

Flood risk assessment data

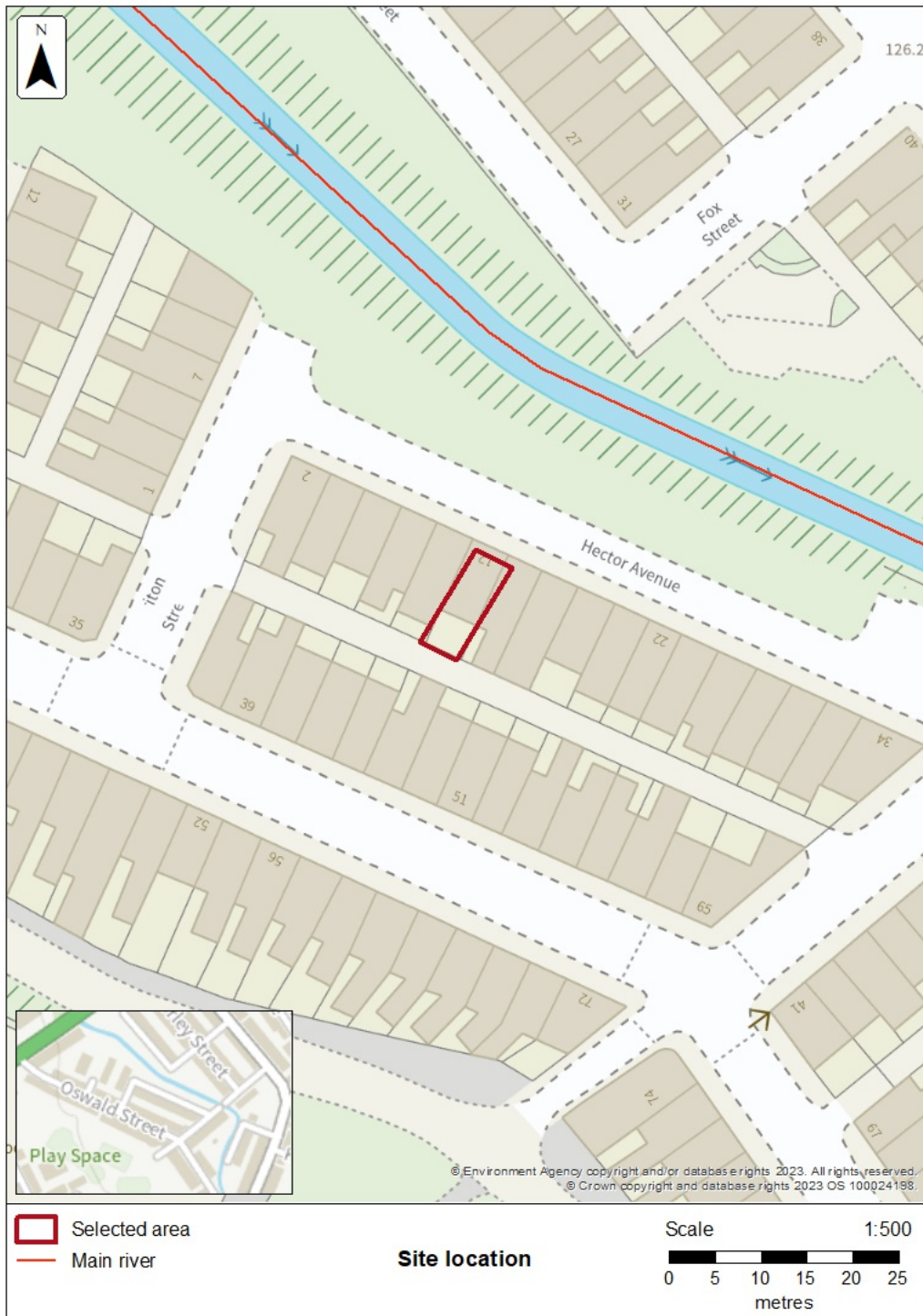
Location of site: 390526 / 413952 (shown as easting and northing coordinates)

Document created on: 20 October 2023

This information was previously known as a product 4.

Customer reference number: J1DPA3ECNER4

Map showing the location that flood risk assessment data has been requested for.



How to use this information

You can use this information as part of a flood risk assessment for a planning application. To do this, you should include it in the appendix of your flood risk assessment.

We recommend that you work with a flood risk consultant to get your flood risk assessment.

Included in this document

In this document you'll find:

- how to find information about surface water and other sources of flooding
- information on the models used
- definitions for the terminology used throughout
- flood map for planning (rivers and the sea)
- historic flooding
- flood defences and attributes
- information to help you assess if there is a reduced flood risk from rivers and the sea because of defences
- modelled data
- climate change modelled data
- information about strategic flood risk assessments
- information about this data
- information about flood risk activity permits
- help and advice

Surface water and other sources of flooding

Use the [long term flood risk service](#) to find out about the risk of flooding from:

- surface water
- ordinary watercourses
- reservoirs

For information about sewer flooding, contact the relevant water company for the area.

About the models used

Model name: Rochdale and Littleborough 2013

Scenario(s): Defended fluvial, defences removed fluvial, defended climate change fluvial, defences removed climate change fluvial

Date: 1 June 2013

This model contains the most relevant data for your area of interest.

Terminology used

Annual exceedance probability (AEP)

This refers to the probability of a flood event occurring in any year. The probability is expressed as a percentage. For example, a large flood which is calculated to have a 1% chance of occurring in any one year, is described as 1% AEP.

Metres above ordnance datum (mAOD)

All flood levels are given in metres above ordnance datum which is defined as the mean sea level at Newlyn, Cornwall.

Flood map for planning (rivers and the sea)

Your selected location is in flood zone 2.

