

# **Dissemination of UK Air Pollution Forecasts**

**Air Quality Forecasting Seminar  
December 3<sup>rd</sup> 2001**

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**National Environmental Technology Centre**

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# Today's Presentation

- Some Background Information
  - Objectives
  - History
- Current Air Quality Forecast Dissemination
  - Compiling the Forecast
  - Dissemination Routes
- Future Developments
  - Zones and Agglomerations
  - New WWW pages for forecasts

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# Dissemination Objectives

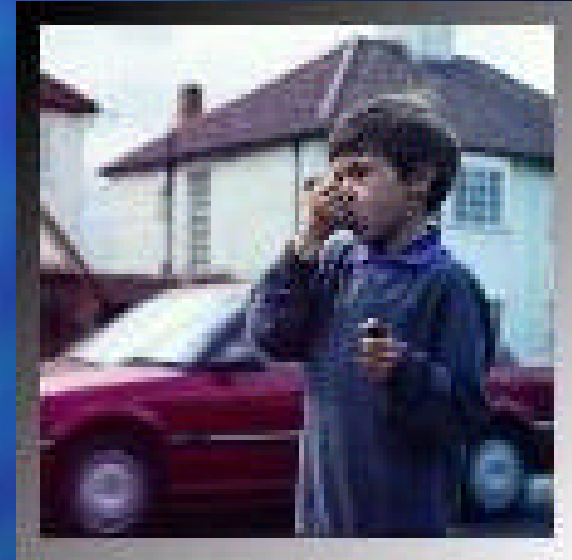
- To inform the UK public so that they can take appropriate measures.
- To meet the requirements of European Directives on Air Pollution by ozone, sulphur dioxide and nitrogen dioxide.

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# Informing the Public

- So that they can take measures to prevent or alleviate health problems.
- To encourage them to consider the effect that their activities may have on pollutant levels.



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# Meeting EC Directive Requirements

- Alert and Information Thresholds.
- A Requirement to forecast episodes:
  - Time period and geographical extent.
  - Predicted range of concentration.
  - Expected change in pollution.
  - Reason for occurrence and any change in this situation.

# A Brief History

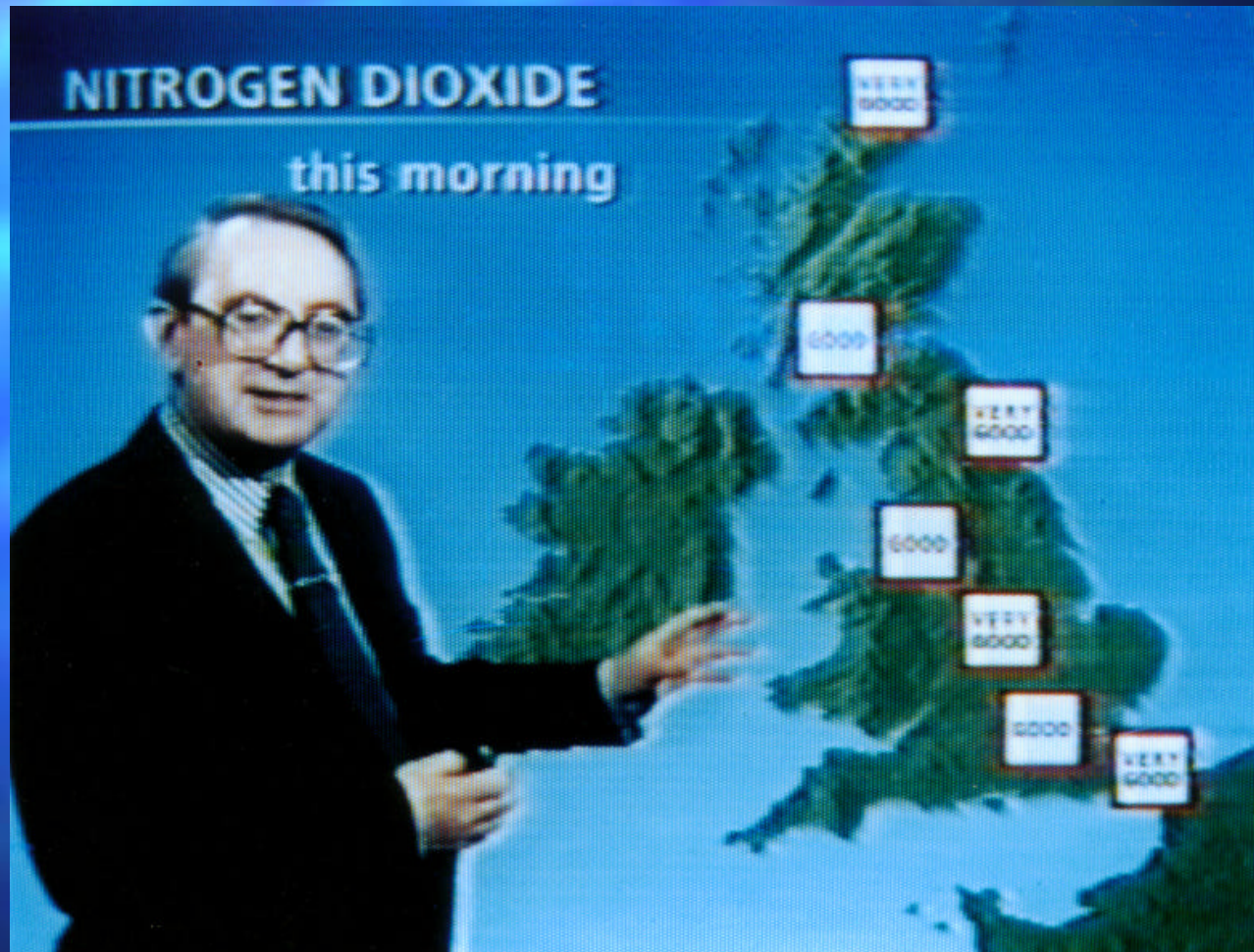
- First UK forecasts issued in October 1990
- Disseminated by
  - MODEM file transfer to Met Office dot-matrix printer
  - BBC Weather Presenters

