

	Minimum	Maximum	Descriptions
(1) NO _x emissions (P)	0	4	The surface NO _x emissions field as a function of latitude and longitude was multiplied by a scaling factor between 0 and 4, to explore the sensitivity of tropospheric ozone to a range of NO _x emissions.
(2) CH ₄ concentrations (P)	0	4	The global-mean CH ₄ mixing ratio was multiplied by a scaling factor between 0 and 4, to explore the sensitivity of tropospheric ozone to a range of CH ₄ concentrations.
(3) CO+NMVOC (P) emissions	0	4	As for (1), but the scaling factor was applied to CO and NMVOC emissions simultaneously.
(4) ELEV for NO _x and CO+NMVOCs (P)	1	6	Emissions were prescribed on the lowermost six levels (between the surface and ~ 2.5 km), to test whether the number of levels is important for tropospheric ozone abundances.
(5) CLEV for CH ₄ (P)	1	6	CH ₄ concentrations were prescribed on the lowermost six levels (between the surface and ~ 2.5 km), similar to (4).
(6) CMF (P+L)	0.25	1	1 implies clear-sky photolysis, whereas 0 would imply no photolysis. As photolysis rates of 0 do not occur during daytime, we selected a lower bound of 0.25 to represent cloudy sky conditions.
(7) HNO ₃ washout (L)	0	0.5	To test the sensitivity of tropospheric ozone to HNO ₃ removal, we removed between 0 and 50 % of tropospheric gas-phase HNO ₃ at each chemical time step.
(8) N ₂ O ₅ hydrolysis (L)	0.001	0.3	The probability of N ₂ O ₅ hydrolysis occurring. Since the default is 0.1, we explored the sensitivity of tropospheric ozone to a range from 0.001 to 0.3.
(9) O ₃ dry deposition (L)	0	1	A specific reactivity of 0 stands for a nearly non-reactive gas, while 1 stands for a gas similarly reactive to ozone.