Flood zone 3 shows the area at risk of flooding for an undefended flood event with a:

- 0.5% or greater probability of occurring in any year for flooding from the sea
- 1% or greater probability of occurring in any year for fluvial (river) flooding

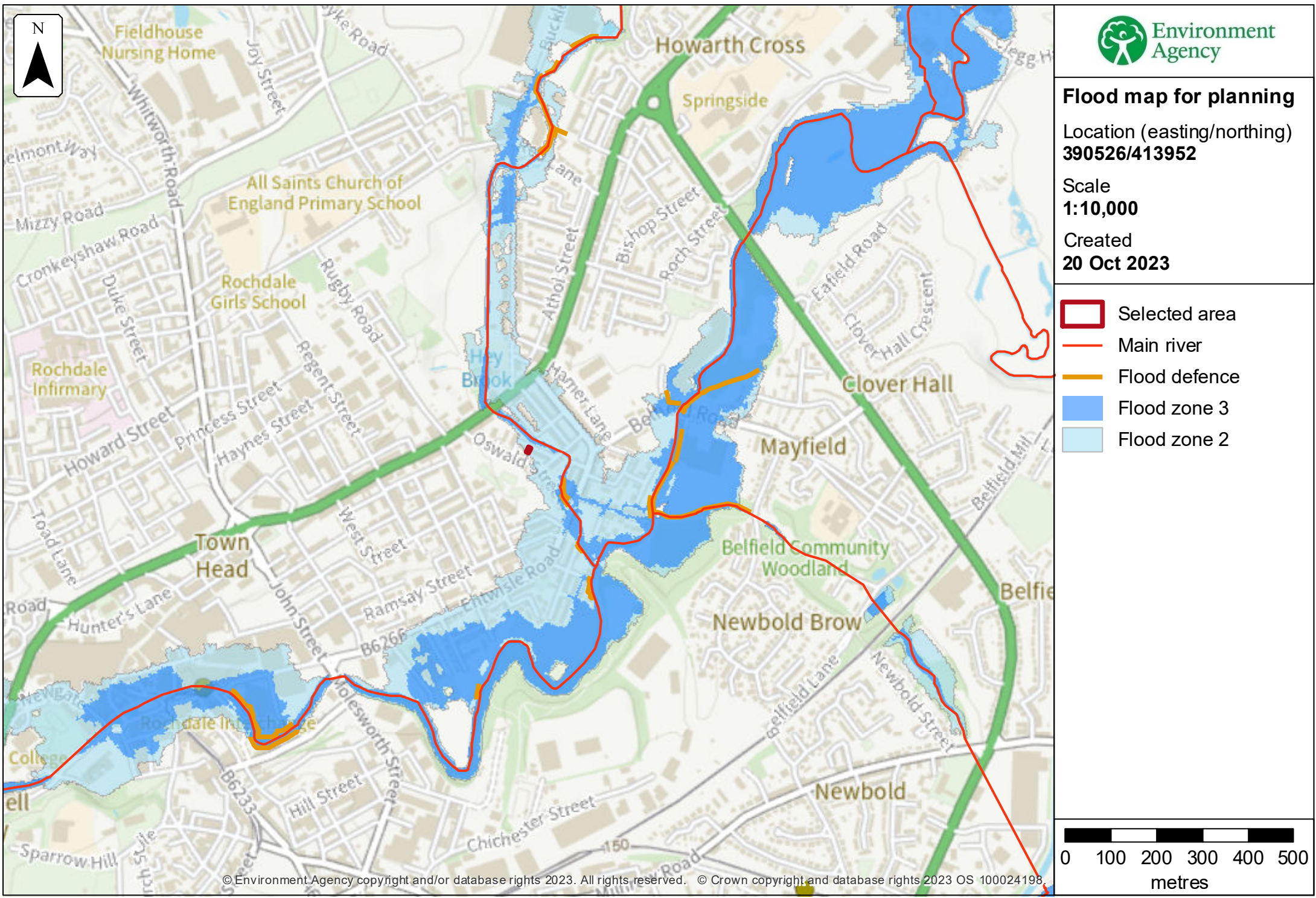
Flood zone 2 shows the area at risk of flooding for an undefended flood event with:

- between a 0.1% and 0.5% probability of occurring in any year for flooding from the sea
- between a 0.1% and 1% probability of occurring in any year for fluvial (river) flooding

It's important to remember that the flood zones on this map:

- refer to the land at risk of flooding and do not refer to individual properties
- refer to the probability of river and sea flooding, ignoring the presence of defences
- do not take into account potential impacts of climate change

This data is updated on a quarterly basis as better data becomes available.



Flood defences and attributes

The flood defences map shows the location of the flood defences present.

The flood defences data table shows the type of defences, their condition and the standard of protection. It shows the height above sea level of the top of the flood defence (crest level). The height is in mAOD which is the metres above the mean sea level at Newlyn, Cornwall.

It's important to remember that flood defence data may not be updated on a regular basis. The information here is based on the best available data.

Use this information:

- to help you assess if there is a reduced flood risk for this location because of defences
- with any information in the modelled data section to find out the impact of defences on flood risk



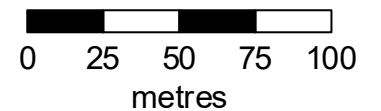
Flood defences

Location (easting/northing)
390526/413952

Scale
1:2,500

Created
20 Oct 2023

-  Selected area
-  Main river
-  Flood defence



Flood defences data

Label	Asset ID	Asset Type	Standard of protection (years)	Current condition	Downstream actual crest level (mAOD)	Upstream actual crest level (mAOD)	Effective crest level (mAOD)
1	391032	Engineered High Ground			125.73	124.69	
2	129524	Wall	100	Fair	124.90	125.03	
3	70613	Wall	100	Good	125.80	125.76	
4	70872	Wall	100	Good	124.93	124.94	
5	70666	Engineered High Ground	100	Fair	124.03	122.56	
6	63745	Wall	100		123.86	123.86	
7	134828	Wall	100		123.77	124.60	
8	63615	Engineered High Ground	100	Fair	122.34	122.88	
9	63748	Embankment	100	Fair	124.38	124.54	
10	67667	Engineered High Ground	100	Good	121.74	120.95	

Any blank cells show where a particular value has not been recorded for an asset.

