

Using the UK Air Data Archive for Your Own Research: Step-by-step Guidance on Accessing Data

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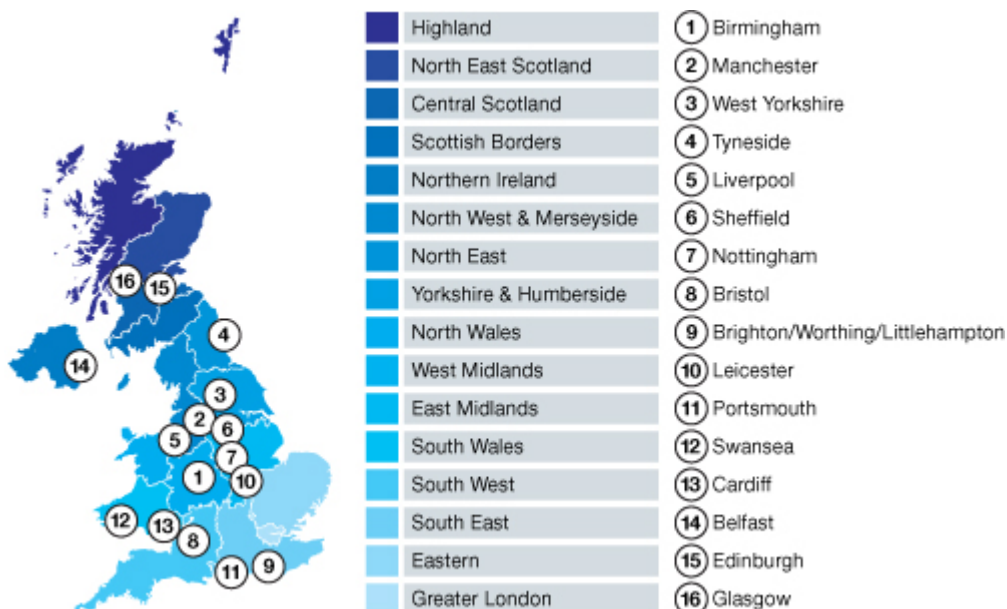
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Introduction

The data archive is enormous. That said, NOT all monitoring sites will monitor:

- all the pollutants
- during all the periods of interest
- the frequency of monitoring desired
- in the geographical (British Isles) places you want
- in the environments needed

Your first task will be to look to see what data are available.



Some comments about the site. It contains a vast amount of information. The buttons that you need to push are not always evident on the bit of the page you are looking at. You may need to scroll to the top again or even further down page you are looking at.

As with most things in life, the more time and effort you put in, the more you get out. This document will just allow you to scratch the surface.

Getting started

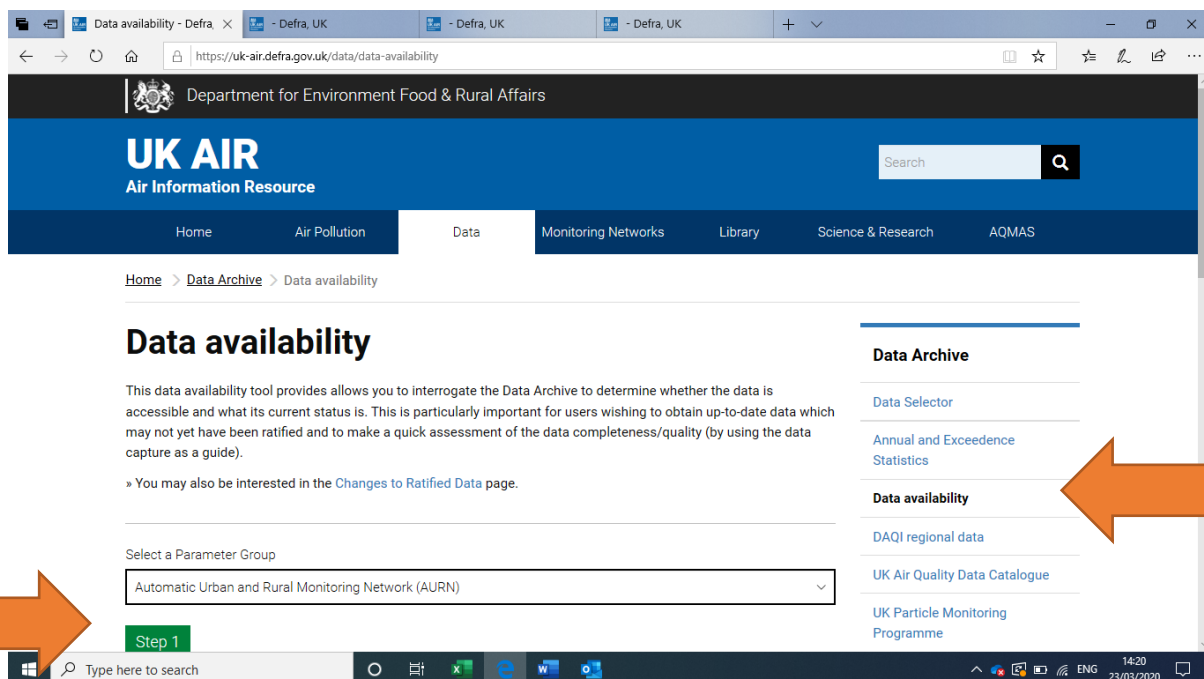
Go to <https://uk-air.defra.gov.uk/data/>

Beneath **Data Archive** (right hand side menu), select **Data availability** (3rd item down).

For this example, we will search for information about the PM₁₀ particulate levels in Bristol.

The dropdown box allows choice of data. You will need to play around with this to see the availability of pollutant data.

