Air quality monthly summary report – January 2013

Issued February 2013

Introduction

One of the EPA's environmental goals is clean and healthy air. To support this goal the EPA conducts ambient air quality monitoring at locations around the state.

This report contains a summary of the previous month's air quality based on data from the EPA's monitoring network. This data, where applicable, is compared to the standards and goals set out in the National Environment Protection (Ambient Air Quality) Measure (NEPM).

Details on the NEPM, along with locations of monitoring stations and the parameters measured at each site can be found on the EPA website:

To assist in interpreting the information provided the following formats have been implemented.

- Values represented in the graphs are the maximum concentration recorded for each day for the given averaging period. Concentrations that are larger than the maximum allowed in the standard are recorded as exceedences. Each parameter that is measured has a target goal of a maximum number of exceedences allowed, with the aim being to not breach the goal.
- Exceedence days in BLACK provide the total number of exceedence days for the year.
- Exceedence days in RED indicate an exceedence of the NEPM standard this current month.
- Exceedence days in **BOLD** indicate the total number of exceedence days for the year and indicate a breach of the NEPM goal. Bold can be either black or red and once a site has breached the goal all subsequent results for the year will be reported this way.

1 Adelaide region

Of the pollutants defined in the Air NEPM, pollution from fine particles and nitrogen dioxide are among the greatest challenges to managing air quality across metropolitan Adelaide, with the bulk of emissions coming from motor vehicles and domestic sources; significant contributions from industrial sources; and on occasions, from planned burning, bushfires and dust storms. They are also the primary focus of a National Plan for Clean Air, being developed by Australian governments between 2011 and 2014.

Fine particles are often a complex mixture of materials arising from many sources, but are generally grouped into two categories, called PM_{10} and $PM_{2.5}$, where the number gives an idea of the range of sizes of particles. Both are able to enter the lungs and are known to have health effects (see glossary for further information on the nature and effects of particles).

Nitrogen dioxide (NO_2) mostly comes from combustion of fuels such as petrol, diesel or gas. Although it is generally found at concentrations below the national standard in Adelaide, recent Australian research suggests that it may still cause health effects in our communities (see glossary for further information).

While there is considerable variation in the mix of sources in different parts of the metropolitan area, air pollution knows no boundaries, so emissions in one area may well affect air quality in another. The impacts of emissions into our air depend heavily on the weather conditions on any day. For example, very still conditions over the city for several days allow pollutants to build up, leading at times to concentrations above the national standards. In contrast, very windy conditions across the State can raise dust into the air, resulting in exceedences of standards in Adelaide and regional population centres.

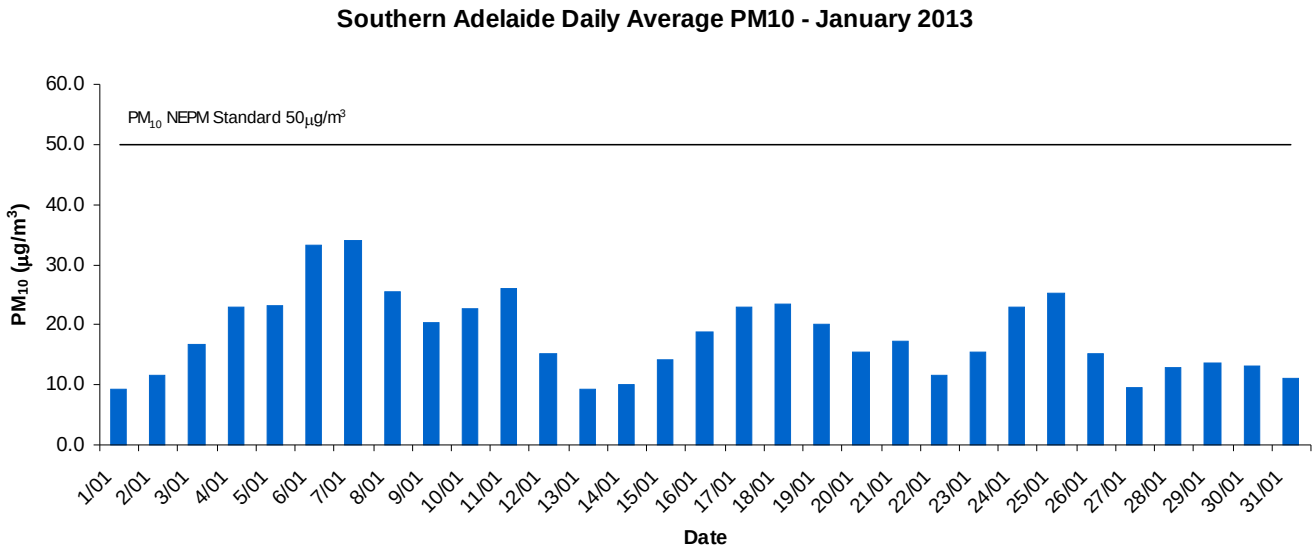
1.1 Southern Adelaide

Air quality in Southern Adelaide was generally good this month.

1.1.1 Particles (PM_{10})

- The 24-hour NEPM Standard for PM_{10} particles was exceeded on 0 occasions at Southern Adelaide this month.
- Total NEPM Exceedence days for 2013

  Southern Adelaide: 0
- This is less than the NEPM Goal of 5 per year.

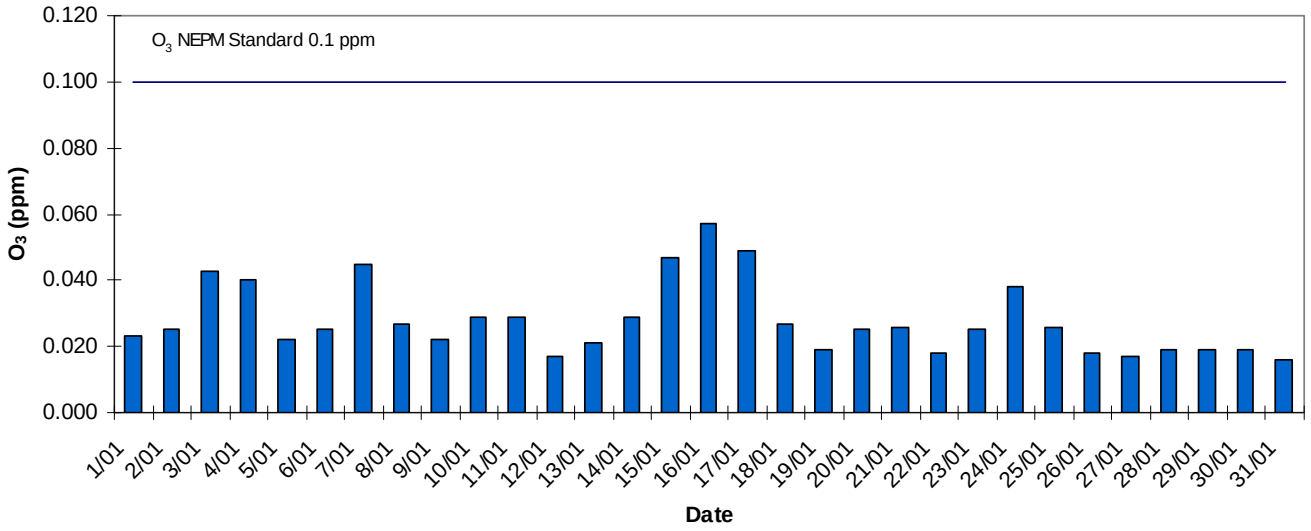


1.1.2 Ozone

- The 1-hour NEPM Standard for ozone was exceeded on 0 occasions at Southern Adelaide in this month.
- Total NEPM Exceedence days for 2013

  Southern Adelaide: 0
- This is less than the NEPM Goal of once per year.

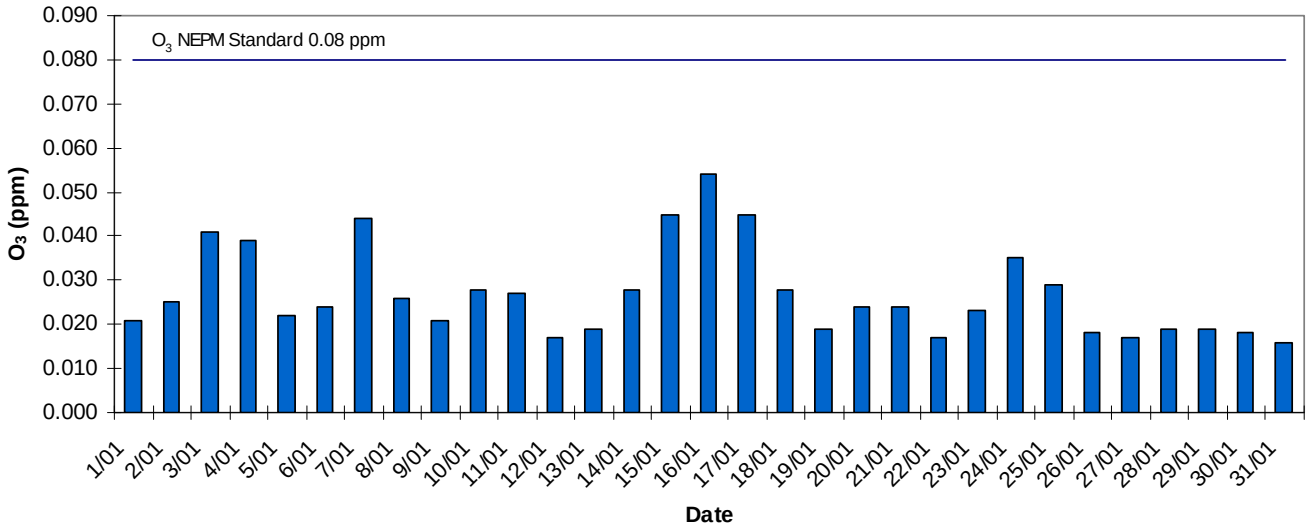
Southern Adelaide 1 Hr Daily Maxima O3 - January 2013



- The 4-hour NEPM Standard for ozone was exceeded on 0 occasions at Southern Adelaide in this month.
- Total NEPM Exceedence days for 2013

  Southern Adelaide: 0
- This is less than the NEPM Goal of once per year.

