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Source attribution of near-surface ozone trends in the United States during 1995–2019

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Table S1. Global total emissions of NO_x, NMVOCs and CO for different sectors in 1995 and 2019.

	year	AGR	ENE	IND	RCO	SHP	TRA	SLV	WST	BMB	SOIL/BIO	AIR
NO_x	1995	1.23	9.19	4.24	3.16	5.11	11.34		0.39	4.48	7.98	0.67
Tg N yr^{-1}	2019	1.61	7.83	5.25	2.53	6.02	11.26		0.74	4.00	7.98	1.19
NMVOCs	1995	4.86	24.99	8.27	31.16	2.59	35.97	23.32	2.70	64.28	664.87	
Tg C yr^{-1}	2019	7.60	35.51	11.63	28.93	3.15	25.30	31.90	2.76	61.99	664.87	
CO	1995		15.97	42.42	113.09	0.21	102.52		3.81		68.51	0.19
Tg C yr^{-1}	2019		28.17	40.41	97.63	0.33	55.63		7.25		68.51	0.31

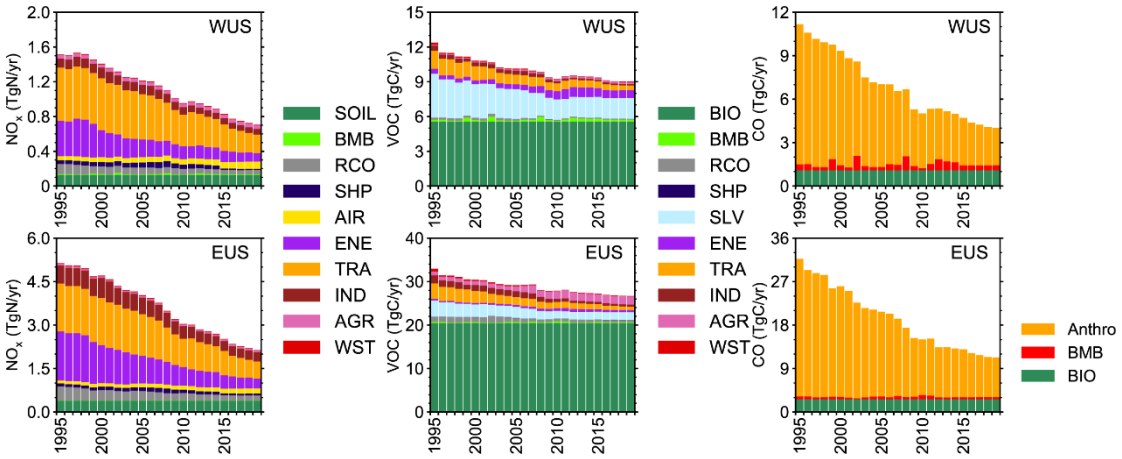

Figure S1. Time series of NO_x, NMVOCs, and CO emissions classified by source sectors in the western U.S. (WUS, 100–125°W, 30–45°N) and eastern U.S. (EUS, 70–100°W, 30–45°N).

