

CHANGES MADE TO THE 2005 BASE YEAR EMISSIONS

This document provides changes made to the 2005 base year emissions and 4 km gridded emissions summary tables for the Four Corners.

Southern Ute Land

- Replaced SUIT fugitive type O&G emissions (fugitive, pneumatics, venting etc.) with Doug's latest SUIT inventory.
- SUIT drilling rig emissions was replaced by Doug's emissions.
- All the compressor engines on SUIT lands (provided by Doug) were modeled as point sources. Doug provided stack parameters and location information for these compressor engines.
- Removed duplicate point sources from the WRAP Point source inventory files as recommended by Doug. This was necessary to avoid double-counting with SUIT compressor engine inventory.

CO/NM State land

- WRAP CO heater emissions were too high. Updated Colorado heater emissions using
 - number of gas wells obtained from Colorado O&G Conservation Commission 2005
 - firing rates, annual average load (capacity) and number of heaters per well site provided by Reid Smith
- Four Corner Power Plant (FCPP) PM emissions was updated.

All areas

- O&G source specific VOC speciation profiles were used in emissions processing. The VOC Speciation memo dated December 19th, 2007 describes the profiles used for various types of sources and how those profiles were derived.
- O&G point sources were separated out from other point sources and processed separately along with the SUIT compressor engines. This was necessary for the source apportionment analysis.

EMISSION SUMMARIES - 2005

2005 annual emissions in the Four Corners-4km domain are summarized by State and major source category in Tables 1 through 4. In the point source inventory, tribal sources were distinguished from the state sources; and hence tribal point source emissions were reported separately from state emissions. For all other source categories tribal emissions were combined with state emissions. Tables 5 through 8 provide previous emissions summary tables for comparison.

Table 1. 2005 4km domain NO_x Emissions (in tpy) by State and Source Category

STATE	Source Category									
	Area	Biogenics	Fugitive Dust	Off-road	On-road	Point	Road Dust	Windblown Dust	Area Oil & Gas	Point Oil & Gas
Arizona	97	1,102	0	2,407	4,661	0	0	0	13	0
Colorado	302	2,731	0	1,910	3,757	535	0	0	921	2,548
New Mexico	16,036	4,032	0	11,219	30,182	31,332	0	0	37,848	19,834
Utah	42	582	0	181	741	78	0	0	51	352
Tribes	0	0	0	0	0	36,551	0	0	0	7,264
Grand Total	16,477	8,447	0	15,717	39,340	68,496	0	0	38,832	29,998

Table 2. 2005 4km domain SO₂ Emissions (in tpy) by State and Source Category

STATE	Source Category									
	Area	Biogenics	Fugitive Dust	Off-road	On-road	Point	Road Dust	Windblown Dust	Area Oil & Gas	Point Oil & Gas
Arizona	20	0	0	119	52	0	0	0	0	0
Colorado	135	0	0	53	62	105	0	0	19	14
New Mexico	5,580	0	0	625	543	17,612	0	0	116	552
Utah	54	0	0	13	12	1,581	0	0	1	0
Tribes	0	0	0	0	0	26,920	0	0	0	35
Grand Total	5,789	0	0	809	669	46,219	0	0	136	602

Table 3. 2005 4km domain VOC Emissions (in tpy) by State and Source Category

STATE	Source Category									
	Area	Biogenics	Fugitive Dust	Off-road	On-road	Point	Road Dust	Windblown Dust	Area Oil & Gas	Point Oil & Gas
Arizona	2,204	24,028	0	728	3,314	0	0	0	37	0
Colorado	3,632	83,394	0	4,884	2,616	348	0	0	891	1,257
New Mexico	26,675	90,934	0	5,690	17,079	1,914	0	0	109,480	7,857
Utah	479	14,694	0	388	490	52	0	0	455	77
Tribes	0	0	0	0	0	472	0	0	0	2,219
Grand Total	32,989	213,050	0	11,690	23,499	2,787	0	0	110,862	11,410

Table 4. 2005 4km domain PM Emissions (in tpy) by State and Source Category

STATE	Source Category									
	Area	Biogenics	Fugitive Dust	Off-road	On-road	Point	Road Dust	Windblown Dust	Area Oil & Gas	Point Oil & Gas
Arizona	505	0	948	110	131	0	2,829	21,074	0	0
Colorado	995	0	984	311	119	687	248	9,766	24	34
New Mexico	3,757	0	19,837	772	925	2,259	6,730	54,744	0	123
Utah	35	0	210	31	22	12	144	13,057	0	0
Tribes	0	0	0	0	0	1,046	0	0	0	11
Grand Total	5,293	0	21,979	1,224	1,197	4,003	9,952	98,640	24	168

Table 5. Previous 2005 4km domain NO_x Emissions (in tpy) by State and Source Category

STATE	Source Category								
	Area	Biogenics	Fugitive Dust	Off-road	Oil & Gas	On-road	Point	Road Dust	Windblown Dust
Arizona	97	1,102	0	2,407	13	4,661	0	0	0
Colorado	302	2,731	0	1,910	4,902	3,757	4,096	0	0
New Mexico	16,036	4,032	0	11,219	37,848	30,182	51,166	0	0
Utah	42	582	0	181	51	741	430	0	0
Tribes	0	0	0	0	0	0	39,121	0	0
Grand Total	16,477	8,447	0	15,717	42,814	39,340	94,812	0	0

Table 6. Previous 2005 4km domain SO₂ Emissions (in tpy) by State and Source Category

STATE	Source Category								
	Area	Biogenics	Fugitive Dust	Off-road	Oil & Gas	On-road	Point	Road Dust	Windblown Dust
Arizona	20	0	0	119	0	52	0	0	0
Colorado	135	0	0	53	7	62	122	0	0
New Mexico	5,580	0	0	625	116	543	18,165	0	0
Utah	54	0	0	13	1	12	1,581	0	0
Tribes	0	0	0	0	0	0	26,956	0	0
Grand Total	5,789	0	0	809	125	669	46,825	0	0

Table 7. Previous 2005 4km domain VOC Emissions (in tpy) by State and Source Category

STATE	Source Category								
	Area	Biogenics	Fugitive Dust	Off-road	Oil & Gas	On-road	Point	Road Dust	Windblown Dust
Arizona	2,204	24,028	0	728	37	3,314	0	0	0
Colorado	3,632	83,394	0	4,884	2,533	2,616	1,650	0	0
New Mexico	26,675	90,934	0	5,690	109,480	17,079	9,771	0	0
Utah	479	14,694	0	388	455	490	129	0	0
Tribes	0	0	0	0	0	0	753	0	0
Grand Total	32,989	213,050	0	11,690	112,505	23,499	12,303	0	0

Table 8. Previous 2005 4km domain PM Emissions (in tpy) by State and Source Category

STATE	Source Category								
	Area	Biogenics	Fugitive Dust	Off-road	Oil & Gas	On-road	Point	Road Dust	Windblown Dust
Arizona	505	0	948	110	0	131	0	2,829	21,074
Colorado	995	0	984	311	0	119	745	248	9,766
New Mexico	3,757	0	19,837	772	0	925	2,382	6,730	54,744
Utah	35	0	210	31	0	22	12	144	13,057
Tribes	0	0	0	0	0	0	92	0	0
Grand Total	5,293	0	21,979	1,224	0	1,197	3,231	9,952	98,640