

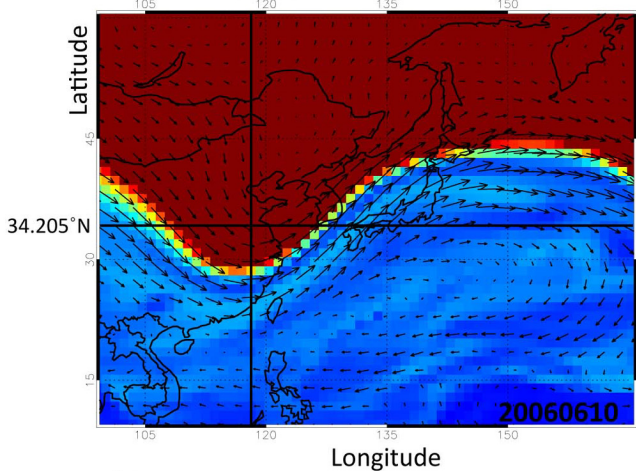
Nara Women's University

Study of lower tropospheric ozone over central and eastern China: Comparison of satellite observation with model simulation

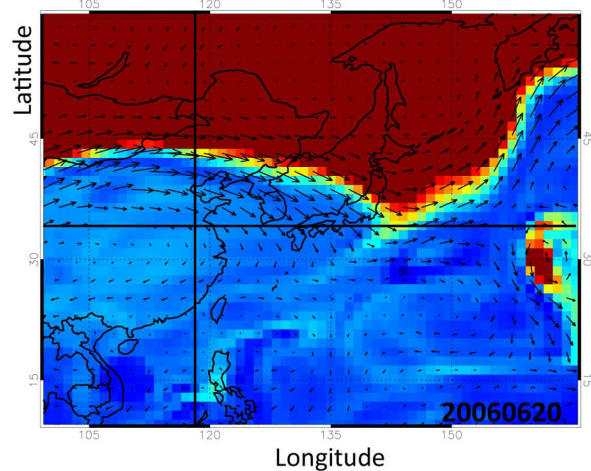
メタデータ	言語: en 出版者: 公開日: 2017-08-28 キーワード (Ja): キーワード (En): 作成者: メールアドレス: 所属:
URL	http://hdl.handle.net/10935/4578

