This is the response of L. Frossard and H.E. Rieder on behalf of all authors (AC written in italic) to the comments of Referee 1 (R1).

First of all we thank the referee for his/her positive judgment and valuable suggestions leading to an improved version of the manuscript. The individual points raised by the referee are addressed in the point to point reply below.

**Specific Comments:**

**R1**: p.13163, L16: to adjust … ozone distribution function … so that statistical distribution is not confused with the spatial one

*AC*: We changed to ‘statistical distribution of ozone’.

**R1**: p.13163, L23: the global decrease of total ozone should be dated later than since 1970

*AC*: We changed to ‘between the 1980s and …’ according to the referee’s suggestion.

**R1**: p.13163, L21: to exclude … erythemal … or to replace it by … biologically active UV radiation … as the UV radiation generally is the subject of the interest

*AC*: We changed to ‘biologically active UV radiation’ according to the referee’s suggestion.

**R1**: p.13180, L11: adjust … circumpolar vortex…

*AC*: We adjusted according to the referee’s suggestion.

**R1**: p.13181, L5: to replace ODS by EESC

*AC*: We adjusted according to the referee’s suggestion.

**R1**: Figures 4-9: in the figure captions the full designation: Pointwise regression coefficient estimates … instead of Coefficient estimates … is recommended.

*AC*: We adjusted to ‘Pointwise regression coefficient estimates’ according to the referee’s suggestion.

**Technical Comments:**

*AC*: All technical comments have been addressed according to the referee’s suggestion.