SUPPLEMENTARY DATA

No severe ozone depletion in the tropical stratosphere in recent decades

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23   **Table S1:** The location of SHADOZ ozonesonde observations.

Location	Abbreviation	Latitude in °	Longitude in °
Ascension, UK	Ascen	-7.56	-14.22
Suva, Fiji	Fiji	-18.10	178.40
Hilo, Hawaii	Hilo	19.40	-155.40
Irene, S. Africa	Irene	-25.90	28.20
Watukosek, Java, Indonesia	Java	-7.60	112.70
Kuala Lampur, Malaysia	Kuala	2.73	101.70
Nairobi, Kenya	Nairobi	-1.30	36.80
Natal, Brazil	Natal	-5.40	-35.40
Paramaribo, Surinam	Paramaribo	5.80	-55.21
La Reunion Is, France	Reunion	-21.10	55.50
Pago Pago, Am. Samoa	Samoa	-14.20	-170.60
San Cristobal, Galapagos	Sancrist	-0.92	-89.60

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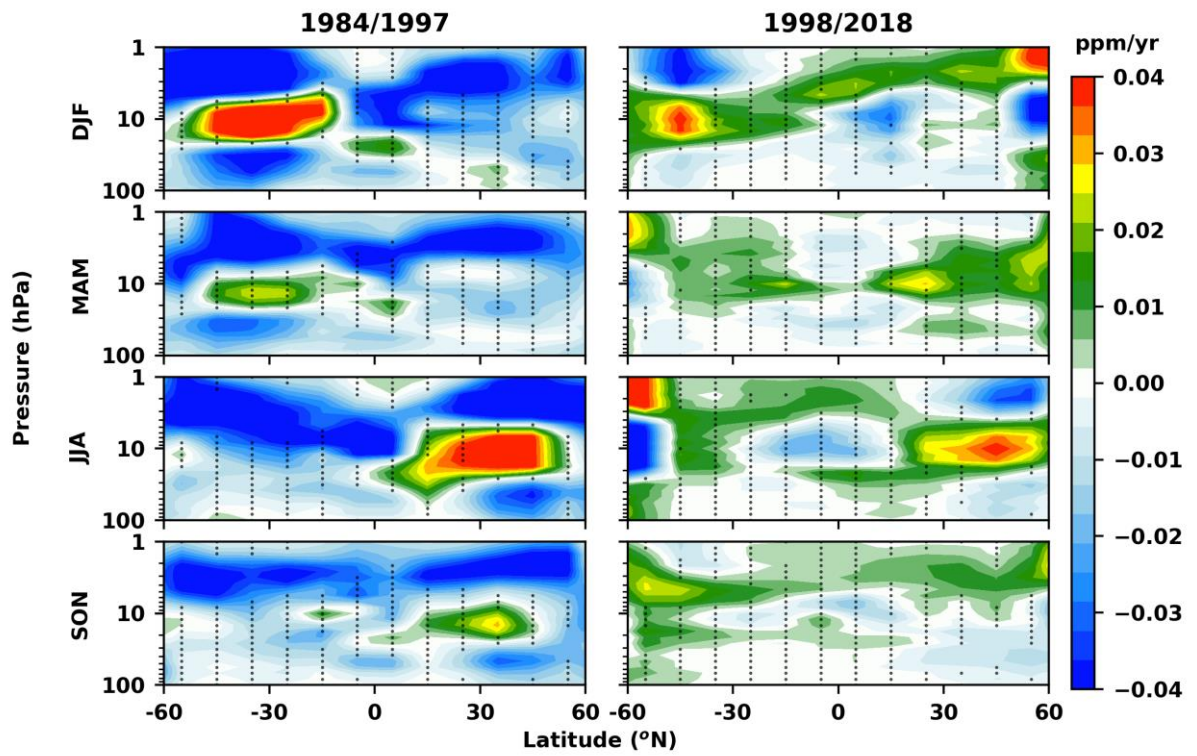
Figure S1: Trends in mixing ratio of ozone estimated for each season using the GOZCARDS data for
the periods 1984–1997 and 1998–2018. The hatched regions are statistically insignificant at 95% CI
level.

