

Report

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1 Introduction

The effect of water vapor on the earth's climate has been well known for over a century now. Considering the ephemeral nature of water vapor as it cycles through the atmosphere, it is surprising that our climate does not vary more drastically. This question has been answered in part by the observation that water vapor is in statistical equilibrium (but not in thermodynamic equilibrium). Also, recent work has established that there is a large dependence of strong radiative forcings on the the statistics of water vapor distribution, such as cloud cover and rainfall intensity, even ignoring the direct contribution to OLR.