(a) MRI-CCM2 CNTL O₃ @200hPa

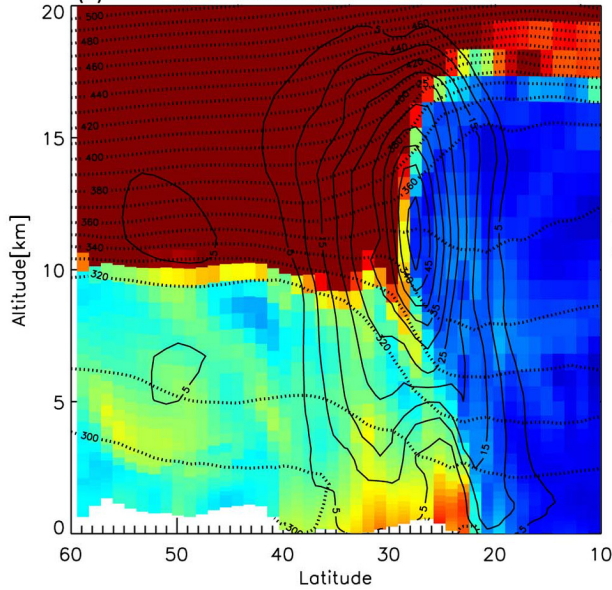
118.125°E



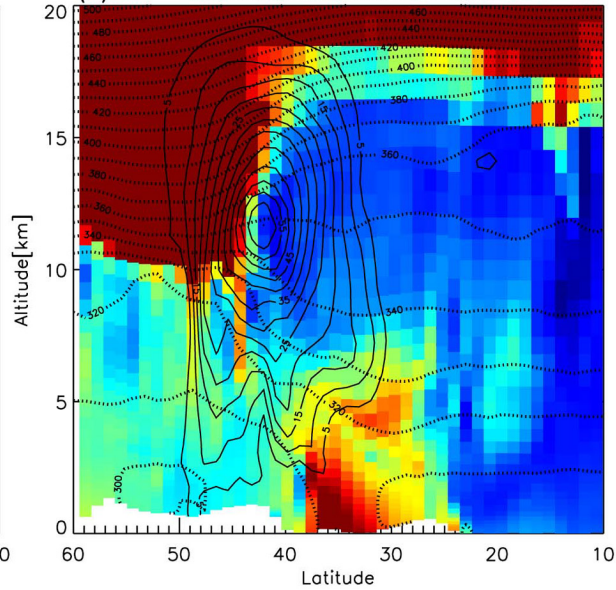
(b) MRI-CCM2 CNTL O₃ @200hPa



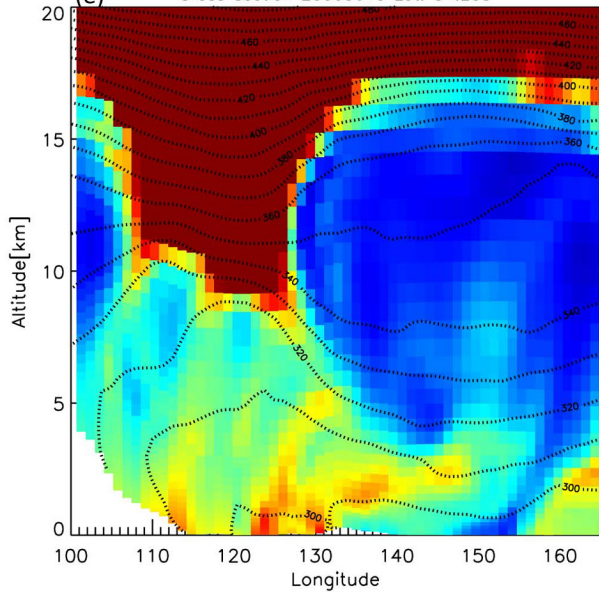
(c) Cross section 20060610 Lon.118.125



(d) Cross section 20060620 Lon.118.125



(e) Cross section 20060610 Lat. 34.205



(f) Cross section 20060620 Lat. 34.205

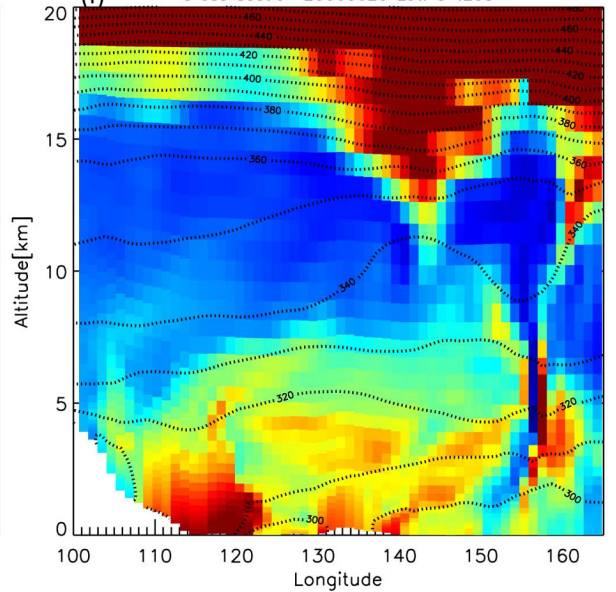


Fig1

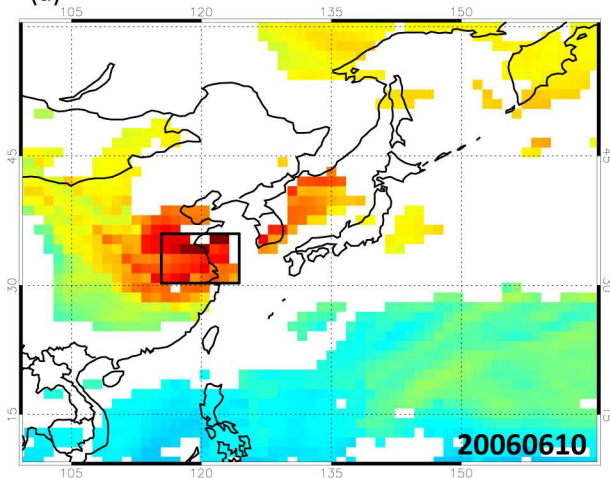
1.0E+11 5.4E+11 9.8E+11 1.4E+12 1.9E+12 2.3E+12

O₃ [molec/cm³]

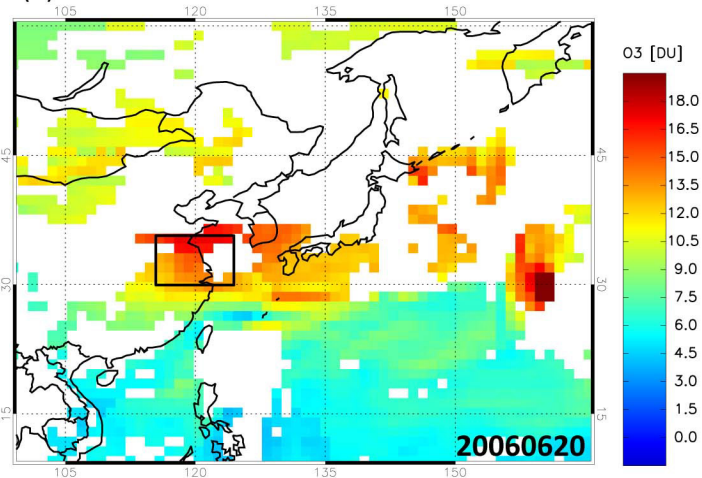
MRI-CCM2 CNTL O₃ adjusted to OMI 24th layer

Fig2

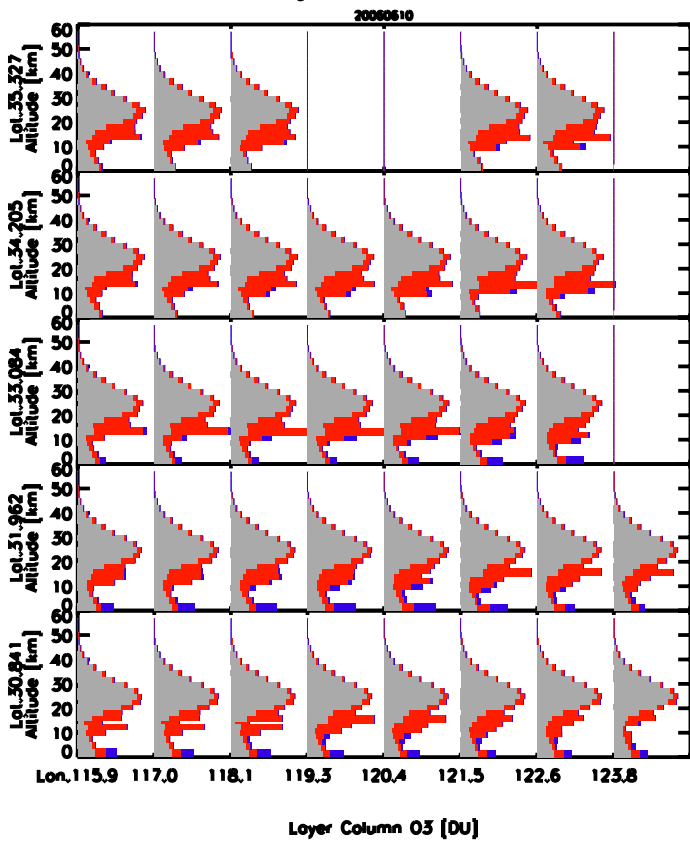
(a)