Modelled data

This section provides details of different scenarios we have modelled and includes the following (where available):

- outline maps showing the area at risk from flooding in different modelled scenarios
- modelled node point map(s) showing the points used to get the data to model the scenarios and table(s) providing details of the flood risk for different return periods
- map(s) showing the approximate water levels for the return period with the largest flood extent for a scenario and table(s) of sample points providing details of the flood risk for different return periods

Climate change

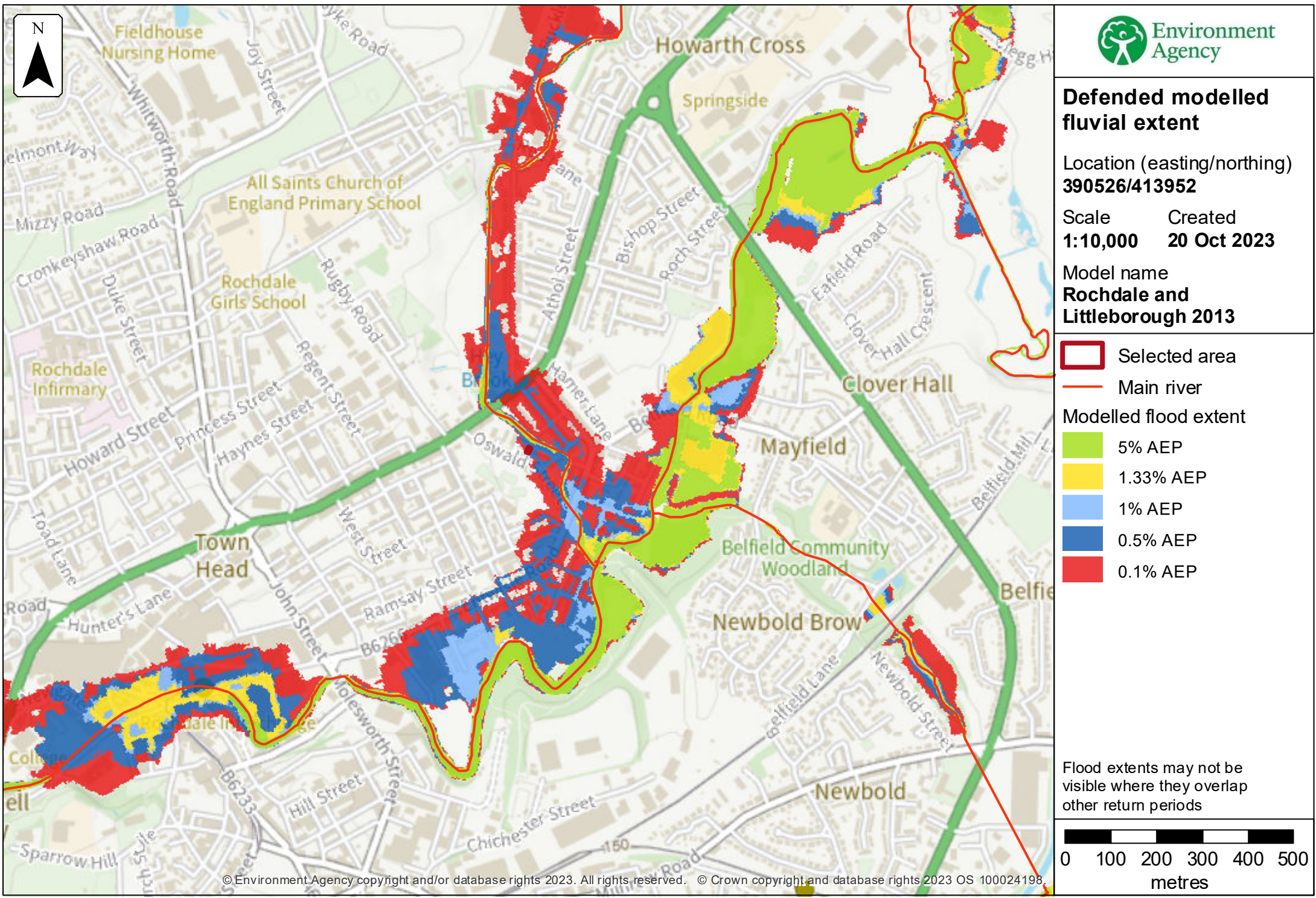
The climate change data included in the models may not include the latest [flood risk assessment climate change allowances](#). Where the new allowances are not available you will need to consider this data and factor in the new allowances to demonstrate the development will be safe from flooding.

