O/N_2, NO column density and auroral boundary changes during storms based on GUVI data

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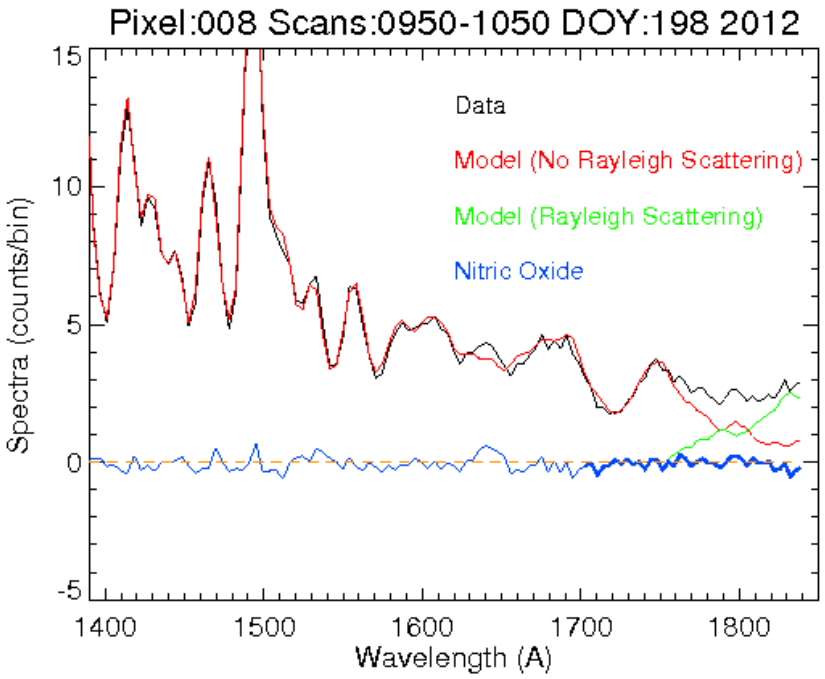
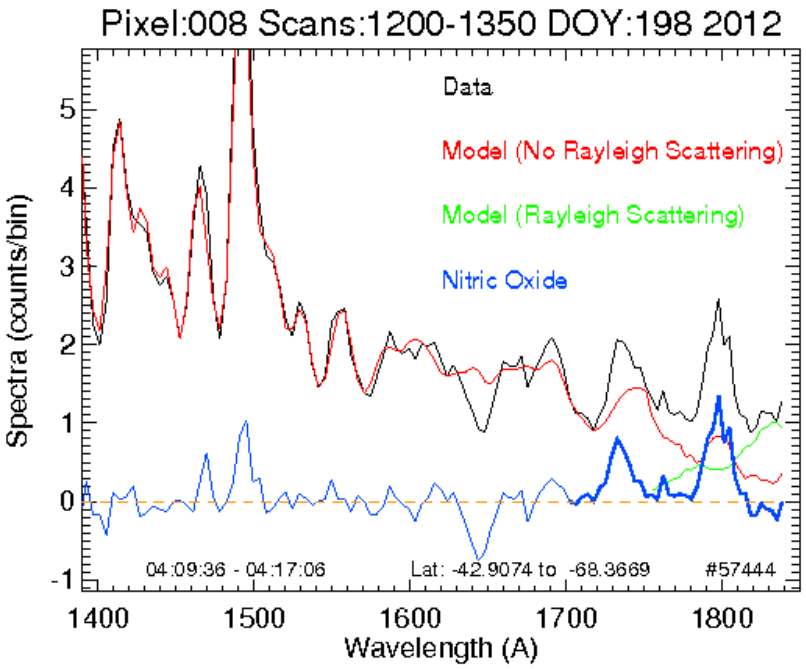
GUVI Spectrograph data

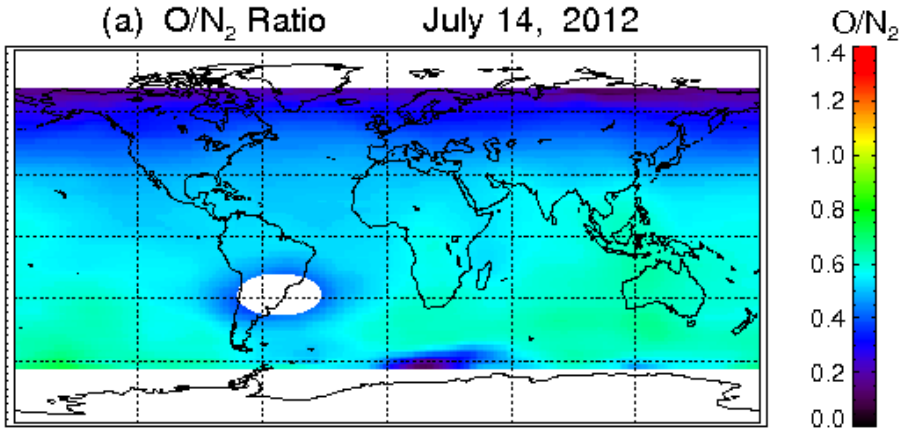


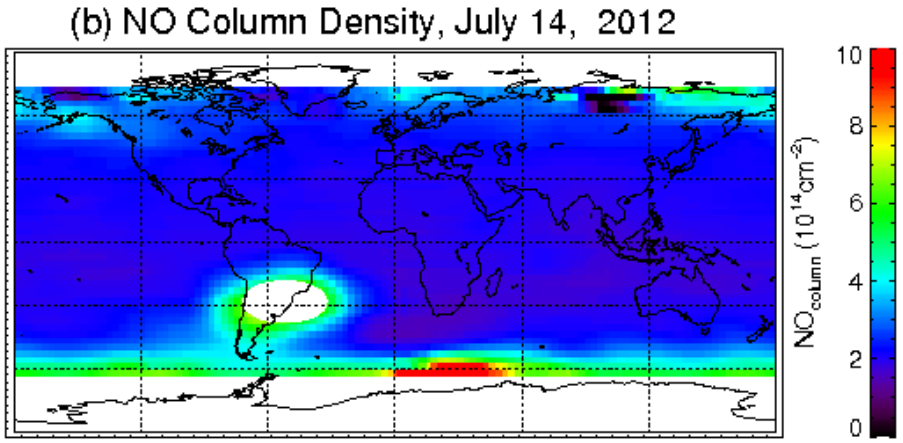
Undisturbed or quiet –time condition



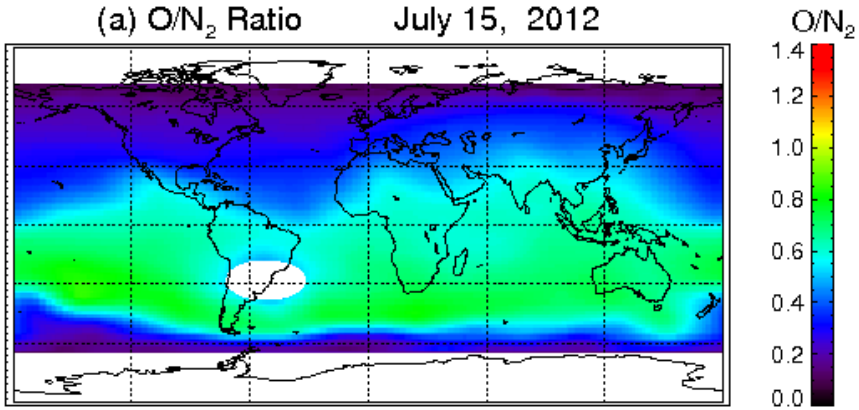
Disturbed or storm-time condition

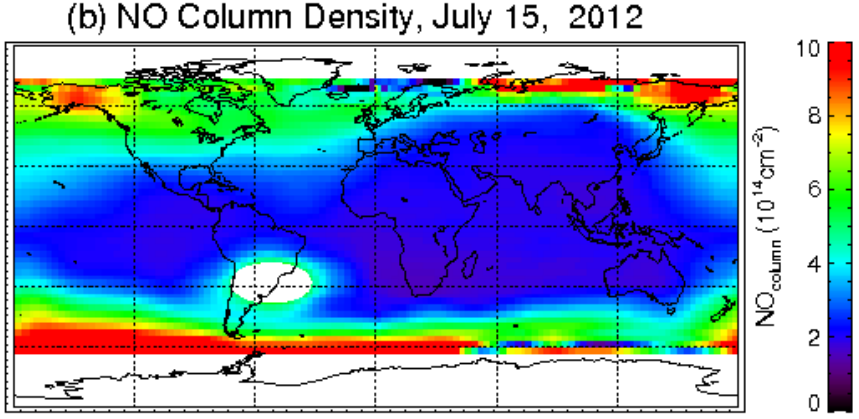
Quiet Day

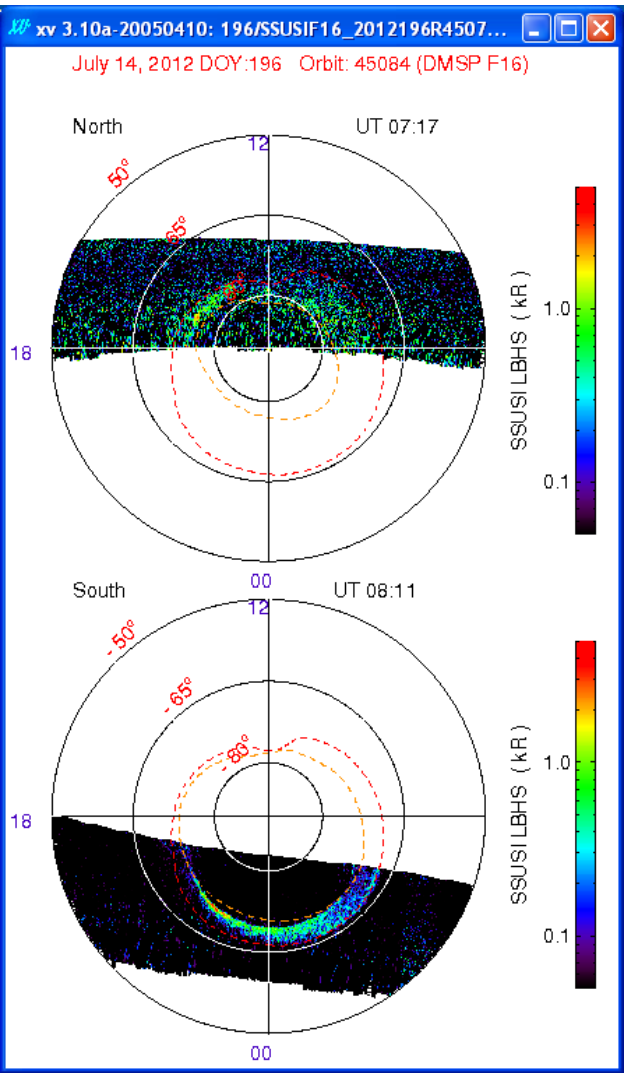




Storm Day



