

## Flood Risk Data Sources

Data	Source	Limitations
<b>Fluvial &amp; Tidal Flood Risk Map</b>		
Ordnance Survey base maps	Ordnance Survey Open Data	No known limitations.
Borough boundaries	Ordnance Survey Open Data	No known limitations.
Detailed river network (including main rivers and ordinary watercourses)	EA 2012	The DRN is captured from the water features theme of the OS MasterMap topographic layer and built into a network using automated rules. Other input datasets and extensive local Environment Agency staff knowledge has been used to augment the core geometry to incorporate critical spatial detail and attribution, such as flow direction and path, not available from the OS mapping and to verify the accuracy of the centreline itself.
Detailed river network Harrow	London Borough of Harrow	No known limitations.
Recorded flood outlines	EA (WMS)	<p>This dataset shows all EA records of historic flooding from rivers, the sea, groundwater and surface water.</p> <p>The Recorded Flood Outlines show where the EA have adequate records, they do not show a record of all past flooding. If an area of land is shown outside the extent of recorded flooding it does not mean it has never flooded, simply that the EA do not hold a record of the area of land flooded.</p> <p>Please note that these records show flooding to the land and do not necessarily indicate that properties within the historic flood extents were flooded internally.</p> <p>It is also possible that the pattern of flooding in this area has changed and that this area would now not flood, if a flood defence has been built, or flood under different circumstances.</p> <p>This information is not suitable for identifying if an individual property will flood.</p>
Areas benefitting from flood defences	EA (WMS)	<p>It shows those areas that would benefit from the presence of defences in a 1 in 100 (1%) chance of flooding each year from Rivers; or 1 in 200 (0.5 %) chance of flooding each year from the Sea. If the defences were not there, these areas would flood. Note that this does not show all areas that benefit from all flood defences and it is assumed that flood defences and other operating structures act perfectly and give the same level of protection as when the assessment of the area was made.</p> <p>The information provided is largely based on modelled data and is therefore indicative rather than specific. Locations may also be at risk from other sources of flooding, such as high groundwater levels, overland run</p>

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		off from heavy rain, or failure of infrastructure such as sewers and storm drains.
Planned flood alleviation scheme	London Borough of Hillingdon / EA 2017	Along the River Pinn only. Currently in a consultation period.
Flood storage area	EA (WMS)	It shows those areas that act as a balancing reservoir, storage basin or balancing pond. Their purpose is to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel. It may also delay the timing of a flood peak so that its volume is discharged over a longer time interval. The information on the is designed to only give an indication of flood risk to an area of land and is not sufficiently detailed to show whether an individual property is at risk of flooding. It does not provide information on flood depth, speed or volume of flow. It doesn't show flooding from other sources, such as groundwater, direct runoff from fields, or overflowing sewers.
Flood Zone 3	EA (WMS)	Land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%), or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year.
Flood Zone 2	EA (WMS)	Land assessed as having between a 1 in 100 and 1 in 1,000 annual probability of river flooding (1% – 0.1%), or between a 1 in 200 and 1 in 1,000 annual probability of sea flooding (0.5% – 0.1%) in any year.
Thames tidal breach inundation mapping	EA 2017	The map provides a maximum likely flood extent that would be achieved if an individual breach of the Thames Tidal Defence line was to occur at any point between Teddington Weir and the Thames Barrier. This has been undertaken for the 2005, 2065 and 2100 epochs.
Flood warning areas	EA (WMS)	Flood Warning Areas are geographical areas where the EA expect flooding to occur and where it provides a Flood Warning Service.
Flood alert areas	EA (WMS)	Flood Alert Areas are geographical areas where it is possible for flooding to occur from rivers, sea and in some locations, groundwater.
Historic flood map	EA (WMS)	This shows the maximum extent of all individual Recorded Flood Outlines from river, the sea and groundwater springs and shows areas of land that have previously been subject to flooding in England. Records began in 1946 when predecessor bodies to the Environment Agency started collecting detailed information about flooding incidents, although the EA may hold limited details about flooding incidents prior to this date. This dataset differs from the Recorded Flood Outline dataset in that it contains only those flood outlines that are 'considered and accepted' if the following criteria are met:

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		<ul style="list-style-type: none"> <li>photographic/video evidence with the location referenced.</li> <li>recorded flood levels with the location referenced.</li> <li>evidence that the outline represents the time of peak water level (for example date / time stamped photo).</li> <li>evidence that the source of flooding is from rivers, the sea or groundwater and not surface water/overland runoff.</li> </ul>
Upper Colne model data	EA 2010	Refer model report.
Lower Colne model data	EA 2010	Refer model report. Updated in 2017 to include new climate change allowances.
River Lee (Pymmes Brook & Tributaries) model data	EA 2014	Refer model report. Updated in 2017 to include new climate change allowances.
Silk Stream model data	EA 2007	Refer model report. Updated in 2019 to include new climate change allowances.
River Brent model data	EA 2014	Refer model report. Updated in 2017 to include new climate change allowances.
River Crane model data	EA 2008	Refer model report. Updated in 2017 to include new climate change allowances.
River Pinn model data	EA 2015	Refer model report. Updated in 2017 to include new climate change allowances.
<b>Surface Water Flood Risk Map</b>		
Ordnance Survey base maps	Ordnance Survey Open Data	No known limitations.
Borough boundaries	Ordnance Survey Open Data	No known limitations.
Detailed river network (including main rivers and ordinary watercourses)	EA 2012	The DRN is captured from the water features theme of the OS MasterMap topographic layer and built into a network using automated rules. Other input datasets and extensive local Environment Agency staff knowledge has been used to augment the core geometry to incorporate critical spatial detail and attribution, such as flow direction and path, not available from the OS mapping and to verify the accuracy of the centreline itself.
Detailed river network Harrow	London Borough of Harrow	No known limitations.
Risk of flooding from surface water 1 in 30 / 100 / 1000 year event	EA 2017	<p>This mapping consists of the flood extent and depth of rainfall scenarios with a 3.3% (1 in 30), 1% (1 in 100) and 0.1% (1 in 1000) chance of occurring in any given year: It is not suitable to be used:</p> <ul style="list-style-type: none"> <li>to identify if an individual property will, or will not flood.</li> <li>in detailed flood risk assessments.</li> </ul>

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		<ul style="list-style-type: none"> <li>on a map with background mapping more detailed than 1:10,000.</li> </ul> <p>It does not:</p> <ul style="list-style-type: none"> <li>show future scenarios, for example climate change.</li> <li>show flooding from other sources, including overflowing watercourses, drainage systems or public sewers, river flow, groundwater or the sea.</li> <li>include the presence or effect of pumping stations in catchments with pumped drainage.</li> <li>include any allowance for tide locking, high levels or fluvial levels where sewers cannot discharge.</li> </ul> <p>This means that where these elements play a role in the way flooding happens, this information may not show what actually happens locally.</p>
<b>Groundwater, Sewer and Artificial Flood Risk Map</b>		
Ordnance Survey base maps	Ordnance Survey Open Data	No known limitations.
Borough boundaries	Ordnance Survey Open Data	No known limitations.
Susceptibility to groundwater flooding	EA 2017	<p>Areas Susceptible to Groundwater Flooding (AStGWF) is a strategic scale map showing groundwater flood areas on a 1km square grid.</p> <p>It shows the proportion of each 1km grid square where geological and hydrogeological conditions show that groundwater might emerge. It does not show the likelihood of groundwater flooding occurring.</p> <p>The data should not be interpreted as identifying areas where groundwater is actually likely to flow or pond, thus causing flooding.</p>
Increased potential for elevated groundwater	GLA Drain London 2011	The map identifies areas that have increased potential to experience elevated groundwater levels in response to higher than average recharge from rainfall or from elevated river levels.
Risk of flooding from reservoirs	EA (WMS)	<p>The Reservoir Flood Map Outline (Extent) shows the largest area that might be flooded if a reservoir were to fail and release the water it holds. Since this is a prediction of a credible worst-case scenario, it's unlikely that any actual flood would be this large. These data are intended for emergency planning only and are not reliable for large scale flood risk assessments.</p> <p>Please note that only flood maps for large reservoirs are displayed. Flood maps are not displayed for smaller reservoirs or for reservoirs commissioned after reservoir mapping began in spring 2009.</p>
Sewer flooding records (No. of Instances)	Thames Water 2017	This data shows where Thames Water have received reports of sewer flooding.
Source protection zones	EA (WMS)	Source Protection Zones (SPZs) are defined around large and public potable groundwater abstraction sites. The purpose of SPZs is to provide additional protection to safeguard drinking water quality through constraining