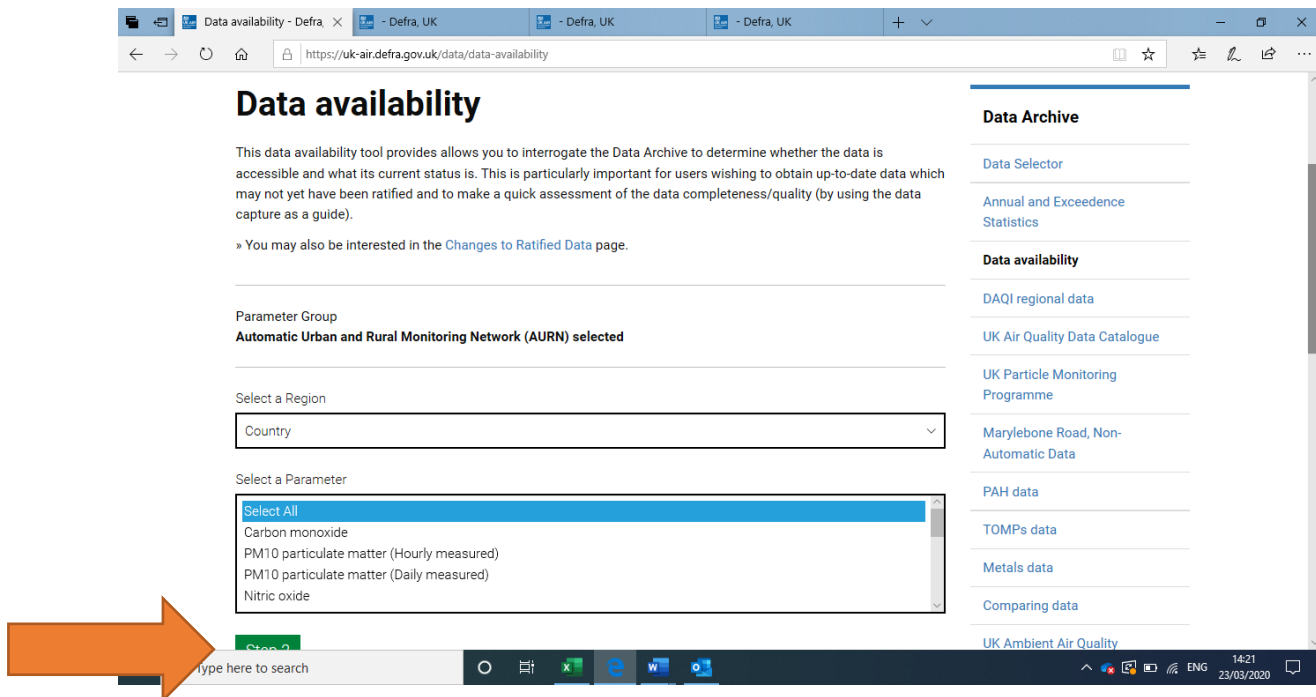
For this example, we will choose the Automatic Urban and Rural Monitoring Network (AURN)'. Click the green **Step 1** box to proceed.



The screenshot shows the 'UK AIR Air Information Resource' website. The 'Data' tab is selected in the top navigation bar. The breadcrumb trail is 'Home > Data Archive > Data availability'. The main heading is 'Data availability'. Below it, a paragraph explains the tool's purpose. A link 'You may also be interested in the Changes to Ratified Data page.' is provided. A dropdown menu 'Select a Parameter Group' is set to 'Automatic Urban and Rural Monitoring Network (AURN)'. A green 'Step 1' button is at the bottom left. On the right, the 'Data Archive' sidebar lists 'Data Selector', 'Annual and Exceedance Statistics', 'Data availability' (highlighted with an orange arrow), 'DAQI regional data', 'UK Air Quality Data Catalogue', and 'UK Particle Monitoring Programme'. An orange arrow points to the 'Data availability' link in the sidebar. Another orange arrow points to the 'Step 1' button. The Windows taskbar at the bottom shows the date as 23/03/2020 and time as 14:20.

The **Select a Region** function allows you to home in on the place you want via several geographical area types including country, region or local authority. For now, select Local Authority. Later you will be able to select which area or city within the local authority.

The **Select a Parameter** box gives you a choice of pollutant. I am looking for PM₁₀. Make a choice, for example PM₁₀ particulate matter (hourly measured), and click the Green **Step 2** button.

