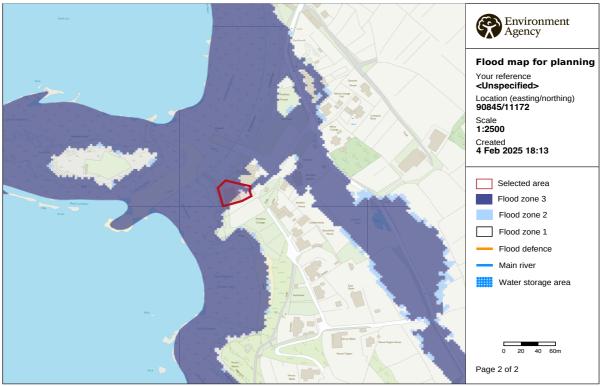
Flood Risk Assessment - Porthloo Workshop TR21 ONE

As indicated on the flood map below, the proposed development site falls within flood zone 3 and therefore has a potential flood risk.



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Location

The proposed development site is located within our business premises at the southern end of Porthloo Boatpark (Easting: 90387, Northing: 11174).

This section of land is bordered by a line of pittosporum trees on three sides which provides protection from the prevailing north westerly wind. Access to the yard is located at the main entrance which faces east-northeast. The existing agricultural shed (18m x 9m) was erected circa 2000. As can be seen from the aerial photograph (Figure 1.) there is also a World War II pillbox located in the north-western section of the land. On the northern face of the surrounding border there is a two-to-three foot granite wall which provides further protection from the north westerly wind.

On the proposed development site there is currently a 9.2m x 9.5m steel framed polytunnel which was erected in 2016. Despite being a 'temporary structure', the polytunnel is marked on all relevant location plans and aerial imagery. The ground beneath the polytunnel is covered with a semi-permeable membrane and 20mm granite chippings.

Existing and Proposed Building Design and Layout

The existing 9.2m x 9.5m polytunnel is secured to the ground by steel rebar pins with metal ground plates on each footing of the structure (Figure 2.). A galvanised steel framework forms the main shape of the tunnel and a heavy-duty PVC fabric cladding is tensioned over the structure. The longitudinal edges of the cladding reach down to ground level and overhang the building by two feet. At each gable end of the tunnel there are doors constructed of PVC fabric cladding and galvanised steel support bars. These doors reach down to the floor and lay over the granite chippings.

The proposed new building is a $10.5 \,\mathrm{m} \times 12.45 \,\mathrm{m}$ galvanised steel frame timber clad shed with a design-matched $4.0 \,\mathrm{m} \times 8.3 \,\mathrm{m}$ lean-to attached. The main structure of the building would be supported by 7 upright sections of galvanised steel joining into a low-pitch, corrugated fibre cement roof. The height of the building would be $3.8 \,\mathrm{m}$ to the underside of the eaves and $5.14 \,\mathrm{m}$ to the apex of the roof, this matches the height of the existing shed building.

Prior to erecting the new main shed, 7 concrete footings of 0.8m3 would be set into the ground followed by a steel reinforced RC35/45 concrete pad of approximately 150-200mm in depth. Surrounding the inner walls of the shed, there would be multiple courses of 100mm concrete blocks which would give the internal surface of the shed an additional layer of protection from water intrusion underneath the overlapped cladding. The same method of construction would be used on the lean-to section of the building, however there would only be three footings of 0.8m³. The access to the main building would consist of a pair of bi-folding doors on the east-northeast facing gable end of the building. Access to the lean-to would be through a pair of side-hinged doors also on the east-northeast facing gable end.

Assessment of Flood Risks

Groundwater

On review of the flood map shown above, it is clear that, due to the close proximity of the proposed development site to the sea, any groundwater drains down to the local sea levels. Additionally, the proposed development plans would result in the building's floor level being raised up by approximately 150mm, further reducing the risk of groundwater causing any immediate issues. Within the timeframe that the polytunnel has been erected, groundwater flooding has never presented a significant risk. Furthermore, as part of the proposed building works, there are plans in place to install a further soakaway and drainage system surrounding the easterly-facing gable end which would eliminate the potential for groundwater to settle. It can therefore be argued that

flooding from groundwater is not considered to represent a meaningful risk to the proposed development.

Overland Flow

The risk of flooding from overland flow is minimised significantly by the topography of the site. The only potential area for overland flow to be generated is located south of the proposed development site (Figure 3.) The existing shed is located between the proposed building site and the area of upslope. Additionally, there are two 0.8 x 0.8 x 14m French drains located either side of the existing building which allow overland flow to exit towards the sea. As part of the proposed building works, there are also plans in place to install a further soakaway and drainage system surrounding the easterly-facing gable end which would eliminate the risk of flooding from overland flow. This clearly demonstrates that flooding from overland flow is not considered to present a significant risk to the proposed building.

Fluvial Flood Risk

There are no rivers, streams or significant watercourses within proximity or upslope of the proposed development site. Flooding from fluvial sources is therefore not considered to pose any risk to the proposed building.

Tidal/Weather Flooding

Despite the proposed building site being located within close proximity to the sea, the risk of tidal flooding is far less significant than expected. Since the completion of sea defence works along the northern end of Porthloo beach, the topography of Porthloo bay has changed. Due to the placement of rock armour in the northern section of the beachfront there has been a shift in the sand bar between the south-western tip of Porthloo and the rocks adjoining Newford Island. This redistribution of material has created a larger and more defined sand bar and therefore an increase in height of the sand level on the southern end of the beach (**Figure 4.**). A difference of approximately 2-2.5m is visible between the beach level and that of the lowest point on the proposed building site. The current elevation of the proposed development site is 3.7m AOD, which would be increased to approximately 3.85m AOD with the proposed building work before erecting the new shed.

According to the Environment Agency, it is predicted that sea levels in the UK will be rising as a result of climate change. Even accounting for the rise in sea level, the risk of tidal flooding at still water level only bares any significance on the proposed building at the 200 year tidal event mark. In light of this, the risk from still water tidal flooding does not pose a significant risk to the proposed building.

The risk from tidal flooding in extreme weather events is the only instance which could present an immediate risk to the proposed building. However, due to the layout of the site there are various factors that reduce this risk significantly. The location of the pillbox in the northwest corner provides shelter from of any prevailing winds and weather. The pillbox is constructed of steel reinforced concrete walls with an approximate thickness of 0.8m along with foundations sunk into the ground and meeting the granite bedrock below. Also, located in the north-western corner of the yard is there is a two-to-three foot high granite wall which historically formed part of field boundary. This provides an additional level of protection from tidal surges in extreme weather conditions.

Due to the factors outlined above, tidal flooding is not considered to pose a significant risk to the proposed building.

Flood History

The Isles of Scilly Local Flood Risk Management Strategy (March 2017) does not include any records of flooding in the locality of the proposed building site. The Defra Isles of Scilly Water Interests Survey Report on Flood Defenced (produced by ARUP in 2011) does not identify any instances of flooding to the northern end of Porthloo Boatpark. However, due to the topography of the land the risk to flooding at the proposed building site is naturally reduced. The most recent instance of flooding occurred in 2014 when north westerly winds of up to 92 mph coincided with high spring tides. The result was an extreme weather event which led to over-topping of Porthloo bank (pre-sea defence work). However, due to the previously established drainage system at the proposed site, there was no evidence of significant flooding and no damage to property or landscape.

Flooding as a result of development

The proposed development will not increase the risk of flooding down slope of the site. Due to the addition of another drainage system and soakaway, there will be a larger area for water drainage. Additionally, the surrounding area of the building will be covered in permeable membrane and granite chippings which will further aid drainage. The use of effective water collection from roof guttering will also mean that the rainwater can be diverted into the drainage system thus further reducing the flooding risk. Run-off from

the proposed building will not be increased due to the inclusion of effective drainage and therefore the risk to flooding to nearby property or land does not provide a significant enough risk for consideration.