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		the proximity of an activity that may impact upon a drinking water abstraction. This is part of an initial screening process in assessing impacts to groundwater resources. Zones around location sites are defined by groundwater travel time to an abstraction.
Historic landfill location	EA (WMS)	Includes all relevant historic information for the sites that both local authorities and the EA have collected over the years.
<b>Policy Map</b>		
Ordnance Survey base maps	Ordnance Survey Open Data	No known limitations.
Borough boundaries	Ordnance Survey Open Data	No known limitations.
Detailed river network (including main rivers and ordinary watercourses)	EA 2012	The DRN is captured from the water features theme of the OS MasterMap topographic layer and built into a network using automated rules. Other input datasets and extensive local Environment Agency staff knowledge has been used to augment the core geometry to incorporate critical spatial detail and attribution, such as flow direction and path, not available from the OS mapping and to verify the accuracy of the centreline itself.
Detailed river network Harrow	London Borough of Harrow	No known limitations.
Flood Zone 3b fluvial and tidal	EA fluvial / tidal model outputs	1 in 20 year fluvial and 1 in 20 year tidal flood extents.
Flood Zone 3a fluvial and tidal	EA fluvial / tidal model outputs	1 in 100 year fluvial and 1 in 200 year tidal flood extents.
Flood Zone 3a surface water	EA surface water modelling outputs (2017)	1 in 100 year surface water flood extent.
Risk of flooding from surface water 1 in 30 extent	EA 2017	<p>This mapping consists of the flood extent of rainfall scenario with a 3.3% (1 in 30) chance of occurring in any given year:</p> <p>It is not suitable to be used:</p> <ul style="list-style-type: none"> <li>to identify if an individual property will, or will not flood.</li> <li>in detailed flood risk assessments.</li> <li>on a map with background mapping more detailed than 1:10,000.</li> </ul> <p>It does not:</p> <ul style="list-style-type: none"> <li>show future scenarios, for example climate change.</li> <li>show flooding from other sources, including overflowing watercourses, drainage systems or public sewers, river flow, groundwater or the sea.</li> <li>include the presence or effect of pumping stations in catchments with pumped drainage.</li> <li>include any allowance for tide locking, high levels or fluvial levels where sewers cannot discharge.</li> </ul> <p>This means that where these elements play a role in the way flooding happens, this information may not show what actually happens locally.</p>

