

Air quality

Particles (PM₁₀)

SA trend and condition report card 2020

PM₁₀

STATEWIDE



Trend
Stable



Condition
Fair



Reliability
Very good

Trend

In South Australia, annual average levels of ambient particles (PM₁₀) show a fluctuating pattern that is linked to rainfall patterns. Since 2017, PM₁₀ levels have been increasing.

PM₁₀ particles 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 and the Spencer region (including Port Pirie and Whyalla) (top figure).

Between 2005 and 2017, ambient levels of PM₁₀ particles either reduced or remained stable at all monitoring stations. Since 2017, PM₁₀ levels have been increasing (bottom figure).

The decline in PM₁₀ particles in the 2000s is linked to reduced airborne dust due to wetter conditions after the Millennium Drought (2001–09) and recent declines in manufacturing. However, below-average rainfall in many parts of South Australia in 2018 and 2019 have contributed to an increase in dust levels.

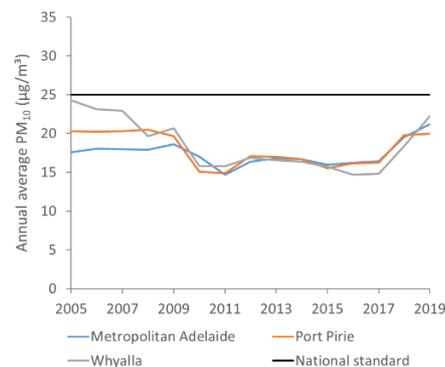
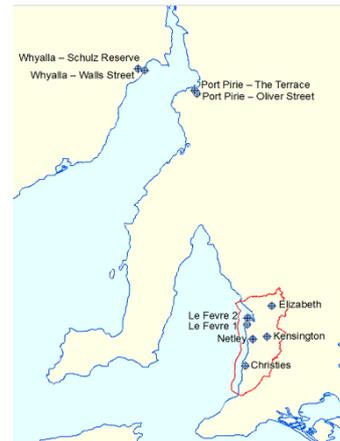
Condition

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

In 2019, the long-term levels of PM₁₀ particles averaged 21.2 micrograms per cubic metre (µg/m³) in metropolitan Adelaide, 22.2 µg/m³ in Whyalla and 19.9 µg/m³ in Port Pirie. These are all below the national standard of 25 µg/m³ (bottom figure).

Annual average PM₁₀ particle concentrations have increased since 2017 due to below-average rainfall patterns. However, they remain below the national standard.

Air quality monitoring stations across metropolitan Adelaide and the Spencer region



Why is air quality a problem?

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

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

Particle pollution can also affect ecosystems and agriculture, and reduce visibility (due to haze or dust storms).

What are the pressures?

Levels of ambient particles are influenced by emissions from a range of inputs, 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 emissions.

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

What is being done?

All levels of government are collaborating with other 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 and engine emissions standards, product standards, 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