Preliminary assessment report spreadsheet: instructions

Introduction:

This spreadsheet contains 3 sheets, for reporting details of a preliminary assessment report.
The sheets are labelled Annex 1, 2 and 3 and should remain so.
This Environment Agency's PFRA Guidance should be referred to when completing the Annexes.
Reporting information on past floods (Annex 1) is described in section 3.4 of the PFRA Guidance.
Reporting information on future floods (Annex 2) is described in section 3.5 of the PFRA Guidance.
Note that information might not be available for many of the optional fields in Annexes 1 and 2.
Reporting information on Flood Risk Areas (Annex 3) is described in section 4.4 of the PFRA Guidance.
If a PFRA does not identify a Flood Risk Area, Annex 3 does not have to completed.

Please select a Lead Local Flood Authority from the following list:

Note that only one LLFA name can be selected. Where several LLFAs are working together, select one of the LLFAs, and then list the others below. If a particular LLFA is leading the exercise then it should be identified in the box in row 15. If there is no particular lead then it does not matter which one is selected; for example you might enter the LLFA that comes first among the group alphabetically.

Select here:	Cambridgeshire
Working with:	*(only complete this box where several LLFAs are working together to produce a PFRA)*

For Annexes 1, 2 and 3:

Mandatory content to meet European Commission reporting requirements is shown in **red**.
If an optional field is not applicable, record "Not applicable" or "NA".
If an optional field is not known, record "Unknown".

For Annex 1 in particular:

Note that only past floods with significant consequences need to be reported in Annex 1.
Each past flood record must have significant consequences for at least one type of consequence (human health, economic, environment, or cultural).
Some information on past floods is optional, but only for this first PFRA cycle. In future cycles, the European Commission will require more information to be reported for floods that occur after 22 Dec 2011. This is shown by the fields labelled "Optional for first cycle".
LLFAs should record the following information from 22 Dec 2011: Start date, Days duration, Probability, Main source, Main mechanism, Main characteristics, and Significant consequences of flooding.

Appx 3 ANNEX 1: Records of past floods and their significant consequences (preliminary assessment report spreadsheet)

Field:	Flood ID	Summary description	Name of Location	National Grid Reference	Location Description	Start date	Days duration	Probability	Main source of flooding	Additional source(s) of flooding	Confidence in main source of flooding	Main mechanism of flooding	Main characteristic of flooding
Mandatory / optional:	Mandatory	Mandatory	Mandatory	Mandatory	Optional	Optional for first cycle	Optional for first cycle	Optional for first cycle	Optional for first cycle	Optional	Optional	Optional for first cycle	Optional for first cycle
Format:	Unique number between 1-9999	Max 5,000 characters	Max 250 characters	12 characters: 2 letters, 10 numbers	Max 250 characters	'yyyy' or 'yyyy-mm' or 'yyyy-mm-dd'	Number with two decimal places	Max 25 characters	Pick from drop-down	Max 250 characters, same source terms	Pick from drop-down	Pick from drop-down	Pick from drop-down
Notes:	A sequential number starting at 1 and incrementing by 1 for each record.	Description of the flood and its adverse or potentially adverse consequences. Where available, information from other fields (Start date, Days duration, Probability, Main source, Main mechanism, Main characteristics, Significant consequences) should be repeated here.	Name of the locality associated with the flood, using recognised postal address names such as streets, towns, counties. If the flood affected the whole LLFA, then record the name of the LLFA.	National Grid Reference of the centroid (centre point, falls within polygon) of the flood extent, or of the area affected if there is no extent information.	A description of the general location that was flooded.	The date when the flood commenced - when land not normally covered by water became covered by water.	The number of days (duration) of the flood - that land not normally covered by water was covered by water. Values should be within the range 0.01 - 999.99 (permitting records to the nearest quarter of an hour, where appropriate).	The chance of the flood occuring in any given year - record X from "a 1 in X chance of occurring in any given year". Where this is difficult to estimate, a range can be recorded.	Pick the source from which the majority of flooding occurred. Refer to the PFRA guidance for definitions of sources.	If flooding occurred from, or interacted with, any other sources (other than the Main source of flooding), report the source(s) here, using the same source terms.	Pick a broad level of confidence in the Main source of flooding from; 'High' (compelling evidence of source - about 80% confident that source is correct), 'Medium' (some evidence of source but not compelling - about 50% confident that source is correct) 'Low' (source assumed - about 20% confident that source is correct) or 'Unknown'.	Pick a mechanism from; 'Natural exceedance' (of capacity), 'Defence exceedance' (floodwater overtopping defences), 'Failure' (of natural or artificial defences or infrastructure, or of pumping), 'Blockage or restriction' (natural or artificial blockage or restriction of a conveyance channel or system), or 'No data'.	Pick a characteristic from; 'Flash flood' (rises and falls quite rapidly with little or no advance warning), 'Natural flood' (due to significant precipitation, at a slower rate than a flash flood), 'Snow melt flood' (due to rapid snow melt), 'Debris flow' (conveying a high degree of debris), or 'No data'. Most UK floods are 'Natural floods'.
Example:	1	On the 14 April 1998 an intense storm system produced surface water flooding across Essex, concentrated in the west of the county. The flooding lasted about 6 hours, and 23 residential properties were recorded as suffering internal flooding, in Epping and North Weald. The surface runoff exceeded the drainage capacity in several places, and so probably had a 1 in 30 to 1 in 50 chance of occuring in any given year.	Essex	SX1234512345	Several towns and villages across west Essex	1998-04-15	0.25	20-50	Surface runoff		High	Natural exceedance	Natural flood
Records begin here:	1	In March 1947, fluvial flooding from main rivers and ordinary watercourse caused largescale flooding. Watercourses were overwhelmed following excessively fast snowmelt.	Cambridgeshire	TL3703577090	Many towns and villages in the West of the County.	1947-03			Main rivers	Ordinary Watercourses	Medium	Natural exceedance	Snow melt flood
	2	In September 1968 there was extensive river flooding in the south of the County.	Cambridgeshire	TL3703577090	South Cambridgeshire	1968-09			Main rivers	Ordinary Watercourses	Medium	Natural exceedance	Natural Flood
	3	In May 1978 there was flooding in approximately 6 locations in the south of the county.	Cambridgeshire	TL3703577090	Many villages on ordinary watercourses.	1978-05			Main rivers	Ordinary Watercourses	Medium	Natural exceedance	Natural Flood
	4	At the start of Easter 1998 (9-10 April) a stationary band of heavy rain affected the Midlands. This resulted in floods in which five people died and thousands had to be evacuated from their homes. The wettest area, with over 75 mm, stretched from Worcestershire towards The Wash and the flooded towns included Evesham, Leamington Spa, Stratford-on-Avon, Bedford, Northampton and Huntingdon. The Gt Ouse reached it's highest level since 1947.	Cambridgeshire	TL3703577090	Several towns and villages across Cambridgeshire	1998-04			Main rivers	Ordinary Watercourses	Medium	Natural exceedance	Natural flood
	5	In October 2001 very heavy rainfall resulted in widespread flooding across the county.	Cambridgeshire	TL3703577090	Several towns and villages across Cambridgeshire	2001-10			Main rivers	Surface Runoff	Medium	Natural exceedance	Natural flood
	6	In July 2012 flooding occured in several locations in the south of the county.	Cambridgeshire	TL3703577090	South Cambridgeshire	2012-07			Main rivers	Ordinary Watercourses	Medium	Natural exceedance	Natural flood
	7	In August 2014 flooding occured in several locations across the county.	Cambridgeshire	TL3703577090	Many villages on ordinary watercourses.	2014-08			Ordinary watercourses	Surface Runoff	Medium	Natural exceedance	Natural flood
	8	In July 2015 flooding occured in several locations in Cambridge City and the south of the county.	Cambridgeshire	TL4613058678	Cambridge City	2015-07			Surface runoff		Medium	Natural exceedance	Natural flood

