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# **Spatiotemporal dynamics of NO<sub>2</sub> concentration with linear mixed models: a Bangladesh case study**

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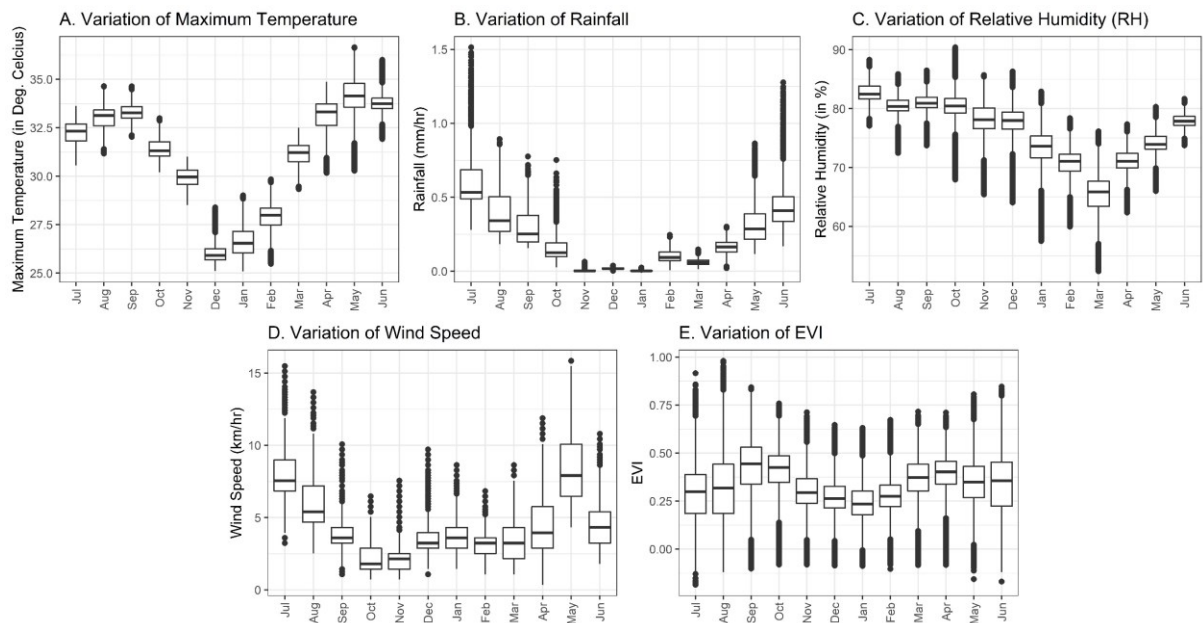
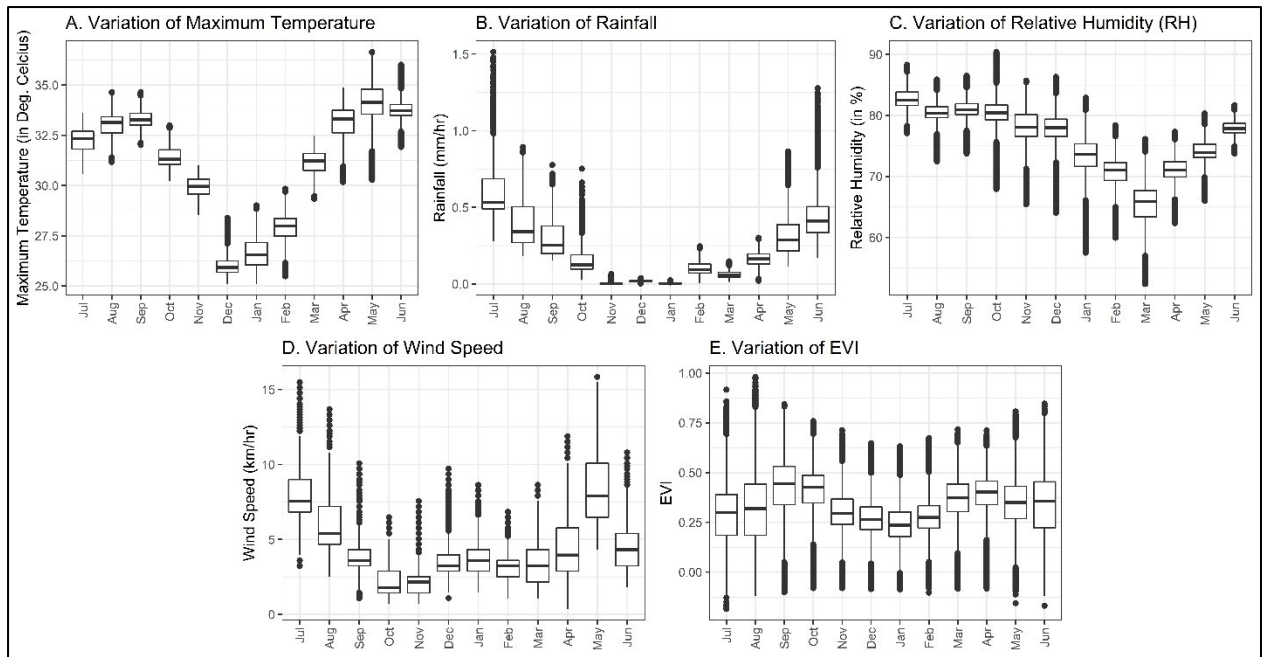


