Monitoring air quality across NSW

Australia's largest and longest-running air quality monitoring network

The NSW Government operates Australia's largest air quality monitoring network – with more than 90 stations providing the community with accurate, up-to-date information on an hourly basis.

The NSW Air Quality Monitoring Network (AQMN) includes stations across several integrated networks monitoring air quality and meteorological conditions. These stations assess general population exposures, and compliance with national standards in metropolitan areas and regional centres including:

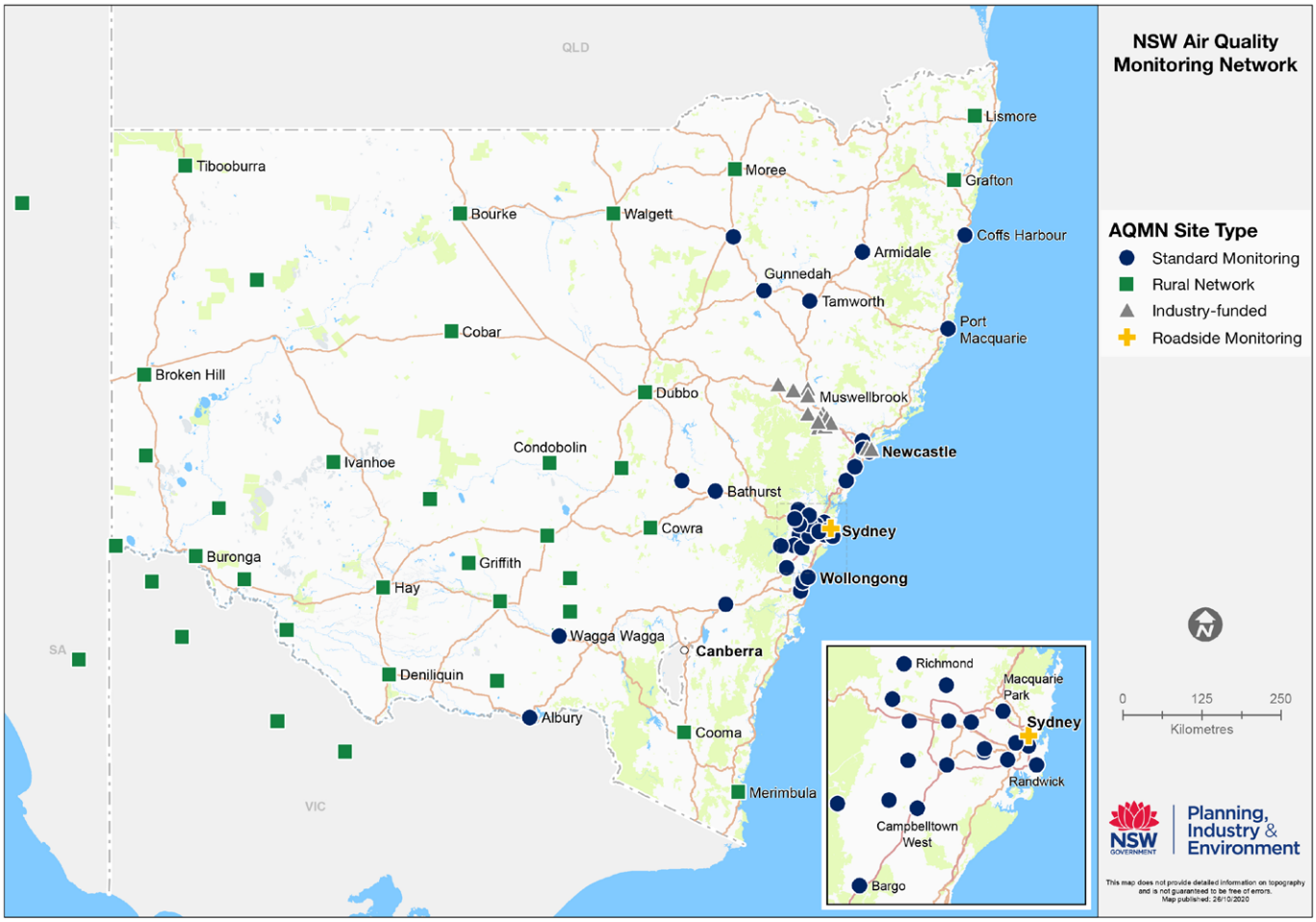
- Greater Sydney
- Illawarra
- Lower Hunter
- Central Coast
- Central and Southern Tablelands
- Industry-funded, government-operated networks in the North West Slopes, Newcastle and Upper Hunter regions.

Additionally, monitoring of particles using indicative monitors is undertaken at:

- rural and regional New South Wales
- rural Victoria and South Australia

Other monitoring work includes:

- roadside monitoring at Milsons Point
- support for emergency incident monitoring and research into air quality in New South Wales.



Accreditation and standards

As a jurisdiction performing compliance reporting for air quality monitoring, we are accredited by the National Association of Testing Authorities (NATA). Our facility complies with the requirements of ISO/IEC 17025.

What do we monitor?

Stations within the AQMN can continuously measure particles (PM10, PM2.5), sulfur dioxide (SO_2), carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2) and visibility.

Our meteorological monitoring includes wind speed and direction, air temperature, humidity, rainfall and solar radiation.

Rural air quality monitoring

The Rural Air Quality Monitoring Network (RAQMN) is another component of the statewide network. Particle concentrations are measured using indicative monitors at sites across regional and rural NSW, and further sites in Victoria and South Australia as early warning sites for dust storms.

Formerly known as DustWatch, it incorporates the original aims of the community-supported program, which monitors and reports on regional wind erosion. Upgrades to these stations during 2019 to 2021 add the capability to monitor PM2.5, and help to deliver real-time air quality data for communities in rural and regional NSW.

Monitoring air pollution incidents

Large bushfires and industrial accidents pose a risk to the health and well-being of NSW communities. Timely access to best available information on air pollution and associated health risks is needed to inform emergency management responses to major incidents.

The NSW Government has established air pollution incident response monitoring capabilities for incidents lasting several days or longer. Portable monitoring pods are equipped with compliance air quality monitors and meteorological monitors, and are fitted with communications systems for rapid transfer of information to the NSW Government air quality website. For instance, during the 2019-20 Black Summer bushfires, nine emergency monitors were deployed across the State.

Understanding particle composition

Black carbon is a major component of fine particle pollution in urban areas and has effects on urban air quality, public health and global climate. Fine particles are directly emitted into the air during the incomplete combustion of fossil fuels used for transport, heating and industrial activities, and from vegetation fires.

We are using seven wavelength aethalometers at locations in metropolitan and regional NSW to provide information on the likely sources contributing fine particle pollution.

Sensors in NSW

The NSW Government is collaborating with leading research partners and environment agencies in other jurisdictions to design and deploy sensor networks for real-time air pollution mapping. Data from sensor networks will be integrated with high quality AQMN data, regional airshed modelling and remote sensing information. This will be useful for investigating intra-urban mapping of air quality to gauge pollution levels in local communities and transport corridors, and assessing the impact of smoke from bushfires and planned burns.

For more information

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