Significant consequences to human health	Human health consequences - residential properties	Property count method	Other human health consequences	**Significant economic consequences**	Number of non-residential properties flooded	Property count method	Other economic consequences	**Significant consequences to the environment**	Environment consequences	**Significant consequences to cultural heritage**	Cultural heritage consequences
Mandatory	Optional	Optional	Optional	**Mandatory**	Optional	Optional	Optional	**Mandatory**	Optional	**Mandatory**	Optional
Pick from drop-down	Number between 1-10,000,000	Pick from drop-down	Max 250 characters	Pick from drop-down	Number between 1-10,000,000	Pick from drop-down	Max 250 characters	Pick from drop-down	Max 250 characters	Pick from drop-down	Max 250 characters
Were there any significant consequences to human health when the flood occurred, or would there be if it were to re-occur?	Record the number of residential properties where the building structure was affected either internally or externally by the flood, or that would be so affected if the flood were to re-occur.	Where residential or non-residential properties have been counted, it is important to record the method of counting, to aid comparisons between counts. Choose from; 'Detailed GIS' (using property outlines, as per Environment Agency guidance), 'Simple GIS' (using property points), 'Estimate from map', or 'Observed number'.	If there were other Significant consequences to human health, describe them including information such as the number of critical services flooded.	Were there any significant economic consequences when the flood occurred, or would there be if it were to re-occur?	Record the number of non-residential properties where the building structure was affected either internally or externally by the flood, or that would be so affected if the flood were to re-occur.	Where residential or non-residential properties have been counted, it is important to record the method of counting, to aid comparisons between counts. Choose from; 'Detailed GIS' (using property outlines, as per Environment Agency guidance), 'Simple GIS' (using property points), 'Estimate from map', or 'Observed number'.	If there were other Significant economic consequences, describe them including information such as the area of agricultural land flooded, length of roads and rail flooded.	Were there any significant consequences to the environment when the flood occurred, or would there be if it were to re-occur?	If there were Significant consequences to the environment, describe them including information such as national and international designated sites flooded, and pollution sources flooded.	Were there any significant consequences to cultural heritage when the flood occurred, or would there be if it were to re-occur?	If there were Significant consequences to cultural heritage, describe them including information such as the number and type of heritage assets flooded.
Yes	23	Observed number		No				No		No	
Yes				Yes				No		No	
Yes				Yes				No		No	
Yes				Yes				No		No	
Yes				Yes				No		No	
Yes				Yes				No		No	
Yes				Yes				No		No	
Yes				Yes				No		No	
Yes				Yes				No		Yes	A museum and scientific research building was significantly affected by this event.

Comments	Data owner	Area flooded	Flood event outline confidence	Flood event outline source	Survey date	Photo ID	Lineage	Sensitive data	Protective marking descriptor	European Flood Event Code
Optional Max 1,000 characters Any additional comments about the past flood record.	Optional Max 250 characters	Optional Number with two decimal places The total area of the land flooded, in km^2	Optional Pick from drop-down Choose from; 'High' (data includes one of: Aerial video, Aerial photos, Professional survey, Flood level information, EA flood data recording staff notes), 'Medium' (data includes one of: EA/LA ground video, EA/LA ground photos, EA/LA flood event outline map, LA/professional partner officer site records, Public ground video), 'Low' (not confident) or 'Unknown'.	Optional Pick from drop-down	Optional 'yyyy' or 'yyyy-mm' or 'yyyy-mm-dd'	Optional Max 50 characters Provide references to relevant specific photographs, or to a set of relevant photographs. It may not be practical to reference all relevant photographs for each flood event.	Optional Max 250 characters Lineage is how and what the data is made from. Has this data been created by using data owned or derived from data owned by 3rd party (external) organisations? If yes please give details.	Optional Pick from drop-down Has the information been classified under the Government's Protective Marking Scheme? Include protective marking time limit where known. Note: If "Approved for Access" then report "Unmarked".	Optional Max 50 characters For use where organisations apply the Government's Protective Marking Scheme.	Auto-populated Max 42 characters This field will autopopulate using the LLFA name provided on the "Instructions" tab, and the Flood ID. It is an EU-wide unique identifier and will be used to report the flood information. Format: UK<ONS Code><P or F><LLFA Flood ID>. "ONS Code" is a unique reference for each LLFA. "P or F" indicates if the event is past or future. "LLFA Flood ID" is a sequential number beginning with 0001.
	Epping Forest District Council		Medium	Site survey	1998-04-20		Ordnance Survey AddressPoint; CEH 1:50k River Centreline; NextMap DTM.	Unmarked	Private	UKE10000012P0001
	Environment Agency									UKE10000003P0001
										UKE10000003P0002
										UKE10000003P0003
	Environment Agency									UKE10000003P0004
	Environment Agency									UKE10000003P0005
	Cambridgeshire County Council									UKE10000003P0006
	Cambridgeshire County Council									UKE10000003P0007
	Cambridgeshire County Council									UKE10000003P0008

ANNEX 2: Records of future floods and their consequences (preliminary assessment report spreadsheet)

