>> SYNTHESIZE MOUNTAINS OF KNOWLEDGE <<

Submitted Abstract

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1 of 2

Abstract

Internal gravity waves (GWs) play important roles in atmospheric dynamics and transport especially above mountaineous regions. The effects on dynamics are better understood and parameterized in global climate or numerical weather prediction models. Also, it is widely understood that GWs can influence atmospheric composition and transport, either directly via turbulent mixing during their breaking or via so-called non-dissipative effects connected with GW propagation and fluctuating trajectories inside the GWs. However, such GW effects (either dissipative or non-dissipative) are not parameterized in current generation CCMs. This presents a great motivation for GW resolving modeling.

In our research, we test several methods for GW analysis (from traditional filtering to Lagrangian based methods) in high-resolution regional model simulations to assess the uncertainty in GW effects connected with different GW detection methods.

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2 of 2