

# Flood risk assessment data

**Location of site:** 374589 / 442041 (shown as easting and northing coordinates)

**Document created on:** 13 November 2023

**This information was previously known as a product 4.**

**Customer reference number:** 6C1GF4679E5K

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

## Not included in this document

This document does not include a Flood Defence Breach Hazard Map.

If your location has a reduced flood risk from rivers and sea because of defences, you need to request a Flood Defence Breach Hazard Map and information about the level of flood protection offered at your location from the Cumbria and Lancashire Environment Agency team at [inforequests.cmlnc@environment-agency.gov.uk](mailto:inforequests.cmlnc@environment-agency.gov.uk). This information will only be available if modelling has been carried out for breach scenarios.

Include a site location map in your request.

## 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: Mearley Brook 2018

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

fluvial Date: 1 December 2017

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.





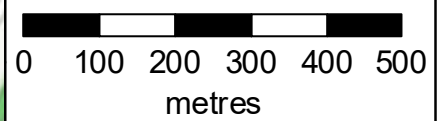
# Flood map for planning

Location (easting/northing)  
**374589/442041**

Scale  
**1:10,000**

Created  
**13 Nov 2023**

- Selected area
- Main river
- Flood defence
- Flood zone 3
- Flood zone 2



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## Historic flooding

This map is an indicative outline of areas that have previously flooded. Remember that:

- our records are incomplete, so the information here is based on the best available data
- it is possible not all properties within this area will have flooded
- other flooding may have occurred that we do not have records for
- flooding can come from a range of different sources - we can only supply flood risk data relating to flooding from rivers or the sea

You can also contact your Lead Local Flood Authority or Internal Drainage Board to see if they have other relevant local flood information. Please note that some areas do not have an Internal Drainage Board.

[Download recorded flood outlines in GIS format](#)









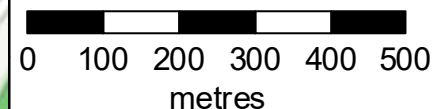
## Historic flood map

Location (easting/northing)  
**374589/442041**

Scale  
**1:10,000**

Created  
**13 Nov 2023**

-  Selected area
-  Main river
- Date of flood event
  -  August, 2016
  -  July, 2007



## Historic flood event data

Start date	End date	Source of flood	Cause of flood	Affects location
22 August 2016	23 August 2016	main river	channel capacity exceeded (no raised defences)	No
3 July 2007	4 July 2007	ordinary watercourse	obstruction/blockage - culvert	No

## **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








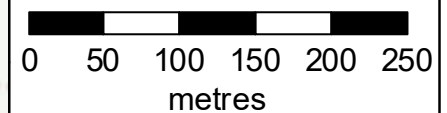
## Flood defences

Location (easting/northing)  
**374589/442041**

Scale  
**1:5,000**

Created  
**13 Nov 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	66677	Wall	100	Fair	74.95	75.76	74.95
2	148799	Embankment	50	Fair	73.79	74.47	73.79
3	536674	Flood Gate		Fair	77.10	77.10	77.10
4	148786	Wall	10	Fair	78.25	79.30	78.25
5	150181	Engineered High Ground	10	Fair	78.10	79.90	78.10

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.

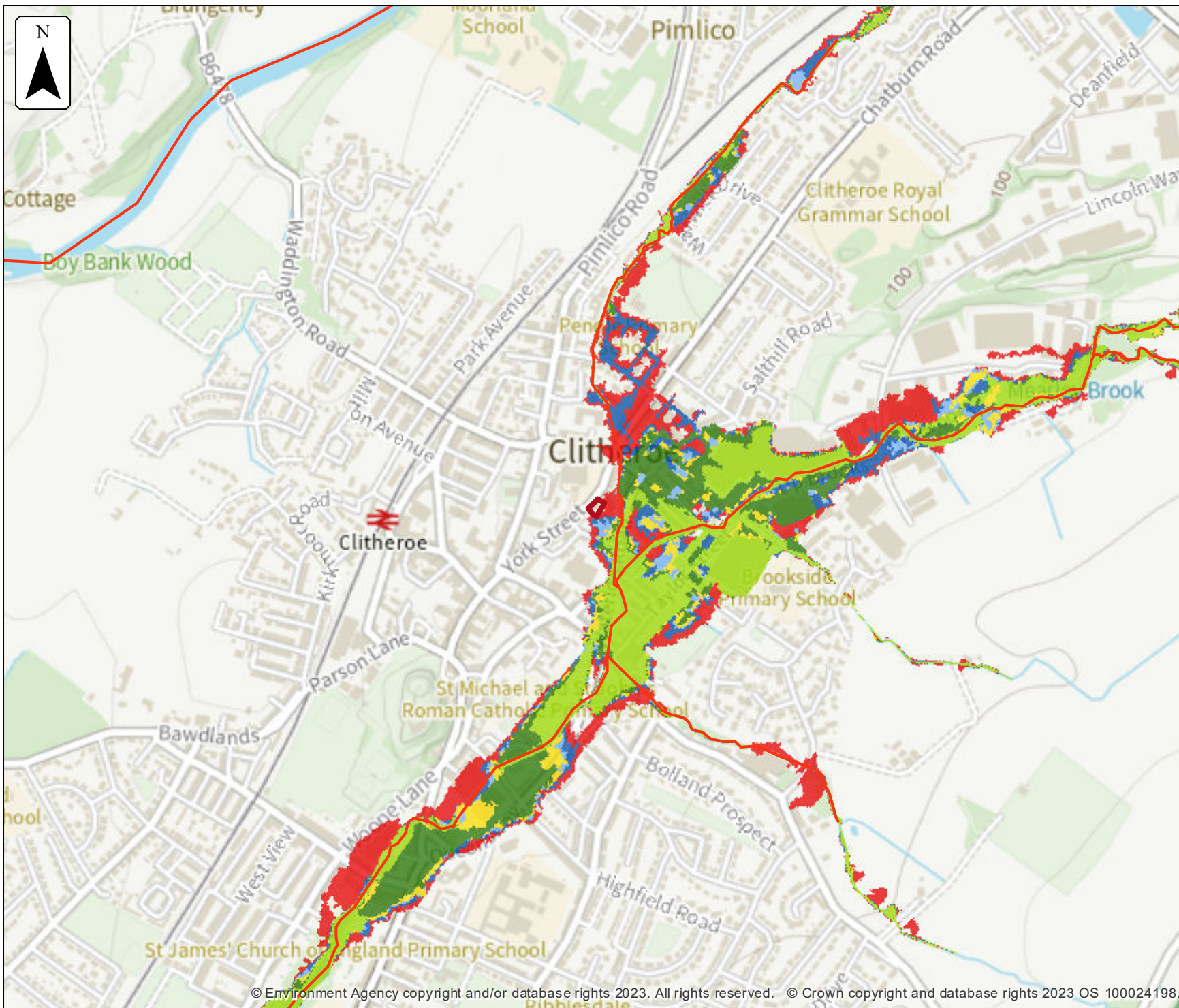
The Environment Agency will incorporate the new allowances into future modelling studies. For now, it's your responsibility to demonstrate that new developments will be safe in flood risk terms for their lifetime.

## 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 modelled fluvial extent

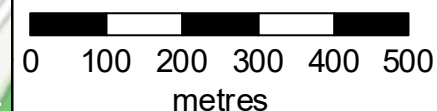
Location (easting/northing)  
**374589/442041**

Scale      Created  
**1:10,000      13 Nov 2023**

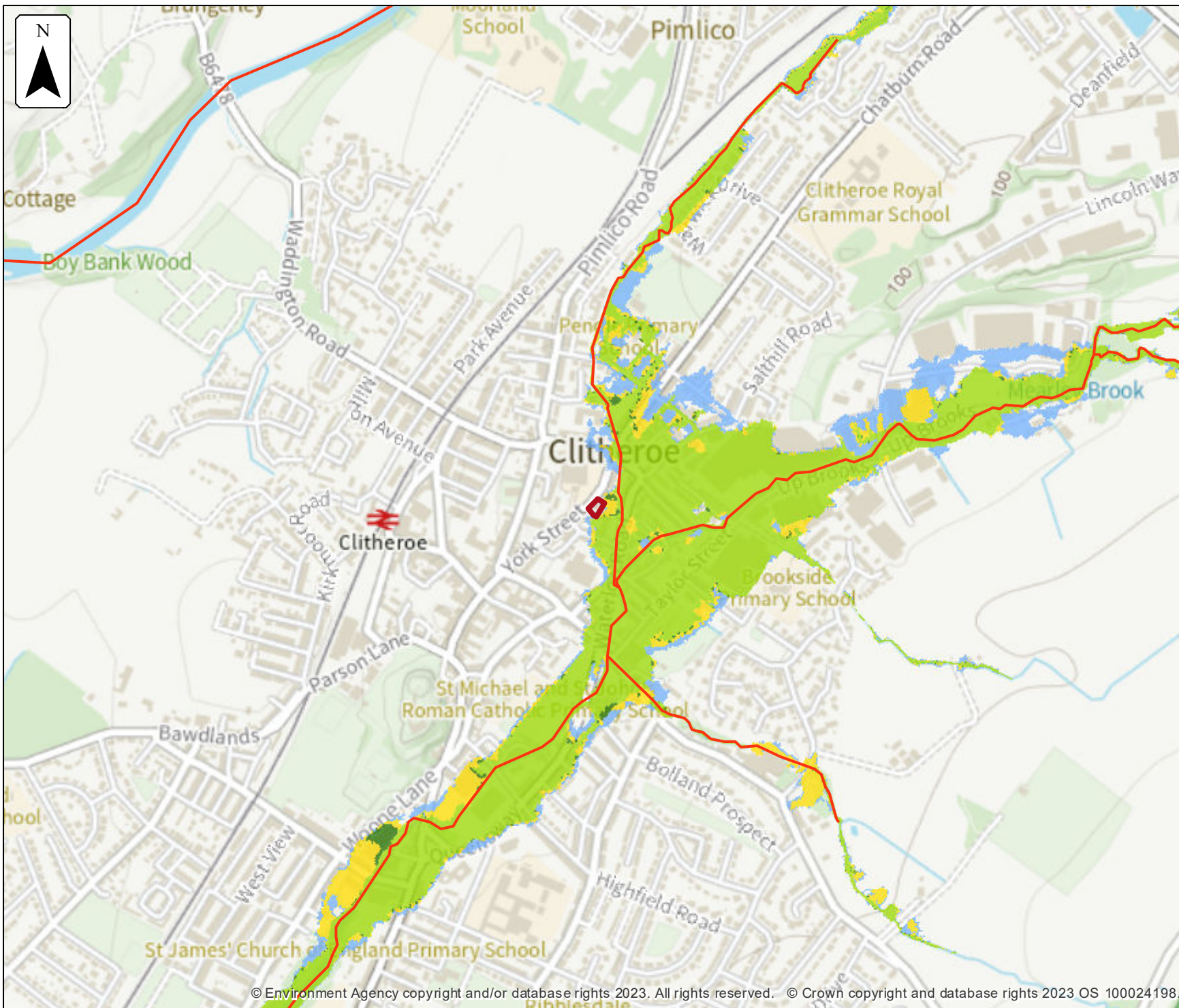
Model name  
**Mearley Brook 2018**

-  Selected area
-  Main river
- Modelled flood extent
  -  5% AEP
  -  2% AEP
  -  1.33% AEP
  -  1% AEP
  -  0.5% AEP
  -  0.1% AEP

