# Flood risk assessment data



Location of site: 618030 / 221173 (shown as easting and northing coordinates)
Document created on: 4 April 2023
This information was previously known as a product 4.
Customer reference number: CUPYN14DDFRF

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)
- flood defences and attributes
- 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 East Anglia Environment Agency team at

This information will only be available if modelling has been carried out for breach scenarios.

Include a site location map in your request.

## Information that's unavailable

This document **does not** contain:

historic flooding

We do not have historic flooding data for this location.

Please note that:

- 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 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.

# Surface water and other sources of flooding

Use the <u>long term flood risk service</u> 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: Clacton Coastal Model 2018

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

defences removed climate change tidal

Date: 11 February 2019

Model name: Clacton and Holland 2020

Scenario(s): No defences exist fluvial, no defences exist climate change fluvial

Date: 23 September 2019

These models contain 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 3.

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

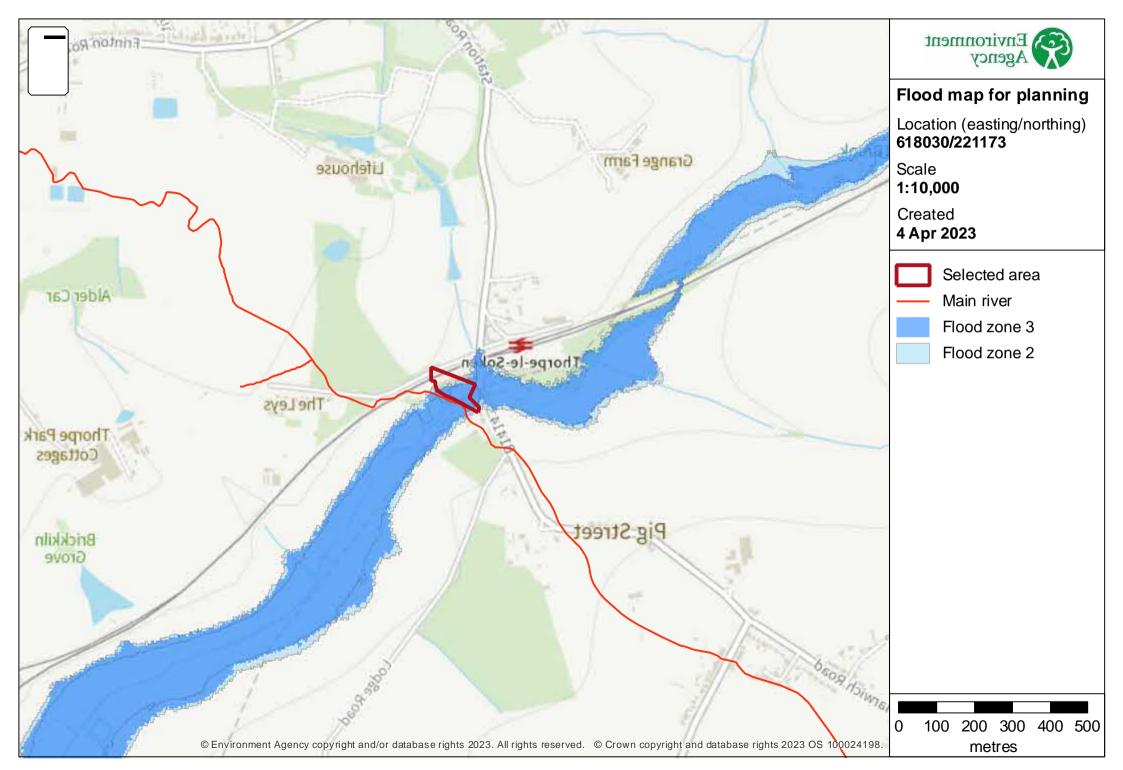
Flood zone 2 shows the area at risk of flooding for an undefended flood event with:

- 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.



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## 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

