Spatial Flood Defences (including standardised attributes)

Product Description

DESCRIPTION OF DATASET

The Environment Agency's (EA) Spatial Flood defences layer is the only comprehensive and up-to-date dataset in England that shows flood defences currently owned, managed or inspected by the EA.

Flood defences can be structures, buildings or parts of buildings. Typically these are earth banks, stone and concrete walls, or sheet-piling that is used to prevent or control the extent of flooding.

A defence is any asset that provides flood defence or coastal protection functions. This includes both man-made and natural defences. Natural defences may include man-made elements to make them more effective or protect them from erosion.

Normally a number of assets will be used together to manage the risk in a particular area, working in combination within a risk management system.

PURPOSE

The dataset shows the location and metadata about our flood defences. We combine it with other data in our flood models to help us better understand flood risk (e.g. Flooding from Rivers and Sea product). It is used for Incident Management purposes.

The data is used outside the EA by insurance companies to help provide house insurance. It is also used in home buyers reports when buying a new house.

BACKGROUND

- Digitised from scheme drawings and survey information on Ordnance Survey mapping (at a scale of 1:3000 or less)
- Recorded in our Asset Information Management System (AIMS:Inventory, called AIMS hereon)
- Managed and maintained by local experts

DATASET DETAILS

All assets on main river and around the coast are selected from AIMS where the following apply:

- EA has operational powers to maintain or operate (whether or not we exercise those powers);
- There is a liability on Flood and Coastal Risk Management (FCRM);
- Should be attached to Flood Risk Management Systems (FRMS).

This includes:

- Asset sub type 'high ground';
- Assets we may operate for FCRM in an incident.

Asset Types (fluvial and coastal) included in the dataset are:

- Embankment
- Wall
- Flood Gate
- Demountable defence

- Bridge Abutment
- High Ground
- Quay
- Beach
- Dunes
- Barrier Beach
- Promenade
- Cliff

Explanation of 'Condition Grades'

1 - Very Good - Cosmetic defects that will have no effect on performance

2 - Good - Minor defects that will not reduce the overall performance of the asset

3 - Fair - Defects that could reduce performance of the asset

4 - Poor - Defects that would significantly reduce the performance of the asset. Further investigation needed

5 - Very Poor - Severe defects resulting in complete performance failure

Explanation of spatial data 'Quality Flags':

1 = Good

2 = Adequate

3 = Suspect

4 = Poor

5 = Missing

0 / 6 = Unchecked

USING THE PRODUCT

Key Strengths	• Local data (defence information including condition) and expert validation
	• Over 32,000 assets included in the dataset (over 160,000 features in total)
	• High quality information on asset properties (e.g. asset type, crest level etc)
	• National (England) coverage
	• Regularly updated where new data is available.
Key Limitations	• Does not contain all AIMS defences, such as:
	- non-main river assets;
	- coastal protection assets/schemes that another operating authority is responsible for;
	- assets solely funded by non FCRM (EA) funding streams with no FCRM purpose.
	- non-linear assets e.g. pumps and structures
	• Only contains defences owned, managed or inspected by EA
Companion Datasets	Flood Map layers;
	Risk of Flooding from Rivers and Sea;
	Risk of Flooding from Rivers and Sea - Postcodes in Areas at Risk;
	Risk of Flooding from Rivers and Sea - Properties in Areas at Risk;

DATA ACCESS

customer service line
03708 506 506

www.gov.uk/environment-agency

incident hotline
0800 80 70 60

floodline
0345 988 1188
0845 988 1188

- This is a spatial dataset, available in ESRI, MapInfo, or GML data format. It is also available as a data feed (WFS and WMS).

It can be downloaded free with an Open Government Licence as Open Data from www.data.gov.uk or it can be viewed online as a zoom limited map from the same location.

