Air quality

Report

Sellicks Beach air quality summary report – January & February 2016

Issued March 2016

Introduction

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

This air quality summary is based on data from the EPA's mobile monitoring station in the Blue Water Estate on Arcadia Crescent, Sellicks Beach. This station was deployed on the 14th January 2016 to monitor total suspended particulates (TSP), particles (PM_{10} and $PM_{2.5}$) and meteorological conditions, as part of a short term program to evaluate local air quality.

Total suspended particulates (TSP) are particles with an equivalent aerodynamic diameter less than 50µm and consists of a mixture of large and fine particles.

Large particles have an equivalent aerodynamic diameter greater than 10µm and can be a source of nuisance dust.

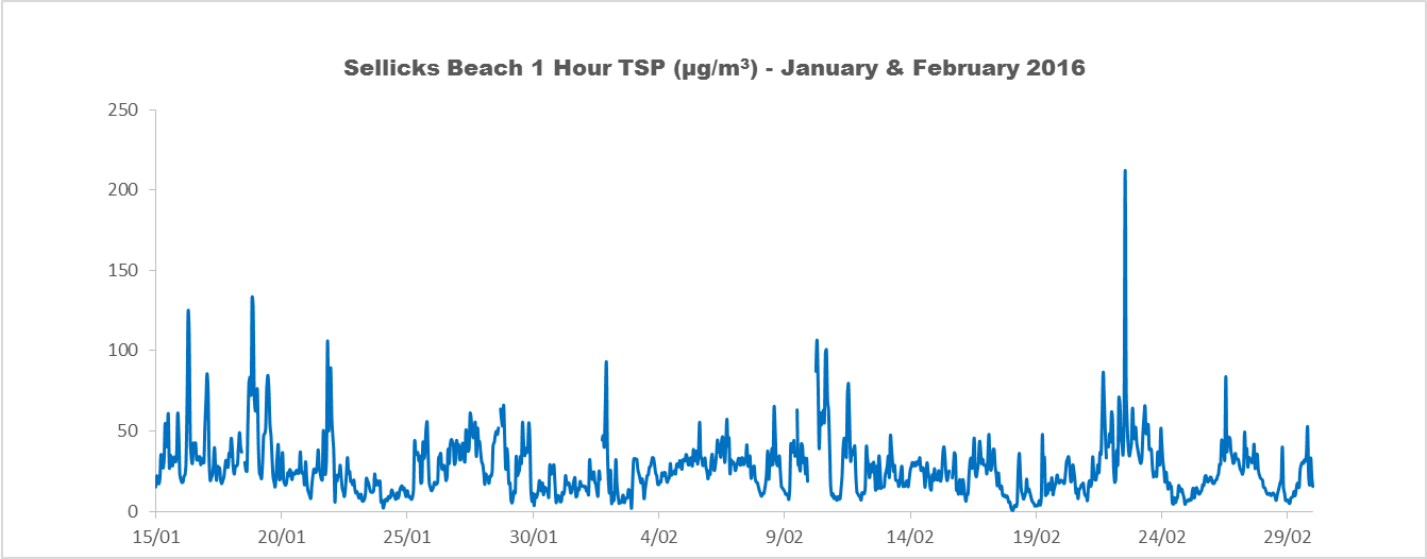
Fine particles are often a complex mixture of materials arising from many sources, and are generally grouped into two categories, called PM_{10} and $PM_{2.5}$. Fine particles are able to enter the lungs and are known to have health effects.

In the Sellicks Beach area particles can originate from a variety of sources such as local activities, motor vehicles, domestic activities apart from the natural background.

Data in this report are assessed against NEPM standards for comparison only. Further information about ambient air quality is available on the EPA website.

Total suspended particles (TSP)

TSP can provide an indication of the levels of visible nuisance dust in an area. 1- Hour TSP levels exhibit short term elevated values indicating the presence of visible dust. Please note there are no NEPM standards for TSP because they are related to environmental nuisance.