Fig. S1 Monthly variation of environmental variables

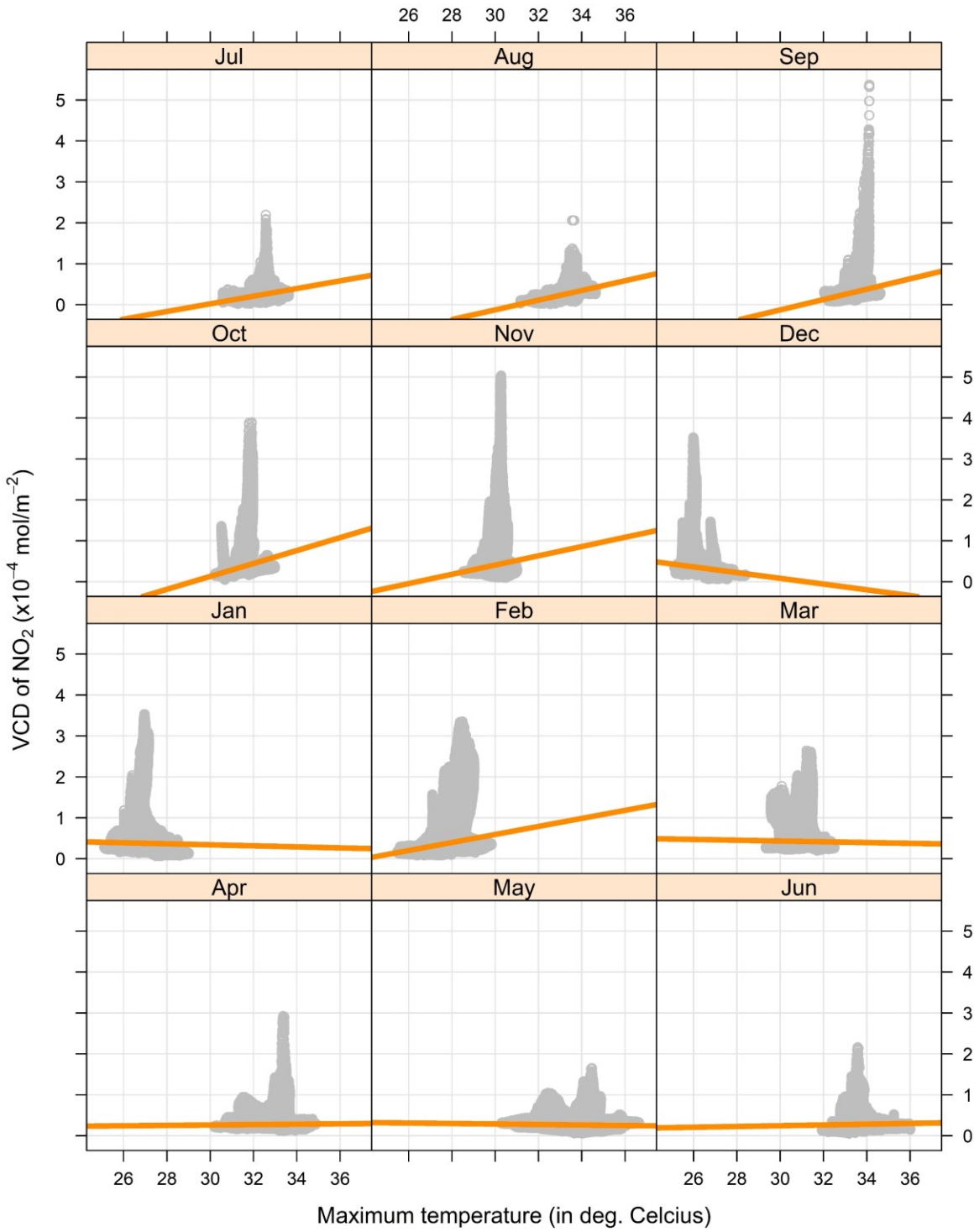


Fig. S2 Scatter plot showing mean maximum temperature against VCD of NO<sub>2</sub>.