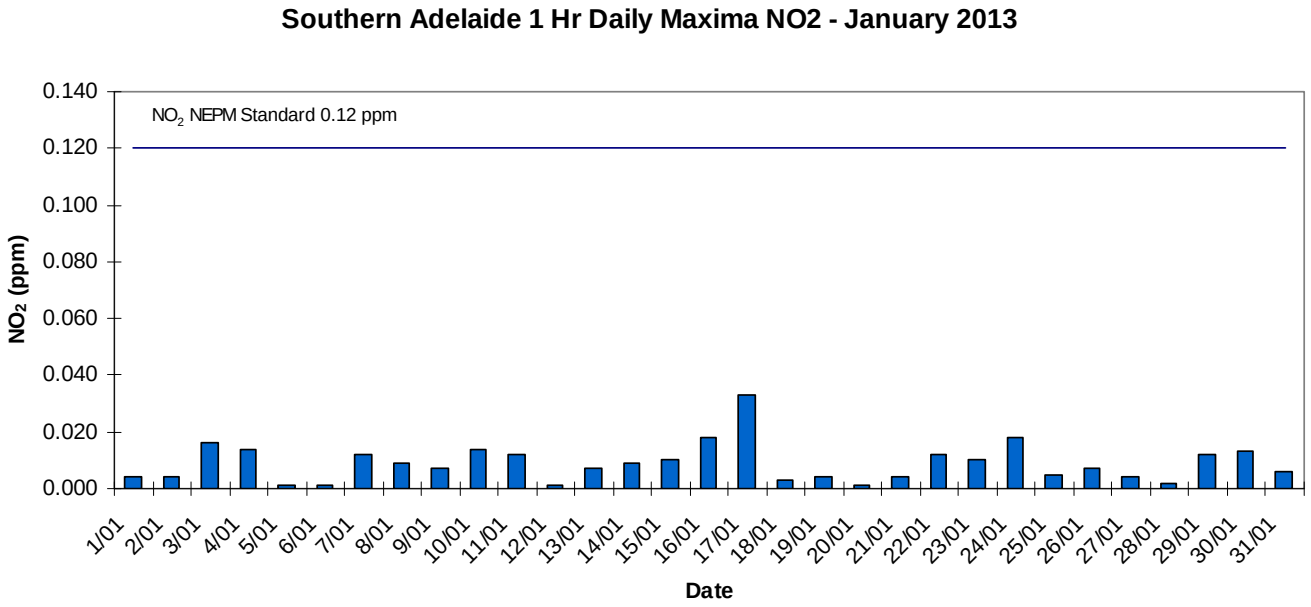
Southern Adelaide 4 Hr Daily Maxima O3 January 2013



1.1.3 Nitrogen dioxide

- The 1-hour NEPM Standard for nitrogen dioxide was exceeded on 0 occasions at Southern Adelaide in this month.
- Total NEPM Exceedence days for 2013

  Southern Adelaide: 0
- This is less than the NEPM Goal of once per year.



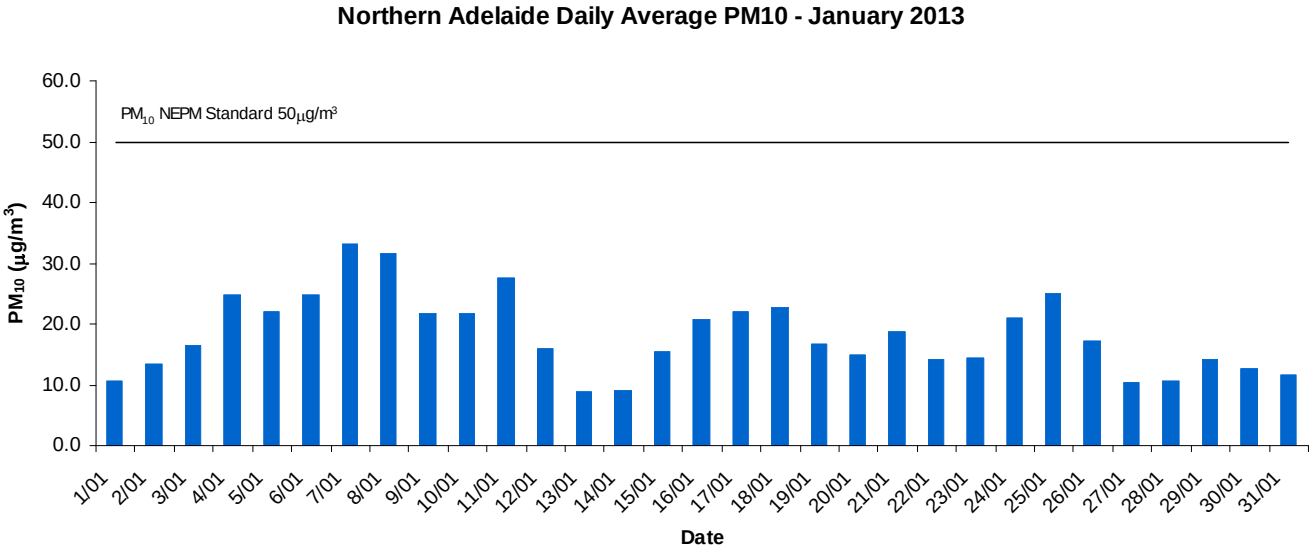
1.2 Northern Adelaide

Air quality in Northern Adelaide was generally good this month.

1.2.1 Particles (PM_{10})

- The 24hr NEPM Standard for PM_{10} particles was exceeded on 0 occasions at Northern Adelaide this month
- Total NEPM Exceedence days for 2013

  Northern Adelaide: 0
- This is less than the NEPM Goal of 5 per year.

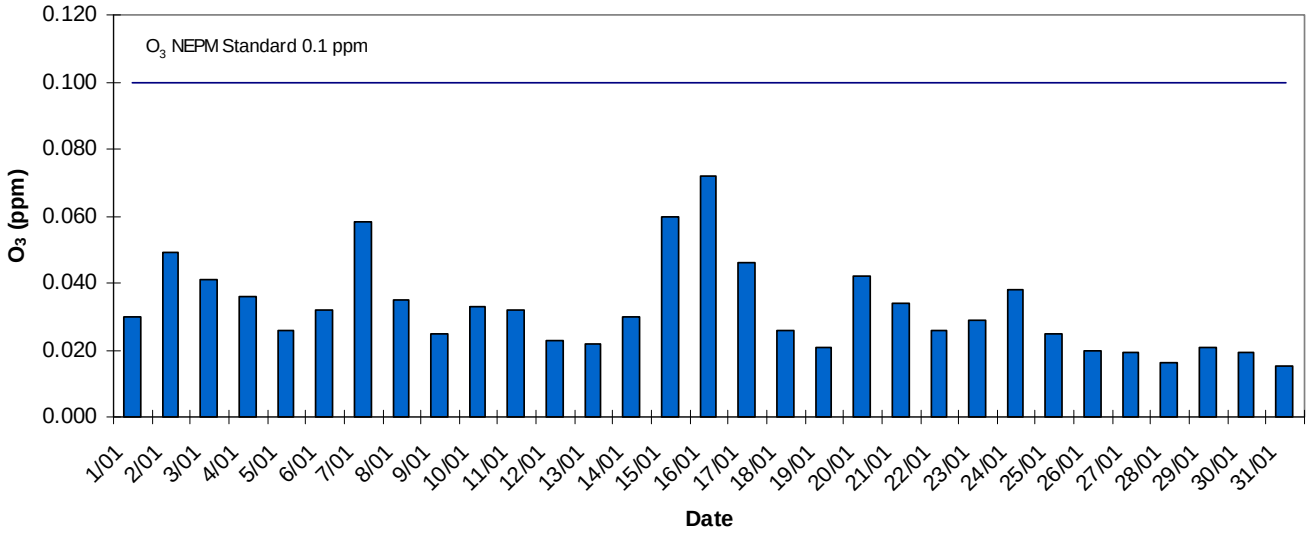


1.2.2 Ozone

- The 1-hour NEPM Standard for ozone was exceeded on 0 occasions at Northern Adelaide in this month.
- Total NEPM Exceedence days for 2013

  Northern Adelaide: 0
- This is less than the NEPM Goal of once per year.

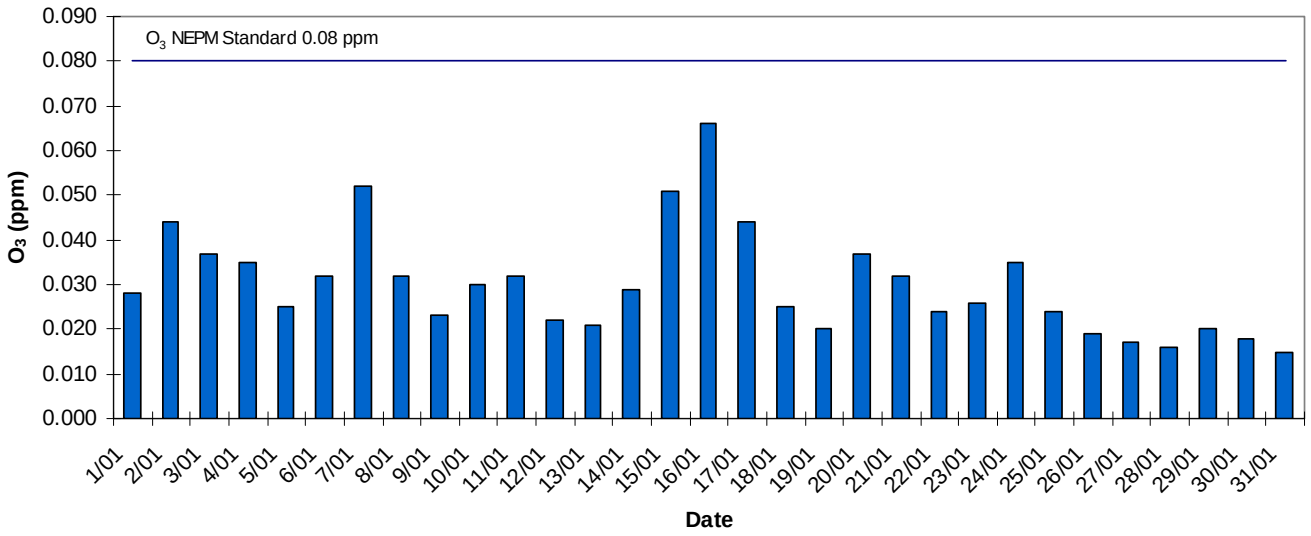
Northern Adelaide 1 Hr Daily Maxima O3 - January 2013



- The 4-hour NEPM Standard for ozone was exceeded on 0 occasions at Northern Adelaide in this month.
- Total NEPM Exceedence days for 2013

  Northern Adelaide: 0
- This is less than the NEPM Goal of once per year.

