Supplementary Materials:

Temporal Analysis of OMI-Observed Tropospheric NO₂ Columns over East Asia during 2006–2015

Kyung M. Han [1,2]

[1] Center for Earth and Environmental Modeling Studies (CEMOS), Gwangju Institute of Science and Technology (GIST), Gwangju 61005, Korea; kman.han@gmail.com

[2] School of Earth Sciences and Environmental Engineering, Gwangju Institute of Science and Technology (GIST), Gwangju 61005, Korea
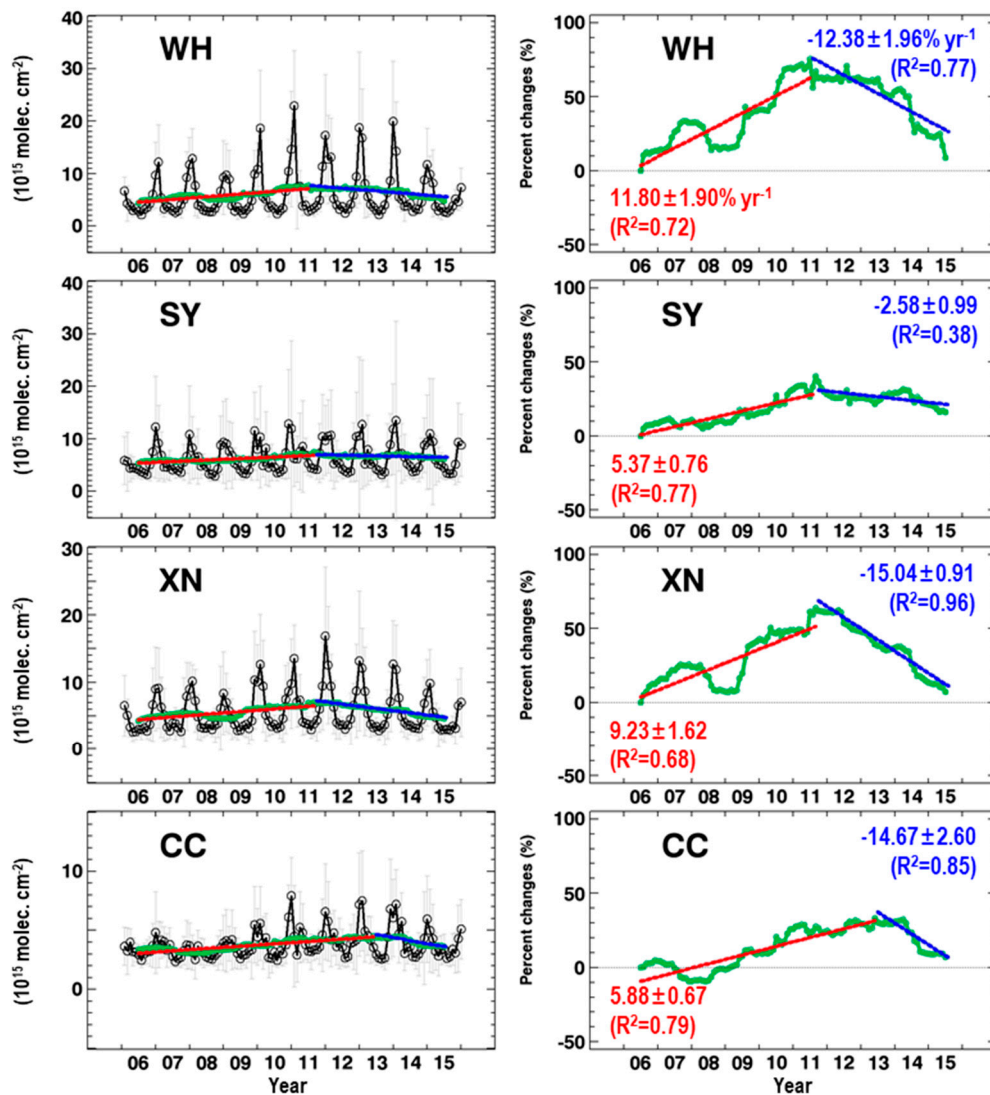
Figure S1. As Figure 3, except for WH, SY, XN, CC, TW, MG, QH, and NWP.
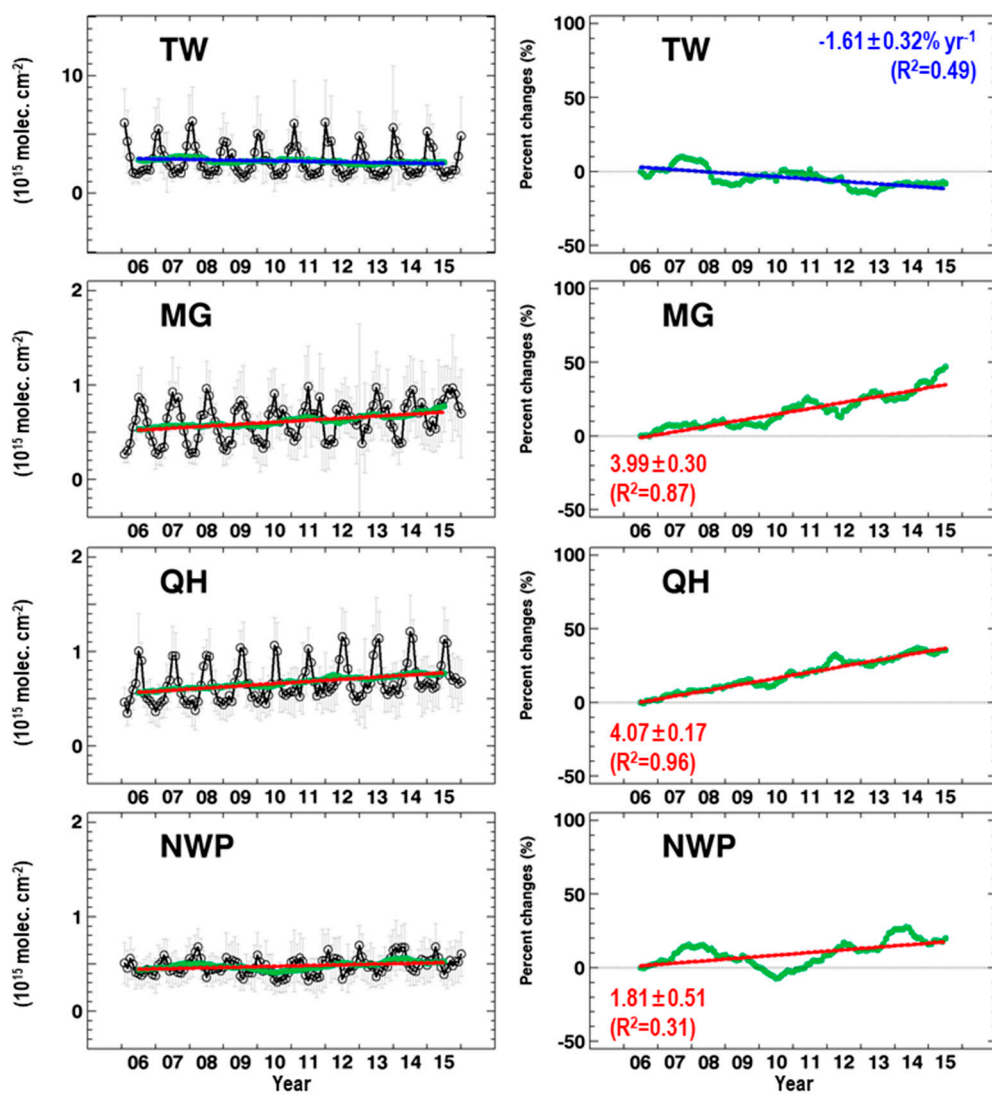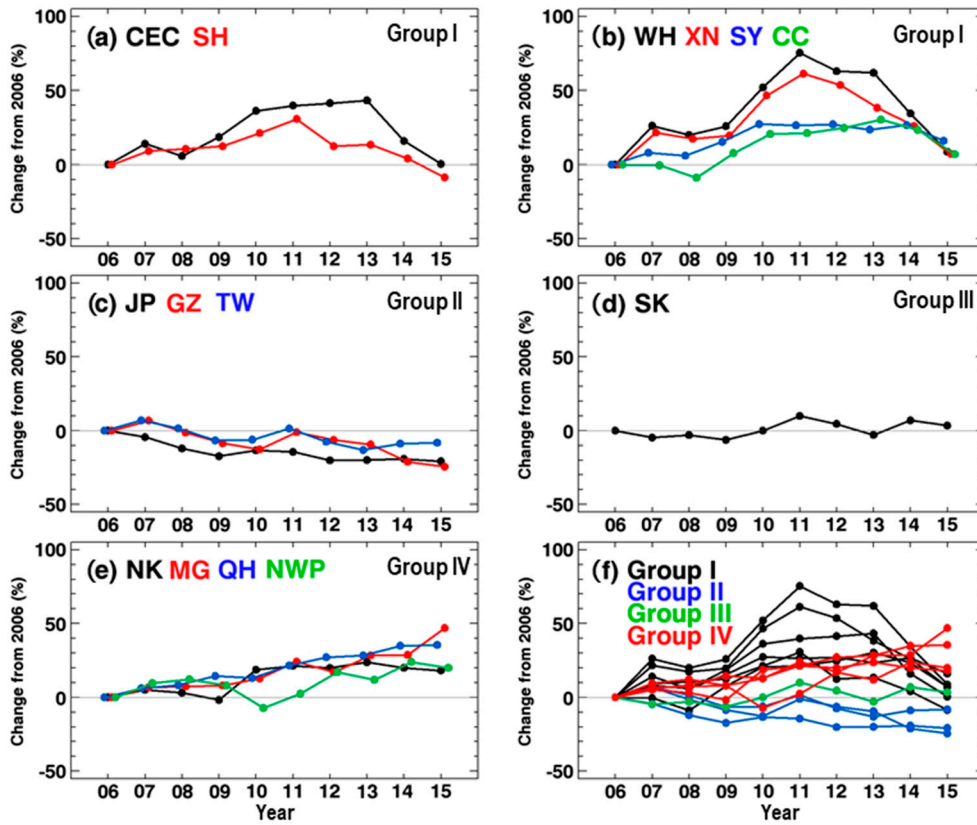
Fig. S1 (continue)