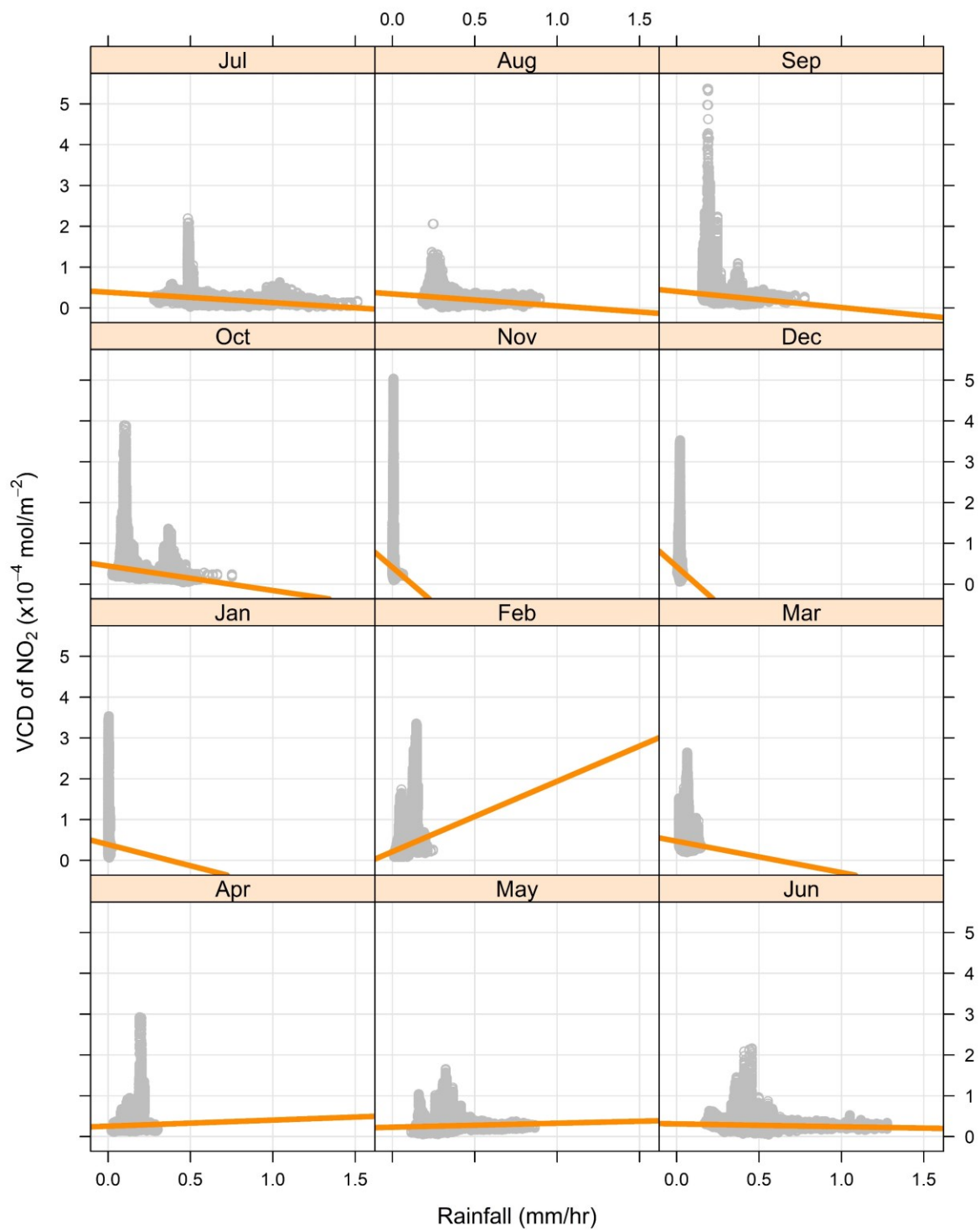


Fig. S3 Scatter plot showing rainfall against VCD of NO<sub>2</sub>.

