

## ***Interactive comment on “A global ozone climatology from ozone soundings via trajectory mapping: a stratospheric perspective” by J. Liu et al.***

### **Anonymous Referee #2**

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#### General comments:

In this paper the authors developed a global ozone data set from WOUDC ozonesonde data using backward and forward trajectory mapping method. The NCEP/NCAR re-analysis winds are used to drive the trajectory calculation. The ozone climatology of this new data set is generally compared well with other independent observations. The spatial and temporal variability of this ozone climatology captures most well-known features of stratospheric ozone. This new ozone data set also demonstrates its ability to capture the stratospheric ozone recovery and to provide proper upper boundary conditions for modeling tropospheric chemistry.

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This paper is well written and the ozone data set developed in this paper has significant scientific potential. Therefore, I think this paper can be accepted for publication in ACP after the following minor comments have been addressed.

#### Specific comments:

P16848 L15: "ozone climatology" → "ozone data set". The majority of this paper focuses on the ozone climatology of this data set but the first application is about the temporal evolution of stratospheric ozone. The authors can also further evaluate the potential of this data set on ozone trends which are of broad scientific interests.

Technical correction: P16851 L5: "tends unduly to smooth" → "tends to unduly smooth"

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