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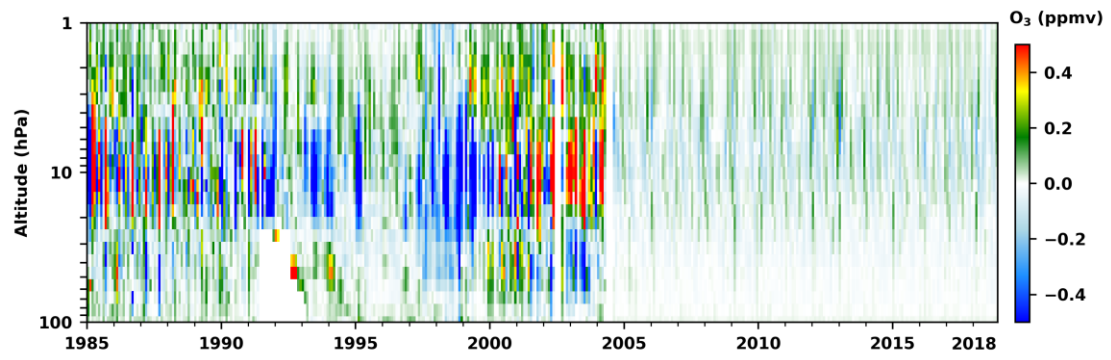
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47 Figure S2: The difference in ozone estimated between GOZCARDS and SWOOSH satellite reanalysed

48 ozone datasets for each month since 1985.

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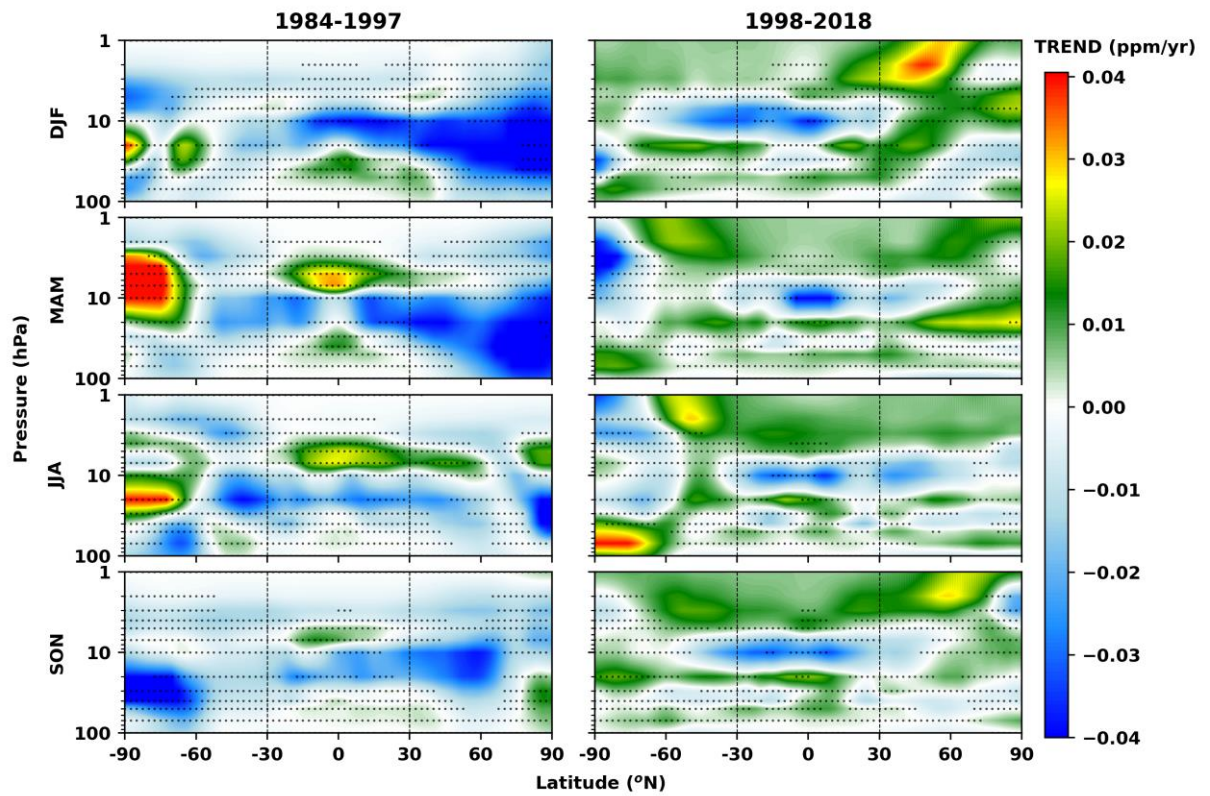
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66   **Figure S3:** Trends in mixing ratio of ozone estimated for each season from MERRA−2 data for the