Field:	Flood ID	Description of assessment method	Name of Location	National Grid Reference	Location Description	Name	Flood modelled	Probability	Main source of flooding	Additional source(s) of flooding	Confidence in main source of flooding	Main mechanism of flooding	Main characteristic of flooding
Mandatory / optional:	Mandatory	Mandatory	Mandatory	Mandatory	Optional	Optional	Optional	Mandatory	Mandatory	Optional	Optional	Mandatory	Mandatory
Format:	Unique number between 1-9999	Max 1,000 characters	Max 250 characters	12 characters: 2 letters, 10 numbers	Max 250 characters	Max 250 characters	Max 250 characters	Max 25 characters	Pick from drop-down	Max 250 characters, same source terms	Pick from drop-down	Pick from drop-down	Pick from drop-down
Notes:	A sequential number starting at 1 and incrementing by 1 for each record.	Description of the future flood information and how it has been produced. Cover Regulation 12(6) requirements of (a) topography, (b) the location of watercourses, (c) the location of flood plains that retain flood water, (d) the characteristics of watercourses, and (e) the effectiveness of any works constructed for the purpose of flood risk management. Information from other relevant fields (Probability, Main source, Name) should be repeated here.	Name of the locality associated with the flood, using recognised postal address names such as streets, towns, counties. If the flood affects the whole LLFA, then record the name of the LLFA.	National Grid Reference of the centroid (centre point, falls within polygon) of the flood extent, or of the area affected if there is no extent information. If the flood affects the whole LLFA, then record the centroid of the LLFA.	A description of the general location that could be flooded.	Name of the model or map product or project which produced the future flood information	Background, or additional information on the probability of the flood modelled - such as whether Probability refers to probability of rainfall or water on the ground.	The chance of the flood occuring in any given year - record X from "a 1 in X chance of occurring in any given year".	Pick the source which generates the majority of flooding. Refer to the PFRA guidance for definitions of sources.	If the flood is generated by, or interacts with, any other sources (other than the Main source of flooding), report the source(s) here, using the same source terms.	Pick a broad level of confidence in the Main source of flooding from; 'High' (compelling evidence of source - about 80% confident that source is correct), 'Medium' (some evidence of source but not compelling - about 50% confident that source is correct) 'Low' (source assumed - about 20% confident that source is correct) or 'Unknown'.	Pick a mechanism from; 'Natural exceedance' (of capacity), 'Defence exceedance' (floodwater overtopping defences), 'Failure' (of natural or artificial defences or infrastructure, or of pumping), 'Blockage or restriction' (natural or artificial blockage or restriction of a conveyance channel or system), or 'No data'.	Pick a characteristic from; 'Flash flood' (rises and falls quite rapidly with little or no advance warning), 'Natural flood' (due to significant precipitation, at a slower rate than a flash flood), 'Snow melt flood' (due to rapid snow melt), 'Debris flow' (conveying a high degree of debris), or 'No data'. Most UK floods are 'Natural floods'.
Example:	1	See records below for examples of description of assessment method.	Essex	SX1234512345		Flood Map for Surface Water - 1 in 200 deep	Probability refers to the probability of the rainfall event, in this case producing flooding of greater than 0.3m depth.	200	Surface runoff		High	Natural exceedance	Natural flood
Records begin here:	1	• Topography is derived from LIDAR (in larger urban areas, on 1, 2 and 3m grids; original accuracy ± 0.15m) and Geoperspective data (original accuracy ± 1.5m), processed to remove buildings and vegetation, then degraded to a composite 5m DTM. Manual edits applied where flow paths clearly omitted e.g. below bridges. • Flow routes dictated by topography; no allowance made for manmade drainage. The DTM may miss flow paths below bridges. • Areas that may flood are defined by dynamically routing a 6.5 hour duration storm with 1 in 200 chance of occurring in any year, over the DTM using JBA's JFLOW–GPU model. • Manning's n of 0.1 is used throughout, to allow broad scale effects of buildings and other obstructions to be approximated. • No allowance made for drainage, pumping or other works constructed for the purpose of flood risk management. • The 'less susceptible' layer shows where modelled flooding is 0.1-0.3m deep; you must not interpret this as depth of flooding, rather as indicative of susceptibility to flooding because of modelling uncertainties.	Cambridgeshire	TL3703577090		Areas Susceptible to Surface Water Flooding (AStSWF) - Less	Probability refers to the probability of the rainfall event. This identifies areas which are 'less susceptible' to surface water flooding. For more information refer to "What are Areas Susceptible to Surface Water Flooding" Environment Agency December 2010.	200	Surface runoff		High	Natural exceedance	Natural flood
	2	• Topography is derived from LIDAR (in larger urban areas, on 1, 2 and 3m grids; original accuracy ± 0.15m) and Geoperspective data (original accuracy ± 1.5m), processed to remove buildings and vegetation, then degraded to a composite 5m DTM. Manual edits applied where flow paths clearly omitted e.g. below bridges. • Flow routes dictated by topography; no allowance made for manmade drainage. The DTM may miss flow paths below bridges. • Areas that may flood are defined by dynamically routing a 6.5 hour duration storm with 1 in 200 chance of occurring in any year, over the DTM using JBA's JFLOW–GPU model. • Manning's n of 0.1 is used throughout, to allow broad scale effects of buildings and other obstructions to be approximated. • No allowance made for drainage, pumping or other works constructed for the purpose of flood risk management. • The 'intermediate susceptibility' layer shows where modelled flooding is 0.3-1.0m deep; you must not interpret this as depth of flooding, rather as indicative of susceptibility to flooding because of modelling uncertainties.	Cambridgeshire	TL3703577090		Areas Susceptible to Surface Water Flooding (AStSWF) - Intermediate	Probability refers to the probability of the rainfall event. This identifies areas with 'intermediate susceptibility' to surface water flooding.	200	Surface runoff		High	Natural exceedance	Natural flood
	3	• Topography is derived from LIDAR (in larger urban areas, on 1, 2 and 3m grids; original accuracy ± 0.15m) and Geoperspective data (original accuracy ± 1.5m), processed to remove buildings and vegetation, then degraded to a composite 5m DTM. Manual edits applied where flow paths clearly omitted e.g. below bridges. • Flow routes dictated by topography; no allowance made for manmade drainage. The DTM may miss flow paths below bridges. • Areas that may flood are defined by dynamically routing a 6.5 hour duration storm with 1 in 200 chance of occurring in any year, over the DTM using JBA's JFLOW–GPU model. • Manning's n of 0.1 is used throughout, to allow broad scale effects of buildings and other obstructions to be approximated. • No allowance made for drainage, pumping or other works constructed for the purpose of flood risk management. • The 'more susceptible' layer shows where modelled flooding is >1.0m deep; you must not interpret this as depth of flooding, rather as indicative of susceptibility to flooding because of modelling uncertainties.	Cambridgeshire	TL3703577090		Areas Susceptible to Surface Water Flooding (AStSWF) - More	Probability refers to the probability of the rainfall event. This identifies areas which are 'more susceptible' to surface water flooding.	200	Surface runoff		High	Natural exceedance	Natural flood
	4	• Topography is derived from 64.5% LIDAR (on 0.25m-2m grids; original accuracy ± 0.15m) and 35.5% NEXTMap SAR (on 5m grid; original accuracy ± 1.0m), processed to remove buildings & vegetation, then combined on a 2m grid; buildings added with an arbitrary height of 5m based on OS MasterMap 2009 building footprints, then resampled to a 5m grid DTM. Manual edits applied where flow paths clearly omitted e.g. below bridges. • Flow routes dictated by topography; a uniform allowance of 12mm/hr has been made for manmade drainage in urban areas. Infiltration allowance reduces runoff to 39% in rural areas and 70% in urban areas. • Areas that may flood are defined by dynamically routing a 1.1 hour duration storm with 1 in 30 chance of occurring in any year over the DTM using JBA's JFLOW–GPU model. • Manning's n of 0.1 in rural areas; 0.03 in urban areas, to reflect explicit modelling of buildings in urban areas. • No allowance made for local variations in drainage, pumping or other works constructed for the purpose of flood risk management. • The '>0.1m' layer shows where modelled flooding is greater than 0.1m deep.	Cambridgeshire	TL3703577090		Flood Map for Surface Water (FMfSW) - 1 in 30 shallow	Probability refers to the probability of the rainfall event, in this case producing flooding of greater than 0.1m depth.	30	Surface runoff		High	Natural exceedance	Natural flood