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# Weatherman



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# The Current System

- A national “Media Forecast” is issued at 4 p.m. daily.
- When ‘High’ pollution is measured or forecast, updated information may be published at other times during the day.
- DEFRA may issue a press release if an episode is widespread or of exceptional nature.



# Compiling a Forecast

- Forecasts are issued for ten regions and three location types (rural, background, roadside).
- Forecasters use the following information;
  - Results from the NAME, ozone trajectory and other pollution forecasting models
  - Latest air pollution monitoring data
  - Latest weather forecasts
  - Local information (from site operators)
  - Expert Judgement

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# The Air Pollution Index

Index	SO <sub>2</sub>	NO <sub>2</sub>	O <sub>3</sub>	PM <sub>10</sub>	CO	
						15 min
Very High	10	> 400	> 400	>180*	>100	>20
High	7 – 9	200 – 399	300 – 399	90 – 179	75 – 99	15 – 19.9
Moderate	4 – 6	199 – 100	150 – 299	50 – 89	50 – 74	10 – 14.9
Low	1 – 3	< 100	<150	<50	<50	<10

ng/m<sup>3</sup>

COMEAP

# Forecast Dissemination

- Freephone
- TELETEXT
- World Wide Web
- e-mail bulletins
- CEEFAX and BBC Online

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# Freephone

- 0800 556677
- Callers are directed initially to their local region.
- Forecasts, monitoring data, pollution alerts, health effects information



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# Air Pollution

SCOTLAND

## POLLUTION FACTS AT YOUR FINGERTIPS

High levels of air pollution can affect some adults and children with heart or lung conditions such as asthma.

For further information on air pollution and health advice ring freephone 0800 556677

or see

<http://www.aeat.co.uk/netcen/airqual/>

Air pollution is on a scale 1 to 10

LOW(1-3) MOD(4-6) HIGH(7-9) V.HIGH(10)

-----1/5-----

Check out the Green Scene 130 C4

LOOKING FOR A JOB? - SEE THE  
LATEST VACANCIES C4 p636

# Air Pollution

SCOTLAND

-----  
- 10am Wed Mar 1 -----

## Current levels in Scotland

Near busy roads in towns and  
cities levels are HIGH

Elsewhere in towns and cities  
levels are LOW

In the Countryside levels  
are MODERATE

Pollution alert P156

-----2/4-----  
Check out the Green Scene 130 C4

NOW IT'S EVEN EASIER TO FIND LOVE:  
TELETEXT DATING p390

# Air Pollution

SCOTLAND

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National Forecast to 15:00 Thu Mar 2

Regions with pollution index **10**  
None

Regions with pollution index **7 to 9**  
Scotland

Forecast for all other regions is  
a pollution index of 6 or less.

