Exploring Links Between Climate and Cholera in Bangladesh Using a Regionally Coupled Model

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Cholera is a water-borne bacterial illness affecting millions worldwide. It is endemic to Bangladesh, with a distinct seasonal cycle. Bangladesh also experiences epidemic cholera episodes. Previous statistical analysis has linked interannual cholera variability to variability in tropical Pacific sea surface temperatures in the preceding months. This link suggests it may be possible to forecast cholera risk based on the state of certain slowly varying boundary conditions.

We examine links between cholera variability, regional climate variability of Bangladesh and Pacific sea surface temperatures through the use of observations and a suite of regionally coupled (or "pacemaker") integrations of the COLA v3.1 AGCM.