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













## Defended climate change modelled fluvial extent

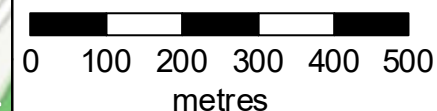
Location (easting/northing)  
**374589/442041**

Scale      Created  
**1:10,000      13 Nov 2023**

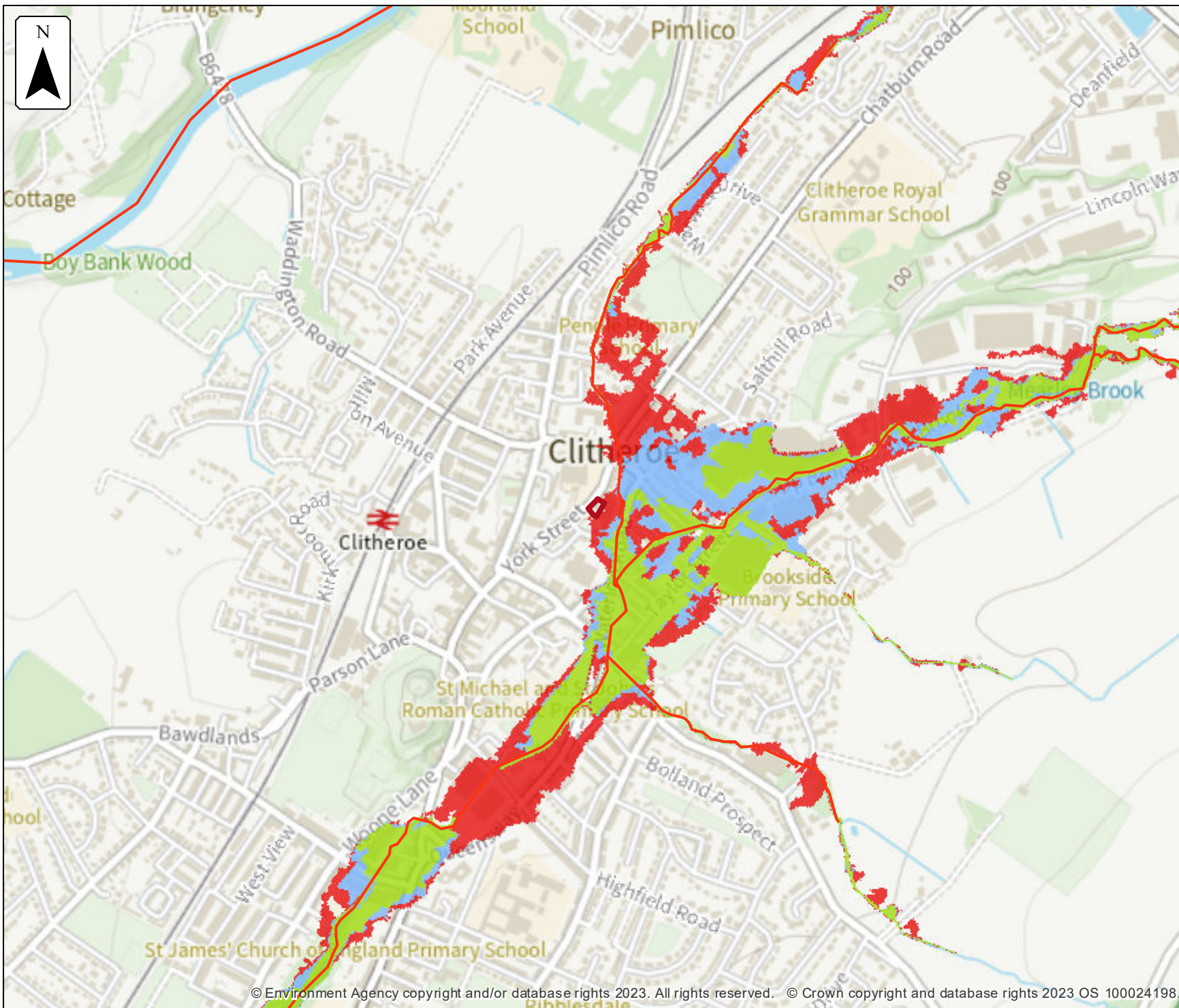
Model name  
**Mearley Brook 2018**

-  Selected area
-  Main river
- Modelled flood extent
  -  1.0% AEP (+30%)
  -  1.0% AEP (+35%)
  -  1.0% AEP (+70%)
  -  0.1% AEP (+30%)

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












## Defences removed modelled fluvial extent

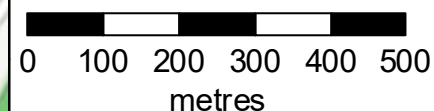
Location (easting/northing)  
**374589/442041**

Scale Created  
**1:10,000 13 Nov 2023**

Model name  
**Mearley Brook 2018**

-  Selected area
-  Main river
- Modelled flood extent
  -  5% AEP
  -  1% AEP
  -  0.1% AEP

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







# Fluvial Flood Levels Map York Street, Clitheroe

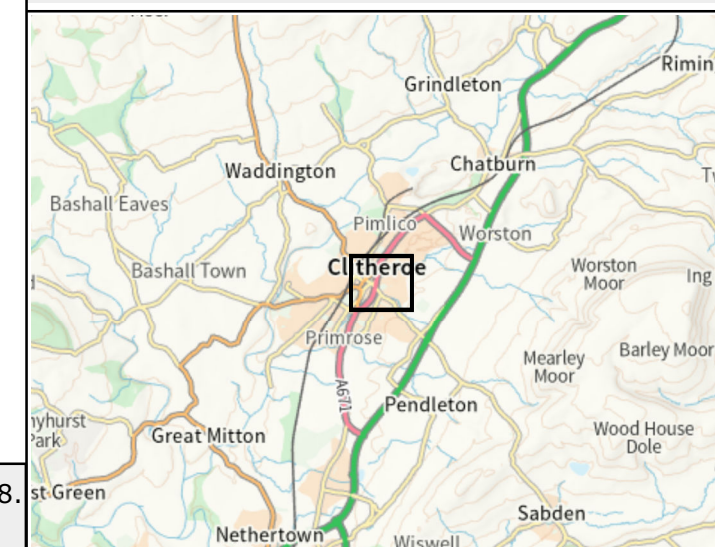
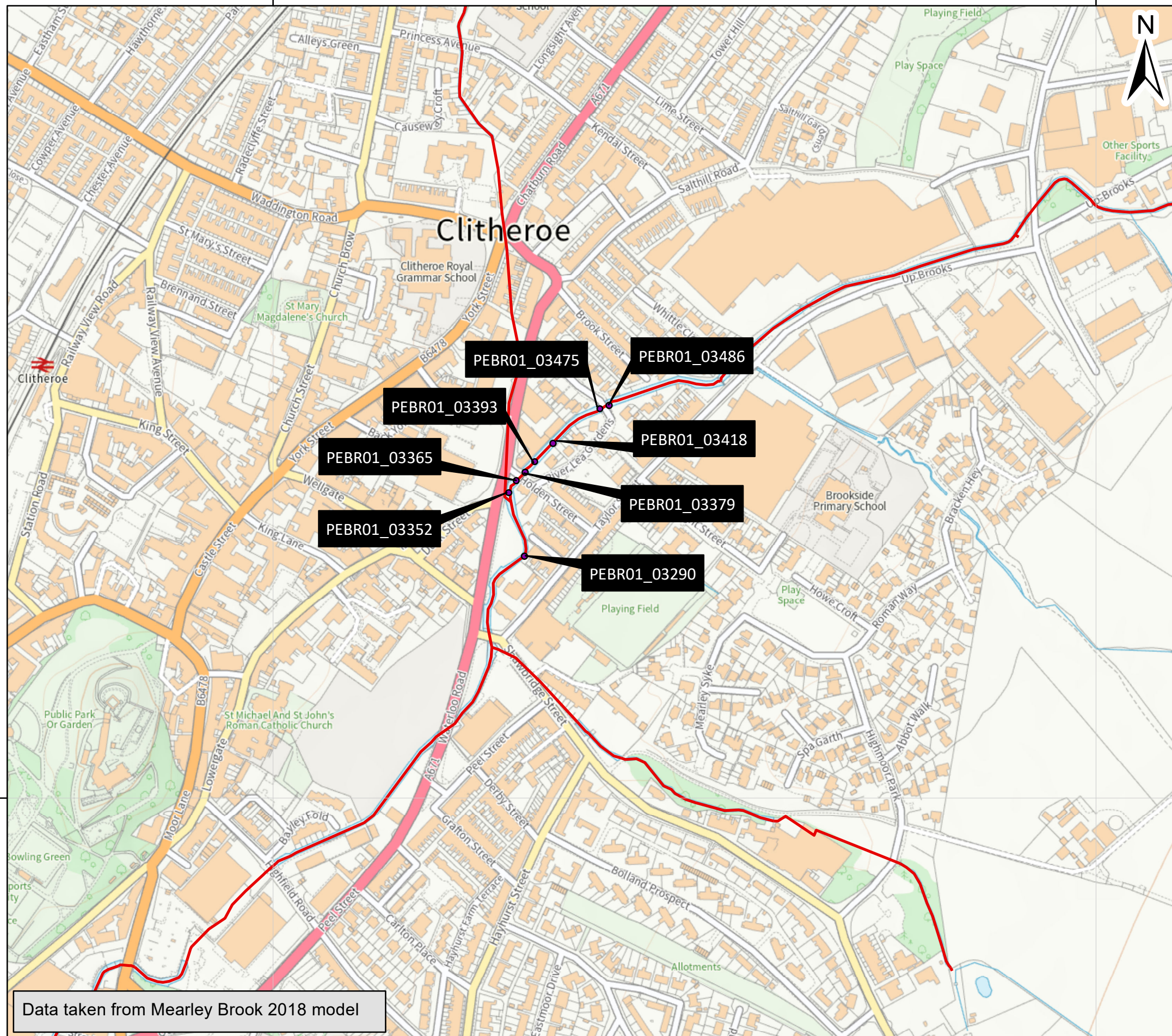
Location (easting/northing)  
374592, 442045