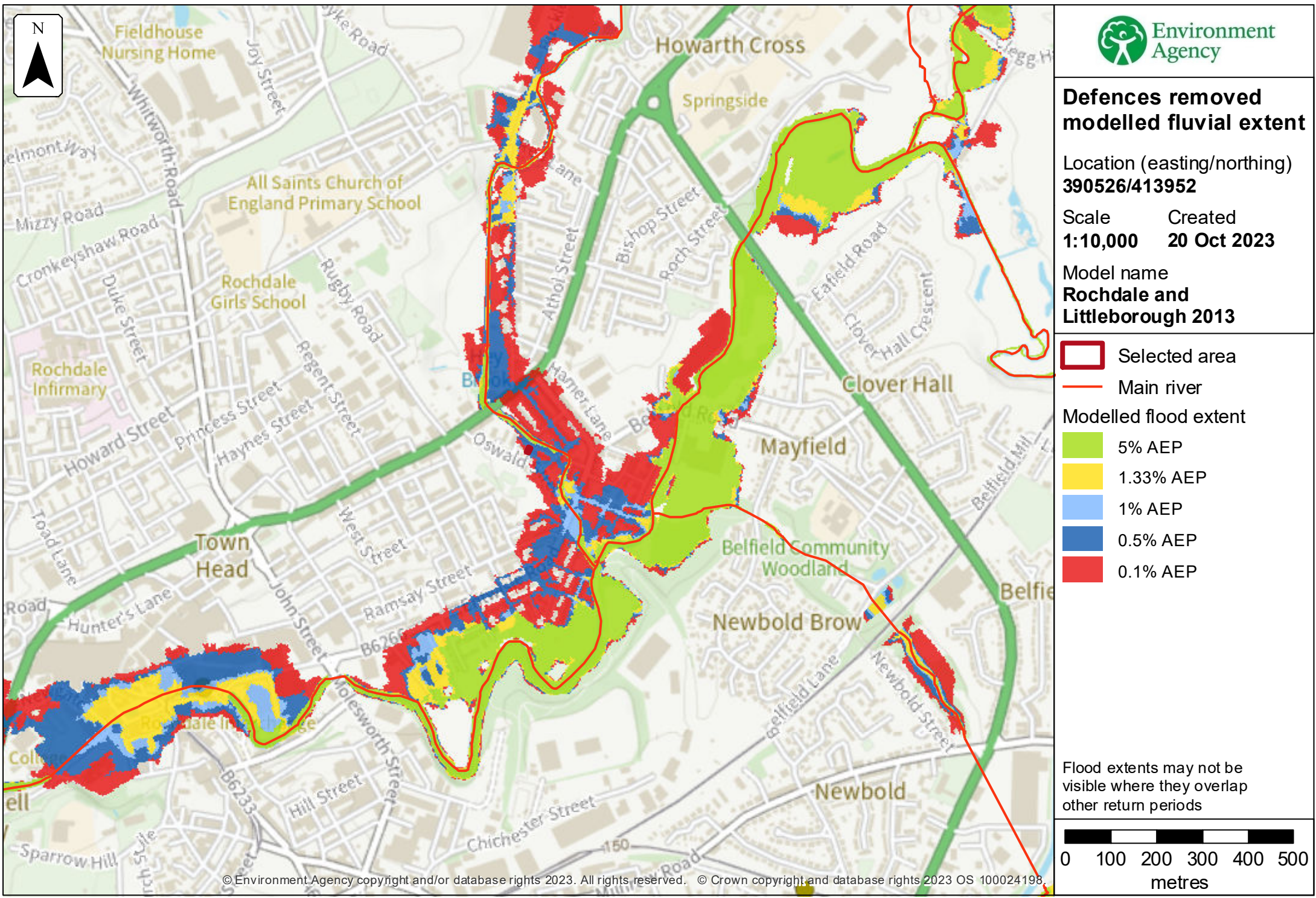
The Environment Agency will incorporate the new allowances into future modelling studies. For now, it's your responsibility to demonstrate that new developments will be safe in flood risk terms for their lifetime.

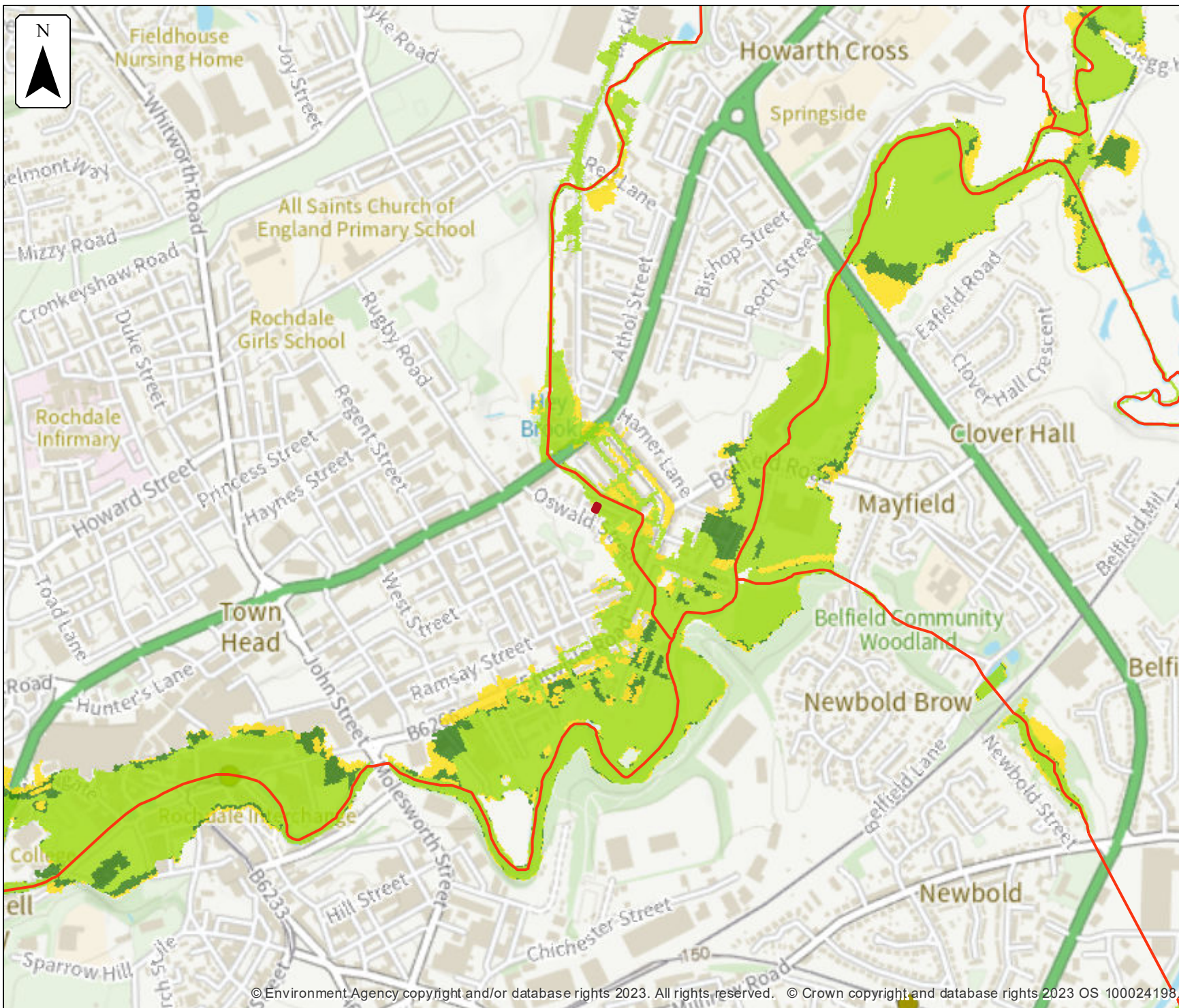
Modelled scenarios

The following scenarios are included:

- Defended modelled fluvial: risk of flooding from rivers where there are flood defences
- Defences removed modelled fluvial: risk of flooding from rivers where flood defences have been removed
- Defended climate change modelled fluvial: risk of flooding from rivers where there are flood defences, including estimated impact of climate change
- Defences removed climate change modelled fluvial: risk of flooding from rivers where flood defences have been removed, including estimated impact of climate change







Defended climate change modelled fluvial extent

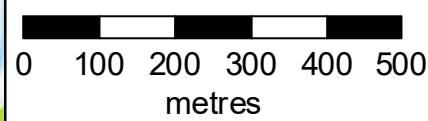
Location (easting/northing)
390526/413952

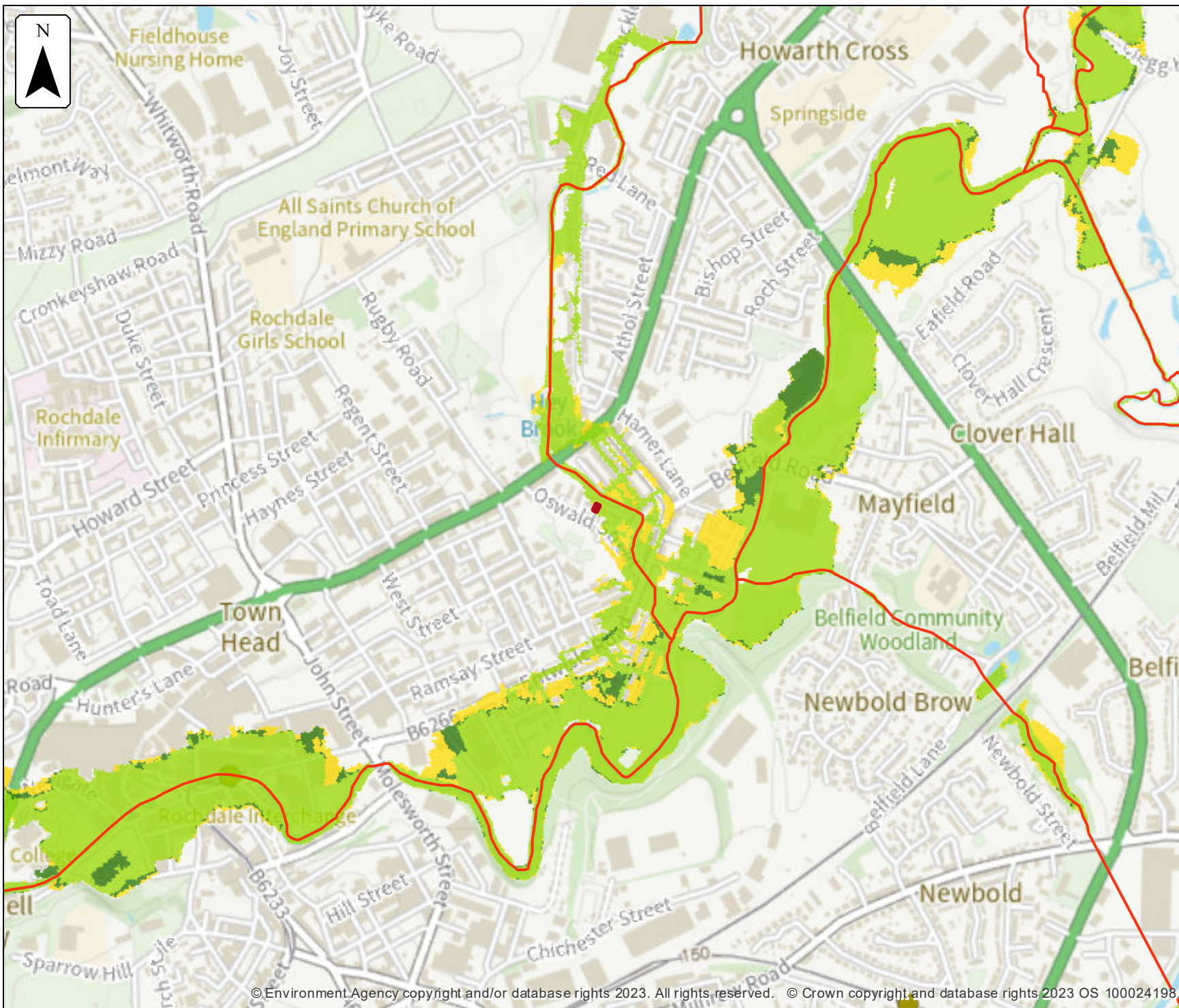
Scale Created
1:10,000 20 Oct 2023

Model name
**Rochdale and
Littleborough 2013**

- Selected area
- Main river
- Modelled flood extent
- 1.0% AEP (+20%)
- 1.0% AEP (+35%)
- 1.0% AEP (+70%)

Flood extents may not be
visible where they overlap
other return periods





Defences removed climate change modelled fluvial extent

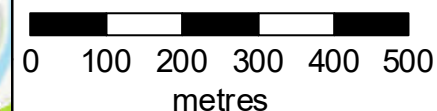
Location (easting/northing)
390526/413952

Scale Created
1:10,000 20 Oct 2023

Model name
**Rochdale and
Littleborough 2013**

- Selected area
- Main river
- Modelled flood extent
 - 1.0% AEP (+20%)
 - 1.0% AEP (+35%)
 - 1.0% AEP (+70%)

Flood extents may not be
visible where they overlap
other return periods





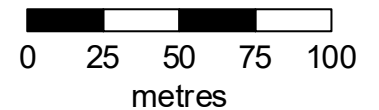
Defended modelled fluvial node locations

