Environment Agency

Flood Risk Open Data

What is Open Data?

Open Data is information that anyone can access, use for any purpose, and share for no cost.

It is provided under an Open Government Licence (OGL) that says that the user must acknowledge the source of the information when used.

According to the Open Data Institute, good open data:

- can be linked to, so that it can be easily shared and talked about
- is available in a standard, structured format, so that it can be easily processed
- has guaranteed availability and consistency over time, so that others can rely on it
- is traceable, through any processing, right back to where it originates, so others know whether to trust it

What are we doing?

In June 2014 we made a commitment to publish as much of our data as possible in line with the Cabinet Office's Open Data initiative.

In June 2015, the Secretary of State, Liz Truss, announced that the Defra would make 8000 of its datasets Open Data by June 2016.

Since then, we have committed to making 1500 of our datasets Open. The following pages highlight some of the flood risk datasets contributing to this total.

We have set up a Data Advisory Group to help us prioritise our data for open release. The group is made up of Defra and external parties with an interest in our data, including some current data customers and some with an open data background.

The group meets quarterly and minutes are published online at eadag.org.

LIDAR

We have been using Light Detection and Ranging (LIDAR) techniques as a cost effective way to capture accurate elevation data since 1998.

Aerial LIDAR accurately measures the height of the terrain and surface objects through the use of a scanning laser that measures the distance between the aircraft and the ground, up to hundreds of thousands of times per second.

We use it as the basis of our flood modelling. Since becoming Open Data in September 2015, others have used it for forest management, archaeological uses, and even to create virtual reality worlds for gaming.

Accurate elevation data is available for over 72% of England and at a variety of resolutions (2m, 1m, 50cm, and 25cm) depending on coverage.

Data can be supplied as a combined Digital Surface Model (DSM), which includes heights of objects such as buildings and vegetation. Or Digital Terrain Model (DTM), a "bare earth" model with surface objects filtered out.

LIDAR requires GIS software to be used. You can download the data from data.gov.uk.

Risk of Flooding from Rivers and Sea

Previously known as National Flood Risk Assessment (NaFRA).

This is our national assessment of flood risk for England, produced using local data and expertise. It shows the chance of flooding from rivers and/or the sea, with the floodplain split into 50m by 50m squares.

Each square is allocated one of four risk categories (*High, Medium, Low, Very Low*) which takes into account flood defences and their condition.

Since we made this data Open in December 2014, it has been used in websites and apps by developers to help the public understand their flood risk, and also by local communities.

Risk of Flooding from Rivers and Sea is available in either Access database or spatial versions as Shapefile or TAB formats.

This data is available to download from data.gov.uk.

Flood Warnings

The Flood Warnings system provides the public with up to date information about flooding in their area. There are three levels of warning;

- Flood Alert - *flooding is possible, be prepared*
- Flood Warning – *flooding is expected, immediate action required*
- Severe Flood Warning - *severe flooding. Danger to life*

During a flood event the information on the website is updated every 15 minutes.

We have made this information Open Data, and there is also a 'Widget' available that shows current warnings that can be included on any website.

The data is comprised of Flood Alert and Flood Warnings polygon layers and a live feed that determines the status of the polygons. Warnings are issued by our manned incident rooms.

The data is provided via an online web portal called an API and can be accessed from www.environment.data.gov.uk.

Real-Time Data

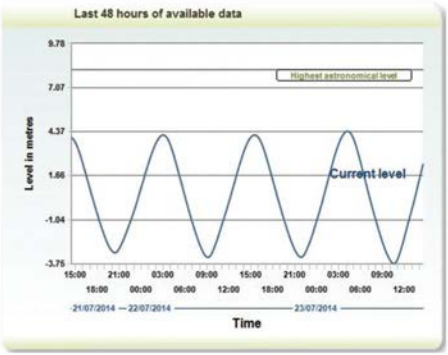
We have a large network of river and sea gauges that provide real-time (or near real-time) updates on a number of hydrometric values.

These include the following all taken at 15 minute intervals

- River levels
- River flow
- Groundwater levels

Usually, data recorded by the gauges is downloaded twice a day, but during a flood event it is updated more frequently.

The data is provided via an online web portal called an API and can be accessed from www.environment.data.gov.uk.



Three Day Flood Risk Forecast

The Three Day Flood Risk Forecast provides an outlook on potential flooding for England and Wales. It is produced in partnership with the Flood Forecasting Centre and is published daily on the Environment Agency website but is updated more frequently during a serious flood event.

The data provides an indication of the potential for flooding for three days: the day on which it is issued and the subsequent two days ahead. The forecast highlights flood risk on a county by county area and includes a commentary on the situation in each area. It covers flooding from rivers, sea, surface water and groundwater.

The data is provided via an online web portal called an API and can be accessed from www.environment.data.gov.uk.

Historic Outlines

We have two datasets showing historic outlines, both of which we are aiming to make Open in April 2016.

The Recorded Flood Outlines show the individual extent of flood events recorded by the Environment Agency and our previous bodies. In all, over 21,000 separate events are recorded going back to 1947.

Our Historic Flood Map is a combination of all the recorded flood outlines, showing the worst flood extent we have records of.

Absence of a historic flood outline does not mean that an area has never flooded, only that we do not currently have records of flooding in this area.

Conversely, if an area is recorded as flooding in the past this does not mean that it will flood again, as flood defences may have been improved to try and prevent future flooding.

Once Open, data will be available from data.gov.uk

Risk of Flooding from Surface Water

Previously known as updated Flood Map for Surface Water (uFMfSW).

This is our national assessment for flood risk from surface water for England. Based on a national scale assessment, it is supplemented with local modelling from Lead Local Flood Authorities.

Not suitable for individual property analysis, we use this information to give an indication of the scale of risk from surface water flooding in England and the areas likely to be affected.

Datasets include flood extent, depths, speed, flow direction, suitability, and model details. We are aiming to make these and other associated datasets Open in April 2016.

This information is available as a WMS feed at data.gov.uk. Due to the size of the data, if you need the data itself, we may ask you to provide a hard drive as part of your request.

Would you like more information about how to access these datasets and others we can provide?

Please contact

Data Development & Licensing

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