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Sussex Monthly Air Quality Alert Service Report

Sussex Air Quality Partnership / East Sussex County Council

September 2024





Document Control Sheet

Identification	
Client	East Sussex County Council for Sussex Air Quality Partnership
Document Title	Sussex Monthly Air Quality Alert Service Report – September 2024
Bureau Veritas Ref No.	AIR13115761

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Configuration				
Version	Date	Author	Reason for Issue/Summary of Changes	Status
1.0	October 2024	J Cai	First Issue	First Issue

	Name	Job Title	Signature
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1 Sussex Air Quality Alert Service

The Sussex Air Quality Alert service was developed by the Sussex Air Quality Partnership (“Sussex-air”), which is made up from the Sussex local authorities and Public Health bodies. Bureau Veritas provides this service on behalf of the Sussex Air Quality Partnership.

The Sussex Air Quality Alert service was established over 15 years ago to provide a Sussex-wide air pollution forecasting and alert service to support vulnerable persons such as those with respiratory and heart conditions and the public.

- The service provides pollution alerts direct to subscribers for “FREE” via different delivery methods such as text/SMS, email, or telephone message to landlines.
- The Alerts are sent to subscribers 24 to 48 hours prior to an episode of elevated air pollution.
- Subscribers can select either the general area alerts for East or West Sussex or to specific areas more representative of where they live or work.
- Subscribers can cancel the service at any time.

Further details on the service and live pollution forecasts are shown on the homepage <https://sussex-air.net/>

1.1 How the Alert Service works

Air quality is measured for a variety of pollutants and can have a variety of effects on different people in society. The UK Air Quality Banding system is used to inform the public about the levels of pollution that they may be exposed to and are based on health advice approved by the Committee on Medical Effects of Air Pollution Episodes (COMEAP).

The system uses an index divided into four bands to provide more detail about air pollution levels in a simple way; these bandings range from Low, Moderate, High to Very High. The overall air pollution index is calculated from the highest index value of five pollutants: nitrogen dioxide, sulphur dioxide, ozone, carbon monoxide and particles < 10µm (PM₁₀). The bandings, pollutant concentrations and periods of exposure are provided in Appendix A.

Using the national UK Met Office air pollution service, we check and send out air pollution alerts only when pollution levels are likely to affect people’s health. Forecasts of air quality are generated daily and cover a 5-day period and are available 365 days of the year.

Alerts are only sent if:

- air quality is forecast to be “Moderate” or above on the day of the forecast; or
- on any of the other 4 days within the 5-day forecast period.

Alerts are sent;

- in the morning and sent by mid-day each day; and
- cover a 5-day period.

Subscribers will be sent the alert if:

- there is an alert for an area they are subscribed to which is “Moderate” or above; and
- an alert is forecast for the present day or one day over the following 4 days.

We will not resend alerts if:

- the air pollution levels stay the same or go back down to “Low”.

We will only send alerts if:

- the level changes to “High” or “Very High” in that period..

2 Service Users – September 2024

2.1 Service users in 2024

The service users reported here are those that have been subscribed since January 2024. Table 2-1 shows the subscribers and delivery method type for the service.

Table 2-1: New Subscribers 2024

Service type	Email	Text/SMS	Voice message
Pre 2024	357	280	5
January	2	2	0
February	2	0	0
March	3	1	0
April*	0	0	0
May	9	2	0
June	1	3	0
July	63	63	0
August	20	15	0
September	1	2	0
Total Subscribers to date	450	364	5

Note: The total number of subscribers can vary from month to month, with some leaving as well as new people subscribing. The total at the end of the period includes all those who stayed with the service plus new recruits and leavers, hence the difference in the totals.

*A problem was reported with the register form in April which has impacted the new subscribers' number to be 0 in April 2024.

The alert service is delivered mainly by email (450 users) and text/SMS (364 users) services, these account for 54.9% and 44.4% of the users respectively. The remaining (5) 0.6% of users still prefer to receive alerts via land-line telephone voice messages.

Table 2-2 Total Subscribers

Total Number of Subscribers as of end of September 2024 by all Communication Methods	819
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3 Air Quality Forecasts and Alerts – September 2024

Air quality forecasts are produced daily, as described in section 1, with alerts only being issued when above the “Moderate” Daily Air Quality Index (DAQI) level.