Location (easting/northing)
390526/413952

Scale Created
1:2,500 20 Oct 2023

Model name
**Rochdale and
Littleborough 2013**

-  Selected area
-  Modelled location
-  Main river



Modelled node locations data

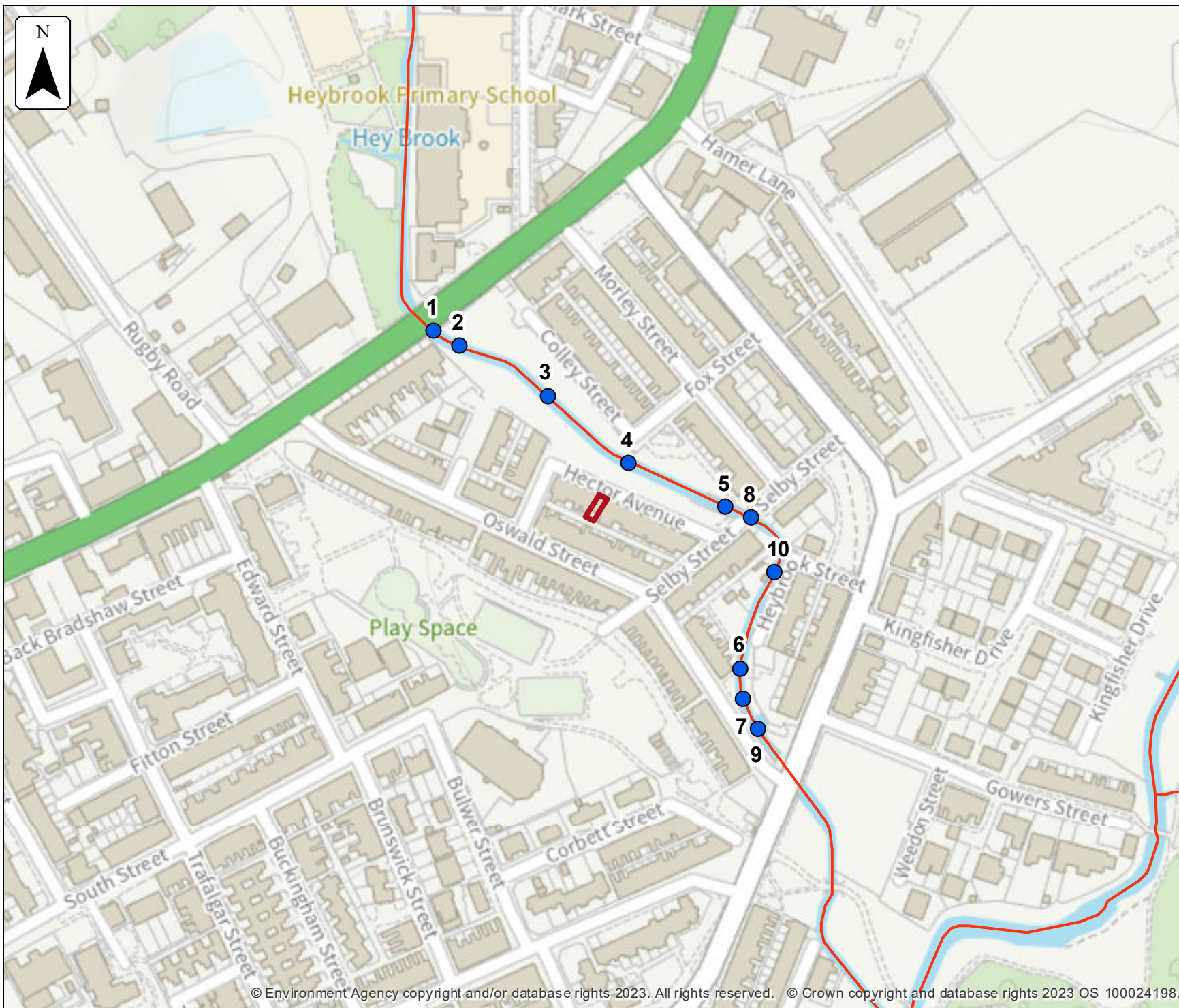
Defended

Label	Modelled location ID	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
				Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow
1	204181	390447	414037	125.21	9.71			125.50	13.79	125.60	15.10	126.10	22.89	126.37	26.97
2	325325	390459	414030	125.07	9.72			125.38	13.79	125.49	15.09	126.03	22.89	126.31	27.03
3	49575	390502	414006	124.90	9.72			125.28	13.78	125.41	15.09	125.99	22.88	126.28	27.46
4	120527	390541	413973	124.76	10.75			125.19	15.35	125.33	16.79	125.95	23.89	126.27	27.68
5	37632	390588	413952	124.24	10.75			124.65	15.33	124.85	16.78	125.39	24.29	125.75	39.11
6	20056	390595	413873	123.81	10.75			124.57	15.30	124.76	16.76	124.98	23.54	125.36	33.82
7	159223	390597	413858	123.79	10.74			124.55	15.29	124.74	16.75	124.96	23.54	125.34	34.11
8	242153	390601	413946	124.25	10.75			124.70	15.33	124.85	16.78	125.14	23.20	125.71	23.64
9	278092	390604	413844	123.76	10.73			124.53	15.28	124.72	16.75	124.93	23.54	125.26	37.22
10	222161	390612	413920	123.95	10.75			124.49	15.32	124.66	16.77	124.78	23.53	125.41	29.59

Data in this table comes from the Rochdale and Littleborough 2013 model.

Level values are shown in mAOD, and flow values are shown in cubic metres per second.

Any blank cells show where a particular scenario has not been modelled for this location.



