



The Air Quality Scotland Website.

Air Quality Trends for Scotland.

Pollution Episodes.

Paul Willis

March 30th 2010



The Air Quality Scotland Website.

Web Site Launched April 2nd 2007

Air Quality in Scotland

www.scottishairquality.co.uk

Friday, November 30, 2007

[Home](#) [Latest Air Quality](#) [About Air Quality](#) [Maps](#) [Trends](#) [Data](#) [Publications](#) [LAQM](#) [Links](#) [About the site](#)

Home

Latest Air Quality
About Air Quality
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Links

Presentations
SiteMap

Reports

Renfrewshire Council

- [LAQM Updating and Screening Assessment 2006](#) (pdf)

By BMT Cordah Limited on 12/01/2007

Scottish Borders Council

- [Air Quality Updating and Screening Assessment 2006](#) (PDF)

on 10/10/2006

Air Quality in Scotland

Welcome to the Air Quality in Scotland Website

These pages funded by the [Scottish Government](#) provide you with a one-stop resource for information on air quality in Scotland.

From here you can find out about where air quality is measured every hour using automatic monitoring equipment deployed across Scotland. The up-to-date summary of air quality for the latest hour is displayed right here on the home page with the simple barometer opposite. Below the barometer you can click to find out about how the levels are calculated and what they may mean for your health.

To find out more details of current air quality in your local area, please click on the map below or use the links to bulletins and forecast opposite. From the map you will then gain access to graphs of levels over the last week or month, latest measured concentrations, addresses and photos of the monitoring stations.

[Click here to view current air quality levels across Scotland](#)

Through the buttons at the top and left of this page, you can gain access to further information and data on air quality.

Air Pollution Summary

Very High	0 sites
High	0 sites
Moderate	0 sites
Low	39 sites

Number of monitoring sites in each pollution band

Values are based on pollution level measured for the latest hour and are provisional.

[What does this mean?](#)

Click on the links below for air pollution bulletins:
[Current Levels](#) [24hr Summary](#)

Click on the links below for air pollution forecasts:
[Highlands](#) [North East Scotland](#)
[Central Scotland](#) [Scottish Borders](#)

Note: Values are based on provisional data.

News

Updated trends for Scottish Air Quality to 2006

Latest ratified figures show that over the last ten years concentrations of nitrogen dioxide...
[more...](#)

New Air Quality Web Site and Database for Scotland Launched: Monday April 2nd 2007

This web site was officially launched on April 2nd 2007. It is funded by the Scottish Government...
[more...](#)

Maps of Air Quality Across Scotland

A pilot study mapping exercise has been carried out to see if more accurate estimates of...
[more...](#)

Pilot Study Final Seminar: Wednesday October 11th 2006

The final seminar for the Scottish Air Quality Database

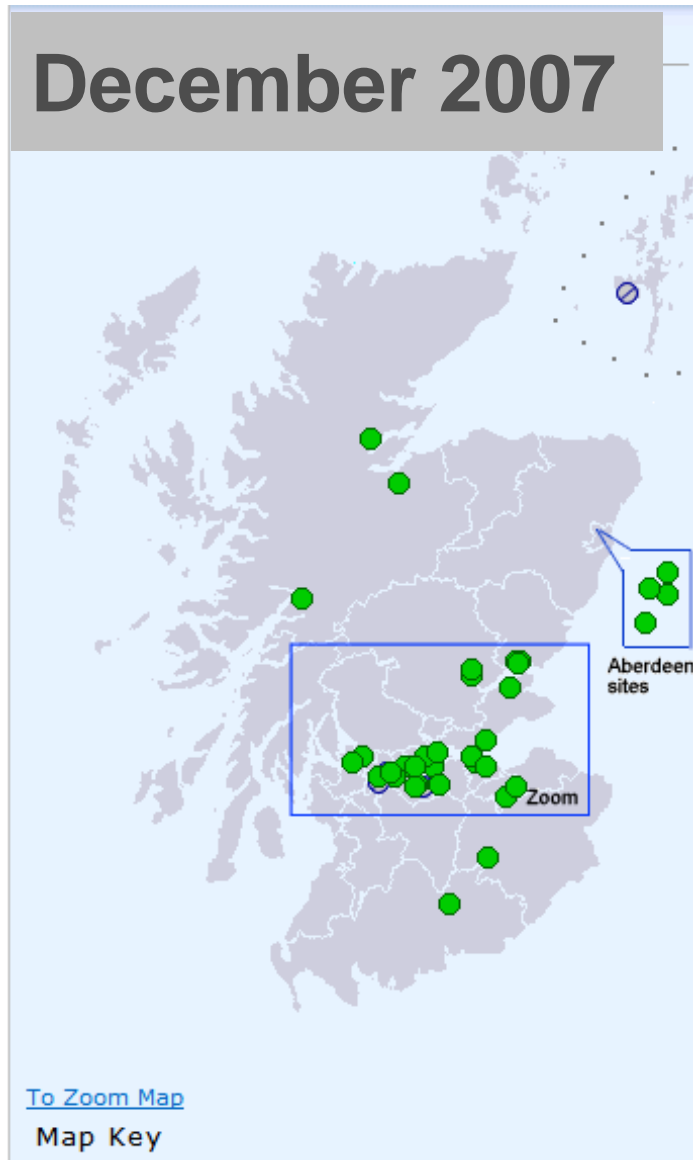
Database Updates & Site Information

- New sites are added to the database once agreement is reached with the local authorities.
- Site photos are added as soon as AEA visit, or they are provided by the local authority.
- Updates to the AURN sites are made as required (e.g. new PM instruments and/or site/instrument changes.)
- Ratified data (or any improved provisional data) load automatically to the web site from AEA's data management software.
- Statistics are automatically recalculated every night:
 - Daily, Monthly & Annual Means etc.
 - All exceedence statistics
- New sites are automatically added into the daily e-mail bulletins.
- Site locations can be “fine-tuned” by local authorities using the Site Location Tool.

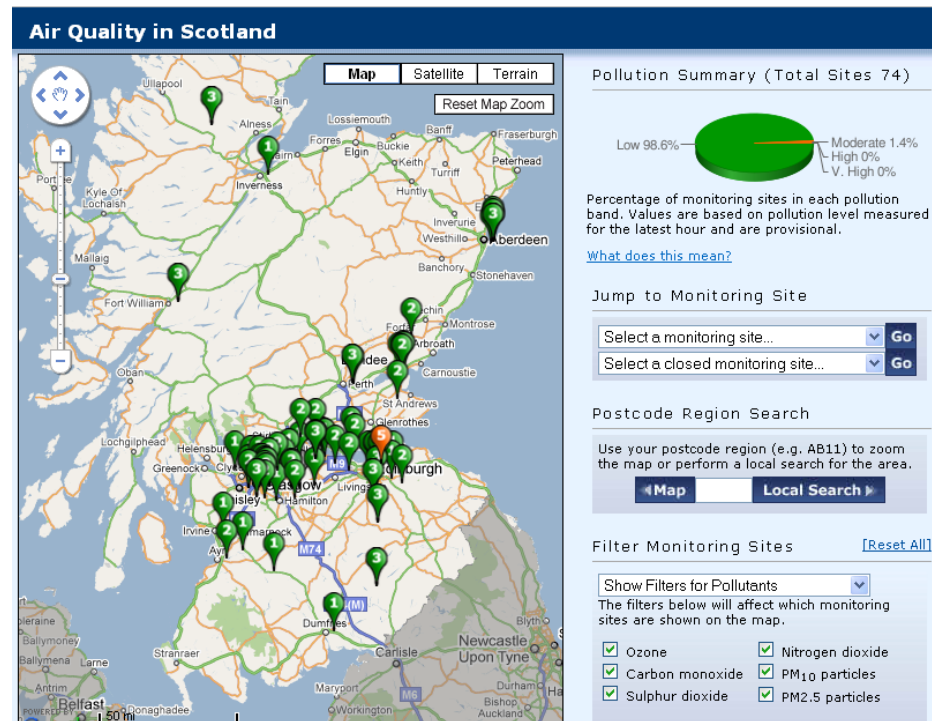


Many new sites have been added during the contract

December 2007



March 2010



Reminder - Air Quality Bulletins by E-mail

- Users can register on the web site at http://www.scottishairquality.co.uk/bulletin_reg.php
- You can choose to receive a bulletin by e-mail at any time of the day
 - Latest hour.
 - 24-hour summary.
 - Including forecast.
 - All Scotland or just your local area.
- Choose to receive all the time, or just if the measurements or forecast are moderate/high.
- Simple graphs are linked to the site/pollutant lists in the bulletin.

Air Quality in Scotland

www.scottishairquality.co.uk

Thursday, November 12, 2009

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Current Levels

About Air Quality

Maps

Trends

Data

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LAQM

Links

About the site

Search site

Search

Quick Links

[Current Levels](#)

[24hr Summary](#)

[Register here](#) to receive daily or hourly e-mail updates of the latest air quality measurements

[SEPA SPRI](#)

Forecast Data

[Highlands](#)

[North East Scotland](#)

[Central Scotland](#)

[Scottish Borders](#)

Bandings

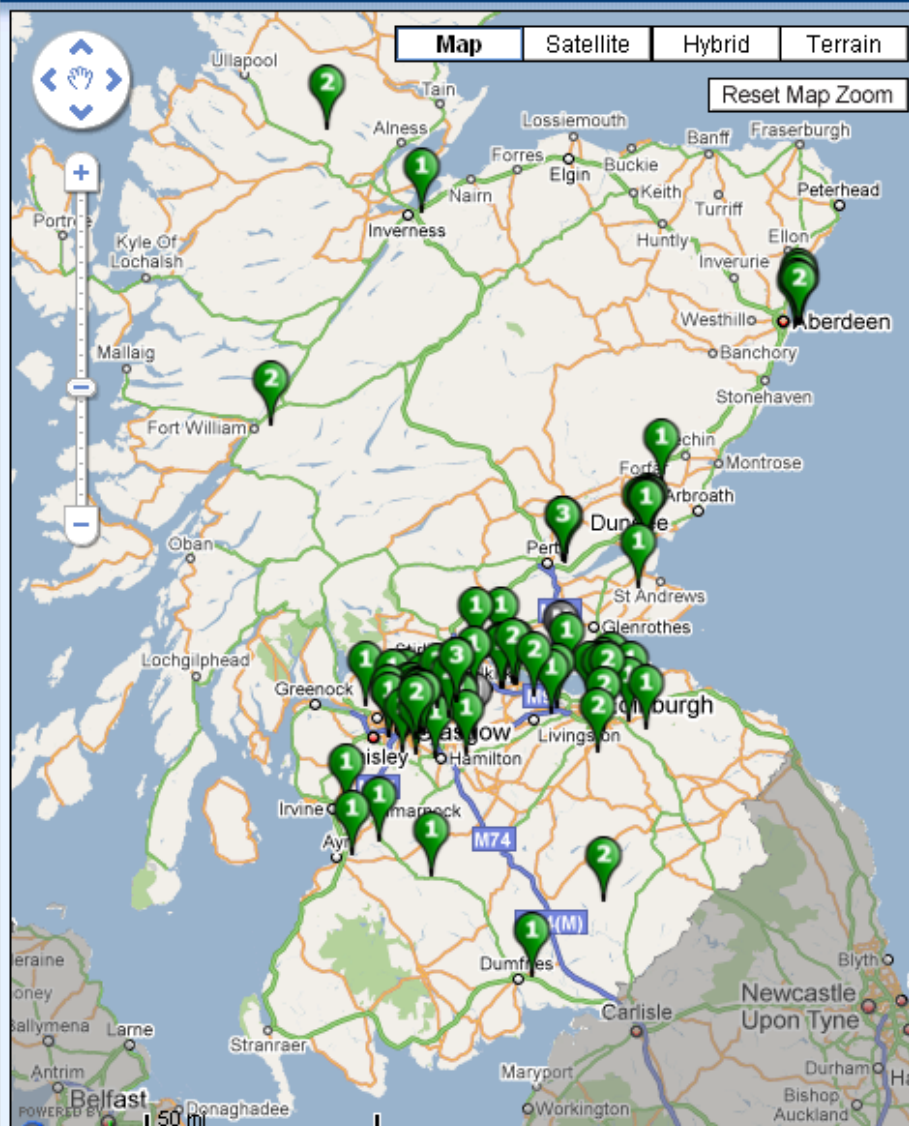
- Low: Index 1 to 3
- Moderate: Index 4 to 6
- High: Index 7 to 9
- Very High: Index 10
- No data

[Find out more...](#)

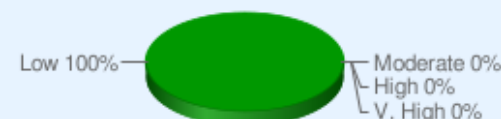
News

EPUK Scotland November Conference: Air Quality - Renewed Planning

Air Quality in Scotland



Pollution Summary (Total Sites)



Percentage of monitoring sites in each pollution band. Values are based on pollution level measured for the latest hour and are provisional.