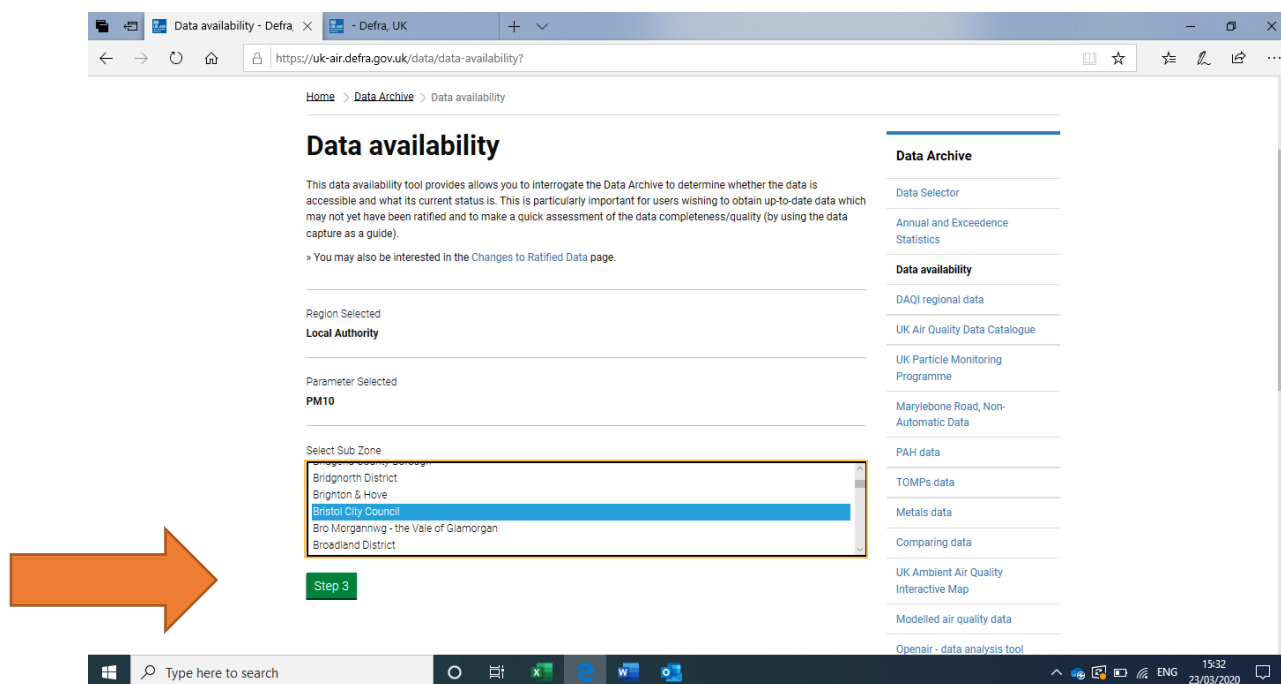


If no data is available, you will be told that on the appropriate choice button:

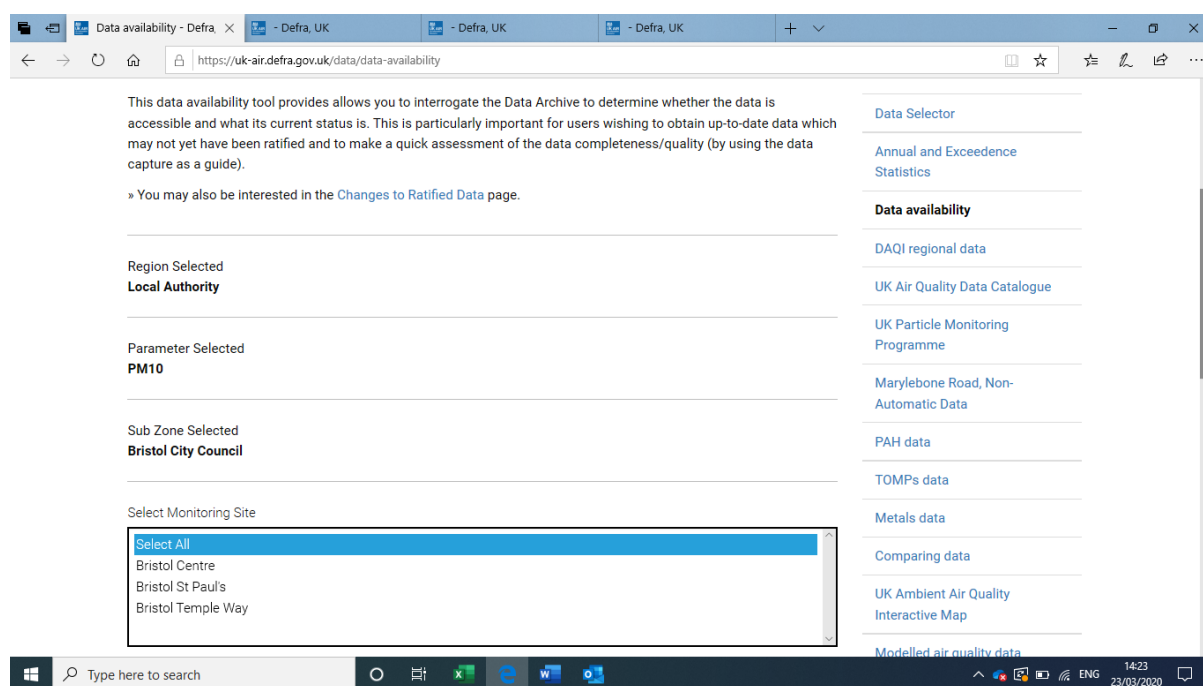
Select a Parameter
No data available for this selection

Now you can choose which geographical area you are interested in.

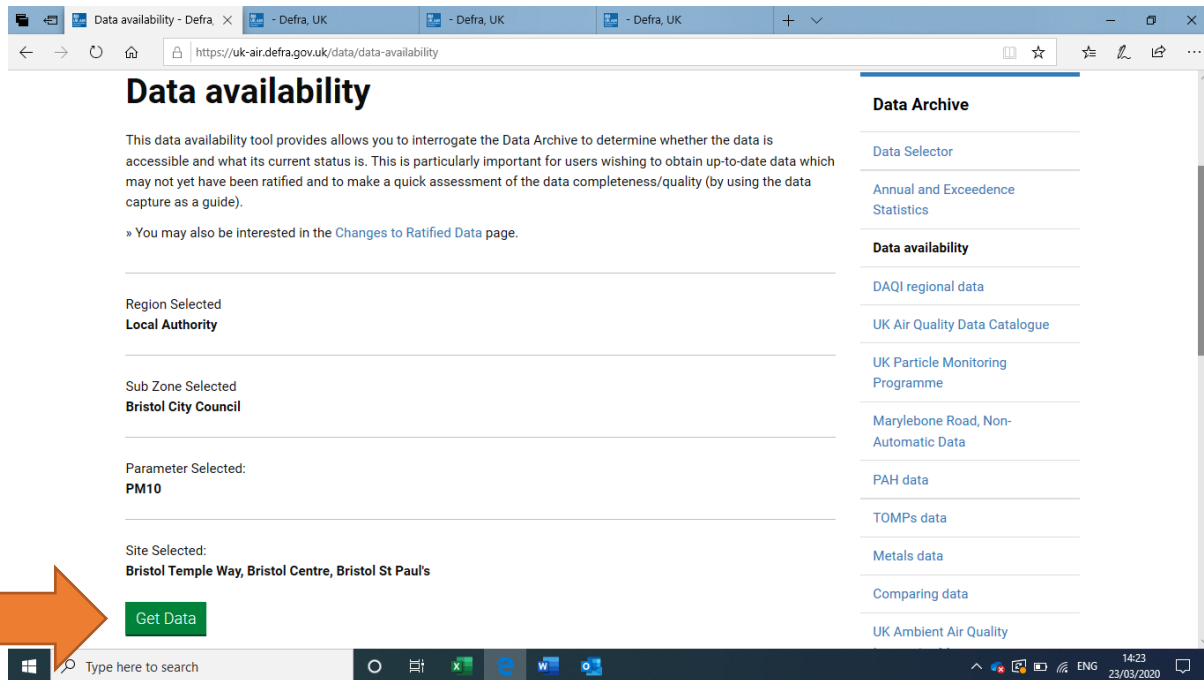
Select the **Sub Zone**, in this case, Bristol City Council. Click the green **Step 3** button.