67   periods 1984–1996 and 1997–2018. The hatched regions are statistically insignificant at 95% CI

68   level.

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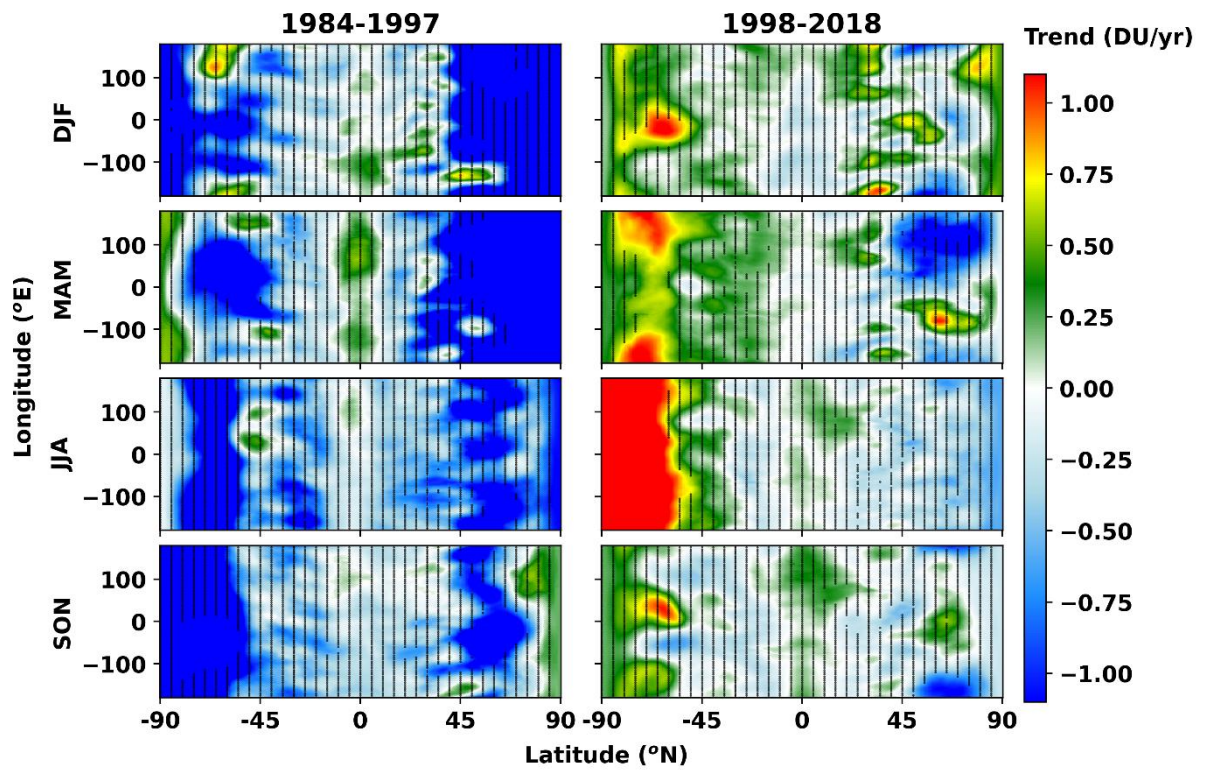
Figure S4: Trends in TCO estimated using the seasonally averaged data from MERRA−2 for the periods 1984–1997 and 1998–2018. The hatched regions are statistically insignificant at 95% CI level.