Northern Adelaide 4 Hr Daily Maxima O3 January 2013

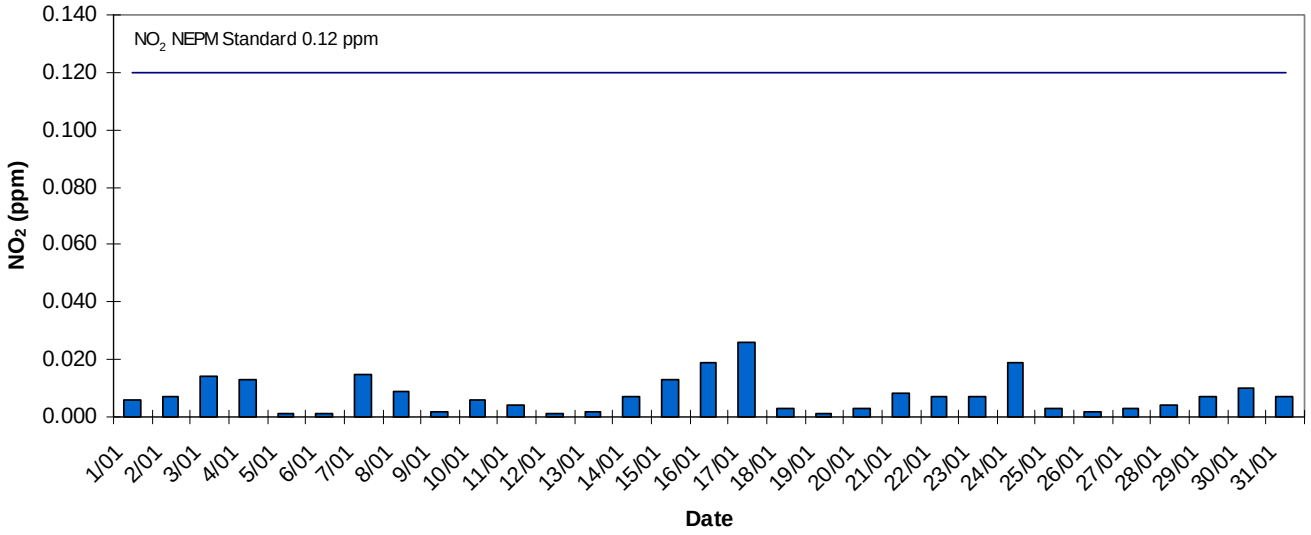


1.2.3 Nitrogen dioxide

- The 1-hour NEPM Standard for nitrogen dioxide was exceeded on 0 occasions at Northern Adelaide in this month.
- Total NEPM Exceedence days for 2013

  Northern Adelaide: 0
- This is less than the NEPM Goal of once per year.

Northern Adelaide 1 Hr Daily Maxima NO2 - January 2013

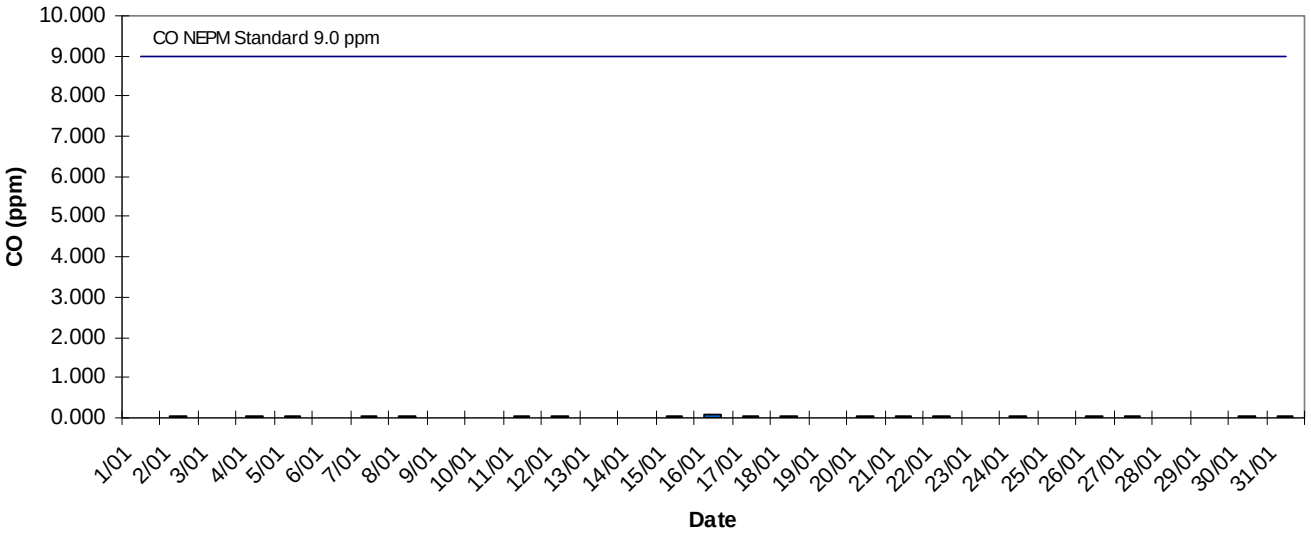


1.2.4 Carbon monoxide

- The 8-hour NEPM Standard for carbon monoxide was exceeded on 0 occasions at Northern Adelaide in this month.
- Total NEPM Exceedence days for 2013

  Northern Adelaide: 0
- This is less than the NEPM Goal of once per year.

Northern Adelaide 8 Hr Daily Maxima CO - January 2013



1.3 Eastern Adelaide

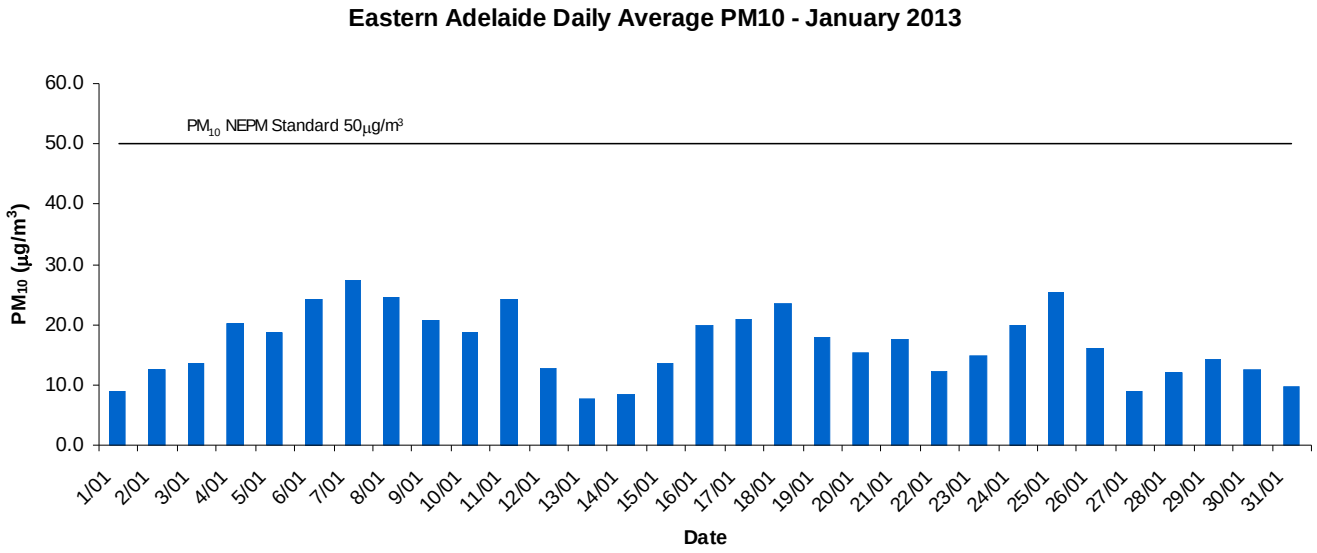
Air quality in Eastern Adelaide was good this month.

1.3.1 Particles (PM_{10})

- The 24-hour NEPM Standard for PM_{10} particles was exceeded on 0 occasions at Eastern Adelaide this month
- NEPM Exceedence days for 2013

Eastern Adelaide: 0

- This is less than the NEPM Goal of 5 per year.

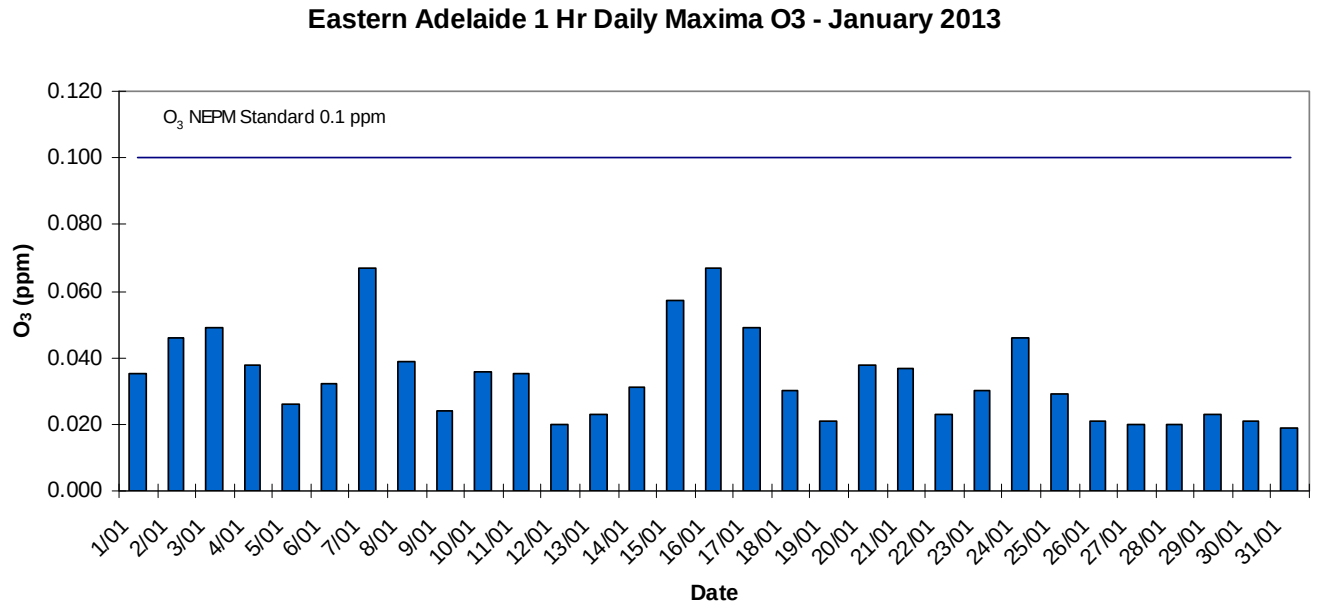


1.3.2 Ozone

- The 1-hour NEPM Standard for ozone was exceeded on 0 occasions at Eastern Adelaide in this month.
- Total NEPM Exceedence days for 2013

  Eastern Adelaide: 0

- This is less than the NEPM Goal of once per year.