Model Name  
Mearley Brook 2018

Created: 14/11/2023

## Key

- Node points
- Main River

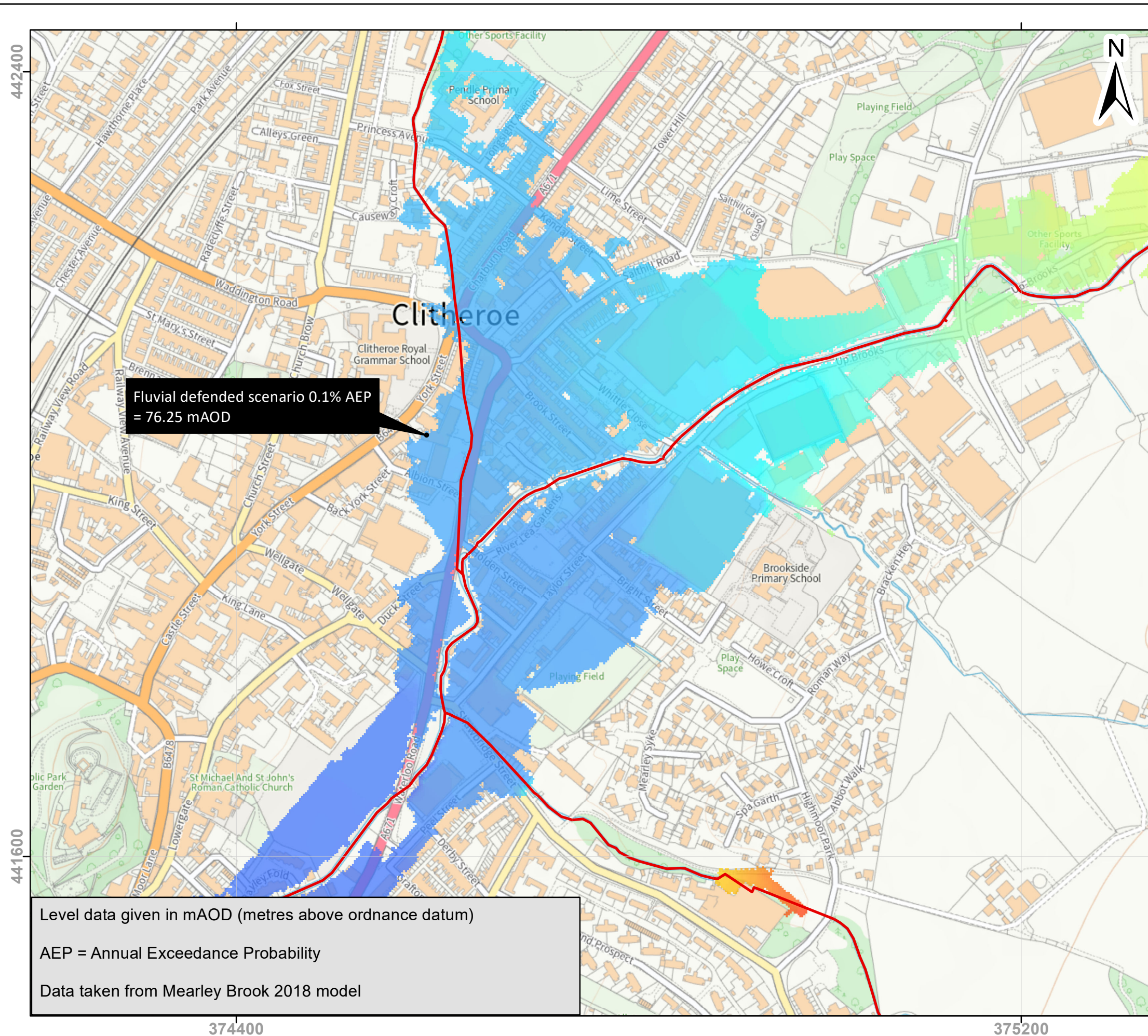




Node ID	Defended/Undefended/ Climate change	Annual Exceedance Probability (%)	Water Level (mAOD)	Flow (Cumecs)
PEBR01_03486	Mearley2018_D	5	76.1	15.9
PEBR01_03486	Mearley2018_U	5	76.08	15.99
PEBR01_03486	Mearley2018_D_35%CC	1	76.44	20.73
PEBR01_03486	Mearley2018_U	1	76.3	19.39
PEBR01_03486	Mearley2018_D	1	76.31	19.23
PEBR01_03486	Mearley2018_D_30%CC	1	76.43	20.64
PEBR01_03486	Mearley2018_D_70%CC	1	76.53	21.57
PEBR01_03486	Mearley2018_U	0.1	76.56	21.92
PEBR01_03486	Mearley2018_D	0.1	76.58	21.57
PEBR01_03486	Mearley2018_D_30%CC	0.1	76.68	21.56
PEBR01_03475	Mearley2018_D	5	75.94	15.9
PEBR01_03475	Mearley2018_U	5	75.92	15.99
PEBR01_03475	Mearley2018_D_35%CC	1	76.13	20.73
PEBR01_03475	Mearley2018_U	1	76.04	19.39
PEBR01_03475	Mearley2018_D	1	76.05	19.23
PEBR01_03475	Mearley2018_D_30%CC	1	76.12	20.64
PEBR01_03475	Mearley2018_D_70%CC	1	76.2	21.57
PEBR01_03475	Mearley2018_U	0.1	76.22	21.92
PEBR01_03475	Mearley2018_D	0.1	76.24	21.57
PEBR01_03475	Mearley2018_D_30%CC	0.1	76.37	21.56
PEBR01_03418	Mearley2018_D	5	75.84	15.97
PEBR01_03418	Mearley2018_U	5	75.81	16.05
PEBR01_03418	Mearley2018_D_35%CC	1	76.02	20.66
PEBR01_03418	Mearley2018_U	1	75.91	19.44
PEBR01_03418	Mearley2018_D	1	75.93	19.25
PEBR01_03418	Mearley2018_D_30%CC	1	76.01	20.57
PEBR01_03418	Mearley2018_D_70%CC	1	76.1	21.42
PEBR01_03418	Mearley2018_U	0.1	76.11	21.81
PEBR01_03418	Mearley2018_D	0.1	76.15	21.44
PEBR01_03418	Mearley2018_D_30%CC	0.1	76.28	21.6
PEBR01_03393	Mearley2018_D	5	75.82	15.02
PEBR01_03393	Mearley2018_U	5	75.78	15.38
PEBR01_03393	Mearley2018_D_35%CC	1	76.03	17.57
PEBR01_03393	Mearley2018_U	1	75.9	17.67
PEBR01_03393	Mearley2018_D	1	75.93	17.06
PEBR01_03393	Mearley2018_D_30%CC	1	76.01	17.52
PEBR01_03393	Mearley2018_D_70%CC	1	76.12	18.28
PEBR01_03393	Mearley2018_U	0.1	76.12	19.07
PEBR01_03393	Mearley2018_D	0.1	76.17	18.35
PEBR01_03393	Mearley2018_D_30%CC	0.1	76.3	18.42
PEBR01_03379	Mearley2018_D	5	75.83	11.58
PEBR01_03379	Mearley2018_U	5	75.78	12.53
PEBR01_03379	Mearley2018_D_35%CC	1	76.06	11.71
PEBR01_03379	Mearley2018_U	1	75.92	12.67
PEBR01_03379	Mearley2018_D	1	75.96	11.71
PEBR01_03379	Mearley2018_D_30%CC	1	76.05	11.72
PEBR01_03379	Mearley2018_D_70%CC	1	76.16	11.64
PEBR01_03379	Mearley2018_U	0.1	76.16	12.66

PEBR01_03379	Mearley2018_D	0.1	76.2	11.63
PEBR01_03379	Mearley2018_D_30%CC	0.1	76.33	11.52
PEBR01_03365	Mearley2018_D	5	75.63	14.86
PEBR01_03365	Mearley2018_U	5	75.55	15.64
PEBR01_03365	Mearley2018_D_35%CC	1	75.93	16.51
PEBR01_03365	Mearley2018_U	1	75.7	17.25
PEBR01_03365	Mearley2018_D	1	75.78	15.94
PEBR01_03365	Mearley2018_D_30%CC	1	75.92	16.45
PEBR01_03365	Mearley2018_D_70%CC	1	76.04	16.78
PEBR01_03365	Mearley2018_U	0.1	75.99	18.61
PEBR01_03365	Mearley2018_D	0.1	76.09	16.95
PEBR01_03365	Mearley2018_D_30%CC	0.1	76.23	17.12
PEBR01_03352	Mearley2018_D	5	75.55	14.84
PEBR01_03352	Mearley2018_U	5	75.46	15.51
PEBR01_03352	Mearley2018_D_35%CC	1	75.89	16.51
PEBR01_03352	Mearley2018_U	1	75.63	16.36
PEBR01_03352	Mearley2018_D	1	75.72	15.92
PEBR01_03352	Mearley2018_D_30%CC	1	75.87	16.43
PEBR01_03352	Mearley2018_D_70%CC	1	76.01	16.81
PEBR01_03352	Mearley2018_U	0.1	75.96	17.26
PEBR01_03352	Mearley2018_D	0.1	76.07	16.96
PEBR01_03352	Mearley2018_D_30%CC	0.1	76.21	17.12
PEBR01_03290	Mearley2018_D	5	75.34	14.76
PEBR01_03290	Mearley2018_U	5	75.4	12.62
PEBR01_03290	Mearley2018_D_35%CC	1	75.8	15.32
PEBR01_03290	Mearley2018_U	1	75.6	12.66
PEBR01_03290	Mearley2018_D	1	75.63	15.18
PEBR01_03290	Mearley2018_D_30%CC	1	75.78	15.31
PEBR01_03290	Mearley2018_D_70%CC	1	75.89	16.78
PEBR01_03290	Mearley2018_U	0.1	75.93	12.7
PEBR01_03290	Mearley2018_D	0.1	75.94	18.16
PEBR01_03290	Mearley2018_D_30%CC	0.1	76.04	22.02





