

Air quality



Particles (PM₁₀)

South Australia's
Environmental trend and condition report card 2018

STATEWIDE



Trend
Getting better



Condition
Good



Reliability
Very good

Trend

Annual average levels of ambient particles (PM₁₀) have declined at key monitoring regions in South Australia since 2005.

PM₁₀ are solid or liquid matter smaller than 10 micrometres (0.01 mm) in diameter suspended in Earth's atmosphere. This assessment is of the annual average level of PM₁₀ at 10 air quality monitoring stations across metropolitan Adelaide, Port Pirie and Whyalla (top figure).

Between 2005 and 2011, the annual average level of ambient PM₁₀ in each region reduced. Since 2011, the annual average level in each region has stabilised (bottom figure).

The decline in PM₁₀ is linked to wetter conditions after the millennium drought (2001–2009) due to overall reductions in airborne dust.

Recent declines in manufacturing, investments in modern technology and management practices (such as at the Whyalla steelworks) have also led to reductions in PM₁₀ particle emissions.

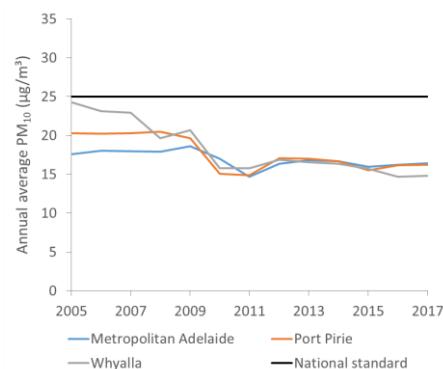
Condition

The condition of ambient PM₁₀ levels in South Australia is rated as good.

In 2017, the annual average level of PM₁₀ averaged 16.4 micrograms per cubic metre ($\mu\text{g}/\text{m}^3$) in metropolitan Adelaide, 14.8 $\mu\text{g}/\text{m}^3$ in Whyalla, 16.2 $\mu\text{g}/\text{m}^3$ in Port Pirie and 16.6 $\mu\text{g}/\text{m}^3$ in Port Augusta. These are all below the national standard of 25 $\mu\text{g}/\text{m}^3$ (bottom figure).

Note that monitoring in Port Augusta only started in March 2017 in response to local dust events. Also, past monitoring suggests that winter air quality in Mount Gambier may have been poor at times, primarily due to domestic wood smoke.

Annual average PM₁₀ concentrations have decreased since 2005 and remain below the national standard



Why is air quality important?

Ambient particles are the greatest air quality-related risk to human health, especially in urban areas.

PM₁₀ are small enough to be inhaled into the lungs, and finer ones can even enter the bloodstream. Both short-term and long-term exposure to particles can have health impacts, which may include premature death, aggravation of cardiovascular and respiratory diseases, and cancer.

Particle pollution can also affect ecosystems, agriculture and visibility.

What are the pressures?

Levels of ambient particles are influenced by emissions from a range of sources, including transport; domestic, industrial, commercial, agricultural, forestry and mining activities; and the use of energy and resources. Increasing population numbers and higher-density living are placing increased pressure on our ability to manage ambient particle levels and reduce community exposure.

Climate change is another pressure, with predictions of more frequent extreme events likely to result in further exposure to particles in dust and smoke.

What is being done?

All levels of government are collaborating with organisations and different sectors to better understand and reduce the risks from air pollution. The South Australian Government maintains a network of monitoring stations to measure and track pollutant levels. Other programs include the National Clean Air Agreement, regulation of industry, vehicle fuel quality standards, engine emissions standards, product standards for wood heaters and small engines, modernising transport infrastructure, and investments in modern technology and renewable energy.

For further information see: [technical information](#)



This report is a work in progress. As resource monitoring improves, so too will our ability to describe trends in condition. Licensed under [Creative Commons Attribution 4.0 International License](#). © Crown in right of the State of South Australia.



Government of
South Australia