

# Environmental Resource Inventory (ERI)

For:

Ewing Township  
Mercer County, New Jersey

Appendix: **Climate and Air Quality**

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October 2013

Prepared for: Ewing Township Environmental Commission

Prepared by: Delaware Valley Regional Planning Commission (DVRPC)





*The Delaware Valley Regional Planning Commission is dedicated to uniting the region's elected officials, planning professionals, and the public with a common vision of making a great region even greater. Shaping the way we live, work, and play, DVRPC builds consensus on improving transportation,*

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The symbol in our logo is adapted from the official DVRPC seal and is designed as a stylized image of the Delaware Valley. The outer ring symbolizes the region as a whole while the

diagonal bar signifies the Delaware River. The two adjoining crescents represent the Commonwealth of Pennsylvania and the State of New Jersey.

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## Climate

Geographically situated approximately halfway between the Equator and the North Pole, New Jersey's climate is extremely variable. The state's temperate, continental climate is influenced by hot, cold, dry, and humid airstreams that create highly variable local weather conditions. From May through September, New Jersey is dominated by moist, tropical air originating in the Gulf of Mexico and carried by prevailing winds from the southwest. In winter, winds generally prevail from the northwest, bringing cold, polar air masses from subarctic Canada.

Although New Jersey is one of the smallest states in the country, it has five distinct climate regions, depicted in **Figure 1**. The state's climate varies across these five regions: North, Central, Southwest, Pine Barrens, and Coastal. Distinct variations between these climate regions are due to a combination of factors, including geology, distance from the Atlantic Ocean, and prevailing atmospheric flow patterns.

Ewing Township is completely located within the Central climate zone. The Central zone extends from the New York Harbor to the great bend of the Delaware River near Trenton. This highly urbanized region is dense with sources of air pollution produced by the high volume of automobile traffic and industry. The concentration of development and impervious surfaces affects the local temperatures by retaining more heat, a phenomenon known as the heat island effect.

The National Climatic Data Center (NCDC) operates over 4,000 stations in the United States. There are four stations located within Ewing, listed in **Table 1** below.

**Table 1: Climate Stations in Ewing Township**

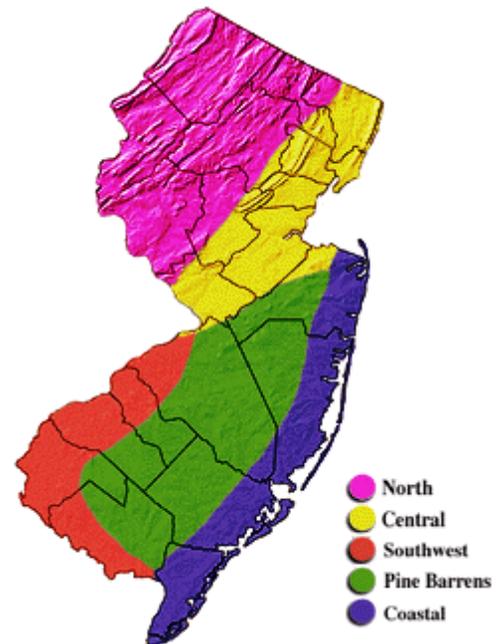
Station Name	Station ID	Latitude	Longitude	Elevation	Begin Date	End Date	Available Data
Ewing Twp 0.8 ESE	GHCND: US1NJMC0017	40.26N	74.786W	38.1 m.	2006/12/31	Present	Precipitation, Snowfall
Ewing Twp 1.6 SE	GHCND: US1NJMC0011	40.251N	74.775W	32.3 m.	2008/03/13	Present	Precipitation
Ewing Twp 0.9 NNE*	GHCND: US1NJMC0029	40.277N	74.792W	46.3 m.	2012/08/12	Present	Precipitation
Trenton-Mercer Airport	GHCND: USW00014792	40.276N	74.815W	56.1 m.	1945/02/19**	Present	Precipitation, Temperature

\*Data not analyzed due to recent nature of data record.

\*\*Data for 1945-1998 incomplete or missing.

Source: NCDC, 2013.

**Figure 1: The New Jersey Climate Zones**

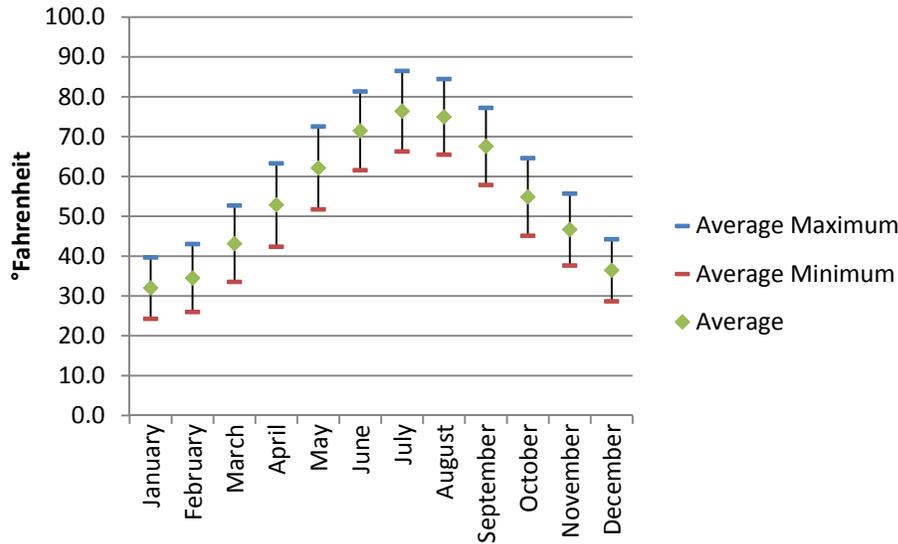


Source: Office of the New Jersey State Climatologist.