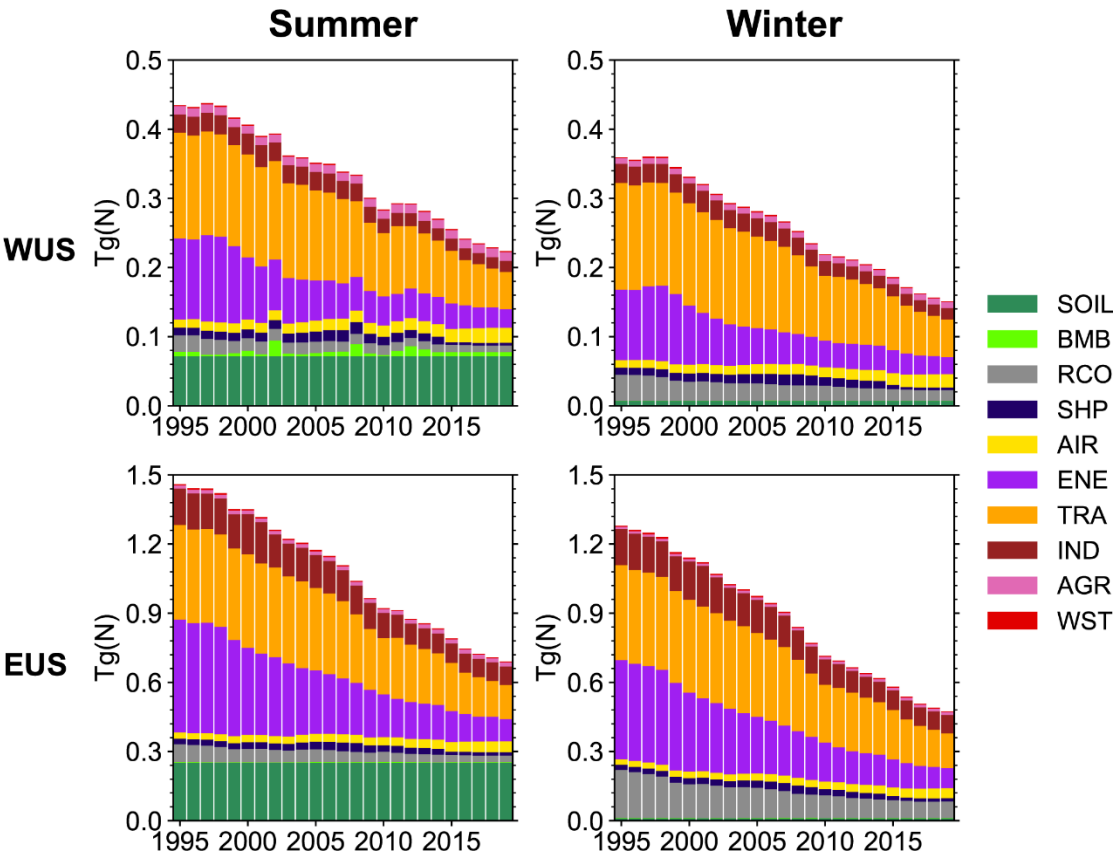

Figure S2. Time series of NO_x emissions in summer (June, July and August, JJA) and winter (December, January and February, DJF) in WUS and EUS from different source sectors during 1995–2019.

