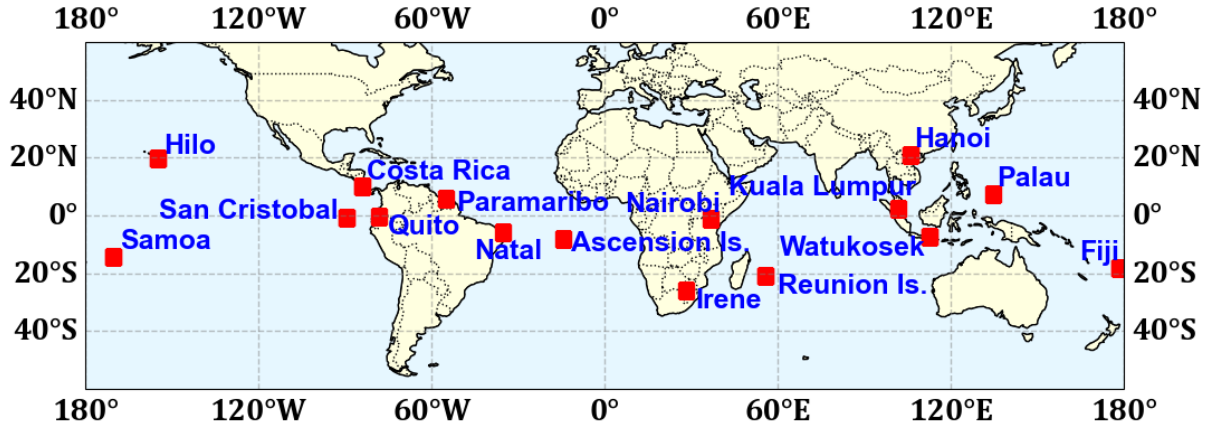
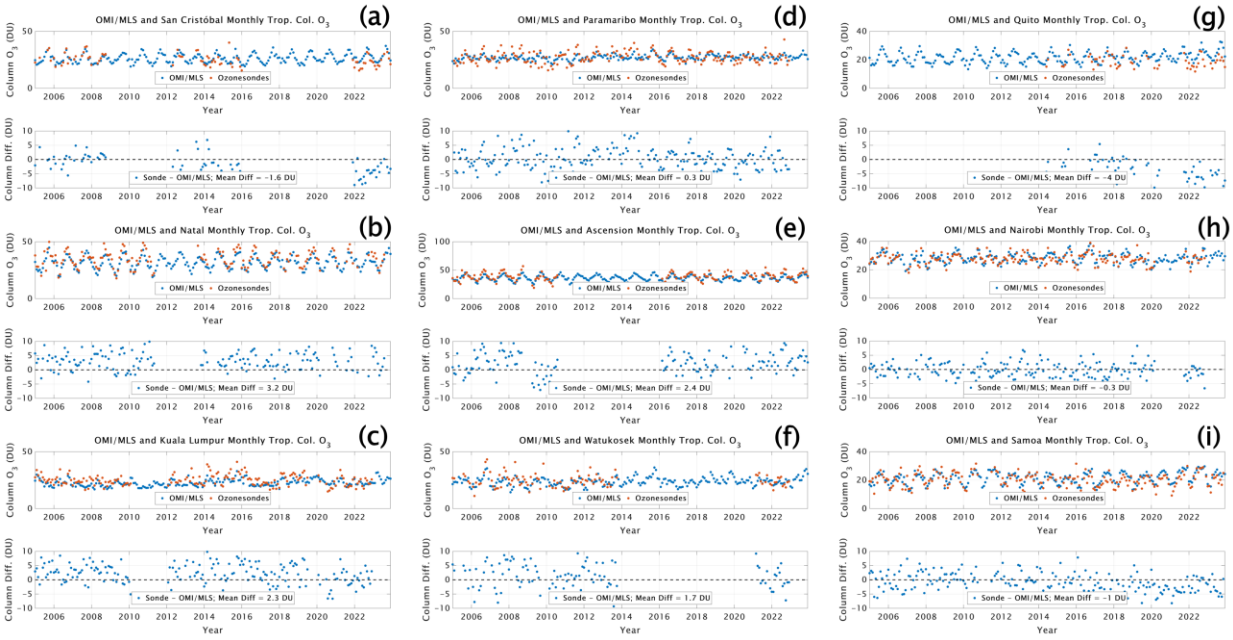


Supplementary Figure S1. SHADOZ stations as of November 2024 that have at least 10 years of data during the period 1998-2023 except Palau where launches started in 2016 (Mueller et al., 2024).