## Temperature

Temperature for Ewing is monitored at the Trenton-Mercer Airport (TTN) climate station, located in the township. Although the data record for this station began in 1945, complete data is only available from 1999 to the present.

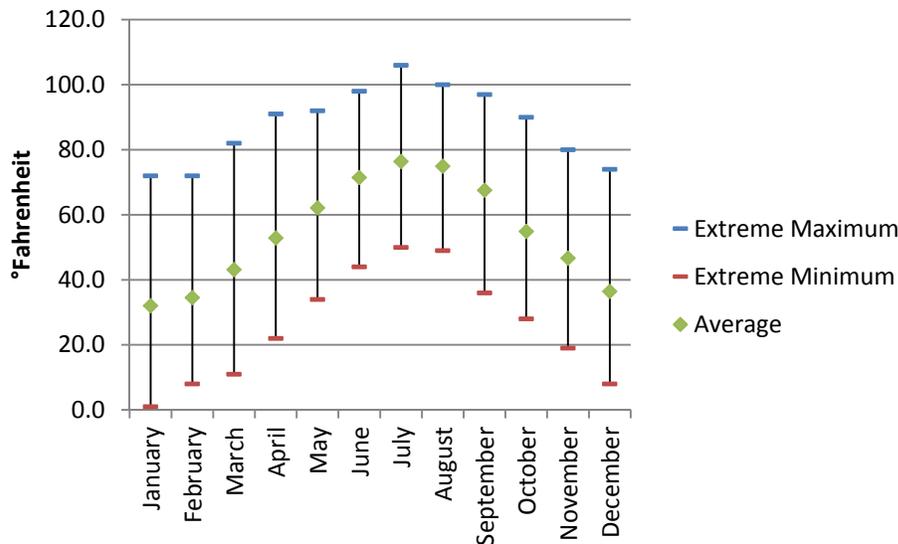
**Figure 2: Monthly Average Temperature, 1999-2012**



Based on this data record, the mean annual temperature for Ewing is 54.4°F. January is the coldest month with a mean temperature of 32.0°F, and July is the hottest month with a mean temperature of 76.4°F. The monthly average maximum, minimum, and overall average temperatures are displayed in [Figure 2](#).

Source: NCDC, 2013.

**Figure 3: Monthly Extreme Temperature, 1999-2012**



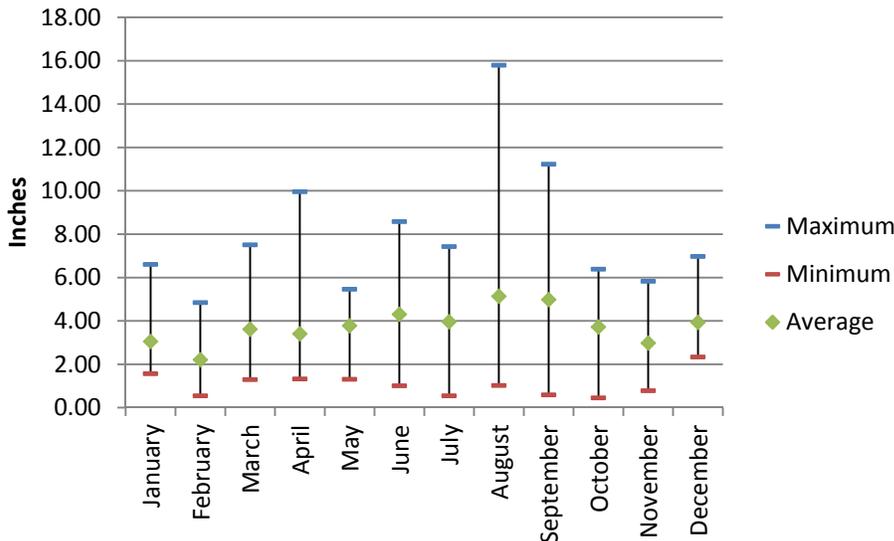
Between 1999 and 2012, the extreme minimum temperature for Ewing was 1.0°F (January 2004) and the extreme maximum temperature was 106.0°F (July 2011). The extreme temperatures for each month are displayed in [Figure 3](#), along with the averages for each month.

Source: NCDC, 2013.

