

28 November 2020

Guide to the Clean Air in Cities App and Widgets

Overview

Air pollution is the world's largest environmental health risk, killing an estimated seven million people each year.

The **Clean Air in Cities App** and **Widgets** were created by **Clean Air in London** to highlight the health impact of long-term exposure to human-made particle air pollution which is HIGH for many people in cities.

We wanted to address the problem created by Defra and others misleading people by highlighting only 'LOW air pollution' based on 'Daily ALERT bandings' for about 330 of 365 days per year. Instead, the **App** and **Widgets** highlight the health impact of long-term exposure to human-made particle air pollution which is MODERATE or HIGH for many people in cities. See:

<https://uk-air.defra.gov.uk/>

The **Clean Air in Cities App** and **Widgets** report the health impact of long-term exposure to dangerous airborne particles (PM_{2.5}) for the population in local areas, regions and England as a whole i.e. annual mean. The **App** and **Widgets** estimate the number of deaths attributable to air pollution on a pro rata, calendar year-to-date, basis and the time to the next attributable death as well as displaying the percentage of total deaths attributable to air pollution. They do not estimate or display the actual deaths from air pollution or the risk for an individual. Users can also see estimates for total population-weighted exposure to annual average concentrations of PM_{2.5} in different local areas and/or regions relative to the World Health Organisation guideline and England as a whole.

The **Clean Air in Cities App** and **Widgets** are available for iPhones, iPads and Android devices and can be downloaded from the appropriate store:

<https://apps.apple.com/gb/app/birkett-index/id646281816>

<https://play.google.com/store/apps/details?id=org.cleanair.london>

Quotes

Simon Birkett, Founder and Director of Clean Air in London, said:

“Air pollution is the world's largest environmental health risk, killing an estimated seven million people each year.

“We therefore produced the **Clean Air in Cities App** and **Widgets** to highlight this risk and counter the impression created by successive governments that air pollution 'LOW air pollution' based on 'Daily ALERT bandings' for about 330 of 365 days per year. These daily alert levels were set to warn of health risks during major air pollution episodes not day to day exposure to air pollution.

“Instead, we highlight the health impact of long-term exposure to human-made particle air pollution (annual mean PM_{2.5}) which is MODERATE or HIGH for many people in cities relative to the World Health Organisation guideline.

“Notifications from the **App** and **Widgets** keep us motivated to fight for clean air.

“We hope that other people will find the **App** and **Widgets** valuable and share their information widely.”

Notes

Watch our short film about why we created the App and Widgets:

<https://vimeo.com/cleanairlondon/app>

The sections below have 20 top tips for using the **App** and 12 for using the **Widgets**. The **App** and **Widgets** use and publish the same underlying data.

Top 20 tips for using the ‘Clean Air in Cities’ App

1. The **App** is available free for iPhone, iPad and Android devices and can be downloaded from the appropriate store:

<https://apps.apple.com/gb/app/birkett-index/id646281816>

<https://play.google.com/store/apps/details?id=org.cleanair.london>

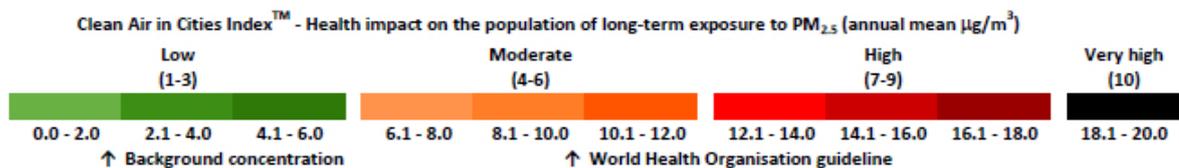
2. The **App** was updated in 2020 for: the latest published data from Defra and Public Health England (2018); iOS 14 and Android 5 and up; bug fixes; performance enhancements; and the addition of news alerts. Don't forget to check for app version updates.
3. The **Clean Air in Cities App** was designed to address the misleading impression created by Defra and others highlighting only ‘LOW air pollution’ based on ‘Daily ALERT bandings’ for about 330 of 365 days per year. Instead, we highlight the health impact of long-term exposure to human-made particle air pollution which is MODERATE or HIGH for many people in cities. See:

<https://uk-air.defra.gov.uk/>

[https://www.who.int/news-room/fact-sheets/detail/ambient-\(outdoor\)-air-quality-and-health](https://www.who.int/news-room/fact-sheets/detail/ambient-(outdoor)-air-quality-and-health)

<https://www.who.int/airpollution/news-and-events/how-air-pollution-is-destroying-our-health>

4. The **App** reports the percentage and number of deaths attributable to human-made fine particle air pollution (PM_{2.5}) so far this year. It also uses the Clean Air in Cities Index® (also known as the Birkett Index®) to show total PM_{2.5} levels relative to the World Health Organisation’s guideline for human exposure to PM_{2.5}. By selecting ‘Always’ under ‘Show Previews’ for the ‘Clean Air in Cities app’ in ‘Notifications’ on iOS devices the notifications will appear in full on the face of the device to save you looking for it.