5	• Topography is derived from 64.5% LIDAR (on 0.25m-2m grids; original accuracy ± 0.15m) and 35.5% NEXTMap SAR (on 5m grid; original accuracy ± 1.0m), processed to remove buildings & vegetation, then combined on a 2m grid; buildings added with an arbitrary height of 5m based on OS MasterMap 2009 building footprints, then resampled to a 5m grid DTM. Manual edits applied where flow paths clearly omitted e.g. below bridges. • Flow routes dictated by topography; a uniform allowance of 12mm/hr has been made for manmade drainage in urban areas. Infiltration allowance reduces runoff to 39% in rural areas and 70% in urban areas. • Areas that may flood are defined by dynamically routing a 1.1 hour duration storm with 1 in 30 chance of occurring in any year over the DTM using JBA's JFLOW–GPU model. • Manning's n of 0.1 in rural areas; 0.03 in urban areas, to reflect explicit modelling of buildings in urban areas. • No allowance made for local variations in drainage, pumping or other works constructed for the purpose of flood risk management. • The '>0.3m' layer shows where modelled flooding is greater than 0.3m deep.	Cambridgeshire	TL3703577090	Flood Map for Surface Water (FMfSW) - 1 in 30 deep	Probability refers to the probability of the rainfall event, in this case producing flooding of greater than 0.3m depth.		30	Surface runoff		High	Natural exceedance	Natural flood
6	• Topography is derived from 64.5% LIDAR (on 0.25m-2m grids; original accuracy ± 0.15m) and 35.5% NEXTMap SAR (on 5m grid; original accuracy ± 1.0m), processed to remove buildings & vegetation, then combined on a 2m grid; buildings added with an arbitrary height of 5m based on OS MasterMap 2009 building footprints, then resampled to a 5m grid DTM. Manual edits applied where flow paths clearly omitted e.g. below bridges. • Flow routes dictated by topography; a uniform allowance of 12mm/hr has been made for manmade drainage in urban areas. Infiltration allowance reduces runoff to 39% in rural areas and 70% in urban areas. • Areas that may flood are defined by dynamically routing a 1.1 hour duration storm with 1 in 200 chance of occurring in any year over the DTM using JBA's JFLOW–GPU model. • Manning's n of 0.1 in rural areas; 0.03 in urban areas, to reflect explicit modelling of buildings in urban areas. • No allowance made for local variations in drainage, pumping or other works constructed for the purpose of flood risk management. • The '>0.1m' layer shows where modelled flooding is greater than 0.1m deep.	Cambridgeshire	TL3703577090	Flood Map for Surface Water (FMfSW) - 1 in 200 shallow	Probability refers to the probability of the rainfall event, in this case producing flooding of greater than 0.1m depth.		200	Surface runoff		High	Natural exceedance	Natural flood
7	• Topography is derived from 64.5% LIDAR (on 0.25m-2m grids; original accuracy ± 0.15m) and 35.5% NEXTMap SAR (on 5m grid; original accuracy ± 1.0m), processed to remove buildings & vegetation, then combined on a 2m grid; buildings added with an arbitrary height of 5m based on OS MasterMap 2009 building footprints, then resampled to a 5m grid DTM. Manual edits applied where flow paths clearly omitted e.g. below bridges. • Flow routes dictated by topography; a uniform allowance of 12mm/hr has been made for manmade drainage in urban areas. Infiltration allowance reduces runoff to 39% in rural areas and 70% in urban areas. • Areas that may flood are defined by dynamically routing a 1.1 hour duration storm with 1 in 200 chance of occurring in any year over the DTM using JBA's JFLOW–GPU model. • Manning's n of 0.1 in rural areas; 0.03 in urban areas, to reflect explicit modelling of buildings in urban areas. • No allowance made for local variations in drainage, pumping or other works constructed for the purpose of flood risk management. • The '>0.3m' layer shows where modelled flooding is greater than 0.3m deep.	Cambridgeshire	TL3703577090	Flood Map for Surface Water (FMfSW) - 1 in 200 deep	Probability refers to the probability of the rainfall event, in this case producing flooding of greater than 0.3m depth.		200	Surface runoff		High	Natural exceedance	Natural flood
8	• Areas Susceptible to Groundwater Flooding (AStGWF) is a strategic scale map showing groundwater flood areas on a 1km square grid • This data has used the top two susceptibility bands of the British Geological Society (BGS) 1:50,000 Groundwater Flood Susceptibility Map, which was developed on a 50m grid from: • NEXTMap 5m grid DTM. • National Groundwater Level data on a 50m grid • BGS 1:50 000 geological mapping, with classifications of permeability • It covers consolidated aquifers (chalk, limestone, sandstone etc.) and superficial deposits. • Flood plains are not explicitly identified; the mapping identifies where groundwater is likely to emerge, and not where the water is subsequently likely to flow or pond. • No allowance is made for engineering works, or for groundwater rebound or abstraction to prevent groundwater rebound. • Shows the proportion of each 1km grid square which is susceptible to groundwater emergence, using four area categories.	Cambridgeshire	TL3703577090	Areas Susceptible to Groundwater Flooding (AStGWF)	Does not describe a probability, but shows places where groundwater emergence more likely to occur.	Unknown		Groundwater		High	Natural exceedance	Natural flood
9	• Modelling developed from combination of national (2004) and local (generally 1998-2010) modelling. • Topography derived from LIDAR (on 0.25m-2m grids; original accuracy ± 0.15m), NEXTMap SAR (on 5m grid; original accuracy ± 1.0m), processed to remove buildings & vegetation. For local modelling, topography may include ground survey. • Location of watercourses and tidal flow routes dictated by topographic survey. • Areas that may flood are defined for catchments >3km² by routing appropriate flows for that catchment through the model to ascertain water level and thus depth and extent. • Manning's n of 0.1 used for national fluvial modelling; variable (calibrated) values for national tidal modelling; appropriate values selected for local modelling. Channel capacity assumed as QMED for national fluvial modelling; local survey methods used for local modelling. • For the purpose of flood risk management, models assume that there are no raised defences.	Cambridgeshire	TL3703577090	Flood Map (for rivers and sea) - flood zone 3	Fluvial 1 in 100, tidal 1 in 200		100	Main rivers	Sea, ordinary watercourses	Medium	Natural exceedance	Natural flood
10	• Modelling developed from combination of national (2004) and local (generally 2004-2010) modelling. • Topography derived from LIDAR (on 0.25m-2m grids; original accuracy ± 0.15m), NEXTMap SAR (on 5m grid; original accuracy ± 1.0m), processed to remove buildings & vegetation. For local modelling, topography may include ground survey. • Location of watercourses and tidal flow routes dictated by topographic survey. • Areas that may flood are defined for catchments >3km² by routing appropriate flows for that catchment through the model to ascertain water level and thus depth and extent. • Manning's n of 0.1 used for national fluvial modelling; variable (calibrated) values for national tidal modelling; appropriate values selected for local modelling. Channel capacity assumed as QMED for national fluvial modelling; local survey methods used for local modelling. • For the purpose of flood risk management, models assume that there are no raised defences.	Cambridgeshire	TL3703577090	Flood Map (for rivers and sea) - flood zone 2	Extreme flood outline is 1 in 1000, and includes some historic where judged that this gives an indication of areas at risk of future flooding.		1000	Main rivers	Sea, ordinary watercourses	Medium	Natural exceedance	Natural flood