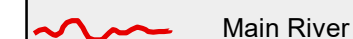
## Fluvial Flood Levels Map York Street, Clitheroe

Location (easting/northing)
374592, 442045

Model Name	Mearley Brook 2018
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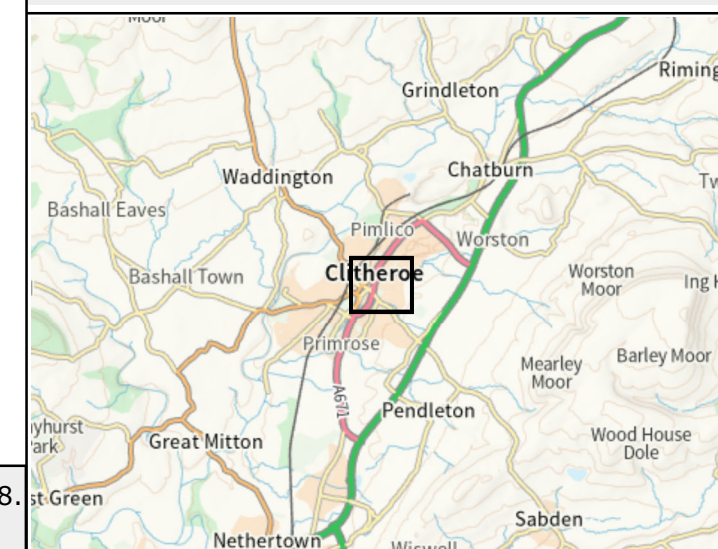
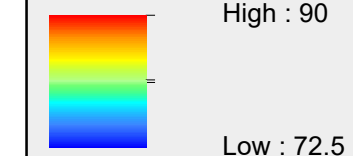
Created: 14/11/2023

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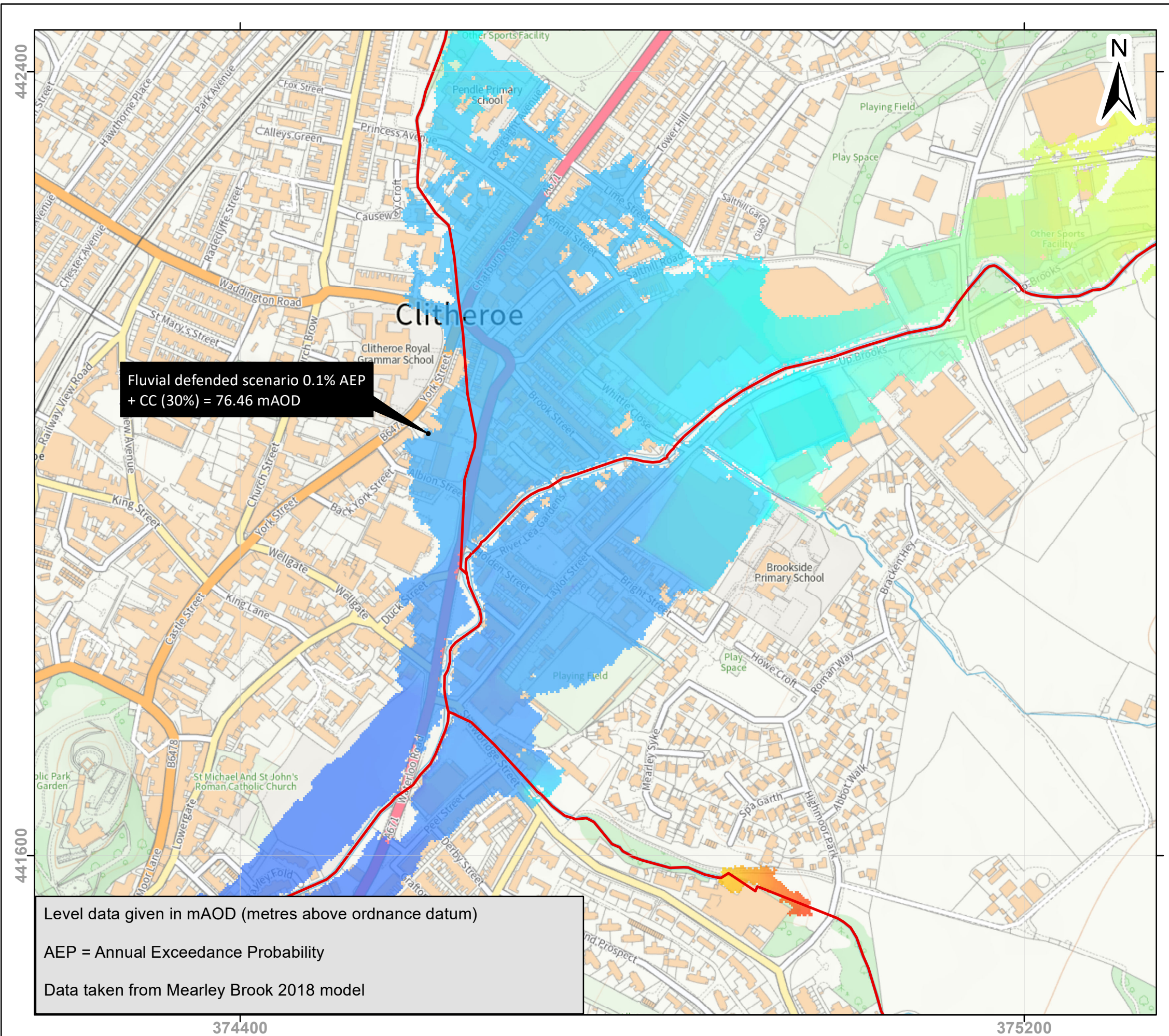


### Fluvial defended scenario 0.1% AEP

mAOD








## Fluvial Flood Levels Map York Street, Clitheroe

Location (easting/northing)  
374592, 442045

Model Name  
Mearley Brook 2018

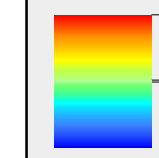
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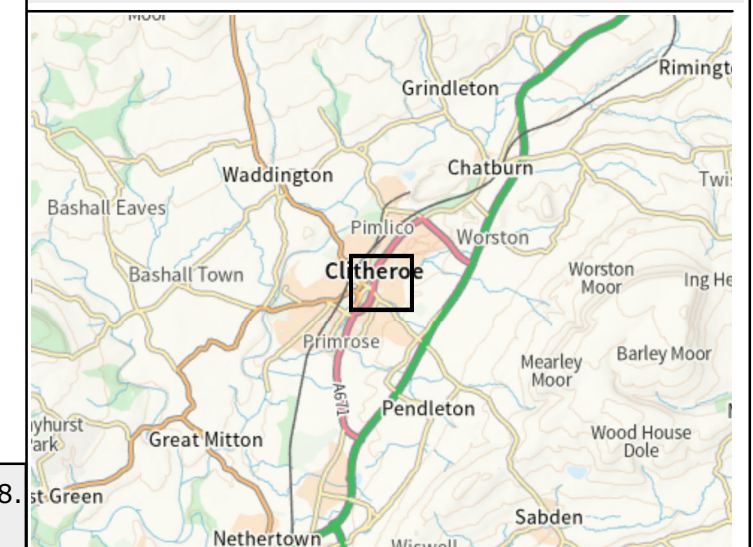
### Key

 Main River

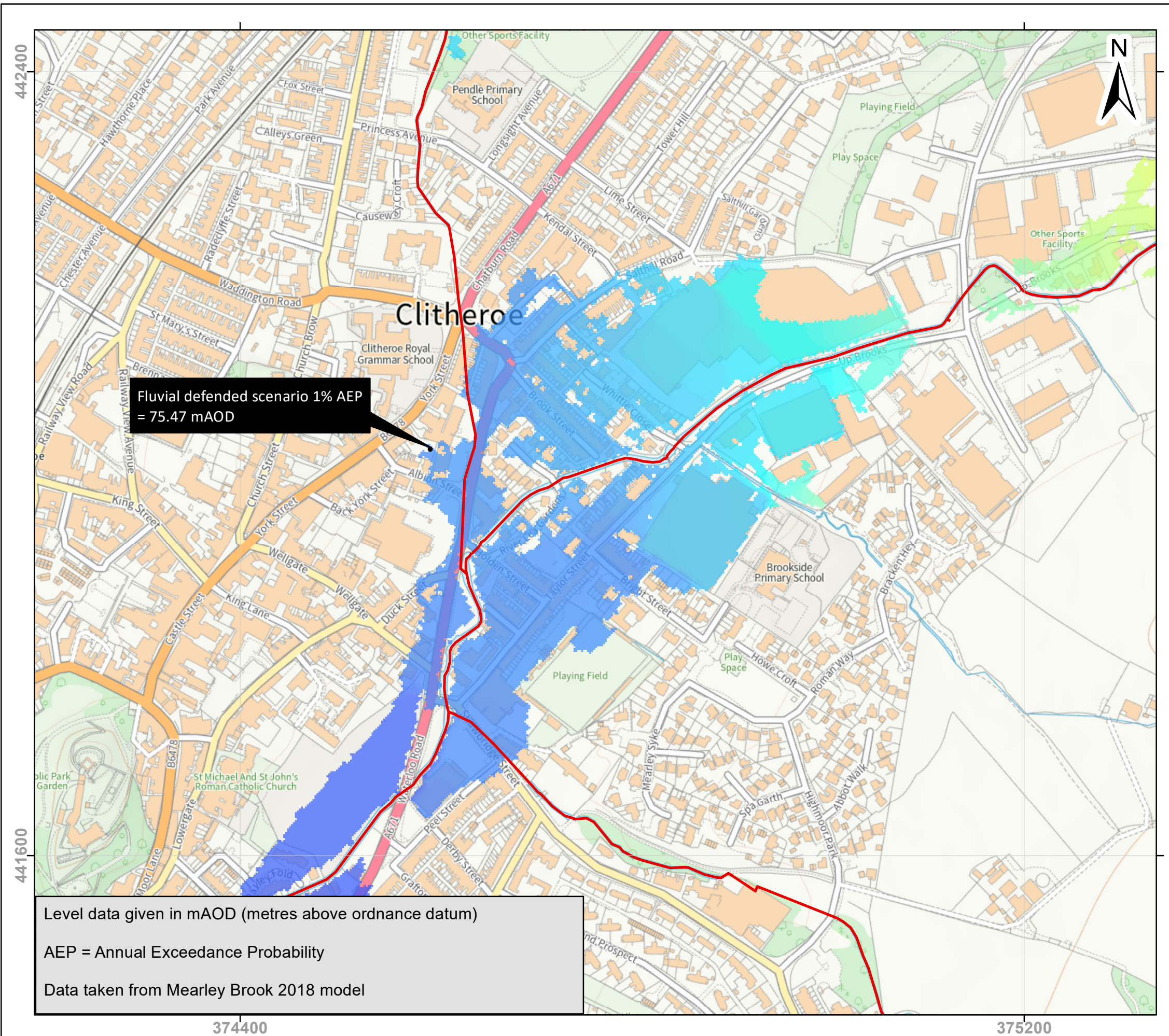
**Fluvial defended scenario 0.1% AEP +  
Climate Change (+30%)**