© Clean Air in London 2013

5. The **App** lets you share the latest estimate of deaths attributable to fine particle air pollution so far this year for any local authority or region in England or England as a whole e.g. by Email, Facebook, LinkedIn, Messaging, Twitter and WhatsApp.
6. The '+ ALL REGIONS' button lets you add the nine regions in England; '+ ALL LOCAL AREAS' adds all 150 local areas in England; and '+ ALL REGIONAL AREAS' adds all areas in a region. These can be reset in settings.
7. The '+' sign lets you search manually for local areas and regions and add them. Or let location services find your local area and others within your region. Please note that the search box will not suggest areas if they have already been selected e.g. through batch loading.
8. The 'Edit' button in the **App** allows you to re-order areas. We like to list all regions and all local areas in our region (in alphabetical order). Tip 6 shows how to do it automatically!
9. Why not add the nine regions including yours and then all your region's local areas?
 - East Midlands
 - East of England
 - London
 - North East
 - North West
 - South East
 - South West
 - West Midlands
 - Yorkshire and Humber
10. The **App** shows the percentage (%) of total deaths attributable to human-made particle air pollution (PM_{2.5}) in every local authority and region in England.
11. The **App** shows population-weighted total concentrations of human-made fine particle air pollution (PM_{2.5}) for any local area and region in England and England as a whole compared to the WHO guideline.
12. The **App**'s clock shows the proportion of time between deaths attributable to particle air pollution (PM_{2.5}), actual time and flashes 15 seconds before the next statistical 'death'.

13. The **App** could include Northern Ireland, Scotland and Wales (or other countries) if the relevant government would provide resources and the population-weighted PM_{2.5}, attributable fraction and total deaths for it.
14. Ask politicians whether they use the **App** and know the latest estimate of deaths attributable to PM_{2.5} so far this year in their area.
15. The 'Website', 'News' and 'Settings' buttons let you find out more about Clean Air in London's work and the '**Clean Air in Cities**' **App**. They include 'Reset' (or 'Home') and 'Refresh' buttons for their content.
16. The 'News' button lets you see selected 'News alerts' about air pollution episodes, blog posts and media stories posted by 'Clean Air in London'. For examples, please see: <https://cleanair.london/news-alerts/>.
17. The **App** may send you useful notifications e.g. when the number of deaths attributable to particle air pollution in one of your areas reaches a significant milestone e.g. 5, 100 or 1,000 depending on the size of the area. It works best if you go to Settings -> Notifications -> **Clean Air in Cities App** -> 'Banner style' (persistent) and 'Show previews' (always) for the **App**.
18. The **App** may send you occasional notifications (such as news or alerts about air pollution episodes) or links to new posts on Clean Air in London's website.
19. The 'Settings' button lets you amend notifications, learn about the **App**, read our privacy statement and terms and conditions and reset all regions and areas.
20. Thank you for reading these tips. Please reply to one on Twitter with your own tips for improving our **App** or contact us at About <https://cleanair.london/about/>.

2. Top 12 tips for using the 'Clean Air in Cities' widgets

1. Two **Clean Air in Cities Widgets**, one small and one wide, are available for iphones, ipads [and android devices]. They display the most relevant and up-to-date air pollution data for any one local area, region or England as a whole on your home screen or notifications page. They mirror data in the **App**.
2. Before updating or loading your **Clean Air in Cities App** or **Widgets**, please allow Settings -> Privacy -> Location Services -> 'On'. If the **Clean Air in Cities** app is already installed on your device, please Allow Location Access -> 'While Using the App [or Widgets]'. This is necessary to install the **Clean Air in Cities Widgets**. You can edit or turn off this functionality later.
3. If 'or Widgets' does not appear in Location Access you will need to accept the pop-up 'Allow widgets from '**CleanAir**' to use your location' when installing the first **Widget** or allow 'While Using the App or Widgets' separately in Settings -> Privacy -> Location Services -> On -> Location Access after loading the **Clean Air in Cities Widget**.
4. Please update or install the **Clean Air in Cities App** Version 1.5 or later [or Version XX on Android]. Please allow Settings -> Privacy -> Location Services -> On -> Location Access -> 'While Using the App [or Widgets]' if you have not already done so.