Date: 06/04/2023

Datasheet Reference: EAN/2023/304835



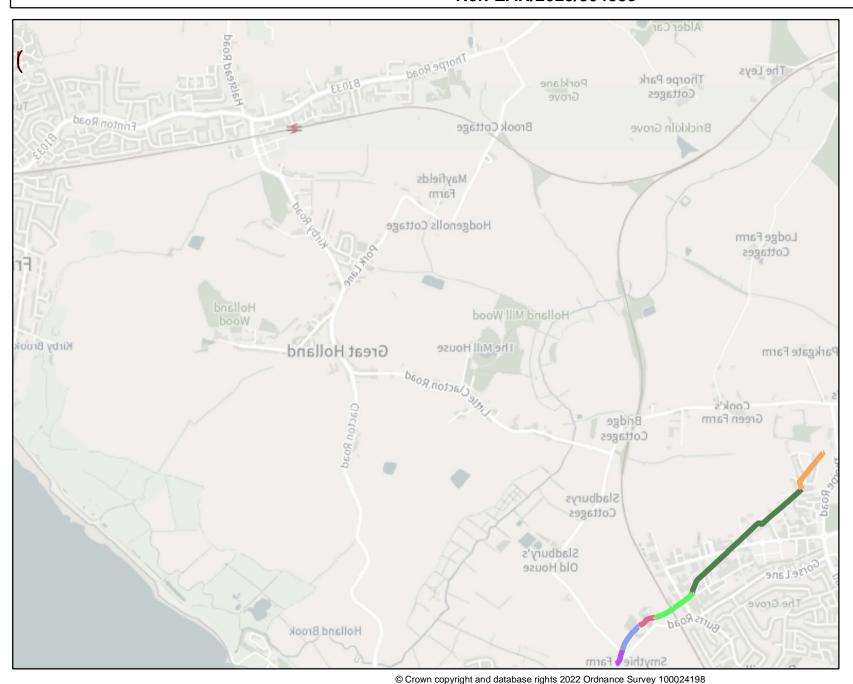
#### **Defence Information**

Asset Reference	Maintainer	Asset Type	Asset Description	Standard of Protection	Overall Conditio n Grade	Cract
5604	Environment Agency	Wall	CLAY SEAWALL - Armour Rock + Grouted Stone Revetment + Concrete Crest Wall + Essex Block / Canewdon Slab Revetment.	200	2 - Good	4.9
167959	<b>Environment Agency</b>	Wall	CLAY SEAWALL - PCC Slab Revetment + Concrete Crest Wall.	200	2 - Good	6.378
170829	<b>Environment Agency</b>	Embankment	CLAY EMBANKMENT - PCC Slab Revetment + Concrete Toe Wall.	200	2 - Good	7.44
6779	Environment Agency	Wall	CLAY SEAWALL - PCC Slab Revetment + Concrete Crest Wall + Essex Block Revetment.	200	2 - Good	4.11
185346	<b>Environment Agency</b>	Wall	CLAY SEAWALL - Grouted Stone Revetment + Concrete Crest Wall.	200	3 - Fair	5.65
5603	Environment Agency	Wall	CLAY SEAWALL - Grouted Stone Revetment + Concrete Crest Wall + Essex Block Revetment.	200	2 - Good	3.14

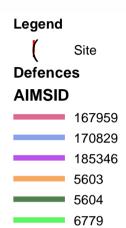
Report

Grade	Rating	Description
1	Very Good	Cosmetic Defects that will have no effect on performance.
2	Good	Minor defects that will not reduce the overall performance of the asset.
3	Fair	Defects that could reduce performance of the asset
4	Poor	Defects that would significantly reduce the performance of the asset. Further investigation.
5	Very Poor	Severe defects resulting in complete performance failure.

## Flood Defence Location Map showing TM1801621197 Ref: EAN/2023/304835









## 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

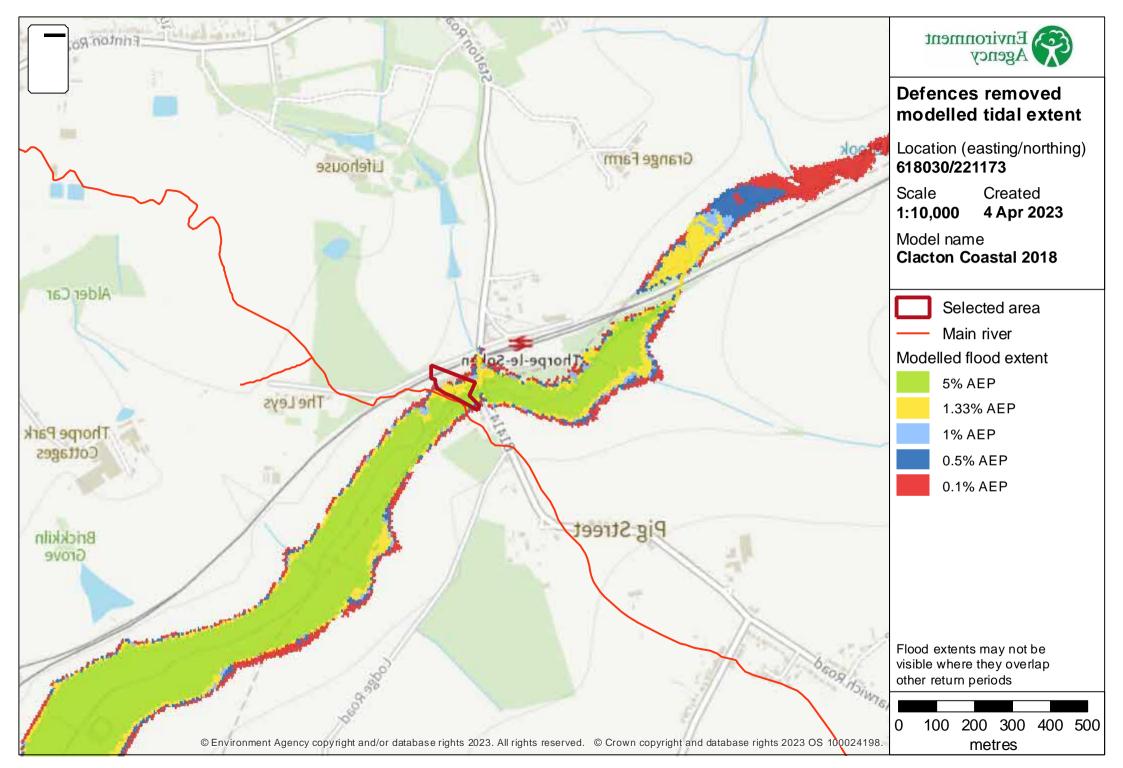
The climate change data included in the models may not include the latest <u>flood risk</u> <u>assessment climate change allowances</u>. Where the new allowances are not available you will need to consider this data and factor in the new allowances to demonstrate the development will be safe from flooding.

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.