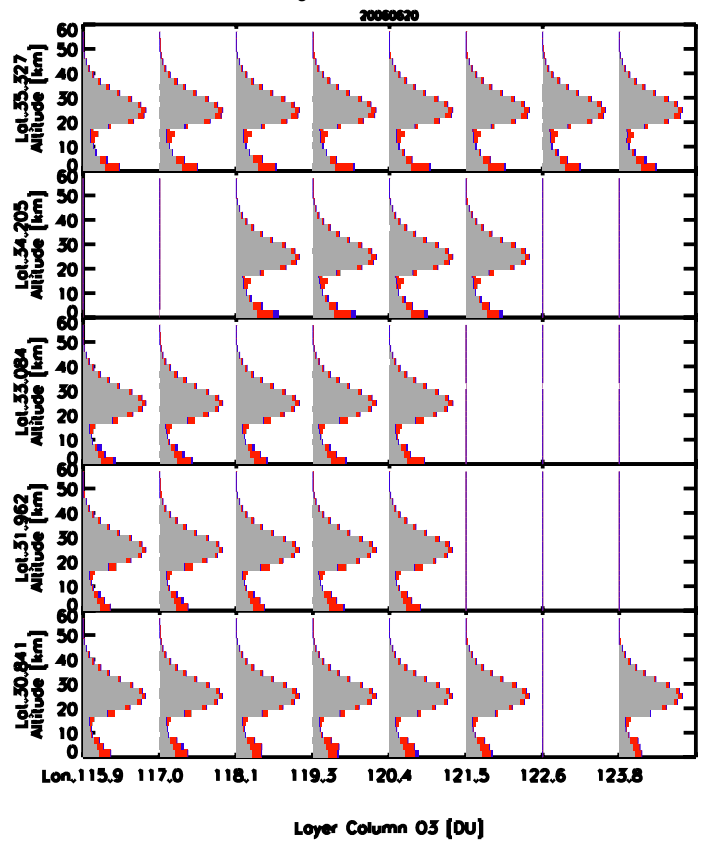
(b)



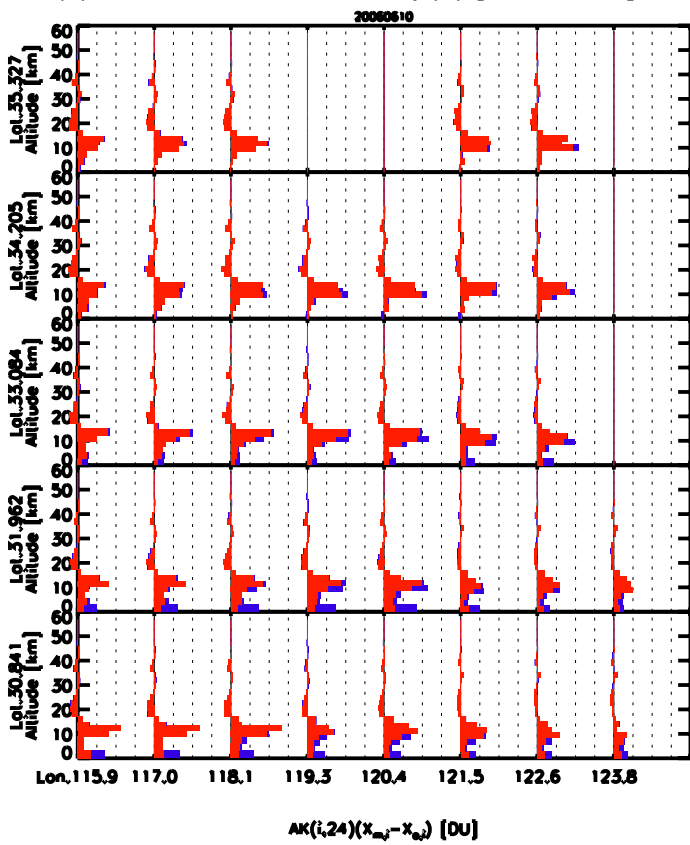
(a) MRI-CCM2 O₃ profile [20060610]



(b) MRI-CCM2 O₃ profile [20060620]



(c) The second term in eq.(1) [20060610]



(d) The second term in eq.(1) [20060620]

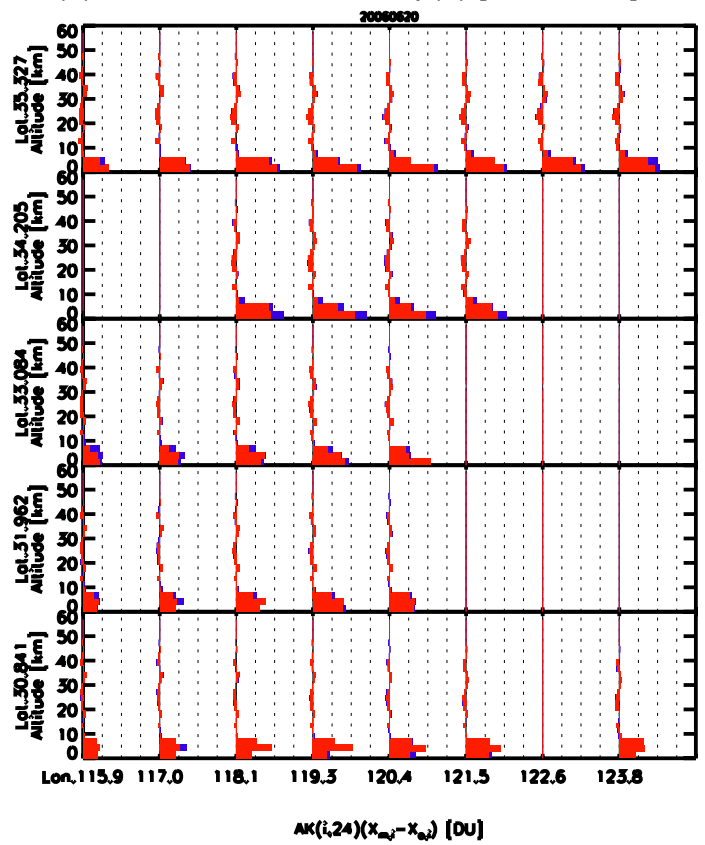
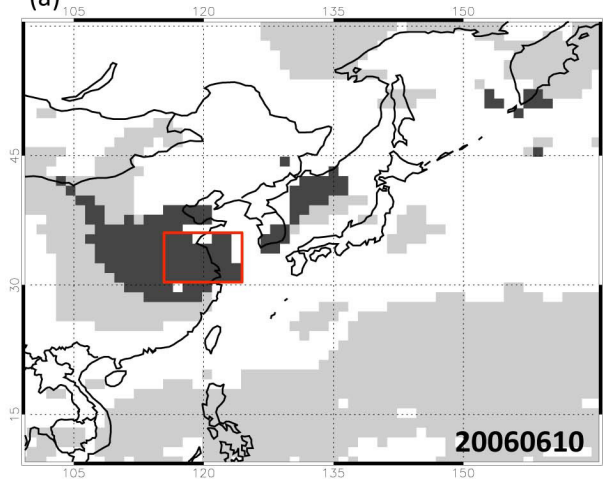


