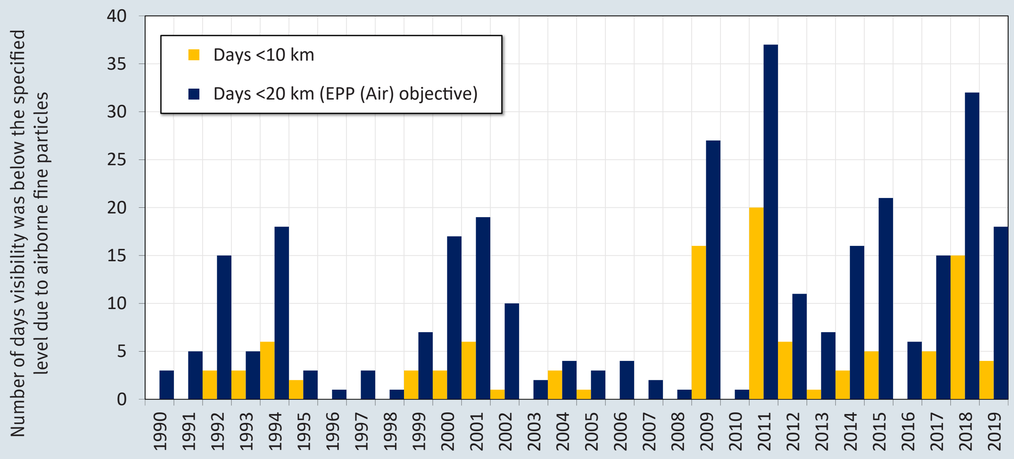
Air quality trends in Gladstone

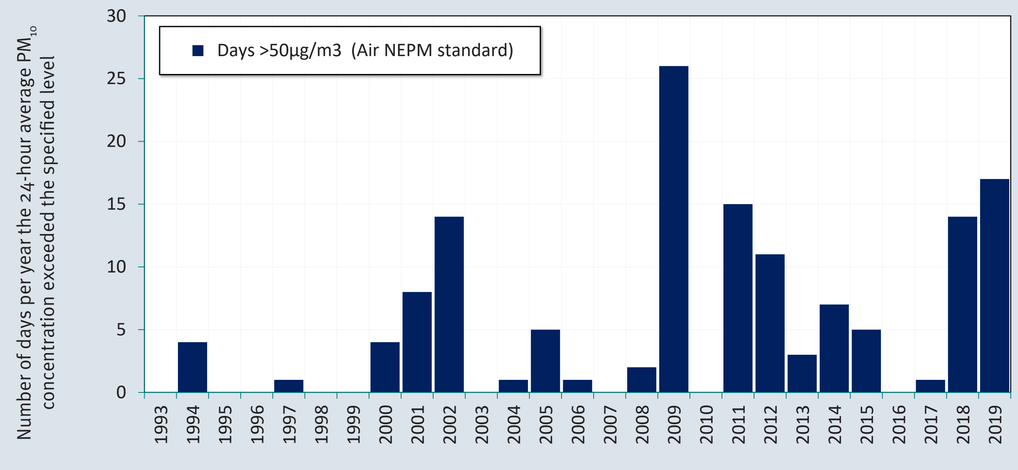
Airborne particles – Visibility-reducing particles

Reduced visibility is the result of aerosols and fine air particles, usually as smoke or haze. Dry conditions, grass fires, bushfires, hazard-reduction burns and agricultural burning can result in reduced visibility. There were more reduced-visibility days due to extensive fires and large-scale dust storms in 2009, and fires in 2011.



