



# Air Pollution Awareness: WM-Air's Impact through Public Engagement and Educational Resources

The Air We Breathe exhibition for UoB – visited by >6500 people

UKRI-funded Sounding Out Pollution – featured in MixMag and in Science Futures at Glastonbury

Educational resources and activities for KS3/4

Awareness of Clean Air raised via public engagement at sporting events

>120 media activities generating >87m views



**Public Engagement – through exhibitions and public events**



**Education – via school resources**



**Awareness and Communication – through infographics, briefings, media and events**



**Capacity building – through support for stakeholder campaigns and training course**

WM-Air worked with a number of stakeholders to develop educational resources and engagement activities and events. Contributing to University of Birmingham's (UoB) 'The Air We Breathe' (TAWB) exhibition at The Exchange was the first of these activities, after which we received additional funding from NERC to work with Sound Artist, Robert Jarvis, to use music to communicate changes in air pollution – these compositions were exhibited at TAWB and also formed part of Glastonbury 2022's Science Futures 'Sound Canopy' exhibition. Engaging spectators attending the Birmingham 2022 (B2022) Commonwealth Games (CWG) and Edgbaston Cricket's 'Go Green Game' also formed part of our engagement work, in order to increase awareness of air quality and sustainability. Educational air quality resources for key stage 3/4 were developed utilising WM-Air tools and data with support from BCC and wider UoB colleagues, and, by working with a teacher at King Edwards Camp Hill School for Girls, (KECHSG) and ESRI, were subsequently expanded into a GIS activity. A series of health infographics were also developed for communicating with communities and used on social media and at WMCA community events.

## Background - why does this work matter?

In order to build awareness of the issue of air pollution in the West Midlands, and develop a wider understanding of what people can do to improve our air quality, it is essential that engagement, outreach and education of different groups is conducted – and this includes public communities as well as industry and policy stakeholders. As such, during the life of WM-Air, the team took part in numerous activities to communicate and inform public audiences – including exhibitions, sporting events, media activities, social media campaigns, educational resources, infographics, training courses, events and briefing notes.



## Method – what did we do?

The WM-Air team consulted and co-developed a public exhibition, 'The Air We Breathe', with University of Birmingham's Public Engagement team for The Exchange civic space, which visited by more than 6500 people over a 6 month period. The exhibit included a tyre cubes display to visually demonstrate the contribution of tyre wear to fine particles in the air from different forms to transport; pollution particle and air quality modelling output movies; visual graphics on the impact of pollution on health; and exhibit assets demonstrating how air pollution is monitored.

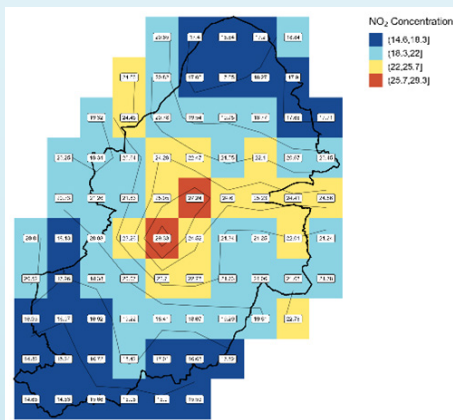


The team then received a grant from UKRI as part of their 'Growing Roots' public engagement call to enable the WM-Air team to collaborate with sound artist Robert Jarvis, to develop a novel piece of music to communicate AQ data variability across the region. 'Sounding Out Pollution' was picked up by MixMag, and subsequently displayed at Glastonbury as part of the 'Science Futures' exhibition in 2022.

The WM-Air team also interacted with visitors at the Commonwealth Games (4-6 August 2022) and Edgbaston Cricket's 'Go Green Game' (3 September 2023) using a mobile AQ unit to help engage and inform the public about clean air and sustainability measures.

School resources for Key Stage 3/4 were developed in conjunction with wider UoB colleagues, air quality colleagues at BCC, Katie Hall at ESRI and Robert Lang, a teacher at KECHSG. The team also worked with WMCA to help develop three educational literacy courses and an air quality animation.

Output from the Air Quality-Lifecourse Assessment (AQ-LAT) tool was used to inform a set of infographics for the region, which was used in social media campaigns and community events run by WMCA.



A set of briefing notes were developed for policy and public audiences, based on tools, capabilities and expertise within the WM-Air team, and community of Practice Stakeholder networking events were held on Clean Air Days and Clean Air Nights, to bring the regional air quality community together to discuss timely and relevant subjects.