Flood Summary

The risk presented by flooding from various sources has been considered in relation to the proposed building. The only source of flooding which could present a potential risk is flooding as a result of an extreme weather event. With the predicted effects of climate change, the risk of tidal flooding will increase over time. However, the timeframe with which the risk becomes significant will far outdate the usable lifespan of the proposed building. In summary, the risks of flooding from groundwater, overland flow, development and fluvial sources are negligible. The risk of flooding from tidal and weather-based events may potentially pose a threat in the future but based on the historical data available, it can be strongly argued that the risk to the proposed building is not significant enough to put to consideration.

Flood Evacuation

In the highly unlikely event of a flood, there has been consideration taken towards an effective flood evacuation route. With the most significant risk of flooding coming from an extreme tidal/weather event the appropriate evacuation route would be to head to higher ground to the south east of the site. Depending on the severity of the flood, there are two possible effective evacuation routes:



 The first evacuation route would be to depart the yard entrance towards the coast path and follow the coast path around to the front of Newfort house.



2. The second evacuation route would be used if the first route was in accessible. In the case of an extreme weather event there is a minor risk that the storm boards at Porthloo could breach leading to flooding of the boatpark. This could cut off access to the coast path to the north-east of the proposed site entrance. In this event, the alternative evacuation route would be used. This route would lead upslope into the storage field leading to a significant elevation gain. From the storage field, access to the coast path can be made via the fields at the front of Newfort House.

Mitigation Measures

Due to the building being located in Flood Zone 3, a number of measures will be put in place to mitigate the risks of flooding:

- 1. All electrical sockets will be mounted a minimum of 1.2m above floor level, reducing the risk of damage to property or person in the event of a flood.
- 2. The site level will be raised a minimum of 150mm to increase the overall AOD level of the site thus reducing flood risk.
- 3. In the event of extreme weather and tides all suitable precautions including, limiting customer and employee access to the yard, will be undertaken to prevent the risk of damage to persons.
- 4. Careful monitoring of the seawall, shoreline and pillbox will be carried out and regularly assessed to ensure coastal erosion is not increasing the risk of flooding. In the event of significant coastal erosion, the necessary repair/maintenance work will be completed with the consent of the appropriate council committee or governing bodies.
- 5. A detailed flood evacuation plan will be prepared and made available to all employees and customers who visit or work in the yard.
- 6. Local weather channels, forecasts and radio alerts will be monitored regularly to ensure that extreme weather events are not unexpected and preparations can be made in the event of an emergency.

Conclusions

The risk of flooding to the proposed building from various sources have been considered. It was noted that, although minor, the only significant risk to be considered is tidal/extreme weather from the north to north western heading causing flooding. Despite the Environment Agency classifying the site as being located in Flood Zone 3 there is insignificant historical data to support an immediate risk of flooding at the site. Despite this, plans and assessments will be carried out to help mitigate the effects of flooding at the site and a detailed flood evacuation plan will be prepared. Due to the commercial nature of the proposed building, the risk to safety of flooding would be reduced further to the business' normal opening hours 09:00 – 17:00. The design of the proposed building has taken into consideration the risk of flooding and the necessary drainage has been included in plans to help further mitigate the risk of flooding. With the combination of mitigation measures, the building and its users will be safely protected from the risks of flooding throughout its use.

Figure 1. Pillbox highlighted by red outline



Figure 2. Polytunnel and existing yard taken facing west



Figure 3. Storage field and access highlighted in yellow

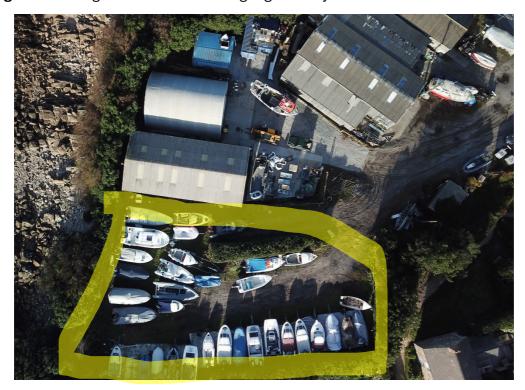


Figure 4. Redistribution of materials on sea front. Sand bar highlighted in blue.



Flood risk assessment data



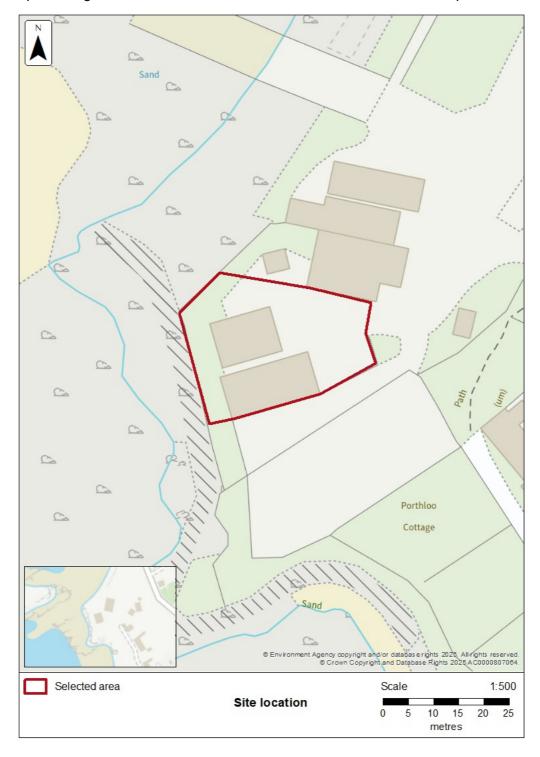
Location of site: 90844 / 11172 (shown as easting and northing coordinates)

Document created on: 4 February 2025

This information was previously known as a product 4.

Customer reference number: 73D7KJH4NNCR

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



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

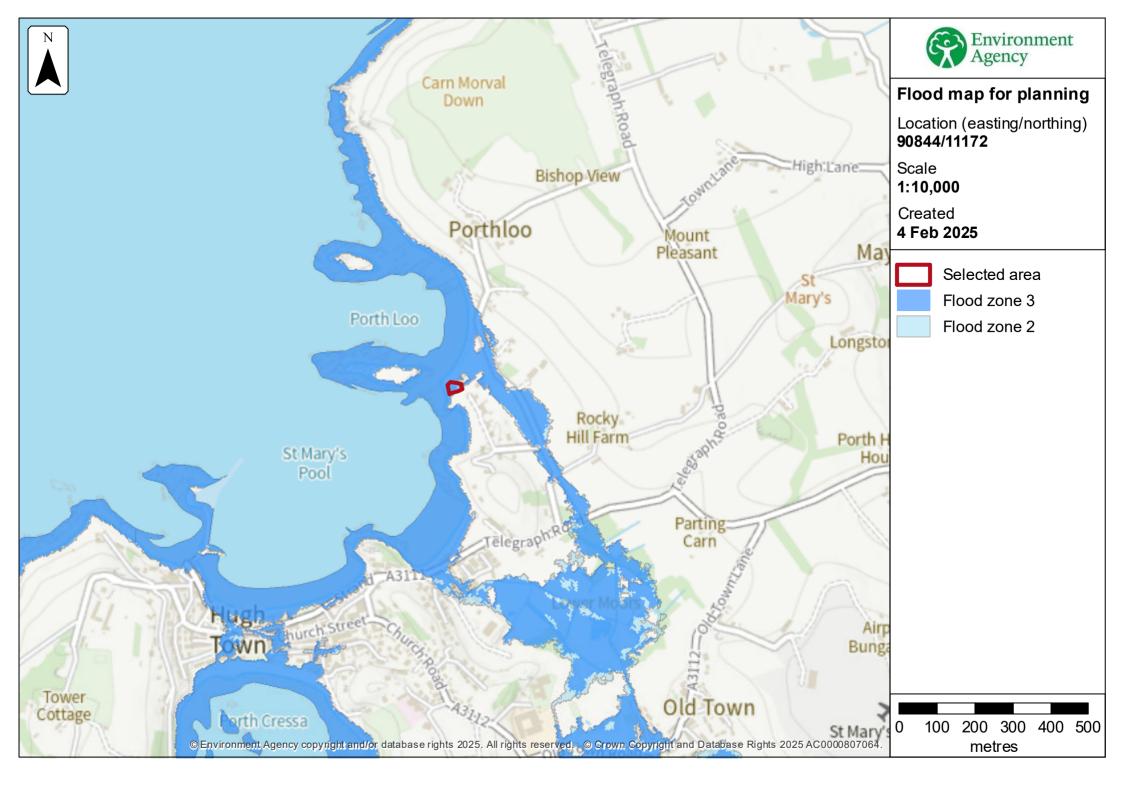
Flood zone 2 shows the area at risk of flooding for an undefended flood event with:

- 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

The flood zones are not currently being updated. The last update was in November 2023. Some of the flood zones may have changed, however all source data is included in the models below.