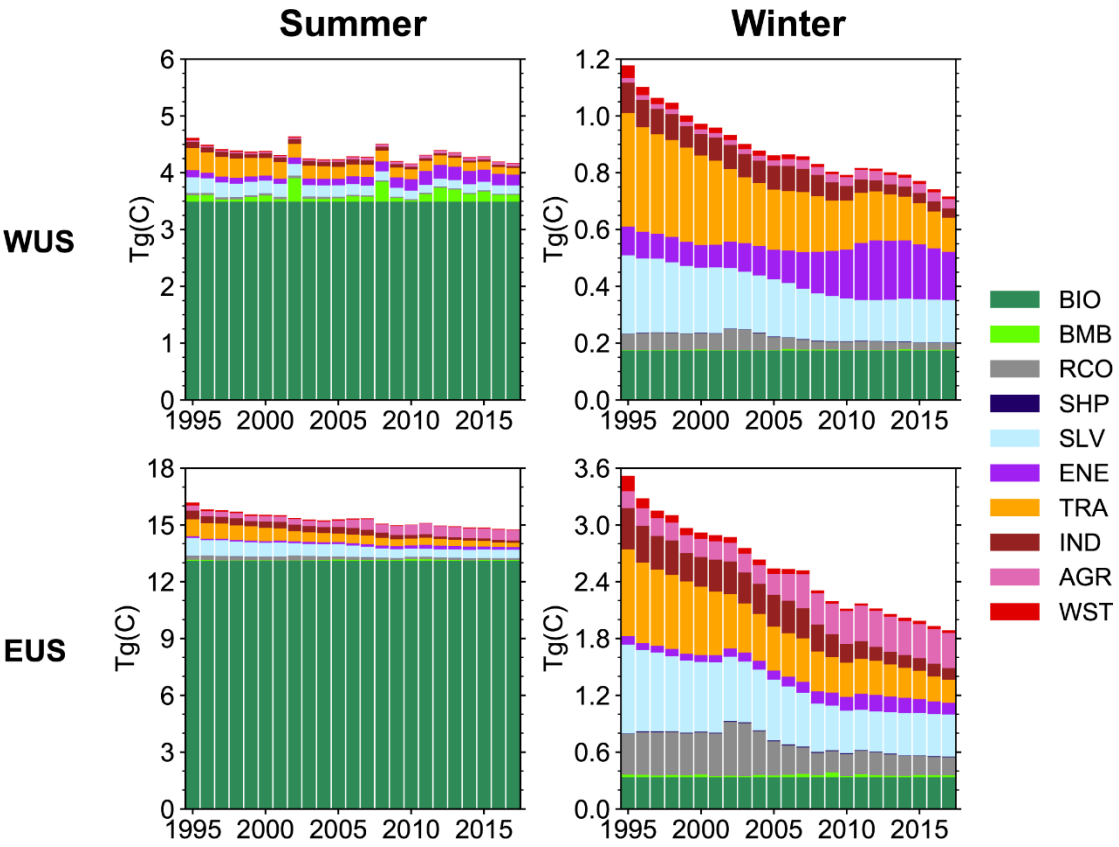

Figure S3. Time series of NMVOCs emissions in summer and winter in WUS and EUS from different source sectors during 1995–2019.

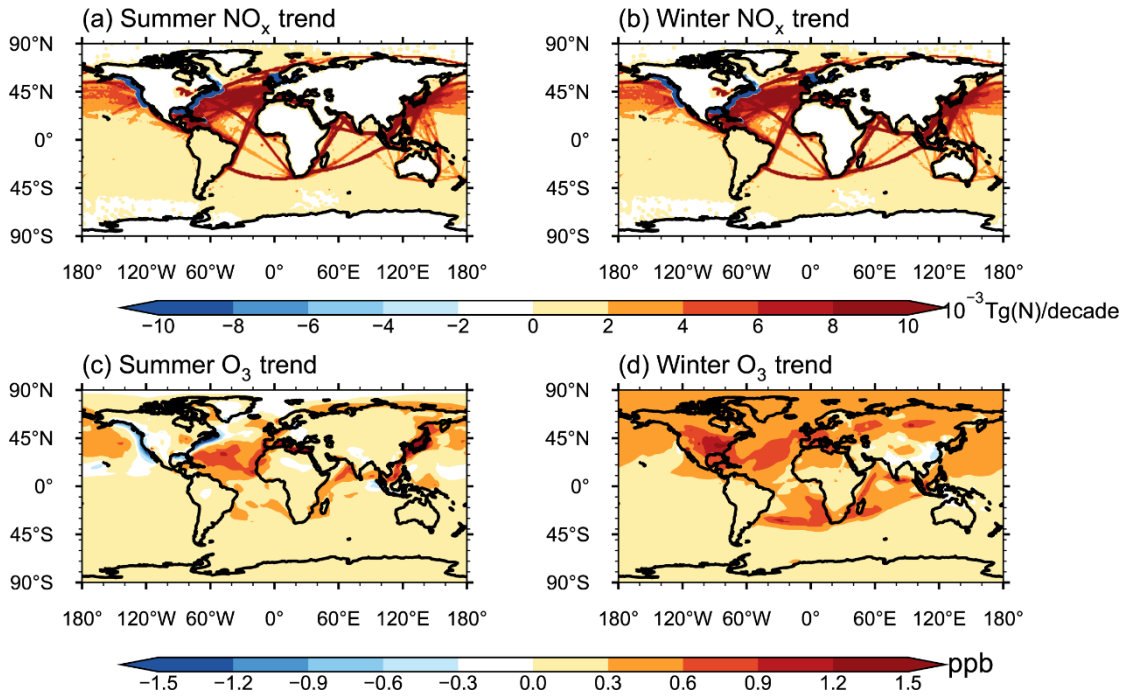

Figure S4. Trends of shipping emissions of NO_x and O_3 trends contributed by shipping emissions in JJA and DJF from 1995 to 2019.

