

## ***Interactive comment on “Stratospheric ozone intrusion events and their impacts on tropospheric ozone” by Jesse W. Greenslade et al.***

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1. Lines 20-22: Regarding the influence of STT on US surface ozone air quality, please consider citing the following paper:

Meiyun Lin, A.M. Fiore, L.W. Horowitz, A.O. Langford, S. J. Oltmans, D. Tarasick, H.E. Reider (2015): Climate variability modulates western US ozone air quality in spring via deep stratospheric intrusions, *Nature Communications*, 6, 7105, doi:10.1038/ncomms8105

<http://www.nature.com/articles/ncomms8105>

The earlier papers the authors cited do not actually talk about the influence of STT on surface air quality.

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2. Line 22-23: "In the western US, for example, STT events have been shown to contribute up to 30% of surface ozone in spring (Lin et al., 2012)."

Consider rephrasing this sentence to:

In the western US, for example, deep STT events during spring can add 20 to 40 ppbv of ozone to the ground-level ozone concentration, which can provide over half the ozone needed to exceed the standard set by the U.S. Environmental Protection Agency (Lin et al., 2012; Lin et al., 2015).

3. Add "in the Southern Hemisphere" to the title of this paper?

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Interactive comment on Atmos. Chem. Phys. Discuss., doi:10.5194/acp-2016-1124, 2017.

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