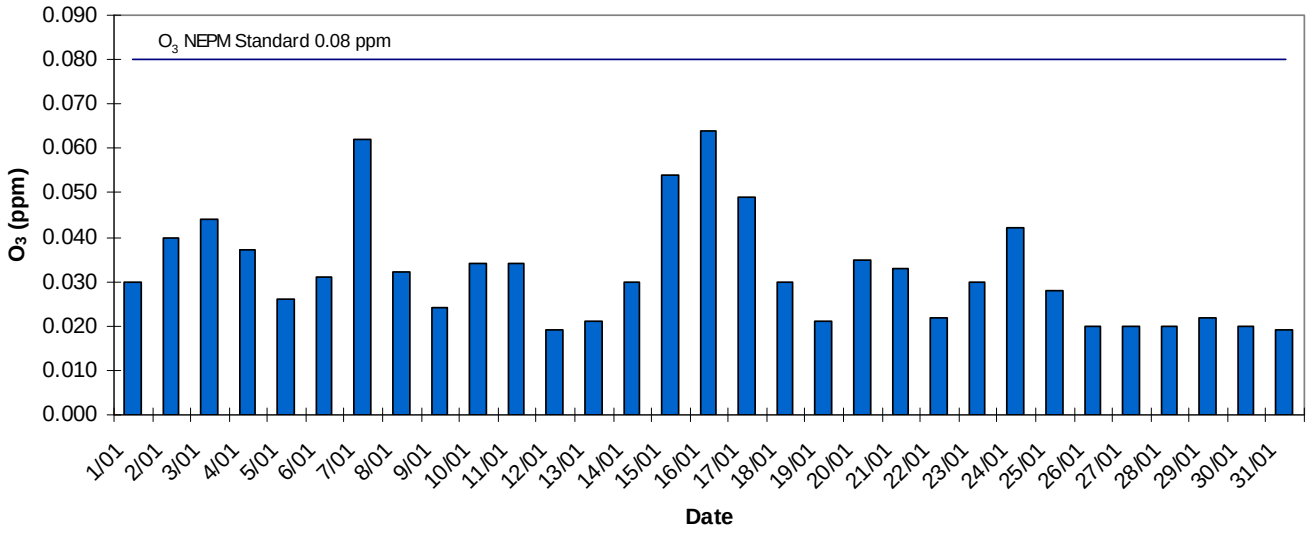


- The 4-hour NEPM Standard for ozone was exceeded on 0 occasions at Eastern Adelaide in this month.
- Total NEPM Exceedence days for 2013

  Eastern Adelaide: 0

- This is less than the NEPM Goal of once per year.

Eastern Adelaide 4 Hr Daily Maxima O3 January 2013

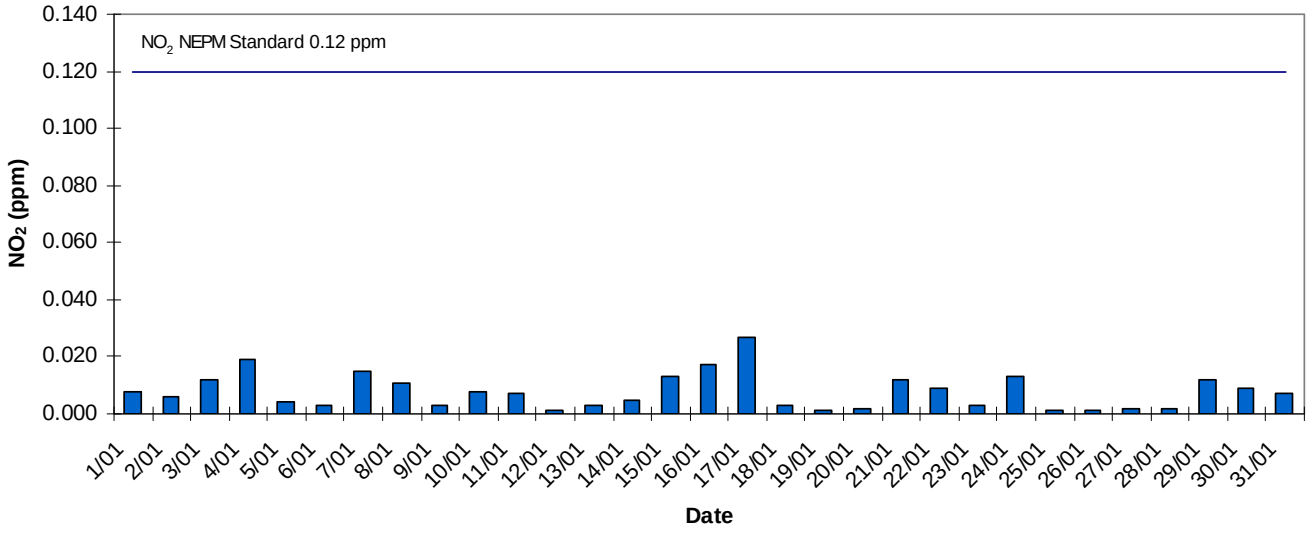


1.3.3 Nitrogen dioxide

- The 1-hour NEPM Standard for nitrogen dioxide was exceeded on 0 occasions at Eastern Adelaide in this month.
- Total NEPM Exceedence days for 2013

  Eastern Adelaide: 0
- This is less than the NEPM Goal of once per year.

Eastern Adelaide 1 Hr Daily Maxima NO2 - January 2013



1.4 Northwestern Adelaide

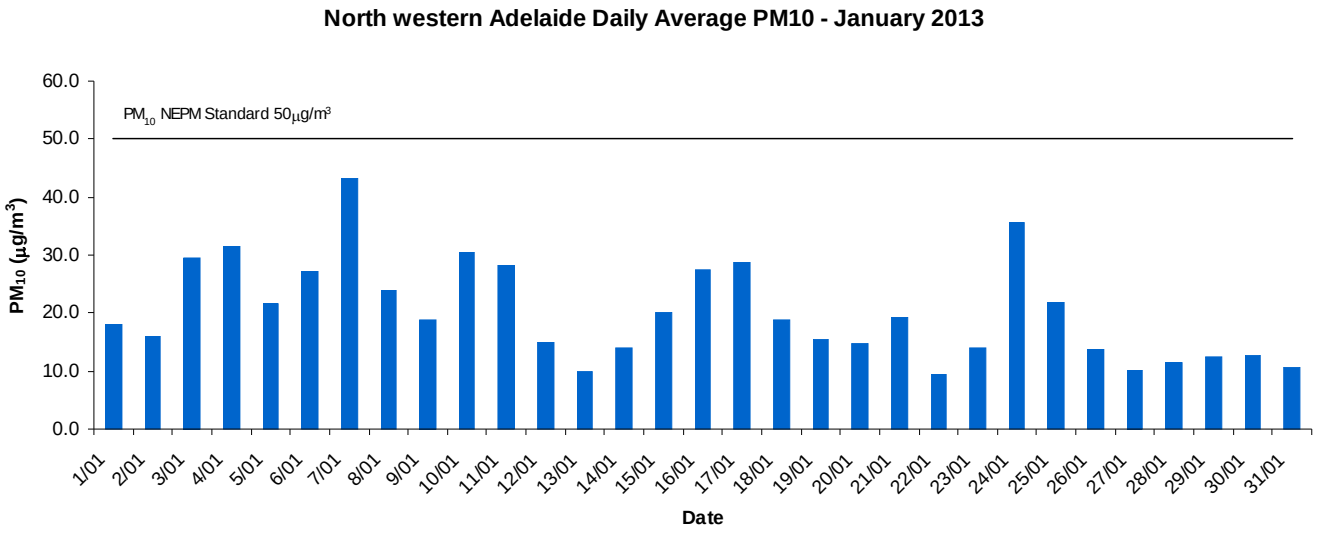
Air quality in Northwestern Adelaide was generally good this month

1.4.1 Particles (PM_{10})

- The 24-hour NEPM Standard for PM_{10} particles was exceeded on 0 occasions at Northwestern Adelaide this month.
  Total NEPM Exceedence days for 2013

Northwestern Adelaide[1]: 0

- This is less than the NEPM Goal of 5 per year.



1.4.2 Western Adelaide

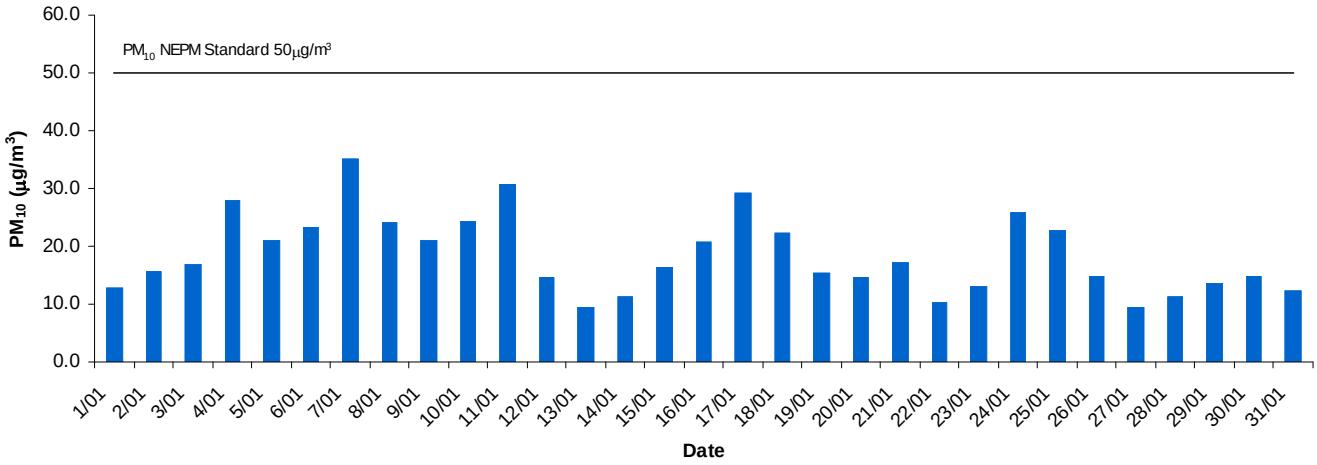
Air quality in Western Adelaide was generally good this month.

1.4.3 Particles (PM_{10})

- The 24-hour NEPM Standard for PM_{10} particles was exceeded on 0 occasions at Western Adelaide this month.
- Total NEPM Exceedence days for 2013

  Western Adelaide: 0

- This is less than the NEPM Goal of 5 per year.



