

Malaria and Global Warming in Perspective?

To the Editor: The two reports from the International Panel on Climate Change (IPCC) (1,2) cited in the letter by Pim Martens (3) are widely regarded as “the standard scientific reference for all concerned with climate change and its consequences,” yet the contents of these reports are often misleading. The quoted passage does not acknowledge the devastation caused by malaria in temperate regions. The reassurance that “existing public health resources” would “make reemergent malaria unlikely” ignores the nonclimatic factors that led to its disappearance and continued absence. Moreover, although malaria/climate models are not meant to predict future worlds, the IPCC chapter (1) on human health—one-third of which is devoted to vector-borne disease—makes extensive use of such models to warn of substantial “actual climate-related increases in malaria incidence” and “highly likely” extensions of its distribution. The chapter does include statements that the “predictions” of such models should be viewed cautiously “until they have been validated against historical data sets,” and “malaria is most likely to extend its spread...in tropical countries.” The past presence of malaria in “southern Europe” is also mentioned, but such qualifiers are applied to predictions of 10- to 100-fold increases in epidemic potential in temperate climates. These predictions are frequently cited as evidence of a major threat to humanity (4,5).

The IPCC reports state “...anopheline mosquito species that transmit malaria do not usually survive where the mean winter temperature drops below 16°-18°C.” Similarly, two oft-quoted publications (6,7) define the vector’s limit of survival as the 15°C winter isotherm, i.e., in the northern Sahara. However, in the past the limit was the 15°C summer isotherm. In fact, much of Europe and all of the United States are within the 20°C or 25°C summer isotherms, and malaria was once prevalent in parts of southern Canada and up to 64°N in Russia and Siberia. The same publications state that *Aedes aegypti*, the principal urban vector of dengue and yellow fever, cannot survive mean temperatures below 10°C, but with global

warming “...dengue could extend into the southern United States.” This statement has been repeatedly quoted (5), although *Ae. aegypti* is common where winter temperatures of -15°C are not unusual and epidemics of dengue and yellow fever have occurred as far north as Boston and Dublin. Repeated claims that global warming may have already led to increases in these diseases in the tropics are equally indefensible (8,9).

Paul Reiter

Centers for Disease Control and Prevention, San Juan, Puerto Rico, USA

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