3.1 Forecasts

There are 31 area forecasts produced daily, which can vary slightly dependent on conditions, locations and other model forecast factors the Met Office determines. The full list of DAQI days for all 31 sites in 2024 (January to September) is provided in Appendix B and Table B-1 sets out the number of days that were categorised as ‘low’, ‘moderate’, ‘high’ and ‘very high’ at the alert area locations. These data demonstrate the variance in the numbers of DAQI days across different locations.

Table 3-1 shows the number of forecast DAQI days in September 2024 at selected sites. It can be found that on average, there are 1 days (5%) where Moderate pollution forecasted, and there is no day where High or Very High pollution forecasted across the selected sites.

Table 3-1: Number of forecast DAQI days in 2024 (September) at selected sites

Alert location	Low (1-3)	Moderate (4-6)	High (7-9)	Very High (10)
Brighton	28	2	0	0
Chichester	29	1	0	0
Eastbourne	28	2	0	0
East Grinstead	29	1	0	0
Hastings	27	3	0	0
Haywards Heath	29	1	0	0
Horsham	30	0	0	0
Lewes	28	2	0	0
Rye	27	3	0	0
Worthing	29	1	0	0
Average	29	1	0	0
Percentage of period	95%	5%	0%	0%

The data shown in the table is rounded to the integers.

The full set of 31 sites data identifies that most days were ‘low’ air pollution days between January to September 2024 accounting for on average 245 out of 274 days (89.3%). There were, on average, 29 days across the region that were forecasted as ‘moderate’ air pollution days, which accounted for 10.7% of days during this period. There were no days where ‘high’ pollution and ‘very high’ pollution was forecasted.

3.2 Alerts

shows the number of alerts sent via the three main service distribution routes. The number of alerts sent are relative the number of service users, the areas they have selected and the number of ‘moderate’ or above forecasts produced in a month.

Table 3-2: Alerts sent (January to September 2024)

Period	Service type		
	Email	Text/SMS	Voice message
2023 Total	3,319	2,481	44
January	1	1	0
February	1	1	0
March	69	70	0
April	239	186	0
May	794	596	10
June	877	689	11
July	330	249	4
August	303	226	6
September	252	198	4
Totals to date (2024)	2,866	2,216	35

During September 2024 there was 252 email alerts, 198 text/SMS alerts and 4 voice alerts sent to subscribers across Sussex.

Appendix A – Air Quality Bandings

Table A - 1 UK Air Quality Bandings

Band	Index	Ozone	Nitrogen Dioxide	Sulphur Dioxide	PM2.5 Particles	PM10 Particles
		Running 8 hourly mean	Hourly mean	15 minute mean	24 hour mean	24 hour mean
		µg m-3	µg m-3	µg m-3	µg m-3	µg m-3
Low						
	1	0-33	0-67	0-88	0-11	0-16
	2	34-66	68-134	89-177	12-23	17-33
	3	67-100	135-200	178-266	24-35	34-50
Moderate						
	4	101-120	201-267	267-354	36-41	51-58
	5	121-140	268-334	355-443	42-47	59-66
	6	141-160	335-400	444-532	48-53	67-75
High						
	7	161-187	401-467	533-710	54-58	76-83
	8	188-213	468-534	711-887	59-64	84-91
	9	214-240	535-600	888-1064	65-70	92-100
Very High						
	10	241 or more	601 or more	1065 or more	71 or more	101 or more

Appendix B – Number of Forecast DAQI days in 2024 (to date)

Table B - 1 Number of Forecast DAQI days in 2024 (to date)

Alert location	Low (1-3)	Moderate (4-6)	High (7-9)	Very High (10)
Arundel	242	32	0	0
Battle	240	34	0	0
Bexhill	246	28	0	0
Billingshurst	246	28	0	0
Bognor Regis	234	40	0	0
Burgess Hill	247	27	0	0
Brighton	245	29	0	0
Chichester	240	34	0	0
Crowborough	249	25	0	0
Eastbourne	246	28	0	0
East Grinstead	252	22	0	0
Goodwood	240	34	0	0
Hailsham	245	29	0	0
Hastings	243	31	0	0
Haywards Heath	251	23	0	0
Heathfield	247	27	0	0
Horsham	247	27	0	0
Hove	247	27	0	0
Lewes	243	31	0	0
Littlehampton	241	33	0	0
Newhaven	245	29	0	0
Petworth	245	29	0	0
Portslade by Sea	247	27	0	0
Rye	248	26	0	0
Seaford	246	28	0	0
Selsey	237	37	0	0
Shoreham	244	30	0	0
Steyning	244	30	0	0
Storrington	244	30	0	0
Uckfield	249	25	0	0
Worthing	241	33	0	0
Average	245	29	0	0