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Flood Zone 3	EA (WMS)	Land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%), or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year.
Flood Zone 2	EA (WMS)	Land assessed as having between a 1 in 100 and 1 in 1,000 annual probability of river flooding (1% – 0.1%), or between a 1 in 200 and 1 in 1,000 annual probability of sea flooding (0.5% – 0.1%) in any year.
Critical drainage areas	London boroughs	Refer borough SWMP.
Areas benefitting from flood defences	EA (WMS)	<p>It shows those areas that would benefit from the presence of defences in a 1 in 100 (1%) chance of flooding each year from Rivers; or 1 in 200 (0.5 %) chance of flooding each year from the Sea. If the defences were not there, these areas would flood. Note that this does not show all areas that benefit from all flood defences and it is assumed that flood defences and other operating structures act perfectly and give the same level of protection as when the assessment of the area was made.</p> <p>The information provided is largely based on modelled data and is therefore indicative rather than specific. Locations may also be at risk from other sources of flooding, such as high groundwater levels, overland run off from heavy rain, or failure of infrastructure such as sewers and storm drains.</p>
Flood storage area	EA (WMS)	<p>It shows those areas that act as a balancing reservoir, storage basin or balancing pond. Their purpose is to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel. It may also delay the timing of a flood peak so that its volume is discharged over a longer time interval.</p> <p>The information on the is designed to only give an indication of flood risk to an area of land and is not sufficiently detailed to show whether an individual property is at risk of flooding.</p> <p>It does not provide information on flood depth, speed or volume of flow. It doesn't show flooding from other sources, such as groundwater, direct runoff from fields, or overflowing sewers.</p>
Planned flood alleviation scheme	London Borough of Hillingdon/EA	Along the River Pinn only. Currently in a consultation period.
Barnet allocated sites	Barnet 2006 Unitary Development Plan	<p>Includes an update of the 2006 list and North Finchley Town Centre Framework Supplementary Planning Document sites.</p> <p>The sites have been given assumed boundaries.</p>
Brent allocated sites	London Borough of Brent Site Allocations DPD 2011	Includes growth areas.
Ealing allocated sites	London Borough of Ealing Development Sites DPD 2013	Includes school sites and waste sites.

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Harrow site allocations	London Borough of Harrow Site Allocations DPD 2013	Unknown.
Hillingdon site allocations	Local Plan: Part 2 Site Allocations and Designations (Revised Proposed Submission Version, October 2015)	As of March 2018 Local Plan: Part 2 has yet to be adopted by the London Borough of Hillingdon.
Hounslow site allocations	Local Plan 2015	Includes some proposed sites.
GLA Opportunity Areas	GLA 2018	Areas designated as Opportunity Areas by the GLA and includes the Development Commissions Old Oak Common and Park Royal. Opportunity Areas are London's major source of brownfield land which have significant capacity for development – such as housing or commercial use - and existing or potentially improved public transport access.
<b>Infrastructure Map</b>		
Ordnance Survey base maps	Ordnance Survey Open Data	No known limitations.
Borough boundaries	Ordnance Survey Open Data	No known limitations.
Detailed river network (including main rivers and ordinary watercourses)	EA 2012	The DRN is captured from the water features theme of the OS MasterMap topographic layer and built into a network using automated rules. Other input datasets and extensive local Environment Agency staff knowledge has been used to augment the core geometry to incorporate critical spatial detail and attribution, such as flow direction and path, not available from the OS mapping and to verify the accuracy of the centreline itself.
Detailed river network Harrow	London Borough of Harrow	No known limitations.
Flood defences	EA (WMS)	This layer and documentation covers Spatial Flood Defences. It shows linear defences that act to prevent flood water from flowing inland. Typically these can be man-made embankments and walls but also naturally occurring processes such as shingle ridges and dunes. All man-made defences will have a design level and/or a standard of protection.  Some areas that already benefit from recently completed flood defences may not yet be indicated on these maps. The EA have assumed that flood defences act perfectly and give the same level of protection as when the assessment of the area was carried out. Flood defences do not completely remove the chance of flooding and can be overtopped or fail in extreme weather conditions.
Areas benefitting from flood defences	EA (WMS)	It shows those areas that would benefit from the presence of defences in a 1 in 100 (1%) chance of flooding each year from Rivers; or 1 in 200 (0.5 %) chance of flooding each year from the Sea. If the defences were not there, these areas would flood. Note that this does not show all areas that benefit from all flood defences and it

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		<p>is assumed that flood defences and other operating structures act perfectly and give the same level of protection as when the assessment of the area was made.</p> <p>The information provided is largely based on modelled data and is therefore indicative rather than specific. Locations may also be at risk from other sources of flooding, such as high groundwater levels, overland run off from heavy rain, or failure of infrastructure such as sewers and storm drains.</p>