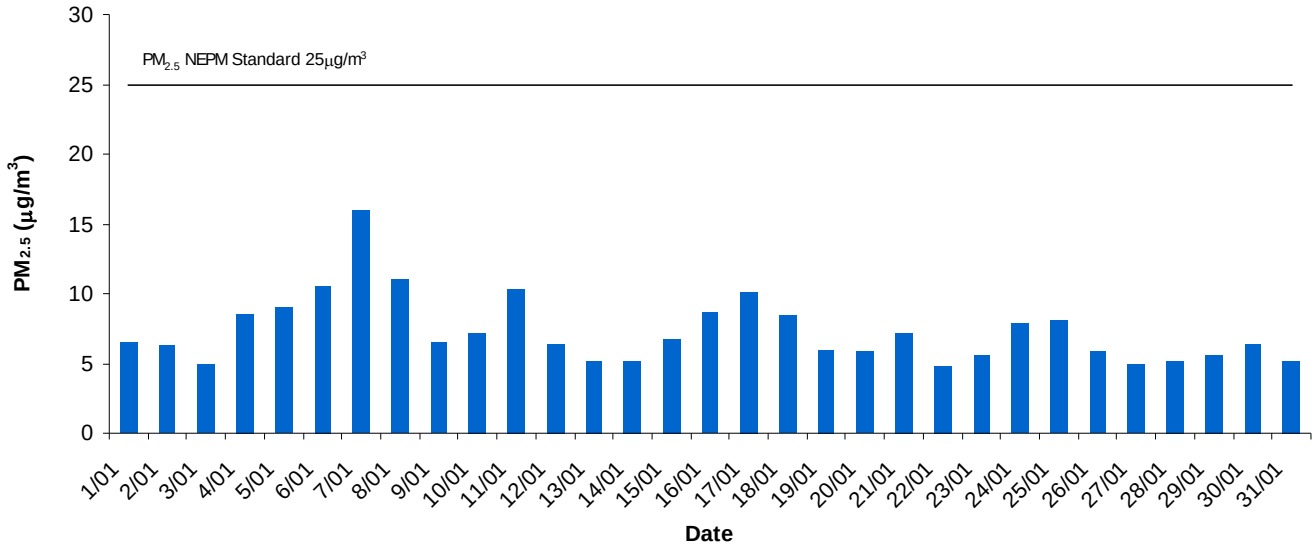
[1] The number provided here is for information/comparison purposes only and does not contribute to the NEPM assessment of the air quality of the region.

1.5 Particles ($PM_{2.5}$)

- The 24-hour NEPM Advisory Standard for $PM_{2.5}$ particles was exceeded on 0 occasions at Western Adelaide this month.
- Total NEPM Exceedence days for 2013

  Western Adelaide: 0

Western Adelaide Daily Average PM2.5 - January 2013



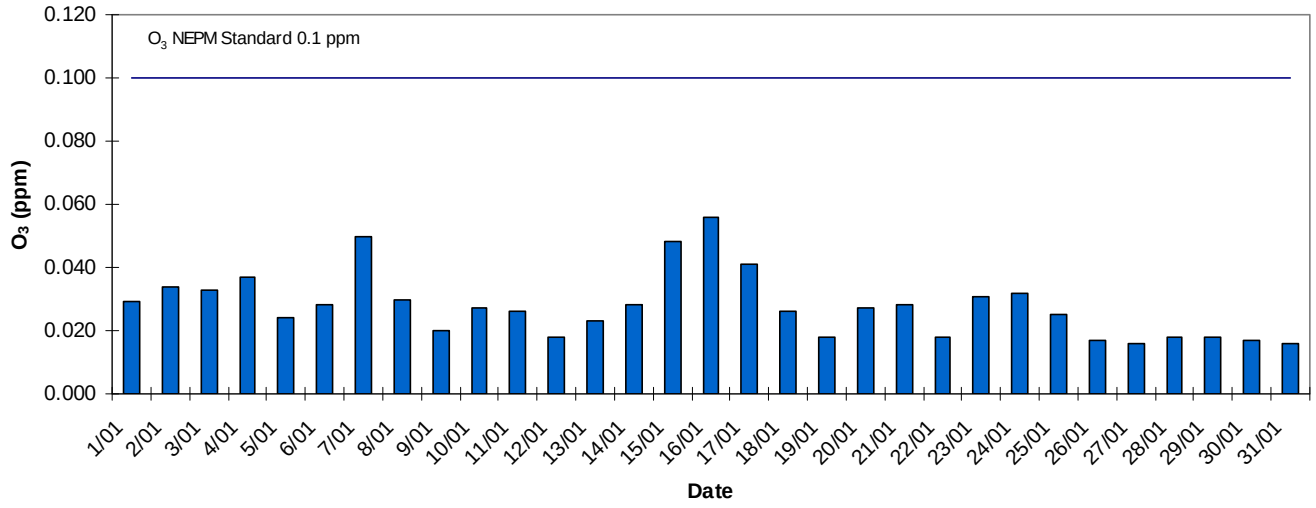
1.5.1 Ozone

- The 1-hour NEPM Standard for ozone was exceeded on 0 occasions at Western Adelaide in this month.
- Total NEPM Exceedence days for 2013

  Western Adelaide: 0

- This is less than the NEPM Goal of once per year.

Western Adelaide 1 Hr Daily Maxima O3 - January 2013



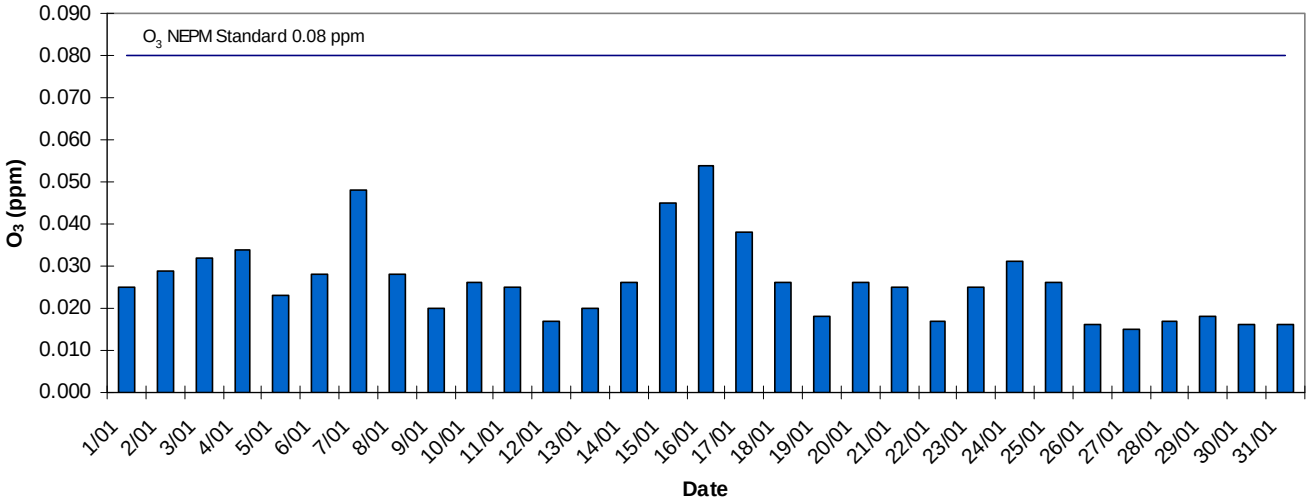
The 4-hour NEPM Standard for ozone was exceeded on 0 occasions at Western Adelaide in this month.

- Total NEPM Exceedence days for 2013

Western Adelaide: 0

- This is less than the NEPM Goal of once per year.

Western Adelaide 4 Hr Daily Maxima O3 January 2013



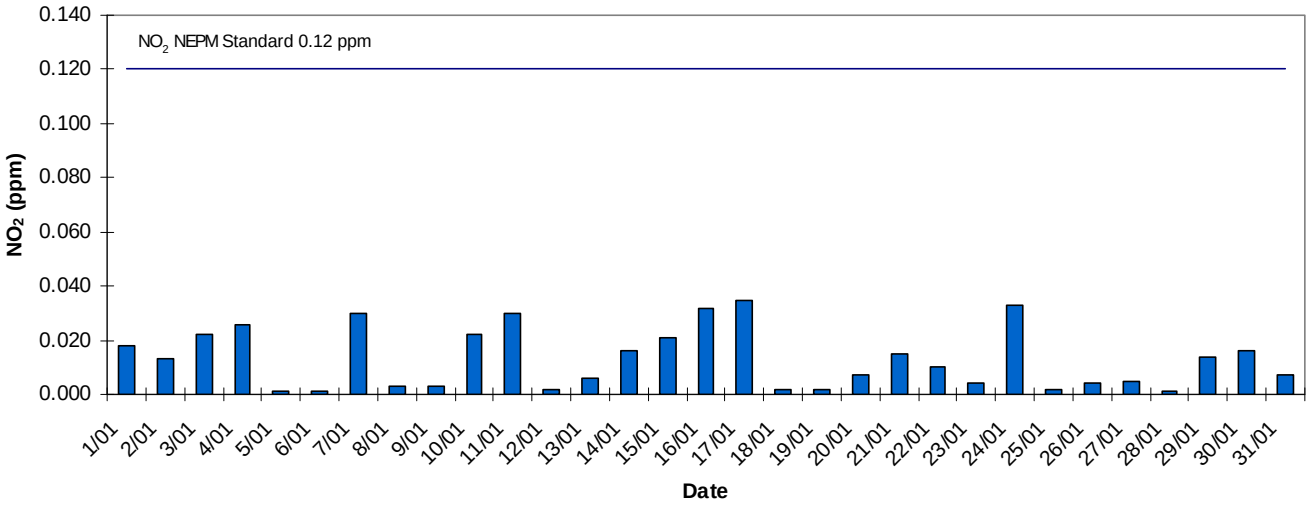
1.5.2 Nitrogen dioxide

- The 1-hour NEPM Standard for nitrogen dioxide was exceeded on 0 occasions at Western Adelaide in this month.
- Total NEPM Exceedence days for 2013

  Western Adelaide: 0

- This is less than the NEPM Goal of once per year.

Western Adelaide 1 Hr Daily Maxima NO2 - January 2013



1.6 Northeastern Adelaide

Air quality in Northeastern Adelaide was good this month

1.6.1 Ozone

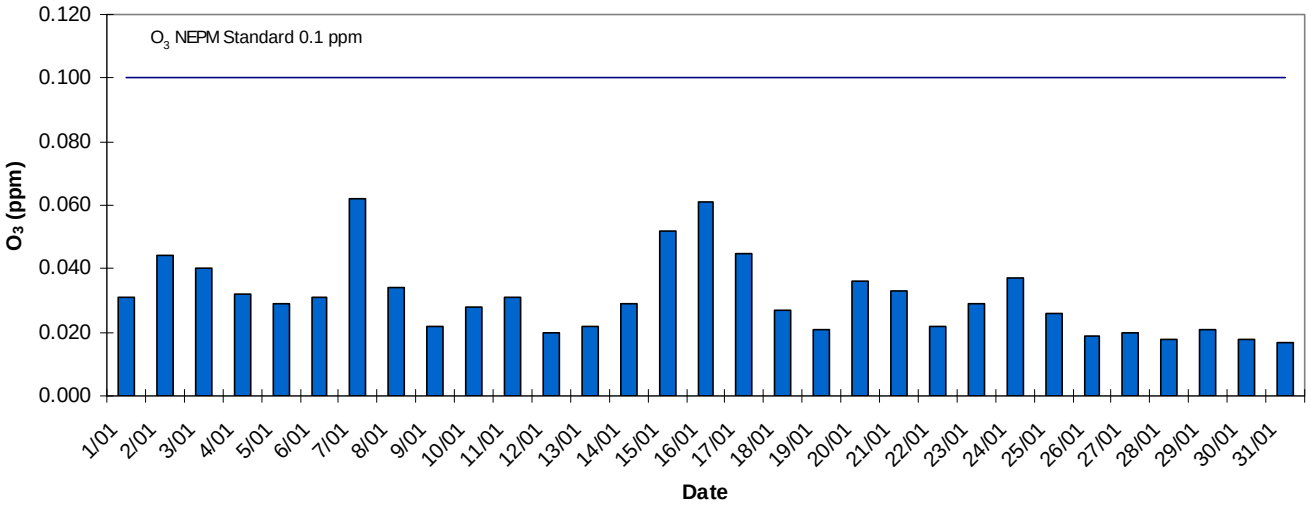
- The 1-hour NEPM Standard for ozone was exceeded on 0 occasions at Northeastern Adelaide in this month.