Appendix C – Alert Service information from 2022 to 2024

The Sussex Alert service was operational from March of 2022; however, the service was updated in October 2022 with a new service and all users invited to re-register. The service was enhanced to provide more localised air quality forecasts instead of the general “West” and “East Sussex” and “Brighton only” forecasts and alerts. There are currently 32 different areas across Sussex that have specific forecasts.

Table C - 1 Historical subscriber numbers 2022 and 2023

Service type	Email	Text/SMS	Voice message
Pre-October existing subscribers	37	14	0
2022			
October	150	129	3
November	99	90	2
December	21	13	0
2023			
January	7	2	0
February	6	2	0
March	3	2	0
April	2	3	0
May	4	3	0
June	15	10	0
July	9	4	0
August	6	4	0
September	1	1	0
October	4	1	0
November	2	3	0
December	0	0	0
Total new subscribers	329	267	5
End of 2023 total subscribers	357	280	5

Note: The total number of subscribers can vary from month to month, with some leaving as well as new people subscribing. The total at the end of the period includes all those who stayed with the service plus new recruits and leavers, hence the difference in the totals.

Table C - 2 Email subscribers by location and month in 2023/24

	2023	Aug	Sep	Oct	Nov	Dec	2024	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Email (totals)	6	1	4	2	0			2	2	3	0	9	1	63	20	1
Arundel																
Battle												1		1	1	
Billingshurst																
Brighton Centre								1								
Brighton East																
Brighton_and_Hove	1															
Chichester	1			1	1										1	
Crawley																
Crowborough														3	1	
East Grinstead																
East Sussex	1							1		1		2	1	13	3	
Eastbourne	2				1							1		15	2	
Hailsham	1													3	1	
Hastings Bexhill												4		10	4	
Haywards Heath Burgess Hill																1
Heathfield														1		
Horsham												1				
Hove																
Lewes										1		1		3		
Littlehampton Bognor Regis	1			1											1	
Newhaven Seaford				1						1		1		9	2	
Portslade Shoreham			1													
Rottingdean Saltdean														2		

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Rye			1											1		
Selsey Whitterings																
Steyning								2			2					
Storrington															2	
Uckfield														2		
West Sussex																
Worthing															2	

Table C - 3 Mobile text subscribers by location and month in 2023/24

	2023	Aug	Sep	Oct	Nov	Dec	2024	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mobile Text (totals)		4	1	1	3	0		2	0	1	0	2	3	63	15	2
Arundel																
Battle												1		1		
Billingshurst														1		
Brighton Centre																
Brighton East																
Brighton Falmer																
Brighton and Hove								1					1	1		
Chichester								1								
Crawley																
Crowborough					1								1	1		
East Grinstead																
East Sussex														14	3	
Eastbourne		1												10	3	
Hailsham														2		
Hastings Bexhill		2			1									14	4	1
Haywards Heath Burgess Hill																



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Heathfield																	1		
Horsham		1																	
Hove													1						
Lewes	1				1												2	1	
Littlehampton Bognor Regis																	1		
Newhaven Seaford				1						1							7	1	
Petworth																			
Portslade Shoreham																			1
Rottingdean Saltdean																			
Rye																	3	1	
Selsey Whitterings																			
Steyning																			
Storrington																			
Uckfield																	4		
West Dean Goodwood																			
West Sussex														1			1	1	
Worthing																		1	

Table C - 4 Voice text subscribers by location and month in 2023/24

	2023	Aug	Sep	Oct	Nov	Dec	2024	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Voice Text (totals)		0	0	0	0	0		0	0	0	0	0	0	0	0	0
Brighton Falmer																
Brighton_and_Hove																
East Sussex																
West Sussex																