2019 Workshop: Secondary Gravity Waves

Long title
Vertical coupling throughout the atmosphere due to gravity waves and secondary gravity wave generation
Conveners
Katrina Bossert
Sharon Vadas
Rich Collins
Description

The session is open to any related topic or ideas regarding primary GW breaking and secondary GW generation. Some topics may include:

-Addressing secondary GWs in GCMs

-Understanding thermospheric and space weather influences from secondary GWs

-M-T-I coupling via mechanisms of higher order GW generation

-Modeling efforts of both small and large scale GWs and associated secondary effects

-Theory associated secondary and higher order GWs

-Observational efforts to understand coupling effects due to secondary and higher order GWs

Agenda

Introduction

Erich Becker-“Explicit simulation of secondary and tertiary gravity waves during northern hemispheric winter using a high-resolution GCM up to ~450 km”

Sharon Vadas- “Secondary and Tertiary Gravity Waves in the Thermosphere over the Wintertime Southern Andes”

Chris Heale-“Secondary Waves Generates by Breaking Mountain Waves over Europe”

Katrina Bossert- “Measurements of secondary gravity waves over regions of strong orographic gravity waves”

Aaron Ridley- Gravity waves in GITM

Hanli Liu-WACCMX gravity waves

Dominique Pautet-SGWs in Argentina

Dave Fritts- Andes 3-D simulated GWs and SGWs

Discussion

Justification

This session invites talks relating to gravity wave coupling via mechanisms of secondary gravity wave generation. This includes breaking primary GWs and associated sources in addition to secondary and higher-order GWs created from the breaking and attenuation of primary GWs. We are also interested in talks relating to wave-mean flow interactions. We welcome presentations of theoretical, modeling, and experimental nature.

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