Historic Information

The map below is an indicative outline of areas that have previously flooded.

Historic outlines may not be visible where they overlap. You can download the outlines separately via the link below.

Download recorded flood outlines in GIS format

Our historic flood event outlines:

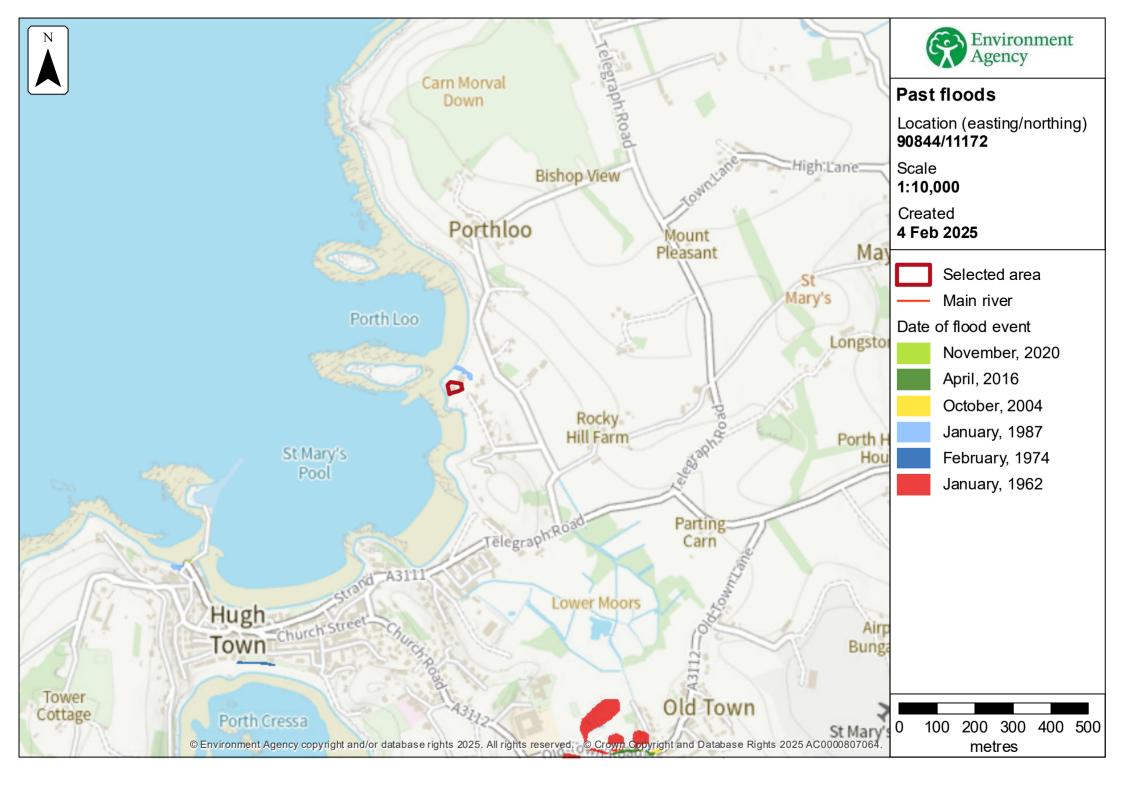
- are an indication of the geographical extent of an observed flood event. We map flooding to land, not individual properties.
- not give any indication of flood levels for individual properties. They also do not imply that any property within the outline has flooded internally.
- are based on a combination of anecdotal evidence, Environment Agency staff observations and survey.
- do not provide a definitive record of flooding.

It is possible that there will be an absence of data in places where we have not been able to record the extent of flooding. It is also possible for errors to occur in the digitisation of historic records of flooding.

In addition to the Historic Flood Map we also hold historic flood information locally.

Remember that: other flooding may have occurred that we do not have records for

Please note that our records are not comprehensive. We would therefore advise that you make further enquiries locally with specific reference to flooding at this location. You should consider contacting the relevant Local Planning Authority and/or water/sewerage undertaker for the area.





396370 - Records of flooding in the St Mary's area.

Date	Location	Detail	Cause	Estimated Number of Properties Flooded	Flood Source
29/10/2023	Isles of Scilly - Hugh Town	High tides in Hugh Town led to water rising through a storm drain in the centre of Hugh Street as well as flooding as water seeped through demountables.	High tides	0	Tidal
15/11/2020	Hugh town	Coastal Flooding, spring tides, high winds leading to waves overtopping defences and flooding small section of coastal roads in front of public house.	Wave overtopping defences		Tidal
30/09/2019	Isles of Scilly	High tides lead to some minor pooling on the main street as water came up the drains due to surcharge.	Surface water caused by tidal water coming up drains		Surface Water Runoff
03/01/2018	loS - St Mary's	Flooding along Throughfare due to overtopping	Wave overtopping	0	

Date	Location	Detail	Cause	Estimated Number of Properties Flooded	Flood Source
05/02/2014	Isles of Scilly - St Mary's	Storm conditions led to wave overtopping the Quay	Storm Conditions	0	
03/01/2014	Isles of Scilly	Isles of Scilly. Hugh Street was partially flooded by a few inches, mainly caused by poor drainage. Surface water flooding also affected Trench Lane, Old Town. The main set of pontoons were also damaged.	High tides, wave action and surface water run off.	1	Surface Water Runoff
03/01/2014	IoS: St Mary's	Storm conditions led to flooding in Porthcressa area, Hugh Town, and Porthloo	Storm conditions		
18/10/2012	loS: St Mary's	Flooding from Paper shop to TIC offices. Small ingress of seawater into Schooners Bar. Damage to sea wall at Mermaids inn. No RFOs and exact extent unknown.	Storm surge accompanied with high spring tides		Tidal
02/12/2009	Isles of Scilly - St Mary's	Storm conditions led to waves overtopping near St Mary's Pier.	Storm Conditions	0	

Date	Location	Detail	Cause	Estimated Number of Properties Flooded	Flood Source
01/12/1989	Isles of Scilly - St Mary's	Storm conditions resulted in significant damage in St Mary's. St Mary's Pier Lighthouse completely demolished. 200m of embankment in Porthcressa washed away. Flooding to Porthloo Green as well as damage to Old Town Bay sea wall.	Storm Conditions	0	
01/01/1987	IoS: St Mary's - Mermaid Inn car park	Wrack and seaweed leaving outline of waves / sea inundation due to storm waves and overtopping. Also some damage to the wall from powerful waves.	Overtopping and damage of sea wall		
01/02/1974	IoS: St Mary's - Porthcressa	Large waves due to a storm event overtopping walls along Porthcressa bay	Storm waves overtopping walls		

This list contains all the records of flooding we hold, in a 1km radius of the specified location. Although this information is compiled to the best of our knowledge, the absence of flooding does not mean that an area has not flooded in the past, nor guarantee it will not flood in the future. Our records are updated as more information comes to light, and as flood incidents occur.

Correct as of 24 / 02 / 2025

Modelled data

About the models used

Model name: Isles of Scilly Coastal Model

Date: 2019

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

You will need to consider the <u>latest flood risk assessment climate change</u> <u>allowances</u> and factor in the new allowances to demonstrate the development will be safe from flooding.

