

APPENDIX 7.

**Excerpts from the Big Bend Regional Aerosol
and Visibility Observational (BRAVO) Study
Emissions Inventory**

**Desert Research Institute
NOAA-ARL**

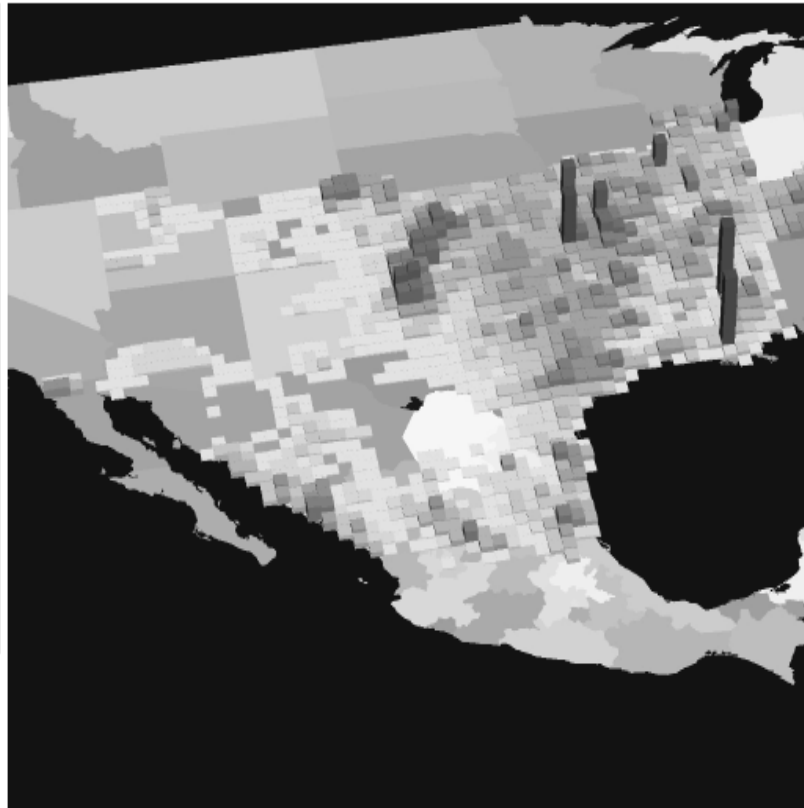
CO Emissions in BRAVO EI

Region	CO
U.S. BRAVO EI States Major Sources	Highway light duty gasoline vehicles (30%)
	Highway light duty gasoline trucks (12%)
	4-Stroke Lawn and garden equipment (9%)
U.S. BRAVO EI States Total	28.8 MT/yr
Mexican BRAVO EI States Major Sources	Highway light duty gasoline vehicles (60%)
	Highway light duty gasoline trucks (22%)
	Agricultural field burning (9%)
Mexican BRAVO EI States Total	7.2 MT/yr
Offshore Major Sources	Reciprocating engines natural gas (81%)
	Turbine engines natural gas (12%)
	Flaring (3%)
Offshore Total	0.022 MT/yr



NH₃ Emissions in BRAVO EI (excluding vegetation emissions)

Region	NH ₃
U.S. BRAVO EI States Major Sources	Cattle and Calves (58%) Fertilizer Application (15%) Hogs and Pigs (8%)
U.S. BRAVO EI States Total	2.1 MT/yr
Mexican BRAVO EI States Major Sources	All livestock (55%) Fertilizer Application (37%) Domestic ammonia (8%)
Mexican BRAVO EI States Total	0.3 MT/yr
Offshore Major Sources	
Offshore Total	0.000 MT/yr



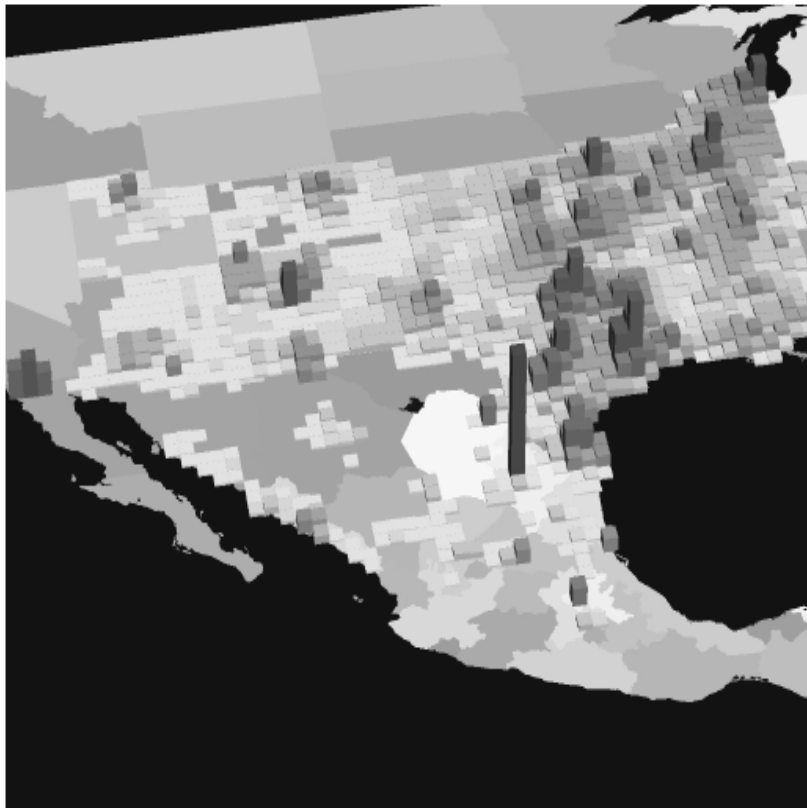
NO_x Emissions in BRAVO EI

Region	NO _x
U.S. BRAVO EI States Major Sources	Electric Generation Bituminous/Subbituminous Coal (18%) Highway heavy duty diesel vehicles (12%) Highway light duty gasoline vehicles (10%)
U.S. BRAVO EI States Total	9.4 MT/yr
Mexican BRAVO EI States Major Sources	Highway light duty gasoline vehicles (34%) Electric Generation Lignite Coal (15%) Highway heavy duty diesel vehicles (12%)
Mexican BRAVO EI States Total	0.6 MT/yr
Offshore Major Sources	Reciprocating engines natural gas (87%) Turbine engines natural gas (6%) Natural gas Boilers (4%)
Offshore Total	0.093 MT/yr