- Total NEPM Exceedence days for 2013

  Northeastern Adelaide: 0

- This is less than the NEPM Goal of once per year.

North eastern Adelaide 1 Hr Daily Maxima O3 - January 2013

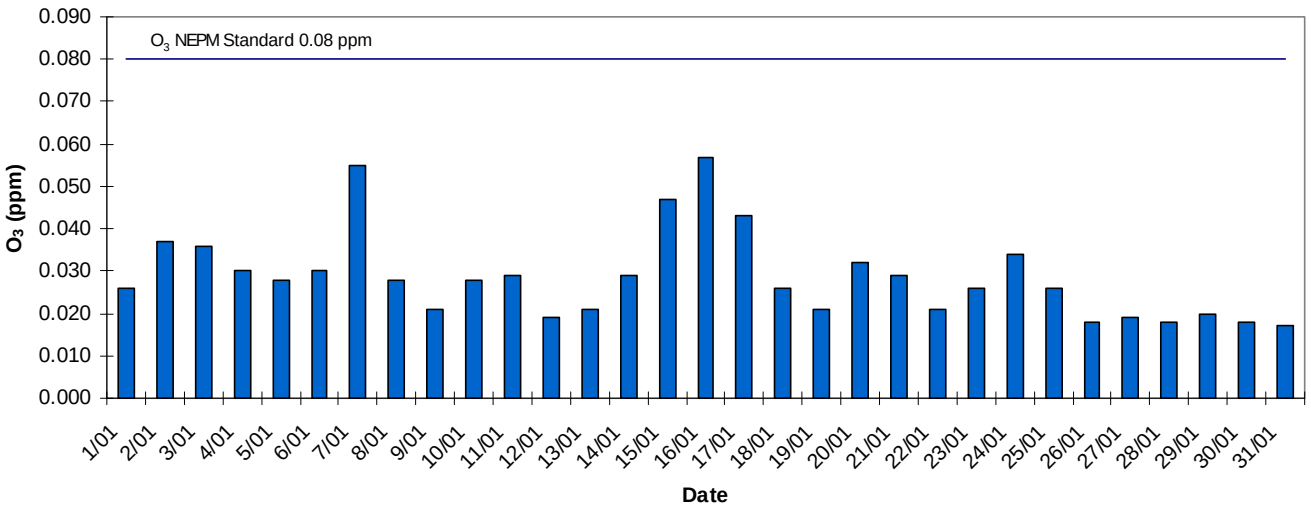


- The 4-hour NEPM Standard for ozone was exceeded on 0 occasions at Northeastern Adelaide in this month.
- Total NEPM Exceedence days for 2013

  Northeastern Adelaide: 0

- This is less than the NEPM Goal of once per year.

North eastern Adelaide 4 Hr Daily Maxima O3 January 2013



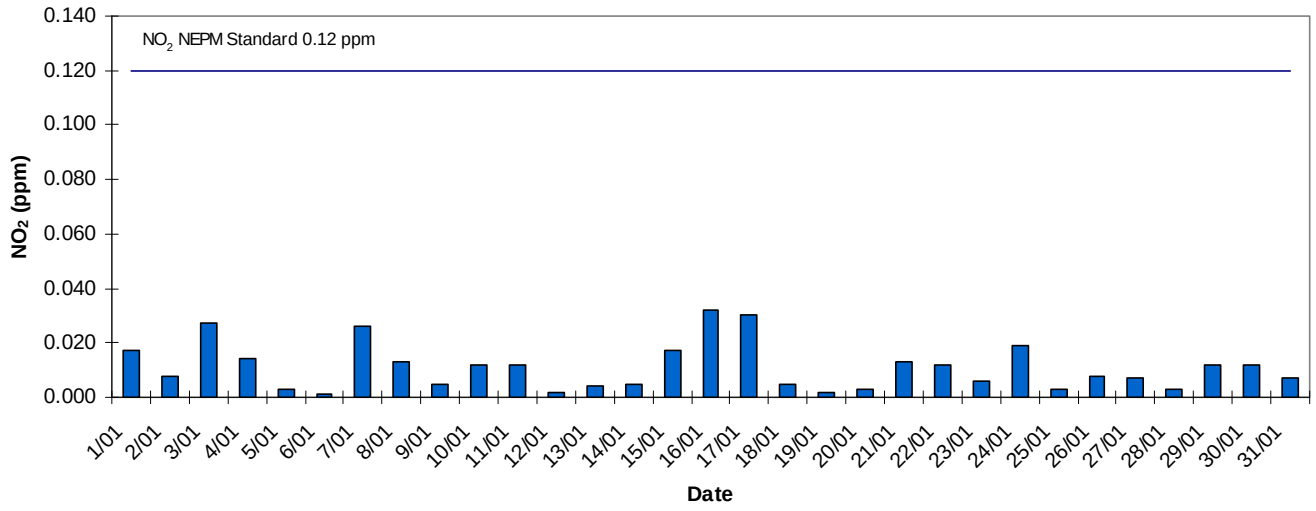
1.6.2 Nitrogen dioxide

- The 1-hour NEPM Standard for nitrogen dioxide was exceeded on 0 occasions at Northeastern Adelaide in this month.
- Total NEPM Exceedence days for 2013

  Northeastern Adelaide: 0

- This is less than the NEPM Goal of once per year.

North eastern Adelaide 1 Hr Daily Maxima NO2 - January 2013



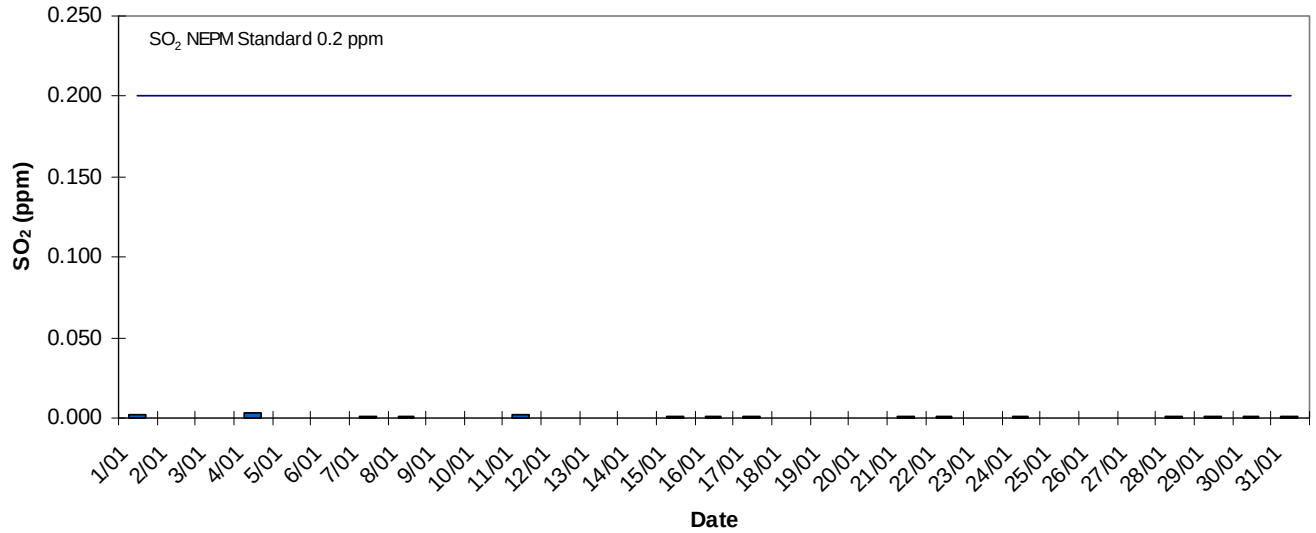
1.6.3 Sulfur dioxide

- The 1-hour NEPM Standard for sulfur dioxide was exceeded on 0 occasions at Northeastern Adelaide in this month.
- Total NEPM Exceedence days for 2013

  Northeastern Adelaide: 0

- This is less than the NEPM Goal of once per year.

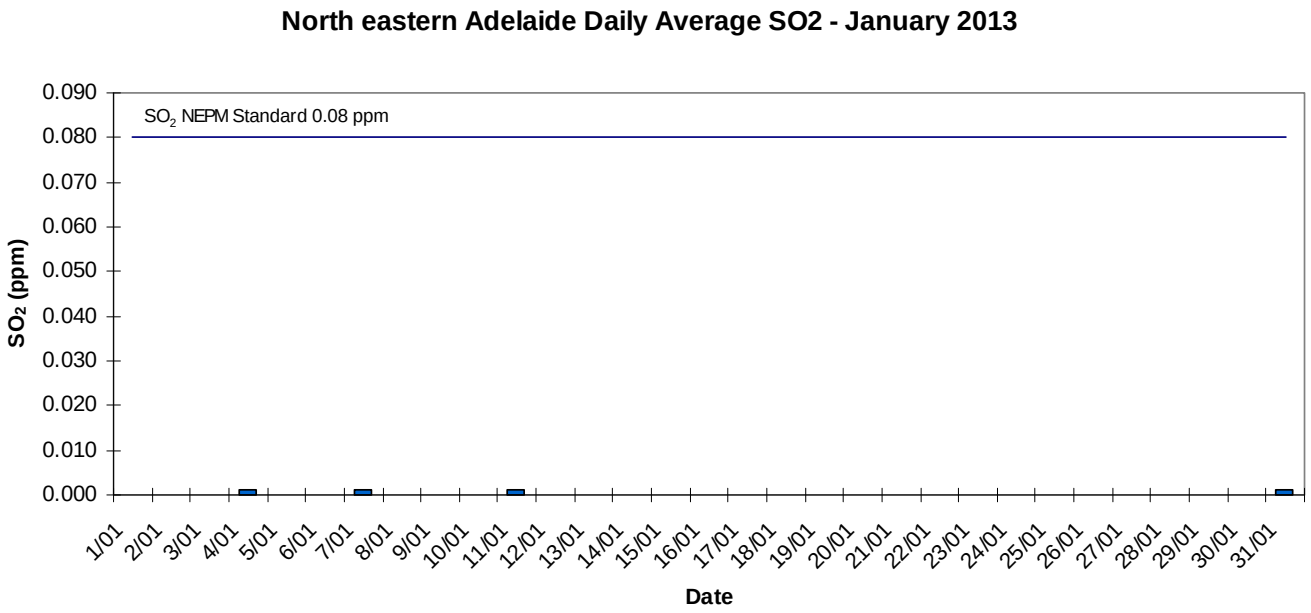
North eastern Adelaide 1 Hr Daily Maxima SO2 January 2013



- The 24-hour NEPM Standard for sulfur dioxide was exceeded on 0 occasions at Northeastern Adelaide in this month.
- Total NEPM Exceedence days for 2013

  Northeastern Adelaide: 0

- This is less than the NEPM Goal of once per year.