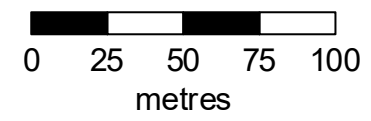
Defences removed modelled fluvial node locations

Location (easting/northing)
390526/413952

Scale Created
1:2,500 20 Oct 2023

Model name
**Rochdale and
Littleborough 2013**

-  Selected area
-  Modelled location
-  Main river



Modelled node locations data

Defences removed

Label	Modelled location ID	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
				Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow
1	204181	390447	414037	125.21	9.71			125.49	13.72	125.58	15.01	126.09	22.95	126.37	26.95
2	325325	390459	414030	125.07	9.71			125.37	13.72	125.47	15.01	126.02	22.95	126.32	27.01
3	49575	390502	414006	124.91	9.71			125.27	13.72	125.39	15.0	125.98	22.94	126.28	27.35
4	120527	390541	413973	124.77	10.74			125.17	15.28	125.30	16.71	125.94	23.96	126.28	31.57
5	37632	390588	413952	124.25	10.74			124.58	15.27	124.72	16.71	125.37	24.33	125.76	39.22
6	20056	390595	413873	123.75	10.74			124.46	14.76	124.63	15.98	124.93	22.78	125.35	31.33
7	159223	390597	413858	123.70	10.74			124.44	14.87	124.62	15.53	124.92	21.37	125.33	31.15
8	242153	390601	413946	124.26	10.74			124.63	15.27	124.76	16.71	125.11	23.64	125.73	25.02
9	278092	390604	413844	123.68	10.74			124.40	15.24	124.59	16.04	124.89	21.86	125.24	35.82
10	222161	390612	413920	123.96	10.74			124.36	15.27	124.51	16.70	124.72	23.84	125.37	30.05

Data in this table comes from the Rochdale and Littleborough 2013 model.

Level values are shown in mAOD, and flow values are shown in cubic metres per second.

Any blank cells show where a particular scenario has not been modelled for this location.



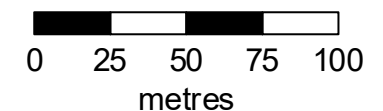
Defended climate change modelled fluvial node locations

Location (easting/northing)
390526/413952

Scale Created
1:2,500 20 Oct 2023

Model name
**Rochdale and
Littleborough 2013**

-  Selected area
-  Modelled location
-  Main river



Modelled node locations data

Defended climate change

Label	Modelled location ID	Easting	Northing	1.0% AEP (+20%)		1.0% AEP (+35%)		1.0% AEP (+70%)	
				Level	Flow	Level	Flow	Level	Flow
1	204181	390447	414037	126.11	24.29	126.06	22.03	126.16	24.05
2	325325	390459	414030	126.05	24.21	125.99	22.03	126.09	24.05
3	49575	390502	414006	126.01	24.08	125.95	22.03	126.05	24.07
4	120527	390541	413973	125.97	24.65	125.90	23.56	126.02	25.33
5	37632	390588	413952	125.54	24.65	125.35	23.60	125.64	25.33
6	20056	390595	413873	124.99	23.74	124.98	23.01	125.05	25.69
7	159223	390597	413858	124.97	23.74	124.95	23.01	125.02	25.64
8	242153	390601	413946	125.22	23.35	125.12	22.87	125.40	23.57
9	278092	390604	413844	124.94	23.73	124.92	23.01	124.98	25.84
10	222161	390612	413920	124.95	23.74	124.79	23.01	125.01	25.04

Data in this table comes from the Rochdale and Littleborough 2013 model.

Level values are shown in mAOD, and flow values are shown in cubic metres per second.

Any blank cells show where a particular scenario has not been modelled for this location.



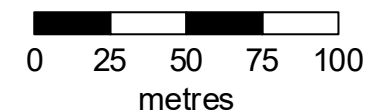
Defences removed climate change modelled fluvial node locations

Location (easting/northing)
390526/413952

Scale Created
1:2,500 20 Oct 2023

Model name
**Rochdale and
Littleborough 2013**

-  Selected area
-  Modelled location
-  Main river



Modelled node locations data

Defences removed climate change

Label	Modelled location ID	Easting	Northing	1.0% AEP (+20%)		1.0% AEP (+35%)		1.0% AEP (+70%)	
				Level	Flow	Level	Flow	Level	Flow
1	204181	390447	414037	126.11	24.47	126.04	21.87	126.16	24.25
2	325325	390459	414030	126.05	24.42	125.97	21.86	126.09	24.23
3	49575	390502	414006	126.01	24.35	125.92	21.87	126.06	24.21
4	120527	390541	413973	125.97	25.0	125.87	23.45	126.03	25.45
5	37632	390588	413952	125.55	24.83	125.31	23.44	125.66	25.47
6	20056	390595	413873	124.98	23.09	124.92	22.14	125.06	24.29
7	159223	390597	413858	124.97	21.66	124.92	20.77	125.06	23.11
8	242153	390601	413946	125.19	23.85	125.08	23.16	125.40	24.04
9	278092	390604	413844	124.92	23.12	124.89	21.21	124.98	26.13
10	222161	390612	413920	124.74	24.17	124.70	23.19	125.0	25.24

Data in this table comes from the Rochdale and Littleborough 2013 model.

Level values are shown in mAOD, and flow values are shown in cubic metres per second.

Any blank cells show where a particular scenario has not been modelled for this location.



Defended climate change modelled fluvial extent and height

Location (easting/northing)
390526/413952

Scale Created
1:500 20 Oct 2023

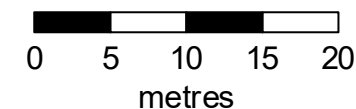
Model name
**Rochdale and
Littleborough 2013**

 Selected area
 Main river

Modelled 2D grid
Water level in mAOD

	0 - 125.0
	125.0 - 125.25
	125.25 - 125.5
	125.5 - 125.75
	125.75 - 126.0
	126.0 - 126.25
	126.25 - 126.5
	126.5 - 126.75
	126.75 - 127.0