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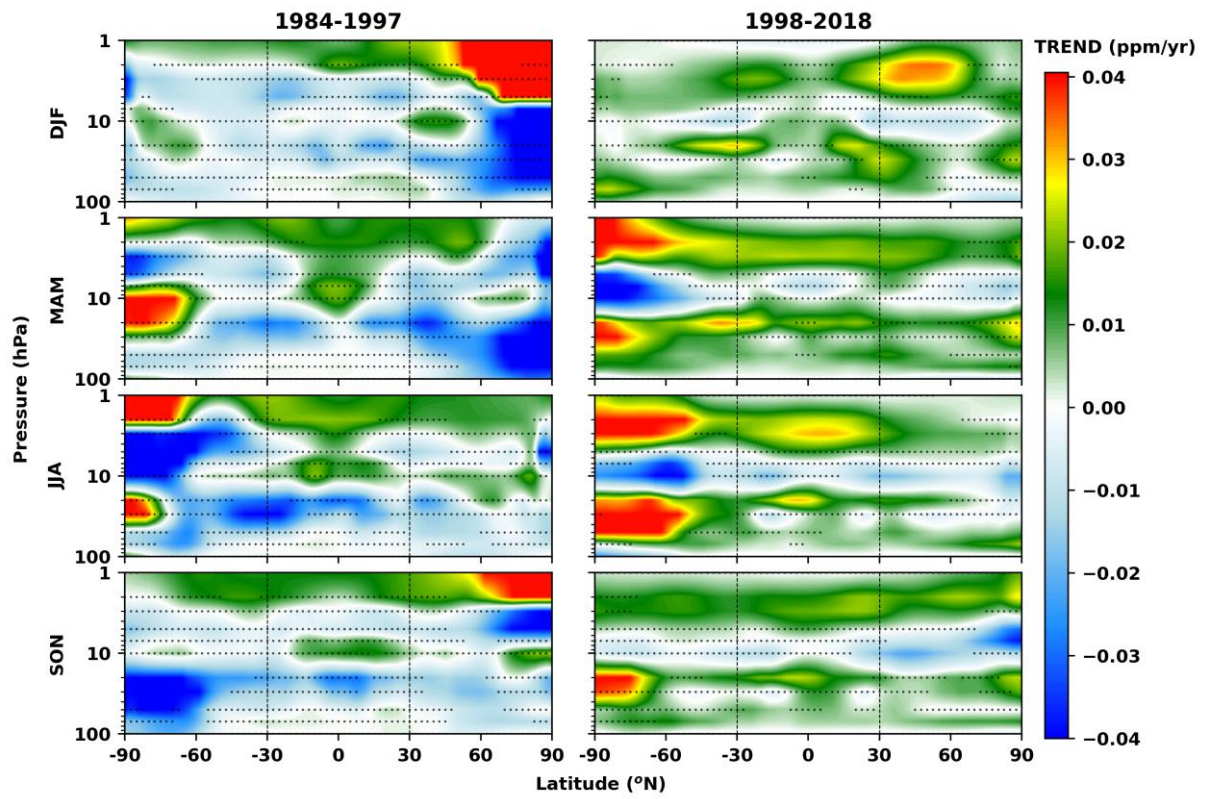
98 **Figure S5:** Trends in mixing ratio of ozone estimated for each season from ERA5 data for the periods

99 1984–1996 and 1997–2018. The hatched regions are statistically insignificant at 95% CI level.