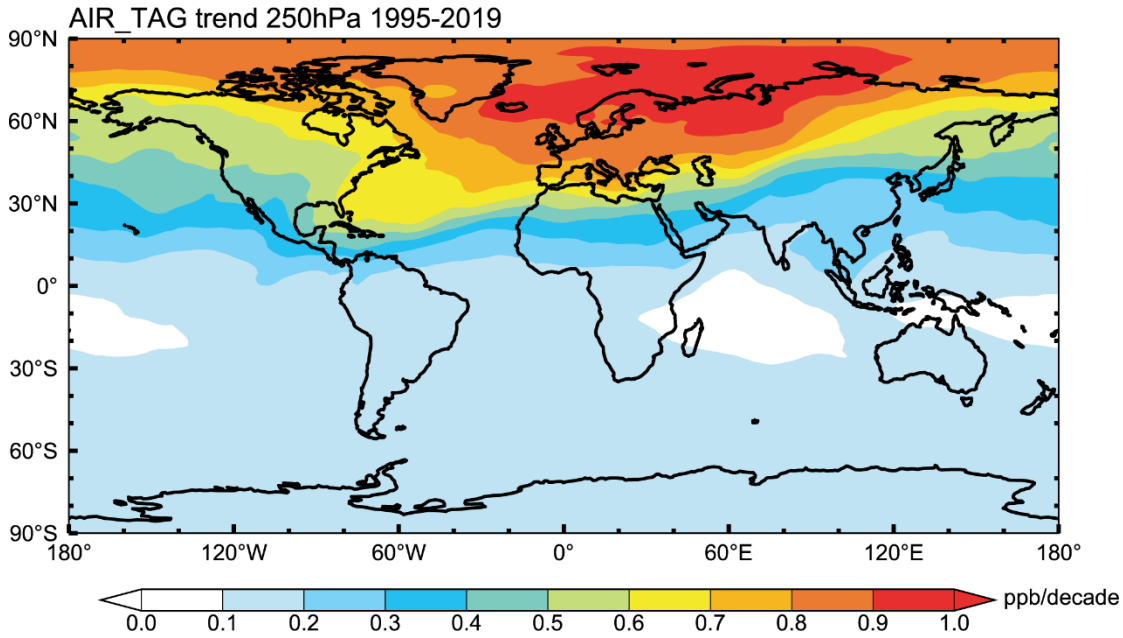

Figure S5. Annual O_3 trends contributed by aircraft at 250hPa from 1995-2019.