## Precipitation

Precipitation is monitored at four climate stations in Ewing, although only the three stations with complete annual data were analyzed.<sup>1</sup> The average amount of precipitation in Ewing is 3.73 inches per month. As shown in **Figure 4**, the

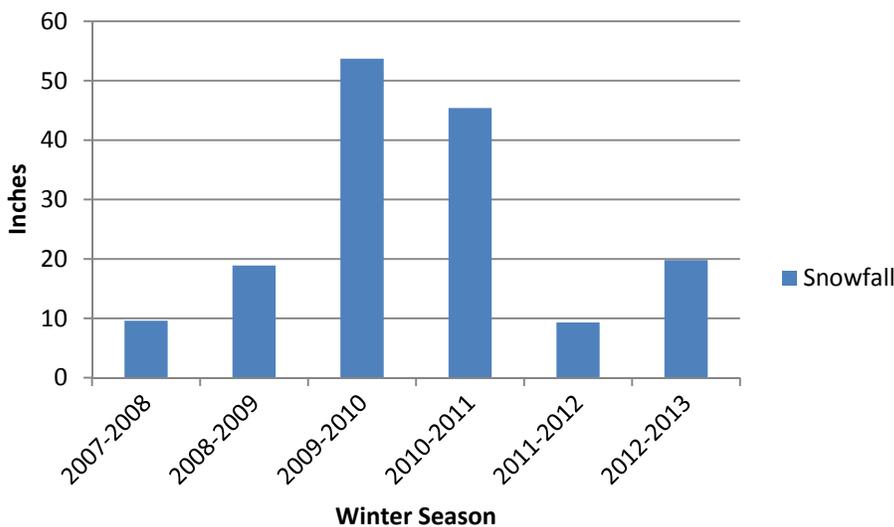
**Figure 4: Monthly Precipitation, 1999-2012**



rainiest month on average is August, with an average of 5.13 inches, and the driest month is February, with 2.21 inches on average. The rainiest month on record was August 2011 when 15.8 inches of precipitation were recorded. The driest month on record was October 2001 when just 0.45 inches of precipitation were recorded.

Source: NCDC, 2013.

**Figure 5: Annual Snowfall, 2007/2008-2012/2013**



Snowfall typically occurs in New Jersey when moist air from the south converges with cold air from the north. In Ewing, snowfall may occur from October to April, but is most likely to occur from December to March. Snowfall is recorded at one station in Ewing, with available data beginning in 2007, shown in **Figure 5**. The month with the greatest snowfall on average is February, averaging 9.9 inches. The month with the greatest amount of

Source: NCDC, 2013.

<sup>1</sup> Precipitation data for October 2005, a month of record rainfall, was missing in the data record.

snowfall on record was February 2010, when 40.6 inches of snow fell.

## Air Quality

Air quality is one of the most difficult environmental resources to measure because its sources are diffuse and regional in nature. Common sources of air pollution include industry, cars, trucks, buses, fires, and dust. Locally produced sources of air pollution include daily roadway traffic and industrial facilities.

Air quality is regulated by the federal Clean Air Act (CAA), which sets limits on certain air pollutants. Authority to enforce the CAA lies with the Environmental Protection Agency (EPA), although this authority is delegated to state and local governments like the New Jersey Department of Environmental Protection (NJDEP).

The CAA established National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. The EPA has set NAAQS for six criteria pollutants, described in the text box to the right.

Mercer County is currently designated as a non-attainment county for the criteria pollutant ozone. The county was removed from the non-attainment list for particulate matter 2.5 in September 2013.

### Air Quality Index

The Air Quality Index (AQI) is an index for reporting air quality on a daily basis. The EPA created the AQI to indicate a region's air quality by measuring levels of five of the six criteria pollutants (excluding lead). The AQI is focused on the potential human health hazards experienced by breathing

### Criteria Pollutants

Ground level ozone (O<sub>3</sub>) is formed when volatile organic compounds (VOC) and nitrogen oxides react with sunlight and heat. It is produced more in the summer months and is the primary constituent of smog. Ground level ozone is a pulmonary irritant, which, even in low levels, can be dangerous to sensitive populations, such as people with asthma or emphysema, and the elderly. It can also affect plant growth and is responsible for hundreds of millions of dollars in lost crop production.

Particulate matter (PM), or particle pollution, is made up of dust, ash, smoke, and other small particles formed from the burning or crushing of materials such as wood, rocks, and oil. When ingested, particulate matter can lodge deep in the lungs and can contribute to serious respiratory illnesses, such as asthma or lung disease. Particulate matter also creates haze, reduces visibility, and covers buildings in dirty soot. The PM10 standard covers only those particles with diameters of 10 micrometers or less, which are the ones most likely to reach the lungs. The PM2.5 standard covers particulates with diameters of 2.5 micrometers or less.

Carbon monoxide (CO) is a colorless, odorless gas that is formed when carbon fuel is not burned completely. It is a component of motor vehicle exhaust; therefore, higher levels of CO generally occur in areas with heavy traffic congestion. The highest levels of CO typically occur during the colder months, when air pollution becomes trapped near the ground beneath a layer of rising warm air.

Nitrogen oxides (NO<sub>x</sub>) are a group of highly reactive gases that contain nitrogen and oxygen in varying amounts. Motor vehicles, electric utilities, and homes and businesses that burn fuels emit nitrogen oxides; they can also be found naturally. Nitrogen oxides are primary components in ground-level ozone (smog), acid precipitation, and other toxic chemicals.