We have a choice of monitoring sites, but we don't know which are monitoring when, so we will select them all. Click the green **Step 4** button.



Now we can click **Get Data** to see what data is available.

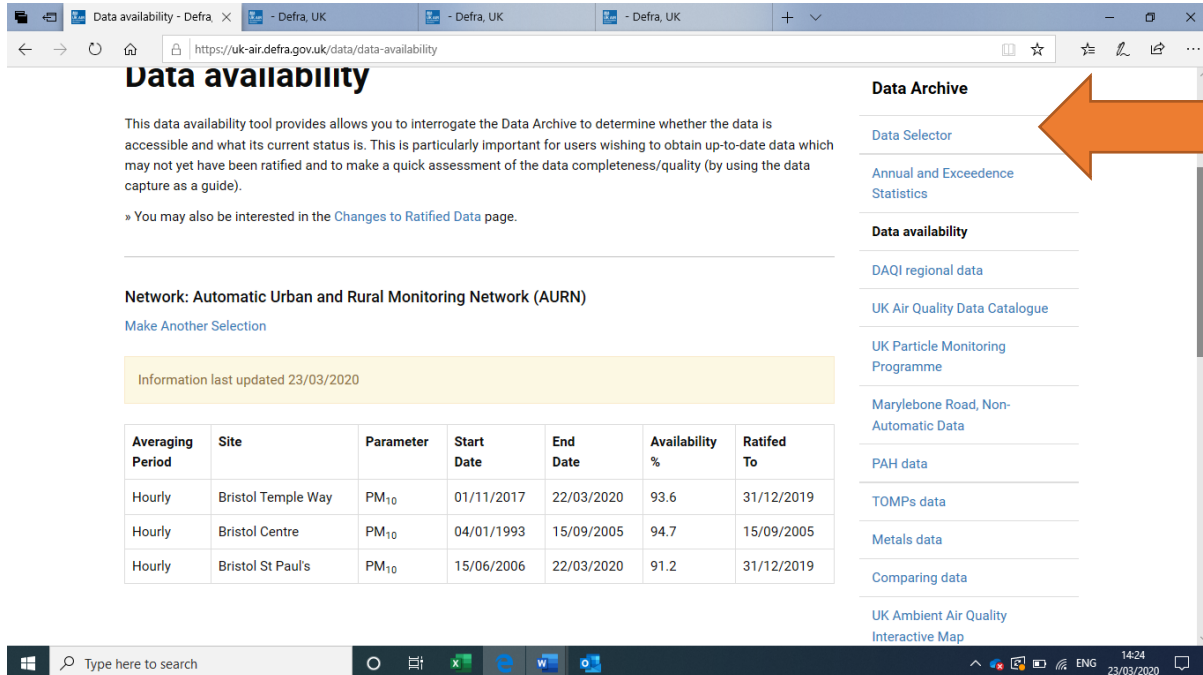


If no data is available, you will be told that on the appropriate choice button:

Select Monitoring Site

No data available for this selection

If data is available, you will see a screen like this:



Data availability

This data availability tool provides allows you to interrogate the Data Archive to determine whether the data is accessible and what its current status is. This is particularly important for users wishing to obtain up-to-date data which may not yet have been ratified and to make a quick assessment of the data completeness/quality (by using the data capture as a guide).

» You may also be interested in the [Changes to Ratified Data](#) page.

Network: Automatic Urban and Rural Monitoring Network (AURN)
[Make Another Selection](#)

Information last updated 23/03/2020

Averaging Period	Site	Parameter	Start Date	End Date	Availability %	Ratified To
Hourly	Bristol Temple Way	PM ₁₀	01/11/2017	22/03/2020	93.6	31/12/2019
Hourly	Bristol Centre	PM ₁₀	04/01/1993	15/09/2005	94.7	15/09/2005
Hourly	Bristol St Paul's	PM ₁₀	15/06/2006	22/03/2020	91.2	31/12/2019

Data Archive

- [Data Selector](#)
- [Annual and Exceedence Statistics](#)
- Data availability**
 - [DAQI regional data](#)
 - [UK Air Quality Data Catalogue](#)
 - [UK Particle Monitoring Programme](#)
 - [Marylebone Road, Non-Automatic Data](#)
 - [PAH data](#)
 - [TOMPs data](#)
 - [Metals data](#)
 - [Comparing data](#)
 - [UK Ambient Air Quality](#)
 - [Interactive Map](#)

Note: Bristol Centre data ended in 2005.

