

Change:

- 1. WAS comparisons are modified to match correct time stamps. (previously ones were 6-hour shifted)**
- 2. Bigger points and nice axis limits for C130 plots**

Note 1: WAS data for Non-Denver area were categorized by ethane level less than 10 ppbv only.

Note 2: In the tracer-to-trace plots, red ones are C-130 obs. and blue ones are model results

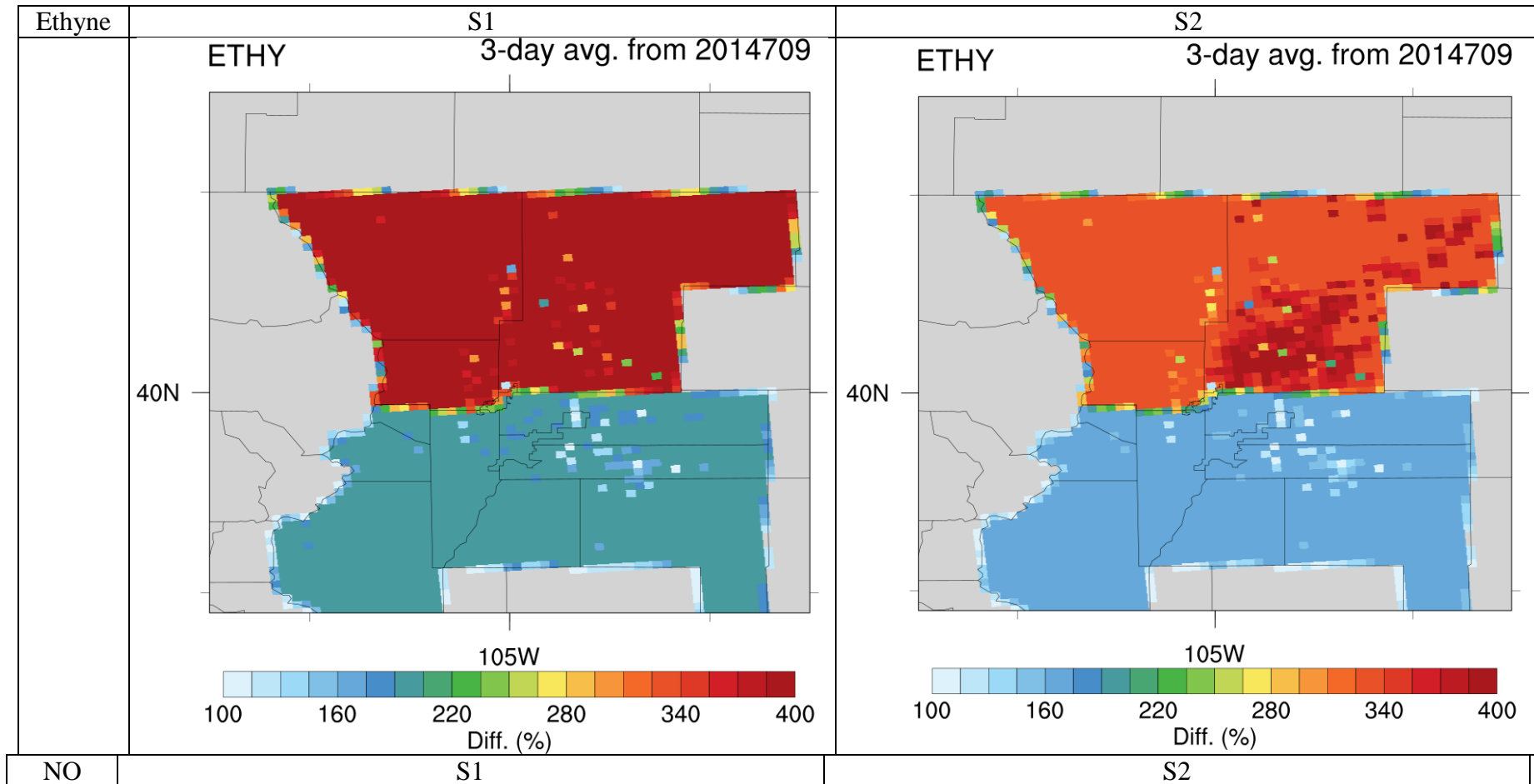
Denver Area

S1: Mobile Ethyne $\times 2$ for Denver, $\times 4$ for Non-Denver, Mobile other $\times 2$ for Non-Denver, O&G $\times 4$ except NO_x and CO

ftp://ftp.acom.ucar.edu/user/noitul5/CMAQ_FRAPPE/2014_EPA_SPATIAL_1st/EMISSION_UPDATE_FIRST/

S2: Mobile Ethyne $\times 1.7$ for Denver, $\times 3.4$ for Non-Denver, Mobile other $\times 2$ for Non-Denver, O&G $\times 4$ except CO

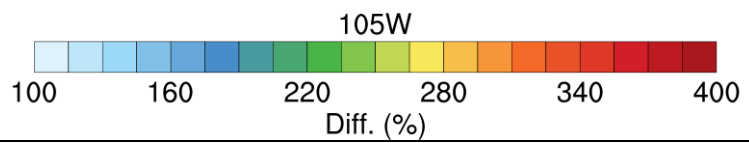
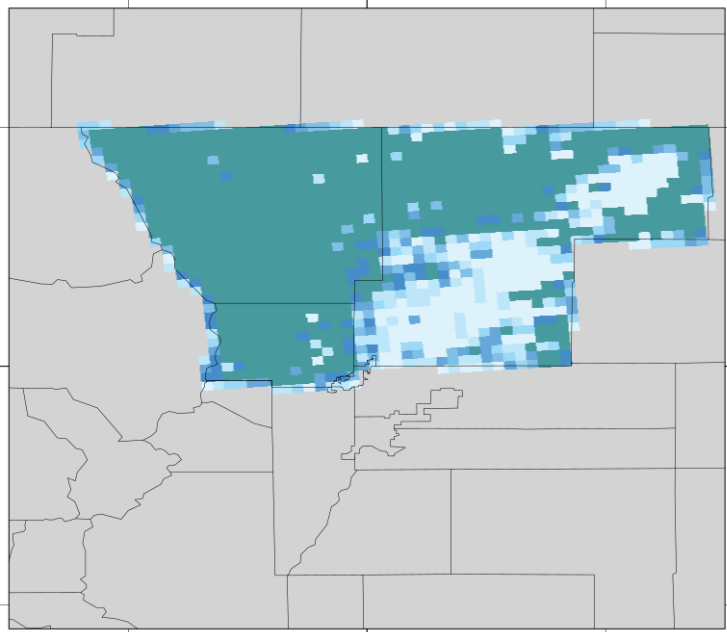
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NO