2 Spencer Gulf region

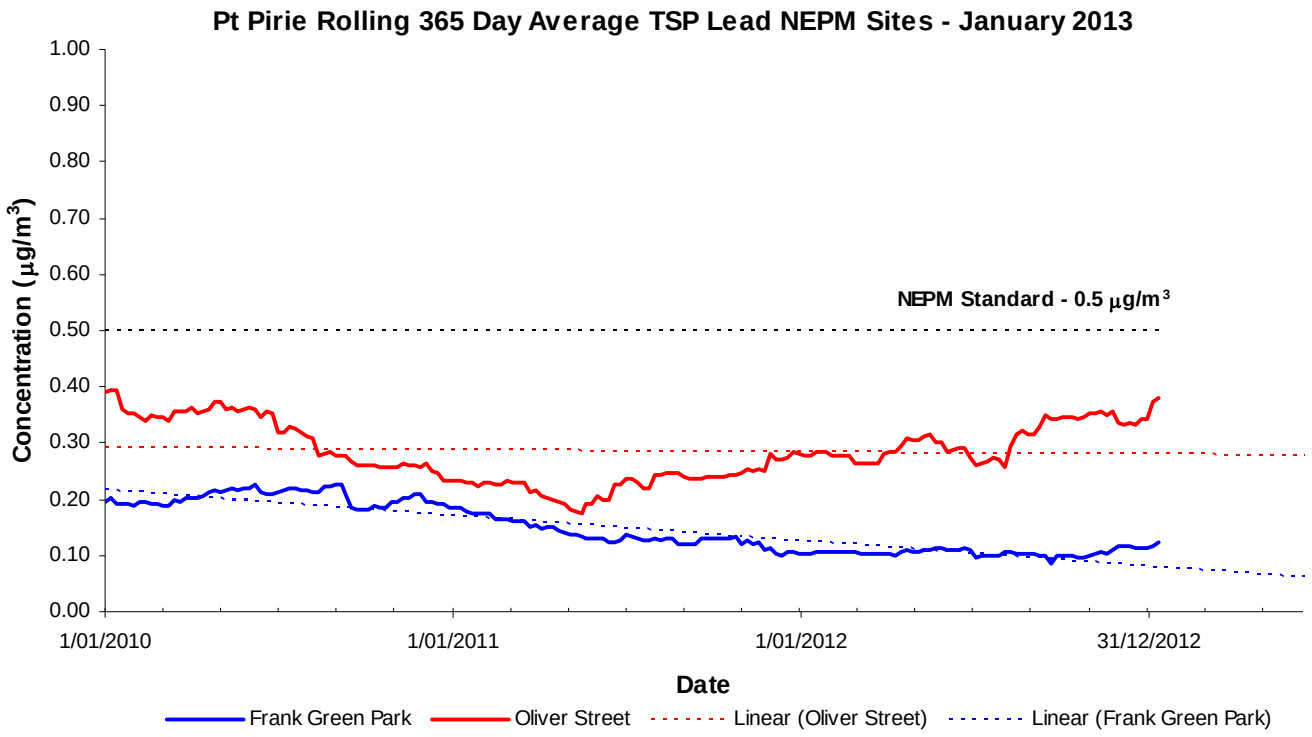
2.1 Port Pirie

Port Pirie is the location of one of the world's largest primary lead smelters which has a major impact on air quality in the area, particularly in regards to lead and sulfur dioxide. Particles are also an issue with industry and domestic solid fuel burning being the main anthropogenic sources. Naturally occurring windblown dust and agricultural sources are also known to affect air quality here.

Monitoring is undertaken at 4 sites in Port Pirie. All sites monitor for lead whilst Oliver St also monitors sulfur dioxide and particles. Oliver St along with Frank Green Park, report against the Air NEPM with the other two sites, Pirie West Primary and Ellen St, used, historically along with Oliver St, to monitor industry licence targets. These two sites are now used to monitor the trend in concentration of lead over time.

2.1.1 Lead

- The rolling annual average of lead in air at the Frank Green Park and Oliver St sites to 10 January 2013 is below the NEPM standard, however there has been an increasing trend at the Oliver St site since May 2011.

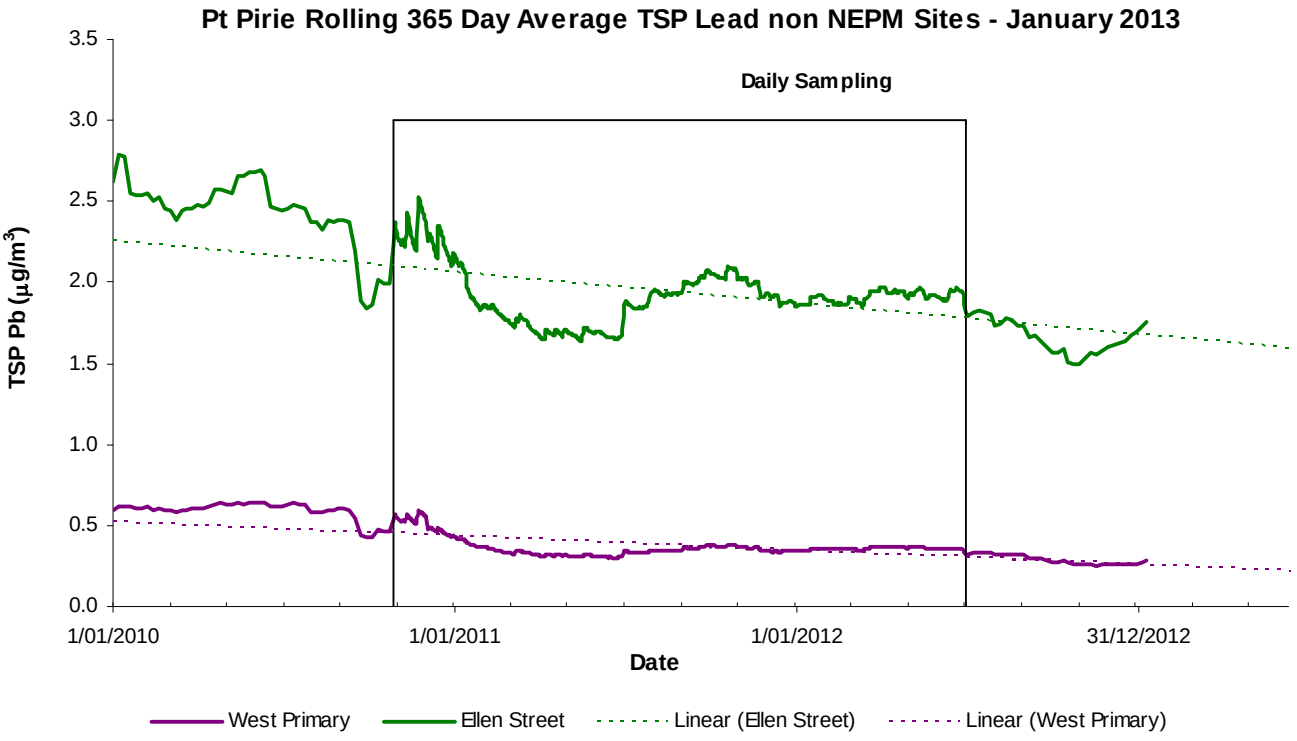


The rolling annual averages of lead in air at the Ellen Street and Pirie West sites to 10 January 2013 show an increase in the trend at the Ellen St site.

Notes:

1 Daily sampling has been conducted at the Ellen Street and West Primary sites since 28 October 2010 and these data are incorporated into the rolling averages for those sites.

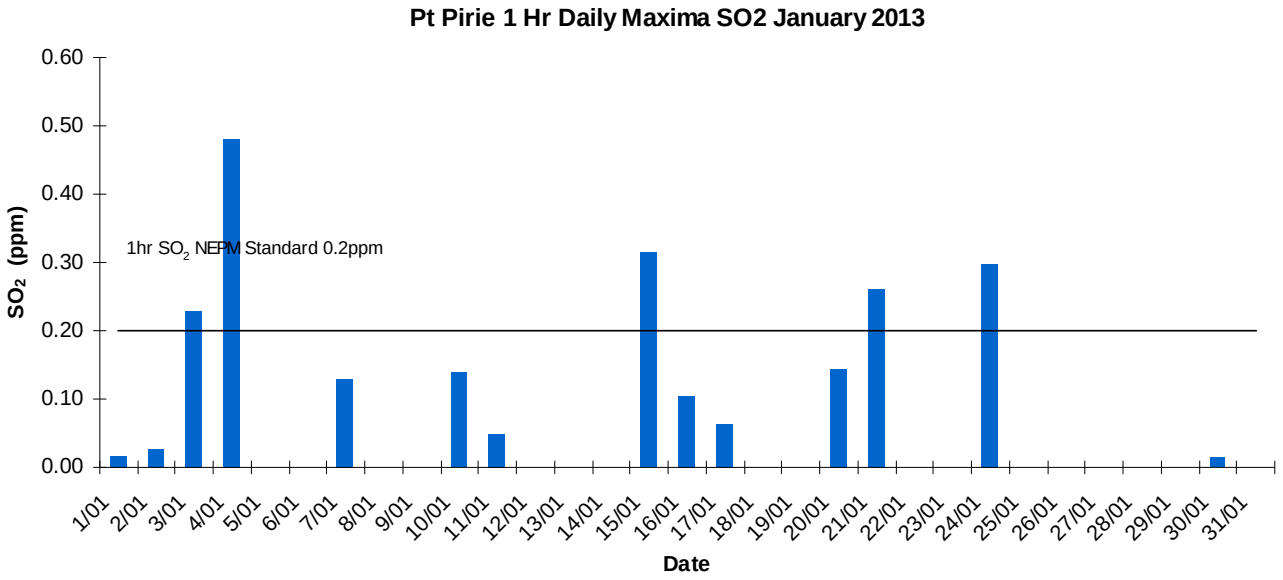
2 From 1 November 2011 a 365-day rolling average has been used.