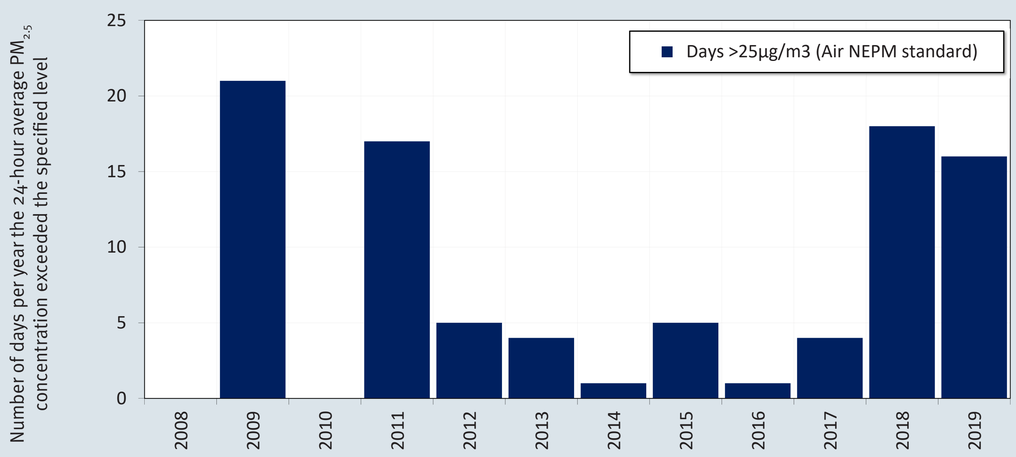
Airborne particles – PM10

Particles less than 10 micrometres in diameter, called PM10, are capable of penetrating the lower airways of humans and can lead to negative health effects. PM10 is generated by both combustion processes (e.g. motor vehicle engines, industrial boilers and bushfires) and mechanical processes (e.g. windblown dust, sea salt and construction activities). There were more days with measured PM10 levels above the Air NEPM standard due to extensive fires and large-scale dust storms in 2002 and 2009, and fires in 2011 and 2012.



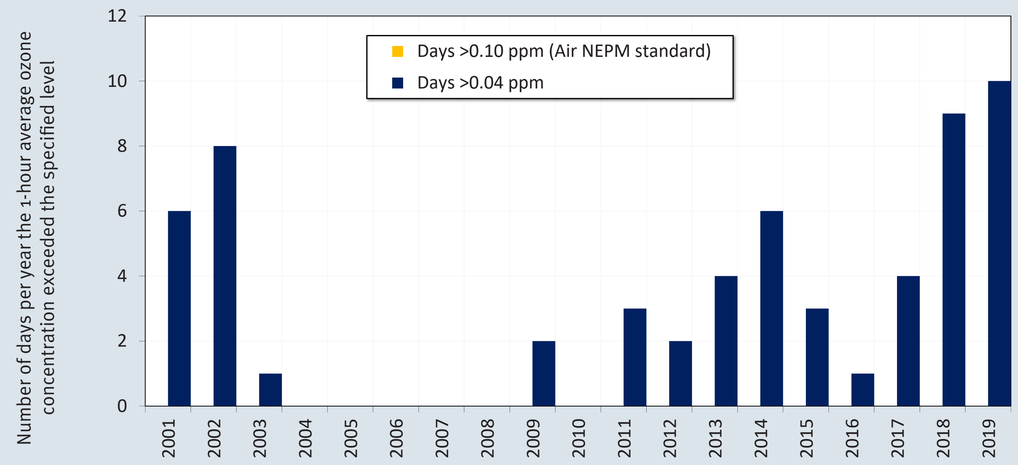
Airborne particles – PM2.5

Particles less than 2.5 micrometres in diameter, called PM2.5, are capable of penetrating the lower airways of humans and can lead to negative health effects. PM2.5 is mainly generated by combustion processes such as motor vehicle engines, industrial boilers and bushfires. There were more days with measured PM2.5 levels above the Air NEPM standard due to extensive fires and large-scale dust storms in 2009, and fires in 2011.



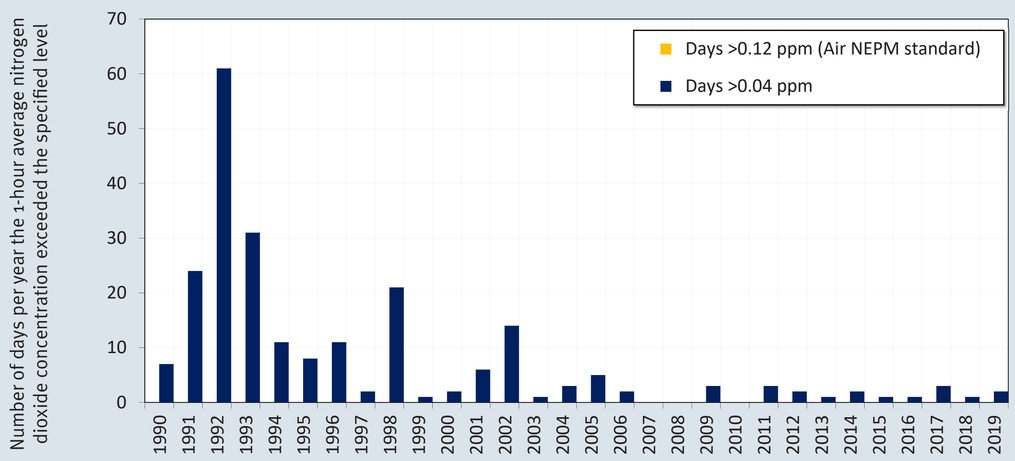
Photochemical smog as ozone

Photochemical smog is formed by reactions involving nitrogen oxides, volatile organic compounds and sunlight. In the Gladstone region, measured ozone levels have been well below the Air NEPM standard. However, an increase in urban growth and motor vehicle use could result in more days with higher ozone levels. Ozone was not monitored in 2007 and 2008.