Figure S2. Annual variations of NO2 column changes (%) from 2006 for each (**a**) CEC and SH, (**b**) WH, XN, SY, and CC, (**c**) JP, GZ, and TW, (**d**) SK, and (**e**) NK, MG, QH, and NWP. (**f**) as Figures S2 (**a**)–(**e**), except for the variations by groups defined in Table 1.
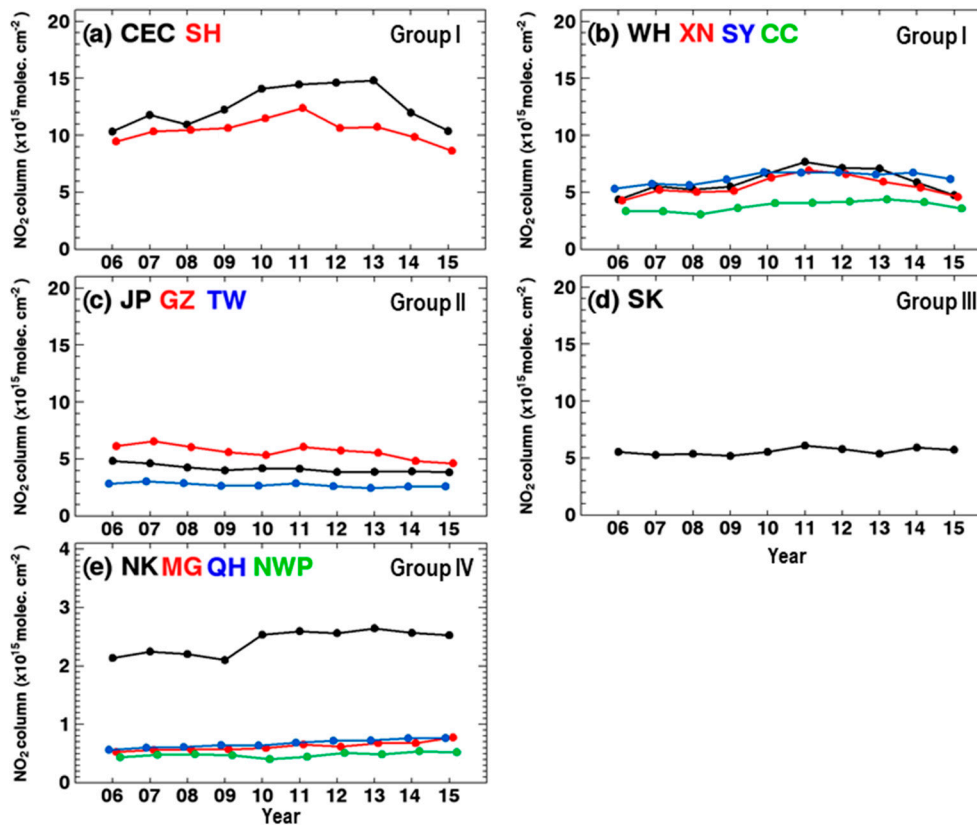
Figure S3. Annual variations of NO₂ column for (**a**) CEC and SH, (**b**) WH, XN, SY, and CC, (**c**) JP, GZ, and TW, (**d**) SK, and (**e**) NK, MG, QH, and NWP.
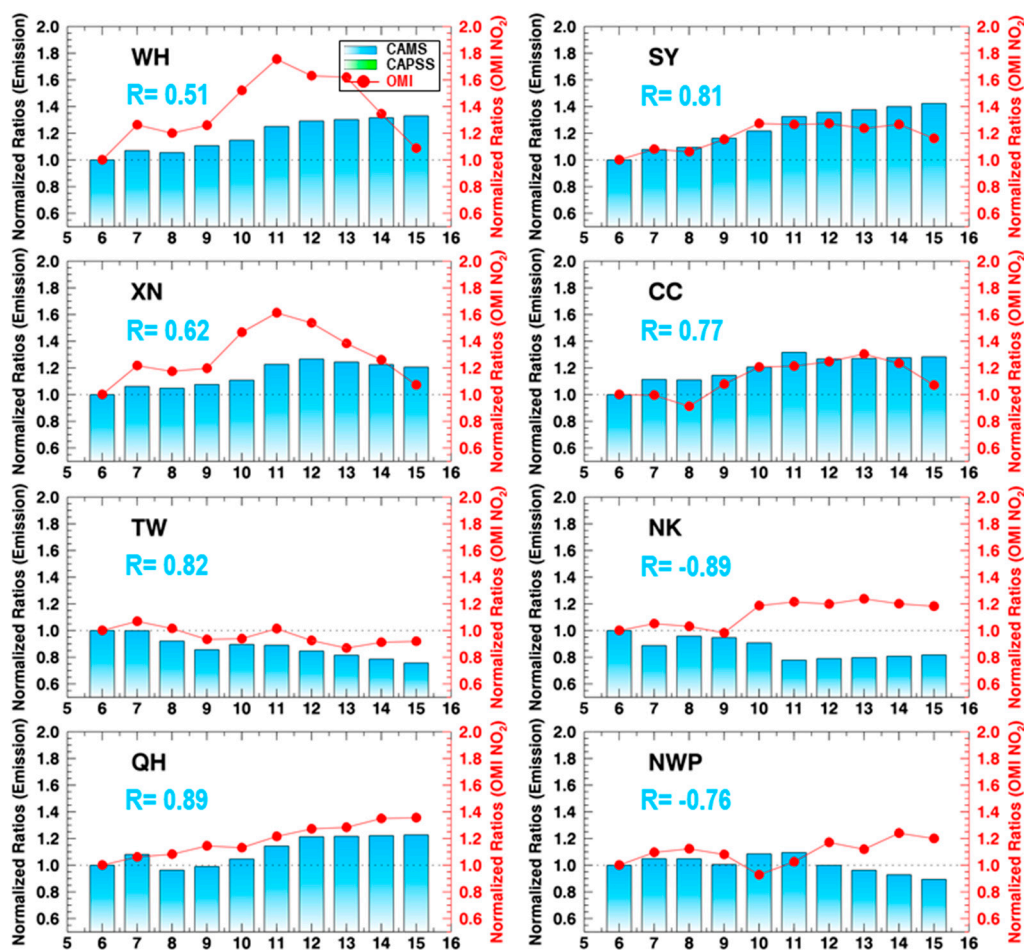