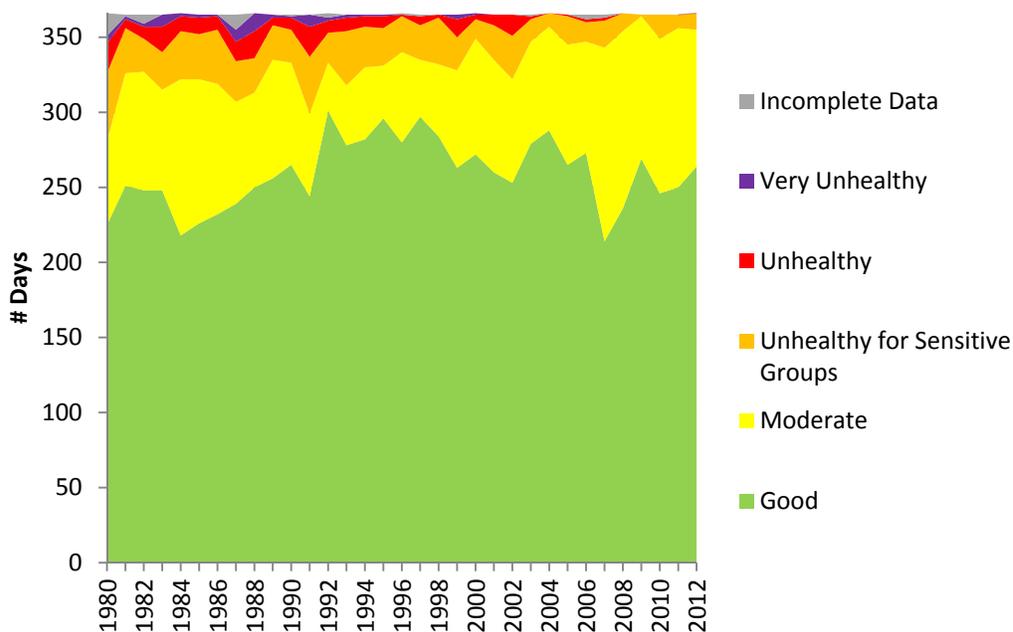
Sulfur dioxide (SO<sub>2</sub>) is released into the atmosphere when fuel containing sulfur, such as coal and oil, is burned, and when gasoline is refined from oil. Sulfur dioxide dissolves in water vapor to form acid precipitation.

Lead (Pb) is a pollutant that was historically released by cars and trucks burning leaded fuel, but metals processing plants and trash incinerators are the major source of emissions today. Lead tends to be a localized air pollutant, found in urban or high traffic areas, and is deposited in soil and water, harming fish and wildlife.

unhealthy air. Scores for the AQI range from 0 to 500 and are divided into six color-coded categories: Good (0-50), Moderate (51-100), Unhealthy for Sensitive Groups (101-150), Unhealthy (151-200), Very Unhealthy (201-300), and Hazardous (301-500).

The daily score is based on the highest individual pollutant score reported. The index is also used to measure overall air quality by counting the number of days per year when the AQI of each metropolitan region exceeds 100. Annual AQI statistics are available for the Trenton-Ewing Core Based Statistical Area. **Figure 6** depicts the AQI between 1980 and 2012. The number of Unhealthy for Sensitive Groups and Unhealthy days has decreased significantly during this time period. However, the number of Good days has declined somewhat since peaking in 1992. In 2012, Trenton-Ewing reported 264 Good (green) and 91 Moderate (yellow) days, 11 days that were Unhealthy for Sensitive Groups (orange), and zero Unhealthy, Very Unhealthy, or Hazardous (red, purple, and maroon) days. The maximum AQI was 119 and the median was 41.

**Figure 6: Air Quality Index for Trenton-Ewing, 1980-2012**



Source: NJDEP, 2013.

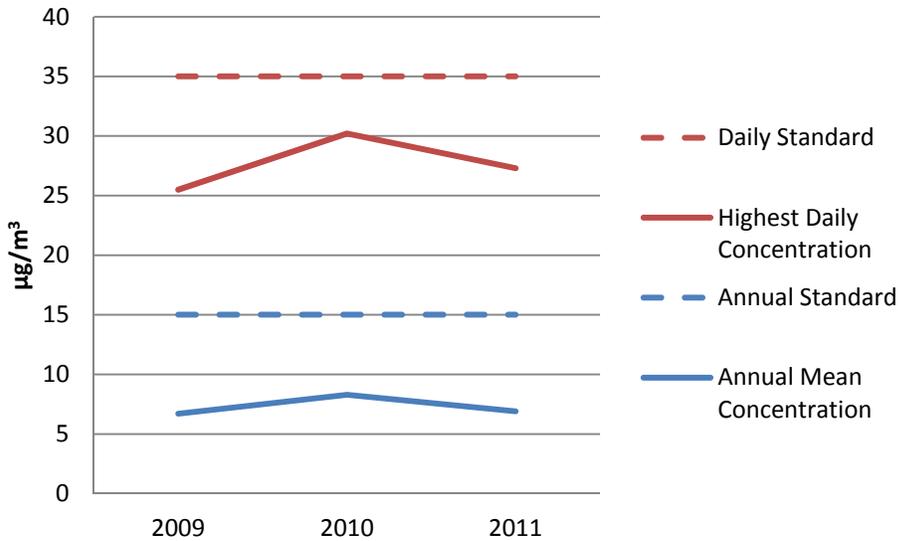
## Air Quality Monitoring

In addition to the AQI, other data on local air quality for Ewing Township is available from two local air quality monitoring stations: Ewing and Rider University. The Ewing station monitors PM<sub>2.5</sub>, and the Rider University station monitors O<sub>3</sub>, wind direction (WDIR), and wind speed (WSPD). The concentration of PM<sub>2.5</sub> is measured in micrograms (one-millionth of a gram) per cubic meter air, or µg/m<sup>3</sup>. Ozone is measured in parts per million (ppm) by volume. Wind direction is measured in cardinal degrees between 0 and 360, and wind speed is measured in miles per hour.