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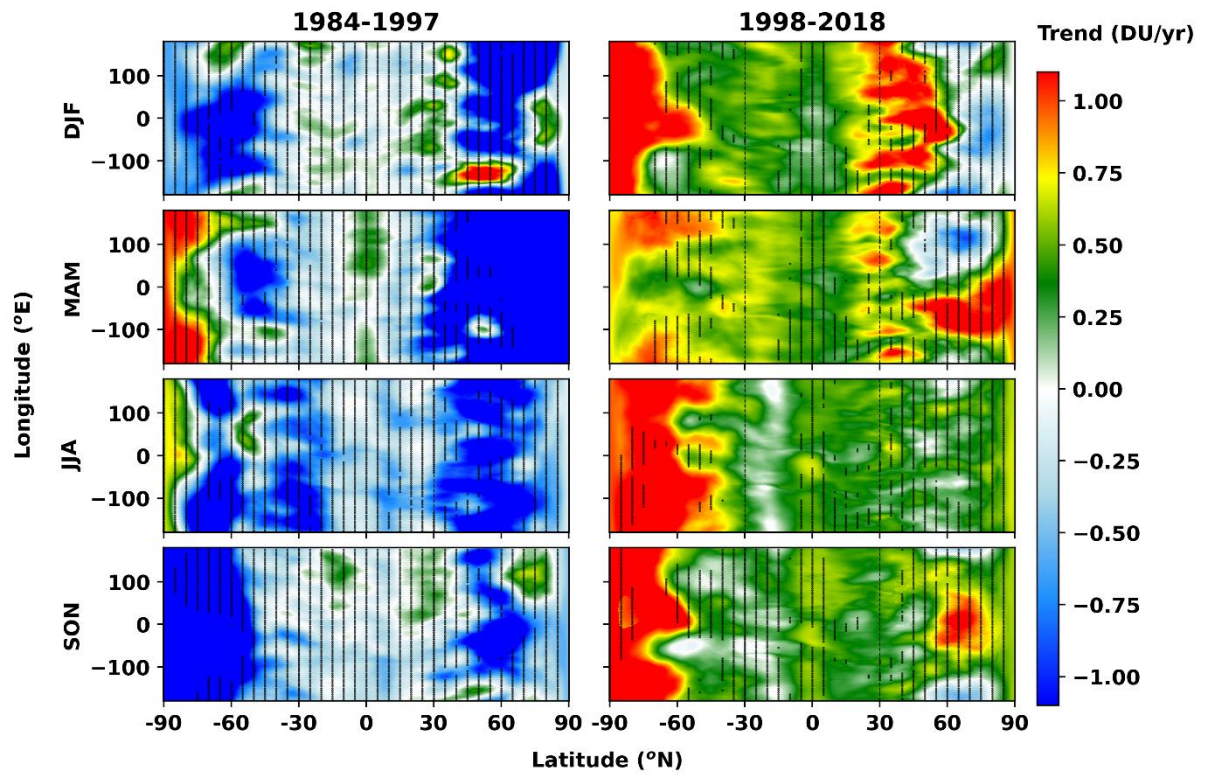
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111 **Figure S6:** Trends in TCO estimated using the seasonally averaged data from ERA 5 for the periods

112 1984–1997 and 1998–2018. The hatched regions are statistically insignificant at 95% CI level.