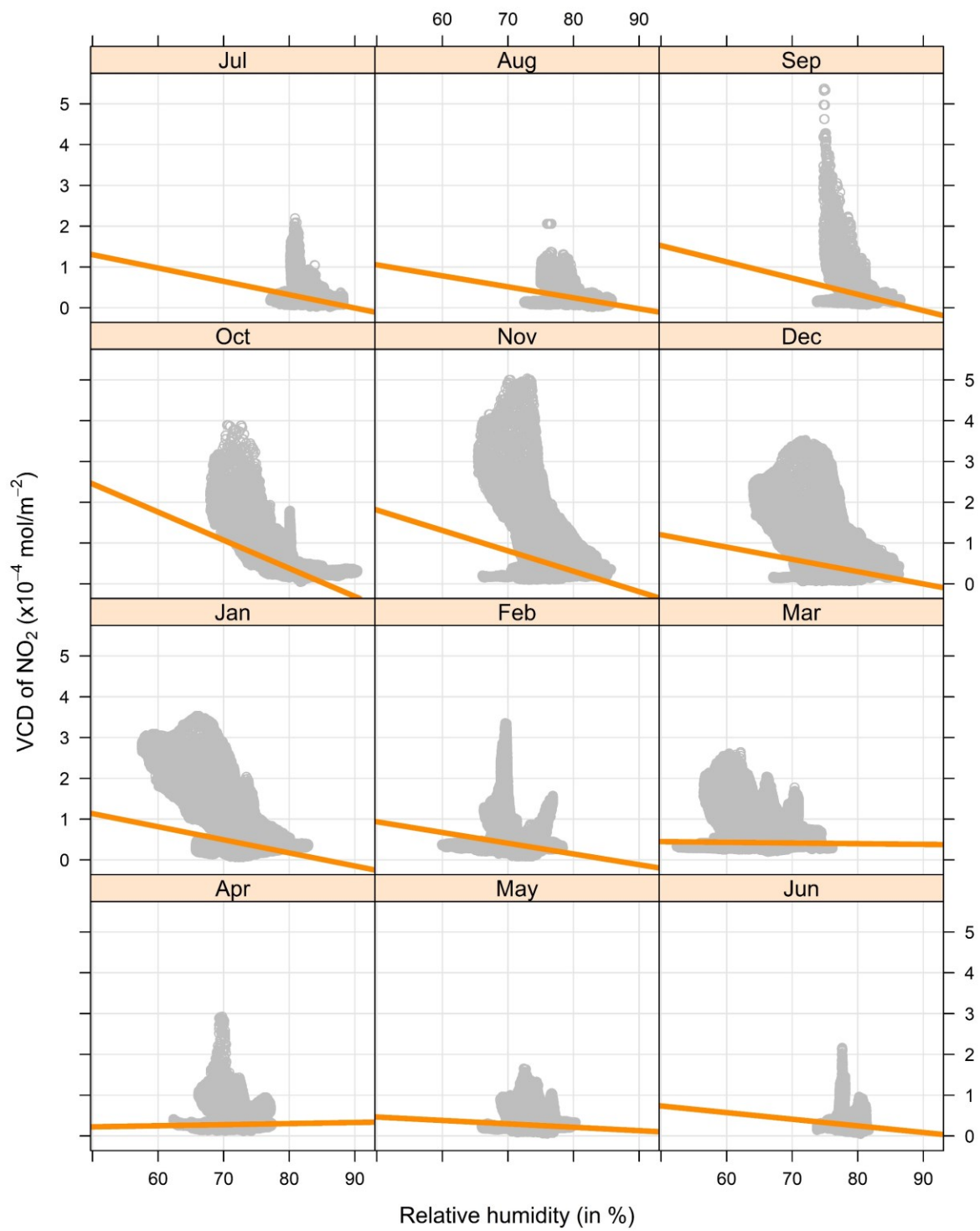


Fig. S4 Scatter plot showing relative humidity against VCD of NO<sub>2</sub>.