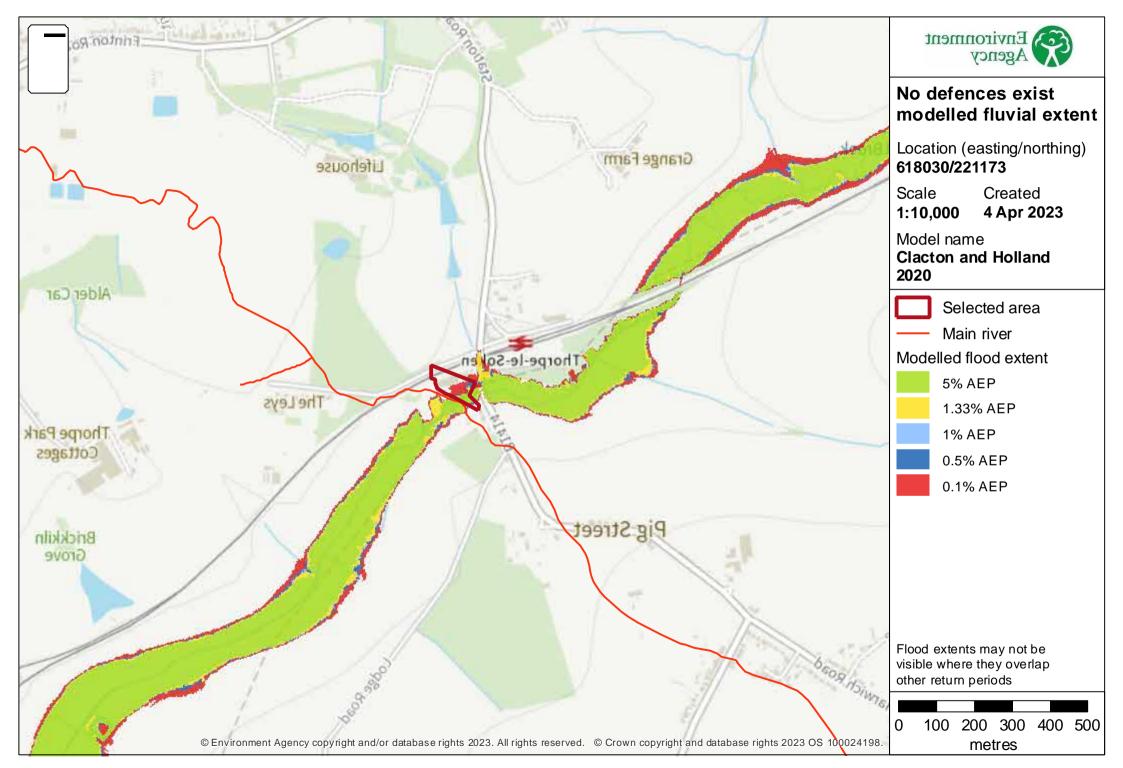
#### **Modelled scenarios**

The following scenarios are included:

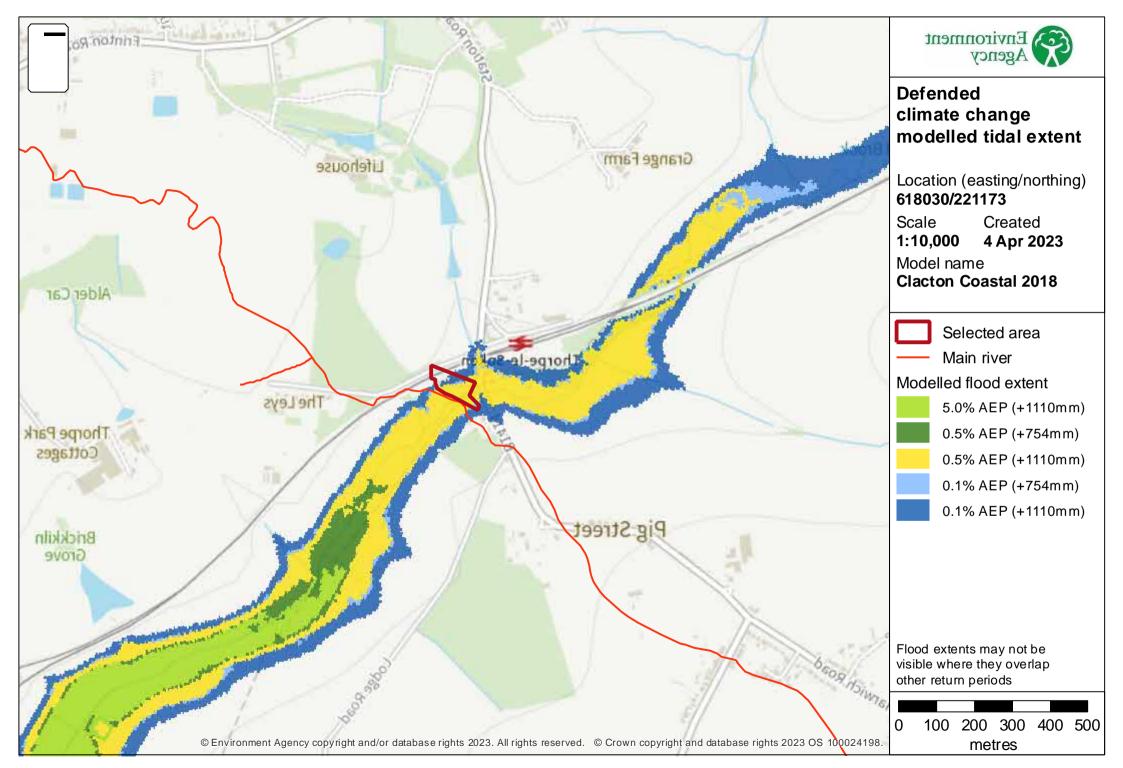
- No defences exist modelled fluvial: risk of flooding from rivers where there are no flood defences
- Defended modelled tidal: risk of flooding from the sea where there are flood defences
- Defences removed modelled tidal: risk of flooding from the sea where flood defences have been removed
- No defences exist climate change modelled fluvial: risk of flooding from rivers where there are no flood defences, including estimated impact of climate change
- Defended climate change modelled tidal: risk of flooding from the sea where there are flood defences, including estimated impact of climate change
- Defences removed climate change modelled tidal: risk of flooding from the sea where flood defences have been removed, including estimated impact of climate change