The NAAQS for PM<sub>2.5</sub> as established by the EPA are a short-term standard (24-hour or daily average) of 35 µg/m<sup>3</sup> and a long-term standard (annual average) of 15 µg/m<sup>3</sup>. Based on data collected from 2009 to 2011 at the Ewing

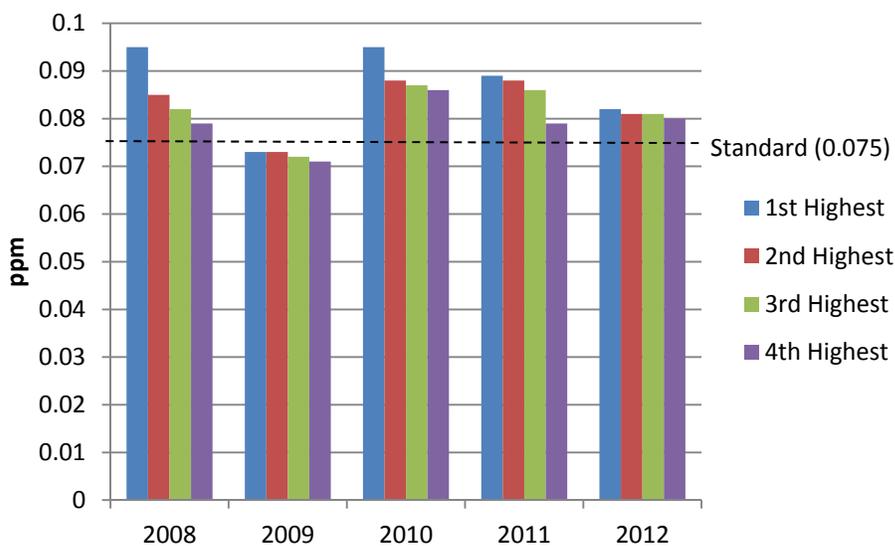
station, neither the daily nor the annual average exceeded the PM2.5 standard, as shown in **Figure 7**. The NAAQS for ozone is an eight-hour concentration of 0.075 ppm. **Figure 8** depicts the four highest eight-hour concentrations between 2008 and 2012 as measured at the Rider University station. The NAAQS standard for ozone was exceeded during this time on multiple days in every year except 2009. In 2010, the standard was exceeded on a record 15 days.

**Figure 7: Particulate Matter 2.5 Concentrations at Ewing, 2009-2011**



Source: NJDEP, 2013.

**Figure 8: Ozone Eight-Hour Concentrations at Rider University, 2008-2012**



Source: NJDEP, 2013.

## Local Point Sources of Air Quality Pollution

Under the CAA, the EPA limits the amount of other air pollutants and toxins that are emitted by point sources, such as chemical plants, industrial factories, power plants, and steel mills. The NJDEP Air Quality Permitting Program issues permits for stationary sources of air pollution, such as power plants, oil refineries, dry cleaners, food processing centers, and manufacturing plants, and regulates and monitors their emissions. There are 109 active air quality permits in Ewing, listed in [Table 2](#).

**Table 2: Facilities with Active Air Quality Permits**

Facility Name	Address	PI Number
Air Hangar Inc @ Mercer County Airport	Parkway Ave, West Trenton 08628	60896
Amerada Hess Corp-Hess Station 30239	1513 Princeton Ave, Trenton 08628	A6064
APCO Parkway Avenue Service Station	798 Parkway Ave, Ewing 08618	A3805
Baffa Roger-Romeco's	Spruce & Ewingville Roads, Trenton 08638	A6248
Bell Atlantic-New Jersey-Ewing BSC	771 Parkway Avenue, Ewing 08618	60456
Beneficial Insect Rearing Laboratory	State Police Dr, West Trenton 08625	61337
Captain Laundry	37 Scotch Rd, Ewing 08628	L9378
Care One @ Ewing	1201 Parkway Ave, Ewing 08628	61356
Carriage Trade Cleaners	1812 N Olden Ave, Ewing 08638	L9389
Carroll's Service Center	440 Grand Ave, West Trenton 08628	A6159
Central Baptist Church	2015 Pennington Rd, Trenton 08618	60644
C/O Kriegman and Smith, Inc.	1 Highgate Drive, Ewing 08638	60086
Coleman Auto Group Inc	1710 N Olden Ave, Ewing 08638	61136
College of New Jersey	2000 Pennington Rd, Ewing 08628	61008
Covenant Presbyterian Church	471 Parkway Ave, Trenton 08618	61283
Crest Ultrasonics Corp	Scotch Rd Mercer Cnty Airport, Ewing 08628	60012
ETS Measurement & Research Z Bldg	225 Phillips Blvd, Ewing 08638	60643
ETS Operations Service Ctr Q Bldg	1425 Lower Ferry Rd, Ewing 08628	61162
Ewing BP Service Station	1496 Pennington Rd, Ewing 08638	A5965
Ewing Cemetery Association, The	78 Scotch Rd, Ewing 08628	60151
Ewing-Lawrence Sewerage Auth 4th Street PS	373 4th St, Ewing 08638	60510
Ewing Texaco Service Station	2095 Pennington Rd, Ewing 08638	A6054
Ewing Twp Bd of Ed-Ewing High School	900 Parkway Ave, Ewing 08638	60654
Ewing Twp Bd of Ed-John F. Gusz Bldg	220 Ewingville Rd, Ewing 08638	60634
Ewing Twp Bd of Ed-Lare Elementary School	13 Westwood Drive, Ewing 08618	60650