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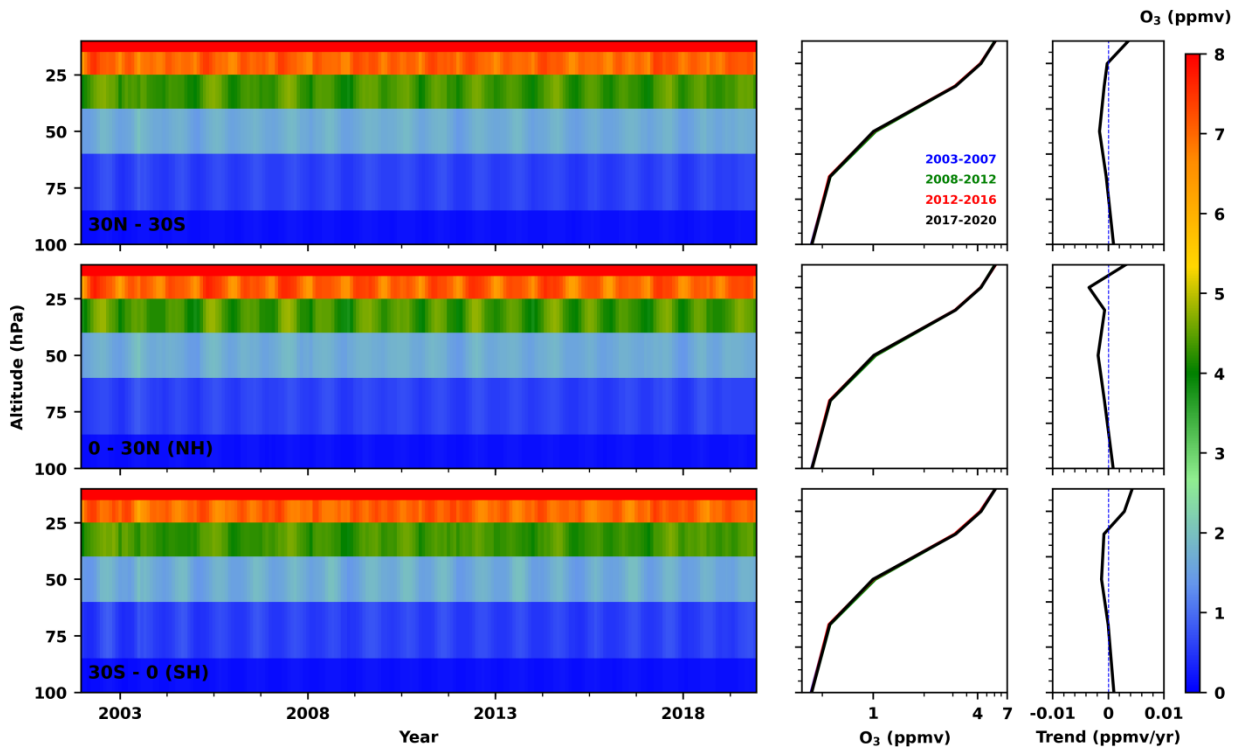
Figure S7. (Left Panel): Ozone profiles from CAMS reanalysis averaged for the tropics, NH and SH, (Middle Panel) Mean distribution over each decade for different regions (Right Panel) and the yearly averaged trends for the period 1980-2020.

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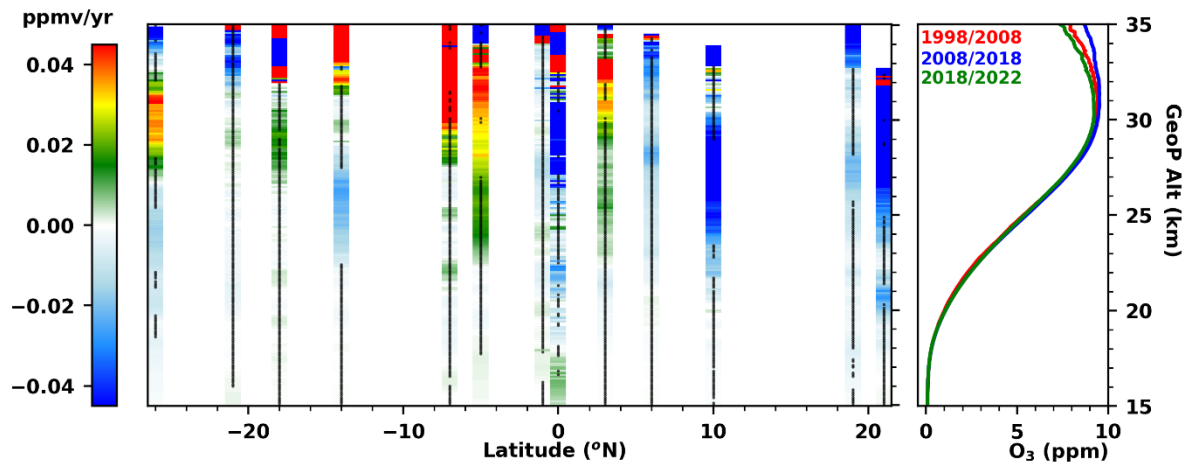
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129   **Figure S8:** The latitudinal distribution of vertical trends in SHADOZ ozone observations from 1998

130   to 2022. The average of ozonesonde profiles different periods is shown on the right. The hatched

131   regions are statistically insignificant at 95% CI level.