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)

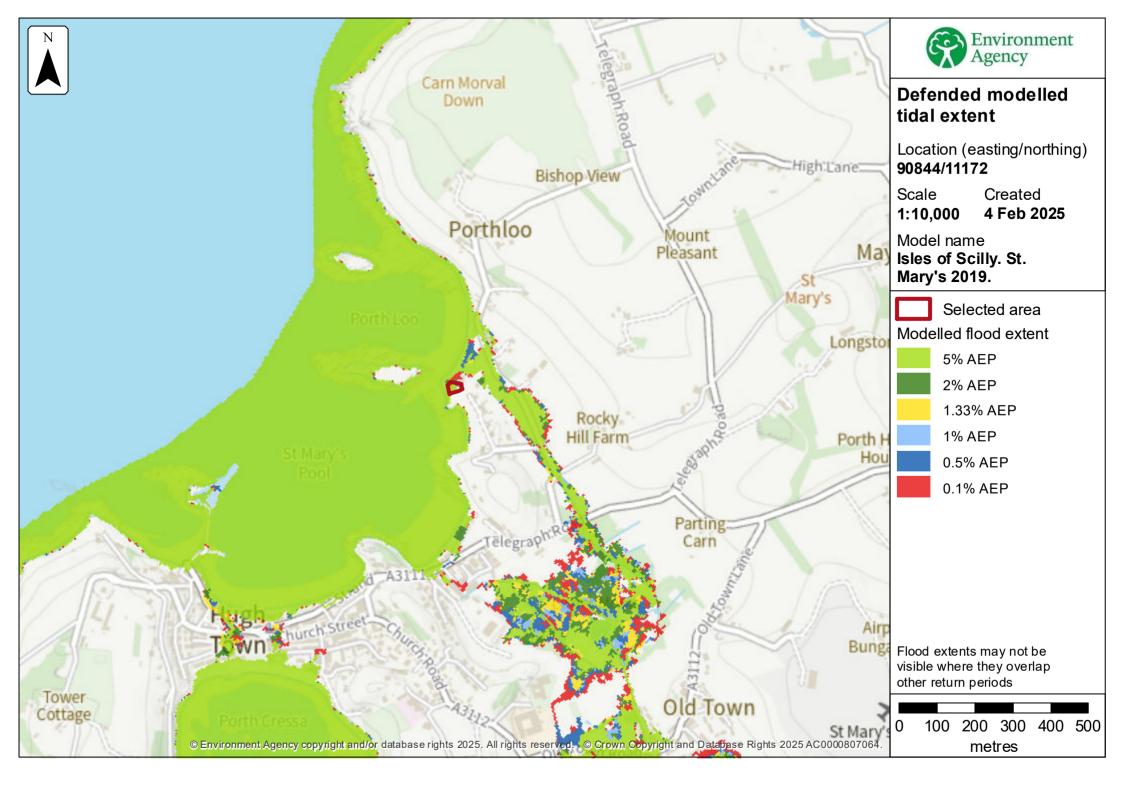
All flood levels are given in metres above ordnance datum which is defined as the mean sea level at Newlyn, Cornwall.

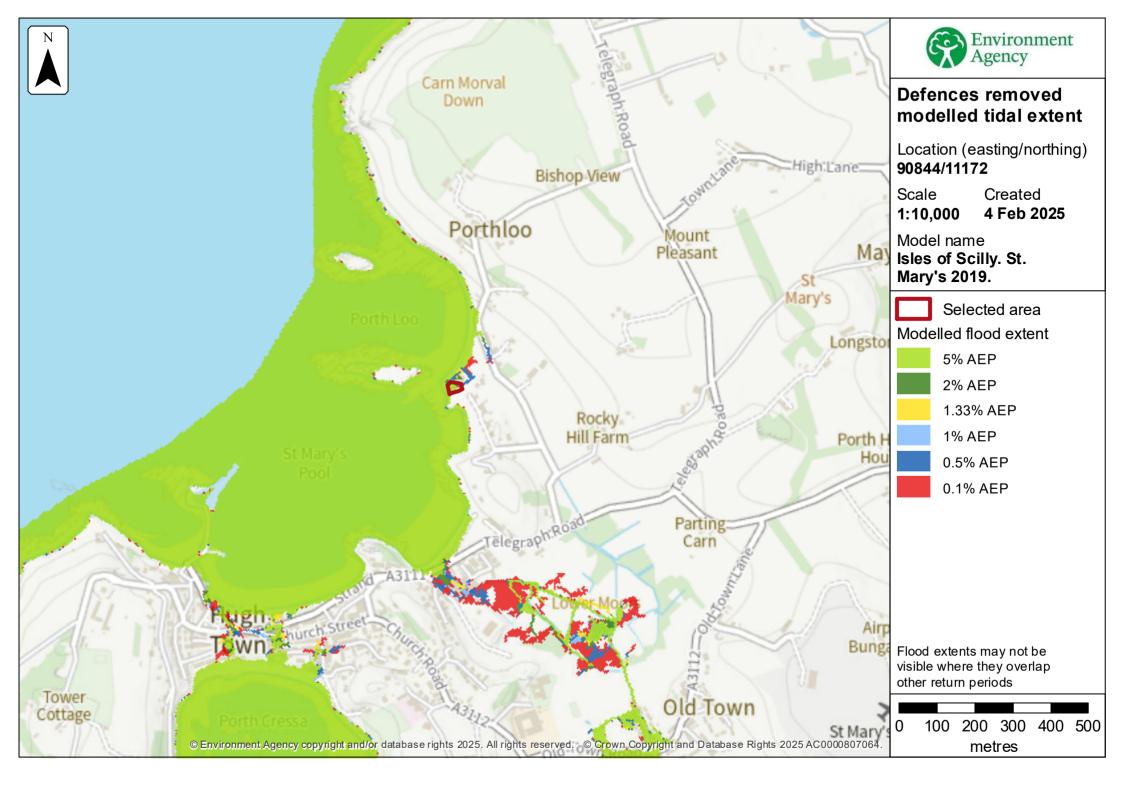


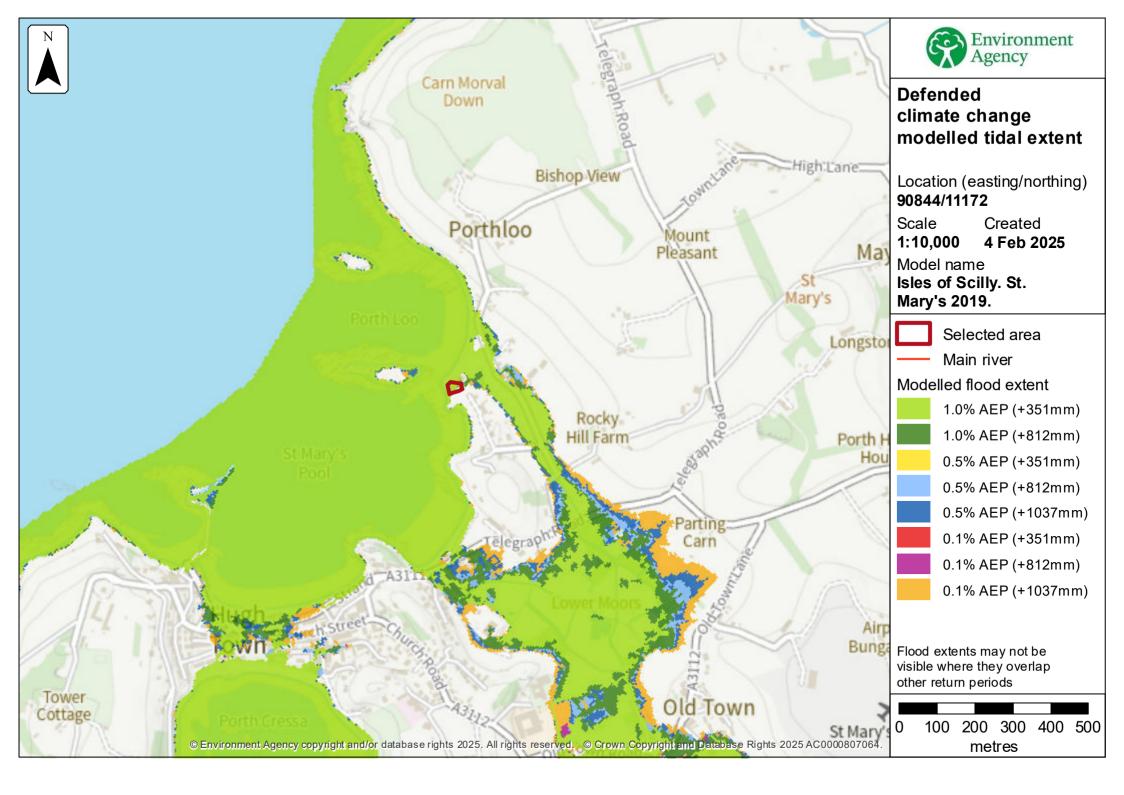
Isles of Scilly Coastal Model (2019)