11	• Topography is derived from LIDAR (in larger urban areas, on 1, 2 and 3m grids; original accuracy ± 0.15m). Manual edits applied where flow paths clearly omitted e.g. below bridges. • Infiltration rates caculated for the North and South of the Cambridge & Milton study area and applied as appropriate within the modelling. • Flow routes dictated by topography; no allowance made for manmade drainage. The DTM may miss flow paths below bridges. • Areas that may flood are defined by dynamically routing a 4 hour duration storm with 1 in 200 chance of occurring in any year, over the DTM using TUFLOW Modelling software. • Specific Manning's n values are used, based on land-use type determined from MasterMap.	Cambirdge & Milton	TL4542057619	Cambridge & Milton Stage 1 Modelling.	200	Surface runoff	High	Natural exceedance	Natural flood
12	• Topography is derived from LIDAR (in larger urban areas, on 1, 2 and 3m grids; original accuracy ± 0.15m). Manual edits applied where flow paths clearly omitted e.g. below bridges. • Infiltration rates caculated for the North and South of the Cambridge & Milton study area and applied as appropriate within the modelling. • Flow routes dictated by topography; no allowance made for manmade drainage. The DTM may miss flow paths below bridges. • Areas that may flood are defined by dynamically routing a 4 hour duration storm with 1 in 100 chance of occurring in any year, over the DTM using TUFLOW Modelling software. • Specific Manning's n values are used, based on land-use type determined from MasterMap.	Cambirdge & Milton	TL4542057619	Cambridge & Milton Stage 1 Modelling.	100	Surface runoff		Natural exceedance	Natural flood
13	• Topography is derived from LIDAR (in larger urban areas, on 1, 2 and 3m grids; original accuracy ± 0.15m). Manual edits applied where flow paths clearly omitted e.g. below bridges. • Infiltration rates caculated for the North and South of the Cambridge & Milton study area and applied as appropriate within the modelling. • Flow routes dictated by topography; no allowance made for manmade drainage. The DTM may miss flow paths below bridges. • Areas that may flood are defined by dynamically routing a 4 hour duration storm with 1 in 75 chance of occurring in any year, over the DTM using TUFLOW Modelling software. • Specific Manning's n values are used, based on land-use type determined from MasterMap.	Cambirdge & Milton	TL4542057619	Cambridge & Milton Stage 1 Modelling.	75	Surface runoff		Natural exceedance	Natural flood
14	• Topography is derived from LIDAR (in larger urban areas, on 1, 2 and 3m grids; original accuracy ± 0.15m). Manual edits applied where flow paths clearly omitted e.g. below bridges. • Infiltration rates caculated for the North and South of the Cambridge & Milton study area and applied as appropriate within the modelling. • Flow routes dictated by topography; no allowance made for manmade drainage. The DTM may miss flow paths below bridges. • Areas that may flood are defined by dynamically routing a 4 hour duration storm with 1 in 50 chance of occurring in any year, over the DTM using TUFLOW Modelling software. • Specific Manning's n values are used, based on land-use type determined from MasterMap.	Cambirdge & Milton	TL4542057619	Cambridge & Milton Stage 1 Modelling.	50	Surface runoff		Natural exceedance	Natural flood
15	• Topography is derived from LIDAR (in larger urban areas, on 1, 2 and 3m grids; original accuracy ± 0.15m), processed to remove buildings and vegetation. Manual edits applied where flow paths clearly omitted e.g. below bridges. • Infiltration rates caculated for the North and South of the Cambridge & Milton study area and applied as appropriate within the modelling. • Flow routes dictated by topography; no allowance made for manmade drainage. The DTM may miss flow paths below bridges. • Areas that may flood are defined by dynamically routing a 4 hour duration storm with 1 in 30 chance of occurring in any year, over the DTM using TUFLOW Modelling software. • Specific Manning's n values are used, based on land-use type determined from MasterMap.	Cambirdge & Milton	TL4542057619	Cambridge & Milton Stage 1 Modelling.	30	Surface runoff		Natural exceedance	Natural flood
16	• Topography is derived from LIDAR (in larger urban areas, on 1, 2 and 3m grids; original accuracy ± 0.15m) and Geoperspective data (original accuracy ± 1.5m), processed to remove buildings and vegetation. Manual edits applied where flow paths clearly omitted e.g. below bridges. • Infiltration rates caculated for the North and South of the Cambridge & Milton study area and applied as appropriate within the modelling. • Areas that may flood are defined by dynamically routing a 4 hour duration storm with 1 in 200 chance of occurring in any year, over the DTM using TUFLOW Modelling Software. • Flow routes dictated by topography; allowance made for manmade drainage by modelling Surface Wate Drainage Network and key drains using 1D Estry software. • Specific Manning's n values are used, based on land-use type determined from MasterMap.	King's Hedges & Arbury Estate	TL4454660689	King's Hedges & Arbury - Detailed Wetspot Modelling	200	Surface runoff		Natural exceedance	Natural flood
17	• Topography is derived from LIDAR (in larger urban areas, on 1, 2 and 3m grids; original accuracy ± 0.15m) and Geoperspective data (original accuracy ± 1.5m), processed to remove buildings and vegetation. Manual edits applied where flow paths clearly omitted e.g. below bridges. • Infiltration rates caculated for the North and South of the Cambridge & Milton study area and applied as appropriate within the modelling. • Areas that may flood are defined by dynamically routing a 4 hour duration storm with 1 in 100 chance of occurring in any year, over the DTM using TUFLOW Modelling Software. • Flow routes dictated by topography; allowance made for manmade drainage by modelling Surface Wate Drainage Network and key drains using 1D Estry software. • Specific Manning's n values are used, based on land-use type determined from MasterMap.	King's Hedges & Arbury Estate	TL4454660689	King's Hedges & Arbury - Detailed Wetspot Modelling	100	Surface runoff		Natural exceedance	Natural flood

18	• Topography is derived from LIDAR (in larger urban areas, on 1, 2 and 3m grids; original accuracy ± 0.15m) and Geoperspective data (original accuracy ± 1.5m), processed to remove buildings and vegetation. Manual edits applied where flow paths clearly omitted e.g. below bridges. • Infiltration rates caculated for the North and South of the Cambridge & Milton study area and applied as appropriate within the modelling. • Areas that may flood are defined by dynamically routing a 4 hour duration storm with 1 in 75 chance of occurring in any year, over the DTM using TUFLOW Modelling Software. • Flow routes dictated by topography; allowance made for manmade drainage by modelling Surface Wate Drainage Network and key drains using 1D Estry software. • Specific Manning's n values are used, based on land-use type determined from MasterMap.	King's Hedges & Arbury Estate	TL4454660689	King's Hedges & Arbury - Detailed Wetspot Modelling	75	Surface runoff	Natural exceedance	Natural flood
19	• Topography is derived from LIDAR (in larger urban areas, on 1, 2 and 3m grids; original accuracy ± 0.15m) and Geoperspective data (original accuracy ± 1.5m), processed to remove buildings and vegetation. Manual edits applied where flow paths clearly omitted e.g. below bridges. • Infiltration rates caculated for the North and South of the Cambridge & Milton study area and applied as appropriate within the modelling. • Areas that may flood are defined by dynamically routing a 4 hour duration storm with 1 in 50 chance of occurring in any year, over the DTM using TUFLOW Modelling Software. • Flow routes dictated by topography; allowance made for manmade drainage by modelling Surface Wate Drainage Network and key drains using 1D Estry software. • Specific Manning's n values are used, based on land-use type determined from MasterMap.	King's Hedges & Arbury Estate	TL4454660689	King's Hedges & Arbury - Detailed Wetspot Modelling	50	Surface runoff	Natural exceedance	Natural flood
20	• Topography is derived from LIDAR (in larger urban areas, on 1, 2 and 3m grids; original accuracy ± 0.15m) and Geoperspective data (original accuracy ± 1.5m), processed to remove buildings and vegetation. Manual edits applied where flow paths clearly omitted e.g. below bridges. • Infiltration rates caculated for the North and South of the Cambridge & Milton study area and applied as appropriate within the modelling. • Areas that may flood are defined by dynamically routing a 4 hour duration storm with 1 in 30 chance of occurring in any year, over the DTM using TUFLOW Modelling Software. • Flow routes dictated by topography; allowance made for manmade drainage by modelling Surface Wate Drainage Network and key drains using 1D Estry software. • Specific Manning's n values are used, based on land-use type determined from MasterMap.	King's Hedges & Arbury Estate	TL4454660689	King's Hedges & Arbury - Detailed Wetspot Modelling	30	Surface runoff	Natural exceedance	Natural flood
21	• Topography is derived from LIDAR (in larger urban areas, on 1, 2 and 3m grids; original accuracy ± 0.15m) and Geoperspective data (original accuracy ± 1.5m), processed to remove buildings and vegetation. Manual edits applied where flow paths clearly omitted e.g. below bridges. • Infiltration rates caculated for the North and South of the Cambridge & Milton study area and applied as appropriate within the modelling. • Areas that may flood are defined by dynamically routing a 4 hour duration storm with 1 in 200 chance of occurring in any year, over the DTM using TUFLOW Modelling Software. • Flow routes dictated by topography; allowance made for manmade drainage by modelling Surface Wate Drainage Network and key drains using 1D Estry software. • Specific Manning's n values are used, based on land-use type determined from MasterMap.	Cherry Hinton Estate	TL4754256697	Cherry Hinton - Detailed Wetspot Modelling	200	Surface runoff	Natural exceedance	Natural flood
22	• Topography is derived from LIDAR (in larger urban areas, on 1, 2 and 3m grids; original accuracy ± 0.15m) and Geoperspective data (original accuracy ± 1.5m), processed to remove buildings and vegetation. Manual edits applied where flow paths clearly omitted e.g. below bridges. • Infiltration rates caculated for the North and South of the Cambridge & Milton study area and applied as appropriate within the modelling. • Areas that may flood are defined by dynamically routing a 4 hour duration storm with 1 in 100 chance of occurring in any year, over the DTM using TUFLOW Modelling Software. • Flow routes dictated by topography; allowance made for manmade drainage by modelling Surface Wate Drainage Network and key drains using 1D Estry software. • Specific Manning's n values are used, based on land-use type determined from MasterMap.	Cherry Hinton Estate	TL4754256697	Cherry Hinton - Detailed Wetspot Modelling	100	Surface runoff	Natural exceedance	Natural flood
23	• Topography is derived from LIDAR (in larger urban areas, on 1, 2 and 3m grids; original accuracy ± 0.15m) and Geoperspective data (original accuracy ± 1.5m), processed to remove buildings and vegetation. Manual edits applied where flow paths clearly omitted e.g. below bridges. • Infiltration rates caculated for the North and South of the Cambridge & Milton study area and applied as appropriate within the modelling. • Areas that may flood are defined by dynamically routing a 4 hour duration storm with 1 in 75 chance of occurring in any year, over the DTM using TUFLOW Modelling Software. • Flow routes dictated by topography; allowance made for manmade drainage by modelling Surface Wate Drainage Network and key drains using 1D Estry software. • Specific Manning's n values are used, based on land-use type determined from MasterMap.	Cherry Hinton Estate	TL4754256697	Cherry Hinton - Detailed Wetspot Modelling	75	Surface runoff	Natural exceedance	Natural flood
24	• Topography is derived from LIDAR (in larger urban areas, on 1, 2 and 3m grids; original accuracy ± 0.15m) and Geoperspective data (original accuracy ± 1.5m), processed to remove buildings and vegetation. Manual edits applied where flow paths clearly omitted e.g. below bridges. • Infiltration rates caculated for the North and South of the Cambridge & Milton study area and applied as appropriate within the modelling. • Areas that may flood are defined by dynamically routing a 4 hour duration storm with 1 in 50 chance of occurring in any year, over the DTM using TUFLOW Modelling Software. • Flow routes dictated by topography; allowance made for manmade drainage by modelling Surface Wate Drainage Network and key drains using 1D Estry software. • Specific Manning's n values are used, based on land-use type determined from MasterMap.	Cherry Hinton Estate	TL4754256697	Cherry Hinton - Detailed Wetspot Modelling	50	Surface runoff	Natural exceedance	Natural flood