**mAOD**

 High : 90  
Low : 72.5







## Fluvial Flood Levels Map York Street, Clitheroe

Location (easting/northing)  
374592, 442045

Model Name  
Mearley Brook 2018

Created: 14/11/2023

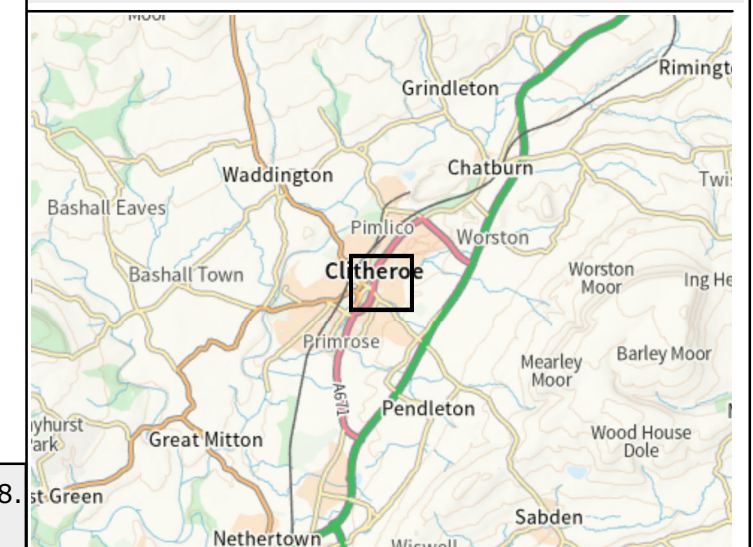
### Key

Main River

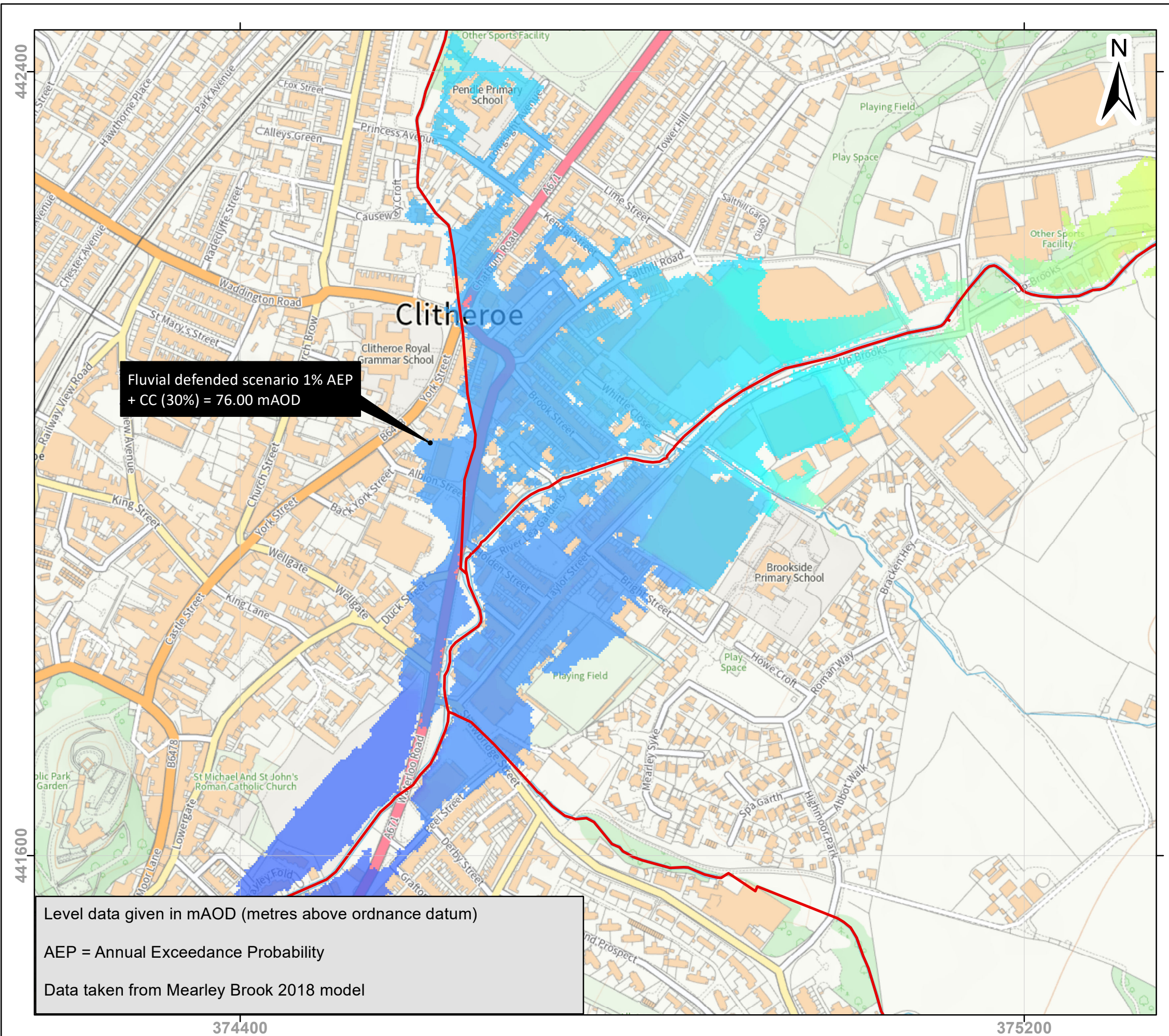
### Fluvial defended scenario 1% AEP

mAOD

High : 90  
Low : 72.5







## Fluvial Flood Levels Map York Street, Clitheroe

Location (easting/northing)  
374592, 442045

Model Name  
Mearley Brook 2018

Created: 14/11/2023

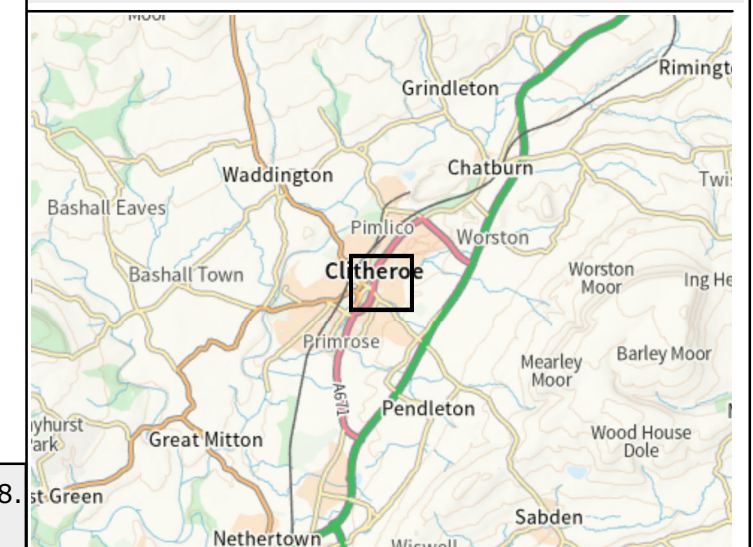
### Key

Main River

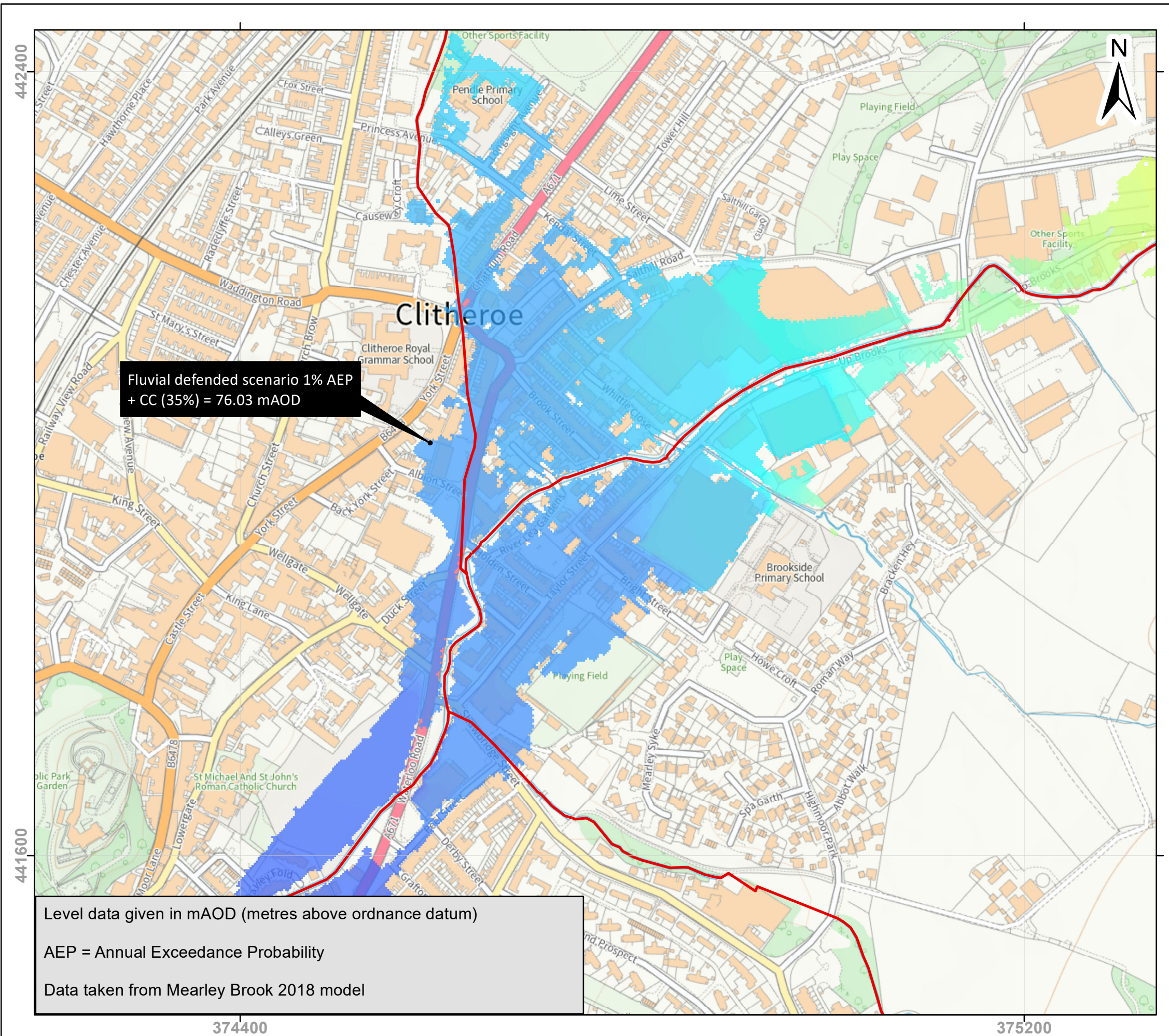