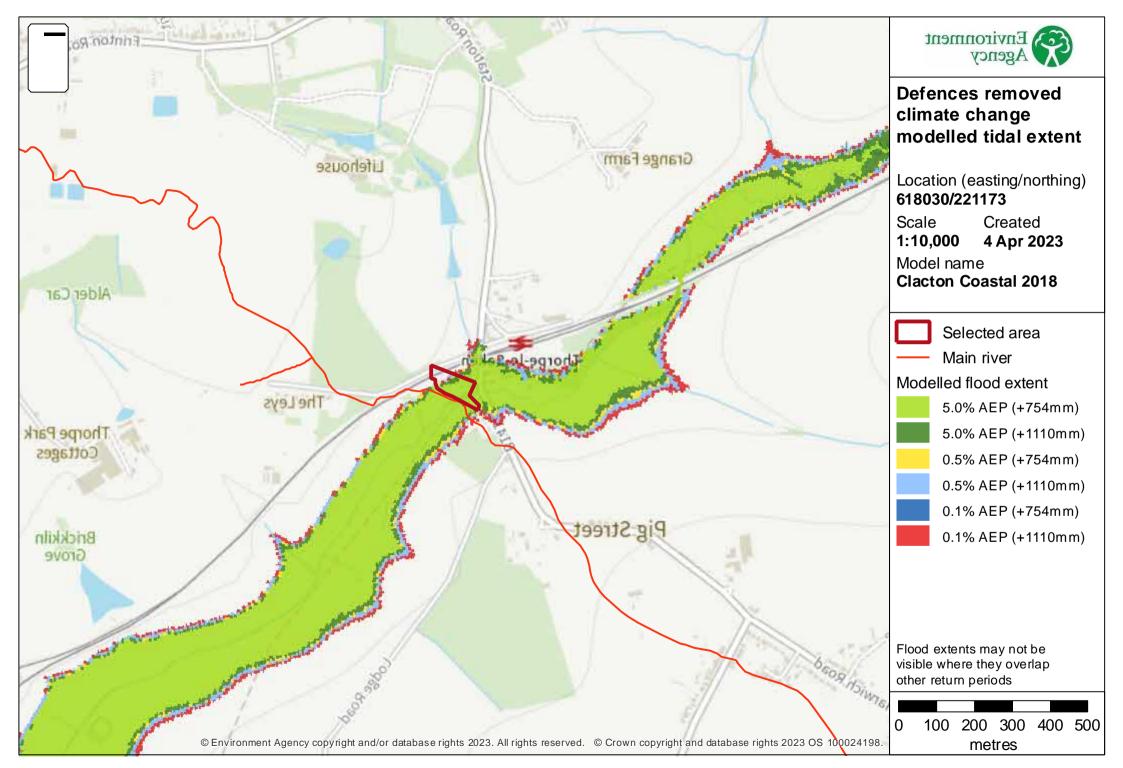
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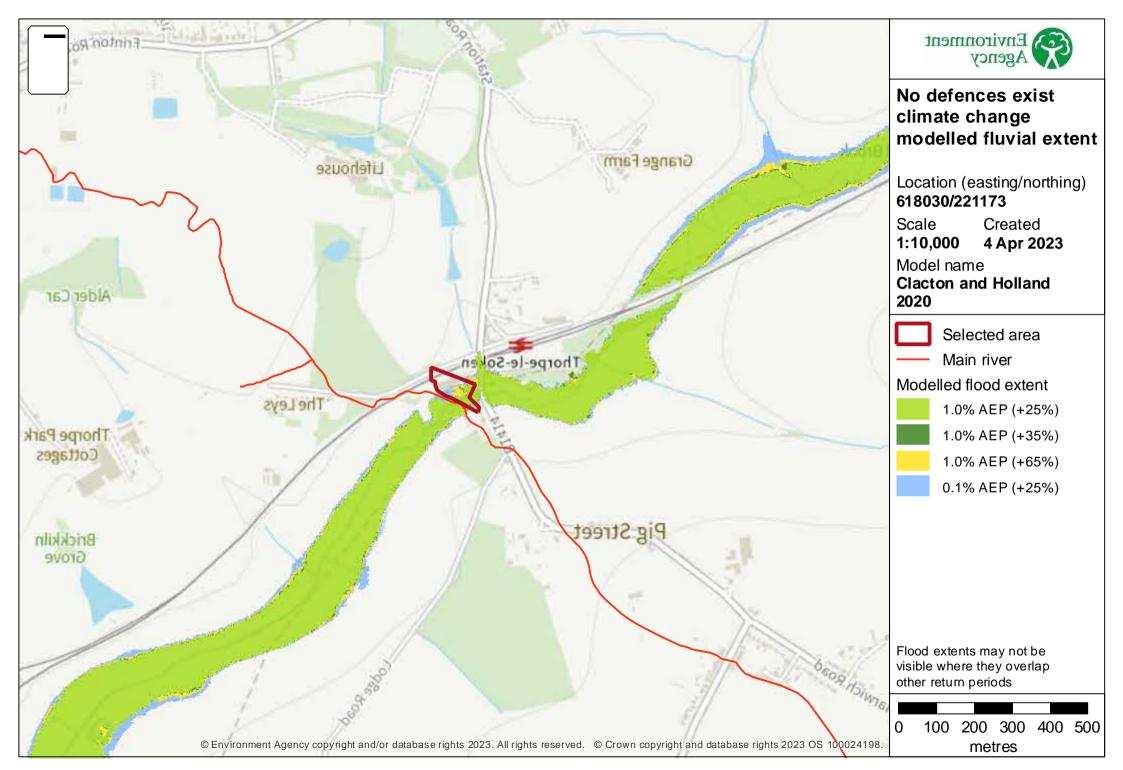
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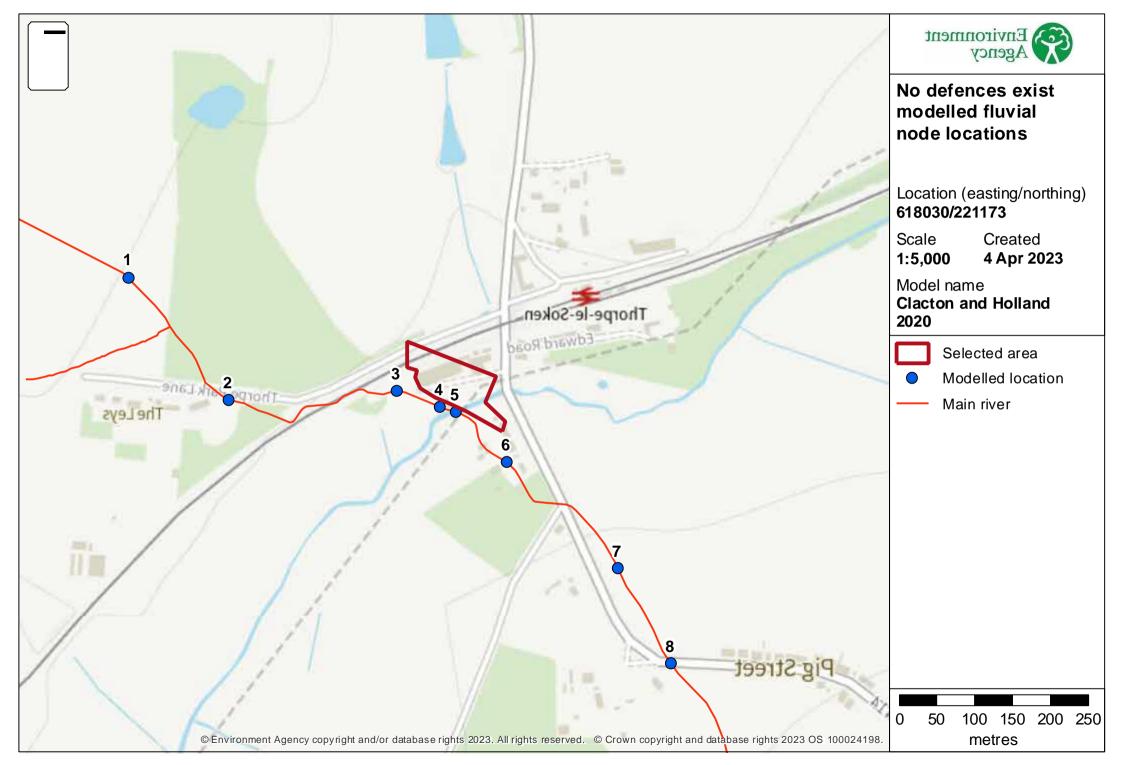