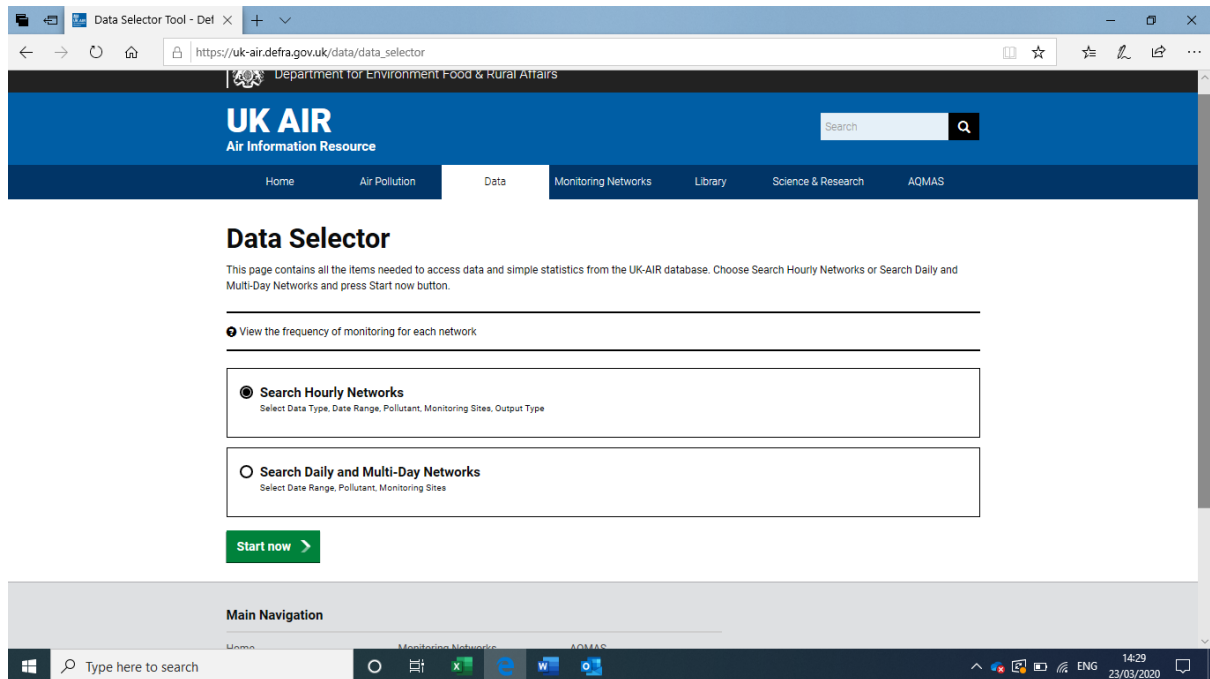
We want to see more recent data (2018) so we will choose Bristol St Paul's.

Hit **Data Selector** on the RHS menu. This takes us to https://uk-air.defra.gov.uk/data/data_selector

Again, there is a choice of data.

Choose one of the networks.

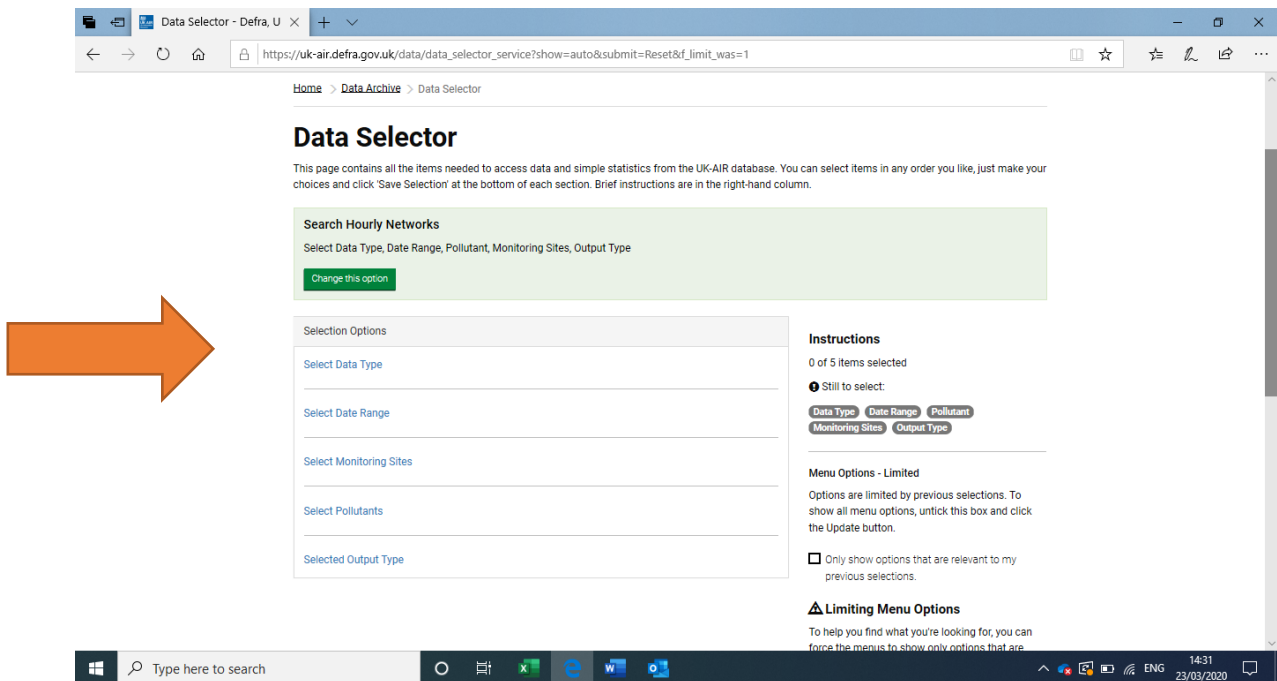
We want hourly data. Hit the green **Start now** button.