The team were involved in more than 120 media activities over the lifetime of the WM-Air project.

## What tools/outputs were developed?

- The Air We Breathe exhibition
- Sounding Out Pollution: Can you hear what's in the air? Compositions.
- Science Futures at Glastonbury
- Air Quality and Health Infographics
- Mobile AQ unit for public engagement at events
- Briefings notes
- Three Clean Air Day Community of Practice events
- School AQ Resources
- WMCA climate, air quality and adaptation literacy tools
- WMCA AQ animation

"The air quality education resources the WM-Air team created for schools is a great asset for secondary schools in Sandwell. Promotion to local schools of these resources continues by our team and a link to the resources provided on Sandwell's air quality webpage. The WM-Air schools' information pack inspired the production of air quality education resources for our Key Stage 2 air quality programme "Auntie Duck", aimed at increasing air quality awareness and promoting positive behaviour change."

Sophie Morris, Public Health Specialist (Air Quality and Climate Change), Sandwell Council

"Regular interaction and curiosity from our workforce, volunteers and spectators during the field work at Alexander Stadium for the Games. This has certainly raised awareness of the WM-Air project, local air quality conditions and prompted questions."

Ian Reid, Chief Executive B2022 Organising Committee

"The WM-Air Team provided expert and technical support on the creation of the course, providing statistics, feedback and comments to write the content. WM-Air infographics are included to communicate the health impacts of long-term and short-term exposure to air pollution. WM-Air have also provided support with the creation of an air quality animation aimed at the public."

Katie Jepson, WMCA

"WM-Air's schools' AQ resources will be utilised in the roll-out of phase 2 of the Council's Schools' AQ Monitoring Programme which will see an AQ sensor installed on the façade of every school in Birmingham over the next 12 months, building a vast network of data alongside provision of support to schools in encouraging safe and active travel and wider sustainability activities in their curricula."

Steve Arnold,  
Head of Clean Air Zone, BCC

## Outcomes, Impacts and Benefits delivered

- TAWB exhibition visited by >6500 people
- Sounding Out Pollution reached >100k people through media coverage, 16 countries via the WM-Air website, with several thousand visitors to Science Futures during Glastonbury. Quote from member of the public: *"The sound compositions communicate the 'ominous' nature of poor air quality very well. Really impactful."*
- School resources inc. >300 views, downloads from 40+ institutions, and 3k social media impressions
- Educational support for BCC's school AQ programme, which will see AQ monitors in all 500 schools across Birmingham
- >120 media activities generating >87m views
- Engagement with spectators, athletes, families, B2022 workforce and volunteers at the Alexander Stadium (4 - 6th August)- an estimated 190,000 people on site over those 3 days.
- International media discussion around air quality at B2022 CWG due to the inclusion of an air quality sensor within the Queens Baton Relay "baton", which visited 72 nations and territories of the Commonwealth.
- Public engagement at 'Go Green Game' in September 2023 – 25,000 spectators were at the event
- Literacy tool – 90,000+ people in the UK have achieved their Carbon Literacy certificate.
- Infographics used by WMCA and >1.5k impressions on social media

## Looking to the Future/Legacy

- Infographics are being used by WMCA to communicate with public audiences at ongoing Defra-funded behaviour change community events
- On-going work with Edgbaston Cricket to explore the benefit of public transport-only approach to travel on AQ, and communicating with their audiences.
- Legacy Website inc. Sounding Out Pollution on YouTube
- Public engagement and involvement will continue through the Wellcome Trust-funded WM-Net Zero project

## Underpinning Science

- Zhong, J, Hood, C, Johnson, K, Stocker, J, Handley, H, Wolstencroft, M, Mazzeo, A, Cai, X & Bloss, W J 2021. Using task farming to optimize a street-scale resolution air quality model of the West Midlands (UK). *Atmosphere*, 12(8), 983.
- Regional impact assessment of air quality improvement: The air quality lifecourse assessment tool (AQ-LAT) for the West Midlands combined authority (WMCA) area - ScienceDirect

## About WM-Air: Clean Air Science for the West Midlands

WM-Air ("Clean Air Science for the West Midlands") is a NERC-funded initiative, led by the University of Birmingham, working in collaboration with over 20 cross sector partners, to apply environmental science research expertise to improve air quality in the West Midlands, delivering health, economic and environmental benefits. [wm-air.org.uk](http://wm-air.org.uk)



## Partners



Robert Jarvis –  
sound artist



More info  
and URLs:

