

Highlights

Improving public health by reducing air pollution and improving air quality is one of the U.S. Environmental Protection Agency's (EPA's) top priorities. This summary report presents EPA's most recent evaluation of our nation's air quality status and trends through 2010.

Levels of Six Common Pollutants Continue to Decline

- Cleaner cars, industries, and consumer products have contributed to cleaner air for much of the U. S.
- Since 1990, nationwide air quality has improved significantly for the six common air pollutants. These six pollutants are ground-level ozone, particle pollution [particles 2.5 micrometers in diameter and smaller ($PM_{2.5}$) and particles 10 micrometers and smaller (PM_{10})], lead, nitrogen dioxide (NO_2), carbon monoxide (CO), and sulfur dioxide (SO_2). Nationally, air pollution was lower in 2010 than in 1990 for:
 - 8-hour ozone, by 17 percent
 - 24-hour PM_{10} , by 38 percent
 - 3-month average lead, by 83 percent
 - annual NO_2 , by 45 percent
 - 8-hour CO, by 73 percent
 - annual SO_2 , by 75 percent

- Nationally, annual $PM_{2.5}$ concentrations were 24 percent lower in 2010 compared to 2001. 24-hour $PM_{2.5}$ concentrations were 28 percent lower in 2010 compared to 2001.
- Ozone levels did not improve in much of the East until 2002, after which there was a significant decline. 8-hour ozone concentrations were 13 percent lower in 2010 than in 2001. This decline is largely due to reductions in oxides of nitrogen (NO_x) emissions required by EPA rules including the NO_x State Implementation Plan (SIP) Call, preliminary implementation of the Clean Air Interstate Rule (CAIR), and Tier 2 Light Duty Vehicle Emissions Standards.
- Despite clean air progress, approximately 124 million people lived in counties that exceeded one or more national ambient air quality standard (NAAQS) in 2010, as shown in Figure 1. Ground-level ozone and particle pollution still present challenges in many areas of the country.

Levels of Many Toxic Air Pollutants Have Declined

- Total emissions of toxic air pollutants have decreased by approximately 42 percent between 1990 and 2005. Control programs for mobile sources and facilities such as chemical plants, dry cleaners, coke ovens, and incinerators are primarily responsible for these reductions.

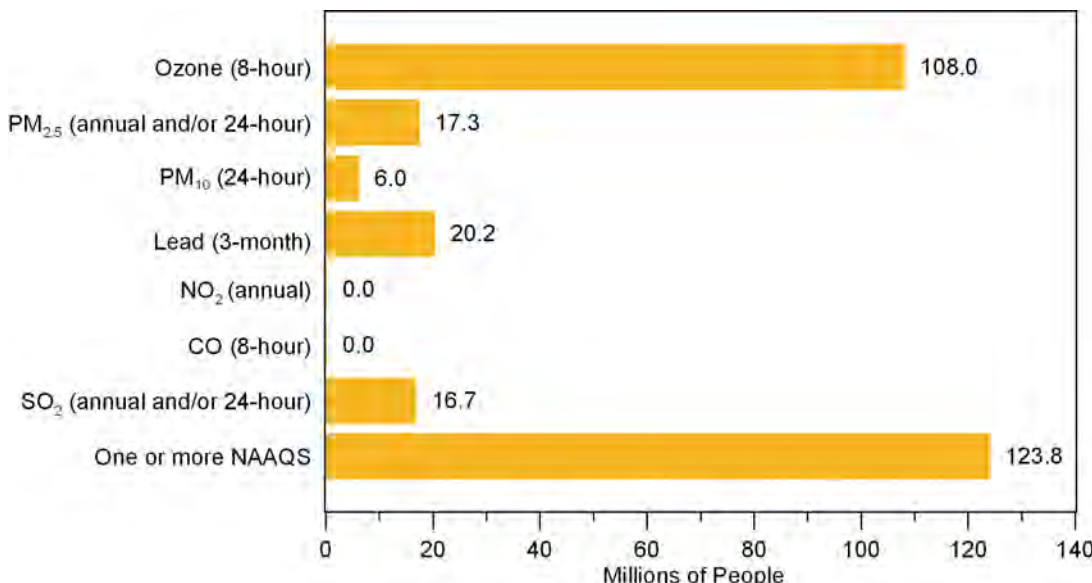


Figure 1. Number of people (in millions) living in counties with air quality concentrations above the level of the primary (health-based) National Ambient Air Quality Standards (NAAQS) in 2010.

Note: Projected population data for 2009 (U.S. Census Bureau, 2009). Ozone (8-hour) is based on the 2008 revised ozone NAAQS of 0.075 ppm. The revised 1-hour standards for NO_2 and SO_2 are not included.

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- Monitored concentrations of toxic pollutants such as benzene, 1,3-butadiene, ethylbenzene, and toluene decreased by 5 percent or more per year between 2003 and 2010 at more than half of ambient monitoring sites. Other toxic air pollutants of concern to public health such as carbon tetrachloride, formaldehyde, and several metals, declined at most sites.

Air Quality and Greenhouse Gases

- EPA has concluded that there is compelling evidence that many fundamental measures of climate in the United States (e.g., air temperature) are changing, and many of these changes are linked to the accumulation of greenhouse gases (GHGs) in the atmosphere. GHG emissions from the U.S. have increased by approximately 7 percent since 1990 and global GHG emissions are increasing at an even greater rate. Among other impacts, climate change also contributes to worsening air quality that can endanger public health.
- While reductions in emissions of long-lived GHGs like CO₂ will be essential for addressing

climate change in the long term, there are also climate benefits associated with reductions in certain short lived pollutants. In addition to known health benefits, reductions in black carbon particle pollution and ozone are also likely to lead to climate benefits.

More Improvements Anticipated

EPA expects air quality to continue to improve as recently adopted regulations are fully implemented and states work to meet current and recently revised national air quality standards. Key regulations include the Locomotive Engines and Marine Compression-Ignition Engines Rule, the Tier 2 Vehicle and Gasoline Sulfur Rule, the Heavy-Duty Highway Diesel Rule, the Clean Air Non-Road Diesel Rule, the Mobile Source Air Toxics Rule, the Cross State Air Pollution Rule and the Mercury and Air Toxics Standards.