[What does this mean?](#)

Jump to Monitoring Site

Select a monitoring site...

Go

Select a closed monitoring site...

Go

Postcode Region Search

Use your postcode region (e.g. AB11) to zoom the map or perform a local search for the area.

Map

Local Search

Filter Monitoring Sites

[\[Reset All\]](#)

Show Filters for Pollutants

The filters below will affect which monitoring sites are shown on the map.

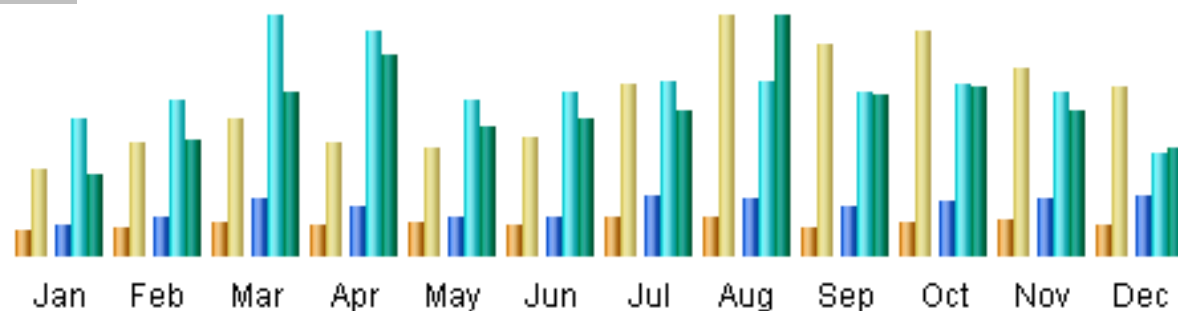
- | | |
|---|---|
| <input checked="" type="checkbox"/> Ozone | <input checked="" type="checkbox"/> Nitrogen dioxide |
| <input checked="" type="checkbox"/> Carbon monoxide | <input checked="" type="checkbox"/> PM ₁₀ particles |
| <input checked="" type="checkbox"/> Sulphur dioxide | <input checked="" type="checkbox"/> PM _{2.5} particles |

Currently only a Limited Number of Subscribers

- 17 in total from:
 - AEA
 - Scottish Government
 - SEPA
 - South Lanarkshire
 - Falkirk
 - Aberdeen
 - Edinburgh
 - Renfrewshire
 - Glasgow
 - Netwidecomputing (probably just an individual)

Website Hits - <http://www.scottishairquality.co.uk/cgi-bin/awstats.pl>

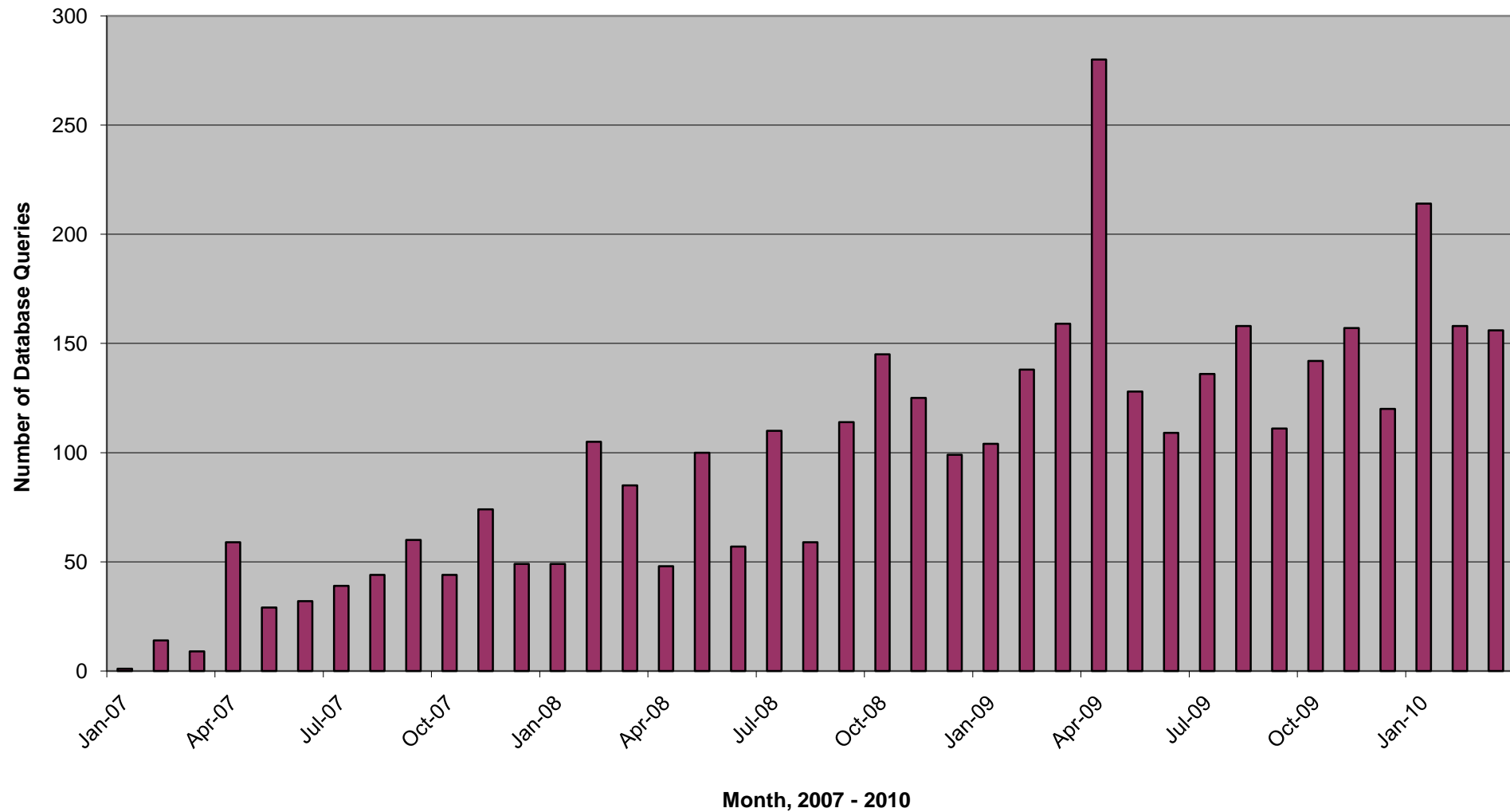
2009



Month	Unique visitors	Number of visits	Pages	Hits	Bandwidth
Jan	1066	3632	11450	51071	638.10 MB
Feb	1152	4789	14310	58665	893.70 MB
Mar	1395	5751	21210	90029	1.24 GB
Apr	1255	4771	18529	84086	1.53 GB
May	1370	4477	14086	58386	1013.30 MB
Jun	1293	4967	14038	61844	1.04 GB
Jul	1658	7167	22959	65622	1.10 GB
Aug	1661	10070	21342	65192	1.82 GB
Sep	1199	8883	18508	61481	1.23 GB
Oct	1451	9461	20585	64738	1.29 GB
Nov	1488	7942	21369	61815	1.10 GB
Dec	1248	7095	22584	38816	843.05 MB
Total	16236	79005	220970	761745	13.67 GB

Database Downloads

Air Quality Scotland Database Downloads 2007 - 2010



New Developments this Year

- Website for PDAs & mobiles
- Low graphics version for dial-up MODEM or other slow internet-access users.
- Know and Respond SMS Air Quality Alert Service (in progress).
- Link to SPRI Database (in progress).
- Text on the data ratification process added.

Website for PDAs and Mobiles - Information

<http://www.scottishairquality.co.uk/mobile-services.php>

Mobile Services - Air Quality in Scotland

Latest air quality information on your mobile phone

You can now view the latest air quality levels across Scotland on your mobile phone when you're away from your computer!

To get started, just type the following web address into your phone's internet browser:

www.scottishairquality.co.uk/mobile

We recommend you bookmark this page once you've visited it for the first time so you can easily access it in the future.

Features

The mobile pages have been specially developed to provide you with the latest information that's important to you on the move. The mobile pages give you access to:

- Latest overall level for Scotland
- Personalisation of the pages - you can save your location so you always see the levels where you are.
- Forecast information
- Information about air quality
- Access to information about all the monitoring sites in the network, including a location map


Important Information

1. Although the we do not charge you for accessing the pages, your operator network may charge for using the internet depending on your tariff. Contact your network operator for more details.
2. The mobile pages are designed to work on modern mobile phones. Older phones that only support the WAP internet may not be able to load these mobile pages.



Website for PDAs and Mobiles – Live Pages

<http://www.scottishairquality.co.uk/mobile>




Air Quality in Scotland

Site Information

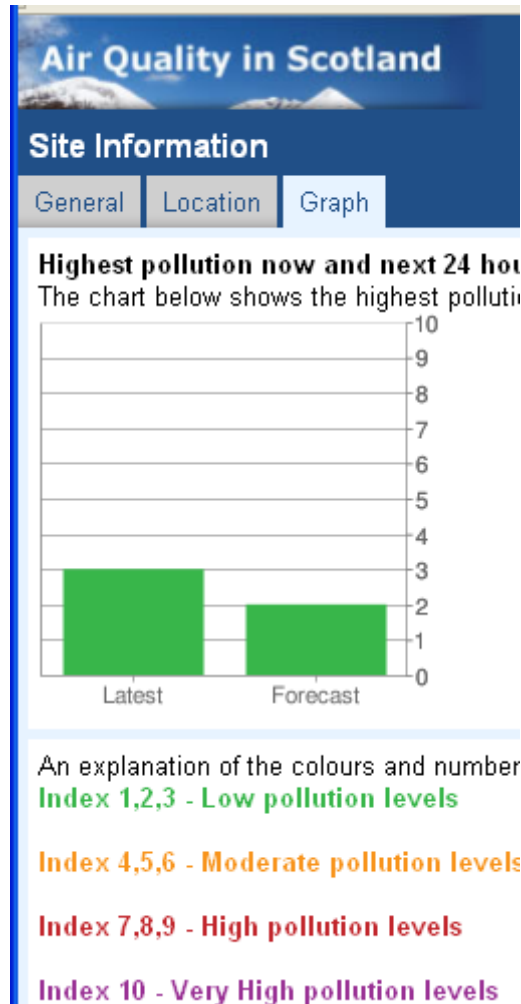

General Location Graph

Site Location Map
The map below shows where this monitoring site is located.



Map data ©2009 Tele Atlas

Main Site Photo
The main site photo is shown below.

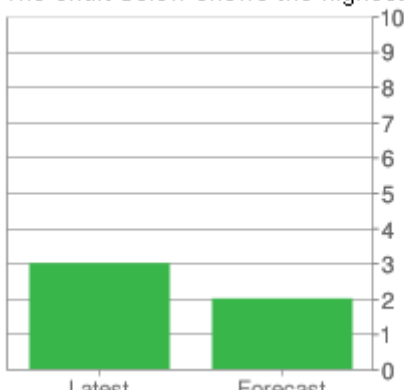


Air Quality in Scotland

Site Information

General Location Graph

Highest pollution now and next 24 hours
The chart below shows the highest pollution index recorded in the last 24 hours and the forecast for the next 24 hours.