This map shows the
1.0% AEP +70% height data



Sample point data

Defended climate change

Label	Easting	Northing	1% AEP (+35%)		1% AEP (+70%)	
			Depth	Height	Depth	Height
1	390518	413938	NoData	NoData	NoData	NoData
2	390523	413938	NoData	NoData	NoData	NoData
3	390528	413938	0.03	125.63	0.05	125.65
4	390513	413943	NoData	NoData	NoData	NoData
5	390518	413943	NoData	NoData	NoData	NoData
6	390523	413943	0.01	125.78	0.01	125.80
7	390528	413943	0.05	125.77	0.06	125.79
8	390533	413943	0.01	125.74	0.02	125.76
9	390513	413948	NoData	NoData	NoData	NoData
10	390518	413948	NoData	NoData	NoData	NoData
11	390523	413948	NoData	NoData	NoData	NoData
12	390528	413948	0.10	125.83	0.15	125.88
13	390533	413948	0.03	125.84	0.08	125.90
14	390513	413953	NoData	NoData	NoData	NoData
15	390518	413953	NoData	NoData	NoData	NoData
16	390523	413953	NoData	NoData	0.05	125.94

Label	Easting	Northing	1% AEP (+35%)		1% AEP (+70%)	
			Depth	Height	Depth	Height
17	390528	413953	0.11	125.88	0.21	125.99
18	390533	413953	0.13	125.89	0.24	126.01
19	390538	413953	0.23	125.89	0.32	125.99
20	390518	413958	NoData	NoData	NoData	NoData
21	390523	413958	NoData	NoData	NoData	NoData
22	390528	413958	0.27	125.90	0.39	126.02
23	390533	413958	0.57	125.90	0.69	126.02
24	390538	413958	0.39	125.89	0.49	125.99
25	390523	413963	0.27	125.90	0.39	126.02
26	390528	413963	0.31	125.90	0.43	126.02
27	390533	413963	0.04	125.90	0.08	126.02

Data in this table comes from the Rochdale and Littleborough 2013 model.

Height values are shown in mAOD, and depth values are shown in metres.

Any blank cells show where a particular scenario has not been modelled for this location.

Cells which contain text 'NoData' for a scenario show that return period has been modelled but there is no flood risk for that return period for that location.



**Defences removed
climate change
modelled fluvial
extent and height**

Location (easting/northing)
390526/413952

Scale Created
1:500 20 Oct 2023

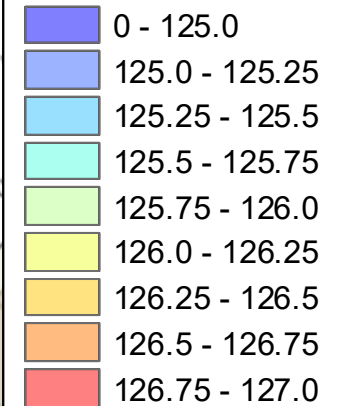
Model name
**Rochdale and
Littleborough 2013**

 Selected area

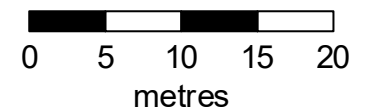
 Main river

Modelled 2D grid

Water level in mAOD



This map shows the
1.0% AEP +70% height data



Sample point data

Defences removed climate change

Label	Easting	Northing	1% AEP (+35%)		1% AEP (+70%)	
			Depth	Height	Depth	Height
1	390518	413938	NoData	NoData	NoData	NoData
2	390523	413938	NoData	NoData	NoData	NoData
3	390528	413938	0.02	125.62	0.05	125.65
4	390513	413943	NoData	NoData	NoData	NoData
5	390518	413943	NoData	NoData	NoData	NoData
6	390523	413943	0.01	125.78	0.01	125.80
7	390528	413943	0.04	125.77	0.06	125.79
8	390533	413943	0.01	125.73	0.02	125.76
9	390513	413948	NoData	NoData	NoData	NoData
10	390518	413948	NoData	NoData	NoData	NoData
11	390523	413948	NoData	NoData	NoData	NoData
12	390528	413948	0.09	125.82	0.15	125.88
13	390533	413948	0.01	125.83	0.08	125.90
14	390513	413953	NoData	NoData	NoData	NoData
15	390518	413953	NoData	NoData	NoData	NoData
16	390523	413953	NoData	NoData	0.05	125.94

Label	Easting	Northing	1% AEP (+35%)		1% AEP (+70%)	
			Depth	Height	Depth	Height
17	390528	413953	0.09	125.86	0.22	125.99
18	390533	413953	0.11	125.87	0.25	126.01
19	390538	413953	0.22	125.86	0.33	125.99
20	390518	413958	NoData	NoData	NoData	NoData
21	390523	413958	NoData	NoData	NoData	NoData
22	390528	413958	0.25	125.87	0.40	126.02
23	390533	413958	0.54	125.87	0.69	126.02
24	390538	413958	0.36	125.87	0.50	126.00
25	390523	413963	0.24	125.87	0.39	126.03
26	390528	413963	0.28	125.87	0.43	126.03
27	390533	413963	0.04	125.87	0.08	126.03

Data in this table comes from the Rochdale and Littleborough 2013 model.

Height values are shown in mAOD, and depth values are shown in metres.

Any blank cells show where a particular scenario has not been modelled for this location.

Cells which contain text 'NoData' for a scenario show that return period has been modelled but there is no flood risk for that return period for that location.

Strategic flood risk assessments

We recommend that you check the relevant local authority's strategic flood risk assessment (SFRA) as part of your work to prepare a site specific flood risk assessment.

This should give you information about:

- the potential impacts of climate change in this catchment
- areas defined as functional floodplain
- flooding from other sources, such as surface water, ground water and reservoirs

About this data

This data has been generated by strategic scale flood models and is not intended for use at the individual property scale. If you're intending to use this data as part of a flood risk assessment, please include an appropriate modelling tolerance as part of your assessment. The Environment Agency regularly updates its modelling. We recommend that you check the data provided is the most recent, before submitting your flood risk assessment.

Flood risk activity permits

Under the Environmental Permitting (England and Wales) Regulations 2016 some developments may require an environmental permit for flood risk activities from the Environment Agency. This includes any permanent or temporary works that are in, over, under, or nearby a designated main river or flood defence structure.

[Find out more about flood risk activity permits](#)

Help and advice

Contact the Greater Manchester Merseyside and Cheshire Environment Agency team at inforequests.gmmc@environment-agency.gov.uk for:

- [more information about getting a product 5, 6, 7 or 8](#)
- general help and advice about the site you're requesting data for