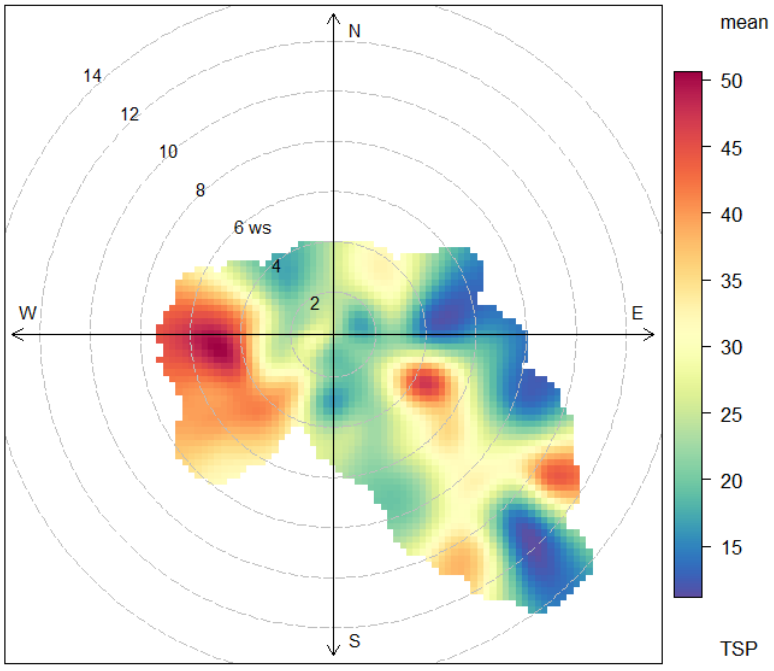
Polar Plots

The polar plot is a graph describing how concentrations of a pollutant vary by both wind speed and direction.

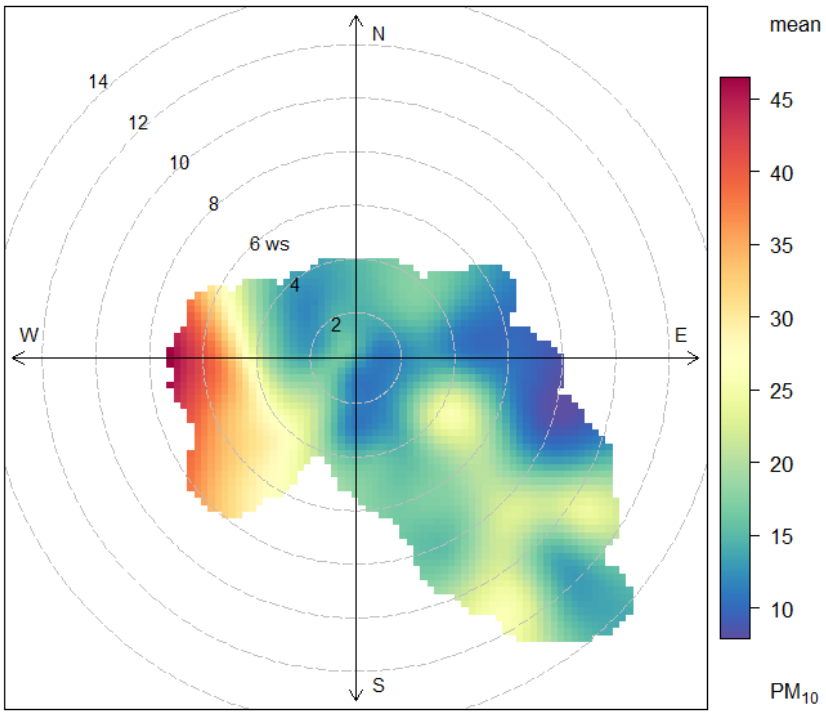
Wind speed combined with wind direction are important variables and can be used to identify different sources. For example, ground level, non-buoyant plumes such as from road traffic or local dust tend to have higher concentrations under low wind speed conditions. In this report we have used 10 minute wind speed, direction, TSP and PM_{10} data to produce the polar plots (using available meteorological data from 21st Jan 2016-18th Feb 2016).

The polar plot for TSP indicates that the majority of measured TSP originated from a westerly direction with lower wind speeds of 4 to 6 m/s. There are some occasions when higher concentrations of TSP are likely to have originated from a south easterly direction associated with higher wind speeds of 10 to 12 m/s. The polar plot for PM_{10} exhibits a similar trend.