Fig3

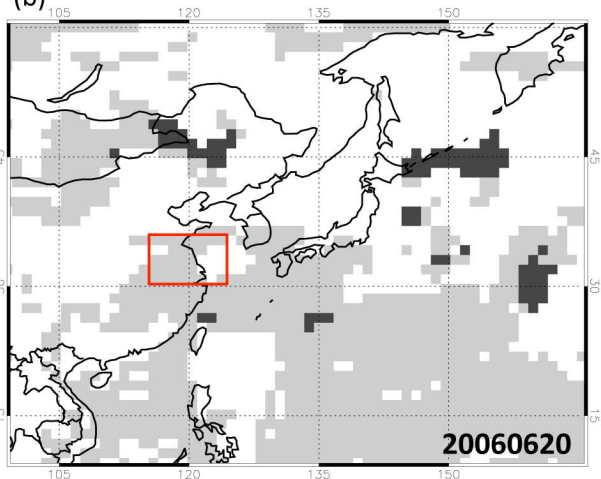
UT/LS screening results

Fig4

(a)



(b)



Black: removed
Gray: accepted

Lat.34.205°N Lon.118.125°E

Layer Column O3 [DU]

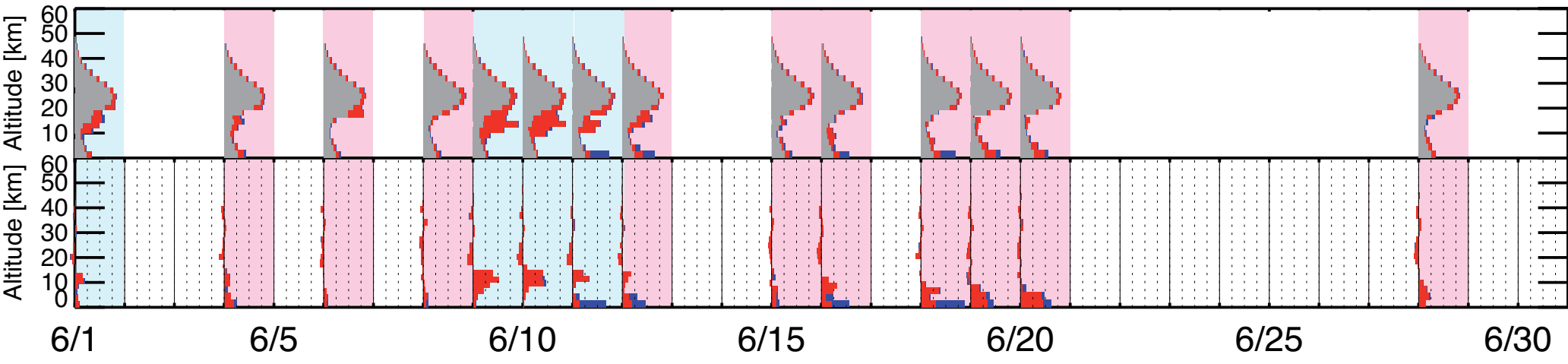


Fig5

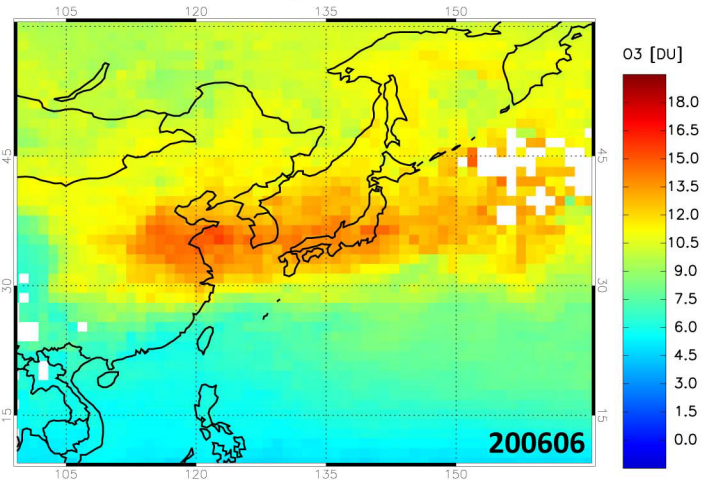
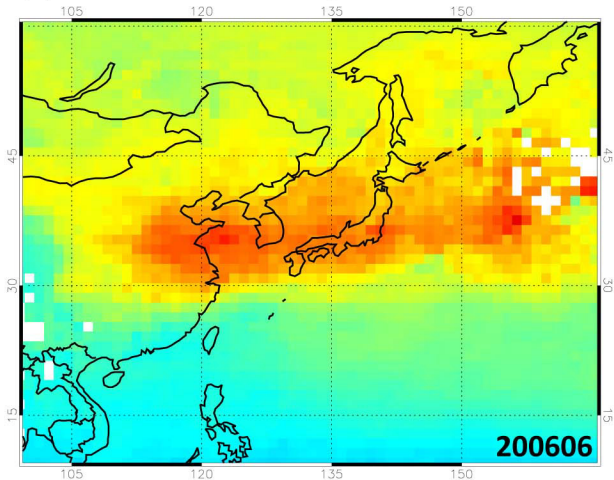
$AK(i,24)(X_{m,i}-X_{a,i})[DU]$