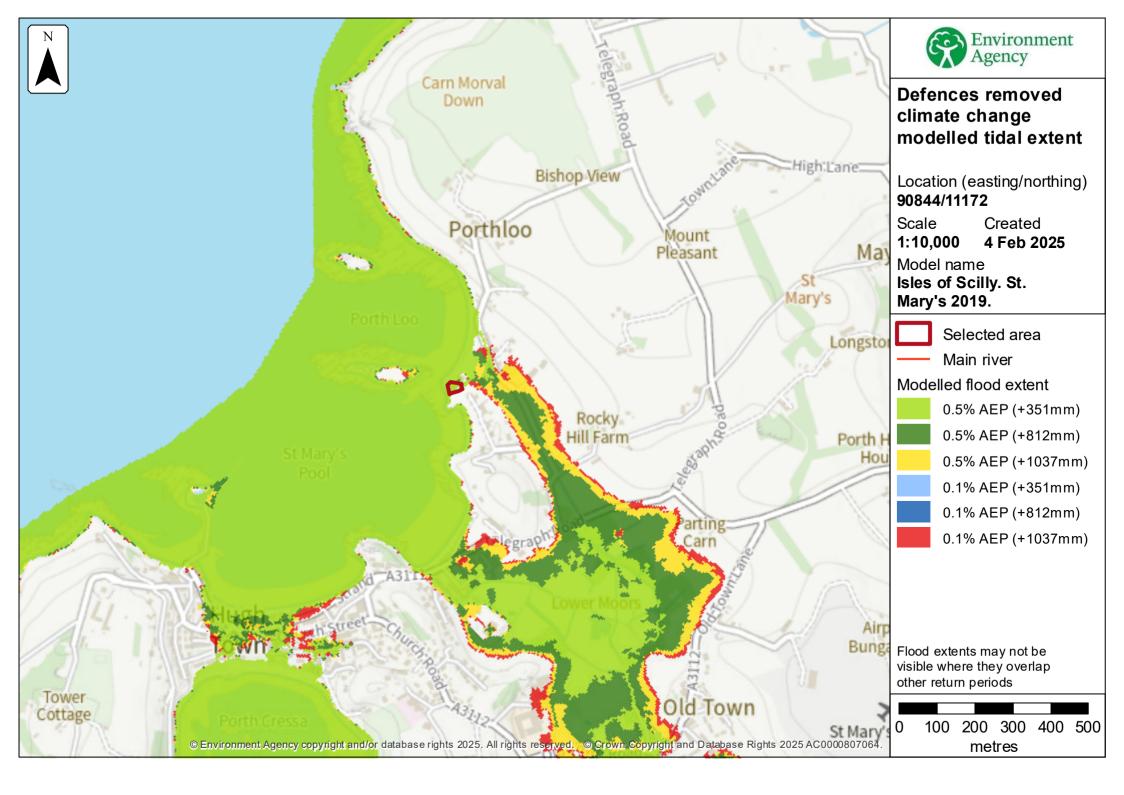
We have provided data from the Isles of Scilly Coastal Model, 2019. Please consider the following information when using this model data:

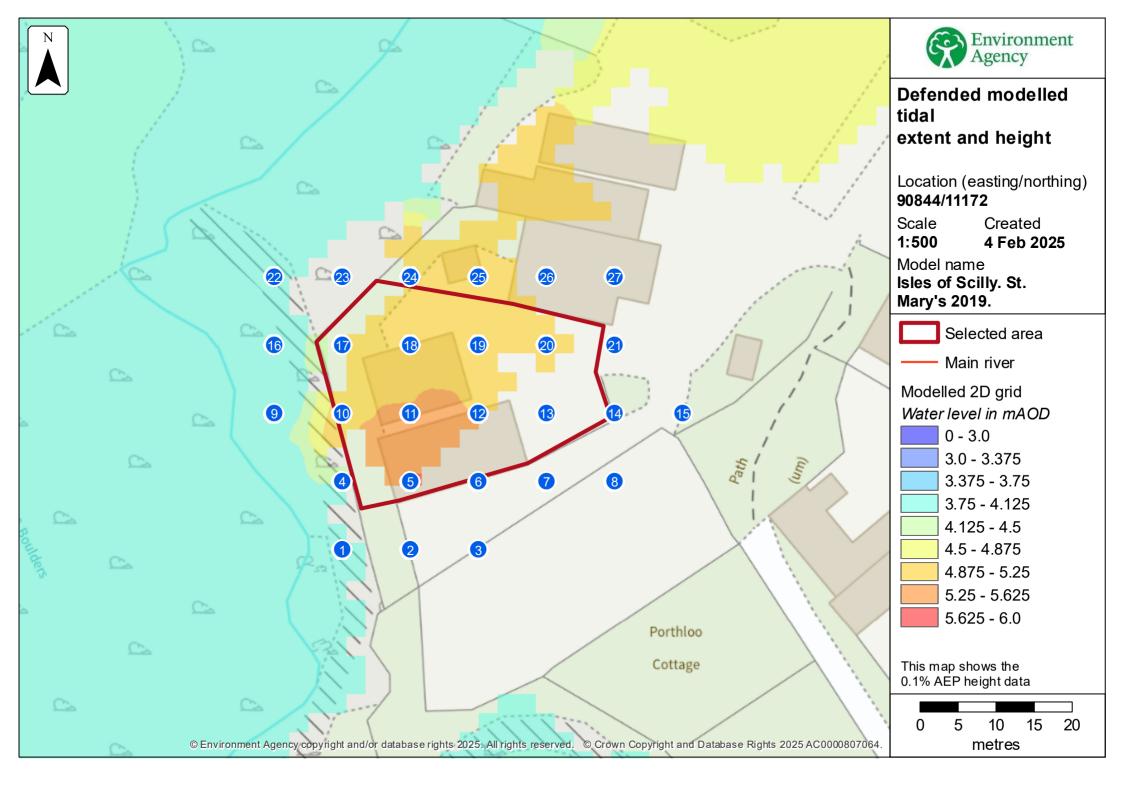
- This is coastal model, and does not consider the risk of flooding from other source, including fluvial or surface water flooding.
- We have supplied the results and data from both the defended (flood defences included) and undefended (flood defences removed) scenarios. You will need to review the data provided, and select the scenario which provides the maximum flood extent and level (or the worst case) for the site. The most appropriate scenario will depend on the location of the specific site in question.
- Climate change: Model scenarios were completed with increases to the still water levels, wind speeds and wave heights to represent the impacts of climate change. This model was produced following the guidance that was available at the time of the model build (UKCP09). For Flood Risk Assessments, this should be updated using the latest guidance available. For more information and advice, please see: https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances
- The maps and digital data supplied should be considered only a summary of the
 conclusions of the study. It may be necessary to collect more detailed
 topographic information for particular sites where development is proposed and
 undertake a more detailed site-specific hydrological and hydraulic analysis for the
 location using guidance from the National Planning Policy Framework (NPPF)
- In this commission the focus has been on flooding from the sea rather than from fluvial sources. It is important that consideration is given to fluvial flooding for any development sites if appropriate. The impact of combined fluvial and tidal events should be examined to understand the impact that this has upon flood depth extent and the duration of inundation
- Any assessment of Flood Risk undertaken must be appropriate for the decisions that need to be based upon it, consider the risks and also take into account any limitations of the data used.
- Please be aware that the Environment Agency does not guarantee that this data is suitable for your purposes.