25	• Topography is derived from LIDAR (in larger urban areas, on 1, 2 and 3m grids; original accuracy ± 0.15m) and Geoperspective data (original accuracy ± 1.5m), processed to remove buildings and vegetation. Manual edits applied where flow paths clearly omitted e.g. below bridges. • Infiltration rates caculated for the North and South of the Cambridge & Milton study area and applied as appropriate within the modelling. • Areas that may flood are defined by dynamically routing a 4 hour duration storm with 1 in 30 chance of occurring in any year, over the DTM using TUFLOW Modelling Software. • Flow routes dictated by topography; allowance made for manmade drainage by modelling Surface Wate Drainage Network and key drains using 1D Estry software. • Specific Manning's n values are used, based on land-use type determined from MasterMap.	Cherry Hinton Estate	TL4754256697	Cherry Hinton - Detailed Wetspot Modelling	30	Surface runoff	Natural exceedance	Natural flood
26	TBC - EA to add technical spec	Cambridgeshire	TL3703577090	Risk of Surface Water Flooding / updated Flood Map for Surface Water	30	Surface runoff	Natural exceedance	Natural flood
27	TBC - EA to add technical spec	Cambridgeshire	TL3703577091	Risk of Surface Water Flooding / updated Flood Map for Surface Water	100	Surface runoff	Natural exceedance	Natural flood
28	TBC - EA to add technical spec	Cambridgeshire	TL3703577092	Risk of Surface Water Flooding / updated Flood Map for Surface Water	1000	Surface runoff	Natural exceedance	Natural flood

Significant consequences to human health	Human health consequences - residential properties	Property count method	Other human health consequences	Significant economic consequences	Number of non-residential properties flooded	Property count method	Other economic consequences	Significant consequences to the environment	Environment consequences	Significant consequences to cultural heritage	Cultural heritage consequences
Mandatory	Optional	Optional	Optional	**Mandatory**	Optional	Optional	Optional	**Mandatory**	Optional	**Mandatory**	Optional
Pick from drop-down	Number between 1-10,000,000	Pick from drop-down	Max 250 characters	Pick from drop-down	Number between 1-10,000,000	Pick from drop-down	Max 250 characters	Pick from drop-down	Max 250 characters	Pick from drop-down	Max 250 characters
Would there be any significant consequences to human health if the future flood were to occur?	Record the number of residential properties where the building structure would be affected either internally or externally if the flood were to occur.	Where residential or non-residential properties have been counted, it is important to record the method of counting, to aid comparisons between counts. Choose from; 'Detailed GIS' (using property outlines, as per Environment Agency guidance), 'Simple GIS' (using property points), 'Estimate from map', or 'Observed number'.	If there would be other Significant consequences to human health, describe them including information such as the number of critical services flooded.	Would there be any significant economic consequences if the future flood were to occur?	Record the number of non-residential properties where the building structure would be affected either internally or externally if the flood were to occur.	Where residential or non-residential properties have been counted, it is important to record the method of counting, to aid comparisons between counts. Choose from; 'Detailed GIS' (using property outlines, as per Environment Agency guidance), 'Simple GIS' (using property points), 'Estimate from map', or 'Observed number'.	If there would be other Significant economic consequences, describe them including information such as the area of agricultural land flooded, length of roads and rail flooded.	Would there be any significant consequences to the environment if the future flood were to occur?	If there would be Significant consequences to the environment, describe them including information such as national and international designated sites flooded, and pollution sources flooded.	Would there be any significant consequences to cultural heritage if the future flood were to occur?	If there would be Significant consequences to cultural heritage, describe them including information such as the number and type of heritage assets flooded.
Yes	12000	Detailed GIS		No				No		No	
Yes				Yes				Yes		Yes	
Yes				Yes				Yes		Yes	
Yes				Yes				Yes		Yes	
Yes				Yes				Yes		Yes	

Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes

Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes

Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes

Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes

Comments	Data owner	Area flooded	Confidence in modelled outline	Model date	Model Type	Hydrology Type	Lineage	Sensitive data	Protective marking descriptor	European Flood Event Code
Optional Max 1,000 characters Any additional comments about the future flood record.	Optional Max 250 characters	Optional Number with two decimal places The total area of the land flooded, in km^2	Optional Pick from drop-down Pick a broad level of confidence in the modelled flood outline from; 'High' (good match to past flood extents - about 80% confident that outline is correct), 'Medium' (reasonable match - about 50% confident that outline is correct), 'Low' (poor match, sparse data - about 20% confident that outline is correct) or 'Unknown'.	Optional 'yyyy' or 'yyyy-mm' or 'yyyy-mm-dd'	Optional Max 250 characters Type of software used to create future flood information.	Optional Max 250 characters Type of hydrology method used to create future flood information.	Optional Max 250 characters Lineage is how and what the data is made from. Has this data been created by using data owned or derived from data owned by 3rd party (external) organisations? If yes please give details.	Optional Pick from drop-down Has the information been classified under the Government's Protective Marking Scheme? Include protective marking time limit where known. Note: If "Approved for Access" then report "Unmarked".	Optional Max 50 characters For use where organisations apply the Government's Protective Marking Scheme.	Auto-populated Max 42 characters This field will autopopulate using the LLFA name provided on the "Instructions" tab, and the <u>Flood ID</u>. It is an EU-wide unique identifier and will be used to report the flood information. Format: UK<ONS Code><P or F><LLFA Flood ID>. "ONS Code" is a unique reference for each LLFA. "P or F" indicates if the event is past or future. "LLFA Flood ID" is a sequential number beginning with 0001.
	Epping Forest District Council		Medium-Low	2008-08	2D-TuFlow	FEH (Revised Rainfall Runoff)	Ordnance Survey AddressPoint; CEH 1:50k River Centreline; NextMap DTM.	Unmarked	Private	UKE10000012F0001
	JBA Consulting (distributed by Environment Agency under licence)		Low	2009-07	JFLOW-GPU	Depth-duration-frequency curves derived from FEH CD-ROM, from centre of each 5km model, with areal reduction factor applied to convert point rainfall estimate to more representative figure. Curve then used to derive 6.5 hr, 1:200 chance rainfall depth; this is converted to hyetograph, using summer rainfall profile.		Protect	Commercial	UKE10000003F0001
	JBA Consulting (distributed by Environment Agency under licence)		Low	2009-07	JFLOW-GPU	Depth-duration-frequency curves derived from FEH CD-ROM, from centre of each 5km model, with areal reduction factor applied to convert point rainfall estimate to more representative figure. Curve then used to derive 6.5 hr, 1:200 chance rainfall depth; this is converted to hyetograph, using summer rainfall profile.		Protect	Commercial	UKE10000003F0002
	JBA Consulting (distributed by Environment Agency under licence)		Low	2009-07	JFLOW-GPU	Depth-duration-frequency curves derived from FEH CD-ROM, from centre of each 5km model, with areal reduction factor applied to convert point rainfall estimate to more representative figure. Curve then used to derive 6.5 hr, 1:200 chance rainfall depth; this is converted to hyetograph, using summer rainfall profile.		Protect	Commercial	UKE10000003F0003
	Environment Agency		Medium-Low	2010-11	JFLOW-GPU	Depth-duration-frequency curves derived from FEH CD-ROM, from centre of each 5km model, with areal reduction factor applied to convert point rainfall estimate to more representative figure. Curve then used to derive 1.1 hr, 1:30 chance rainfall depth; this is converted to hyetograph, using summer rainfall profile. See "<u>Description of assessment method</u>" for allowances for infiltration and drainage.	Rainfall Hyetograph, EA 2m Composite DTM, OSMM Topography	Unmarked		UKE10000003F0004

	Environment Agency	Medium-Low	2010-11	JFLOW-GPU	Depth-duration-frequency curves derived from FEH CD-ROM, from centre of each 5km model, with areal reduction factor applied to convert point rainfall estimate to more representative figure. Curve then used to derive 1.1 hr, 1:30 chance rainfall depth; this is converted to hyetograph, using summer rainfall profile. See "Description of assessment method" for allowances for infiltration and drainage.	Rainfall Hyetograph, EA 2m Composite DTM, OSMM Topography	Unmarked		UKE10000003F0005
	Environment Agency	Medium-Low	2010-11	JFLOW-GPU	Depth-duration-frequency curves derived from FEH CD-ROM, from centre of each 5km model, with areal reduction factor applied to convert point rainfall estimate to more representative figure. Curve then used to derive 1.1 hr, 1:200 chance rainfall depth; this is converted to hyetograph, using summer rainfall profile. See "Description of assessment method" for allowances for infiltration and drainage.	Rainfall Hyetograph, EA 2m Composite DTM, OSMM Topography	Unmarked		UKE10000003F0006
	Environment Agency	Medium-Low	2010-11	JFLOW-GPU	Depth-duration-frequency curves derived from FEH CD-ROM, from centre of each 5km model, with areal reduction factor applied to convert point rainfall estimate to more representative figure. Curve then used to derive 1.1 hr, 1:200 chance rainfall depth; this is converted to hyetograph, using summer rainfall profile. See "Description of assessment method" for allowances for infiltration and drainage.	Rainfall Hyetograph, EA 2m Composite DTM, OSMM Topography	Unmarked		UKE10000003F0007
Data developed specifically for PFRA, and is unlikely to be suitable for any other purposes.	Environment Agency	Low	2010-11	ArcGIS	Uses data which is developed from published BGS groundwater level contours, groundwater levels in BGS WellMaster database and some river levels. No probability is associated with this data.	British Geological Society (BGS) DiGMapGB-50 [Susceptibility to Groundwater Flooding].	Unmarked		UKE10000003F0008
Data updated quarterly. To understand the likelihood of future flooding, taking account of defences, refer to Areas Benefitting from Defences and National Flood Risk Assessment (NaFRA) data. Marked 'Protect' for complete national dataset only.	Environment Agency	Medium	2010-11	Varies but mainly JFLOW, ISIS, HEC-RAS, TUFLOW for fluvial, and HYDROF for tidal.	National methodology described in "National Generalised Modelling for Flood Zones - Fluvial & Tidal Modelling Methods - Methodology, Strengths and Limitations". A national dataset (for England and Wales) of fluvial flood peak estimates was derived from the Flood Estimation Handbook (FEH) to generate a 1 in 100 chance fluvial flood. Local fluvial modelling uses FEH methods. Peak tidal water levels from either Dixon & Tawn (DT3) or local data sets to derive 1 in 200 chance tide levels including surge from POL CSX model.	NextMap SAR DTMe, UKHO Admiralty Charts, 1:50K CEH River Centre Line, CEH FEH Q(T) Grids, POL CSX Peak Extreme Water Levels, POL CS3 Astronomical Tides, UKHO Admiralty Tide Time-Series Calibration Locations, OS 1:10 Boundary Line MHW	Protect	Commercial	UKE10000003F0009
Data updated quarterly. To understand the likelihood of future flooding, taking account of defences, refer to National Flood Risk Assessment (NaFRA) data. Marked 'Protect' for complete national dataset only.	Environment Agency	Medium	2010-11	Varies but mainly JFLOW, ISIS, HEC-RAS, TUFLOW for fluvial, and HYDROF for tidal.	National methodology described in "National Generalised Modelling for Flood Zones - Fluvial & Tidal Modelling Methods - Methodology, Strengths and Limitations". A national dataset (for England and Wales) of fluvial flood peak estimates was derived from the Flood Estimation Handbook (FEH) to generate a 1 in 1000 chance fluvial flood. Local fluvial modelling uses FEH methods. Peak tidal water levels from either Dixon & Tawn (DT3) or local data sets to derive 1 in 1000 chance tide levels including surge from POL CSX model.	NextMap SAR DTMe, UKHO Admiralty Charts, 1:50K CEH River Centre Line, CEH FEH Q(T) Grids, POL CSX Peak Extreme Water Levels, POL CS3 Astronomical Tides, UKHO Admiralty Tide Time-Series Calibration Locations, OS 1:10 Boundary Line MHW, Historic Flood Map	Protect	Commercial	UKE10000003F0010

Cambridgeshire County Council	TUFLOW	UKE10000003F0011
Cambridgeshire County Council	TUFLOW	UKE10000003F0012
Cambridgeshire County Council	TUFLOW	UKE10000003F0013
Cambridgeshire County Council	TUFLOW	UKE10000003F0014
Cambridgeshire County Council	TUFLOW	UKE10000003F0015
Cambridgeshire County Council	ESTRY-TUFLOW	UKE10000003F0016
Cambridgeshire County Council	ESTRY-TUFLOW	UKE10000003F0017