MRI-CCM2 CNTL O₃ adjusted to OMI 24th layer

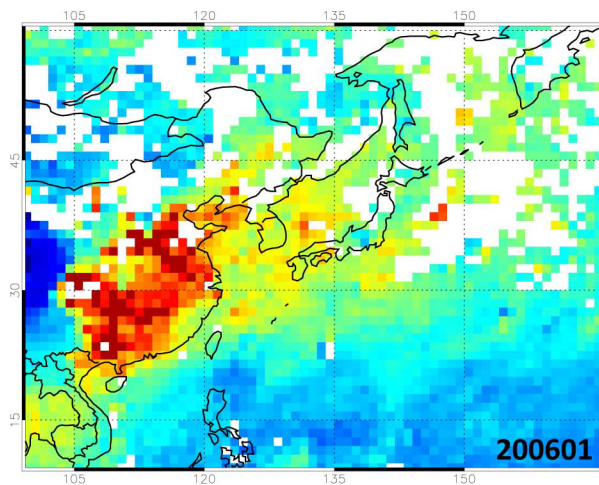
Fig6

(a) Before UT/LS screening

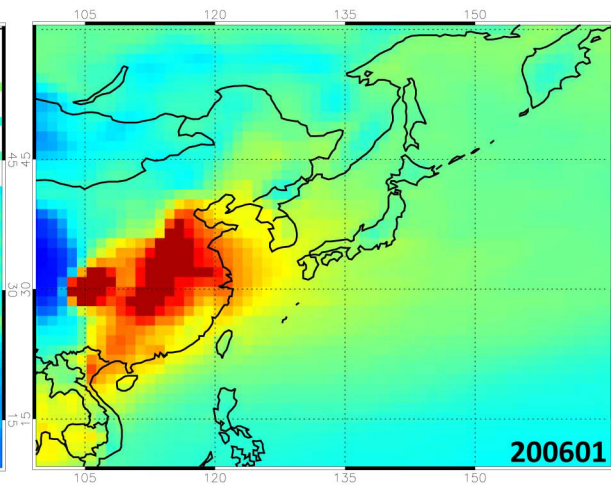
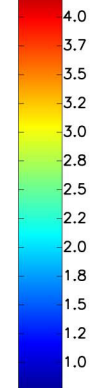
(b) After UT/LS screening



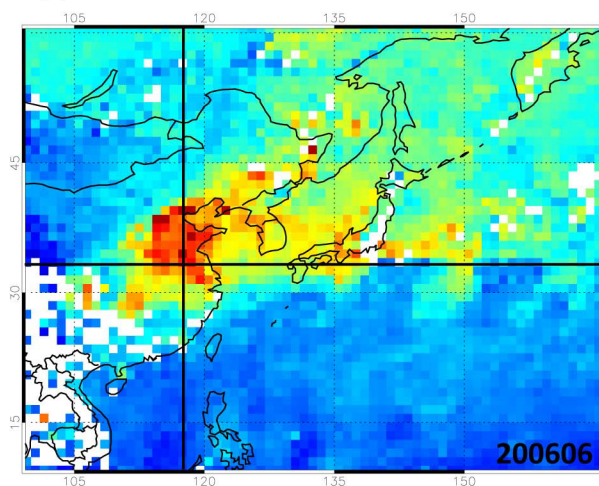
(a) MOPITT Total Column CO



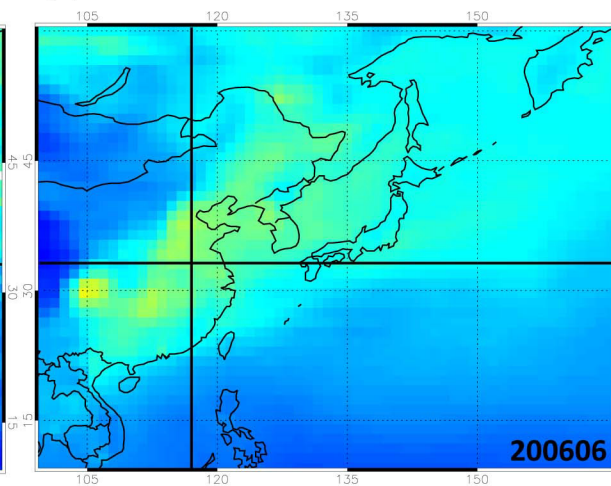
(b) MRI-CCM2 CNTL CO

CO [10^{16} molec/cm²]

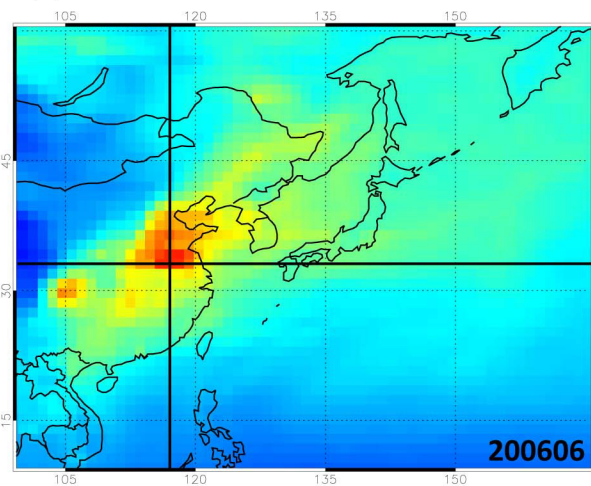
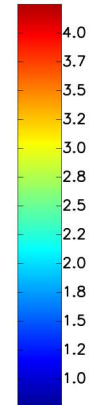
(c) MOPITT Total Column CO



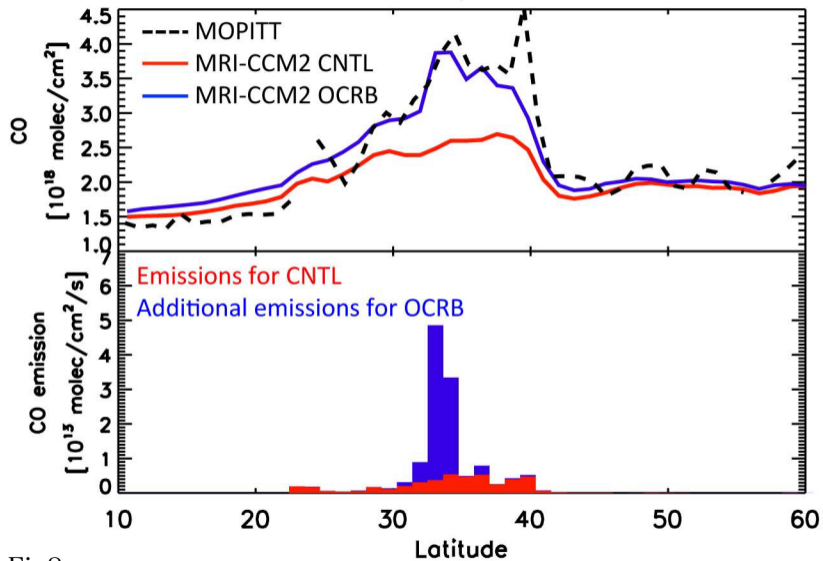
(d) MRI-CCM2 CNTL CO



(e) MRI-CCM2 OCRB CO

CO [10^{16} molec/cm²]

