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The use of climate scenarios for monitoring cases of meningitis.

M. L. Leite (1), J. S. Virgens Filho (2), B. L. Dal Gobbo (1), and K. Pobb (1)

(1) Universidade Estadual de Ponta Grossa - UEPG, Parana, Biological and Health Sciences, General Biology, Ponta Grossa, Brazil (maysaleite@globo.com), (2) Universidade Estadual de Ponta Grossa - UEPG, Parana, Exact and Natural Sciences, Mathematics and Statistics

According to the data displayed by the Intergovernmental Panel on Climate Change (IPCC) in its fourth and latest assessment report (2007), the results call for an increase in average global temperatures between 1.8°C and 4.0°C by 2100, that based in a more optimistic view, but the increase may be even higher, under a pessimistic look, reaching 6.4°C if the population and economy continue to grow rapidly and is maintained heavy consumption of fossil fuels. The epidemiological consequences of these intense transformations may be extreme and unpredictable. Due to the increase of global temperature, tropical countries such as Brazil, may suffer from increased levels of various infectious diseases which tend to follow a seasonal pattern in incidence, such as meningitis, which shows close correlation with the climate and with the seasons. Meningitis remains a major public health problem, since it is related to a number of complications both immediate and delayed, which can lead to irreversible damage to the central nervous system (CNS), or take the person to death. Whereas aspects of climate that influence the biocenoses and therefore living beings in the process of disease transmission are temperature, relative humidity and rainfall, this study aimed to monitor the behavior of the incidence of meningitis in Ponta Grossa, Parana, Brazil by the year 2101, through the simulation of climate scenarios, based on mathematical models involving these climatic variables. Even considering the most optimistic projections of the IPCC, the increase in the number of cases for meningitis in future scenarios is highly troubling, both in monthly and seasonal scale for the site under study. Poor communities can be especially vulnerable, in particular those concentrated in high-risk areas. They tend to have more limited adaptive capacities, and are more dependent on climate-sensitive resources such as local supply of food and water.