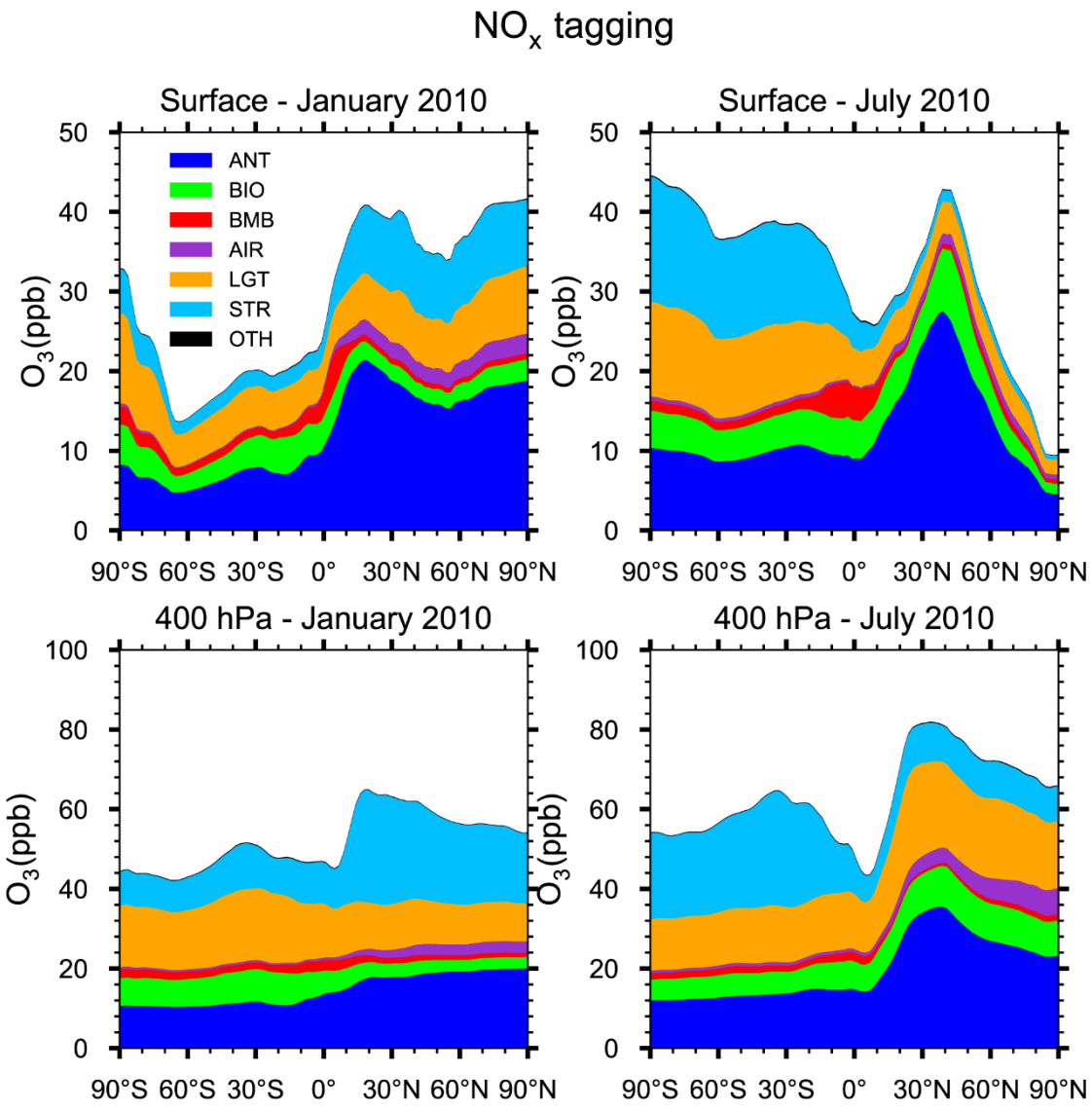

Figure S6. Zonal average of tagged ozone contributed from various sectors at the surface (a, b) and at 400 hPa (c, d) for January (a, c) and July (b, d) from the NOx-tagging run in 2010.

