

Note for the Overview and Scrutiny Committee on Storrington Air Pollution

Seasonal pollution events occur when air pollution levels build up and remain high in episodes which may last several days.

Summer episodes usually occur in hot, sunny weather and are characterised by high concentrations of ozone - as the reactions that create ozone are catalysed by heat and sunlight^[1].

Winter episodes typically occur in cold, still, foggy weather and characterised by high concentrations of nitrogen oxides and fine particulates (PM₁₀ and PM_{2.5}). In winter months the ground is cold, which cools the air above the ground. This often leads to temperature inversion when normal atmospheric conditions (cool air above, warm air below) become inverted. The pollutants that would normally rise and disperse are trapped in the cold air, underneath the layer of warmer air above. In addition, pollutants don't mix and are not being dispersed under calm conditions. Pollutants can also get trapped by fog as water clings to tiny particles to create polluted fog, or smog.

Cold temperatures recorded this winter, together with calm, still and foggy weather conditions prevailing this January led to a build-up of emissions from vehicles and wood burning. PM₁₀ and PM_{2.5} reached 'high' and 'very high' levels^[2] across a number of sites in the south east and London, and resulted in a pollution episode on account of fine particulates (very small soot-like particles commonly known as PM10 and PM2.5).

In January there were seven monitoring locations where particulates PM₁₀ were monitored in West Sussex: Chichester - A27 Chichester Bypass; Hastings Bulverhythe; Horsham Park Way, Horsham Storrington; Lewes West Street; Lewes Denton Community Centre; and Rother – De La Warr Road. According to the data available on the Sussex-Air monitoring website^[3] daily mean concentrations reaching a 'moderate' level were recorded between 21st and 23rd January at all sites. Elevated concentrations lasted longer at some sites and shorter at others. The highest levels were recorded at Lewes-West Street and Horsham-Storrington.

It is worth noting that the annual mean levels of particulate matter PM₁₀ and PM_{2.5} – as measured at the Horsham Storrington continuous monitoring station on Manleys Hill - have remained well below the objectives throughout the monitoring period 2009-2016, with a decreasing trend observed in the recent years.

Conversely, elevated annual mean levels of nitrogen dioxide have been recorded in Storrington town centre and Storrington was declared an Air Quality Management Area for nitrogen dioxide in December 2010. The declaration of Storrington AQMAs committed the Council to taking actions towards achieving the air quality objectives in the AQMA and an Air Quality Action Plan for Storrington AQMA was submitted to Defra in September 2013. The Storrington Air Quality Action Plan contains a range of measures, both district wide and Storrington specific. This includes transport measures to reduce congestion and improve the

^[1] Air Pollution in the UK 2010

^[2] the Daily Air Quality Index

^[3] <http://www.sussex-air.net/AQNearMe/Monitoring/AdvancedGraphs.aspx?Species=PM10>

flow of traffic - as those measures have the potential to reduce the roadside levels of both nitrogen dioxide and particular matter. The schemes currently being considered for Storrington are changes to lorry turning movements between School Hill and Manleys Hill and vice versa and advisory lorry route signage improvements.

As the air pollution in Storrington is predominantly traffic related it has been important for Horsham District Council to work in partnership with West Sussex County Council as they are the highway authority. Both organisations together with Storrington and Sullington Parish Council have representatives on the Storrington Air Quality Steering Group.

Regarding particulate matter specifically, the Council is working to address this pollutant through measures aimed at reducing emissions from road transport and, in particular, through increasing the uptake of low emission vehicles. All new development in the district is required to have regard to the Planning Advice Document: Air Quality and Emissions Reduction Guidance (published in May 2014), which sets out air quality mitigation/offsetting measures commensurate with its size/predicted impacts. The Council has also supported the development and maintenance of the regional eV charge point network "Energise" with two points in the district classified as 'rapid' - installed in Billingshurst (Six Bells car park) and Storrington (Library car park).

For further information about the air quality in Storrington and other parts of Horsham District or to download the latest air quality report, please go to the website at <https://www.horsham.gov.uk/environmentalhealth/environmental-health/air-quality>

Boundaries Between Index Points for Each Pollutant

Use the tabs below to view the bandings for each pollutant.