Category	Pollution Index
Latest	3
Forecast	2

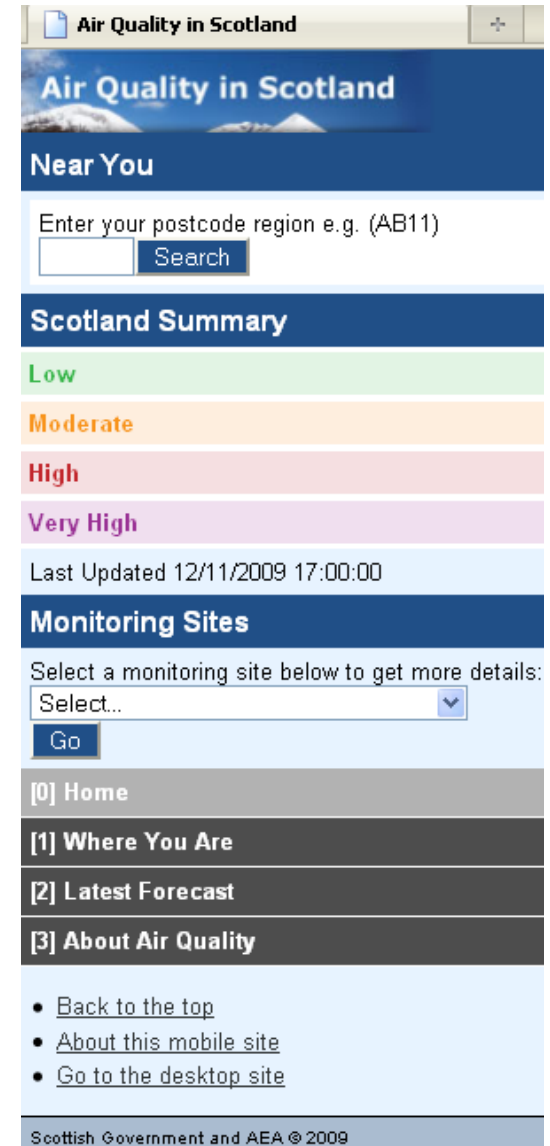
An explanation of the colours and number

Index 1,2,3 - Low pollution levels

Index 4,5,6 - Moderate pollution levels

Index 7,8,9 - High pollution levels

Index 10 - Very High pollution levels



Air Quality in Scotland

Near You

Enter your postcode region e.g. (AB11)

Scotland Summary

Low

Moderate

High

Very High

Last Updated 12/11/2009 17:00:00

Monitoring Sites

Select a monitoring site below to get more details:

[0] Home

[1] Where You Are

[2] Latest Forecast

[3] About Air Quality

- [Back to the top](#)
- [About this mobile site](#)
- [Go to the desktop site](#)

Scottish Government and AEA © 2009

Low Graphics Website Version

Air Quality in Scotland

www.scottishairquality.co.uk

Thursday, November 12, 2009

[Click for Low Graphics Mode](#)

Home Current Levels About Air Quality Maps Trends Data Publications LAQM Links About the site

Quick Links

[Current Levels](#)

[24hr Summary](#)

[Register here](#) to receive daily or hourly e-mail updates of the latest air quality measurements

[SEPA SPRI](#)

Forecast Data

[Highlands](#)

[North East Scotland](#)

[Central Scotland](#)

[Scottish Borders](#)

Bandings

Low: Index 1 to 3
Moderate: Index 4 to 6
High: Index 7 to 9
Very High: Index 10
No data

[Find out more...](#)

News

Revised PM10 Air Quality

Air Quality in Scotland

Map Satellite Hybrid Terrain

Reset Map Zoom

Pollution Summary (Total Sites)

Low 100% Moderate 0% High 0% V. High 0%

Percentage of monitoring sites in each pollution band. Values are based on pollution level measured for the latest hour and are provisional.

[What does this mean?](#)

Jump to Monitoring Site

Select a monitoring site...

Select a closed monitoring site...

Postcode Region Search

Use your postcode region (e.g. AB11) to zoom the map or perform a local search for the area.

Filter Monitoring Sites [\[Reset All\]](#)

Show Filters for Pollutants

The filters below will affect which monitoring sites are shown on the map.

<input checked="" type="checkbox"/> Ozone	<input checked="" type="checkbox"/> Nitrogen dioxide
---	--

Low Graphics Website Version

Air Quality in Scotland

www.scottishairquality.co.uk

Thursday, November 12, 2009
[Click for Enhanced Graphics Mode](#)

[Home](#) [Current Levels](#) [About Air Quality](#) [Maps](#) [Trends](#) [Data](#) [Publications](#) [LAQM](#) [Links](#) [About the site](#)

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[24hr Summary](#)
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[SEPA SPRI](#)

Forecast Data

[Highlands](#)
[North East Scotland](#)
[Central Scotland](#)
[Scottish Borders](#)

Bandings

■ Low: Index 1 to 3
■ Moderate: Index 4 to 6
■ High: Index 7 to 9
■ Very High: Index 10
■ No data
[Find out more...](#)

News

Revised PM10 Air Quality

Air Quality in Scotland

Welcome to the low graphics version of the website.

The latest air pollution summary is shown on the right and you can find more detailed information and data for individual monitoring sites by selecting a site from the drop-down box under '**Jump to Monitoring Site**'.

To find out what monitoring sites are near you, enter your postcode region (eg AB11) in the box under **Postcode Region Search** and click the 'Local Search' button. This will give you a list of monitoring stations in your area, with links to more information such as latest data and graphs, summary statistics and site photographs.

To quickly view the details of current air pollution levels across Scotland, click the Current Levels and 24hr Summary links on the left. If you would like to receive daily or hourly updates by email, please click the '[Register here](#)' link and select the information you would like to receive.

For more general information on air pollution, trends, data and publications, check out the main menu items above.

Pollution Summary (Total Sites)

Percentage of monitoring sites in each pollution band. Values are based on pollution level measured for the latest hour and are provisional.

[What does this mean?](#)

Jump to Monitoring Site

Postcode Region Search

Use your postcode region (e.g. AB11) to zoom the map or perform a local search for the area.

Low Graphics Website Version

[Find out more...](#)

News


Revised PM10 Air Quality Index for Reference Equivalent Data

In the UK over the last two years and more, there has been a steady replacement of old TEOM PM10...

[more...](#)

Reports

Measurement of PM10 and PM2.5 in Scotland with Gravimetric Samplers

[Measurement of PM10 and PM2.5 in Scotland with Gravimetric Samplers](#)  ()

By Ken Stevenson, AEA; Andrew Kent, AEA; Richard Maggs, BV; David Harrison, BV on 15/06/2009

Renfrewshire Council

[LAQM Updating and Screening Assessment 2006](#)  (pdf)

By BMT Cordah Limited on 12/01/2007

Bush Estate

[Latest Data](#)

[Graphing](#)

[Site Details](#)

[Statistics](#)

[Site Photos](#)

Air Pollution for Bush Estate is currently:

LOW (Index 2)

Parameter	Index	Band	Concentration	Period
Ozone (O ₃)	2	LOW	49 µgm ⁻³	Hourly mean
Nitrogen dioxide (NO ₂)	1	LOW	8.8 µgm ⁻³	Hourly mean
Nitric oxide (NO)	not applicable		0.8 µgm ⁻³	Hourly mean
Nitrogen oxides as nitrogen dioxide (NO _x asNO ₂)	not applicable		9.9 µgm ⁻³	Hourly mean

Note: Values are based on provisional data. Data are GMT hour ending.

Know & Respond Information Page

Air Quality in Scotland

www.scottishairquality.co.uk

Thursday, November 12, 2009

[Click for Low Graphics Mode](#)

Home Current Levels About Air Quality Maps Trends Data Publications LAQM Links About the site

Search site Search

Introduction

Air quality & health

Subscribe

Change details

Login/sign on

Username, email or mobile:

Password:

Logon

Known & Respond

What is Know and respond?

Know and Respond is a free service that sends registered users an alert message if air pollution in this area is forecast to be moderate, high or very high. The description of the level of pollution is based upon the [Air Quality Banding System](#).

How does it work?

Every day at 4pm, our air quality forecasters at AEA Technology issue a detailed pollution forecast for the following 24 hours. Under the scheme, anyone who lives or works in the Scotland can sign up to receive free air pollution alerts by mobile phone text message, voicemail or email. You will get an Known & Respond alert whenever air pollution levels are forecast to be MODERATE, HIGH or VERY HIGH, it's your choice.

The alerts can be adapted to suit your needs. You can choose whether to receive the alert on the evening before a high pollution day or on that morning.

[For more information](#) of air quality to health.

Who is Known & Respond for?

The Know & Respond air pollution alert service is provided anyone wishing to know about the quality of the air they breathe. It will be of particular benefit to people with medical conditions that may be affected by pollution, such as asthma, bronchitis and emphysema. It may also benefit people whose breathing gets worse when air pollution increases. This early warning service allows you to make informed decisions and take [action](#) if necessary to minimise the effects.

How to sign up

To register, you need to provide us with some information about yourself and your medical condition. You can choose how you would like to receive your alerts (via email, SMS or voicemail). You may also register on behalf of someone else or a group of people who are susceptible to the effects of air pollution. If you do this, you will also need to provide some information about the patient(s).

To sign up to the Known & Respond scheme click [here](#). Alternatively, please E-mail us at: info@scottishairquality.co.uk

Relevant links

- [Committee on the Medical Effects of Air Pollutants \(COMEAP\)](#)
- The [Breathe Easy](#) support group network provides support and information for people living with a lung condition, and for those who look after them.
- [Asthma UK](#) is the charity dedicated to improving the health and well-being of the 5.4 million people in the UK whose lives are affected by asthma.

Know & Respond Sign-Up Page

Air Quality in Scotland

www.scottishairquality.co.uk

Thursday, November 12, 2009
[Click for Low Graphics Mode](#)

Home Current Levels About Air Quality Maps Trends Data Publications LAQM Links About the site

Introduction

Air quality & health

[Subscribe](#)

[Change details](#)

Login/sign on

Username, email or mobile:

Password:

Known & Respond

Form to subscribe to the service

Please note that the service providers are not responsible for the health of the individuals subscribing to the service; subscribers should contact their GP or health service for specific advice on any issues of concern to their condition.

We will not pass on any personal information to a third party.