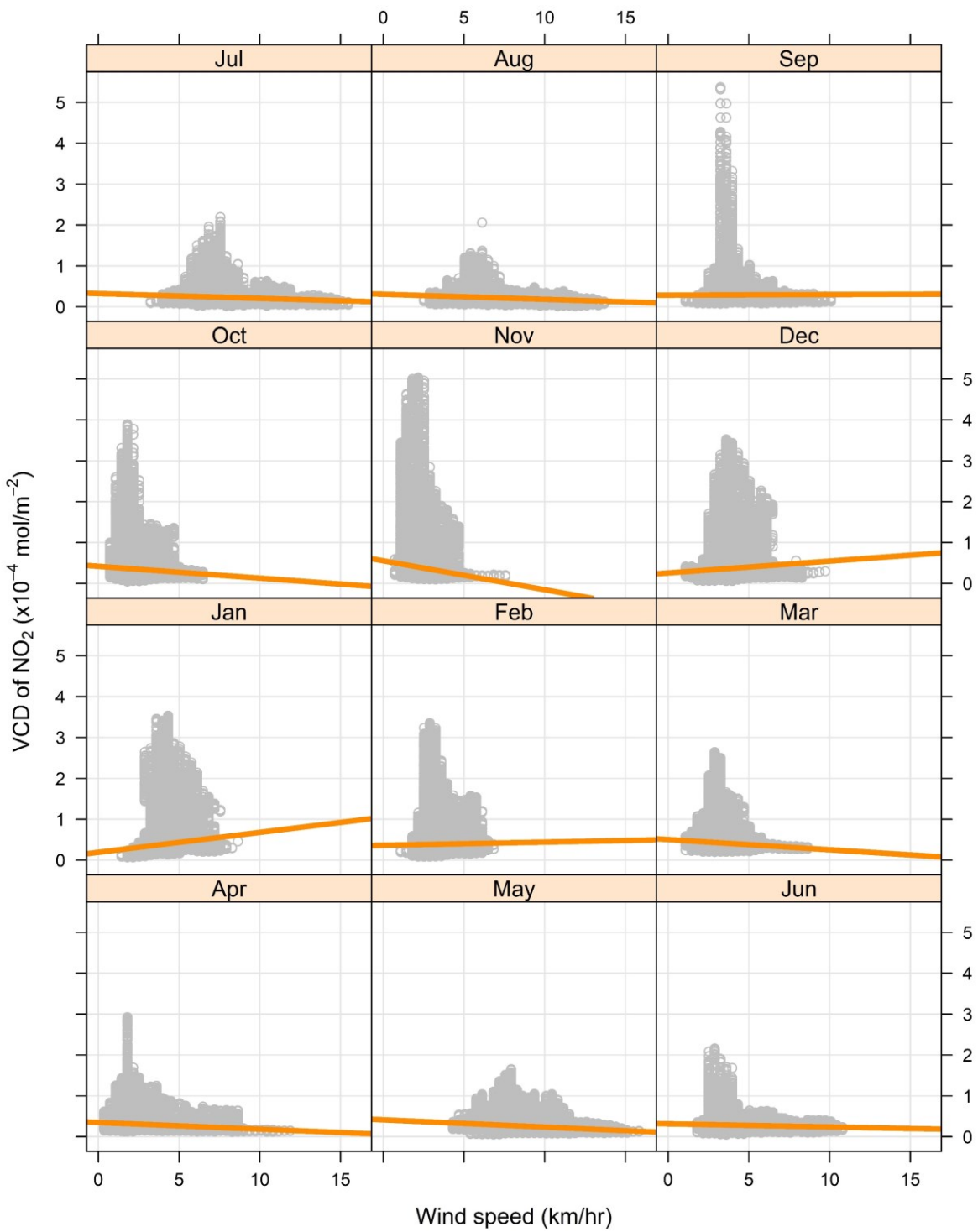


Fig. S5 Scatter plot showing wind speed against VCD of NO<sub>2</sub>.

