

# Precipitation and Long-Term Economic Growth – New Empirical Evidence

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## Abstract:

The impact of precipitation volatility, deficits (droughts) and surpluses (floods) on economic growth has important implications for the damage function in climate change models, which consider how future changes in the stochastic distribution of weather will affect economic activity. Especially the question, whether precipitation only affects the level or the growth path of output is of tremendous importance. The literature has yet not reached any consensus on this issue. This paper delivers new empirical evidence on the growth effects of precipitation. Different from the existing literature we do not focus on the immediate growth effect of precipitation but study horizons of up to 20 years based on a rich panel dataset. Moreover, we study various different precipitation indicators, take the “overcontrolling problem” explicitly into account, control for temperature and correct for spatial dependencies. Our results indicate that it is important to distinguish between rainfall surpluses and rainfall deficits. While former have no systematic effects on economic growth, rainfall deficits turn out to have strong and long lasting negative growth effects in comparatively poor, underdeveloped countries. These effects are not driven by the subsample of Sub-Saharan African countries.

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