- Two **Clean Air in Cities Widgets** are available for iphones. First, tap on the home screen or swipe left for the notification page. Second, tap the '+' sign top left. Third, select the **Clean Air in Cities (CleanAir) App** which reveals the small widget immediately and offers the wide widget by swiping left. Fourth, 'Add' one or other widget. Fifth, repeat steps two to four to add more widgets for amending location later. Sixth, press 'Done' top right. Check that Settings -> Privacy -> Location

Services -> 'On' -> Location Access is allowed 'While Using the App or Widgets' as above if the area does not appear within two or three minutes.

- Two **Clean Air in Cities** widgets are available for ipads. First, swipe right on the main home screen to reach the notifications page. Second, tap the '+' sign top left (i.e. short tap). Third, select the **Clean Air in Cities (CleanAir) app** which reveals the small widget immediately and offers the wide version by swiping left. Fourth, 'Add' one or other widget. Fifth, repeat steps two to four to add more widgets for amending location later. Sixth, press 'Done' top right. Check that Settings -> Privacy -> Location Services -> 'On' -> Location Access is allowed 'While Using the App or Widgets' as above if the area does not appear within two or three minutes.
- We recommend installing two or three small **Widgets** and two or three wide **Widgets** - with one on your home screen and the others on another screen of your device. We use small and wide **Widgets** for Current Location, Our Local Area, London and England.
- Tapping briefly on the installed **Widget** opens the **Clean Air in Cities** app i.e. the **App** not the **Widget**. To edit the **Widget**, first tap and hold the widget (i.e. long tap) to reveal a pop-up menu offering 'Edit Widget', 'Edit Home Screen' and 'Remove Widget'. Second, select 'Edit Widget' to search and select your current location or any one local area, region or England as a whole for reporting in the widget. Third, select or change an existing area, by tapping on the named area (highlighted in blue) to reveal the search page and select your area. Fourth, tap the background of your device to confirm the new area i.e. the screen outside the **Widget**.
- We recommend keeping a 'Current location' version of the **Widget** on the home screen of your device. This allows you to see local statistics as you travel around England. You can allow 'Location access': 'While Using the App or Widgets'; 'While using the App'; 'Ask Next Time'; or 'Never'. We do **not** track identifiable data on individuals. We also recommend keeping other versions of the **Widget**, small and/or wide versions for your local area, region and England as a whole on a separate page of your device or the notifications page. If Location Services is turned off, any **Widgets** using that functionality will show a stroke through the location pin (i.e. top left of the widget). The stroke will disappear when Location Services is turned on again.
- Better still, ios devices let you create a 'Stack' on your homepage of several small **Clean Air in Cities Widgets** (or wide ones) and re-order them. This allows you to have (say) four **Widgets** on top of each other: 1. Current location; 2. Westminster; 3. London; and 4. England. You can reorder them in edit, scroll through them and have everything you need in the space of one small (or wide) **Widget!** Amazing.
- Two **Clean Air in Cities Widgets** are available for Android phones and tablets in light and dark variants to suit your preference. First, touch and hold an empty space on your Home screen. Second, tap 'Widgets' on the popup menu that appears. Third, scroll down the list of available widgets to find '**Clean Air in Cities (CleanAir)**' app. Fourth, tap and hold the widget variant you would like to add and then drag it onto the available space on your Home screen. Fifth, select your current location or any one local area, region or England as a whole from the list to be shown in the widget.

If you selected current location, you will be prompted to grant location permission which is required for the widget to determine local area as you travel around England. Finally, repeat all the steps above to add more widgets to your Home screen.

12. More **Clean Air in Cities' Widgets** are coming soon e.g. a tall widget with news updates and others with different functionality. Ideas welcomed!

3. Background to the Clean Air in Cities Index®

The World Health Organisation (WHO) has ‘guidelines’ for human exposure to different forms of air pollution. They chose deliberately not to call them standards, limits or recommendations because there is known ‘safe’ level for exposure to fine particle air pollution (PM_{2.5}).

[https://www.who.int/en/news-room/fact-sheets/detail/ambient-\(outdoor\)-air-quality-and-health](https://www.who.int/en/news-room/fact-sheets/detail/ambient-(outdoor)-air-quality-and-health)

Further, while concentrations for short-term exposure to PM_{2.5} have been colour-coded in bands for many years, **Clean Air in London** was the first, to our knowledge, to propose a colour-coded banding for long-term exposure to PM_{2.5}.