(a) Cross section across latitude at 117.000°E



(b) Cross section across longitude at 33.084°N

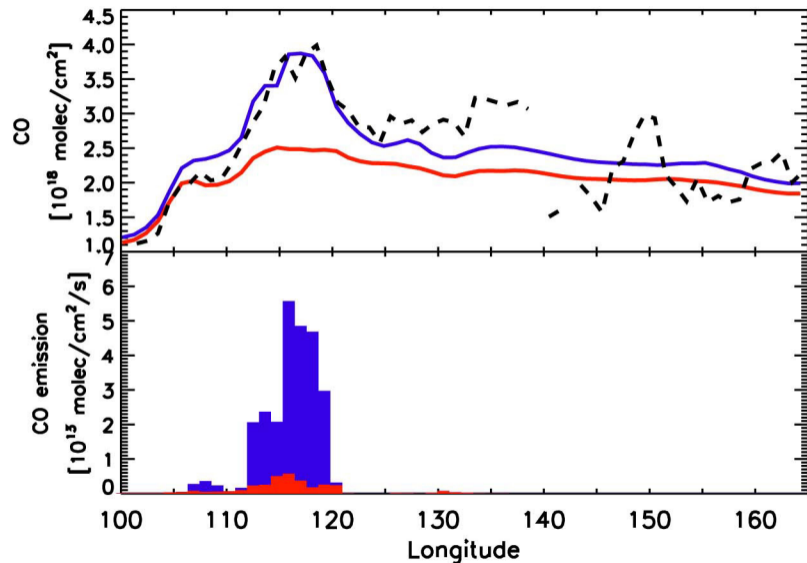
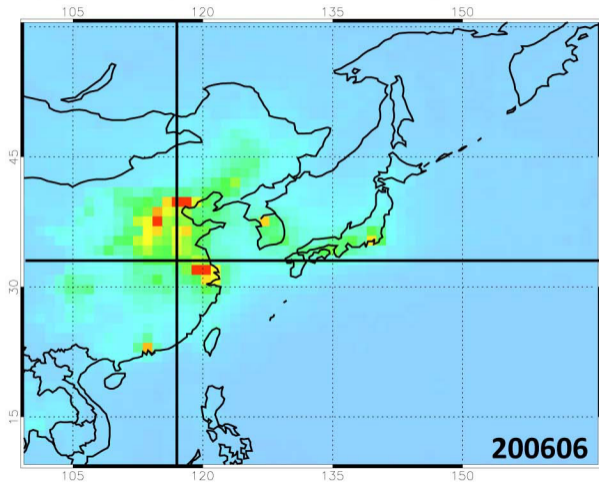
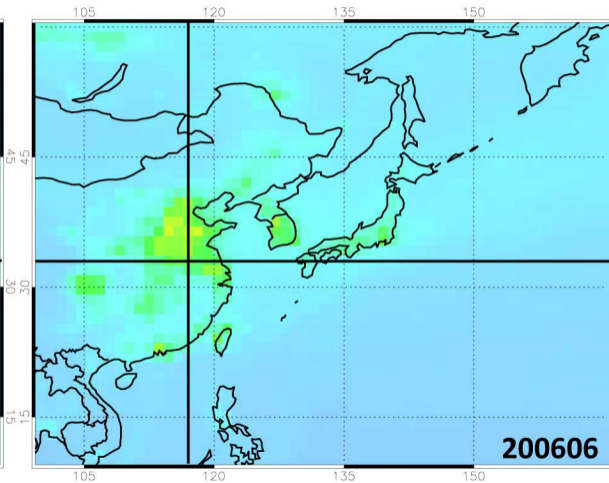
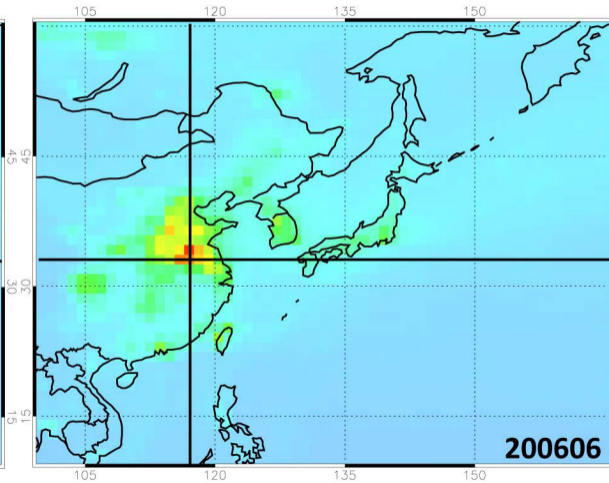
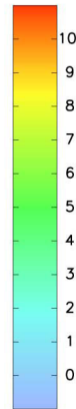
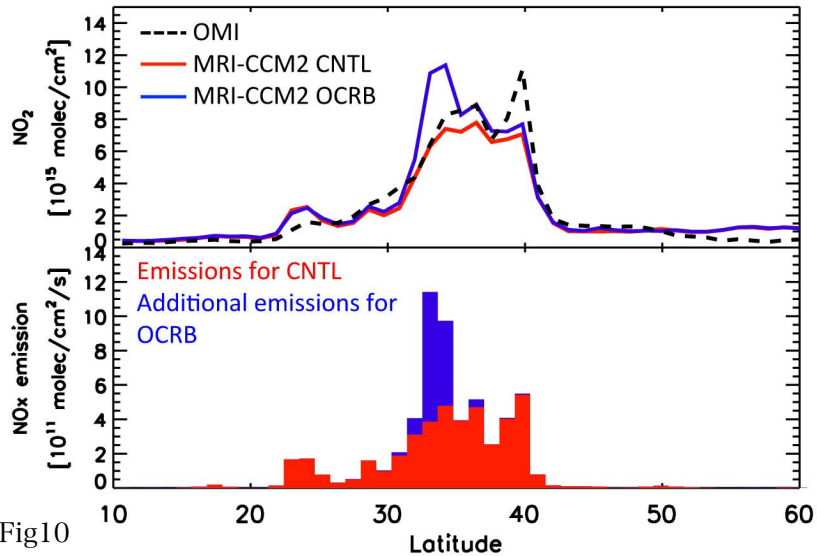