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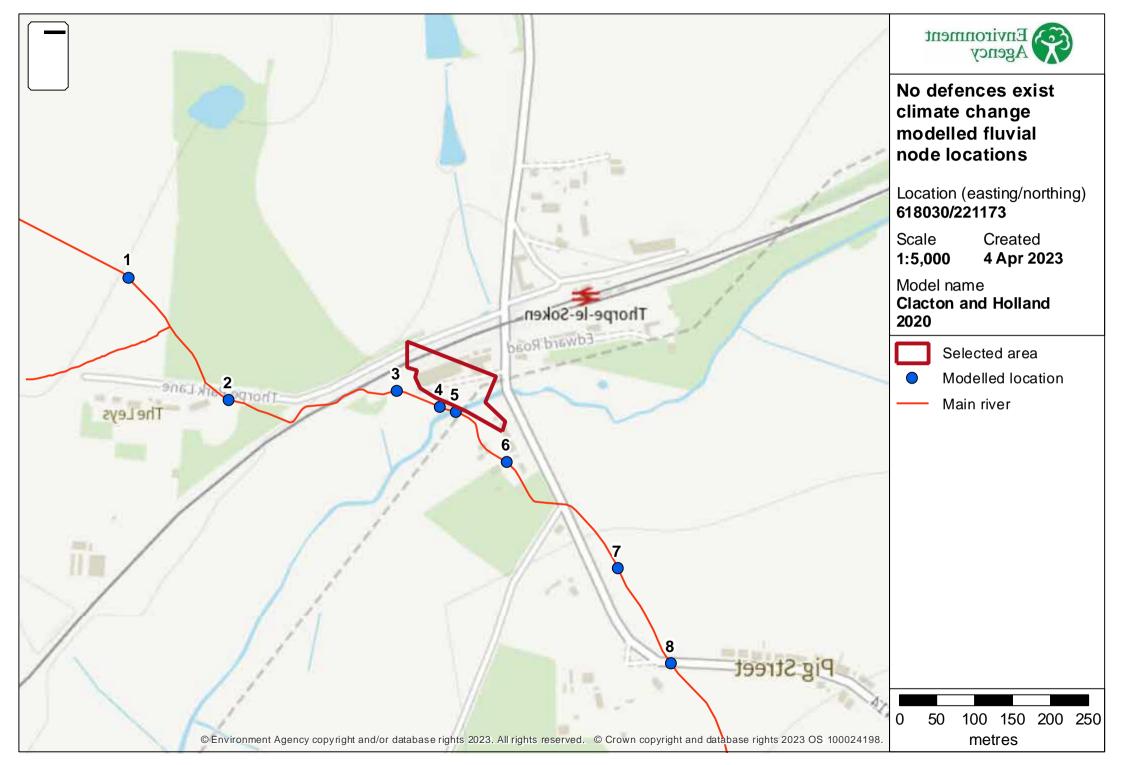
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# Modelled node locations data