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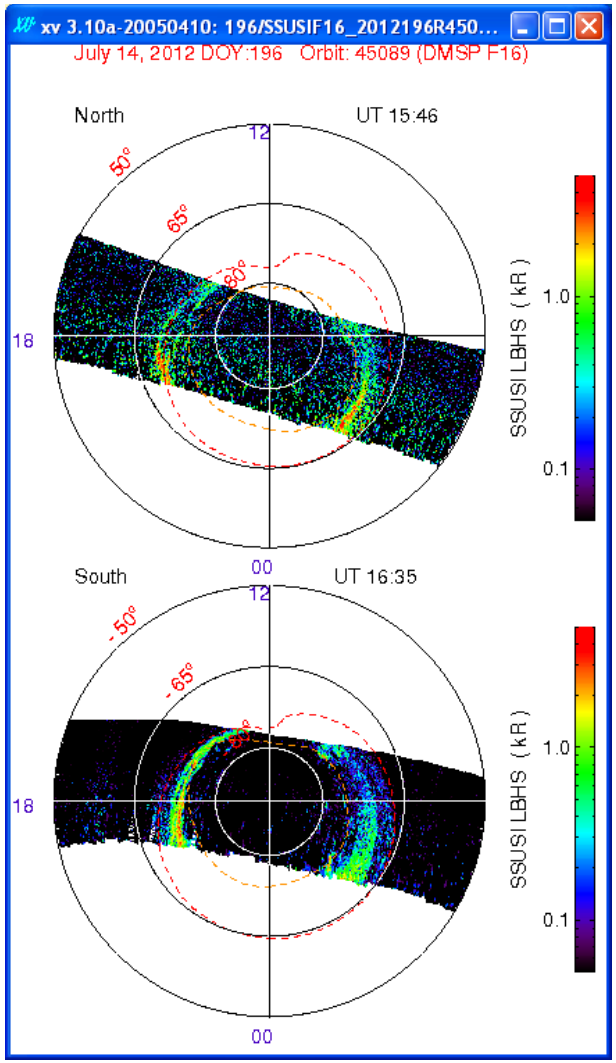
July 14, 2012 DOY:196 Orbit: 45084 (DMSP F16)
North
UT 07:17
South
UT 08:11
12
00
18
50°
65°
80°
SSUSI LBHS (kR)
1.0
0.1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18
50°
65°
80°
SSUSI LBHS (kR)