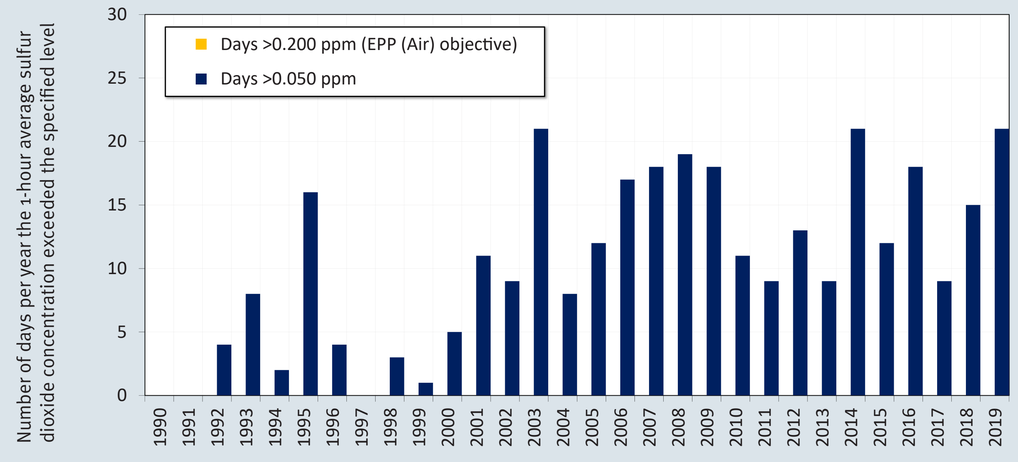
Nitrogen dioxide

Nitrogen dioxide is a product of high-temperature combustion processes, such as motor vehicle engines and industrial boilers. In the Gladstone region, measured nitrogen dioxide levels have been well below the Air NEPM standard. However, an increase in urban growth and motor vehicle use could result in more days with higher nitrogen dioxide levels.



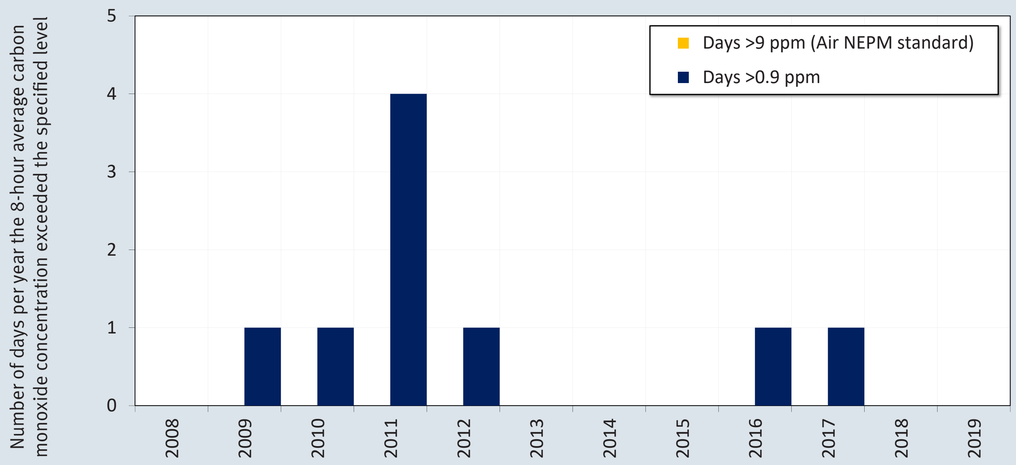
Sulfur dioxide

Sulfur dioxide is a product of combustion processes such as burning fossil fuels and smelting mineral ores that contain sulfur.
In the Gladstone region, measured sulfur dioxide levels have been well below the Air NEPM standard.



Carbon monoxide

Carbon monoxide is formed through incomplete combustion of fuels containing carbon, such as in motor vehicle engines and smelting operations. Carbon monoxide levels measured in the Gladstone region have been well below the Air NEPM standard.



Air quality has been measured at various sites in Gladstone since 1978.

The monitoring program identifies long-term trends in air quality across the region and assesses the effectiveness of air quality management strategies.

Measurements are compared with state and national air quality guidelines and standards to determine if the air quality is acceptable.

Monitoring stations are equipped with instruments that continuously measure a number of different air pollutants and meteorological parameters.

Meteorological observations provide information on air movements and likely pollutant transport.

For more information about air quality in Queensland, visit the department's website ‹http://www.qld.gov.au/environment/pollution/monitoring/air/› or email ‹air.sciences@des.qld.gov.au›