3-day avg. from 2014709

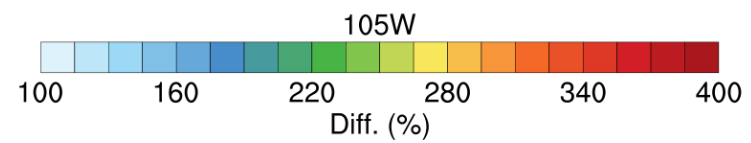
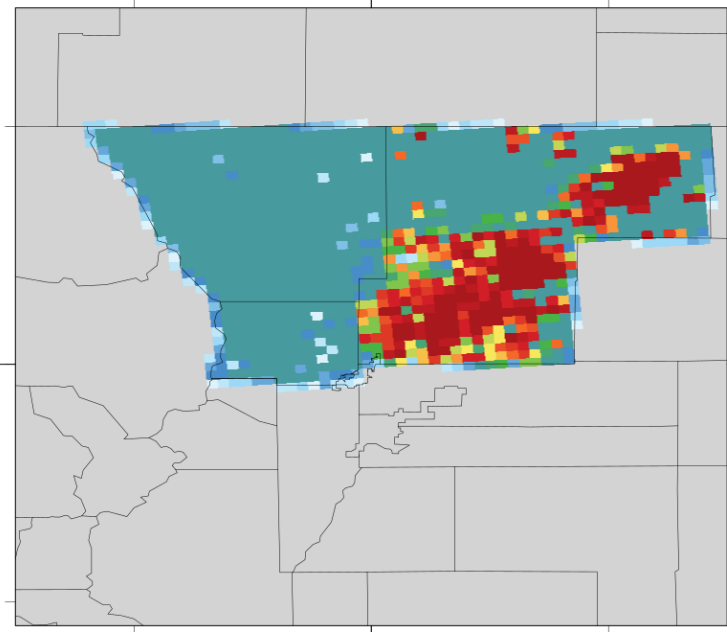
40N



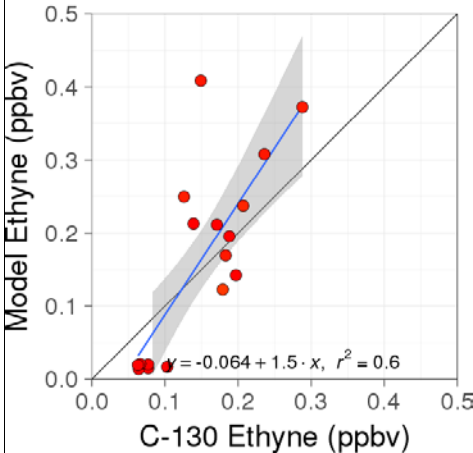
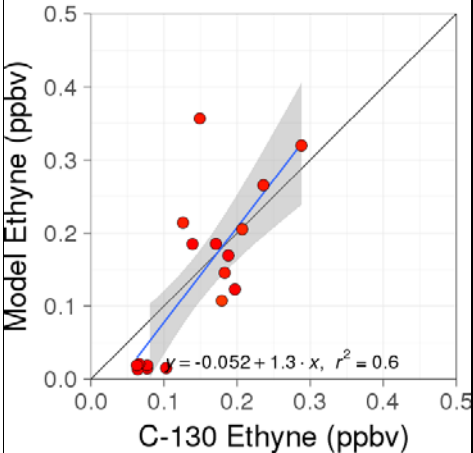
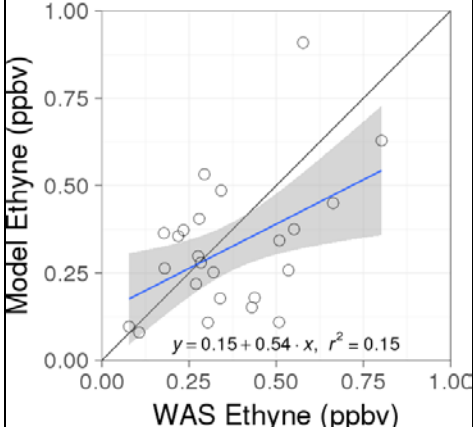
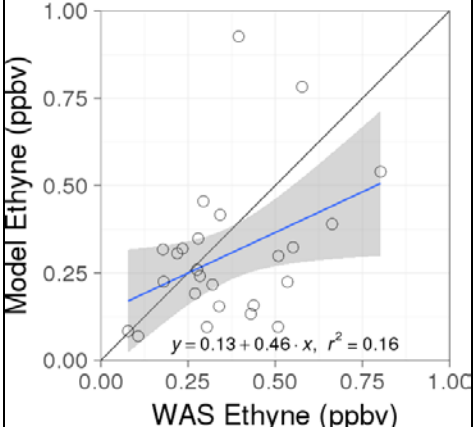
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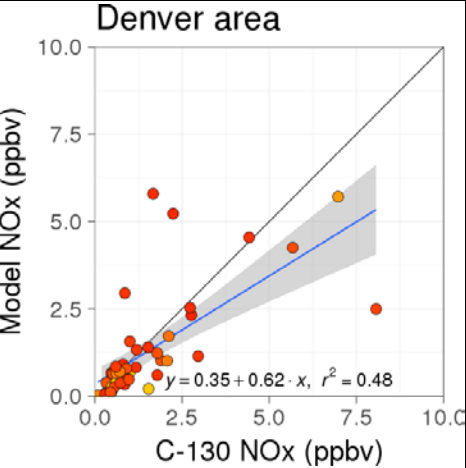
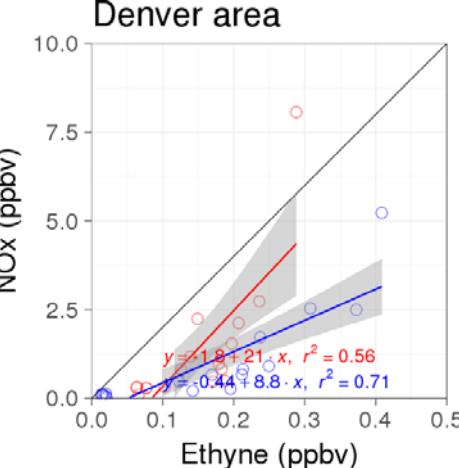
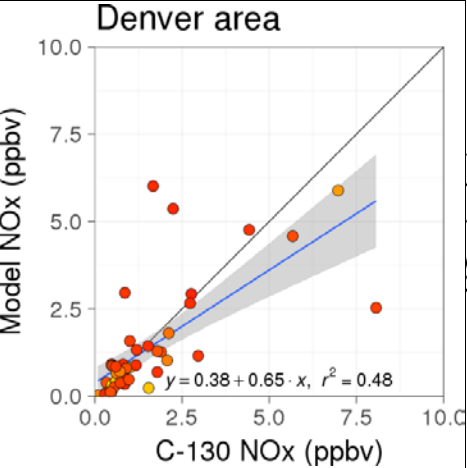
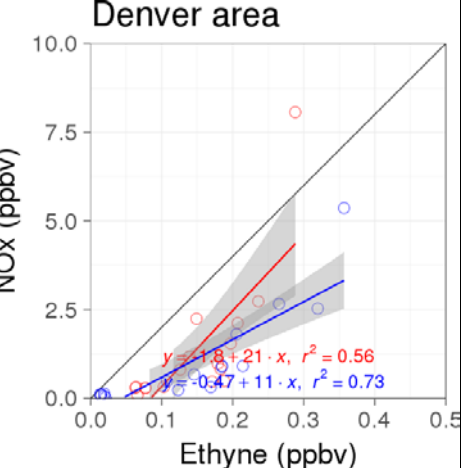
3-day avg. from 2014709