Sample point data

Defended

Label	Easting	Northing	50% AEP	20% AEP	10% AEP	5% AEP	4% AEP	3.33% AEP	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
			Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth
1	90829	11151	0.24	0.27	0.29	0.31	0.32	0.32	0.33	0.34	0.35	0.37	0.41
2	90838	11151	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
3	90847	11151	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
4	90829	11160	0.01	0.01	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.04
5	90838	11160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
6	90847	11160	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
7	90856	11160	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
8	90865	11160	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
9	90820	11169	0.54	0.60	0.64	0.68	0.69	0.70	0.72	0.74	0.76	0.79	0.88
10	90829	11169	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.00
11	90838	11169	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.05	0.09
12	90847	11169	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
13	90856	11169	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
14	90865	11169	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
15	90874	11169	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
16	90820	11178	0.21	0.28	0.33	0.37	0.39	0.40	0.42	0.45	0.47	0.51	0.61

Label	Easting	Northing	50% AEP	20% AEP	10% AEP	5% AEP	4% AEP	3.33% AEP	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
			Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth
17	90829	11178	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
18	90838	11178	NoData	0.00	NoData	0.01	0.03	0.03	0.04	0.05	0.06	0.08	0.15
19	90847	11178	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.04
20	90856	11178	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.01	0.06
21	90865	11178	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
22	90820	11187	NoData	NoData	NoData	NoData	0.01	0.02	0.03	0.04	0.05	0.07	0.18
23	90829	11187	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
24	90838	11187	NoData	NoData	NoData	0.01	0.01	0.01	0.02	0.02	0.03	0.05	0.12
25	90847	11187	NoData	NoData	NoData	NoData	NoData	NoData	0.03	0.15	0.17	0.19	0.26
26	90856	11187	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
27	90865	11187	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
Ma	ax value in se	lected area:	0.06	0.06	0.06	0.10	0.11	0.11	0.12	0.12	0.13	0.15	0.22

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.

If no height or depth data is available for a scenario, no table will be shown.

Defended

Label	Easting	Northing	50% AEP	20% AEP	10% AEP	5% AEP	4% AEP	3.33% AEP	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
			Height	Height	Height	Height	Height	Height	Height	Height	Height	Height	Height
1	90829	11151	3.53	3.61	3.65	3.70	3.73	3.73	3.76	3.79	3.81	3.86	3.97
2	90838	11151	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
3	90847	11151	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
4	90829	11160	3.53	3.61	3.66	3.71	3.73	3.73	3.77	3.79	3.81	3.86	4.24
5	90838	11160	5.61	5.61	5.61	5.61	5.61	5.61	5.62	5.62	5.62	5.62	5.63
6	90847	11160	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
7	90856	11160	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
8	90865	11160	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
9	90820	11169	3.52	3.61	3.65	3.70	3.72	3.73	3.76	3.79	3.81	3.86	4.05
10	90829	11169	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	5.06
11	90838	11169	5.24	5.24	5.24	5.24	5.24	5.24	5.24	5.24	5.25	5.26	5.31
12	90847	11169	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
13	90856	11169	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
14	90865	11169	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
15	90874	11169	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
16	90820	11178	3.53	3.61	3.65	3.70	3.72	3.73	3.76	3.79	3.81	3.86	3.97
17	90829	11178	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
18	90838	11178	NoData	5.08	NoData	5.10	5.12	5.12	5.13	5.13	5.14	5.17	5.23

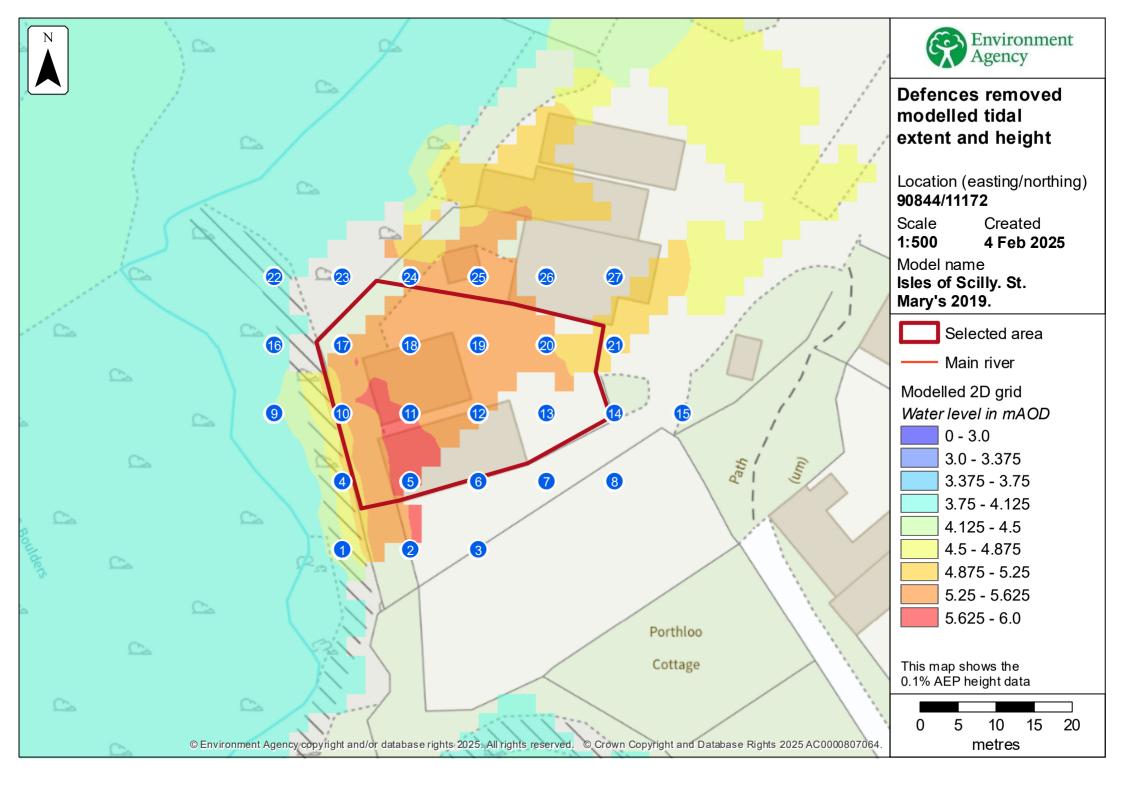
Label	Easting	Northing	50% AEP	20% AEP	10% AEP	5% AEP	4% AEP	3.33% AEP	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
			Height	Height	Height	Height	Height	Height	Height	Height	Height	Height	Height
19	90847	11178	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	5.23
20	90856	11178	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	5.17	5.23
21	90865	11178	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
22	90820	11187	NoData	NoData	NoData	NoData	3.72	3.73	3.76	3.79	3.81	3.86	3.97
23	90829	11187	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
24	90838	11187	NoData	NoData	NoData	5.08	5.10	5.10	5.13	5.13	5.14	5.17	5.23
25	90847	11187	NoData	NoData	NoData	NoData	NoData	NoData	4.98	5.12	5.14	5.17	5.23
26	90856	11187	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
27	90865	11187	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
Ma	ax value in se	lected area:	5.61	5.61	5.61	5.61	5.61	5.61	5.62	5.62	5.62	5.62	5.63

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.

If no height or depth data is available for a scenario, no table will be shown.



