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Using new wavelet tools to disentangle the role of local and global climatic forcing on the dengue epidemics

In this study we used wavelet decomposition to reanalyze the influence of local and global climatic forcing on the spatial and temporal dynamics of dengue, in the 76 provinces of Thailand. New wavelet tools – partial wavelet coherency, wavelet mean field and wavelet clustering – allow us to ascertain the particular influence of each climatic forcing. These new analyses demonstrate, for example, that local climatic variables are responsible for the seasonal mode, in all the provinces, and that global climatic oscillations are accountable for the low frequency components of dengue epidemics.