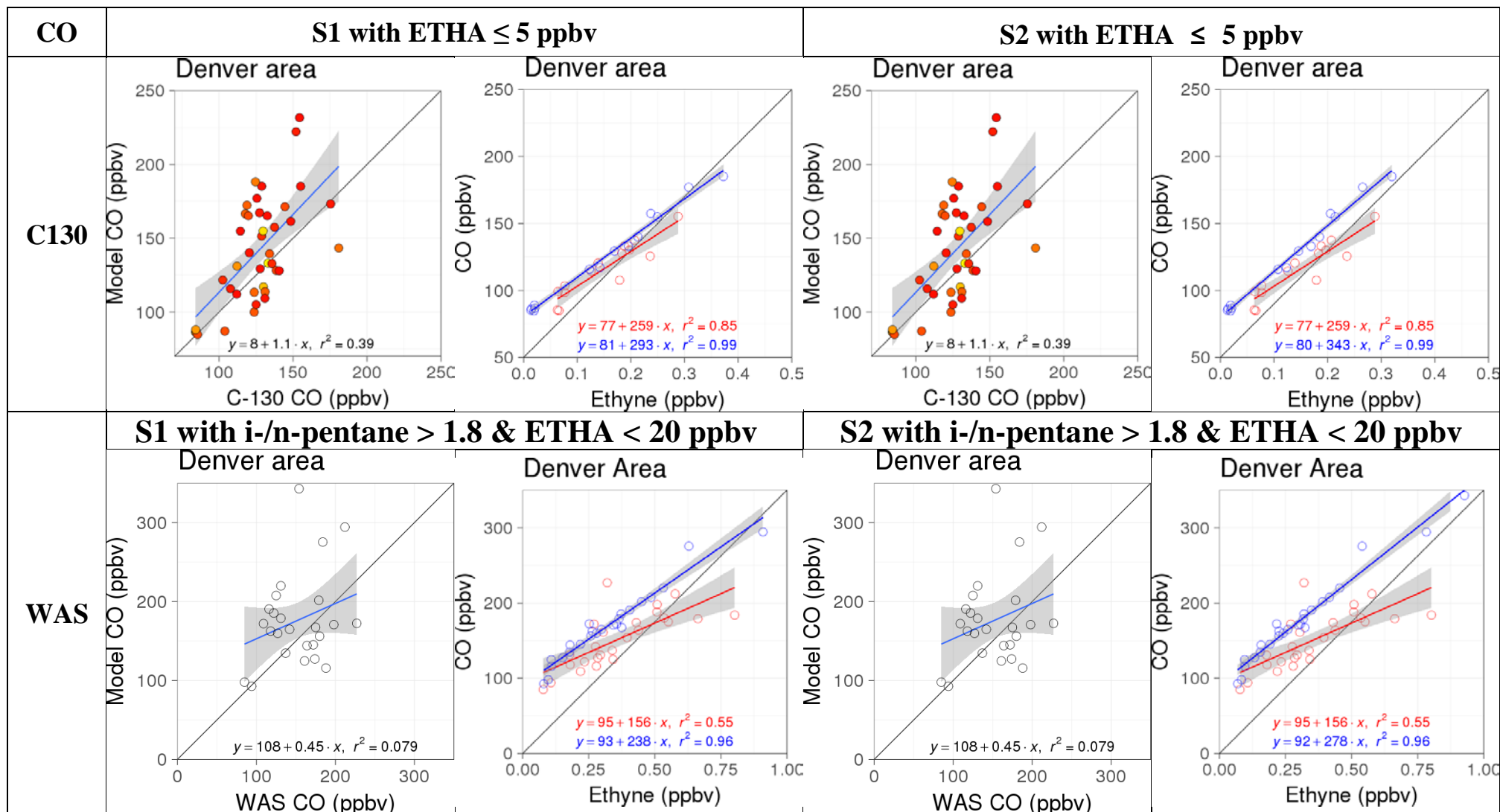
40N

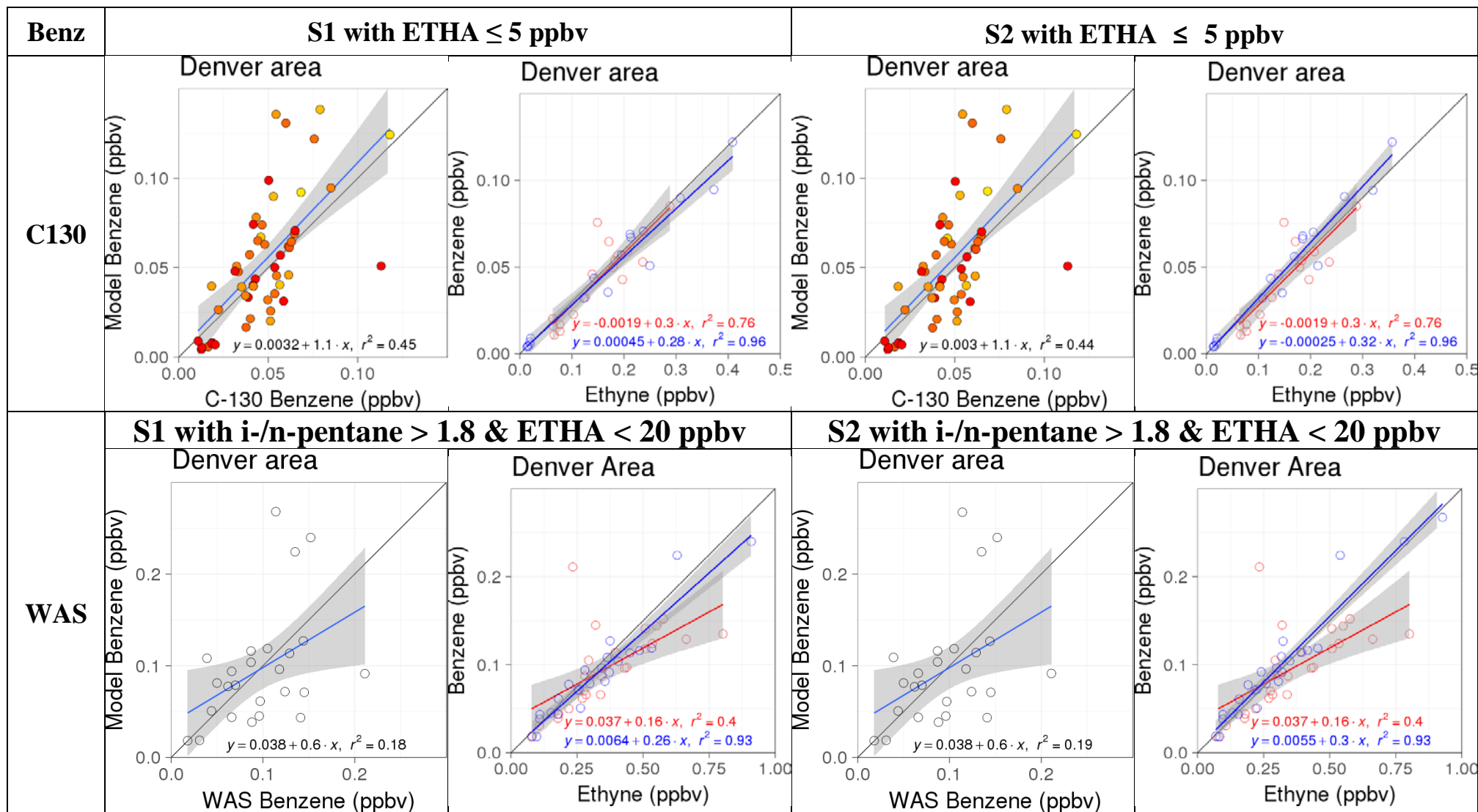


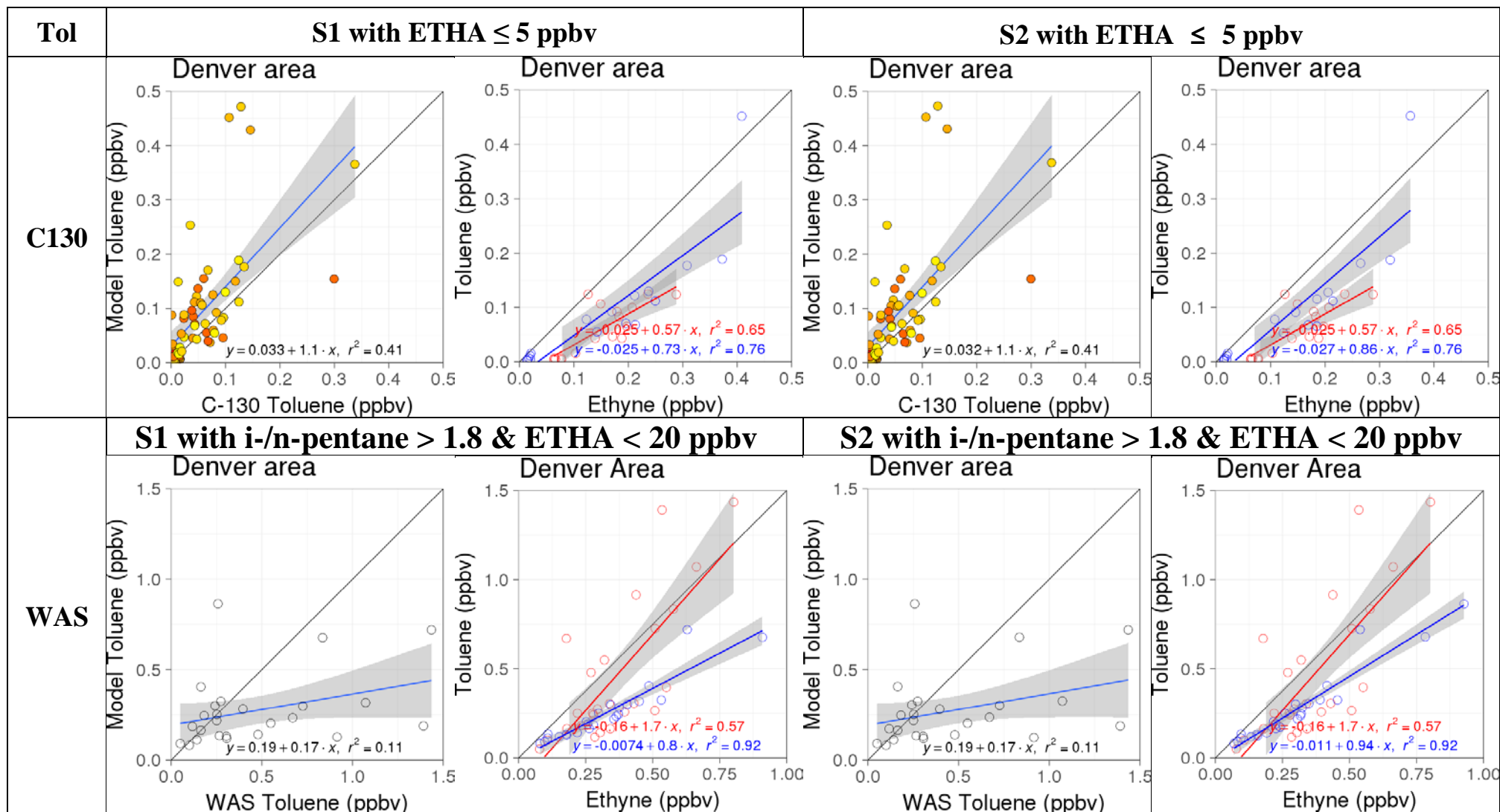
Denver Area

Ethyne	S1 with ETHA \leq 5 ppbv	S2 with ETHA \leq 5 ppbv
C130	<p data-bbox="331 256 528 288">Denver area</p>  <p data-bbox="241 347 271 608">Model Ethyne (ppbv)</p> <p data-bbox="376 711 645 743">C-130 Ethyne (ppbv)</p> <p data-bbox="405 639 629 663">$y = -0.064 + 1.5 \cdot x, r^2 = 0.6$</p>	<p data-bbox="1265 256 1462 288">Denver area</p>  <p data-bbox="1176 347 1205 608">Model Ethyne (ppbv)</p> <p data-bbox="1310 711 1579 743">C-130 Ethyne (ppbv)</p> <p data-bbox="1346 639 1570 663">$y = -0.052 + 1.3 \cdot x, r^2 = 0.6$</p>
WAS	<p data-bbox="280 751 1120 791">S1 with i-/n-pentane > 1.8 & ETHA < 20 ppbv</p> <p data-bbox="331 796 528 828">Denver area</p>  <p data-bbox="241 887 271 1147">Model Ethyne (ppbv)</p> <p data-bbox="383 1230 629 1262">WAS Ethyne (ppbv)</p> <p data-bbox="405 1158 629 1182">$y = 0.15 + 0.54 \cdot x, r^2 = 0.15$</p>	<p data-bbox="1220 751 2060 791">S2 with i-/n-pentane > 1.8 & ETHA < 20 ppbv</p> <p data-bbox="1265 796 1462 828">Denver area</p>  <p data-bbox="1176 887 1205 1147">Model Ethyne (ppbv)</p> <p data-bbox="1310 1230 1556 1262">WAS Ethyne (ppbv)</p> <p data-bbox="1346 1158 1570 1182">$y = 0.13 + 0.46 \cdot x, r^2 = 0.16$</p>

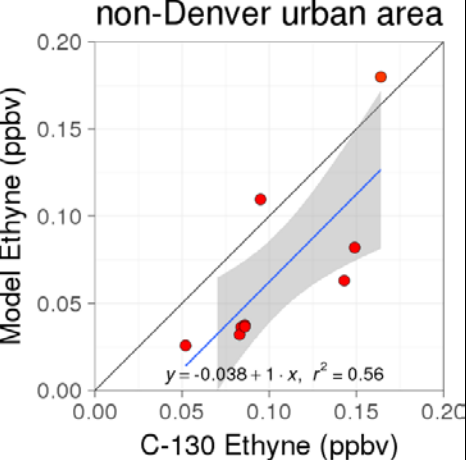
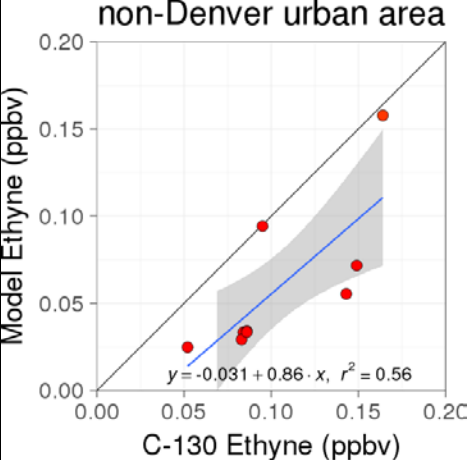
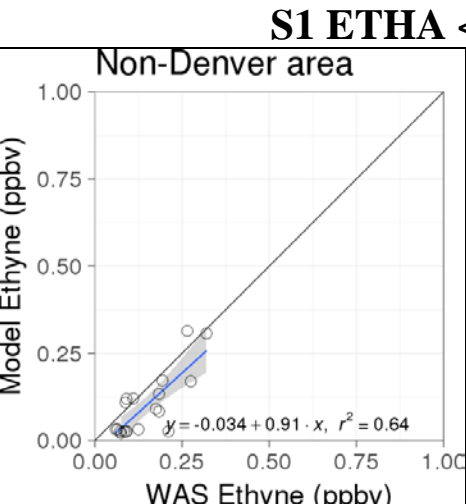