Username *

Password *
At least 5 characters

Firstname *

Surname *

Subscribe for: Self

Date of Birth
(dd/mm/yyyy)

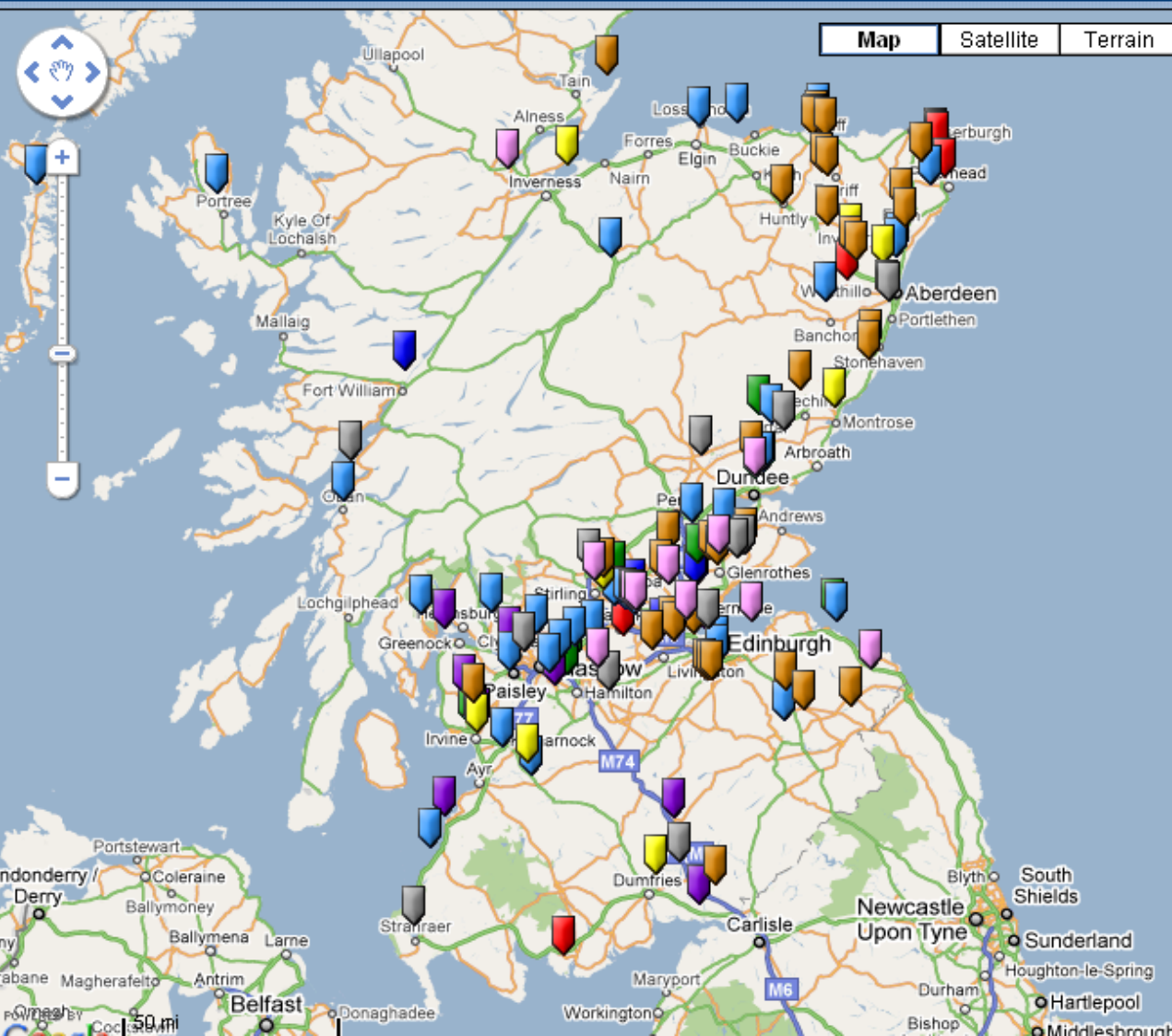
E-mail: *
The account details will be sent to this address.

Mobile:

Start Date: * 12/11/2009
(dd/mm/yyyy), this subscription will take effect from this date

End Date:
(dd/mm/yyyy)

SEPA SPRI - Releases to Air (2007)



Introduction to Data

This is an interactive map to allow you to explore the [Scottish Pollutant Release Inventory \(SPRI\) emissions data](#) (Releases to Air) for the facilities across Scotland. This data comes from both the [SPRI](#) and [UK PRTR](#) datasets.

The markers are colour coded by main activity category which you can filter by using the checkboxes below.

Postcode Region Zoom

Use your postcode region (e.g. AB11) to zoom the map to a specific part of Scotland.

Filter by Main Activity Category

Use the checkboxes below to filter the facilities shown on the map by main activity category. The markers are colour coded as shown.

- ☒ ☐ Energy
- ☒ ☐ Production of Processing Metals
- ☒ ☐ Mineral Industry
- ☒ ☐ Paper and Wood Production
- ☒ ☐ Chemical Industry
- ☒ ☐ Waste Management
- ☒ ☐ Intensive Livestock Production
- ☒ ☐ Food and Beverage sector
- ☒ ☐ Other Activities

Air Quality in Scotland

www.scottishairquality.co.uk

Monday, March 29, 2010

[Low Graphics Mode](#)

Home

Current Levels

About Air Quality

Maps

Trends

Data

Publications

LAQM

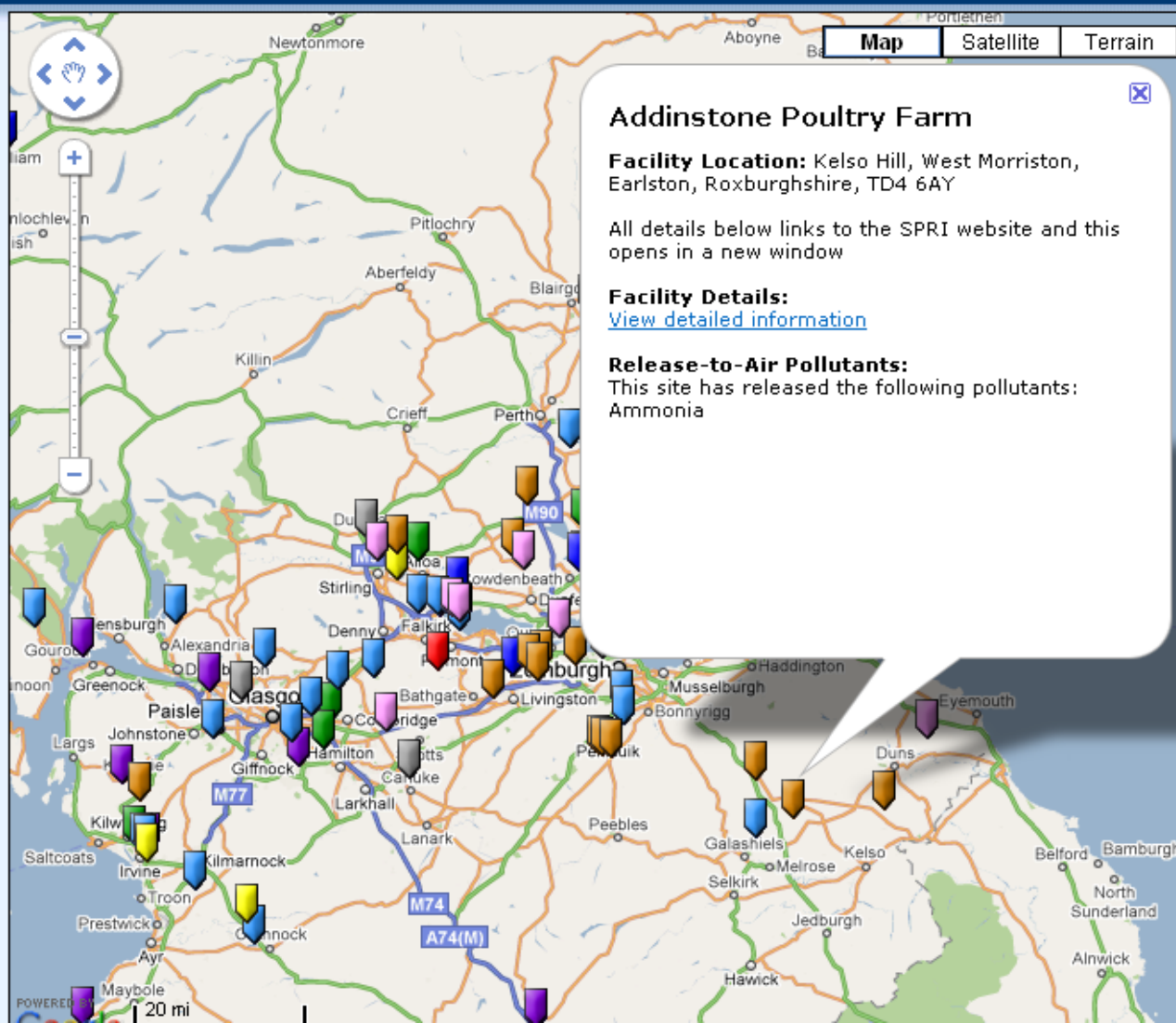
Mobile Web

Links

Search site

Search

SEPA SPRI - Releases to Air (2007)



Introduction to Data

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Map

Filter by Main Activity Category

Use the checkboxes below to filter the facilities shown on the map by main activity category. The markers are colour coded as shown.

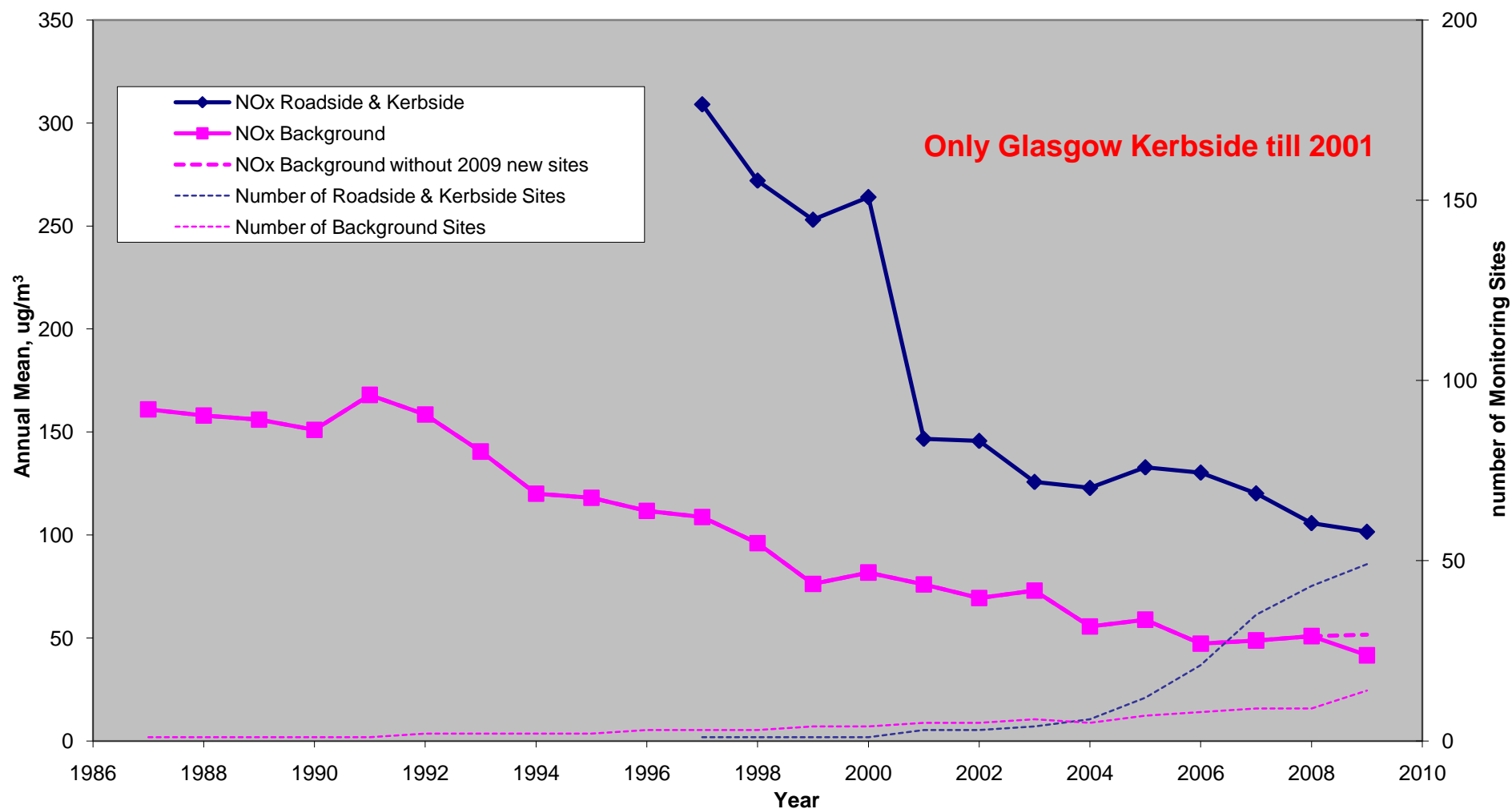
- ☒ Energy
- ☒ Production of Processing Metals
- ☒ Mineral Industry
- ☒ Paper and Wood Production
- ☒ Chemical Industry
- ☒ Waste Management
- ☒ Intensive Livestock Production
- ☒ Food and Beverage sector
- ☒ Other Activities



Air Quality Trends for Scotland.