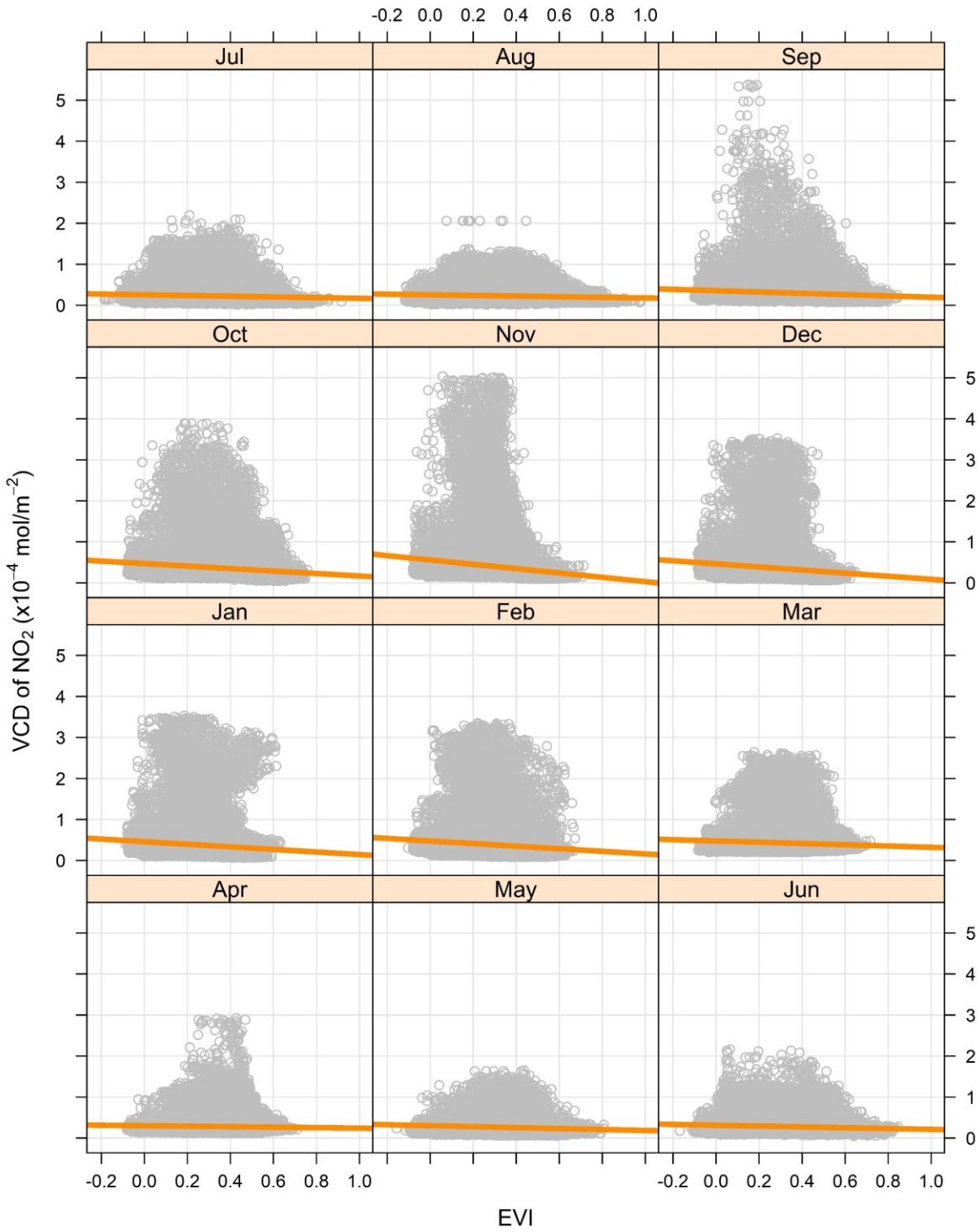


Fig. S6 Scatter plot showing EVI against VCD of NO<sub>2</sub>.



Table S1: Summary statistics for tropospheric VCD of NO<sub>2</sub> (in 10<sup>-4</sup>mol/m<sup>2</sup>)

Month	Mean	SD	Min	Max	SE	Percentage of area within different value ranges of VCD of NO <sub>2</sub>					
						0-0.3	0.3-0.9	0.9-1.5	1.5-2	2-3	>3
Jul-18	0.23	0.15	0.02	2.20	0.0004	83.97	15.09	0.81	0.12	0.00	0.00
Aug-18	0.23	0.11	0.02	2.06	0.0003	81.42	18.25	0.32	0.00	0.01	0.00
Sep-18	0.29	0.20	0.08	5.37	0.0005	74.03	24.47	1.07	0.17	0.17	0.08
Oct-18	0.35	0.26	0.05	3.89	0.0007	54.56	41.73	2.59	0.56	0.45	0.09
Nov-18	0.40	0.41	0.10	5.03	0.0011	49.35	45.43	2.67	1.02	0.95	0.58
Dec-18	0.36	0.31	0.06	3.53	0.0008	54.15	41.30	2.69	0.97	0.75	0.14
