

SPARC REANALYSIS INTERCOMPARISON PROJECT:

CHAPTER 6: STRATOSPHERE-TROPOSPHERE COUPLING

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1 Introduction

At this time, this document is mainly set up to provide a bibliography and the skeleton of our chapter. For more information on the S-RIP project and the stratosphere-troposphere coupling chapter, see the following webpages.

S-RIP home page: <http://wwwoa.ees.hokudai.ac.jp/~fuji/s-rip/>

Stratosphere-troposphere coupling chapter page:

http://math.nyu.edu/~gerber/pages/strat-trop_coupling.html

2 Coupling on Synoptic to Intraseasonal Time Scales

To include analysis of SSWs, blocking, annular modes, planetary wave coupling, wave-mean flow interactions, and so forth.

References (in no particular order): Charlton and Polvani (2007); Thompson et al. (2006); Song and Robinson (2004); Thompson and Birner (2012); Baldwin and Birner (2013); Butchart et al. (2011); Hardiman et al. (2011); Hitchcock et al. (2013); Baldwin and Dunkerton (1999, 2001); Baldwin et al. (2003); Gerber et al. (2010); Mitchell et al. (2011, 2013); Frame and Gray (2010); Driscoll et al. (2012); Limpasuvan et al. (2004); Newman et al. (2001)

3 Coupling on Intraseasonal to Interannual Time Scales

The impact of Volcanoes, ENSO, QBO (to be coordinated w/QBO chapter), and Solar Cycle on stratosphere-troposphere coupling.

References: Crooks and Gray (2005); García-Herrera et al. (2006); Manzini et al. (2006); Cagnazzo and Manzini (2009); Charlton-Perez et al. (2013); Lu et al. (2013); Seppälä et al. (2013); Cnossen et al. (2011); Lu et al. (2009); Ineson and Scaife (2009); Garfinkel and Hartmann (2007); Wei et al. (2007); Calvo et al. (2009); Ho et al. (2009); Karpechko et al. (2010b)

4 Coupling on Interdecadal Time Scales and Longer

Coupling to meridional overturning circulation of the ocean(?), and the impact of stratospheric ozone loss and other forcings (water vapor?) on tropospheric trends.

References: Thompson and Solomon (2002); Randel and Wu (1999); Orr et al. (2012); Karpechko et al. (2010a); Son et al. (2008, 2010); Solomon et al. (2010)

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