

Instruction for running the 0-dimensional gas phase mechanism box model:

Step 1: wget

http://www.caps.ou.edu/micronet/temp/forJianPing/BoxRACM_xhu_gfortranWorkwithKPP_P_nimbus.tar

Step 2: tar xvf BoxRACM_xhu_gfortranWorkwithKPP_nimbus.tar

cd BoxRACM_xhu_gfortranWorkwithKPP_nimbus/

Step 3: make clean

Step 4: make

Step 5: ./racmr

You should see a file named TS_species.txt

With similar content as

timloc=	timin	O3=	NO=	NO2=	ISO=	Lim=	HONO	HN03	HN04	N2O5	ONIT	PAN	OH	CO	CH4	H2O
7.000	7.000	5.000	0.110	10.340	0.360	0.030	0.000	0.100	0.000	0.000	0.000	0.030	0.000	100.000	1700.000	23.326
8.000	8.000	10.856	0.100	1.730	0.360	0.013	0.030	0.334	0.001	0.000	0.022	0.048	0.062	100.096	1699.959	23.326
9.000	9.000	15.685	0.100	1.770	0.360	0.000	0.016	0.550	0.003	0.000	0.075	0.251	0.333	100.263	1699.734	23.326
10.000	10.000	22.554	0.280	0.280	0.360	0.000	0.013	0.894	0.005	0.000	0.122	0.427	0.510	100.862	1699.323	23.326
11.000	11.000	26.689	0.045	0.045	0.360	0.000	0.004	1.016	0.003	0.000	0.153	0.349	0.407	101.655	1698.965	23.326
12.000	12.000	28.330	0.166	0.166	0.360	0.000	0.001	1.045	0.001	0.000	0.166	0.156	0.289	102.344	1698.727	23.326
13.000	13.000	30.544	0.237	0.237	0.360	0.000	0.002	1.104	0.001	0.000	0.186	0.108	0.335	102.928	1698.396	23.326
14.000	14.000	33.049	0.178	0.178	0.360	0.000	0.002	1.195	0.002	0.000	0.208	0.103	0.358	103.401	1698.014	23.326
15.000	15.000	34.654	0.124	0.124	0.360	0.000	0.001	1.253	0.001	0.000	0.226	0.079	0.278	103.772	1697.709	23.326
16.000	16.000	35.418	0.174	0.174	0.360	0.000	0.001	1.283	0.001	0.000	0.238	0.051	0.179	104.145	1697.497	23.326
17.000	17.000	36.011	0.162	0.162	0.360	0.000	0.001	1.314	0.001	0.000	0.253	0.050	0.114	104.223	1697.340	23.326
18.000	18.000	36.113	0.045	0.045	0.360	0.000	0.000	1.329	0.001	0.000	0.263	0.057	0.033	104.318	1697.274	23.326
19.000	19.000	36.027	0.161	0.161	0.360	0.000	0.000	1.330	0.000	0.000	0.268	0.037	0.001	104.337	1697.266	23.326
20.000	20.000	35.830	0.308	0.308	0.360	0.000	0.000	1.331	0.000	0.000	0.289	0.037	0.001	104.343	1697.265	23.326
21.000	21.000	35.469	1.305	1.305	0.360	0.000	0.000	1.333	0.000	0.001	0.334	0.038	0.001	104.349	1697.262	23.326
22.000	22.000	33.995	2.285	2.285	0.360	0.000	0.002	1.346	0.002	0.019	0.489	0.042	0.002	104.356	1697.258	23.326
23.000	23.000	31.471	0.100	4.510	0.360	0.000	0.004	1.373	0.005	0.065	0.706	0.046	0.002	104.365	1697.252	23.326
24.000	0.000	30.987	0.100	8.850	0.360	0.000	0.004	1.392	0.005	0.076	0.969	0.050	0.002	104.377	1697.250	23.326
25.000	1.000	30.128	0.100	9.590	0.360	0.000	0.004	1.433	0.008	0.271	1.303	0.056	0.003	104.400	1697.247	23.326
26.000	2.000	29.248	0.100	8.910	0.360	0.000	0.004	1.489	0.008	0.404	1.664	0.064	0.003	104.434	1697.244	23.326
27.000	3.000	28.448	0.100	8.730	0.360	0.000	0.004	1.553	0.008	0.421	2.035	0.074	0.003	104.479	1697.241	23.326
28.000	4.000	27.673	0.100	7.370	0.360	0.000	0.004	1.619	0.007	0.399	2.411	0.085	0.003	104.532	1697.238	23.326
29.000	5.000	27.031	0.100	8.810	0.360	0.000	0.004	1.675	0.007	0.308	2.779	0.094	0.002	104.583	1697.236	23.326
30.000	6.000	26.953	0.100	9.540	0.360	0.000	0.004	1.732	0.007	0.015	3.132	0.105	0.013	104.631	1697.232	23.326

Congrats, you are able to run a box model to simulation diurnal variation of O3

Please cite **Hu, X.-M., J. M. Sigler, J. D. Fuentes (2010),** [Variability of ozone in the marine boundary layer of the equatorial Pacific Ocean](#) , *J. Atmos. Chem.*, 66:117–136.