentration of trace gases, and economic costs related to disasters.

In "Climate and Health," Epstein presents a series of evidence indicating the links between climate change and disease risks, and the role of human behavior in aggravating these risks through changing the climate. He argues that we are able to mitigate some of the impact of these "natural" disasters through, for example, using climate data to project conditions that are conducive to disease outbreak. But given the magnitude of the burden of emerging infectious diseases, Epstein recommends greater surveillance of and response to outbreaks, adoption of health early warning systems, and reduction of behavior and emissions that are aggravating climate change.

In "Is Global Warming Harmful to Health?," Epstein expands on the above article. He details the multi-faceted ways global warming triggers disease: heat exacerbates the problems of smog, pests, and allergens on respiratory systems; flooding can not only bring infectious diseases to a community but allow them to take root there, with long-lasting health damages; floods and droughts trigger human displacement and the accompanying disease risks. Beyond the disease impacts, the impacts on economic development can last decades. He also demonstrates that weather variability can be a bigger danger than heat in the case of disease outbreaks, and that earth's weather is becoming both warmer and more variant.

Because I am particularly interested in the development implications of infectious disease and disaster mitigation, and many of the diseases and disasters tend to concentrate in developing countries, I would have liked to see more discussion of how poverty creates a multiplier effect when combined with climate change and infectious disease, and perhaps a case history or two (though the hantavirus and West Nile examples were instructive).