

## ***Interactive comment on* “Evidence for the effectiveness of the Montreal Protocol to protect the ozone layer” by J. A. Mäder et al.**

### **Anonymous Referee #3**

Received and published: 4 October 2010

Review Comments Evidence for the effectiveness of the Montreal Protocol to protect the ozone layer by J. Mader et al.

This study examines the ground based total column ozone record to determine if the long-term trends match EESC or a Linear Trend (LT) term better over the last several decades. The authors use multiple linear regression to remove other impacts and determine whether EESC or LT explains more of the variance. The authors provide an interesting and fairly simple method to evaluate the effectiveness of the Montreal Protocol and its subsequent amendments and adjustments. I think the paper is of interest to ACP readers and would recommend publication of manuscript after taking into account a few minor comments.

Minor Comments:

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I would recommend that the 2 supplemental figures possibly be included in the paper instead of the supplemental section as examples of the method. It also might be helpful to see an example of a station that explains more variance using the LT term. How different are the 2 residuals in the examples?

Figure 3 Are there examples of locations where the explained variance is not significantly different between the EESC and LT, if so it might be useful to make a separate symbols for those cases.

Figure 3 could you include a legend that shows the length of a line that is significant at the 90 or 95% level.

pg 19012 section 2.3 Are there any systematic difference for stations with shorter records? If so you might want to look further at the station length requirements to be included.

Corrections:

pg 19006 line7 change "already a" to "already had a"

pg 19006 line 24 remove "a"

pg 19007 line 12 change "an" to "a"

pg 19018 line 3 change "proof" to "prove"

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Interactive comment on Atmos. Chem. Phys. Discuss., 10, 19005, 2010.

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