Decision time: you will need to select many options.

Start at the top: **Select Data Type**.

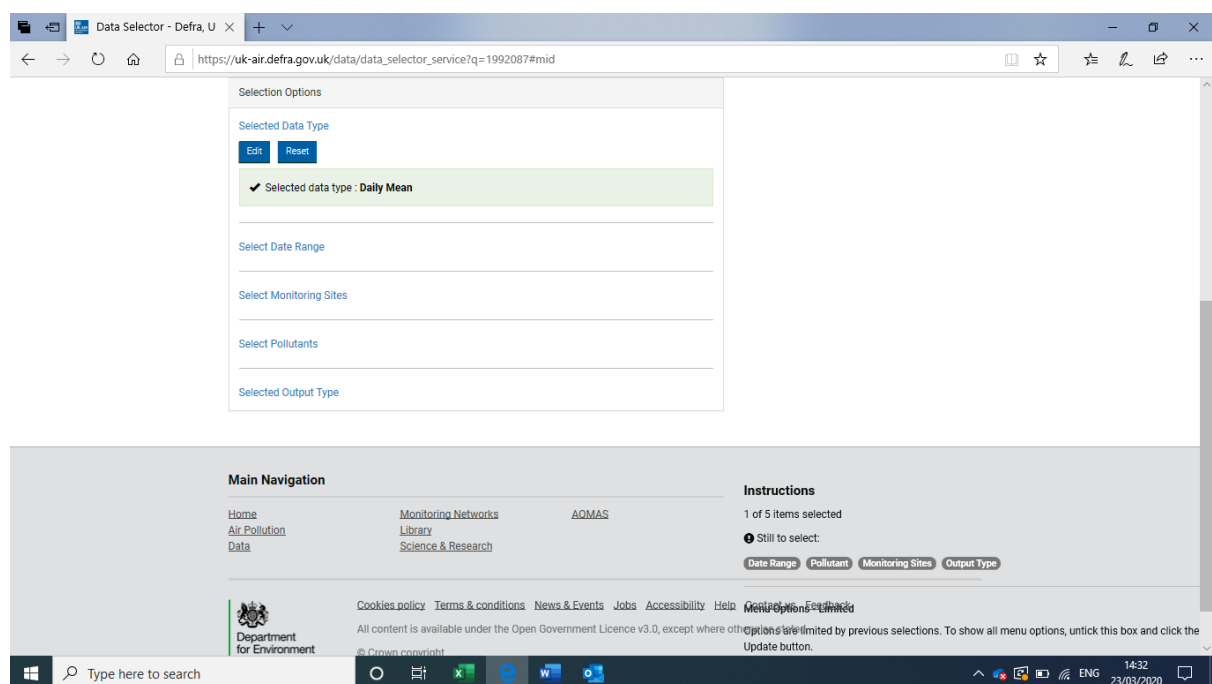
From the list, you can only choose one option each time.



The screenshot shows the 'Data Selector' web application in a browser. The page title is 'Data Selector - Defra, U'. The URL is 'https://uk-air.defra.gov.uk/data/data_selector_service?show=auto&submit=Reset&f_limit_was=1'. The page content includes a 'Search Hourly Networks' section with a 'Change this option' button. Below this is a 'Selection Options' section with links for 'Select Data Type', 'Select Date Range', 'Select Monitoring Sites', 'Select Pollutants', and 'Selected Output Type'. An orange arrow points to the 'Select Data Type' link. To the right of the 'Selection Options' section is an 'Instructions' panel with the text '0 of 5 items selected' and 'Still to select: Data Type, Date Range, Pollutant, Monitoring Sites, Output Type'. Below the instructions is a 'Menu Options - Limited' section with a checkbox for 'Only show options that are relevant to my previous selections' and a 'Limiting Menu Options' section with a note about finding what you're looking for.

Here we have chosen Daily Mean.

Click the Green **Save Selection** button.



The screenshot shows the 'Data Selector' web application in a browser. The page title is 'Data Selector - Defra, U'. The URL is 'https://uk-air.defra.gov.uk/data/data_selector_service?q=1992087#mid'. The page content includes a 'Selection Options' section with links for 'Selected Data Type', 'Select Date Range', 'Select Monitoring Sites', 'Select Pollutants', and 'Selected Output Type'. The 'Selected Data Type' section shows 'Selected data type: Daily Mean' with a green checkmark. Below this is a 'Main Navigation' section with links for 'Home', 'Air Pollution', 'Data', 'Monitoring Networks', 'Library', 'Science & Research', and 'AQMAS'. To the right of the 'Main Navigation' section is an 'Instructions' panel with the text '1 of 5 items selected' and 'Still to select: Date Range, Pollutant, Monitoring Sites, Output Type'. Below the instructions is a 'Menu Options - Limited' section with a checkbox for 'Only show options that are relevant to my previous selections' and a 'Limiting Menu Options' section with a note about finding what you're looking for.

Now work down the list of selection options.

Select Date Range allows you to choose different periods of time.

Here we used the **Custom Data** option to select start and finish dates, via the calendars provided.

Click the Green **Save Selection** button.

The screenshot shows a web browser window titled "Data Selector - Defra, U" with the URL https://uk-air.defra.gov.uk/data/data_selector_service?q=1992087&s=dr&l=1#mid. The page is divided into two main sections: "Selection Options" on the left and "Instructions" on the right.