Ozone	Nitrogen Dioxide	Sulphur Dioxide	PM2.5 Particles	PM10 Particles
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PM₁₀ Particles

Based on the daily mean concentration for historical data, latest 24 hour running mean for the current day.

Index	1	2	3	4	5	6	7	8	9	10
Band	Low	Low	Low	Moderate	Moderate	Moderate	High	High	High	Very High
µg/m ³	0-16	17-33	34-50	51-58	59-66	67-75	76-83	84-91	92-100	101 or more

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Use the tabs below to view the bandings for each pollutant.

Ozone	Nitrogen Dioxide	Sulphur Dioxide	PM2.5 Particles	PM10 Particles
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PM_{2.5} Particles

Based on the daily mean concentration for historical data, latest 24 hour running mean for the current day.

Index	1	2	3	4	5	6	7	8	9	10
Band	Low	Low	Low	Moderate	Moderate	Moderate	High	High	High	Very High
µgm ⁻³	0-11	12-23	24-35	>36-41	>42-47	>48-53	54-58	59-64	65-70	71 or more

Boundaries Between Index Points for Each Pollutant

Use the tabs below to view the bandings for each pollutant.

- Ozone
- Nitrogen Dioxide
- Sulphur Dioxide
- PM2.5 Particles
- PM10 Particles

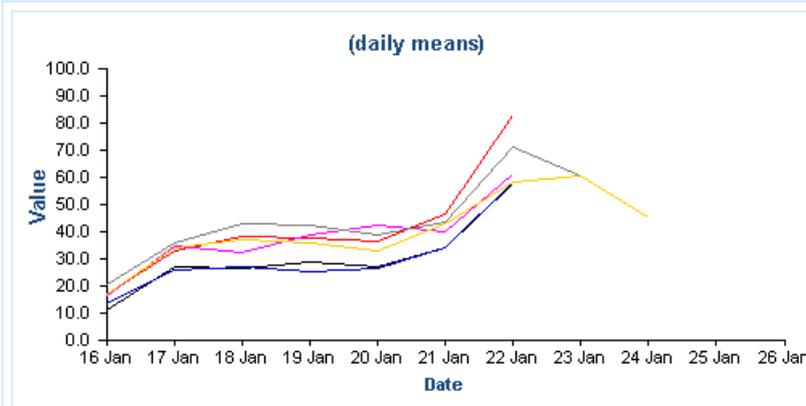
Nitrogen Dioxide

Based on the hourly mean concentration.

Index Band	1	2	3	4	5	6	7	8	9	10
	Low	Low	Low	Moderate	Moderate	Moderate	High	High	High	Very High
$\mu\text{g}/\text{m}^3$	0-67	68-134	135-200	201-267	268-334	335-400	401-467	468-534	535-600	601 or more

PM10 (Grav Equi)

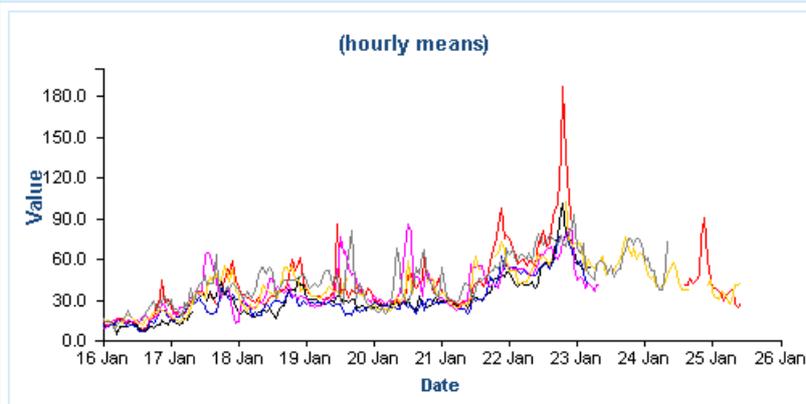
5. View your results: 16 January 2017 to 26 January 2017 Units (ug/m3)



Key: Lewes - West Street Chichester - A27 Chichester Bypass Lewes - Denton Community Centre Hastings - Bulverhythe Horsham - Park Way Horsham - Storrington

PM10 (Grav Equi)

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