Polar Plot for TSP (10 minute averaged in µg/m^3 data) (21st Jan to 18th Feb 2016)

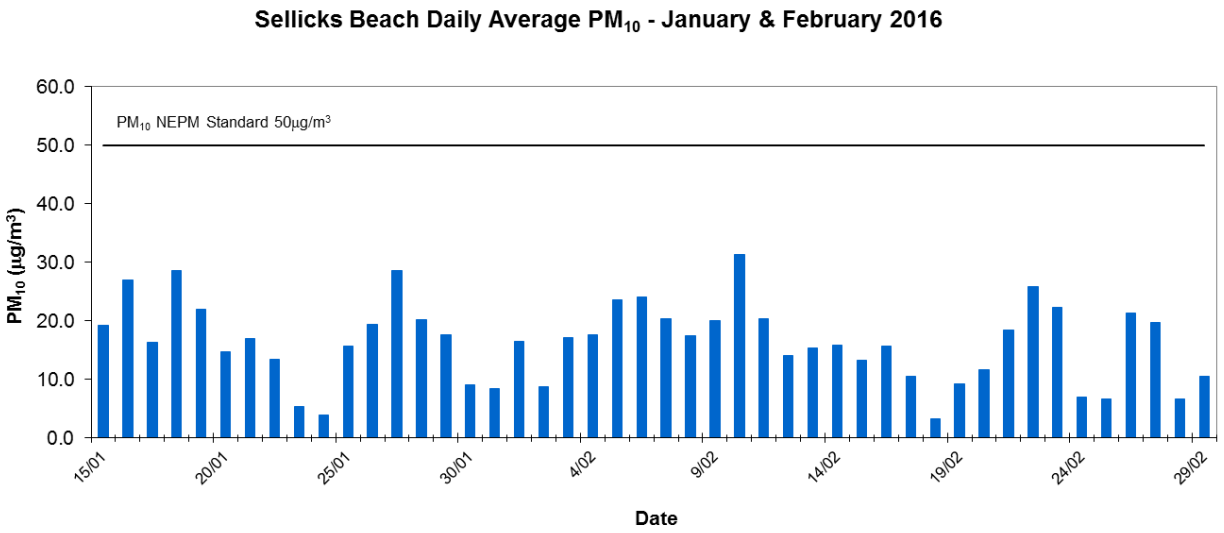


Polar Plot for PM_{10} (10 Minute averaged in µg/m^3 data) (21st Jan 2016 to 18th Feb 2016)



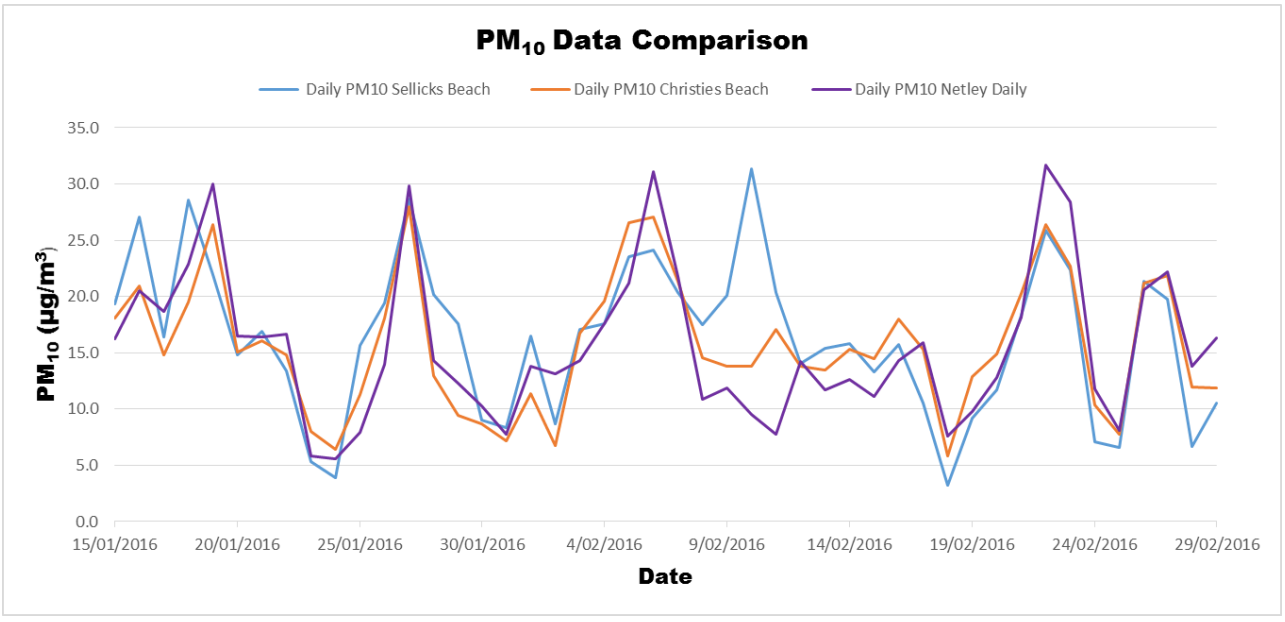
Particles (PM_{10})