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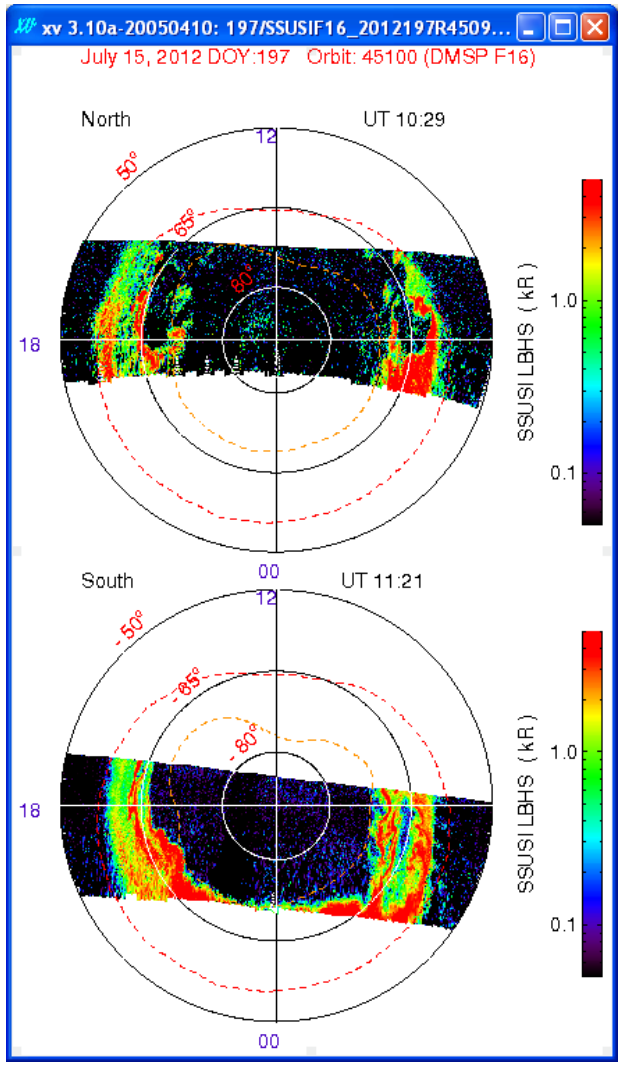
0.1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00
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50°
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80°
SSUSI LBHS (kR)
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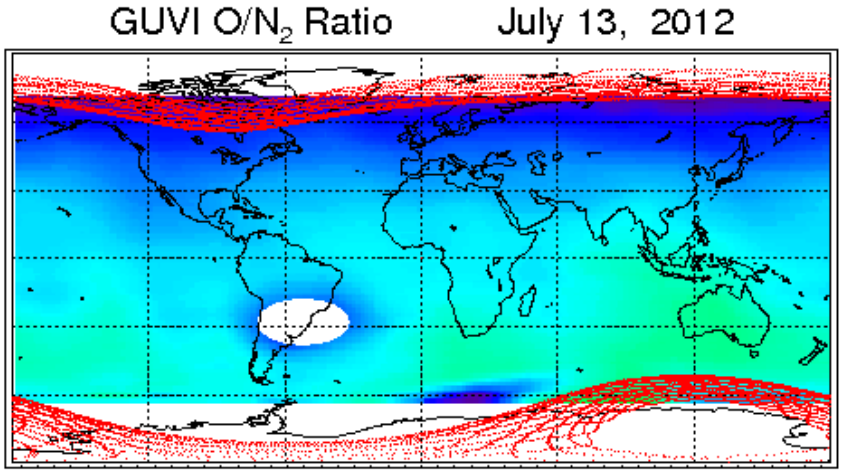