Facility Name	Address	PI Number
Ewing Twp Bd of Ed-Parkway Elementary School	450 Parkway Ave, Ewing 08618	60581
Ewing Twp Complex	2 Jake Garzio Dr, Ewing 08628	61012
Exxon Service Station #36625	53 Grand Ave, West Trenton 08628	61097
Family Guidance Ctr	1925 Pennington Rd, Ewing 08618	61028
Ficarros Auto Body	21-23 Industry Ct, Ewing 08638	G6001
Fisher School	1325 Lower Ferry Rd, Ewing 08638	60559
FMC Corp	2281 Pennington Rd, Ewing 08628	61338
Fresenius Medical Care NA Ewing	1962 N Olden Ave, Ewing 08618	61396
Friends Forever Pet Crematory	1879 Pennington Rd, Ewing 08618	61496
Getty Service Station #57327	1590 Parkside Ave, Ewing 08638	61159
Greenpia Cleaners @ Birmingham Plz	1400 Parkway Ave, Ewing 08628	L8928
Greenwood House Home for the Jewish Aged	53 Walter St, Ewing 08628	61000
Homasote Co	Lower Ferry Rd, Ewing 08628	60976
Home Depot Inc #0976	1621 N Olden Ave, Ewing 08628	61256
I-95 Corporate Center	370 Scotch Rd, Ewing 08628	61330
Incarnation Church/School	1545 Pennington Road, Trenton 08618	60433
Johnson & Johnson Aviation Dept	Trenton Mercer Airport, West Trenton 08628	60431
JTC Petroleum Inc	1496 Pennington Rd, Trenton 08618	A6161
Kenny Cleaners	1680 Pennington Rd, Trenton 08618	L6082
Kuhn & Jacob Molding & Tool Co	120 Southard St, Ewing 08638	60197
Lukoil #57324	W Upper Ferry Rd & Grand Ave, West Trenton 08628	61231
Lukoil Service Station #57324	571 Grand Ave, Ewing 08628	A6035
Lukoil Service Station #57327	1590 Parkside Ave, Ewing 08638	A6046
Lukoil Service Station #57328	2085 Pennington Rd, Ewing 08618	A6047
MAACO Auto Painting Inc	1460 Prospect St, Ewing 08638	G6002
MCIA - Solid Waste Transfer Station	N Olden & Artic Pkwy, Ewing 08611	60454
Mercer County-Motor Pool	Scotch Rd.-Bldg. 4, Ewing 08628	H6053
Mercer County Special Services-Reed School	Buttonwood Dr, Trenton 08638	60472
Mercer Group International of NJ	3 Beakes St, Ewing 08618	61027
Merck Sharp & Dohme Corp	100 Sam Weinroth Rd, West Trenton 08628	61150
Mike's Budman Alignment & Body Works	18 Industry Ct, Trenton 08638	G6013
Mountain View Pump Station	1100 River Rd, Ewing 08628	60513

