

Interactive comment on “Significant increase of surface ozone at a regional background station in the eastern China” by Z. Q. Ma et al.

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This comment is posted by Meiyun Lin (Princeton University, <http://www.gfdl.noaa.gov/meiyun-lin-homepage>).

This study presents a valuable 13-year record on surface ozone over Eastern China. Since the record is quite short, attempts to attribute observed ozone changes to regional emission trends must consider internal climate variability. In your literature review (Page 31953), I suggest the authors discuss the new findings from a few recent papers on the role of climate variability and circulation shifts on observed ozone changes:

Meiyun Lin, L.W. Horowitz, S. J. Oltmans, A. M. Fiore, Songmiao Fan (2014): Tro-

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ospheric ozone trends at Manna Loa Observatory tied to decadal climate variability, **Nature Geoscience**, 7, 136-143, doi:10.1038/NGEO2066.

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

Meiyun Lin, L.W. Horowitz, O.R. Cooper, D. Tarasick, S. Conley, L.T. Iraci, B. Johnson, T. Leblanc, I. Petropavlovskikh, E.L. Yates (2015): Revisiting the evidence of increasing springtime ozone mixing ratios in the free troposphere over western North America, **Geophysical Research Letter**, 42, doi:10.1002/2015GL065311.

Interactive comment on Atmos. Chem. Phys. Discuss., 15, 31951, 2015.

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15, C9685–C9686, 2015

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