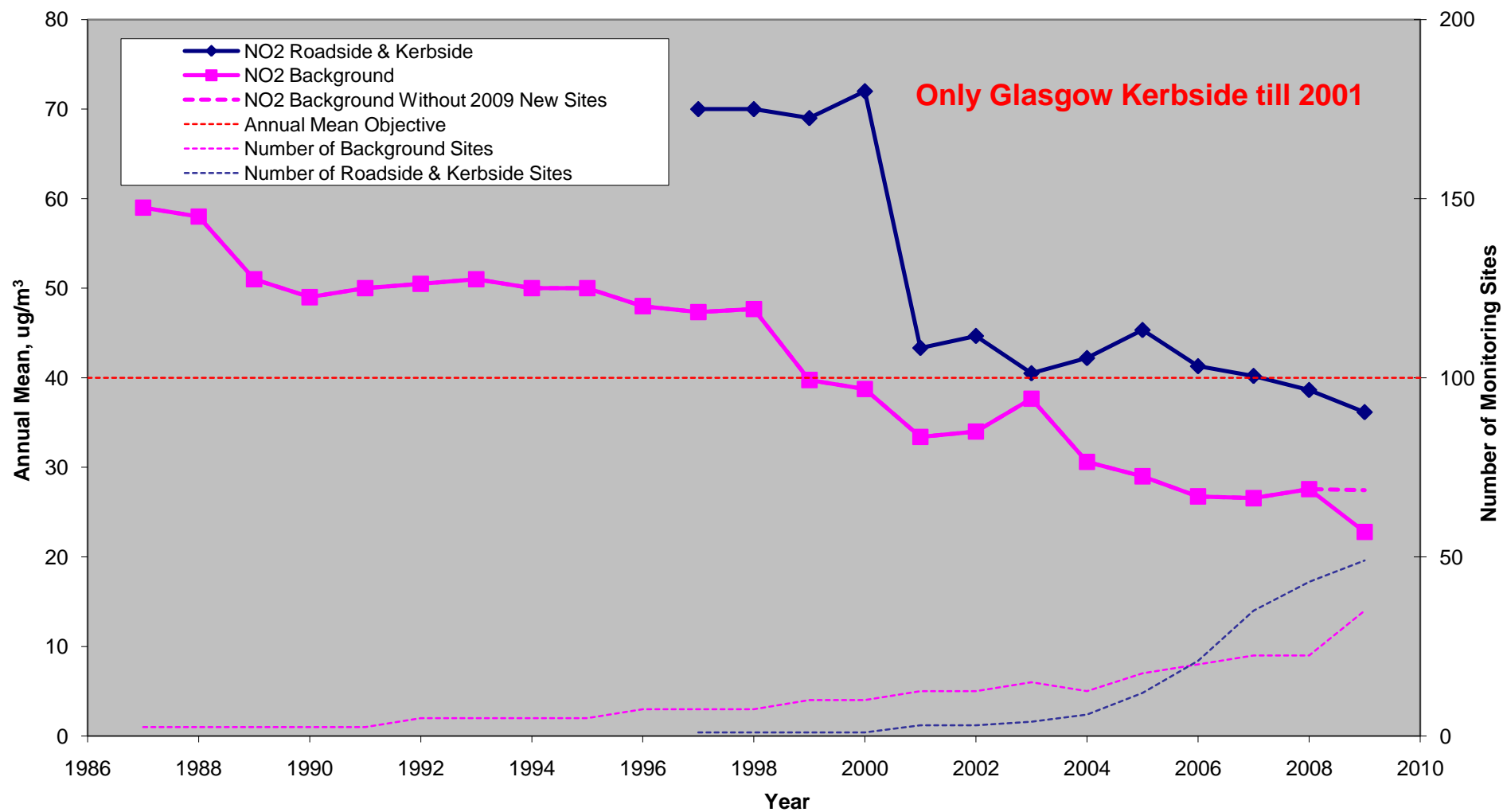
NO_x Trends

Annual Mean NO_x Trends for Scotland - PROVISIONAL 2009



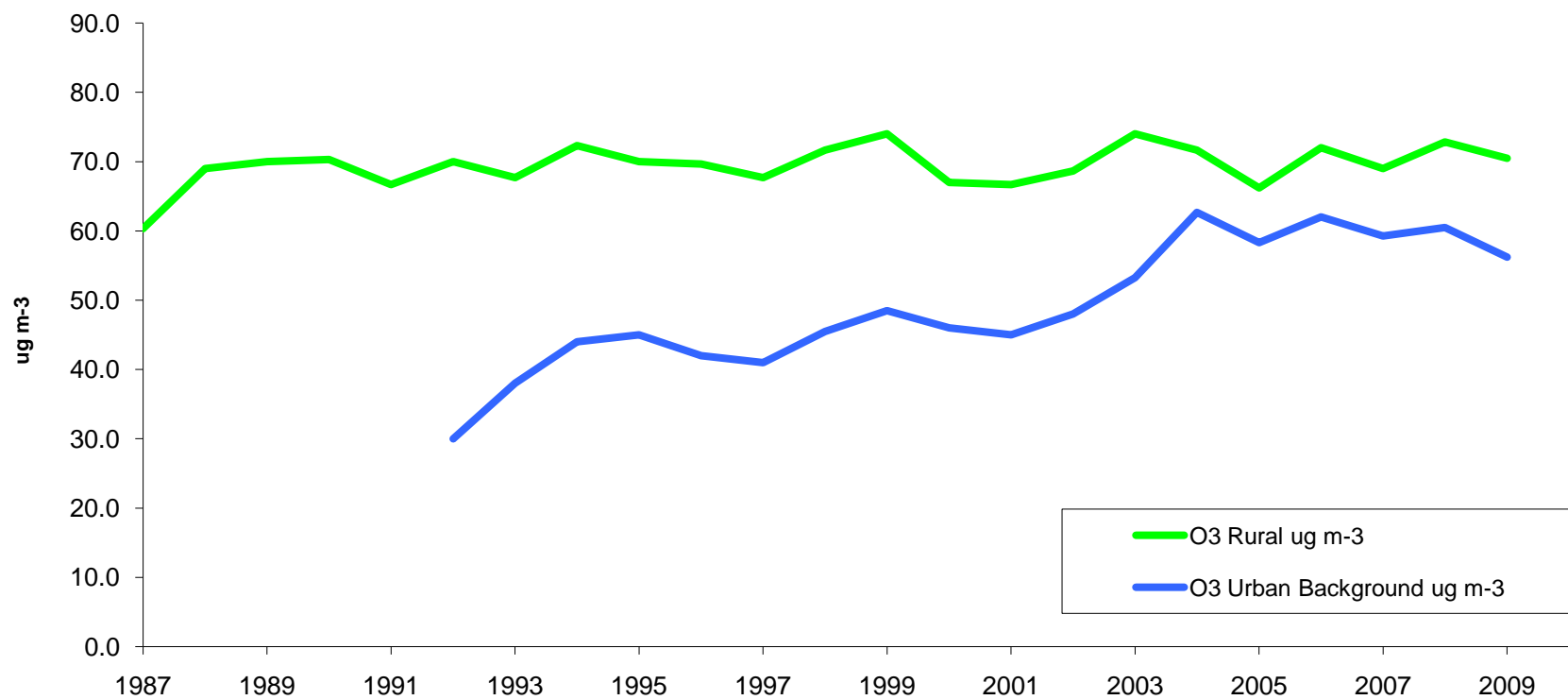
NO₂ Trends

Annual Mean NO₂ Trends for Scotland - PROVISIONAL 2009



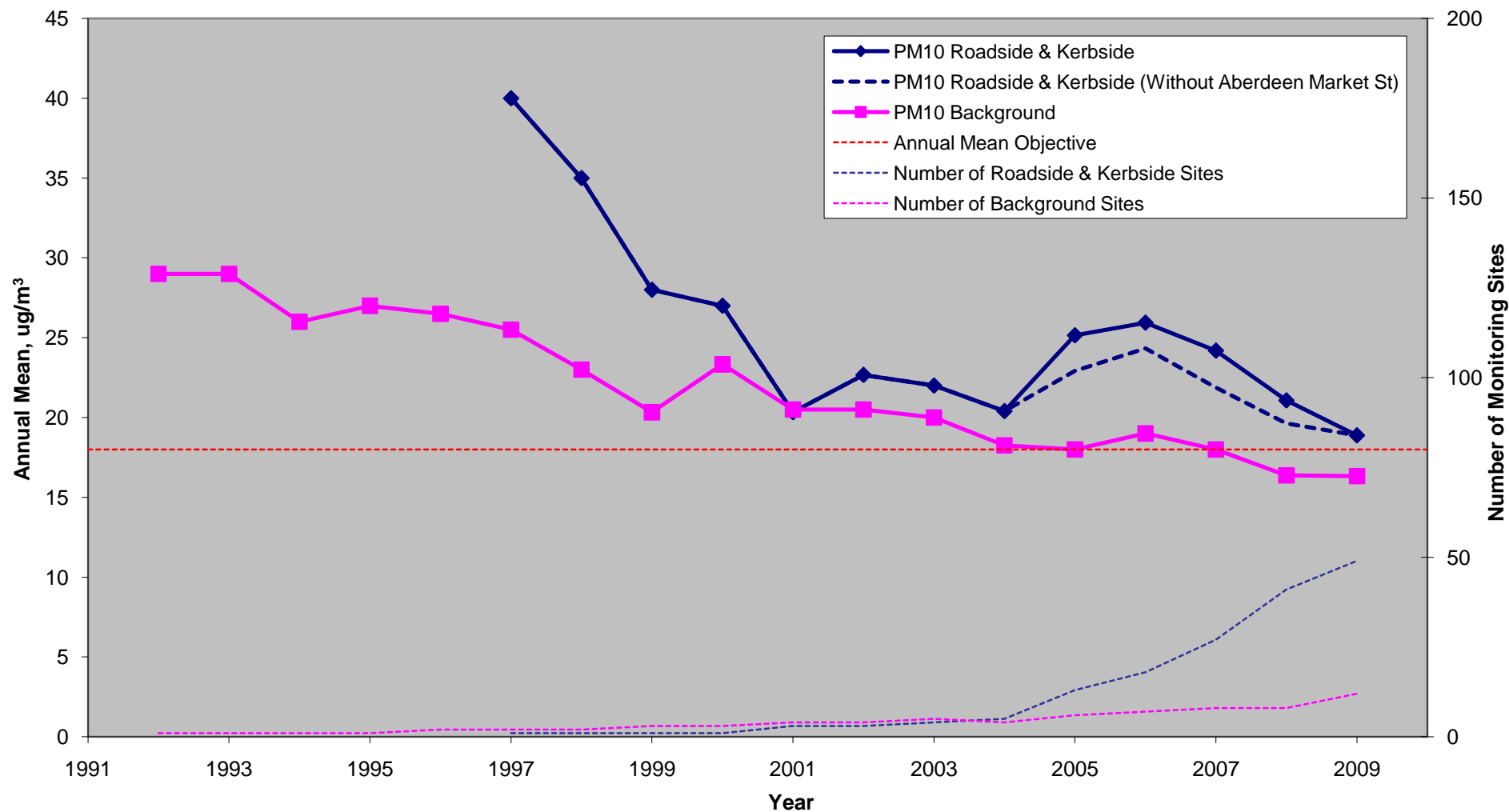
Ozone Trends

Annual Mean Ozone Trends for Scotland
PROVISIONAL 2009 - No data capture threshold.