## No defences exist

Label	Modelled location ID	Easting	Northing	5% AEF	•	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	1289451	617599	221312	3.01	14.89			3.17	19.53	3.20	20.72	3.27	24.03	3.46	36.02
2	1289798	617731	221150	2.95	14.85			3.11	19.52	3.14	20.71	3.21	24.02	3.39	36.01
3	1289797	617954	221161	2.87	14.15			3.05	14.47	3.08	14.47	3.14	14.48	3.32	14.54
4	1289945	618012	221141	2.53	14.83			2.70	19.51	2.74	20.68	2.85	24.0	3.15	35.99
5	1289867	618032	221134	2.38	14.83			2.53	19.51	2.56	20.68	2.65	24.0	2.94	35.99
6	1289744	618100	221068	2.30	15.16			2.45	20.0	2.48	21.22	2.57	24.55	2.86	36.79
7	1289845	618246	220928	2.13	15.14			2.27	19.97	2.30	21.19	2.39	24.53	2.72	36.71
8	1289861	618317	220801	2.03	15.12			2.18	19.93	2.21	21.15	2.32	24.50	2.67	36.61

Data in this table comes from the Clacton and Holland 2020 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.



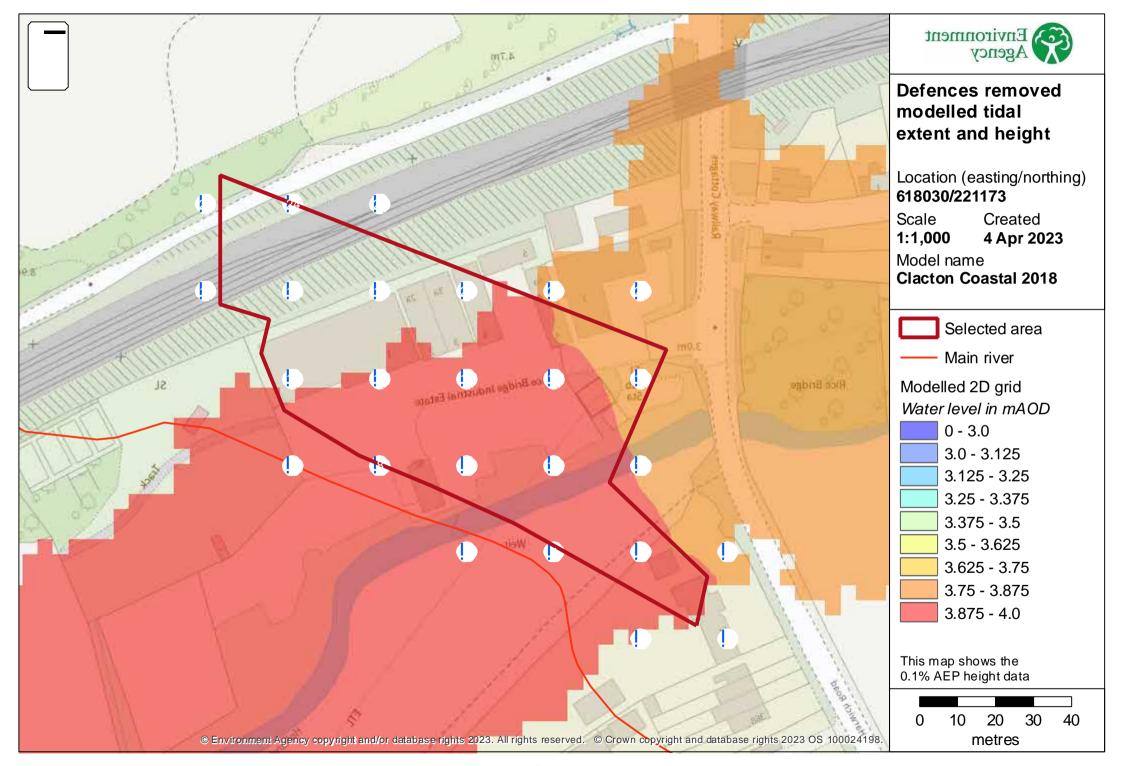
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# Modelled node locations data

# No defences exist climate change

Label	Modelled location ID	d location ID Easting Northing 1.0% AEP (+25%) 1.0% AEP (+35%)		P (+35%)	1.0% AEI	P (+65%)	0.1% AEP (+25%)				
				Level	Flow	Level	Flow	Level	Flow	Level	Flow
1	1289451	617599	221312	3.29	25.31	3.32	27.18	3.40	32.15	3.56	42.59
2	1289798	617731	221150	3.23	25.29	3.26	27.17	3.34	32.14	3.49	42.57
3	1289797	617954	221161	3.17	14.49	3.20	14.50	3.27	14.54	3.41	14.56
4	1289945	618012	221141	2.88	25.28	2.93	27.15	3.06	32.12	3.29	42.54
5	1289867	618032	221134	2.68	25.28	2.73	27.15	2.86	32.12	3.10	42.54
6	1289744	618100	221068	2.60	25.87	2.65	27.81	2.77	32.93	3.03	43.49
7	1289845	618246	220928	2.43	25.84	2.48	27.77	2.62	32.87	2.90	43.39
8	1289861	618317	220801	2.36	25.80	2.41	27.72	2.56	32.79	2.86	43.29

Data in this table comes from the Clacton and Holland 2020 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.



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# Sample point data

# **Defences removed**

Label	Easting	Northing	5% AEP 2% AEP			1.33% AE	:P	1% AEP		0.5% AEP		0.1% AEP		
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
1	618079	221105	0.74	2.91			1.06	3.22	1.13	3.30	1.33	3.50	1.71	3.88
2	618102	221105	NoData	NoData			NoData	NoData	0.09	3.30	0.29	3.50	0.67	3.88
3	618033	221128	1.84	2.90			2.16	3.22	2.24	3.30	2.44	3.50	2.82	3.88
4	618056	221128	0.72	2.91			1.04	3.22	1.12	3.30	1.32	3.50	1.70	3.88
5	618079	221128	0.70	2.91			1.02	3.22	1.10	3.30	1.30	3.50	1.67	3.88
6	618102	221128	NoData	NoData			0.13	3.22	0.18	3.30	0.38	3.50	0.75	3.88
7	617987	221151	0.92	2.87			1.25	3.20	1.33	3.29	1.54	3.49	1.92	3.88
8	618010	221151	NoData	NoData			0.51	3.21	0.59	3.29	0.79	3.49	1.17	3.88
9	618033	221151	0.00	2.90			0.30	3.22	0.38	3.30	0.58	3.50	0.96	3.88
10	618056	221151	NoData	NoData			0.18	3.22	0.26	3.30	0.46	3.50	0.84	3.88
11	618079	221151	NoData	NoData			0.28	3.22	0.36	3.30	0.56	3.50	0.94	3.88
12	617987	221174	NoData	NoData			0.24	3.20	0.32	3.29	0.53	3.49	0.91	3.87
13	618010	221174	NoData	NoData			0.25	3.21	0.33	3.29	0.54	3.49	0.92	3.88
14	618033	221174	NoData	NoData			NoData	NoData	NoData	NoData	0.30	3.50	0.68	3.88
15	618056	221174	NoData	NoData			0.04	3.22	0.08	3.30	0.20	3.50	0.43	3.88
16	618079	221174	NoData	NoData			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData

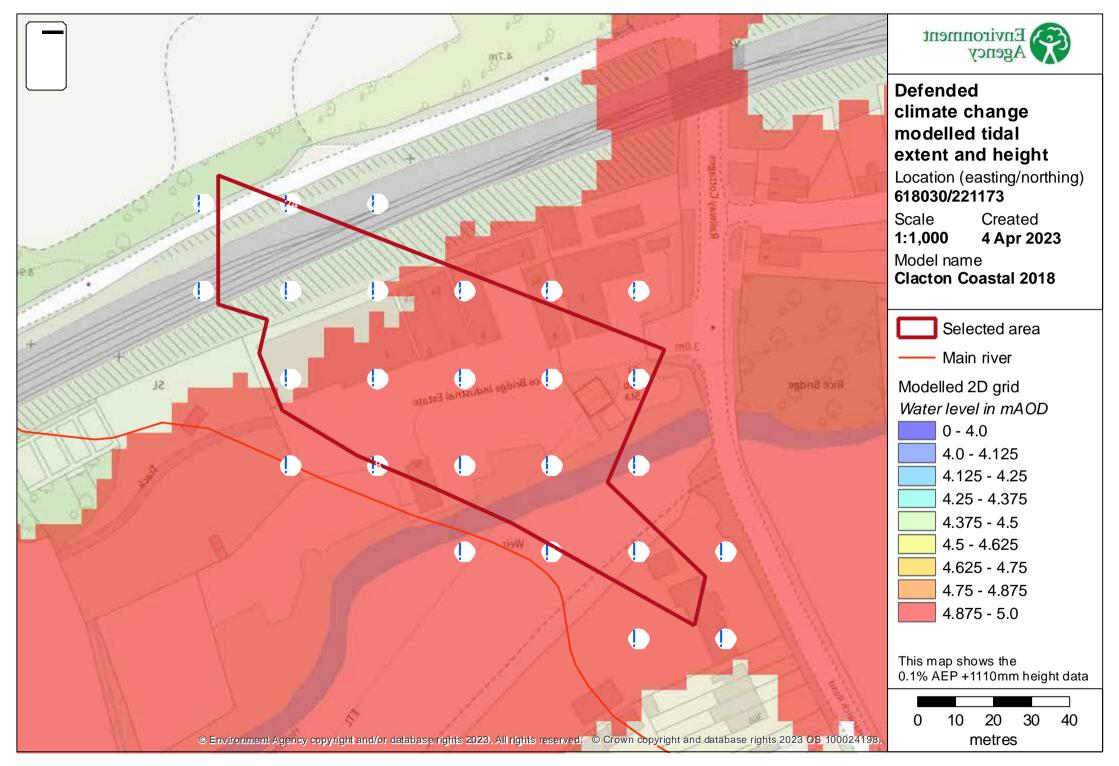
Label	Easting	Northing	5% AEP		2% AEP		1.33% AE	Р	1% AEP		0.5% AEP		0.1% AEP	)
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
17	617964	221197	NoData	NoData			0.14	3.20	0.22	3.28	0.43	3.49	0.81	3.87
18	617987	221197	NoData	NoData			NoData	NoData	0.12	3.28	0.29	3.49	0.65	3.87
19	618010	221197	NoData	NoData			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
20	618033	221197	NoData	NoData			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
21	618056	221197	NoData	NoData			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
22	618079	221197	NoData	NoData			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
23	617964	221220	NoData	NoData			0.23	3.20	0.32	3.28	0.52	3.49	0.91	3.87
24	617987	221220	NoData	NoData			NoData	NoData	NoData	NoData	NoData	NoData	0.04	3.87
25	618010	221220	NoData	NoData			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData

Data in this table comes from the Clacton Coastal Model 2018 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.



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# Sample point data

# Defended climate change

Label	Easting	Northing	5% AEP (+	-1110mm)	0.5% AEP	(+754mm)	0.5% AEP	(+1110mm)	0.1% AEP	(+754mm)	0.1% AEP	(+1110mm)
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
1	618079	221105	NoData	NoData	NoData	NoData	1.11	3.28	1.29	3.46	2.81	4.98
2	618102	221105	NoData	NoData	NoData	NoData	NoData	NoData	0.24	3.46	1.77	4.98
3	618033	221128	NoData	NoData	NoData	NoData	2.22	3.28	2.39	3.46	3.92	4.98
4	618056	221128	NoData	NoData	NoData	NoData	1.09	3.28	1.27	3.46	2.80	4.98
5	618079	221128	NoData	NoData	NoData	NoData	1.07	3.28	1.25	3.46	2.78	4.98
6	618102	221128	NoData	NoData	NoData	NoData	0.15	3.28	0.33	3.46	1.86	4.98
7	617987	221151	NoData	NoData	NoData	NoData	1.32	3.27	1.50	3.45	3.02	4.98
8	618010	221151	NoData	NoData	NoData	NoData	0.57	3.28	0.75	3.45	2.27	4.98
9	618033	221151	NoData	NoData	NoData	NoData	0.36	3.28	0.54	3.45	2.06	4.98
10	618056	221151	NoData	NoData	NoData	NoData	0.24	3.28	0.42	3.46	1.94	4.98
11	618079	221151	NoData	NoData	NoData	NoData	0.34	3.28	0.52	3.46	2.04	4.98
12	617987	221174	NoData	NoData	NoData	NoData	0.31	3.27	0.49	3.45	2.01	4.98
13	618010	221174	NoData	NoData	NoData	NoData	0.32	3.27	0.50	3.45	2.02	4.98
14	618033	221174	NoData	NoData	NoData	NoData	NoData	NoData	0.26	3.45	1.78	4.98
15	618056	221174	NoData	NoData	NoData	NoData	0.07	3.28	0.17	3.46	1.45	4.98
16	618079	221174	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData

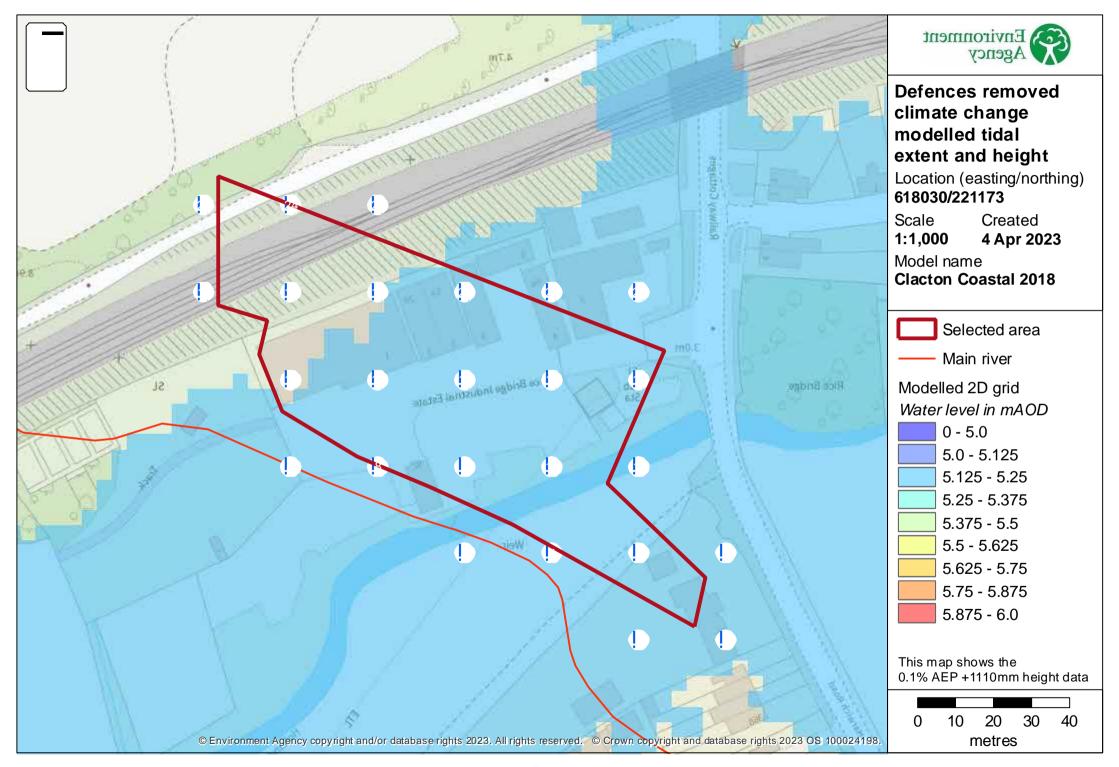
Label	Easting	Northing	5% AEP (+	1110mm)	0.5% AEP (+754mm)		0.5% AEP (	+1110mm)	0.1% AEP (	+754mm)	0.1% AEP (+1110mm)	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
17	617964	221197	NoData	NoData	NoData	NoData	0.21	3.27	0.39	3.45	1.91	4.98
18	617987	221197	NoData	NoData	NoData	NoData	0.11	3.27	0.26	3.45	1.75	4.98
19	618010	221197	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	1.25	4.98
20	618033	221197	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.56	4.98
21	618056	221197	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
22	618079	221197	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
23	617964	221220	NoData	NoData	NoData	NoData	0.31	3.27	0.49	3.45	2.01	4.98
24	617987	221220	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	1.02	4.98
25	618010	221220	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData

Data in this table comes from the Clacton Coastal Model 2018 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.



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# Sample point data

# Defences removed climate change

Label	Easting	Northing	5% AEP (+754mm)		5% AEP (+1110mm	1)	0.5% AEP (+754mm)		0.5% AEP (+1110mn		0.1% AEP (+754mm)		0.1% AEP (+1110mn	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
1	618079	221105	1.61	3.78	2.02	4.18	2.18	4.34	2.60	4.77	2.60	4.77	3.02	5.18
2	618102	221105	0.57	3.78	0.97	4.18	1.13	4.34	1.56	4.77	1.56	4.77	1.97	5.18
3	618033	221128	2.72	3.78	3.12	4.18	3.28	4.34	3.71	4.77	3.71	4.77	4.12	5.18
4	618056	221128	1.60	3.78	2.00	4.18	2.16	4.34	2.59	4.77	2.59	4.77	3.00	5.18
5	618079	221128	1.58	3.78	1.98	4.18	2.14	4.34	2.57	4.77	2.57	4.77	2.98	5.18
6	618102	221128	0.66	3.78	1.06	4.18	1.22	4.34	1.65	4.77	1.65	4.77	2.06	5.18
7	617987	221151	1.82	3.78	2.23	4.18	2.39	4.34	2.81	4.77	2.81	4.77	3.23	5.18
8	618010	221151	1.07	3.78	1.48	4.18	1.64	4.34	2.06	4.77	2.06	4.77	2.48	5.18
9	618033	221151	0.86	3.78	1.26	4.18	1.42	4.34	1.85	4.77	1.85	4.77	2.26	5.18
10	618056	221151	0.74	3.78	1.15	4.18	1.31	4.34	1.73	4.77	1.73	4.77	2.14	5.18
11	618079	221151	0.84	3.78	1.24	4.18	1.40	4.34	1.83	4.77	1.83	4.77	2.24	5.18
12	617987	221174	0.81	3.78	1.22	4.18	1.38	4.34	1.80	4.77	1.80	4.77	2.22	5.18
13	618010	221174	0.82	3.78	1.23	4.18	1.39	4.34	1.81	4.77	1.81	4.77	2.22	5.18
14	618033	221174	0.58	3.78	0.99	4.18	1.15	4.34	1.57	4.77	1.57	4.77	1.99	5.18
15	618056	221174	0.37	3.78	0.65	4.18	0.81	4.34	1.24	4.77	1.24	4.77	1.65	5.18
16	618079	221174	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData

Label	Easting	Northing	5% AEP (+754mm)		5% AEP (+1110mm)		0.5% AEP (+754mm)		0.5% AEP (+1110mm)		0.1% AEP (+754mm)		0.1% AEP (+1110mm)	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
17	617964	221197	0.71	3.78	1.12	4.18	1.28	4.34	1.70	4.77	1.70	4.77	2.12	5.18
18	617987	221197	0.55	3.78	0.96	4.18	1.12	4.34	1.54	4.77	1.54	4.77	1.96	5.18
19	618010	221197	NoData	NoData	0.45	4.18	0.61	4.34	1.04	4.77	1.04	4.77	1.45	5.18
20	618033	221197	NoData	NoData	NoData	NoData	0.06	4.34	0.35	4.77	0.35	4.77	0.77	5.18
21	618056	221197	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
22	618079	221197	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
23	617964	221220	0.81	3.78	1.22	4.18	1.38	4.34	1.80	4.77	1.80	4.77	2.21	5.18
24	617987	221220	0.02	3.78	0.22	4.18	0.38	4.34	0.81	4.77	0.81	4.77	1.22	5.18
25	618010	221220	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData

Data in this table comes from the Clacton Coastal Model 2018 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 East Anglia Environment Agency team at for:

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