Jan-19	0.38	0.34	0.07	3.54	0.0009	46.53	48.75	2.62	0.89	1.05	0.17
Feb-19	0.39	0.31	0.08	3.35	0.0008	43.61	51.82	2.58	1.13	0.79	0.07
Mar-19	0.42	0.23	0.20	2.65	0.0006	17.90	78.12	2.93	0.72	0.32	0.00
Apr-19	0.28	0.15	0.12	2.93	0.0004	75.31	23.27	1.28	0.09	0.05	0.00
May-19	0.26	0.13	0.06	1.65	0.0003	65.75	33.70	0.54	0.01	0.00	0.00
Jun-19	0.28	0.12	0.05	2.16	0.0003	65.95	33.27	0.73	0.05	0.01	0.00

Table S2: Summary of fixed effects model (Model 2)

Month	Intercept	MMAXT	RAIN	WS	RH	EVI	POP	IND
Jul-18	0.474							
Aug-18	0.453							
Sep-18	0.482							
Oct-18	0.507							
Nov-18	0.513							
Dec-18	0.513							
Jan-19	0.524	0.079	-0.040	-0.076	-0.106	-0.049	0.257	-0.143
Feb-19	0.515							
Mar-19	0.508							
Apr-19	0.450							
May-19	0.461							
Jun-19	0.474							