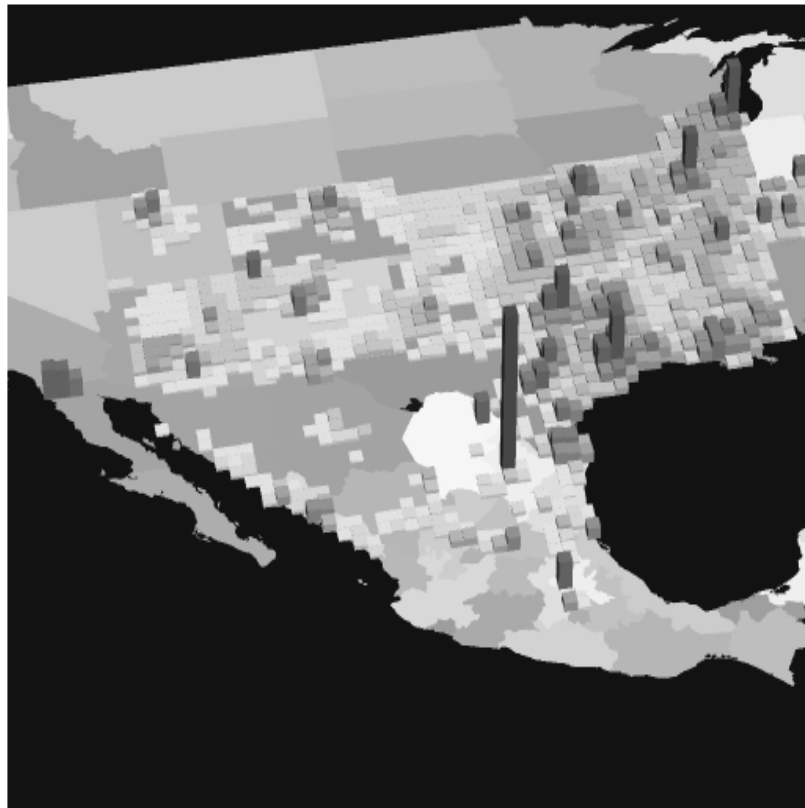
PM₁₀ Emissions in BRAVO EI

Region	PM ₁₀
U.S. BRAVO EI States Major Sources	Unpaved roads (47%) Agriculture crop tilling (19%) All paved roads (8%)
U.S. BRAVO EI States Total	9.9 MT/yr
Mexican BRAVO EI States Major Sources	Unpaved roads (58%) Agriculture crops field burning (10%) All paved roads (7%)
Mexican BRAVO EI States Total	0.9 MT/yr
Offshore Major Sources	Reciprocating engines natural gas (58%) Turbine engines natural gas (30%) Reciprocating engines diesel (9%)
Offshore Total	0.002 MT/yr



PM_{2.5} Emissions in BRAVO EI

Region	PM _{2.5}
U.S. BRAVO EI States Major Sources	Unpaved roads (29%) Agriculture crop tilling (15%) All paved roads (8%)
U.S. BRAVO EI States Total	2.4 MT/yr
Mexican BRAVO EI States Major Sources	Unpaved roads (34%) Agriculture crops field burning (27%) All paved roads (9%)
Mexican BRAVO EI States Total	0.3 MT/yr
Offshore Major Sources	Reciprocating engines natural gas (58%) Turbine engines natural gas (30%) Reciprocating engines diesel (9%)
Offshore Total	0.002 MT/yr



SO₂ Emissions in BRAVO EI

Region	SO ₂
U.S. BRAVO EI States Major Sources	Electric Generation Bituminous/Subbituminous Coal (53%)
	Electric Generation Lignite Coal (7%) Industrial Bituminous/Subbituminous Coal (4%)
U.S. BRAVO EI States Total	5.8 MT/yr
Mexican BRAVO EI States Major Sources	Popocatepl Volcano (65%) Electric Generation Residual Oil (12%)
	Electric Generation Lignite Coal (10%)
Mexican BRAVO EI States Total	2.6 MT/yr
Offshore Major Sources	Reciprocating diesel engine (79%)
	Large bore diesel engine (10%)
	Reciprocating engines natural gas (5%)
Offshore Total	0.000 MT/yr



VOC Emissions in BRAVO EI

Region	VOC
U.S. BRAVO EI States Major Sources	Highway light duty gasoline vehicles (17%) Highway light duty gasoline trucks (7%) Gasoline service stations (5%)
U.S. BRAVO EI States Total	5.8 MT/yr
Mexican BRAVO EI States Major Sources	Highway light duty gasoline vehicles (35%) Highway light duty gasoline trucks (13%) Petroleum Storage and Transport (10%)
Mexican BRAVO EI States Total	1.4 MT/yr
Offshore Major Sources	Flaring (82%) Reciprocating engines natural gas (13%) Crude oil tank breathing (4%)
Offshore Total	0.278 MT/yr