- Direct link https://data.gov.uk/dataset/spatial-flood-defences-including-standardised-attributes

- If you would like a product sample or to find out more please contact data.info@environment-agency.gov.uk

Approval for Access number	AfA006
EA Metadata Identifier	b07dc5b5-f382-4dc1-be4b-464f1e64f12b
National Custodian	Karen Alford (FCRM Manager)

IMPROVEMENTS / UPDATE FREQUENCY

The data is subject to continual improvement through; updated spatial accuracy, increased completeness and improved attribute data quality.

As the EA builds new flood defences or updates existing ones, the Spatial Flood Defences layer will be refreshed. Updates to the dataset are published quarterly (month and year are published in the file name) on www.data.gov.uk and users are strongly advised to ensure they are referring to the most current version.
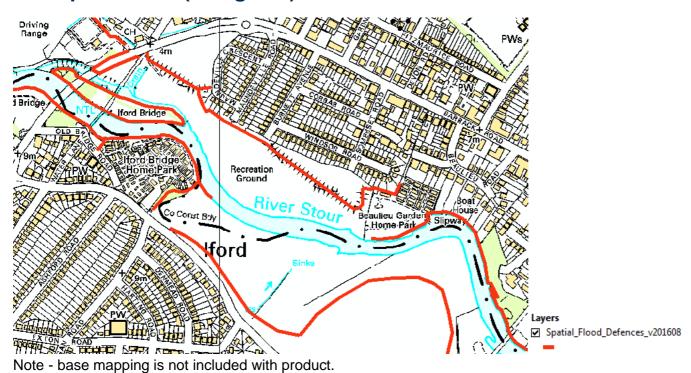
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GIS fields

Table Name
Spatial Flood Defences (including standardised attributes)

Field name	AIMS Field Name	AIMS Description	Units	Permitted Values	Style
ds_cre_lev	ACTUAL_DCL	Current height of the downstream crest level (mAOD). The actual and designed crest level heights may vary due to erosion of the crest of a defence by e.g. livestock trampling accross the defence.	mAOD	Cannot be minus	Numeric double (2 dec)
actu_stand	CURRENT_SOP	The actual flood level (expressed as a return period) which the flood defence will withstand.	mAOD	<10000	Integer
us_cre_lev	ACTUAL_UCL	Current height of the upstream crest level (mAOD). The actual and designed crest level heights may vary due to erosion of the crest of a defence by e.g. livestock trampling accross the defence.	mAOD	Cannot be minus	Numeric double (2 dec)
prot_type	PROTECTION_TYPE	The asset protection type indicates the type of flooding the asset defends against.	n/a	Coastal, Fluvial, Fluvial/Tidal, Tidal	Text
asse_type	ASSET_TYPE	Description of asset in simple English (e.g. a bridge, wall, etc.).	n/a	Embankment, Wall, Flood Gate, Demountable, Bridge, Abutment, High Ground, Quay, Beach, Dunes, Barrier Beach, Promenade, Cliff	Text
descript	DESCRIPTION	A brief description of the asset and / or its construction type	n/a	254 characters	Text
des_stand	DESIGN_SOP	The flood level (expressed as a return	1:n years	<10000	Integer

		period) which the flood defence was designed to withstand.			
length	LENGTH	Length of asset in metres. A number in the range 0 to 999,999.	Meters	System generated from GIS Edit	Numeric double (3 dec)
condition	OVR_CONDN	Overall condition of the asset based on the (weighted) condition of each element of the latest inspection of the asset.	n/a	1,2,3,4,5	Numeric Integer
qual_flag	DATA_QUALITY_FLAG	The data quality flag for the spatial position of the asset. If a user does not allocate a data quality flag, it will be defaulted to '0'.	n/a	1, 2, 3, 4, 5, 6, 0	Integer
worst_cond	WORST_CONDN	The condition code of the asset element in the worst condition from the latest inspection of the asset.	n/a	1,2,3,4,5	Integer
year_built	ASSET_START_DATE	The year of construction of a defence (if known).	Years	4 characters	Integer

Example of data (using GIS)

Note - base mapping is not included with product.