

Supplementary Information of

Improving predictability of high ozone episodes through dynamic boundary conditions, emission refresh and chemical data assimilation during the Long Island Sound Tropospheric Ozone Study (LISTOS) field campaign

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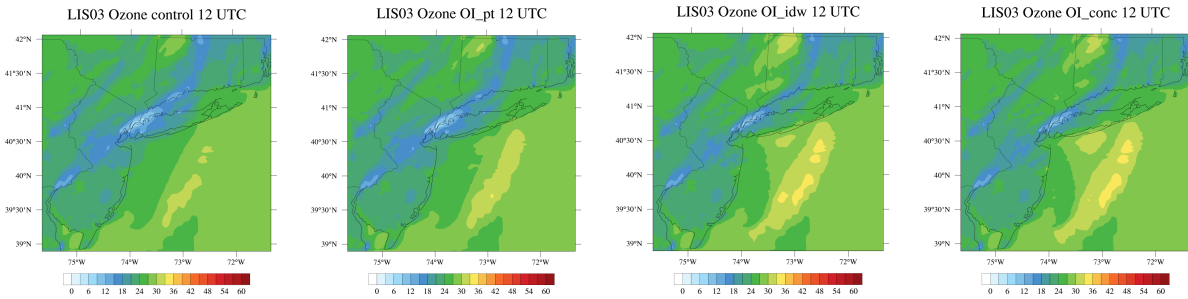


Figure S1: Spatial distributions of ozone simulated by Control, OI-pt, OI-idw and OI-conc at 0:00 and 12:00 UTC August 26, 2018.

Table S1: Regional mean statistical metrics between observed and simulated O₃ and NO₂ during the episode

Ozone	Control	BCON	NOAA	NO ₂	Control	BCON	NOAA
CORR	0.81	0.93	15%	CORR	0.69	0.71	2%
RMSE	14.97	8.22	45%	RMSE	4.12	3.82	7%
NMB	-0.3	0.14	52%	NMB	-0.17	-0.06	65%
NME	0.34	0.19	45%	NME	0.35	0.33	4%

Table S2: Statistical metrics between airborne measured and simulated NO₂ vertical column density on 28 and 29, August 2018

BOE	CORR	NMB	NME	NAQFC	CORR	NMB	NME
28AM	0.56	68.64	87.95	28AM	0.44	47.83	89.48
28PM	0.81	43.74	63.10	28PM	0.79	76.43	80.08
29AM	0.79	25.44	48.53	29AM	0.41	11.91	69.95
29PM	0.78	22.99	45.15	29PM	0.65	43.99	64.60
AVG	0.74	40.20	61.18	AVG	0.57	45.04	76.03