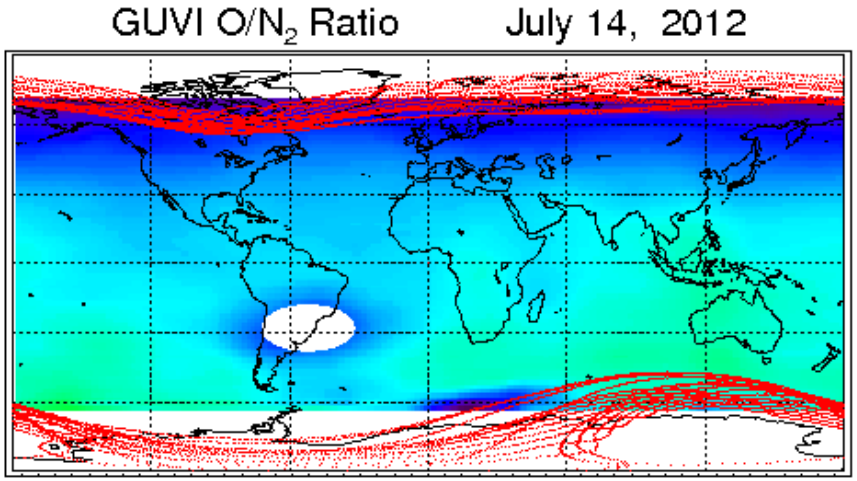
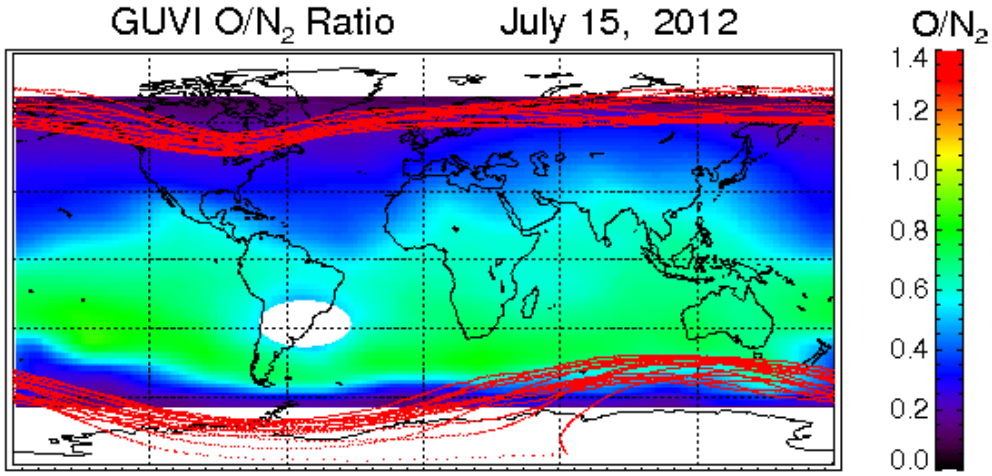


F16 SSUSI boundary





Summary

- Heating (Joule and particle) leads to O/N2 depletion and NO enhancement.
- Quantitative model/data comparison needs to consider both of the intensities and locations of the heating sources.