Clean Air in London will keep its colour bandings under review because scientists have confirmed health effects of air pollution at lower concentrations of PM_{2.5}. This evidence may lead to the WHO reducing its guidelines when they are published in 2021.

<https://www.healtheffects.org/meeting/brussels-meeting-air-pollution-and-health-recent-advances-inform-european-green-deal>

The ‘**Clean Air in Cities Index**’ is also trademarked as the **Birkett Index**. This was done to maintain high standards for its use.

Clean Air in London®, **Clean Air in Cities Index®** and **Birkett Index®** are registered trademarks of Clean Air in London:

<https://www.gov.uk/search-for-trademark>

4. Clean Air in London articles about the health impacts of air pollution

For more details on the ‘**Clean Air in Cities Index**’ and the short and long-term health impacts of air pollution:

<https://cleanair.london/health/clean-air-in-cities-index/>

<https://cleanair.london/health/guide-to-health-impacts-invisible-air-pollution-is-the-biggest-public-health-failing-or-cover-up-for-decades/>

<https://cleanair.london/hot-topics/first-ever-rankings-of-top-10-death-rates-for-every-london-borough/>

5. Background to the health impacts

Public Health England report titled ‘*Estimating Local Mortality Burdens associated with Particulate Air Pollution*’ (April 2014):

Defra publishes the anthropogenic (human-made), non-anthropogenic (e.g. volcanic dust and sea salt) and total population-weighted concentrations of PM_{2.5}. Non-anthropogenic levels are the residual after Defra's modelling has identified individual sources of PM_{2.5}. In recent years for England, it has been:

0.53 µg/m³ in 2019 (of 9.57 mg/m³ total)
0.44 µg/m³ in 2018 (of 9.52 µg/m³ total)
0.51 µg/m³ in 2017 (of 9.41 µg/m³ total)
0.54 µg/m³ in 2016 (of 9.99 µg/m³ total)
1.12 µg/m³ in 2015 (of 9.42 µg/m³ total)
2.11 µg/m³ in 2014 (of 11.17 µg/m³ total)
2.13 µg/m³ in 2013 (of 11.52 µg/m³ total)
2.11 µg/m³ in 2012 (of 11.11 µg/m³ in total)
2.64 µg/m³ in 2011 (of 12.09 µg/m³ total)

6. Annual updates

Updates to the **App** and **Widgets** are usually released annually after Defra, Public Health England and the Office of National Statistics update their annual data. This new data includes:

1. Defra data for population-weighted annual mean PM_{2.5} (scroll down towards foot of webpage):

<https://uk-air.defra.gov.uk/data/pcm-data>

2. Public Health Indicator 'D01 – Fraction of mortality attributable to particulate air pollution':

<https://fingertips.phe.org.uk/profile/public-health-outcomes-framework/data#page/0/gid/1000043/pat/6/par/E12000004/ati/202/are/E06000015/cid/4/tbm/1/page-options/ovw-do-0>

3. The local area and regional data can be exported as a CSV file.

4. Office for National Statistics – Deaths registered by area of usual residence, UK:

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/dataset/deathsregisteredbyareaofusualresidenceenglandandwales>

5. Add the ONS's City of London deaths (e.g. 38 in 2020) to Hackney's total since Defra lumps the two areas together.
6. Update the master table sorted in region and then alphabetical order.
7. Check the 'About' (e.g. new year e.g. 2020), 'Terms and conditions' and 'Privacy' pages.
8. Check links and webpages used by the **App** and **Widgets** and legalise e.g. Terms and conditions and Privacy.

9. Consider updating some health text e.g. latest London or national estimates of deaths. Explain emissions, concentrations, exposures, impacts and outcomes. Also rankings?
10. Update **App** link on Facebook.
11. Test the Apple and Android versions of the **App** and **Widgets** before release.

7. Other useful resources

[CAL-295-PHE-estimates-of-PM2.5-local-mortality-2010-1](#)

[Copy of CAIC app 2018 update_Final 060720](#)

[CAL-098-Mayors-health-study-report-June-2010](#)

<https://www.london.gov.uk/what-we-do/environment/pollution-and-air-quality/health-and-exposure-pollution>

[popwmpm252018byUKcountry](#)

[popwmpm252018byUKlocalauthority](#)

[popwmpm252018byEnglandregionanduppertierlocalauthority](#)

[popwmpm252019byUKcountry](#)

[popwmpm252019byEnglandregionanduppertierlocalauthority](#)

[popwmpm252019byUKlocalauthority](#)

<https://uk-air.defra.gov.uk/data/pcm-data>

<https://uk-air.defra.gov.uk/data/gis-mapping/>