2.1.2 Sulfur dioxide

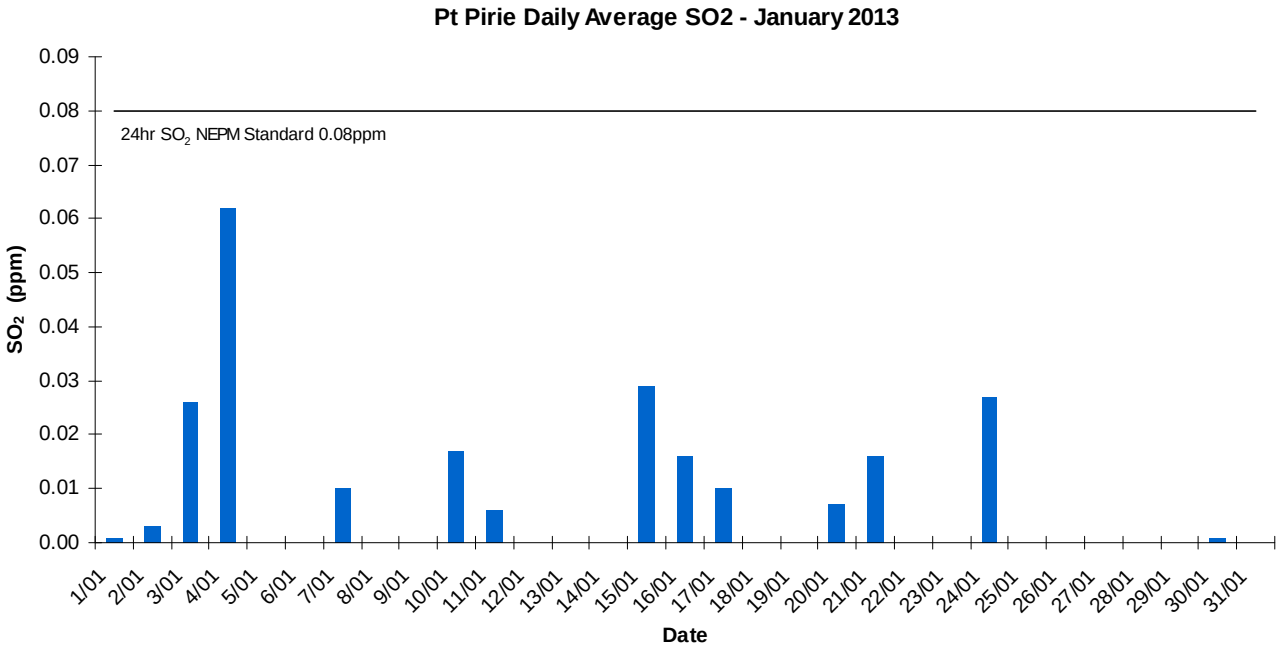
- The 1-hour NEPM Standard for sulfur dioxide was exceeded on **5** occasions at Pt Pirie in this month.
- Total NEPM Exceedence days for 2013

  Oliver St: **5**
- This is greater than the NEPM Goal of once per year.



- The 24-hour NEPM Standard for sulfur dioxide was exceeded on 0 occasions at Pt Pirie in this month.
- Total NEPM Exceedence days for 2013

  Oliver St: 0
- This is less than the NEPM Goal of once per year.



2.1.3 Particles (PM_{10})

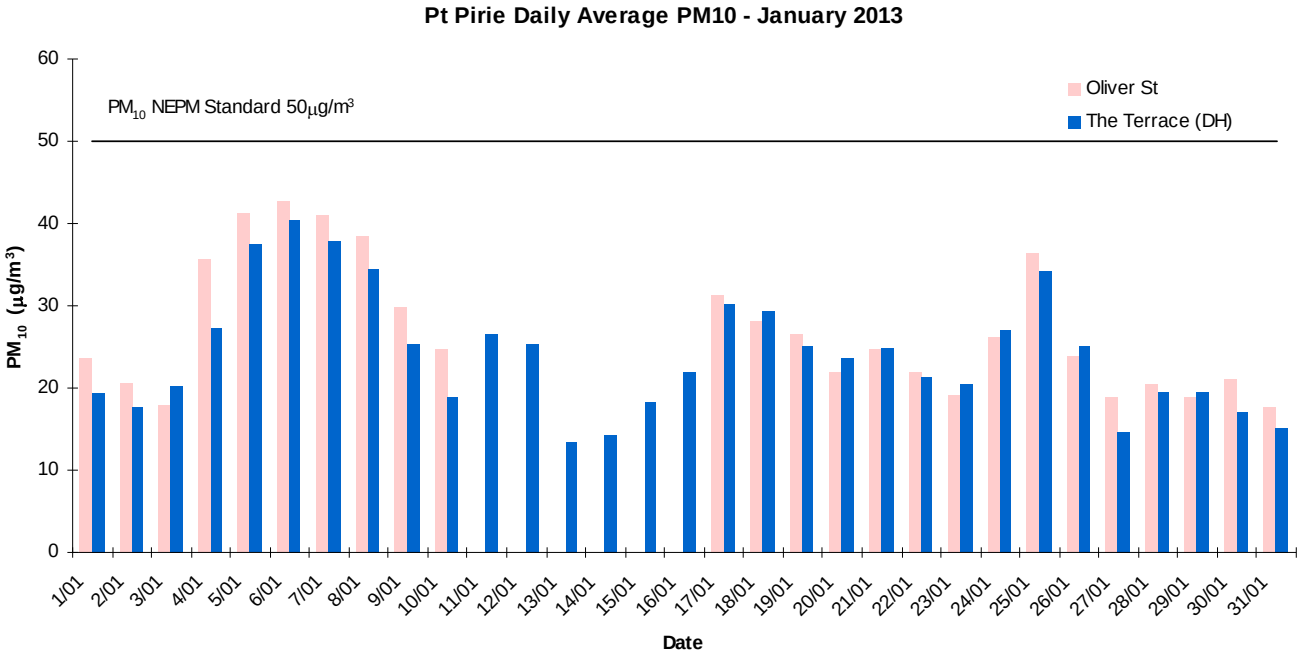
- The 24-hour NEPM Standard for PM_{10} particles was exceeded on 0 occasions at both sites this month. The EPA operates a station on behalf of Dept of Health (The Terrace).

- Total NEPM Exceedence days for 2013

  Oliver St: 0

  The Terrace[2]: 0

- This is less than the NEPM Goal of 5 per year.



2.2 Whyalla

In Whyalla the major impacts on air quality are particle emissions from the local steelworks. Windblown dust and particles from other natural sources are other factors that affect air quality in Whyalla. Monitoring is undertaken at 2 sites in Whyalla; Schulz Reserve and Walls St. Schulz Reserve reports against the Air NEPM with Walls St monitoring industry licence conditions in conjunction with Schulz Reserve.

2.2.1 Particles (PM_{10})

- The 24-hour NEPM Standard (PM_{10}) was exceeded on 0 occasions at both sites this month.
- Total NEPM Exceedence days for 2013

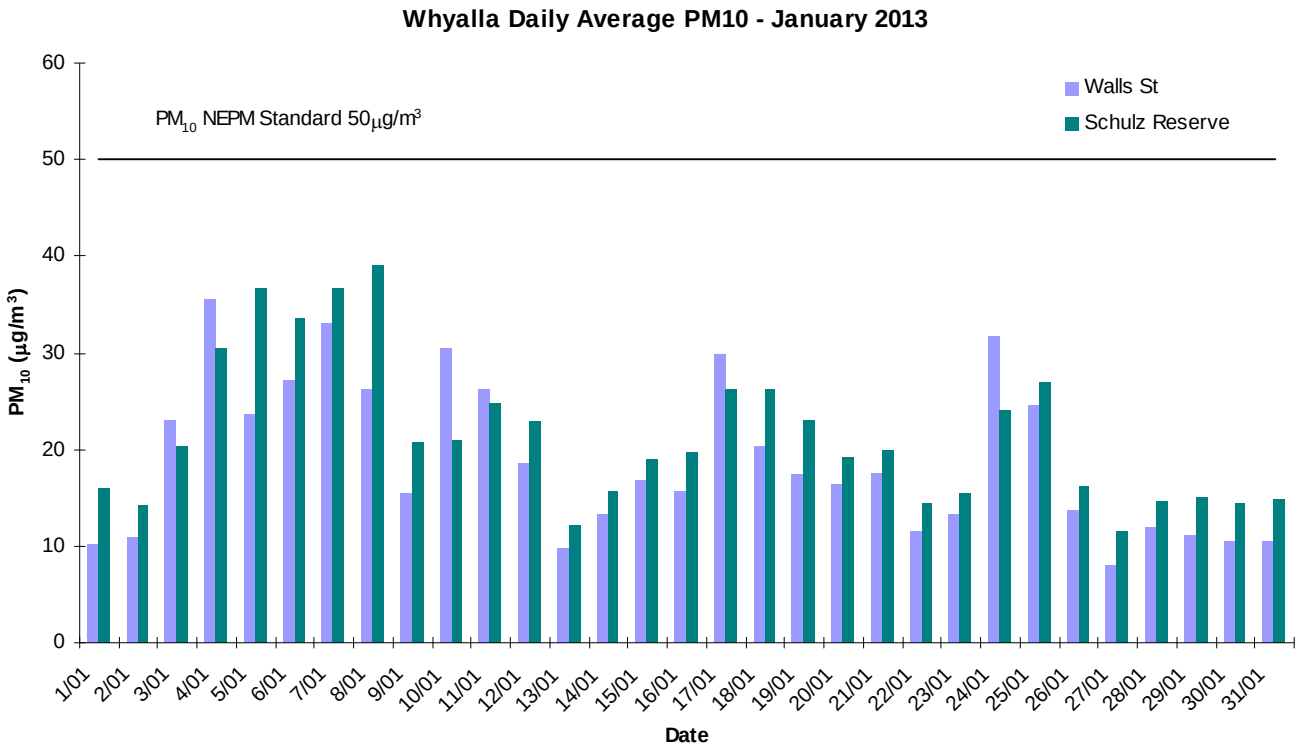
  Walls St[3]: 0

  Schulz Reserve: 0

- This is less than the NEPM Goal of 5 per year for Schulz Reserve.

[2] The number provided here is for information/comparison purposes only and does not contribute to the NEPM assessment of the air quality of the region.

[3] The number provided here is for information/comparison purposes only and does not contribute to the NEPM assessment of the air quality of the region.



Further information

Legislation

Legislation may be viewed on the Internet at: <www.legislation.sa.gov.au>

Copies of legislation are available for purchase from:

Service SA Government Legislation Outlet	Telephone:	13 23 24
Adelaide Service SA Centre	Facsimile:	(08) 8204 1909
108 North Terrace	Website:	<shop.service.sa.gov.au>
Adelaide SA 5000	Email:	<ServiceSAcustomerservice@sa.gov.au>

For general information please contact:

Environment Protection Authority	Telephone:	(08) 8204 2004
GPO Box 2607	Facsimile:	(08) 8124 4670
Adelaide SA 5001	Freecall (country):	1800 623 445
	Website:	<www.epa.sa.gov.au>
	Email:	<epainfo@epa.sa.gov.au>