Facility Name	Address	PI Number
Mountain View Service Center Inc	941 Bear Tavern Rd, Ewing 08638	A6007
Naval Air Warfare Ctr Aircraft Division	1440 Parkway Ave, Ewing 08638	60014
New Jersey National Bank	Scotch Road, Ewing 08650	60011
NJDOC Central Reception & Assignment Facility	100 Sullivan Way, West Trenton 08628	61202
NJDOC-Jones Farm	Bear Tavern Rd, Trenton 08560	60466
NJDOT Trenton Headquarters Complex	1035 Parkway Ave, Ewing 08618	60090
NJDOT West Trenton Maintenance Facility	Bear Tavern Rd, West Trenton 08608	H8735
NILG UST1 NJ0005 Service Station	1071 Parkway Ave, Ewing 08618	A6236
NILG UST1 NJ0020 Service Station	1500 Pennington Rd, Ewing 08638	A5742
NJ Manufacturers Insurance Co	301 Sullivan Way, West Trenton 08628	60594
NJ Public Health Environ & Agric Laboratory	1034 River Rd, Trenton 08628	61369
NJ State Police-State Police Headquarters	Bldg 5-State Police Hdqt, West Trenton 08625	H6045
NJ State Public Health Env & Agricultural Lab	1034 River Rd, West Trenton 08628	61242
NJ Water Supply Auth D&R Canal Office	770 Bear Tavern Rd, West Trenton 08628	H8766
NJM Insurance Co	370 Sullivan Way, West Trenton 08628	61206
Office of Information & Technology Center	1 Schwartzkopf Dr, West Trenton 08625	61386
Our Lady of Good Council RC Church	137 W Upper Ferry Rd, Trenton 08628	60883
Parkway Apartments	695 Parkway Ave, Ewing 08618	61115
Parkway Sunoco Service Station	1252 Parkway Ave, Ewing 08628	A6210
Pennington Citgo Service Station	2098 Pennington Rd, Ewing 08618	A6080
Pfizer Aviation Facility @ Mercer Cty Airport	1001 Jack Stephan Way, West Trenton 08628	61121
Pflaumer Brothers Inc	1008 Whitehead Rd Ext, Ewing 08638	61300
Picernos Quality Fuels LLC	1543 Parkway Ave, Ewing 08628	A6213
Pierce Roberts Rubber Co	1450 Heath Ave, Ewing 08638	60224
Process Research Products	1013 Whitehead Rd Ext, Trenton 08638	60350
RBC Holdings Corp	Sullivan Way, Ewing 08628	60239
Record Storage Center	2300 Stuyvesant Ave, West Trenton 08625	61385
Redpoint Bio Corp	7 Graphics Dr, West Trenton 08628	61343
Reither Bros Garage	1570 Princeton Ave, Trenton 08628	A6176
Reither Brothers Garage	1570 Princeton Ave, Trenton 08628	61423
Riegel Printing Co	1 Graphics Dr, Ewing 08628	60610
Ronson Aviation	Trenton-Mercer Airport, West Trenton 08628	60104

Facility Name	Address	PI Number
Ross Trenton LLC	Scotch Rd - Trenton Mercer Airport, Ewing 08619	60427
Scotch Road Cleaners	184 Scotch Rd, Ewing 08628	L6079
Scotch Road Pump Station	384 Scotch Rd, Ewing 08628	61263
Shell Service Station	780 Parkway Ave, Trenton 08618	A6026
Shell Service Station #138522	780 Parkway Ave, Ewing 08618	A5739
Stouts Bus Service Inc	20 Irven St, Ewing 08638	61156
Suburban Square Cleaners	37 Scotch Road, Trenton 08618	L6062
Super G Supermarket #824	1556 N Olden Ave, Ewing 08638	61190
Trenton City Bd of Ed Dept of Bldgs & Grnds	1490 Prospect St, Ewing 08638	61229
Trenton Water Work-Ewing PS 3 Station	Silvia St at Deadend, Ewing 08628	61470
Universal Display Corp	375 Phillips Blvd, Ewing 08618	61171
Verizon Ewing Admin #59710	777 Parkway Ave, Ewing 08618	60442
Verizon Ewing Co (59660)	1606 Pennington Rd, Ewing 08618	60457
Verizon -Trenton DO #59930	1490 Prospect St, Ewing 08618	60449
Villa Victoria Academy	376 W Upper Ferry Rd, Trenton 08628	60453
Vinch Recycling	1607 N Olden Ave, Ewing 08638	60470
West Trenton AASF	Scotch Rd, West Trenton 08628	60653
West Trenton Pump House	2300 Stuyvesant Ave, West Trenton 08625	61384
West Trenton Volunteer Fire Dept	40 W Upper Ferry Rd, West Trenton 08628	61110
William L. Antheil School	339 Ewingville Rd, Ewing 08638	60649

Source: NJDEP, 2013.

NJDEP enacted the Emission Statement Rule in 1992, requiring certain sites that have an air quality permit to report specific air contaminants, including CO, (SO<sub>2</sub>, ammonia (NH<sub>3</sub>), respirable particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), Pb, total suspended particulate matter (TSP), VOC, NO<sub>x</sub>, and 38 other toxic air pollutants. Emission Statement reporting applies if a facility has a potential to emit on an annual basis five tons or greater Pb, ten tons or greater VOC, 25 tons or greater NO<sub>x</sub>, or 100 tons or greater of CO, SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, TSP, or NH<sub>3</sub>. Minor facilities are required to report emissions for CO, NO<sub>x</sub>, VOC, and TAPs. Major facilities are required to report emissions for CO, NO<sub>x</sub>, VOC, NH<sub>3</sub>, TSP, PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, CO<sub>2</sub>, CH<sub>4</sub> and TAPs. NJDEP makes the determination of whether a facility is considered minor or major based on the facility's potential to emit.

There are three facilities in Ewing that are required to submit emission statements: New Jersey Department of Transportation Trenton Headquarters Complex, Homasote Company, and the College of New Jersey. The reported emissions from these three facilities in 2012 are listed in [Table 3](#). The amount of each pollutant emitted is calculated in pounds per day (PPD) and tons per year (TPY).