PM₁₀ Trends

Annual Mean PM₁₀ Trends for Scotland - PROVISIONAL 2009



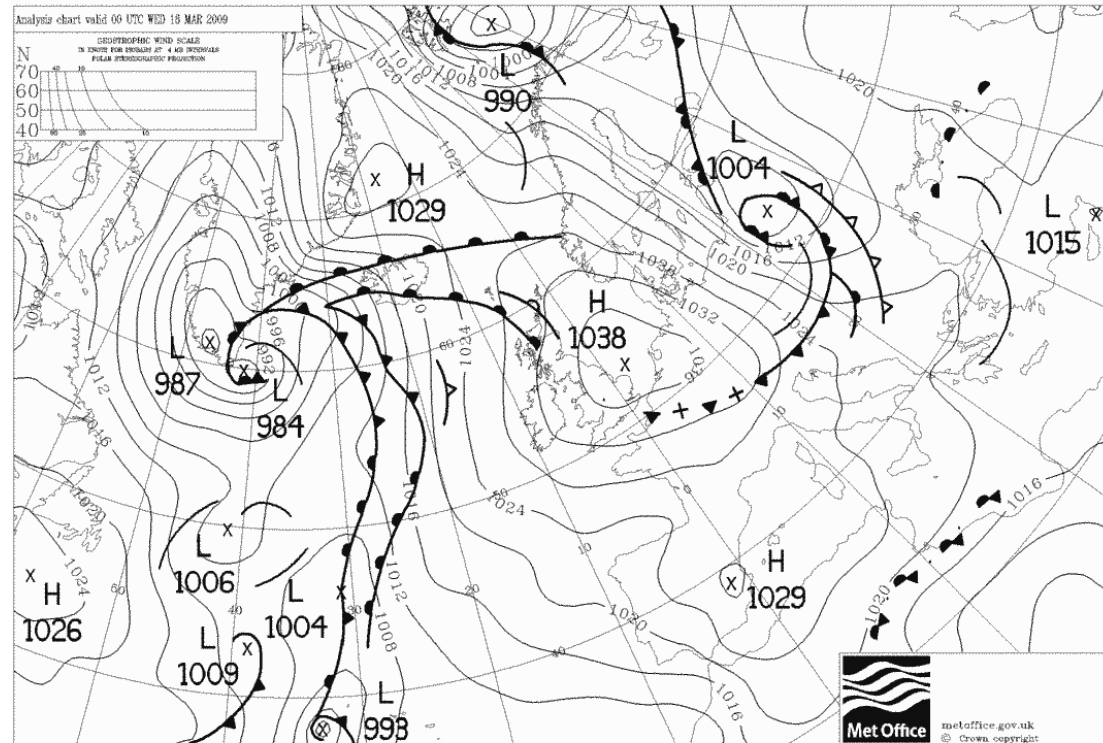
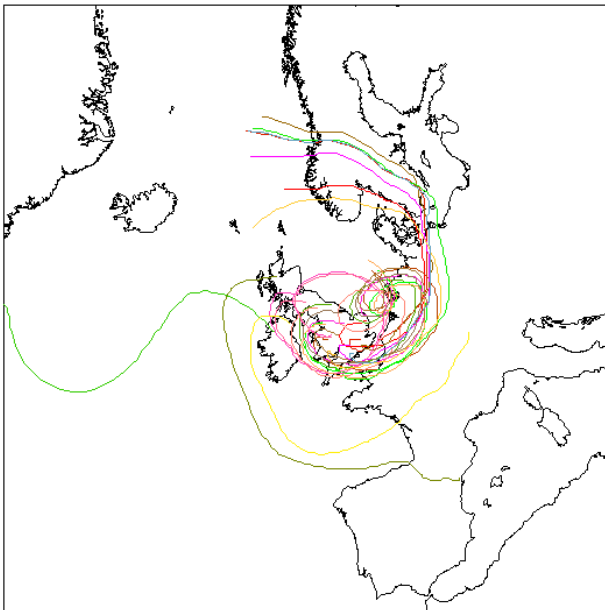


Pollution Episodes.

Particulates, March 18th to 22nd 2009

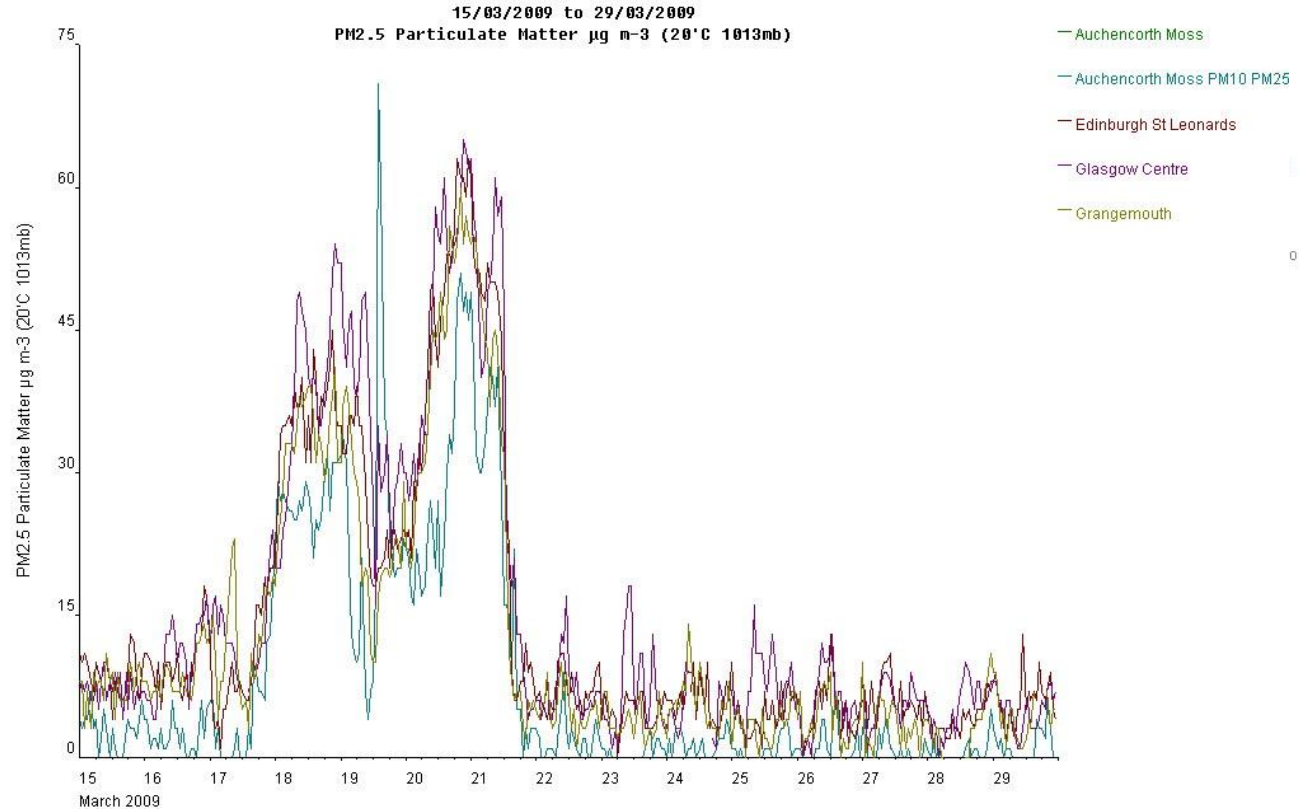
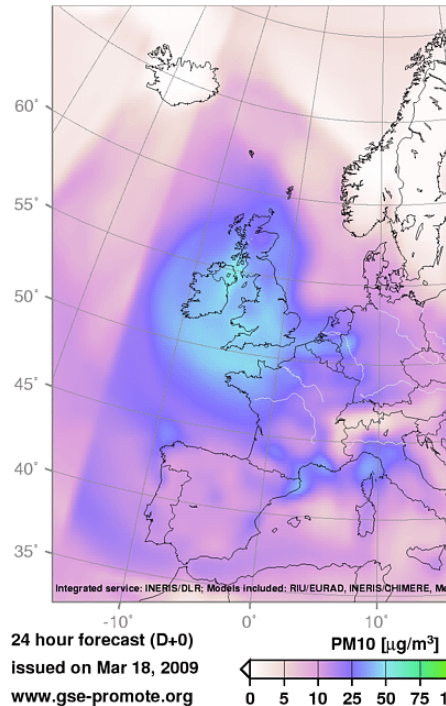
- Long-range transport from Europe.

Airmass back trajectories for 96 hours
upto 12:00 Saturday 21-03-2009



Particulates, March 18th to 22nd 2009

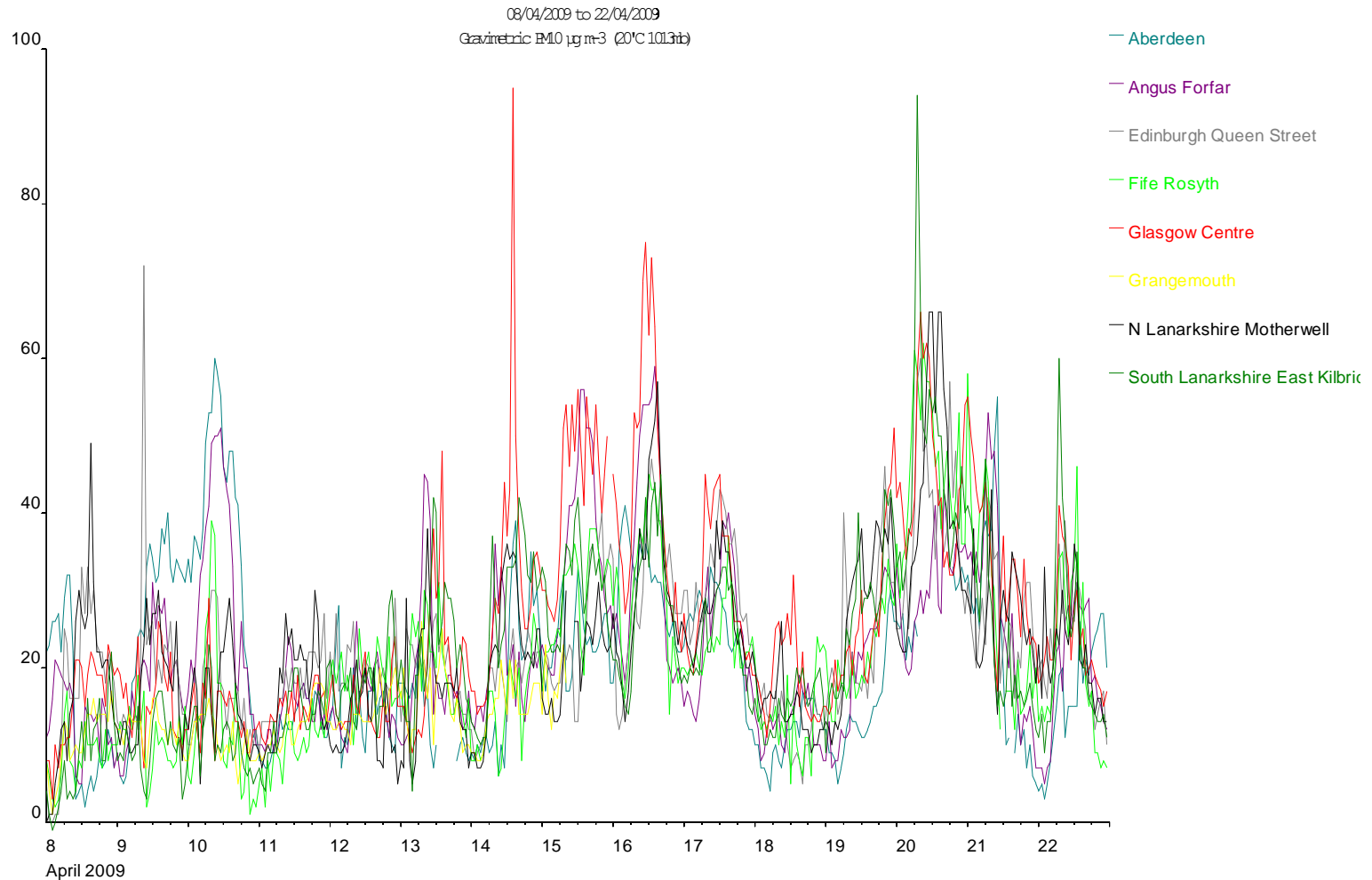
Integrated Air Quality Ensemble
Particulate Matter (PM₁₀), Surface Level



Ten monitoring stations recorded 3 or 4 days with exceedences of the 50 µg/m³ daily PM₁₀ standard

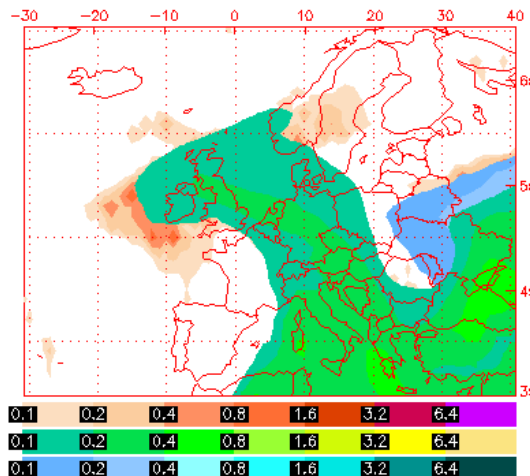
Saharan Dust and Smoke April 15th – 20th.

