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Identifying links between hydroclimatic variability and economical components using stochastic methods

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Since ancient times water has been a substantial factor for driving economic growth, as abundance in water resources can be linked to the development of prosperous communities. This study examines the effect of water resources availability on different sectors of the economy, by identifying components of Gross Domestic Product which are most affected by key water cycle processes and water infrastructures. In this analysis, we investigate the correlation among the above processes, on both temporal and spatial scale with the implementation of stochastic methods, in order to assess the sensitivity of the economy to hydroclimatic variability. We also take into consideration the effect of hydroclimatic extremes such as droughts and the limitations they may impose on growth. Differences between climate zones are taken into consideration by the Köppen climate index.