Cambridgeshire County Council	ESTRY-TUFLOW	UKE10000003F0018
Cambridgeshire County Council	ESTRY-TUFLOW	UKE10000003F0019
Cambridgeshire County Council	ESTRY-TUFLOW	UKE10000003F0020
Cambridgeshire County Council	ESTRY-TUFLOW	UKE10000003F0021
Cambridgeshire County Council	ESTRY-TUFLOW	UKE10000003F0022
Cambridgeshire County Council	ESTRY-TUFLOW	UKE10000003F0023
Cambridgeshire County Council	ESTRY-TUFLOW	UKE10000003F0024

Cambridgeshire County Council	ESTRY-TUFLOW	UKE10000003F0025
LLFAs / Environment Agency		
LLFAs / Environment Agency		
LLFAs / Environment Agency		

ANNEX 3: Records of Flood Risk Areas and their rationale (preliminary assessment report spreadsheet)

Field:	**Flood Risk Area ID**	**Name of Flood Risk Area**	**National Grid Reference**	**Main source of flooding**	Additional source(s) of flooding	Confidence in main source of flooding	**Main mechanism of flooding**	**Main characteristic of flooding**
Mandatory / optional:	**Mandatory**	**Mandatory**	**Mandatory**	**Mandatory**	Optional	Optional	**Mandatory**	**Mandatory**
Format:	Unique number between 1-9999	Max 250 characters	12 characters: 2 letters, 10 numbers	Pick from drop-down	Max 250 characters, same source terms	Pick from drop-down	Pick from drop-down	Pick from drop-down
Notes:	A sequential number starting at 1 and incrementing by 1 for each record.	Name of the locality associated with the Flood Risk Area; a town, city, or county.	National Grid Reference of the centroid (centre point, falls within polygon) of the Flood Risk Area.	Pick the source from which there is a significant flood risk. Refer to the PFRA guidance for definitions of sources.	If there is also significant flood risk generated by another source (other than the Main source of flooding), report the source(s) here, using the same source terms.	Pick a broad level of confidence in the Main source of flooding from; 'High' (compelling evidence of source - about 80% confident that source is correct), 'Medium' (some evidence of source but not compelling - about 50% confident that source is correct) 'Low' (source assumed - about 20% confident that source is correct) or 'Unknown'.	Pick a mechanism from; 'Natural exceedance' (of capacity), 'Defence exceedance' (floodwater overtopping defences), 'Failure' (of natural or artificial defences or infrastructure, or of pumping), 'Blockage or restriction' (natural or artificial blockage or restriction of a conveyance channel or system), or 'No data'.	Pick a characteristic from; 'Flash flood' (rises and falls quite rapidly with little or no advance warning), 'Natural flood' (due to significant precipitation, at a slower rate than a flash flood), 'Snow melt flood' (due to rapid snow melt), 'Debris flow' (conveying a high degree of debris), or 'No data'. Most UK floods are 'Natural floods'.
Example:	1	London	SX1234512345	Surface runoff	NA	High	Natural exceedance	Natural flood
Records begin here:	1	Cambridge City	TL4613058678	Surface runoff	Main river	High	Natural exceedance	Natural flood
	2	Huntingdon	TL23804 72822	Surface runoff	Ordinary watercourse	Medium	Natural exceedance	Natural flood
	3	March	TL4165996874	Surface runoff	Ordinary watercourse	High	Natural exceedance	Natural flood

Significant consequences to human health	Human health consequences - residential properties	Property count method	Other human health consequences	**Significant economic consequences**	Number of non-residential properties flooded	Property count method	Other economic consequences	**Significant consequences to the environment**	Environment consequences	**Significant consequences to cultural heritage**	Cultural heritage consequences
Mandatory Pick from drop-down	Optional Number between 1-10,000,000	Optional Pick from drop-down	Optional Max 250 characters	**Mandatory** Pick from drop-down	Optional Number between 1-10,000,000	Optional Pick from drop-down	Optional Max 250 characters	**Mandatory** Pick from drop-down	Optional Max 250 characters	**Mandatory** Pick from drop-down	Optional Max 250 characters
Has the Flood Risk Area been identified as a result of significant consequences to human health?	Record the number of residential properties where the building structure would be affected either internally or externally by the flood.	Where residential or non-residential properties have been counted, it is important to record the method of counting, to aid comparisons between counts. Choose from; 'Detailed GIS' (using property outlines, as per Environment Agency guidance), 'Simple GIS' (using property points), 'Estimate from map', or 'Observed number'.	If the Flood Risk Area has been identified as a result of other Significant consequences to human health, describe them (such as information about the number of critical services flooded).	Has the Flood Risk Area been identified as a result of significant economic consequences?	Record the number of non-residential properties where the building structure would be affected either internally or externally by the flood.	Where residential or non-residential properties have been counted, it is important to record the method of counting, to aid comparisons between counts. Choose from; 'Detailed GIS' (using property outlines, as per Environment Agency guidance), 'Simple GIS' (using property points), 'Estimate from map', or 'Observed number'.	If the Flood Risk Area has been identified as a result of other Significant economic consequences, describe them (such as information about the area of agricultural land flooded, length of roads and rail flooded).	Has the Flood Risk Area been identified as a result of significant consequences to the environment?	If the Flood Risk Area has been identified as a result of Significant consequences to the environment, describe them (such as information about national and international designated sites flooded, and pollution sources flooded).	Has the Flood Risk Area been identified as a result of significant consequences to cultural heritage?	If the Flood Risk Area has been identified as a result of Significant consequences to cultural heritage, describe them (such as information about the number and type of heritage assets flooded).
Yes	50000	Detailed GIS		No				No		No	
Yes				Yes				Yes		Yes	
Yes				Yes				Yes		No	
Yes				Yes				Yes		No	

Origin of Flood Risk Area	Amended Flood Risk Area rationale	New Flood Risk Area rationale	Rationale detail	European Flood Risk Area Code
Mandatory Pick from drop-down	**Mandatory** Pick from drop-down	**Mandatory** Pick from drop-down	**Mandatory** Max 1,000 characters	Auto-populated Max 42 characters
Pick the origin from either; 'Indicative' Flood Risk Area, 'Amended' Flood Risk Area (in which case Amended Flood Risk Area rationale is mandatory), or 'New' Flood Risk Area (in which case New Flood Risk Area rationale is mandatory).	Pick the main rationale from either; 'Geography', 'Past floods', or 'Future floods'. Then provide further detail in Rationale detail. This is not mandatory if the Flood Risk Area was an indicative Flood Risk Area and has not been amended, or is a new Flood Risk Area.	Pick the main rationale from either 'Past floods', or 'Future floods'. Then provide further detail in Rationale detail. This is not mandatory if the Flood Risk Area was an indicative Flood Risk Area.	Summarise the rationale for amending an indicative Flood Risk Area, or identifying a new Flood Risk Area. Refer to Defra & WAG guidance to LLFAs on "Selecting and reviewing Flood Risk Areas for local sources of flooding". If the Flood Risk Area was an indicative Flood Risk Area and has not been amended, record "indicative Flood Risk Area".	This field will autopopulate using the LLFA name provided on the "Instructions" tab, and the Flood Risk Area ID. It is an EU-wide unique identifier and will be used to report the Flood Risk Area information. Format: UK<ONS Code><A><LLFA Flood ID>. "ONS Code" is a unique reference for each LLFA. "A" indicates it is a Flood Risk Area. "LLFA Flood ID" is a sequential number beginning with 0001.
Indicative	NA	NA	indicative Flood Risk Area	UKE10000012A0001
Indicative				UKE10000003A0001
Amended	Geography		Amended border to incorporate all of the urban area of Huntingdon	UKE10000003A0002
Indicative				UKE10000003A0003