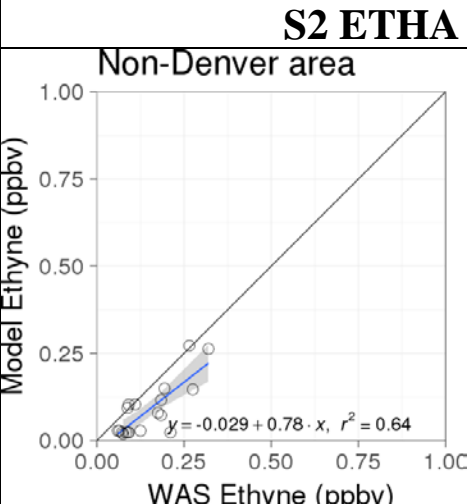
NO _x	S1 with ETHA ≤ 5 ppbv		S2 with ETHA ≤ 5 ppbv	
C130	<p>Denver area</p>  <p>Model NO_x (ppbv)</p> <p>C-130 NO_x (ppbv)</p> <p>$y = 0.35 + 0.62 \cdot x, r^2 = 0.48$</p>	<p>Denver area</p>  <p>NO_x (ppbv)</p> <p>Ethyne (ppbv)</p> <p>$y = 1.8 + 21 \cdot x, r^2 = 0.56$</p> <p>$y = -0.44 + 8.8 \cdot x, r^2 = 0.71$</p>	<p>Denver area</p>  <p>Model NO_x (ppbv)</p> <p>C-130 NO_x (ppbv)</p> <p>$y = 0.38 + 0.65 \cdot x, r^2 = 0.48$</p>	<p>Denver area</p>  <p>NO_x (ppbv)</p> <p>Ethyne (ppbv)</p> <p>$y = 1.8 + 21 \cdot x, r^2 = 0.56$</p> <p>$y = -0.47 + 11 \cdot x, r^2 = 0.73$</p>
WAS	S1 with i-/n-pentane > 1.8 & ETHA < 20 ppbv		S2 with i-/n-pentane > 1.8 & ETHA < 20 ppbv	
	NO DATA	NO DATA	NO DATA	NO DATA