**Table 3: Air Emission Statement Facilities, 2012**

PI Number	Facility Name	Facility Address	Facility City
<b>60990</b>	<b>NJDOT Trenton Headquarters Complex</b>	<b>1035 Parkway Ave</b>	<b>Trenton</b>
<b>Pollutant Name</b>	<b>O<sub>3</sub>-PPD</b>	<b>TPY</b>	<b>CO-PPD</b>
CO	4.28	4.920	53.17
NOx (Total)	6.08	2.330	
VOC (Total)	19.79	3.360	
<b>60976</b>	<b>Homasote Company</b>	<b>Off Lower Ferry Rd</b>	<b>West Trenton</b>
<b>Pollutant Name</b>	<b>O<sub>3</sub>-PPD</b>	<b>TPY</b>	<b>CO-PPD</b>
Acrolein		0.000	
Ammonia		0.040	
Arsenic compounds		0.000	
Chromium compounds		0.000	
CO	221.71	41.080	214.27
CO <sub>2</sub>		10,770.000	
Formaldehyde		0.011	
Methane		0.200	
NOx (Total)	20.67	5.000	
Pb		0.000	
PM-10 (Total)		5.050	
PM-2.5 (Total)		3.480	
Polycyclic organic matter		0.000	
SO <sub>2</sub>		0.180	
TSP		33.000	
VOC (Total)	28.68	5.330	
<b>61008</b>	<b>College of New Jersey</b>	<b>2000 Pennington Rd</b>	<b>Ewing</b>
<b>Pollutant Name</b>	<b>O<sub>3</sub>-PPD</b>	<b>TPY</b>	<b>CO-PPD</b>
Acrolein		0.002	
Ammonia		0.090	
CO	52.54	3.900	42.55
CO <sub>2</sub>		31,980.000	
Methane		2.660	
NOx (Total)	226.77	22.420	

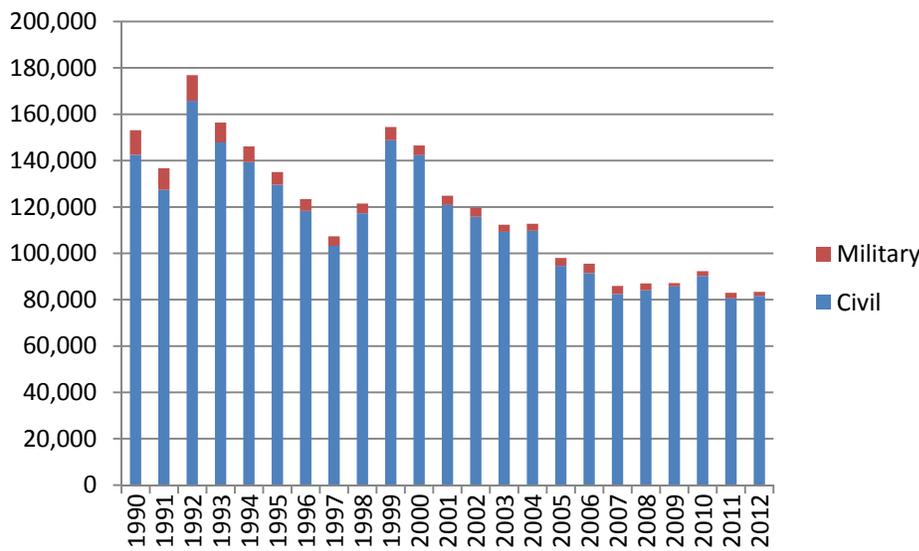
Pb		0.000	
PM-10 (Total)		7.360	
PM-2.5 (Total)		7.360	
Polycyclic organic matter		4.9E-04	
SO <sub>2</sub>		0.470	
TSP		7.370	
VOC (Total)	15.96	1.370	

Source: NJDEP, 2013.

### Trenton-Mercer Airport

The facility in Ewing with the greatest potential impact to air quality is the Trenton-Mercer Airport (TTN), located in the township. According to the Air Traffic Activity System, the number of flights logged at this airport has declined significantly from 1990, as shown in **Figure 9**. There were a total of 83,380 flights in 2012, down from a high of 176,882 in 1992. The introduction of Frontier Airlines in late 2012 has greatly increased the number of flights at the airport. However, a major construction project at the airport has led to the suspension of many flights in late 2013.

**Figure 9: Flights at Trenton-Mercer Airport, 1990-2012**



The exact calculation of emissions generated by flights at this airport is unknown. There are many variables that make the application of standard air quality models to aircraft operations very difficult. The emission rates from different types of aircraft are unknown, and the emissions vary greatly during different stages of departure, landing, and flight.

Source: FAA, 2013.

## Sources of Information

National Oceanic and Atmospheric Administration (NOAA) National Climatic Data Center (NCDC),  
<http://www.ncdc.noaa.gov>.

New Jersey Department of Environmental Protection (NJDEP) Air Quality Permitting Program,  
<http://www.nj.gov/dep/aqpp>.

New Jersey Department of Environmental Protection (NJDEP) Bureau of Air Monitoring, <http://www.njaqinow.net>.

Rutgers University Office of the New Jersey State Climatologist, <http://climate.rutgers.edu/stateclim>.

U.S. Department of Transportation Federal Aviation Administration (FAA). Air Traffic Activity System (ATADS),  
<http://www.faa.gov>.

U.S. Environmental Protection Agency (EPA) Air Quality Planning and Standards, <http://www.epa.gov/airquality>.



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