Sample point data

Defences removed

Label	Easting	Northing	50% AEP	20% AEP	10% AEP	5% AEP	4% AEP	3.33% AEP	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
			Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth
1	90829	11151	0.22	0.26	0.27	0.30	0.31	0.32	0.34	0.36	0.37	0.40	0.48
2	90838	11151	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
3	90847	11151	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
4	90829	11160	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.10	0.10	0.11	0.14
5	90838	11160	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.04	0.05	0.06
6	90847	11160	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
7	90856	11160	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
8	90865	11160	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
9	90820	11169	0.17	0.18	0.20	0.22	0.23	0.24	0.26	0.28	0.30	0.33	0.42
10	90829	11169	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
11	90838	11169	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.06	0.06	0.06
12	90847	11169	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
13	90856	11169	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
14	90865	11169	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
15	90874	11169	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
16	90820	11178	0.19	0.26	0.30	0.35	0.37	0.37	0.40	0.42	0.44	0.48	0.58

Label	Easting	Northing	50% AEP	20% AEP	10% AEP	5% AEP	4% AEP	3.33% AEP	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
			Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth
17	90829	11178	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
18	90838	11178	0.01	0.05	0.05	0.06	0.08	0.09	0.13	0.15	0.15	0.16	0.17
19	90847	11178	NoData	NoData	NoData	NoData	NoData	NoData	0.02	0.04	0.05	0.06	0.07
20	90856	11178	NoData	NoData	NoData	NoData	NoData	0.02	0.05	0.06	0.07	0.08	0.08
21	90865	11178	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.00	0.00
22	90820	11187	NoData	NoData	NoData	NoData	0.02	0.02	0.03	0.04	0.05	0.07	0.18
23	90829	11187	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
24	90838	11187	0.00	0.01	0.02	0.02	0.05	0.06	0.10	0.11	0.12	0.13	0.14
25	90847	11187	NoData	0.01	0.05	0.16	0.19	0.20	0.24	0.26	0.27	0.28	0.29
26	90856	11187	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
27	90865	11187	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
Ma	ax value in se	elected area:	0.29	0.30	0.30	0.31	0.32	0.33	0.35	0.36	0.36	0.37	0.38

 $\label{thm:equation:equation:equation} \mbox{Height values are shown in mAOD, and depth values are shown in metres.}$

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.

If no height or depth data is available for a scenario, no table will be shown.

Defences removed

Label	Easting	Northing	50% AEP	20% AEP	10% AEP	5% AEP	4% AEP	3.33% AEP	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
			Height	Height	Height	Height	Height	Height	Height	Height	Height	Height	Height
1	90829	11151	3.90	4.07	4.12	4.15	4.17	4.17	4.19	4.21	4.22	4.25	4.33
2	90838	11151	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
3	90847	11151	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
4	90829	11160	4.56	4.56	4.56	4.56	4.56	4.56	4.57	4.57	4.57	4.58	4.63
5	90838	11160	5.64	5.64	5.64	5.64	5.64	5.64	5.65	5.65	5.66	5.67	5.69
6	90847	11160	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
7	90856	11160	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
8	90865	11160	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
9	90820	11169	3.81	3.83	3.84	3.87	3.88	3.89	3.91	3.93	3.95	3.98	4.07
10	90829	11169	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
11	90838	11169	5.64	5.64	5.64	5.64	5.64	5.64	5.64	5.65	5.65	5.65	5.66
12	90847	11169	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
13	90856	11169	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
14	90865	11169	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
15	90874	11169	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
16	90820	11178	3.52	3.61	3.65	3.70	3.72	3.73	3.76	3.79	3.81	3.85	3.96
17	90829	11178	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
18	90838	11178	5.09	5.14	5.14	5.14	5.16	5.18	5.21	5.23	5.24	5.25	5.26

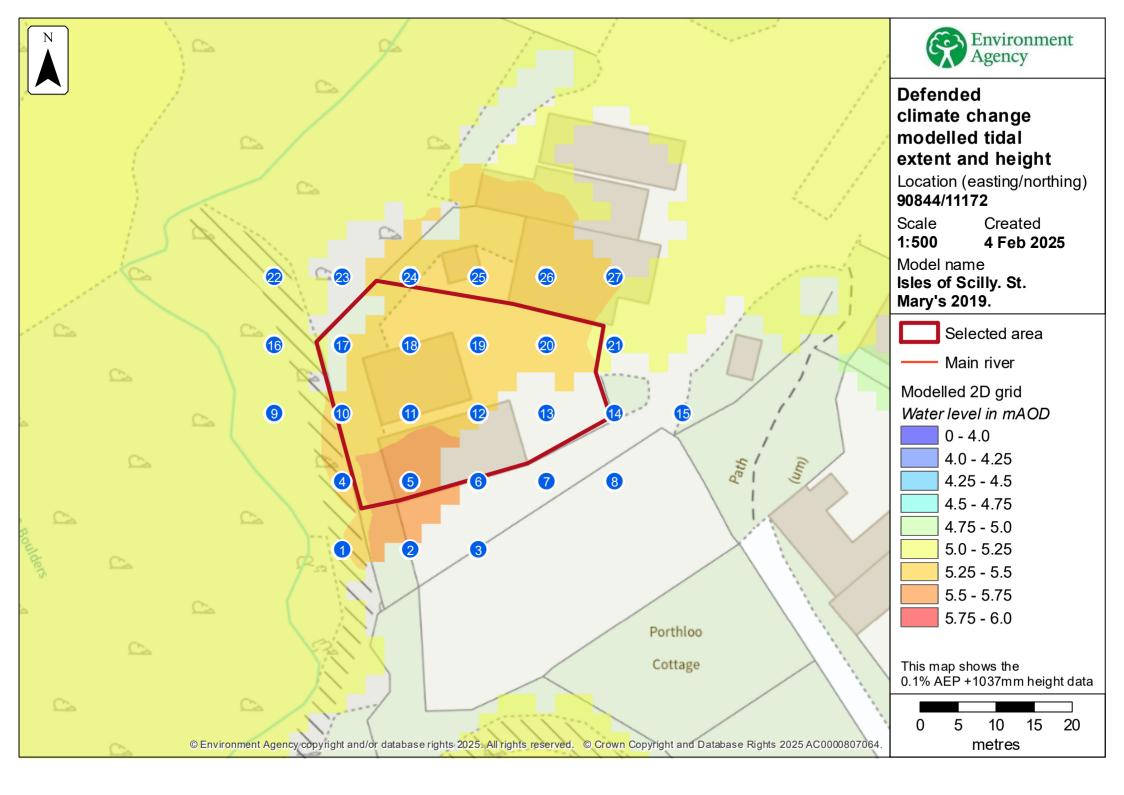
Label	Easting	Northing	50% AEP	20% AEP	10% AEP	5% AEP	4% AEP	3.33% AEP	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
			Height	Height	Height	Height	Height	Height	Height	Height	Height	Height	Height
19	90847	11178	NoData	NoData	NoData	NoData	NoData	NoData	5.21	5.23	5.24	5.25	5.26
20	90856	11178	NoData	NoData	NoData	NoData	NoData	5.17	5.21	5.23	5.24	5.25	5.26
21	90865	11178	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	5.05	5.06
22	90820	11187	NoData	NoData	NoData	NoData	3.72	3.73	3.76	3.79	3.81	3.85	3.96
23	90829	11187	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
24	90838	11187	5.08	5.12	5.13	5.14	5.16	5.17	5.21	5.23	5.24	5.25	5.26
25	90847	11187	NoData	4.95	5.01	5.13	5.16	5.17	5.21	5.23	5.24	5.25	5.26
26	90856	11187	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
27	90865	11187	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
Ma	ax value in se	lected area:	5.68	5.68	5.68	5.68	5.68	5.68	5.68	5.68	5.68	5.69	5.70

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.

If no height or depth data is available for a scenario, no table will be shown.