Supplementary Figure S2. For the nine SHADOZ stations analyzed (eight T21 plus Quito), the upper panels in (a) –(i) give monthly mean tropospheric column ozone in DU, estimated from the most recent OMI/MLS residual satellite product (reported in Gaudel et al., 2024) and integrated from surface to tropopause from SHADOZ data. Tropopauses for both the integrated ozonesonde column and the OMI/MLS column estimate are determined using the WMO lapse rate tropopause. In text, the column integrals are referred to as $TrCO_{sat}$ for the OMI/MLS and $TrCO_{sonde}$ for the SHADOZ data. Lower panels give the difference between the two tropospheric columns in DU (blue) with the mean difference over the periods of record indicated in the legend (ozonesonde-OMI/MLS).

SHADOZ QR and MLR Ozone Trends (2000-2022)											
Station	**Latitude**	**Longitude**	**Altitude (masl)**	**L1 Obs #**	**L3 Obs #**	**TrOC QR L1 Annual Trend ± 2sigma (ppb/dec)**	**TrOC QR L1 Annual Trend ± 2sigma (%/dec)**	**TrOC QR L3 Annual Trend ± 2sigma (ppb/dec)**	**TrOC MLR L3 Annual Trend ± 2sigma (ppb/dec)**	**FT QR L1 Annual Trend ± 2sigma (ppb/dec)**	**FT QR L1 Annual Trend ± 2sigma (%/dec)**
Hilo	19.43	-155.04	11	1142	276	-0.28 ± 0.98	-0.68 ± 2.38	-0.43 ± 1.30	-0.41 ± 1.03	-0.32 ± 1.33	-0.64 ± 2.62
Paramaribo	5.80	-55.21	23	855	247	0.40 ± 0.78	1.22 ± 2.38	-0.42 ± 1.04	0.22 ± 1.17	0.26 ± 1.14	0.69 ± 2.98
Ascension Island	-7.58	-14.24	85	676	174	-1.01 ± 1.58	-1.98 ± 3.1	-1.06 ± 1.76	-0.88 ± 1.74	-1.08 ± 1.55	-1.62 ± 2.32
Hanoi	21.01	105.80	6	350	121	2.42 ± 2.70	4.5 ± 5.02	1.15 ± 3.26	1.74 ± 5.08	1.2 ± 3.08	2.15 ± 5.53
Kuala Lumpur	2.73	101.27	17	456	203	**1.91 ± 1.38**	**5.77 ± 4.17**	**2.61 ± 1.74**	**1.86 ± 1.56**	0.84 ± 1.10	2.75 ± 3.62
Fiji	-18.13	178.40	6	391	123	-0.57 ± 1.88	-1.81 ± 5.96	-1.04 ± 1.80	-1.33 ± 2.28	-0.02 ± 2.58	-0.04 ± 6.55
Irene	-25.90	28.22	1524	387	139	0.54 ± 1.62	0.96 ± 2.89	0.48 ± 2.36	-0.16 ± 2.41	1.22 ± 1.97	2.26 ± 3.65
Nairobi	-1.27	36.80	1795	872	223	0.68 ± 1.14	1.59 ± 2.66	0.47 ± 1.56	0.75 ± 1.37	0.33 ± 1.53	0.74 ± 3.42
Natal	-5.42	-35.38	42	676	175	0.26 ± 1.02	0.6 ± 2.35	0.76 ± 1.22	1.04 ± 1.37	1.08 ± 1.47	2.17 ± 2.96
Reunion	-21.06	55.48	10	735	215	**1.88 ± 1.08**	**4.3 ± 2.47**	1.17 ± 1.62	**1.93 ± 1.27**	**1.84 ± 1.52**	**3.94 ± 3.25**
San Cristobal	-0.89	-89.61	8	350	82	-1.14 ± 1.29	-3.64 ± 4.11	N/A	N/A	-0.68 ±1.86	-1.70 ± 4.65
Samoa	-14.23	-170.56	77	797	234	-0.06 ± 1.04	0.23 ± 3.95	-0.49 ± 1.10	-0.52 ± 0.99	-0.07 ± 1.32	-0.21 ± 4.19
Watukosek	-7.46	112.43	50	326	75	**2.91 ± 2.70**	**8.16 ± 7.57**	N/A	N/A	1.27 ± 2.92	3.65 ± 8.38

Supplementary Table S1. SHADOZ QR and MLR annual ozone trends values (2000-2022) for TrOC (surface -300hPa) and FTp (700-300 hPa) partial columns in ppbv/decade (TOAR-recommended units) and in %/decade with +/-2 sigma. Trends with p-values <0.05 are shown in bold. L1 data is daily and L3 is monthly data from the HEGIFTOM database (https://hegiftom.meteo.be/datasets). L3 trends were only calculated for sites with more than 120 monthly values.