Figure S4. As Figure 7, except for WH, SY, XN, CC, TW, NK, QH, and NWP.

Table S1. Percent increasing or decreasing rates based on the 12-month moving averages.

Groups	Regions	Increasing or decreasing rates [1] (% yr⁻¹)		Remark (turning point)
Up & downward trend	CEC	7.22±0.82 (R²=0.80)	-20.29±1.25 (R²=0.97) [2]	Nov. 2012
	SH	5.25±1.11 (R²=0.62)	-6.78±0.79 (R²=0.85)	Jan. 2011
	WH	11.80±1.90 (R²=0.72)	-12.38±1.96 (R²=0.77)	Jun. 2011
	XN	9.23±1.62 (R²=0.68)	-15.04±0.91 (R²=0.96)	Aug. 2011
	SY	5.37±0.76 (R²=0.77)	-2.58±0.99 (R²=0.38)	Aug. 2011
	CC	5.88±0.67 (R²=0.79)	-14.67±2.60 (R²=0.85)	May 2013
Downward trend	GZ	-	-2.67±0.43 (R²=0.58)	-
	JP	-	-1.85±0.22 (R²=0.73)	-
	TW	-	-1.61±0.32 (R²=0.49)	-
Stagnant trend	SK	1.12±0.40 (R²=0.23)	-	-
Upward trend	NK	2.74±0.61 (R²=0.43)	-	-
	MG	3.99±0.30 (R²=0.87)	-	-
	QH	4.07±0.17 (R²=0.96)	-	-
	NWP	1.81±0.51 (R²=0.31)	-	-

[1] data mean ± confident level of 95%; [2] Correlation coefficient (R²) between the 12-month moving averages and linear trend line.