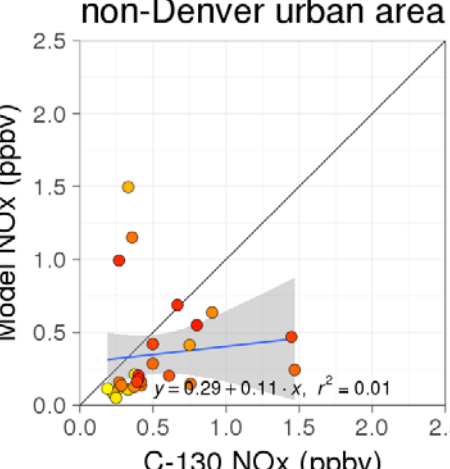
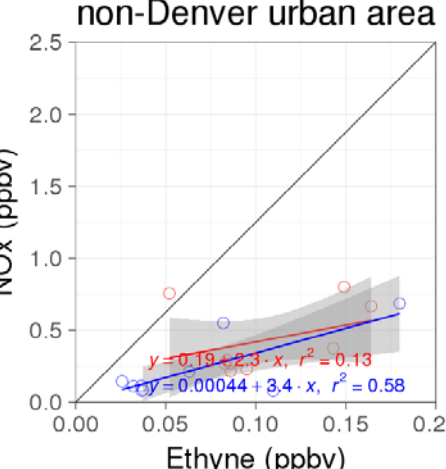
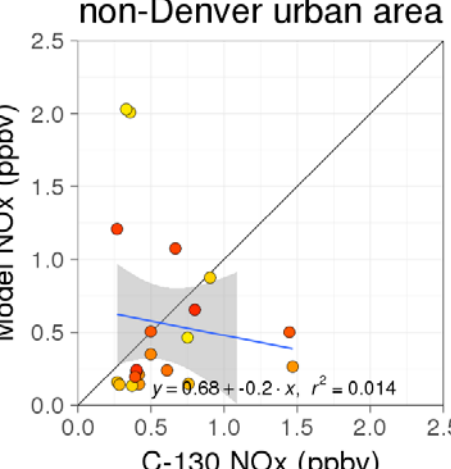
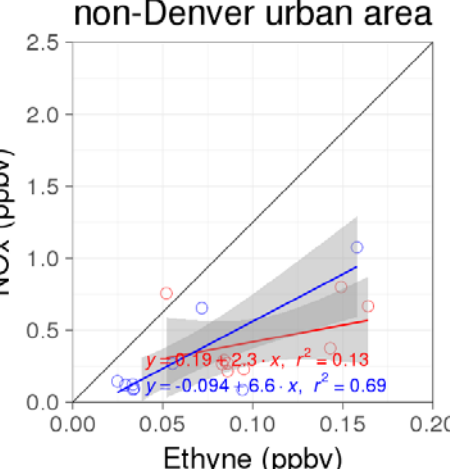