- Several sites recorded exceedences of the 50 $\mu\text{g}/\text{m}^3$ standard.

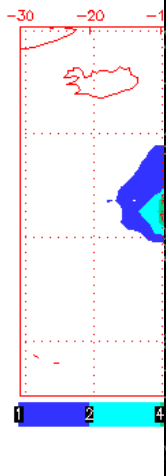


Saharan Dust and Smoke, April 2009.

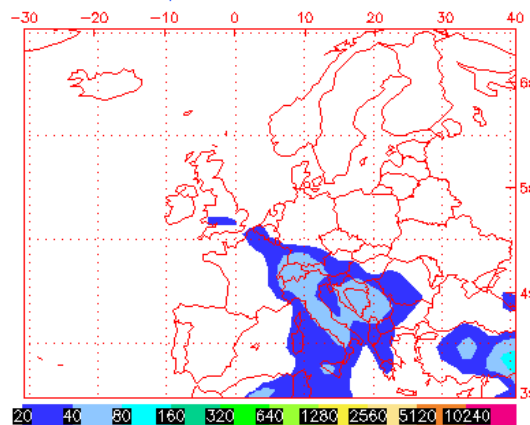
NAAPS Total Optical Depth for 00:00Z 16 Apr 2009
Sulfate: Orange/Red, Dust: Green/Yellow, Smoke: Blue



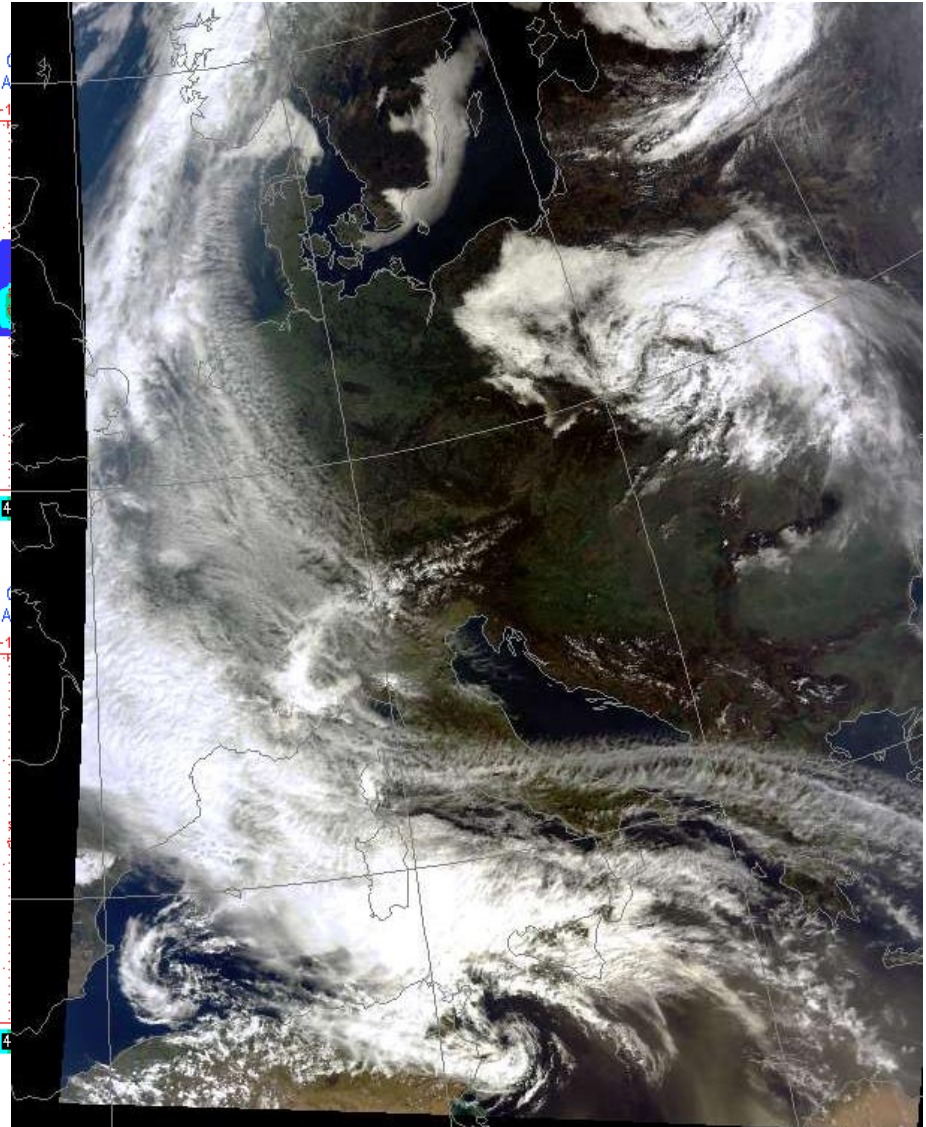
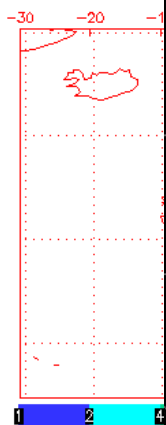
NAAPS Surface Concentration for 00:00Z 16 Apr 2009



NAAPS Surface Concentration ($\mu\text{g}-\text{m}^{-3}$) for 00:00Z 16 Apr 2009 Dust



NAAPS Surface Concentration for 00:00Z 16 Apr 2009



SO₂ from the Sarychev Volcanic Eruption?

- This volcano erupted spectacularly on June 12th.

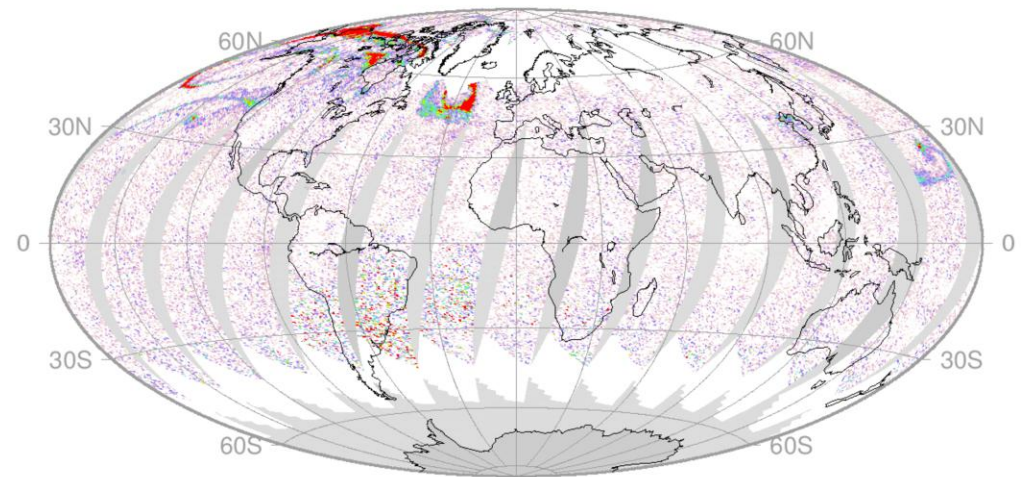


GOME-2 / MetOp

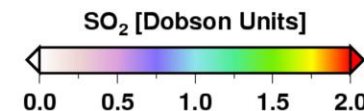
Jun 25, 2009

SO₂ Vertical Column Density

- The SO₂ plume was tracked by satellite instruments across the North Atlantic towards the UK on June 25th.

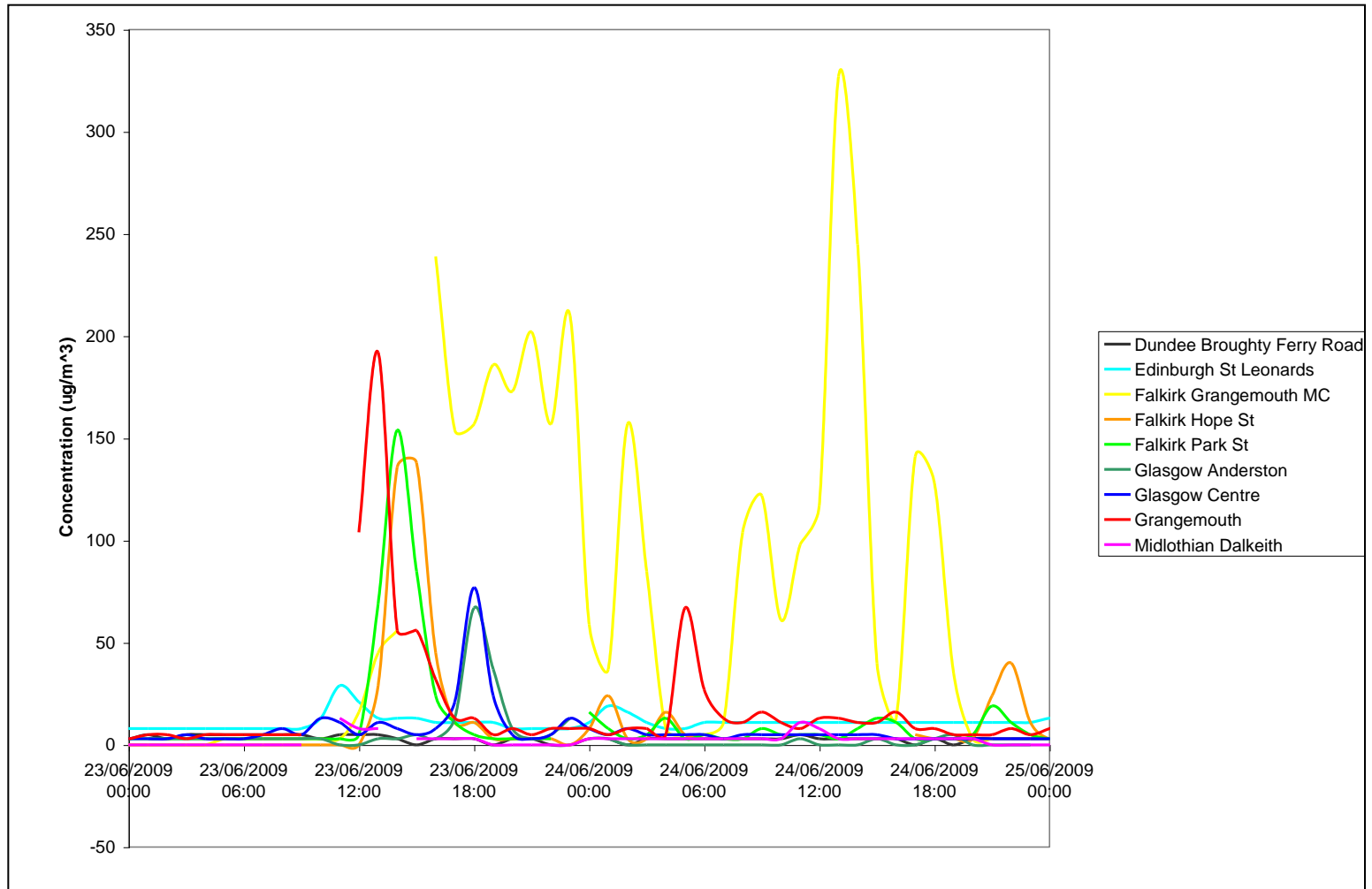


One-day Composite
Lv2 Version: GDP-4.3
<http://wdc.dlr.de>



SO₂ peaks were recorded across Scotland at about the same time as the plume arrived

- But they were also near to significant known ground-based SO₂ sources and the meteorology was favourable for plume-grounding.