### Fluvial defended scenario 1% AEP + Climate Change (+30%)

mAOD

High : 90  
Low : 72.5








## Fluvial Flood Levels Map York Street, Clitheroe

Location (easting/northing)  
374592, 442045

Model Name  
Mearley Brook 2018

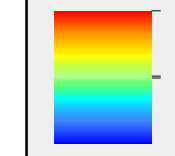
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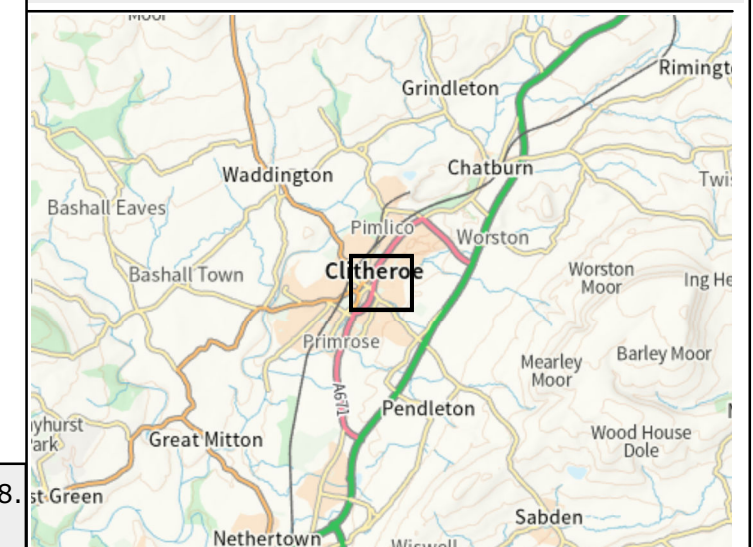
### Key

 Main River

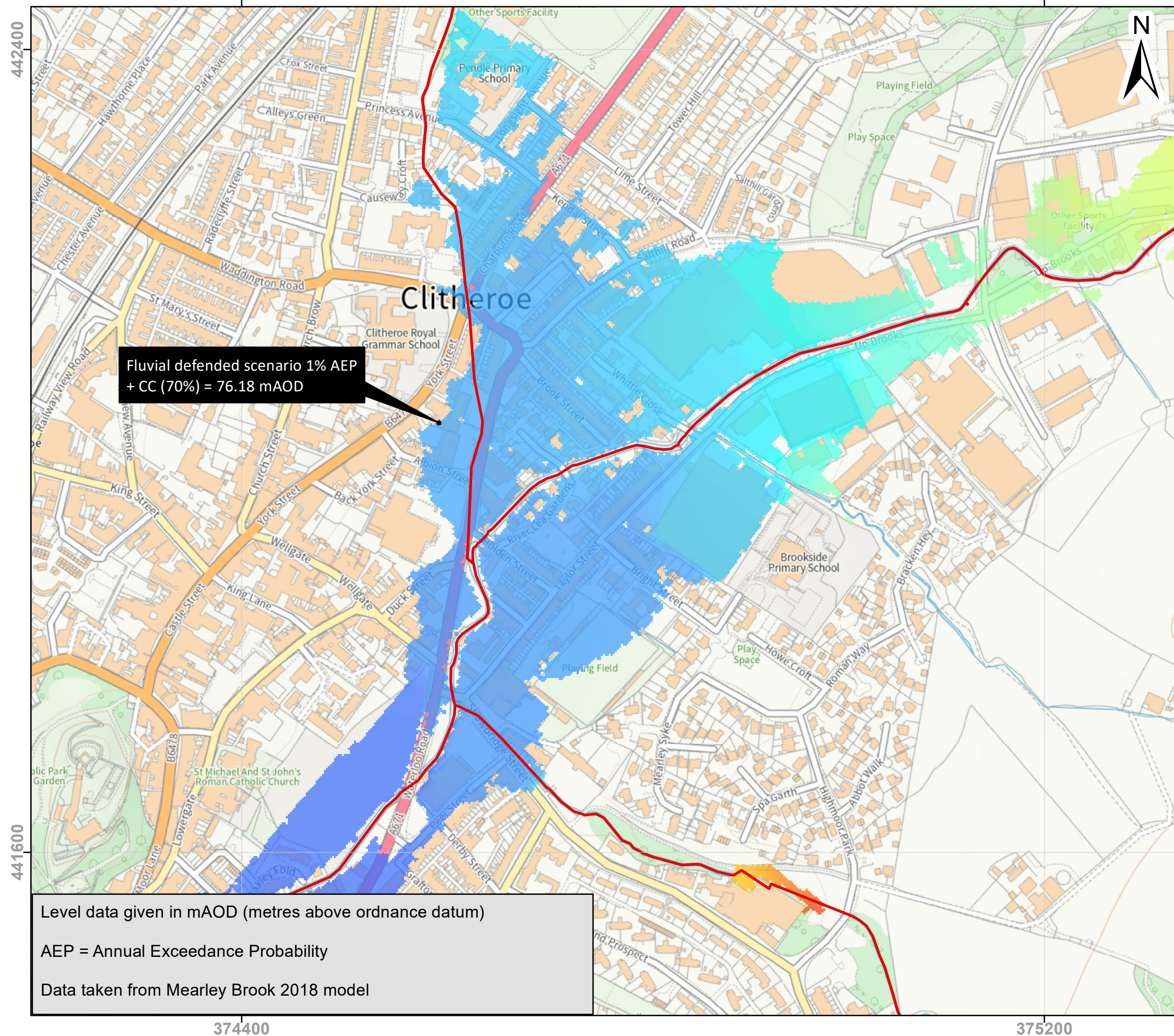
### Fluvial defended scenario 1% AEP + Climate Change (+35%)

**mAOD**

 High : 90  
Low : 72.5







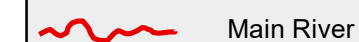
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Location (easting/northing)
374592, 442045