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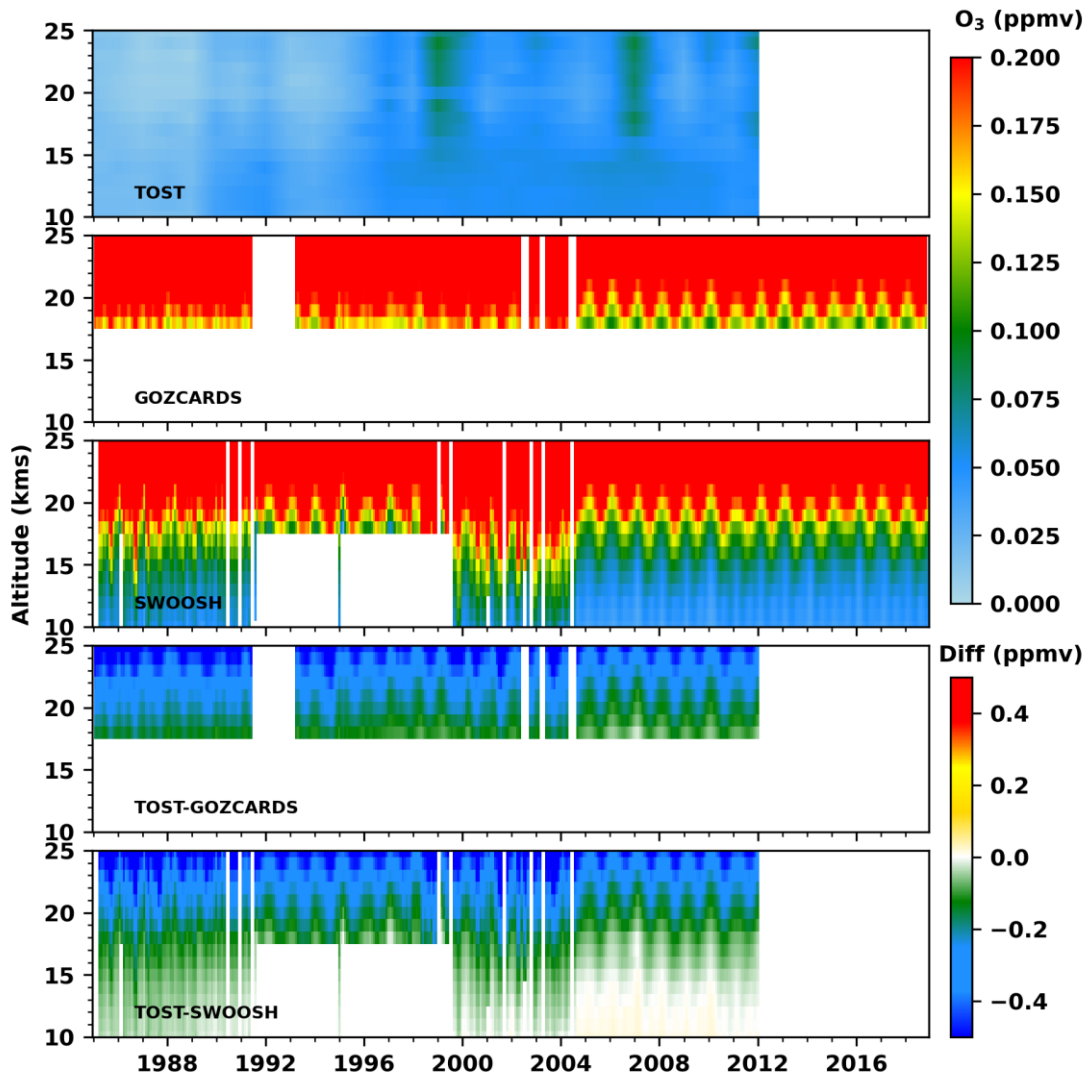
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148   **Figure S9:** Yearly averaged ozone values in the TOST, GOZCARDS and SWOOSH data (top three