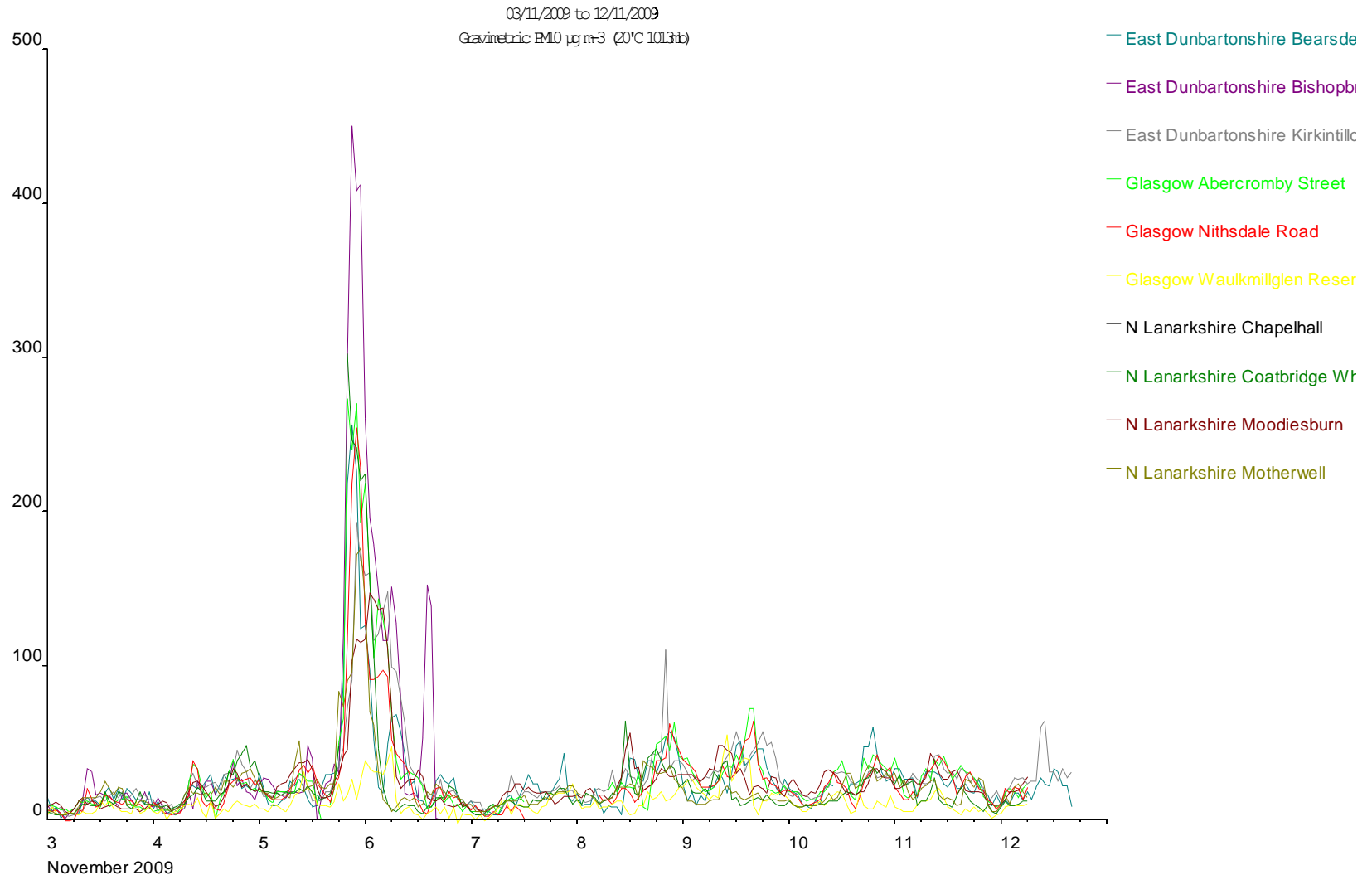
Bonfire Night 2009

- A number of sites around the Greater Glasgow region recorded Moderate to Very High PM₁₀ on November 5th. Wind speeds were low.
- Glasgow Green Fireworks:
- “Glasgow’s infamous and spectacular musical fireworks display.
- More than 50,000 explosions were set to music, with the timing almost perfect, and the biggest shells in the UK being fired up into the night sky.”



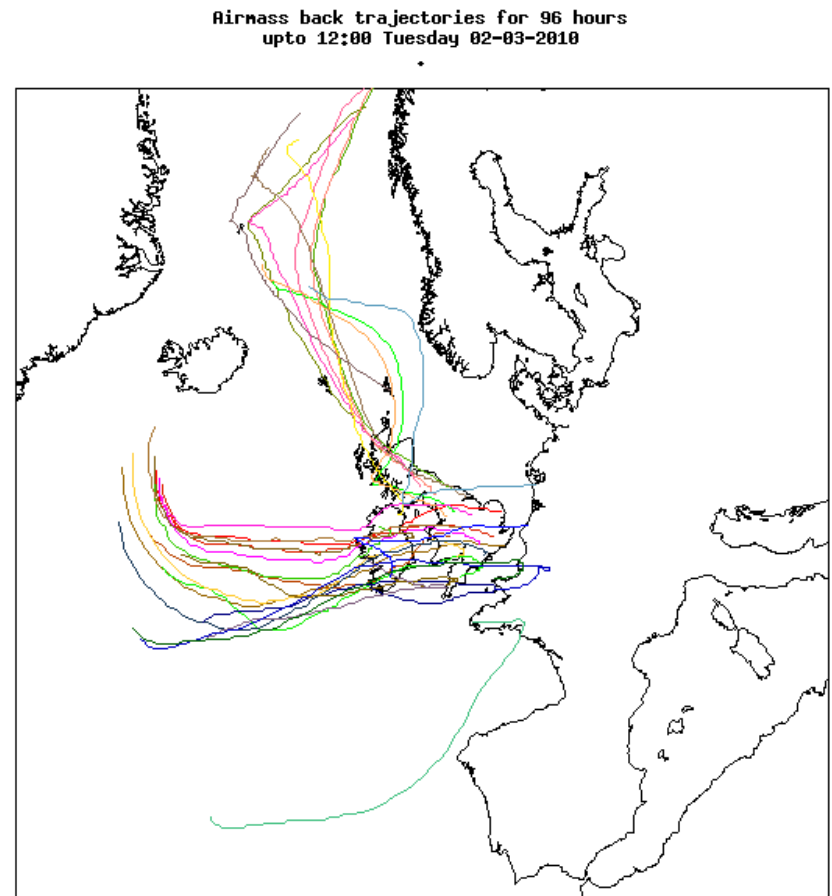
Bonfire Night 2009

12 sites Moderate PM₁₀, 1 High and 1 Very High.

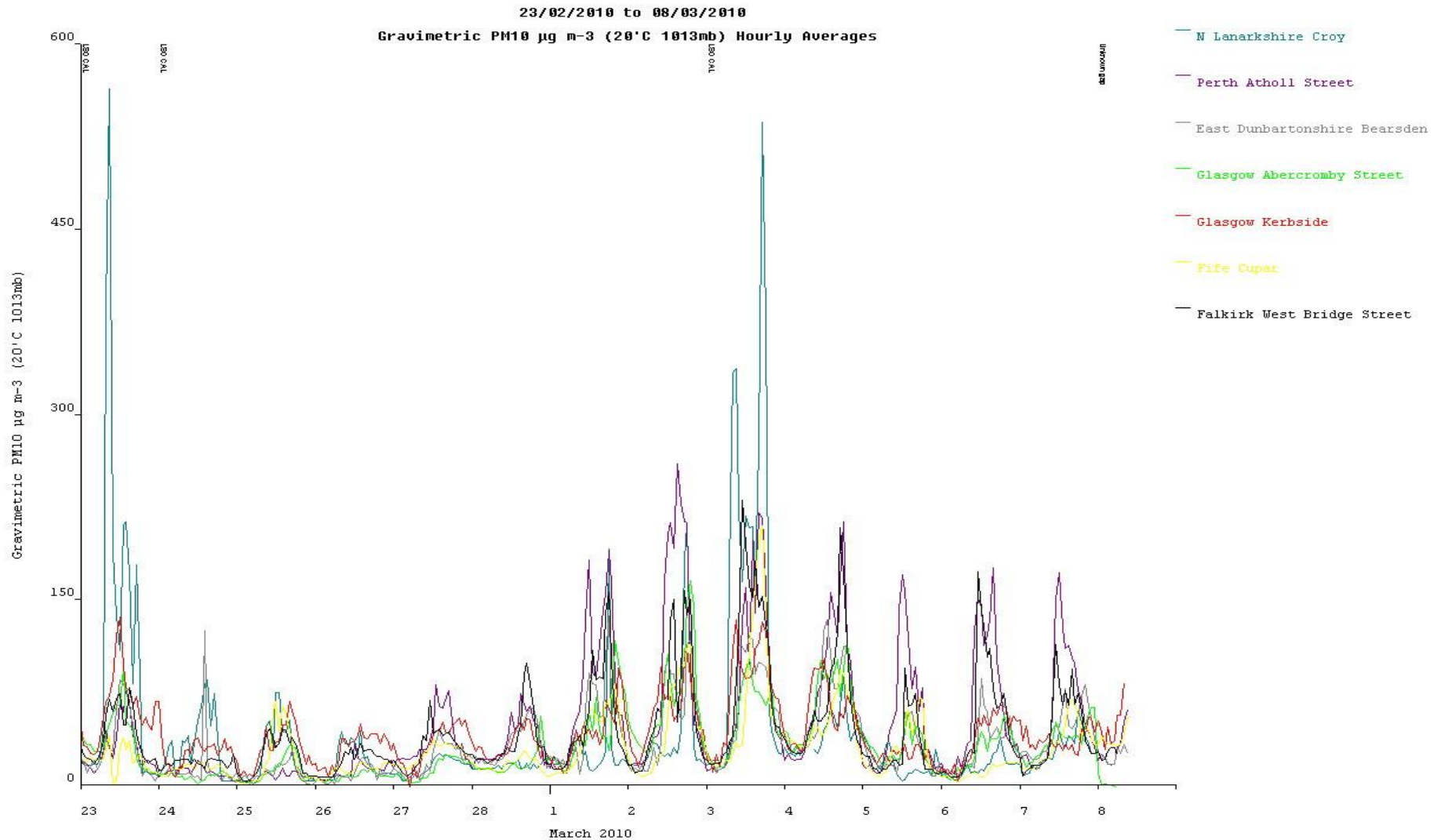


March 2010 Particulate Episode

- During the period 28 Feb – 4 March 2010, thirteen air quality monitoring stations in Scotland recorded moderate or higher concentrations of PM₁₀
- Only one site was part of the AURN, the rest were LA sites.
- All roadside or kerbside sites.
- Wind speeds were low.
- No increases in rural background measurements to indicate any long-range transport of pollutants.



March 2010 Particulate Episode





Any Questions?

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