Model Name	Mearley Brook 2018
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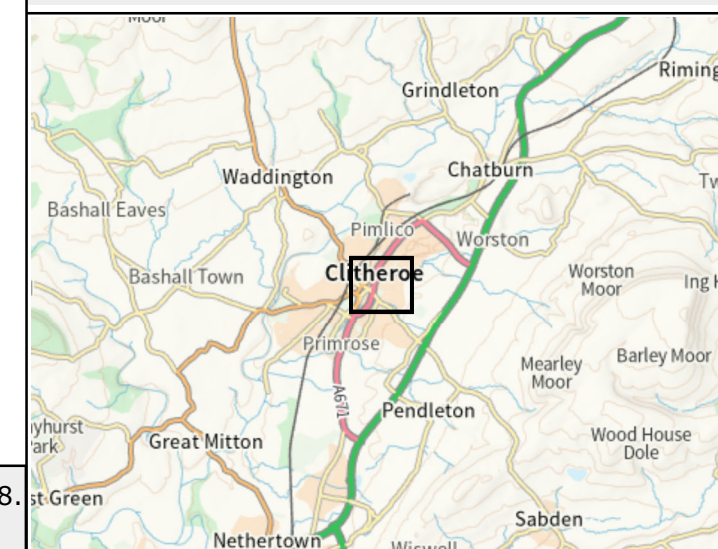
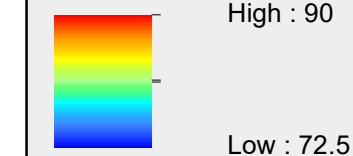
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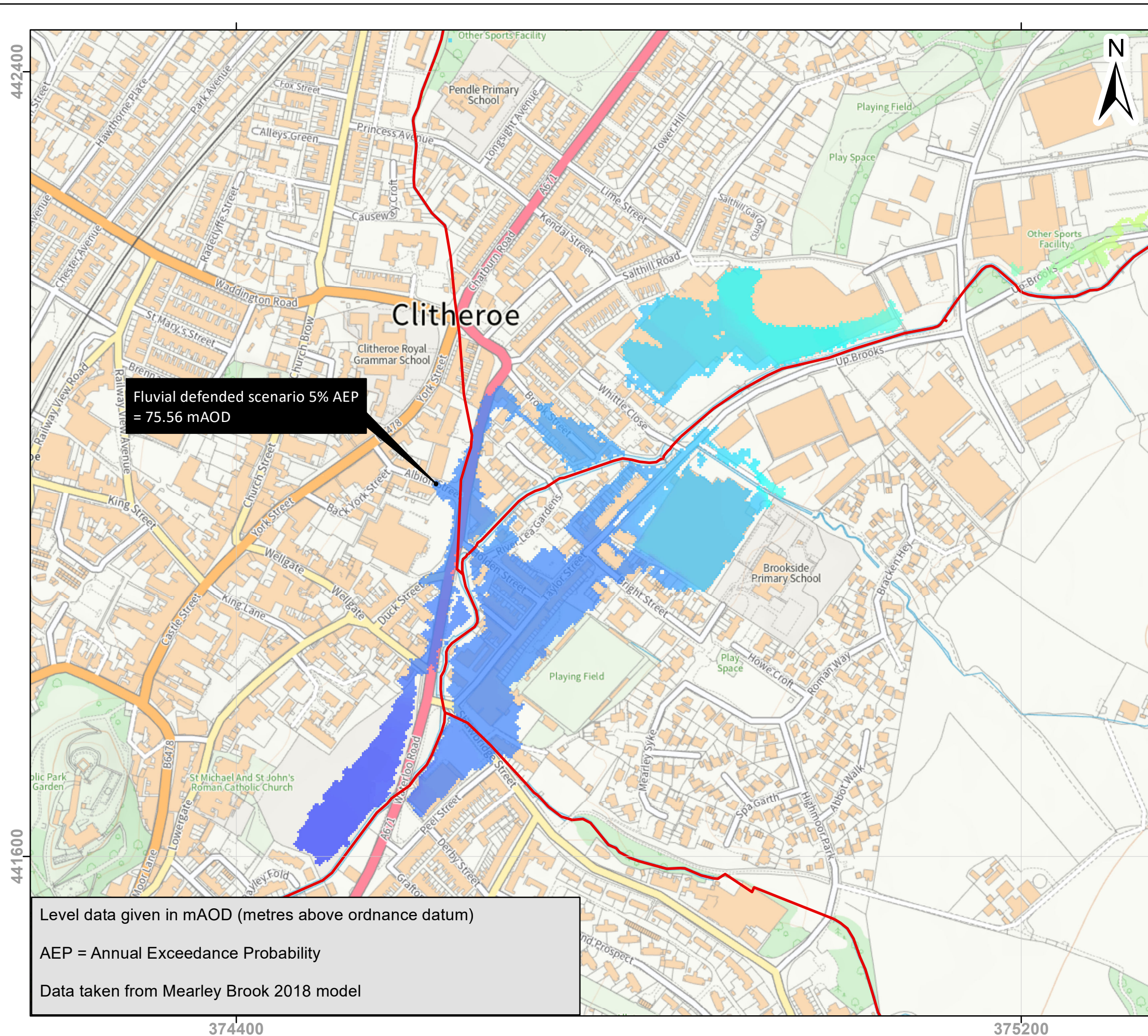


### Fluvial defended scenario 1% AEP + Climate Change (+70%)

mAOD







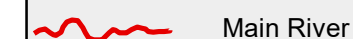
## Fluvial Flood Levels Map York Street, Clitheroe

Location (easting/northing)	374592, 442045
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Model Name	Mearley Brook 2018
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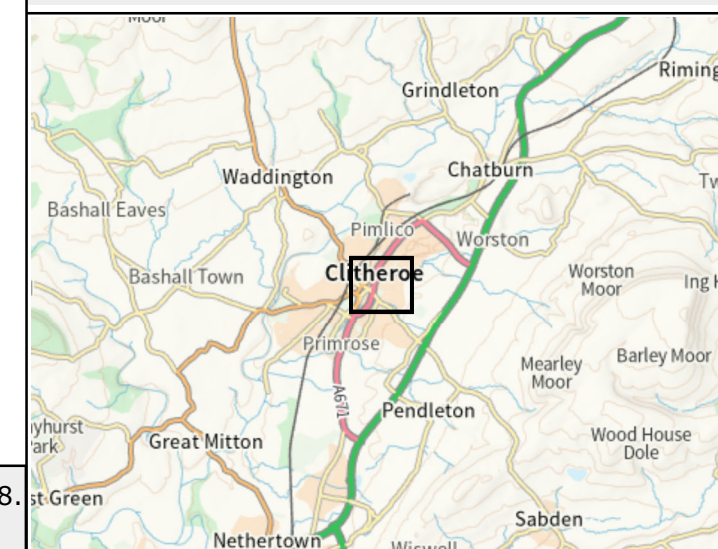
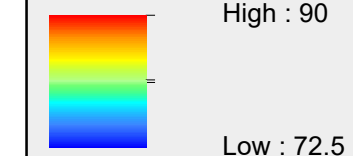
Created: 14/11/2023

**Key**

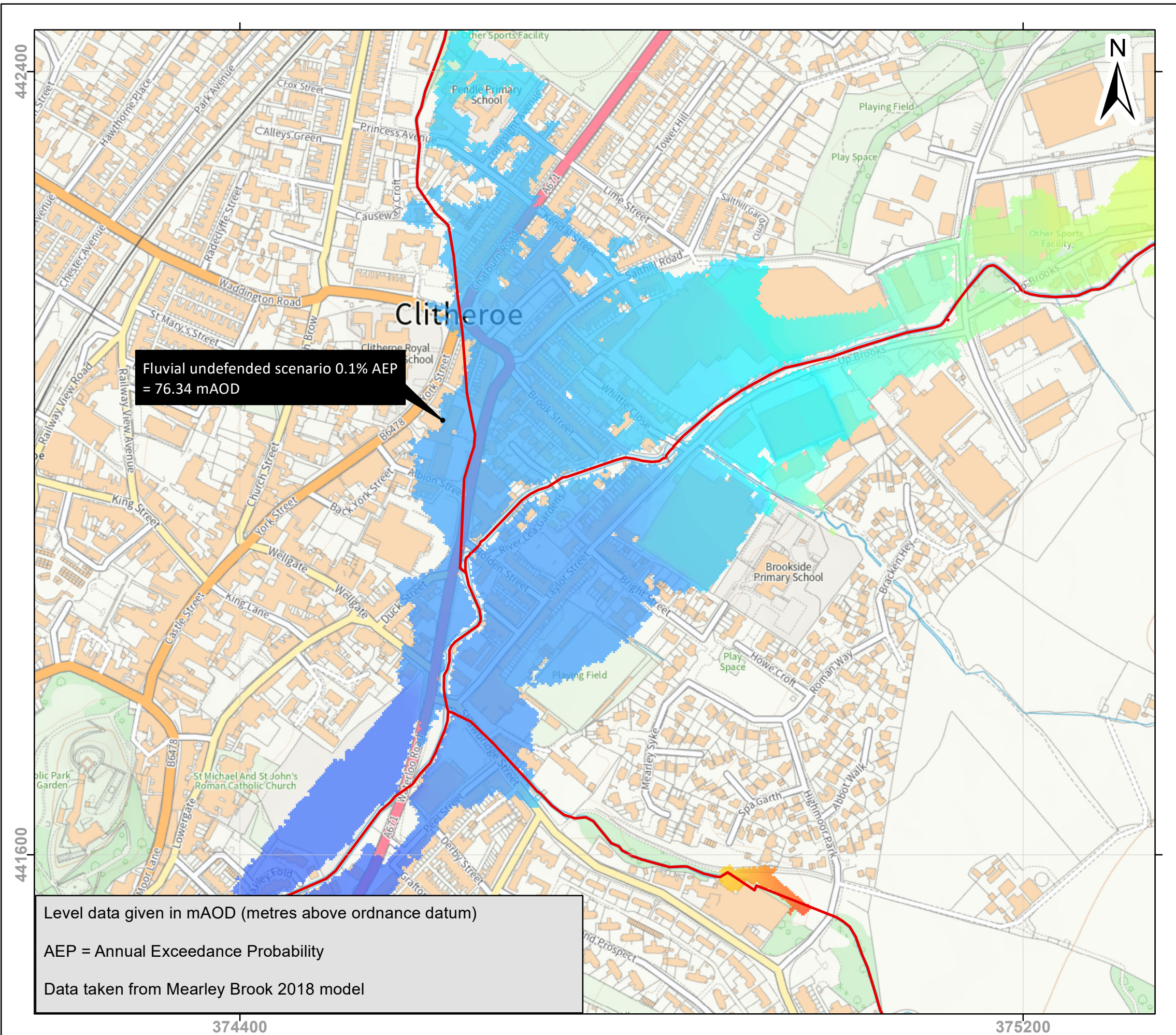


### Fluvial defended scenario 5% AEP

mAOD







Level data given in mAOD (metres above ordnance datum)