149   panels), and the difference in ozone values found between TOST and GOZCARDS and TOST and

150   SWOOSH (bottom two panels) data sets.

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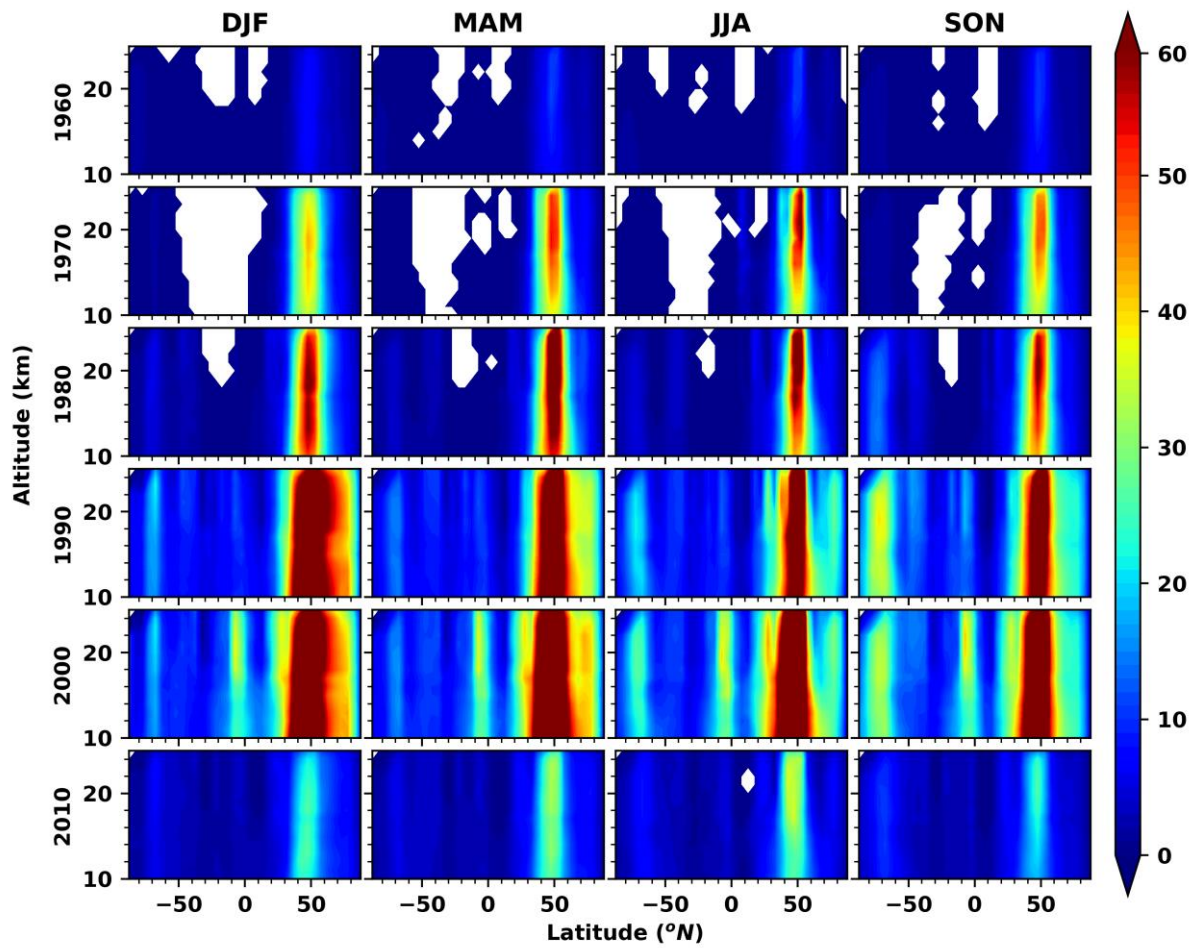
154   **Figure S10:** The number of profiles in TOST data in each period and altitude.

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