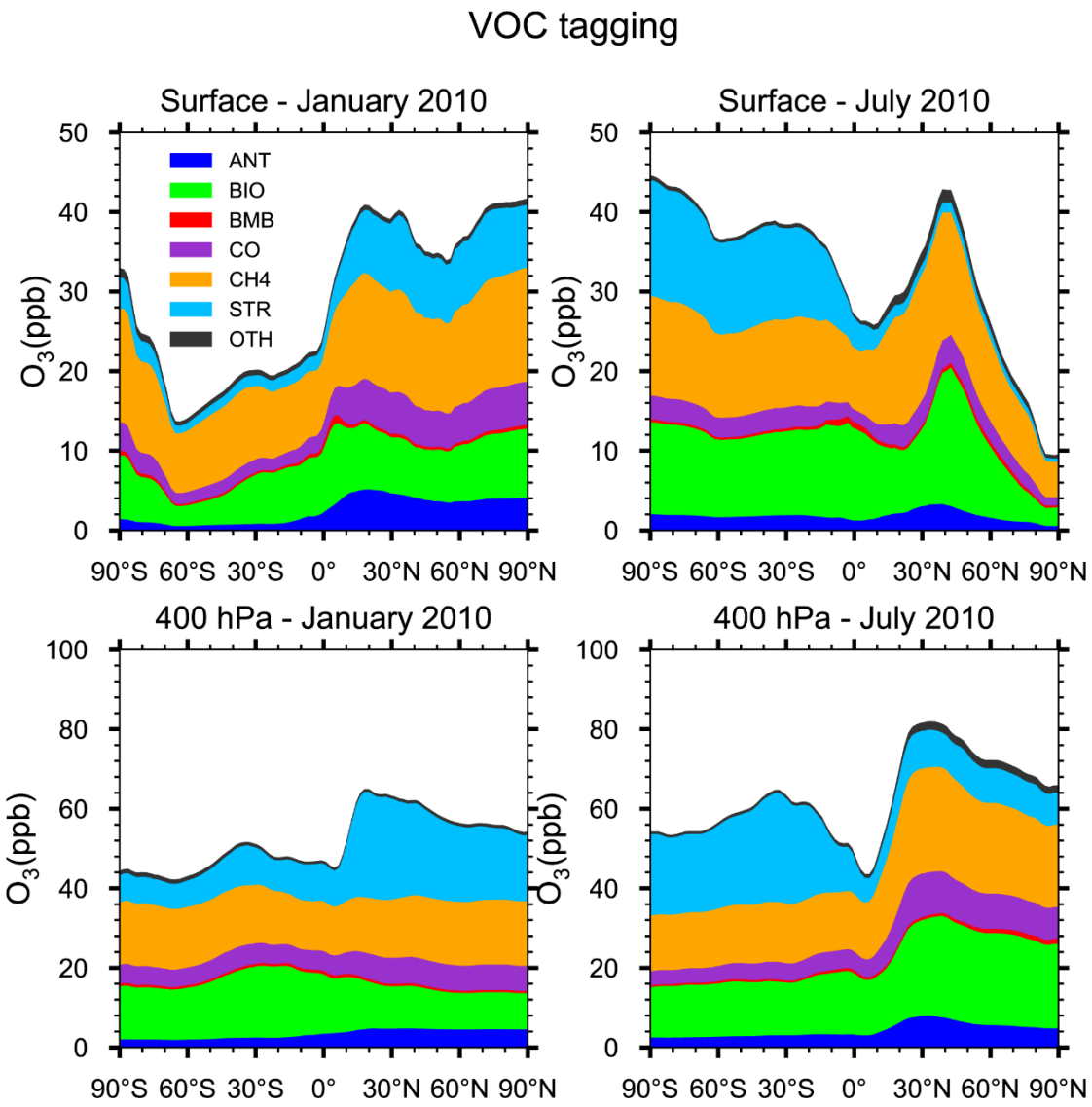

Figure S7. Zonal average of tagged ozone contributed from various sectors at the surface (a, b) and at 400 hPa (c, d) for January (a, c) and July (b, d) from the VOC-tagging run in 2010.

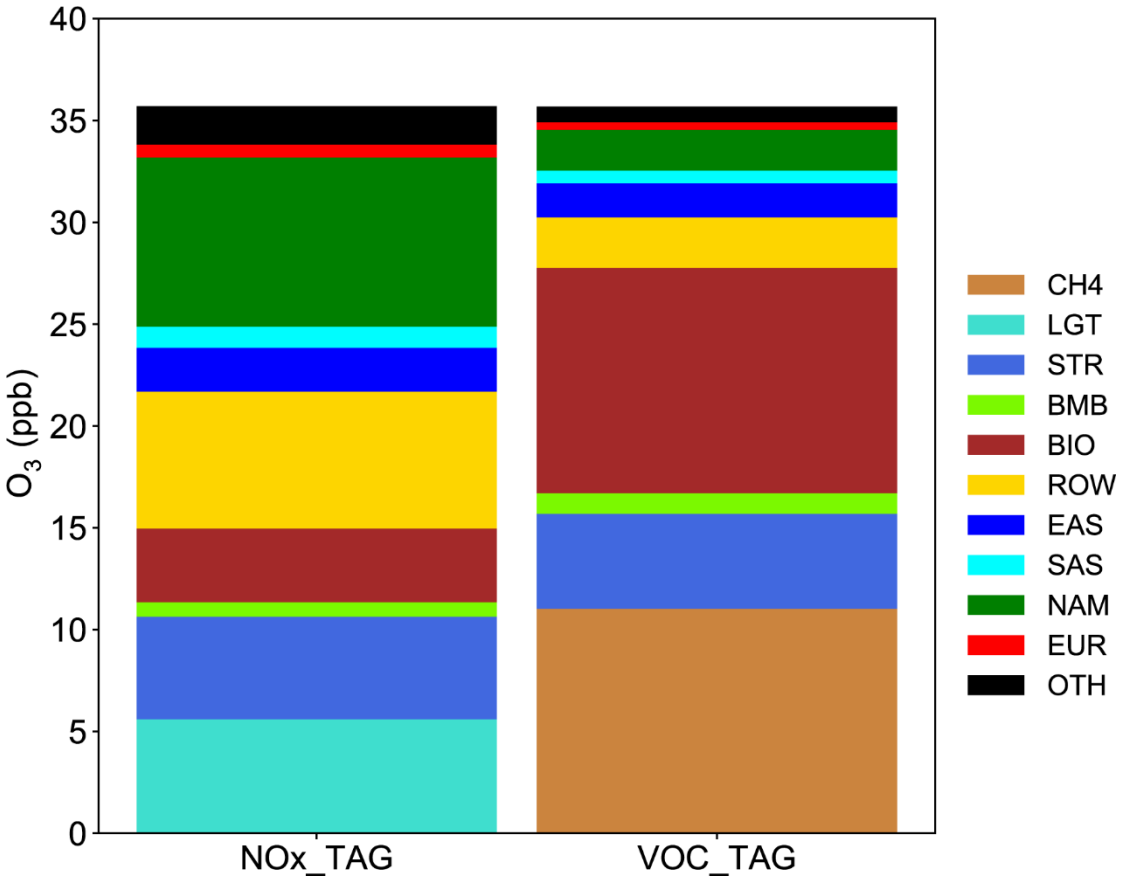

Figure S8. Source–receptor relationships for annual average surface O_3 mixing ratios (ppb) in North America from source region runs.