

# Supporting Information for “Thermospheric and Ionospheric Effects by Gravity Waves from the Lower Atmosphere”

H.-L. Liu<sup>1</sup>, P. E. Lauritzen<sup>2</sup>, F. Vitt<sup>1,3</sup> and S. Goldhaber<sup>2</sup>

<sup>1</sup>High Altitude Observatory, National Center for Atmospheric Research, Boulder, Colorado, USA

<sup>2</sup>Climate and Global Dynamics, National Center for Atmospheric Research, Boulder, Colorado, USA

<sup>3</sup>Atmospheric Chemistry Observations and Modeling, National Center for Atmospheric Research, Boulder, Colorado, USA

## Contents of this file

1. Movie S1

## Additional Supporting Information (Files uploaded separately)

1. Captions for Movie S1

## Introduction

The animation included is the relative total electron content (TEC) from one day (January 13) of WACCM-X SE NE120/L273 simulation, high pass filtered using the Savitzky-Golay method with period shorter than 2 hours. The file format: QuickTime.

**Movie S1.** High-pass filtered relative total electron content (TEC) perturbations (unit: percent) with period shorter than 2 hours from WACCM-X SE simulation of January 13.