

## A Supplementary Material

Table 1: Periods identified as local pollution events and excluded from the climatological analysis.

Start (y-m-d)	End (y-m-d)	Length (days)	CO mean (ppb)	CO min (ppb)	CO max (ppb)	O <sub>3</sub> mean (ppb)	O <sub>3</sub> min (ppb)	O <sub>3</sub> max (ppb)	Cause
2002-12-25	2002-12-26	2	142	99	196	33	22	44	local fires
2003-07-08	2003-07-09	2	119	96	154	31	22	37	undefined
2003-08-15	2003-08-15	1	177	164	190	37	29	43	undefined
2004-01-29	2004-01-29	1	112	101	144	33	29	38	undefined
2004-02-03	2004-02-06	4	164	109	252	42	26	56	NW advection
2004-03-03	2004-03-03	1	111	61	128	32	26	42	undefined
2004-03-25	2004-03-25	1	85	56	112	32	29	46	undefined
2005-12-31	2005-12-31	1	105	81	137	28	13	46	undefined
2006-02-08	2006-02-10	3	172	84	586	24	16	34	local fires

Table 2: Annual cycle of air mass contribution (%) for air flow towards MKN.

Month	Cluster					
	EA	AP	NA	SIO	SA	NIO
Jan	22	17	21	2	0	37
Feb	20	24	17	1	0	37
Mar	25	24	11	2	1	37
Apr	33	8	1	17	19	22
May	15	10	15	27	32	0
Jun	13	21	4	17	42	3
Jul	15	12	1	17	55	0
Aug	14	7	0	42	34	2
Sep	17	12	0	47	22	3
Oct	26	6	0	45	18	5
Nov	25	28	1	16	4	26
Dec	24	33	2	2	0	39
Total	21	16	6	21	18	17