The air pollution index range is 1-10

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5/5

Check out the Green Scene 130 C4

WIN YOUR HOLIDAY FREE SEE p362

# Air Pollution

SCOTLAND

- 10am Wed Mar 1 -----

## POLLUTION ALERT

page 1 of 2

The concentration of sulphur dioxide was above the alert threshold in Glasgow at 2pm today. It was due to the high levels of traffic combined with very still weather conditions. These conditions are expected to improve in the next 4 hours.

You may be sensitive to air pollution if you suffer from asthma or other lung disease, or if you have heart problems. Some people with these conditions are more affected than others by air pollution.

-----2/4-----

Check out the Green Scene 130 C4

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# Forecasts on the World Wide Web

## The UK National Air Quality Information Archive

- <http://www.aeat.co.uk/netcen/airqual/>
- Hourly bulletins including a forecast.
- Explanatory text
- Reports on forecast success rates and modelling techniques.

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Home > Forecast & Bulletins



# Air Pollution Summary



midday Thu Nov 29th  
Midlands



## In towns and cities near busier roads

Currently: **1 (Low)**

Forecast: Rise to **2 (Low)**



## Elsewhere in towns and cities

Currently: **2 (Low)**

Forecast: Rise to **3 (Low)**



## In rural areas

Currently: **2 (Low)**

Forecast: Rise to **3 (Low)**

The Forecast is Valid until 11am Fri Nov 30th

<b>Air Pollution is on a scale of 1 to 10</b>			
<b>Low (1 - 3)</b>	<b>Moderate (4 - 6)</b>	<b>High (7 - 9)</b>	<b>Very High (10)</b>

# E-mail Bulletins

- Email service currently received by 100 + organisations including;
  - Weather Centres
  - TV and Newspapers
  - Government, Researchers
- Available to anyone by contacting - [geoff.broughton@aeat.co.uk](mailto:geoff.broughton@aeat.co.uk)
- Issued daily at 5pm

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## Air Pollution Forecast

### Air pollution forecast until 4pm Wed Nov 21st

Region	In rural areas	In towns and cities away from busier roads	In towns and cities next to busier roads
Northern Ireland	2 (Low)	2 (Low)	2 (Low)
London		3 (Low)	3 (Low)
Midlands	2 (Low)	4 (Moderate)	4 (Moderate)
North East England	2 (Low)	3 (Low)	3 (Low)
North West England	2 (Low)	4 (Moderate)	4 (Moderate)
South East England	2 (Low)	3 (Low)	3 (Low)
South West England	2 (Low)	4 (Moderate)	4 (Moderate)
East Anglia	2 (Low)	2 (Low)	2 (Low)
Scotland	3 (Low)	3 (Low)	3 (Low)
Wales	3 (Low)	3 (Low)	3 (Low)

Air Pollution is on a scale of 1 to 10

Low (1 - 3)

Moderate (4 - 6)

High (7 - 9)

Very High (10)

[About this scale](#)





# Consistency of Forecasts

- Both DEFRA and the BBC use the 1-10 Air Pollution Index approved by COMEAP:
  - 1-3 (LOW)
  - 4-6 (MODERATE)
  - 7-9 (HIGH)
  - 10 (VERY HIGH)
- NETCEN and the Met Office apply a quality control system to ensure that the regional DEFRA forecasts agree with the values for the BBC's 230 towns and cities.

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# BBC Online - 5 Day Forecast

BBC - Weather Centre - UK Weather - Regional Forecast - Satellite - Microsoft Internet Explorer

File Edit View Favorites Tools Help

BBC | CATEGORIES TV RADIO COMMUNICATE WHERE I LIVE INDEX SEARCH [ ] Go

THURSDAY  
15th November 2001  
[Text only](#)

BBC Homepage

- Weather
- UK Weather
- Temperature
- Wind
- Satellite
- Visible Sat
- Pressure
- Radar
- Warnings
- 
- East
- East Midlands
- Midlands
- North
- North East
- North West
- N. Ireland
- Scotland
- South
- South East
- South West
- Wales
- West
- World Weather

**BBC Weather Centre**

BBC - Weather Centre - Five Day Forecast - Microsoft Internet Explorer provided by Integris