There have been no exceedences of the 24-hour NEPM standard for PM_{10} (50 µg/m^3) at Sellicks Beach in January or February.



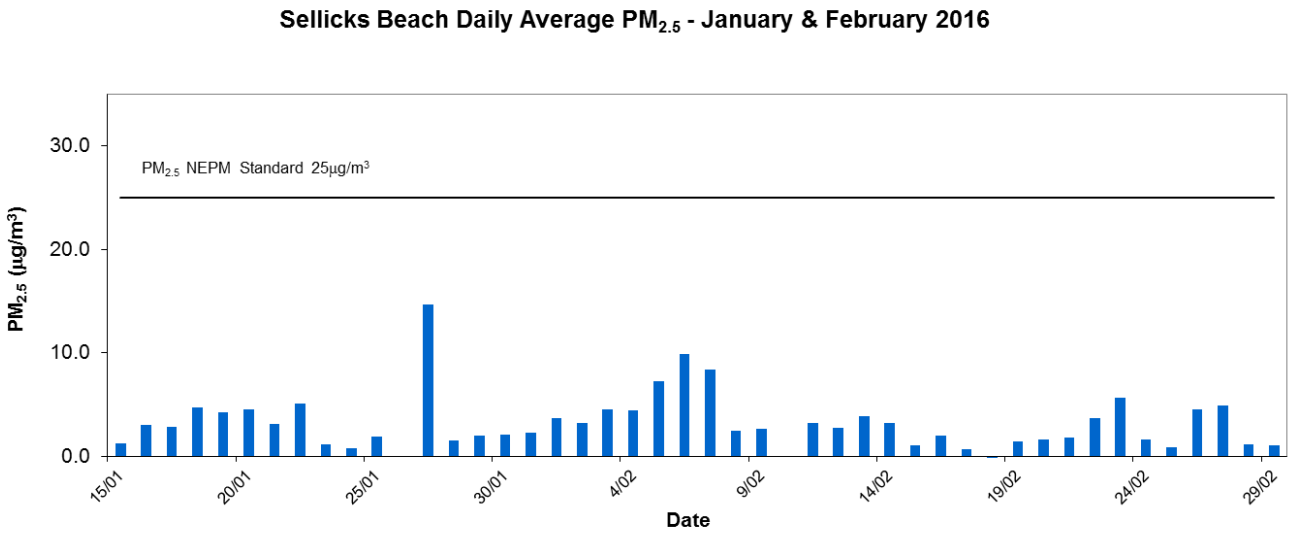
PM_{10} Data Comparison

PM_{10} data from Sellicks Beach, Christies Beach and Netley stations are presented in the graph below. PM_{10} levels at all three stations have exhibited a similar trend during the monitoring period, differing only on one or two occasions, which may be due to local sources or activities.



Particles ($PM_{2.5}$)

There have been no exceedences of the 24-hour NEPM standard for $PM_{2.5}$ (25 µg/m^3) at Sellicks Beach in January or February.



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>

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