Fig8

(a) OMI Tropospheric Column NO₂(b) MRI-CCM2 CNTL NO₂(c) MRI-CCM2 OCRB NO₂NO₂[10^{15} molec/cm²]

(a) Cross section across latitude at 117.000°E



(b) Cross section across longitude at 33.084°N

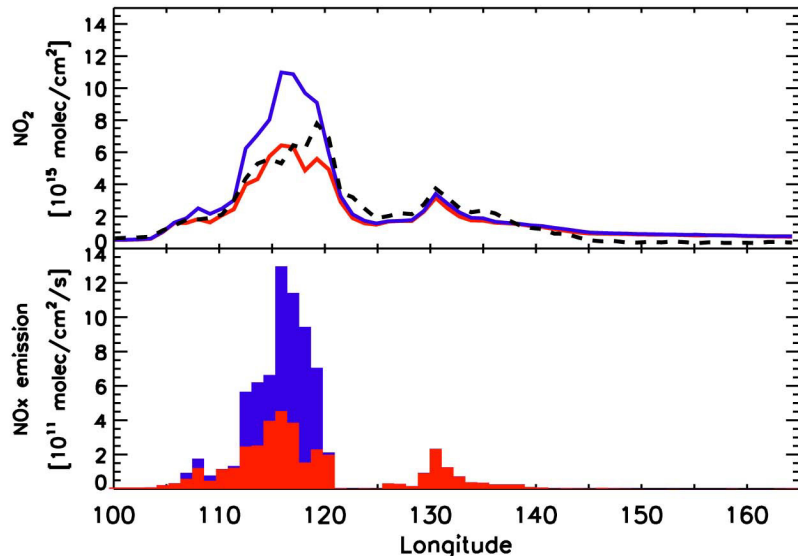
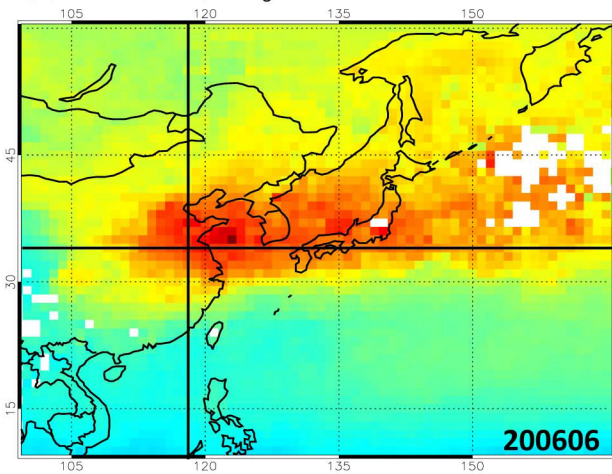
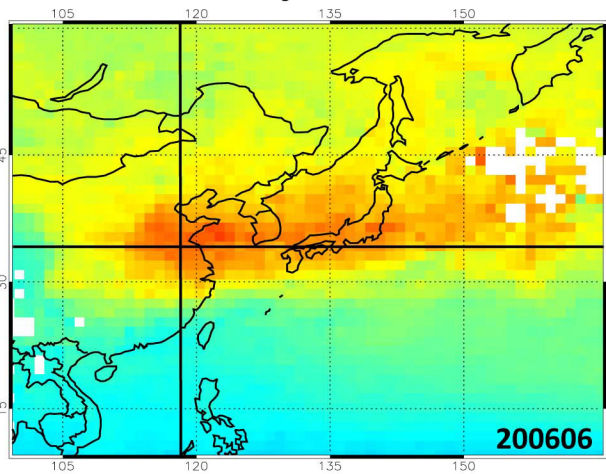


Fig10

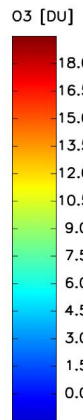
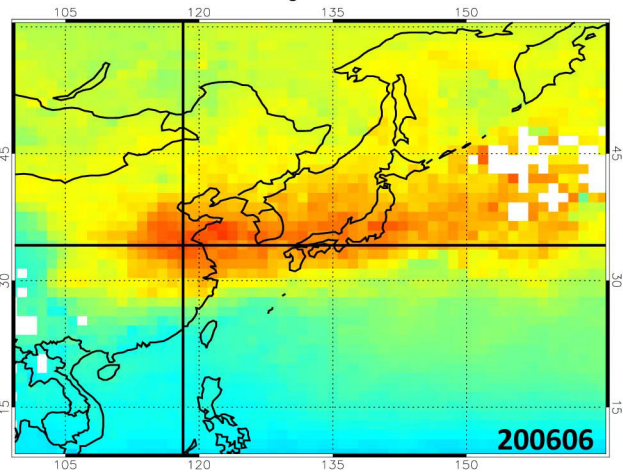
(a) OMI 24th layer O₃



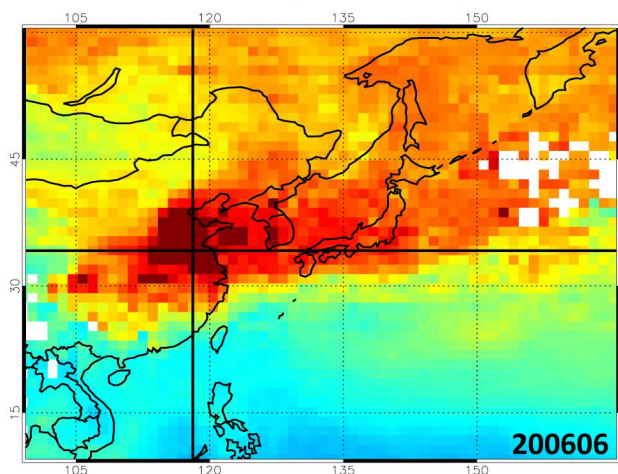
(b) MRI-CCM2 CNTL O₃ (with AKs)



