



## **The relationship between low-level convergence and precipitation in CMIP5 current and future climates**

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Precipitation is often organized along coherent lines of low-level convergence, which at longer time and space scales form well-known convergence zones over the tropical oceans. Here, an automated, objective method is used to identify instantaneous low-level convergence lines in the current climate of CMIP5 models and compared with reanalysis data results. Identified convergence lines are combined with precipitation to assess the extent to which precipitation around the globe is associated with convergence in the lower troposphere. Differences between the current climate of the models and observations are diagnosed in terms of the frequency and intensity of both precipitation associated with convergence lines and that which is not. Future changes in frequency and intensity of convergence lines, and associated precipitation, are also investigated for their contribution to the simulated future changes in total precipitation.