Selection Options

- Selected Data Type**: Includes "Edit" and "Reset" buttons. Below, it shows "Selected data type : Daily Mean" with a green checkmark.
- Select Date Range**: Includes a "Cancel" button. Below, there are radio buttons for "Today", "Yesterday", "Last Week", "This Month", "Last Month", "This Year", "Last Year", and "Custom Date (below)". The "Custom Date (below)" option is selected.
- Date from:** A text box containing "01/01/2018".
- To:** A text box containing "31/12/2018".
- Instructions**: A section titled "Instructions" with the text "1 of 5 items selected". Below, it says "Selecting a date range" and "Please select a Date Range and click the Save Selection button." It also mentions "You may choose one of the pre-defined options (such as Today, or Last Week) or select your own Date Range by entering start and end dates in the boxes provided." At the bottom, it states "The Date Range is limited to a maximum of 5 years, but depending on the data you have selected".

A yellow banner at the bottom of the "Select Date Range" section states: "The earliest date available for the parameters selected is 28/03/1972 latest date is 22/03/2020".

Select Monitoring Sites

We selected the site by first going to Local Authority (we could have gone via country or region), then in a second box, selected St Paul's.

We repeat this process: choose Local Authority, then Bristol City Council and select all.

Again, click the Green **Save Selection** button.

The screenshot shows a web browser window titled "Data Selector - Defra, U" with the URL https://uk-air.defra.gov.uk/data/data_selector_service?q=1992087#mid. The page is divided into two main sections: "Selection Options" on the left and "Instructions" on the right.

Selection Options:

- Selected Data Type:** A dropdown menu showing "Daily Mean" with "Edit" and "Reset" buttons.
- Selected Date Range:** A date range selector showing "Date from : 01/01/2018 To : 31/12/2018" with "Edit" and "Reset" buttons.
- Select Monitoring Sites:** A section with a "Cancel" button and a list of monitoring sites. The list shows "2 results found" and includes "Select All", "Bristol St Paul's", and "Bristol Temple Way". A green "Save Selection" button is located below the list.
- Select Pollutants:** A section with a dropdown menu.

Instructions:

- 2 of 5 items selected**
- Selecting Sites**
Please select Monitoring Sites
You may select more than one Monitoring Site by holding Ctrl key during selection.
Alternatively, [cancel](#) this step.
- Menu Options - Limited**
Options are limited by previous selections. To show all menu options, untick this box and click the Update button.

The Windows taskbar at the bottom shows the search bar with "Type here to search" and the system tray with the date "23/03/2020" and time "14:37".

Select the pollutants

Another choice: select by **Pollutant Name** - PM₁₀

The screenshot shows the 'Data Selector - Defra, U' web application. The interface includes a sidebar with 'Selected Data Type' (Daily Mean), 'Selected Date Range' (01/01/2018 To 31/12/2018), 'Selected Monitoring Sites' (Bristol St Paul's), and 'Select Pollutants' (Monitoring Network, Pollutant Name). The 'Select Pollutants' section has a 'Cancel' button. The main content area on the right contains 'Instructions' and a 'Menu Options - Limited' section.

Selection Options

Selected Data Type
Edit Reset
✓ Selected data type: **Daily Mean**

Selected Date Range
Edit Reset
✓ Date from: **01/01/2018 To 31/12/2018**

Selected Monitoring Sites
Edit Reset
✓ Monitoring Sites :
Bristol St Paul's

Select Pollutants
Select Pollutants by:
• Monitoring Network
• Pollutant Name
Cancel

Instructions
3 of 5 items selected
Selecting Pollutants
Please choose how you would like to select Pollutants and other measurements by clicking a link on the right.
Alternatively, [Cancel](#) this step.
Menu Options - Limited
Options are limited by previous selections. To show all menu options, untick this box and click the Update button.

Note: there can be different types of PM₁₀ (particulate matter, non-volatile and volatile).

We are interested in PM₁₀ particulate matter.

Click the green **Save Selection** button.

The screenshot shows the 'Data Selector - Defra, U' web application after selecting 'PM₁₀ particulate matter (Hourly measured)'. The 'Select Pollutants' section now shows 'PM₁₀ particulate matter (Hourly measured)'. The 'Update' button is highlighted in green. The 'Menu Options - Limited' section is expanded, showing 'Limiting Menu Options' and a 'Reset Data Request' section.

Selected Data Type
Edit Reset
✓ Selected data type: **Daily Mean**

Selected Date Range
Edit Reset
✓ Date from: **01/01/2018 To 31/12/2018**

Selected Monitoring Sites
Edit Reset
✓ Monitoring Sites :
Bristol St Paul's

Select Pollutants
Select Pollutants by:
• Monitoring Network
• Pollutant Name
Cancel

Selected Output Type

Menu Options - Limited
Only show options that are relevant to my previous selections.
Limiting Menu Options
To help you find what you're looking for, you can force the menus to show only options that are relevant to your previous selections. For example, having selected a particular Monitoring Site, when limited, the menus will only show Pollutants that are measured at your selected monitoring site. This feature can be switched on and off using the tick-box above.
[Show further detailed information](#)
Update

Reset Data Request
Please note: This will clear all your current selections and cannot be reversed!
Reset

Now choose **Output Type**

Not all data allows results to be emailed. We chose **Data to Screen**.

Some allow a straight download of the data. Data downloads could be used to make more detailed comparisons between different locations or for different pollutants.

The screenshot shows a web browser window with the URL https://uk-air.defra.gov.uk/data/data_selector_service?q=1992087&s=ot&l=1#mid. The page is titled "Data Selector - Defra, U".

The main content area is divided into two columns. The left column contains the following sections:

- Monitoring Sites :** A list box containing "Bristol St Paul's".
- Selected Pollutants**: A section with "Edit" and "Reset" buttons.
- Pollutants :** A list box containing "PM₁₀ particulate matter (Hourly measured)".
- Select Output Type**: A section with a "Cancel" button and two radio button options:
 - ☒ Data to Screen
 - ☐ Data to Email Address (CSV)
- A text input field labeled "Please enter a valid email address:".
- A green "Save Selection" button.