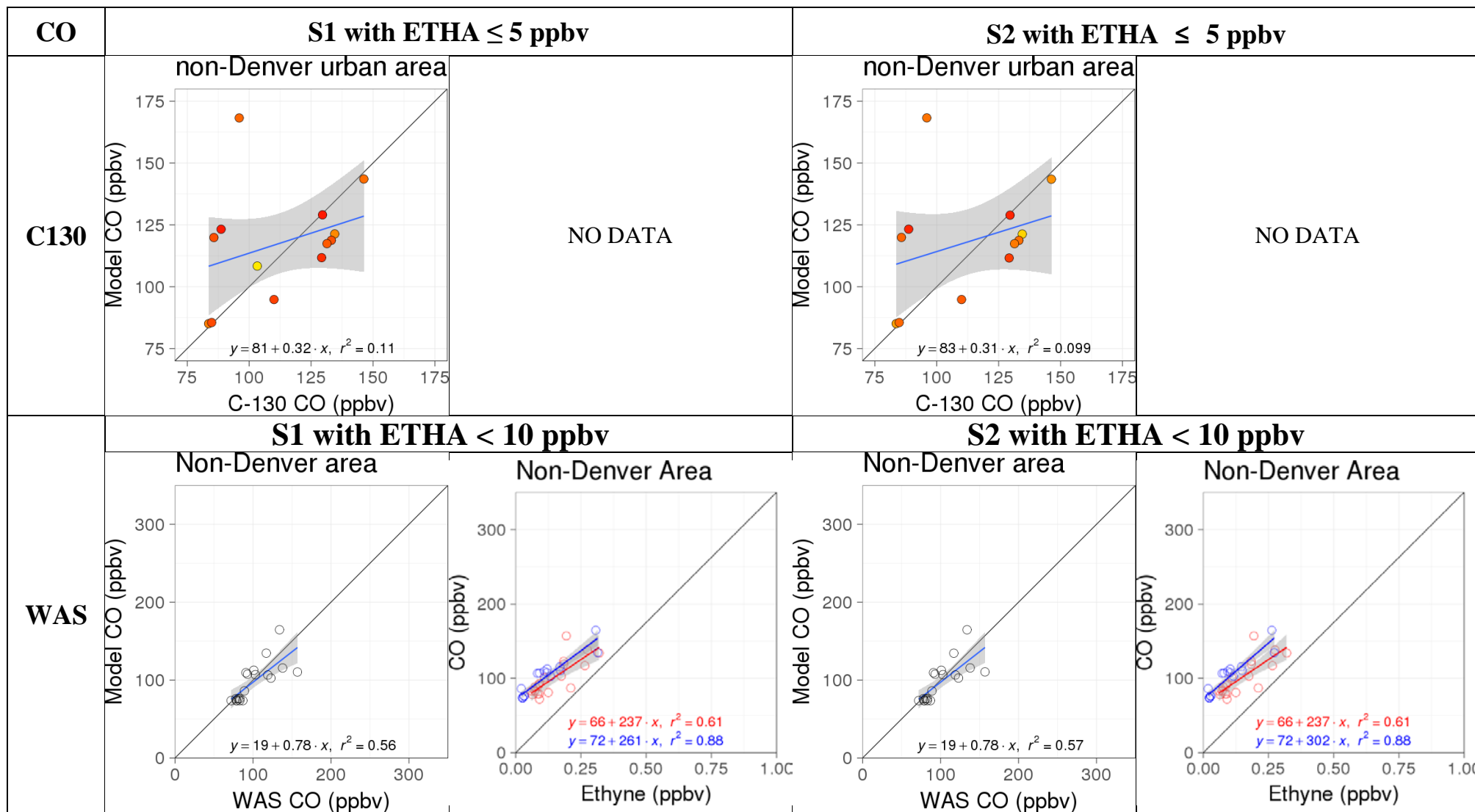


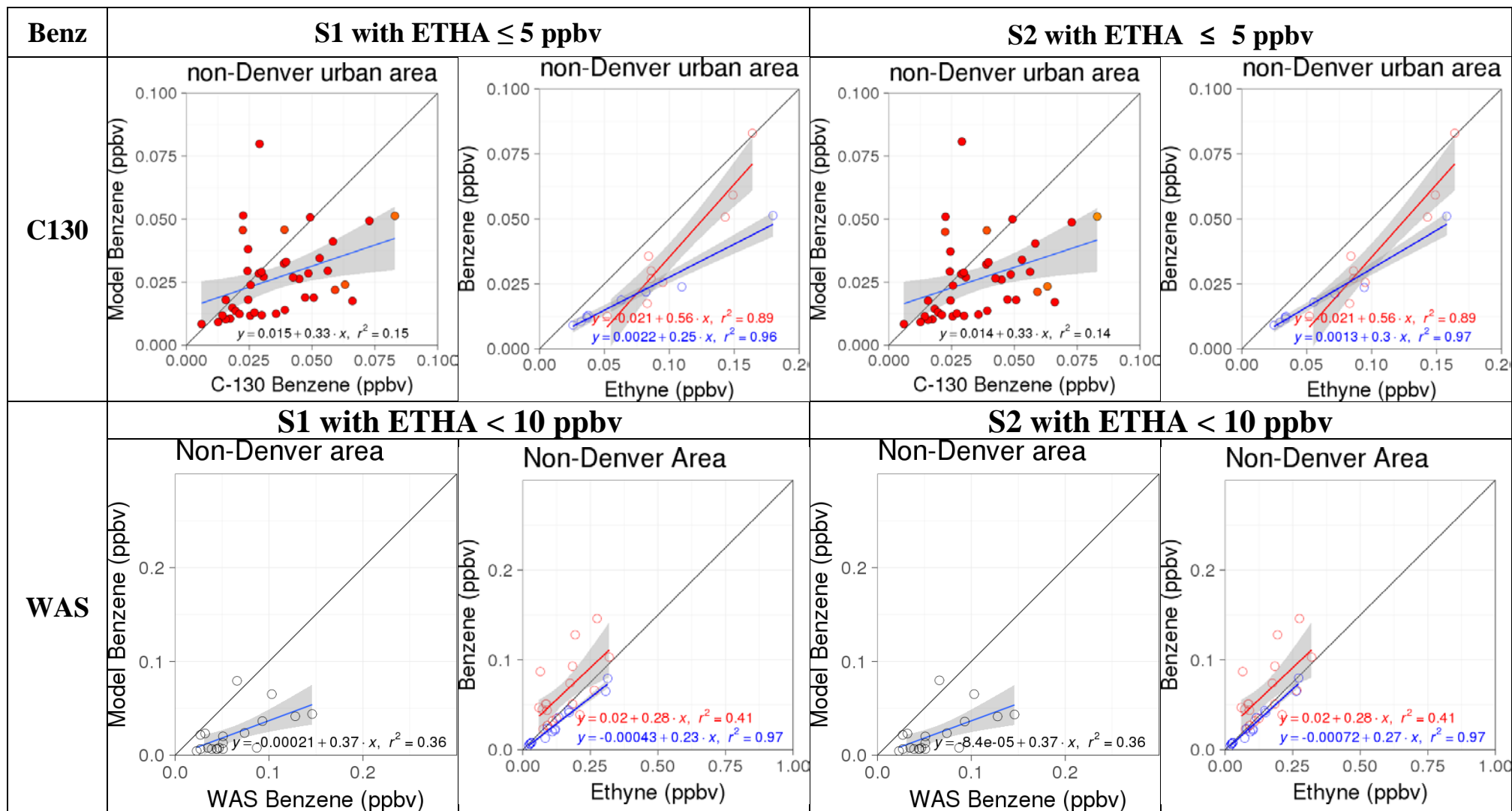


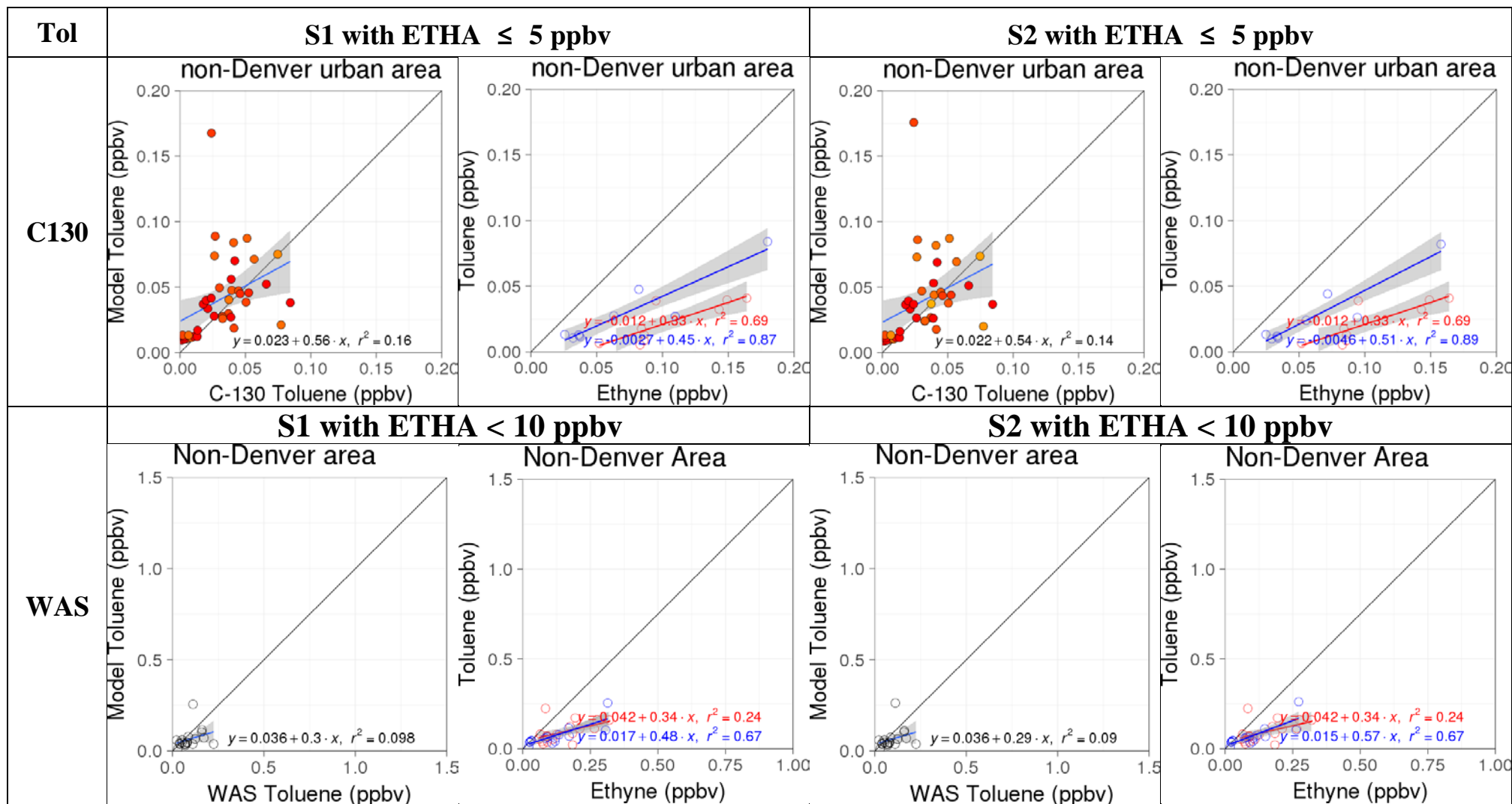
Non-Denver Area

Ethyne	S1 with ETHA \leq 5 ppbv		S2 with ETHA \leq 5 ppbv	
C130	<p>non-Denver urban area</p>  <p>Model Ethyne (ppbv)</p> <p>$y = -0.038 + 1 \cdot x, r^2 = 0.56$</p> <p>C-130 Ethyne (ppbv)</p>		<p>non-Denver urban area</p>  <p>Model Ethyne (ppbv)</p> <p>$y = -0.031 + 0.86 \cdot x, r^2 = 0.56$</p> <p>C-130 Ethyne (ppbv)</p>	
	<p>S1 ETHA < 10 ppbv</p> <p>Non-Denver area</p>  <p>Model Ethyne (ppbv)</p> <p>$y = -0.034 + 0.91 \cdot x, r^2 = 0.64$</p> <p>WAS Ethyne (ppbv)</p>		<p>S2 ETHA < 10 ppbv</p> <p>Non-Denver area</p>  <p>Model Ethyne (ppbv)</p> <p>$y = -0.029 + 0.78 \cdot x, r^2 = 0.64$</p> <p>WAS Ethyne (ppbv)</p>	
WAS				

NO _x	S1 with ETHA ≤ 5 ppbv		S2 with ETHA ≤ 5 ppbv	
C130	<p>non-Denver urban area</p>  <p>Model NO_x (ppbv)</p> <p>C-130 NO_x (ppbv)</p> <p>$y = 0.29 + 0.11 \cdot x, r^2 = 0.01$</p>	<p>non-Denver urban area</p>  <p>NO_x (ppbv)</p> <p>Ethyne (ppbv)</p> <p>$y = 0.00044 + 8.4 \cdot x, r^2 = 0.58$</p>	<p>non-Denver urban area</p>  <p>Model NO_x (ppbv)</p> <p>C-130 NO_x (ppbv)</p> <p>$y = 0.68 - 0.2 \cdot x, r^2 = 0.014$</p>	<p>non-Denver urban area</p>  <p>NO_x (ppbv)</p> <p>Ethyne (ppbv)</p> <p>$y = -0.094 + 6.6 \cdot x, r^2 = 0.69$</p>
WAS	S1 with ETHA < 10 ppbv		S2 with ETHA < 10 ppbv	
	NO DATA	NO DATA	NO DATA	NO DATA







Oil and Gas Area

