

Epstein – “Is Global Warming Harmful to Health?”

In this paper, Epstein suggests a link between a warmer atmosphere and health risks. Mosquitoes and the disease causing pathogens they spread thrive in warmer weather. He presented evidence of the spread of mosquitoes and related disease to new locations and higher altitudes. Global warming also accelerates the water cycle. This leads to “more extreme and variable” weather. This extreme weather results in oscillations between flooding and drought. The increased variability harms health in two ways. First, increased levels of flooding increase the breeding of mosquitoes and raise the likelihood of water supplies being compromised. Second, flooding following drought is more harmful than flooding alone. Opportunistic pest populations explode when floods increase food supplies after a drought has thinned predators.

Epstein offers three solutions: improved surveillance systems, climate models to predict likely disease outbreaks, and attack global warming. I would suggest that a fourth step could be mitigation efforts. For example, if it becomes known that your location is more likely to experienced extreme weather, then improve infrastructure to reduce risks. Areas in Haiti that used hurricane relief funds to build storm drains were able to reduce negative the health effects during subsequent storms.

Epstein – “Climate and Health”

This paper covers much of the same ground as the previous. Epstein mentioned that the current resurgence of infectious disease is due to changes at social, ecological, and global levels. He spent the majority of his time concentrating on the ecological and global changes taking place. He used Hurricane Mitch, East African Rift Valley fever, and Hantavirus Pulmonary Syndrome outbreaks as examples of climate change impacting health negatively.

After looking at actual impacts, Epstein discussed possible impacts of climate and weather patterns change on water, sea-life, and agriculture were discussed in light of their possible health consequences. The paper offered the following solutions: greater surveillance and health early-warning systems, clean energy, and new financial mechanisms to reverse detrimental behavior. I was intrigued by the idea of using financial incentives to change behavior. What incentives could be used? Who would administer them?

Epstein and McCarthy – “Assessing Climate Stability”

With the economic costs of weather expected to rise to \$150 billion per year within this decade, it seems as if weather has become an unstable system. This paper examined how climate stability should be measured. It was a very interesting discussion of rates of change and the magnitude and pattern of variance. I understood how these measures allow you judge if a system is unstable, but had a harder time understanding if they allow you to judge if a system is prone to rapid changes in state. What are the thresholds for nonlinear discontinuities? How bad do things have to get for there to be an abrupt shift? I did appreciate the authors’ list of possible outcomes of climate change: first, more warming and variability; second, significant surprise such as ice shelf loss; and third; an abrupt change – warmer state, cold reversal, or a rapid rise in sea level.