Environmental Research Group – Application Programming Interface

Introduction

Welcome to the ERG API. We hope you find it easy to use and useful. This is version 1.3 of the API.

Who we are

The Environmental Research Group (ERG), part of Imperial College London, is a leading provider of air quality information and research in the UK. We can be contacted on the email address erg-web@ic.ac.uk.

What we are providing

The main resource we are making available is air quality monitoring data available for London, which has been recorded automatically since 1993. We also have predicted grids of pollution levels at any location in London for annual and current measurements.

Air quality is a complicated subject, and it can be worth reading up about it before trying to interpret data. A good place to start would be the guide on the London Air website. https://www.londonair.org.uk/LondonAir/guide/home

Terms and conditions

The use of the API is subject to the Open Government License version 2, which can be found at: https://www.nationalarchives.gov.uk/doc/open-government-licence/version/2/

Below is an example attribution statement for use in websites, applications or documents:

This information has been obtained from the Environmental Research Group of Imperial College London (https://www.imperial.ac.uk/school-public-health/environmental-research-group/), using data from the London Air Quality Network (https://www.londonair.org.uk). This information is licensed under the terms of the Open Government Licence.

The feeds provided are still undergoing development and may change in future. We will try to keep this to a minimum.

The API is intended to be used from one fixed IP address. If this feed is to be used by applications or from client-side web pages, then the users server should act as a proxy, and cache data where appropriate.

Please also tell us about anything you make using our API. This will help us make sure we do not break anything when we update it and will allow us to show how it is being used, helping us to keep the service properly supported.

Monitoring API General Notes

All monitoring data requests start with the url http://api.erg.ic.ac.uk

Automatic information on the feeds can be found at
http://api.erg.ic.ac.uk/AirQuality/Help The latest version of this documentation can be
found at http://api.erg.ic.ac.uk/AirQuality/Documentation/pdf.

We aim to explain the idea behind each feed rather than specify the exact syntax, which
instead can be found in the API automatic information.

This resource implements a REST interface. Requests are case sensitive, and particular care
should be taken to make sure that "London" starts with an uppercase L. Do not add
trailing slashes where not specified. Currently all requests use the HTTP "GET" verb, as the
API only returns data at present.

Most responses are in XML by default, but you can get a Json response by appending /Json
to the feed. We also have some csv feeds (/csv) and pdf feeds (/pdf).

We have arranged our API into objects in basic groups. Each object should always return
data with the same syntax. Most objects take variables, which will change the amount of
data returned.

Monitoring API feeds

Information

This group contains base information about what monitoring sites there are, what
pollutants are measured, what the air quality objectives are, health advice etc. This
information is often useful to help interpret measured and monitored data.

Groups

Our monitoring sites are organised in groups, mostly based on area. This endpoint allows
you to see which groups exist. Many of the other feeds use the group name as part of the
request.

Index Health Advice

This request matches an air quality index to health advice for the General population and
At-risk individuals. This is important information to turn pollution levels into health
advice.
If an air quality index is supplied then just the matching records are returned.

AirQualityBand Description of overall banding, one of Low, Moderate, High
or Very High

LowerAirQualityIndex, UpperAirQualityIndex Lower and upper air quality indexes of that Band. The index runs from 1 to 10.
Population Who the advice applies to, either At-risk individuals or General Population
Advice Text giving advice for the population when it is exposed to the level of pollution.

Monitoring Local Authorities

This lists the local authorities that have air quality monitoring with ERG. This can be done by supplying a GroupName e.g. London.

Monitoring Sites

This lists the monitoring sites where air quality is measured. The basic details such as where the site is, when it was open, and what was measured there. This can be selected by GroupName e.g. London, or by Local Authority Name (LaName).

Species

This lists the commonly monitored pollutants ("Species"), along with their code, a description and the health effect. This can list all of them, or a chosen species.

Objectives

This lists the details of annual air quality objectives.

Hourly Data

Hourly Monitoring Index

The returns the latest hourly air quality monitoring indexes requested. This can be selected by local authority or by group. The feed lists a number of local authorities, each of which have a number of sites, and each of those has a number of species (pollutants). The health effect of these indexes can be found in the **IndexHealthAdvice** feed. The following explains what some of the attributes returned mean:

TTL: This stands for Time To Live, and is the number of minutes that the data supplied is valid for.

SiteType: A text description of the location of the site compared to pollution sources, one of "Kerbside", "Roadside", "Suburban", "Urban Background", "Rural" and "Industrial". This has a profound effect on the air quality levels recorded at the site.

SiteCode: Code used to refer to the site, as the name may change.

SiteName: Name of the site, more understandable by people.

SpeciesName Longer name for the species

SpeciesCode Short code for the species

AQIndex The index of the air quality from 1-10, or 0 for no data. This can be mapped to health advice using the feed **IndexHealthAdvice.**

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IndexSource Either "Measurement" or "Trigger". Trigger is a type of
prediction of pollution levels, and on the Londonair website we display
triggers with a different symbol.

DataEnd The end date and time of the index, including the timezone. The
start date and time would be the hour before.
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Hourly Map

This feed has been deprecated as of August 2018.

Daily Data

Daily Monitoring Index

This lists the chosen days monitoring indexes. This can be select by group, local authority or site, and also includes the date. The return is very similar to the format of the hourly index.

Latest Daily Index

This returns data in the same format as the daily monitoring index, but for the latest day that has been calculated. The date of the bulletin can be found near the start of the feed.

Annual Data

Annual Monitoring Objective

This lists compliance to annual monitoring objectives by monitoring sites. This can be selected by group, local authority or site. Each local authority has a number of sites, and each of these list the objectives that site has measured. Each objective is for a particular year and objective, and there can be more than one objective per species.

Annual Map

This feed has been deprecated as of August 2018.

Data

This gives basic measurements numbers as a time series dataset. The data can be selected by site, or by site and species, and involves the use of start and end dates. It can be returned in xml, json or csv formats, The csv format can be very useful for inputting into existing mapping tools. The DateTime value is always in GMT. There are also some options to return the data in "wide" format, where each datetime has one entry and all the values are listed on that row, very like a spreadsheet. The standard return is one row per measurement, which is more similar to a database format.

Geographic API

This feed has been deprecated as of August 2018.