London, United Kingdom BBC WEATHER CENTRE

	Thursday	Friday	Saturday	Sunday	Monday
<b>5-Day Forecast</b>					
Temperature (°C / °F)	Max: 10 / 50 Min: 6 / 42	Max: 11 / 51 Min: 8 / 46	Max: 8 / 46 Min: 7 / 44	Max: 10 / 50 Min: 8 / 46	Max: 11 / 51 Min: 7 / 44
Air Pollution Index	4	4	4	4	4
Sun Index	1	1	1	1	1
Sunrise (GMT)	7:16	7:17	7:19	7:21	7:22
Sunset (GMT)	16:12	16:11	16:10	16:08	16:07

**Current Nearest Observations**

Temperature (°C / °F)	4 / 39
Relative Humidity	80 %
Wind Speed (mph)	3 (N)
Pressure (mB)	1040, Rising
Visibility	Good

- [Set London to be my hometown Why?](#)
- [Go to the BBC Weather Centre.](#)
- [Go to Europe Continental Weather](#)

Nearest weather station located at Lat: 51.517, Long: -0.127. Observed at 0900 15/11/2001. CLOSE

Loading slide 3 of 9

Start GroupWise - ... Microsoft Po... Exploring - OI... BBC - Weath... BBC - We... 11:40

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# Forecasts for Zones and Agglomerations

- As required by European Air Quality Directives, the UK has been split into 16 zones and 28 agglomerations.
- In future the DEFRA forecasts will be issued for rural, urban background and roadside locations in each zone and 16 agglomerations.
- New service launched early next year.

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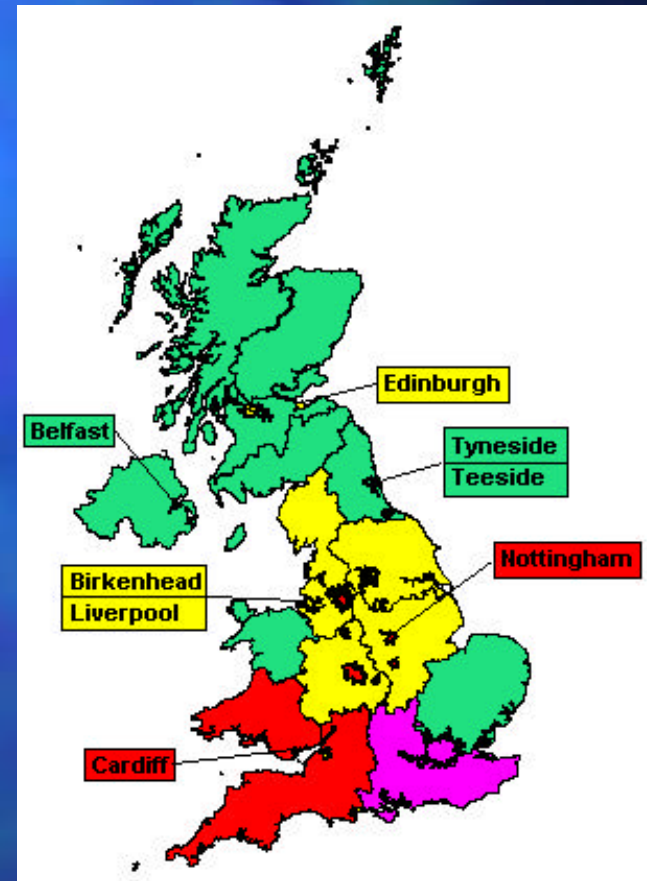
# Proposed List of Agglomerations

<b>Agglomeration</b>	<b>Population</b>
Greater London	7650944
West Midlands Urban Area	2296180
Greater Manchester Urban Area	2277330
West Yorkshire Urban Area	1445981
Tyneside	885981
Liverpool Urban Area	837998
Sheffield Urban Area	633362
Nottingham Urban Area	613726
Bristol Urban Area	522784
Brighton/Worthing/Littlehampton	437592
Leicester	416601
Portsmouth	409341
Swansea/Neath/Port Talbot	272456
Cardiff	306904
Edinburgh Urban Area	416232
Glasgow Urban Area	1315544
Belfast	475987



# Proposal for an updated DEFRA Forecasting Web Site

- A more interactive map-based web site for disseminating forecasts.
- Colour coded.
- Pollution Alerts
- Technical reports



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# Summary

- Air Pollution Forecasts are widely disseminated in the UK.
- They both meet statutory requirements and inform the public.
- Large numbers of people access the information.
- The need for more detailed forecasts is currently being addressed.