(c) MRI-CCM2 OCRB O₃ (with AKs)



(d) MRI-CCM2 CNTL O₃ (without AKs)



(e) MRI-CCM2 OCRB O₃ (without AKs)

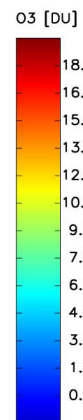
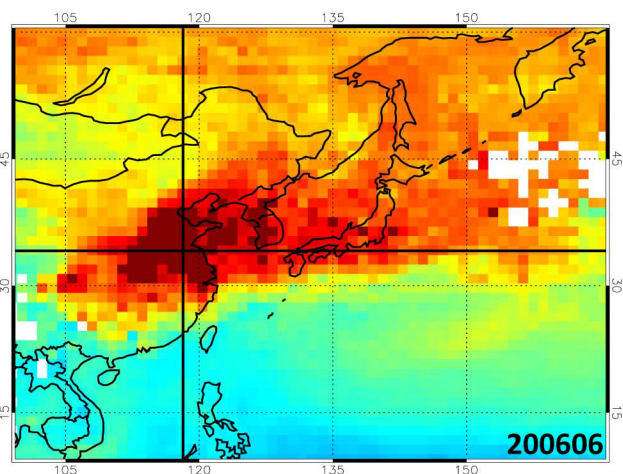
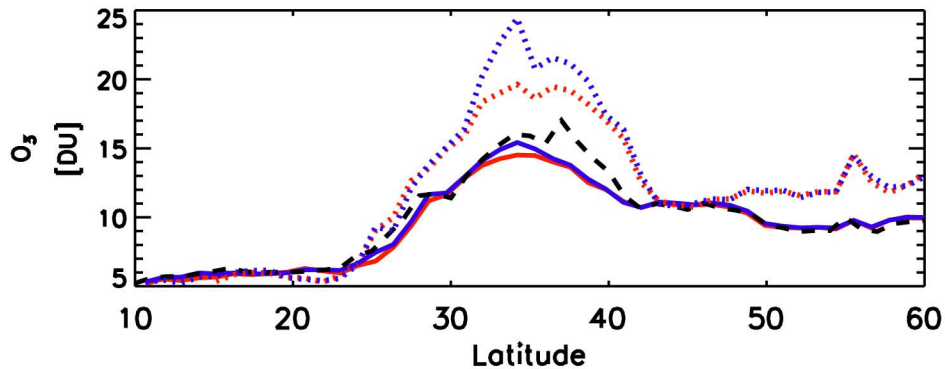


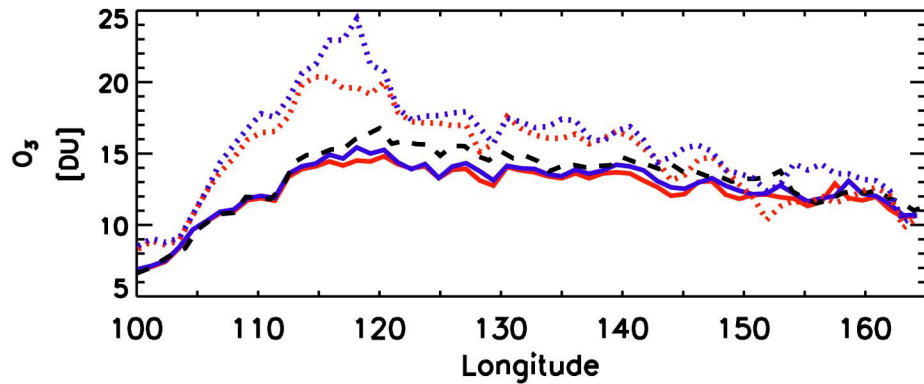
Fig11

- OMI
- MRI-CCM2 CNTL (with AKs)
- MRI-CCM2 OCRB (with AKs)
- MRI-CCM2 CNTL (without AKs)
- MRI-CCM2 OCRB (without AKs)

(a) Cross section across latitude at 118.125°E

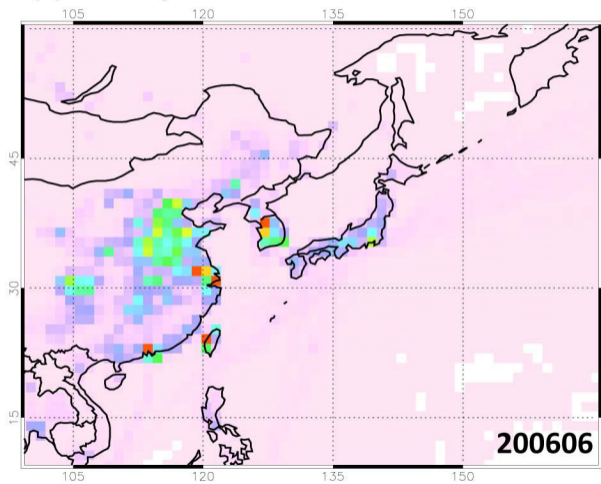


(b) Cross section across longitude at 34.205°N

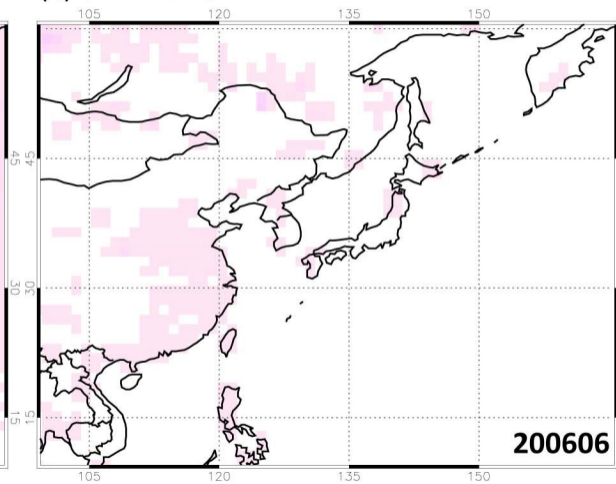


Anthropogenic and Biomass burning emissions of NO_x for MRI-CCM2

(a) MACCity



(b) GFED ver. 3



(c) GFED ver. 3 + Yamaji et al., 2010