The right column contains the following sections:

- Instructions**: "4 of 5 items selected".
- Output Type**: "Please select an Output Option on the right and click the Save Selection button. If you select to have data sent by email, please be sure to enter a valid email address. Alternatively, [Cancel](#) this step."
- Reset Data Request**: "Please note: This will clear all your current selections and cannot be reversed!"
- A green "Reset" button.

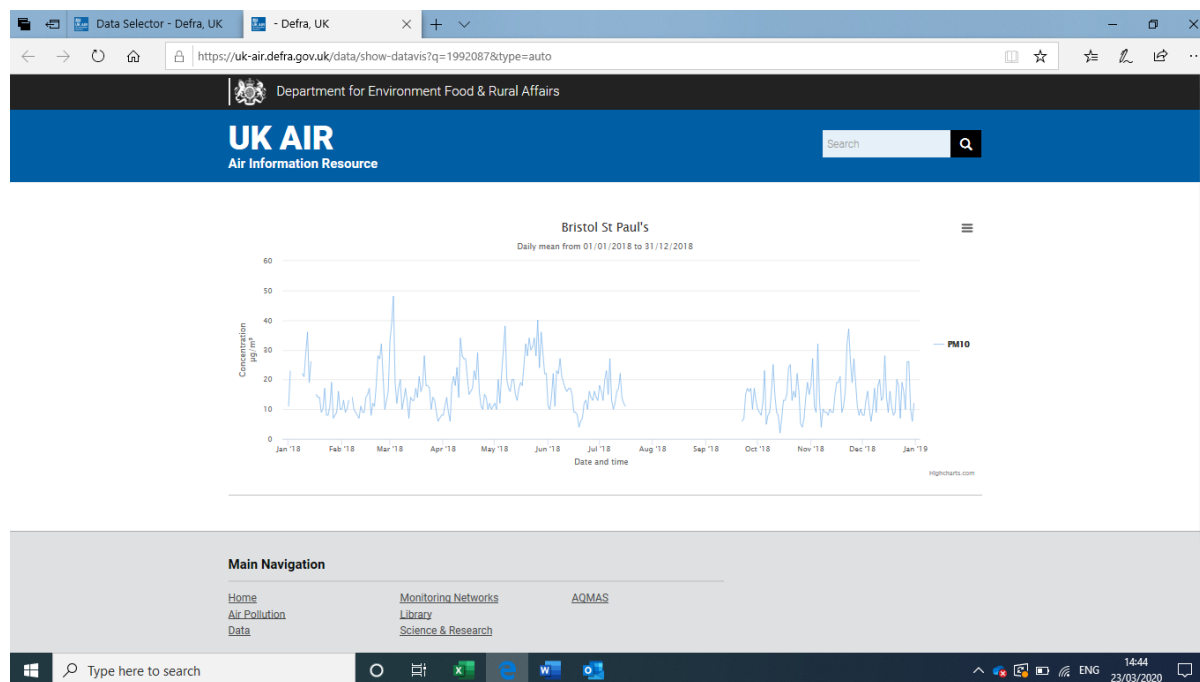
The Windows taskbar at the bottom shows the search bar, task view button, and several application icons (Excel, Edge, Word, PowerPoint). The system tray on the right shows the time as 14:42 and the date as 23/03/2020.

On the right-hand side is now a choice of how you want the data to be presented: tabulated data or a graphical readout. Not all data will have a graphical data option.

The screenshot shows the 'Data Selector - Defra, UK' interface. On the left, there are four sections: 'Selected Data Type' (Daily Mean), 'Selected Date Range' (01/01/2018 To 31/12/2018), 'Selected Monitoring Sites' (Bristol St Paul's), and 'Selected Pollutants' (PM₁₀ particulate matter (Hourly measured)). On the right, there are instructions and two buttons: 'Get Data' and 'Graph Selected Data'. An orange arrow points to the 'Graph Selected Data' button.

The tabulated or graphical data will open in a new tab.

Here is the **Graphical Data** from one of the sites we selected in Bristol.



The graph can be saved or copied by right clicking on the image.

If you choose the **Get Data** option, you will see tabulated data.

Here is a snapshot of a huge tale of data.

The screenshot shows a web browser window with the URL https://uk-air.defra.gov.uk/data/data_selector_service#mid. The page title is "Data Selector - Defra, U". The main content area is titled "Search Hourly Networks" and includes a sub-header "Select Data Type, Date Range, Pollutant, Monitoring Sites, Output Type" and a button "Change this option". Below this, the page is titled "UK AIR - Data and Statistics" and "Daily Mean - All Data are GMT hour ending", with a button "Make Another Selection". A status legend indicates: Status **N** - Not Verified, **P** - Preliminary Verified, **V** - Verified. The main data table is titled "Bristol St Paul's" and has columns "Daily data", "PM10", and "Status/units". The table contains 11 rows of data for the year 2018.

Daily data	PM10	Status/units
End Date		
01/01/2018	11	V $\mu\text{g}/\text{m}^3$ (TEOM FDMS)
02/01/2018	23	V $\mu\text{g}/\text{m}^3$ (TEOM FDMS)
03/01/2018		
04/01/2018		
05/01/2018		
06/01/2018		
07/01/2018		
08/01/2018		
09/01/2018	22	V $\mu\text{g}/\text{m}^3$ (TEOM FDMS)
10/01/2018	21	V $\mu\text{g}/\text{m}^3$ (TEOM FDMS)
11/01/2018	29	V $\mu\text{g}/\text{m}^3$ (TEOM FDMS)

Have fun!