AEP = Annual Exceedance Probability

Data taken from Mearley Brook 2018 model



Fluvial Flood Levels Map  
York Street, Clitheroe

Location (easting/northing)  
374592, 442045

Model Name  
Mearley Brook 2018

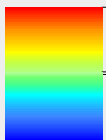
Created: 14/11/2023

Key

Main River

Fluvial undefended scenario 0.1% AEP

mAOD

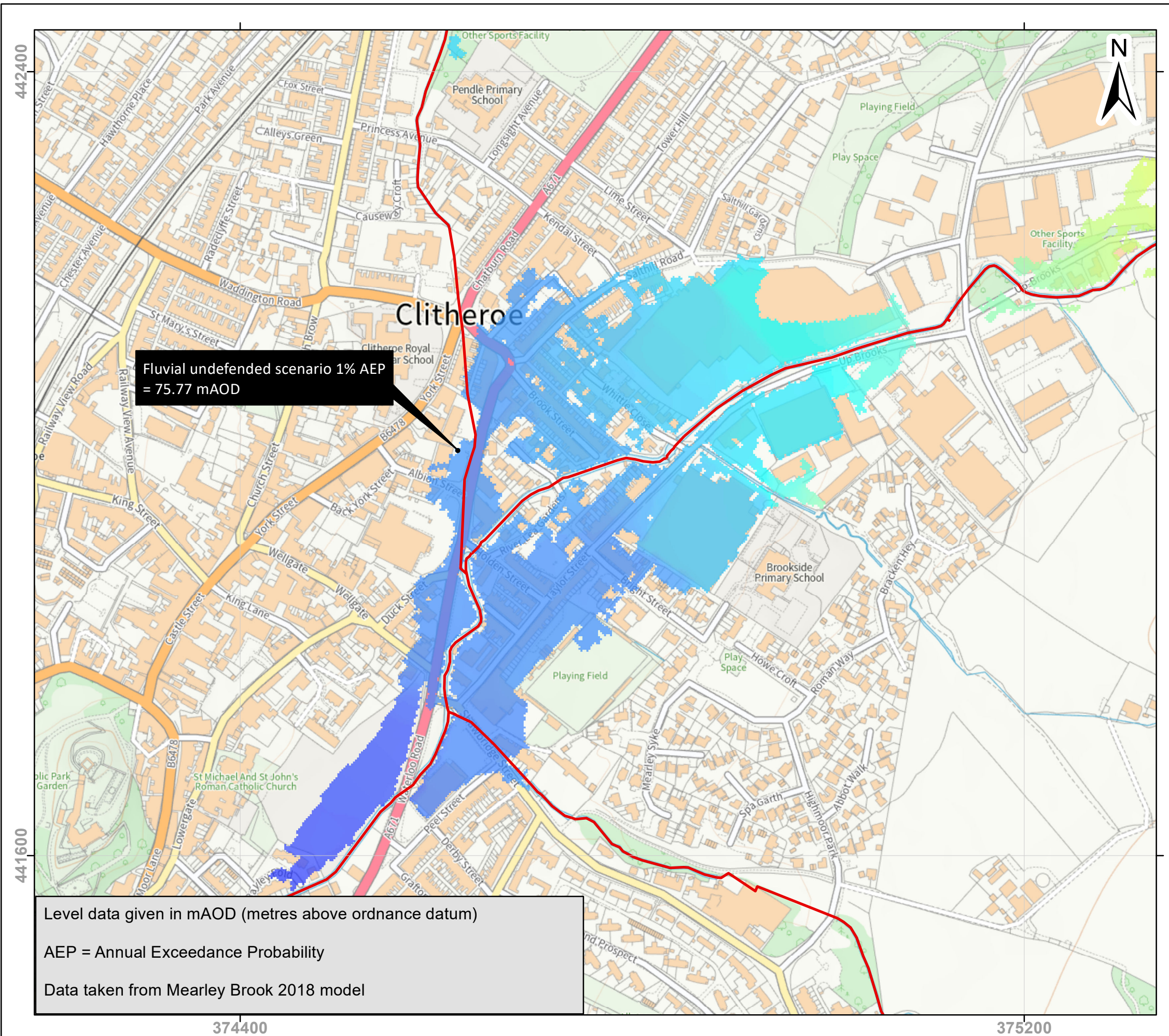


High : 90

Low : 72.5








## Fluvial Flood Levels Map York Street, Clitheroe

Location (easting/northing)  
374592, 442045

Model Name  
Mearley Brook 2018

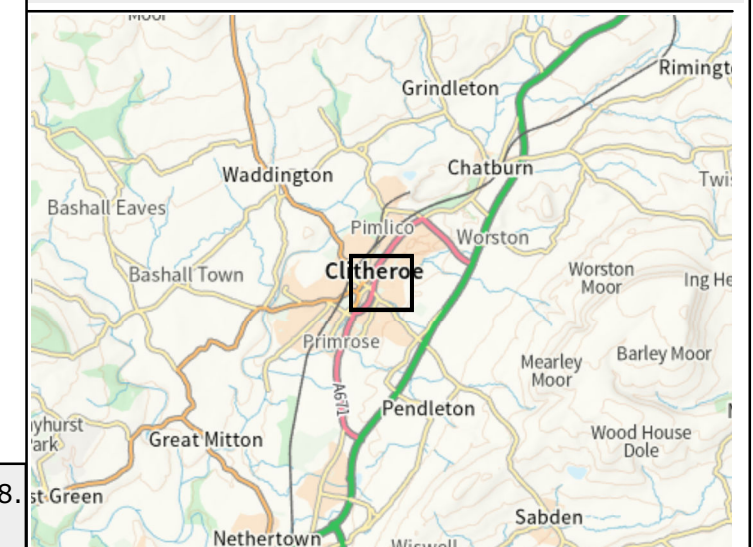
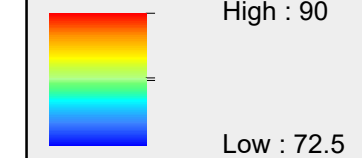
Created: 14/11/2023

### Key

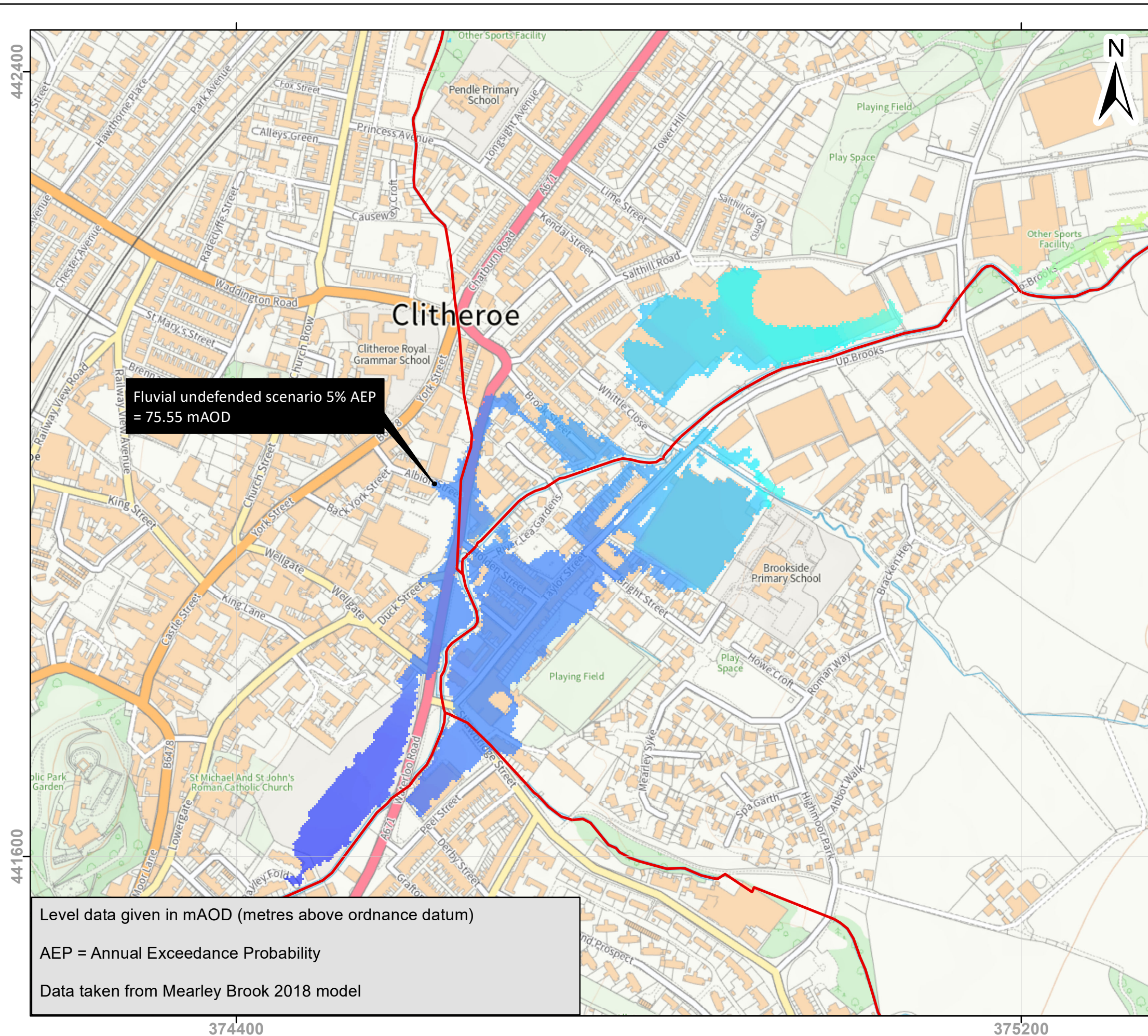
 Main River

### Fluvial undefended scenario 1% AEP

mAOD







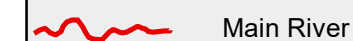
## Fluvial Flood Levels Map York Street, Clitheroe

Location (easting/northing)
374592, 442045

Model Name	Mearley Brook 2018
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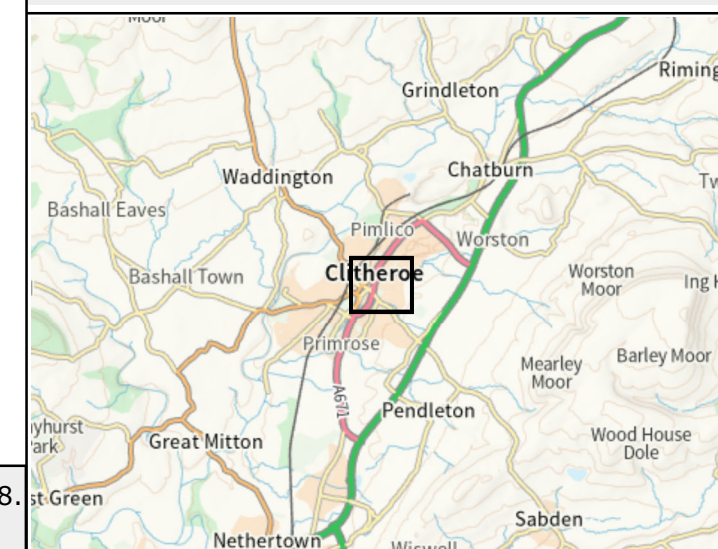
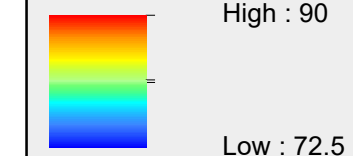
Created: 14/11/2023

**Key**



### Fluvial undefended scenario 5% AEP

mAOD





## 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 Cumbria and Lancashire Environment Agency team at [inforequests.cmblnc@environment-agency.gov.uk](mailto:inforequests.cmblnc@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