Sample point data

Defended climate change

Label	Easting	Northing	1% AEP (+351mm)	1% AEP (+812mm)	0.5% AEP (+351mm)	0.5% AEP (+812mm)	0.5% AEP (+1037mm)	0.1% AEP (+351mm)	0.1% AEP (+812mm)	0.1% AEP (+1037mm)
			Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth
1	90829	11151	0.49	0.67	0.51	0.68	0.77	0.55	0.73	0.87
2	90838	11151	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
3	90847	11151	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
4	90829	11160	0.06	0.10	0.06	0.10	0.12	0.07	0.11	0.14
5	90838	11160	0.01	0.04	0.02	0.04	0.05	0.03	0.05	0.06
6	90847	11160	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
7	90856	11160	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
8	90865	11160	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
9	90820	11169	1.02	1.36	1.05	1.39	1.56	1.13	1.47	1.74
10	90829	11169	0.00	0.01	0.00	0.01	0.02	0.00	0.02	0.03
11	90838	11169	0.10	0.13	0.10	0.13	0.15	0.11	0.15	0.17
12	90847	11169	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
13	90856	11169	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
14	90865	11169	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
15	90874	11169	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
16	90820	11178	0.79	1.20	0.82	1.23	1.44	0.92	1.33	1.66

Label	Easting	Northing	1% AEP (+351mm)	1% AEP (+812mm)	0.5% AEP (+351mm)	0.5% AEP (+812mm)	0.5% AEP (+1037mm)	0.1% AEP (+351mm)	0.1% AEP (+812mm)	0.1% AEP (+1037mm)	
			Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	
17	90829	11178	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	
18	90838	11178	0.16	0.20	0.16	0.21	0.24	0.18	0.23	0.26	
19	90847	11178	0.05	0.10	0.06	0.10	0.13	0.07	0.12	0.14	
20	90856	11178	0.08	0.11	0.08	0.12	0.14	0.09	0.13	0.15	
21	90865	11178	0.00	0.02	0.00	0.03	0.06	0.00	0.05	0.10	
22	90820	11187	0.38	0.83	0.42	0.87	1.10	0.53	0.98	1.35	
23	90829	11187	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	
24	90838	11187	0.13	0.17	0.13	0.17	0.20	0.15	0.19	0.21	
25	90847	11187	0.27	0.31	0.28	0.32	0.35	0.29	0.34	0.36	
26	90856	11187	NoData	0.04	NoData	0.04	0.06	NoData	0.06	0.07	
27	90865	11187	NoData	0.01	NoData	0.01	0.02	0.00	0.02	0.02	
	Max value in selected area:			0.28	0.23	0.29	0.31	0.25	0.31	0.33	

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.

If no height or depth data is available for a scenario, no table will be shown.

Defended climate change

Label	Easting	Northing	1% AEP (+351mm)	1% AEP (+812mm)	0.5% AEP (+351mm)	0.5% AEP (+812mm)	0.5% AEP (+1037mm)	0.1% AEP (+351mm)	0.1% AEP (+812mm)	0.1% AEP (+1037mm)	
			Height	Height	Height	Height	Height	Height	Height	Height	
1	90829	11151	4.17	4.77	4.20	4.80	4.99	4.32	4.90	5.21	
2	90838	11151	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	
3	90847	11151	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	
4	90829	11160	4.39	5.01	4.42	5.03	5.16	4.51	5.10	5.30	
5	90838	11160	5.64	5.71	5.65	5.71	5.73	5.67	5.73	5.74	
6	90847	11160	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	
7	90856	11160	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	
8	90865	11160	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	
9	90820	11169	4.23	4.66	4.27	4.69	4.90	4.37	4.80	5.14	
10	90829	11169	5.10	5.20	5.10	5.21	5.26	5.13	5.24	5.31	
11	90838	11169	5.32	5.37	5.33	5.37	5.40	5.34	5.39	5.42	
12	90847	11169	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	
13	90856	11169	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	
14	90865	11169	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	
15	90874	11169	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	
16	90820	11178	4.17	4.62	4.20	4.66	4.88	4.31	4.77	5.13	
17	90829	11178	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	

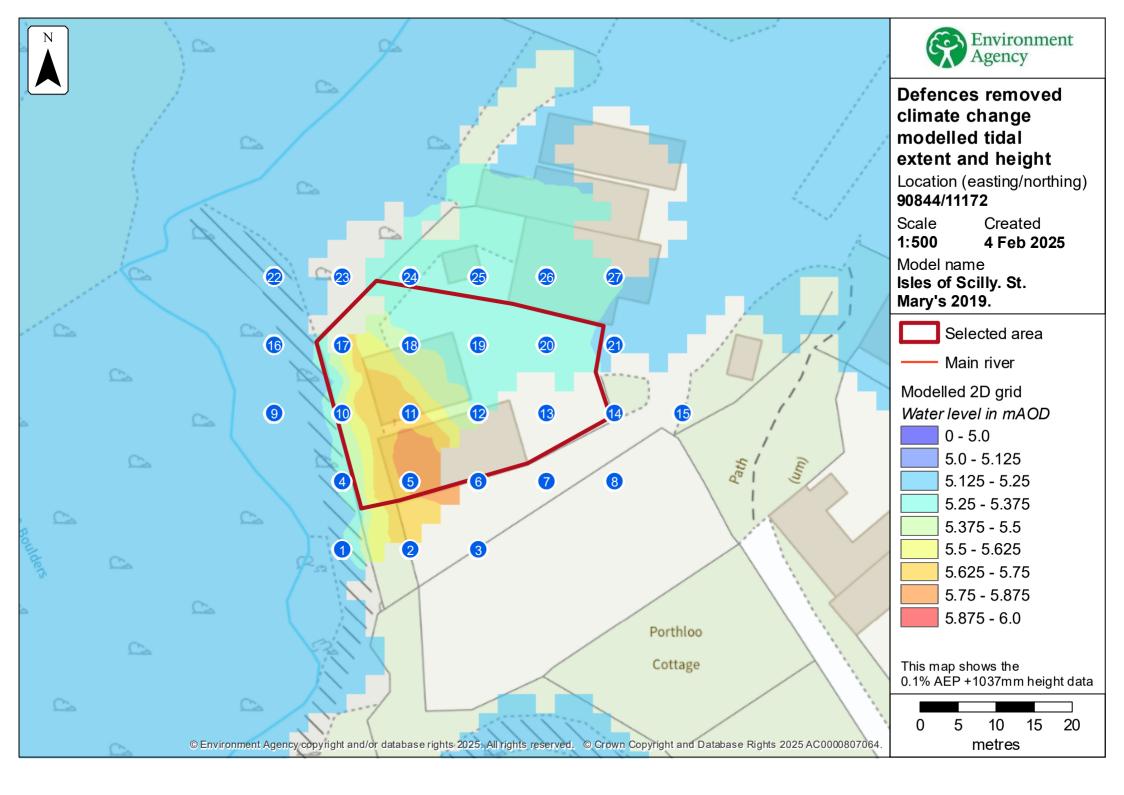
Label	Easting	Northing	1% AEP (+351mm)	1% AEP (+812mm)	0.5% AEP (+351mm)	0.5% AEP (+812mm)	0.5% AEP (+1037mm)	0.1% AEP (+351mm)	0.1% AEP (+812mm)	0.1% AEP (+1037mm)	
			Height	Height	Height	Height	Height	Height	Height	Height	
18	90838	11178	5.25	5.29	5.25	5.30	5.32	5.27	5.32	5.34	
19	90847	11178	5.25	5.29	5.25	5.29	5.32	5.26	5.31	5.33	
20	90856	11178	5.25	5.28	5.25	5.29	5.31	5.26	5.31	5.32	
21	90865	11178	5.04	5.10	5.06	5.11	5.14	5.07	5.13	5.18	
22	90820	11187	4.17	4.62	4.20	4.66	4.88	4.31	4.77	5.13	
23	90829	11187	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	
24	90838	11187	5.25	5.29	5.25	5.30	5.32	5.26	5.31	5.34	
25	90847	11187	5.25	5.29	5.25	5.29	5.32	5.26	5.31	5.33	
26	90856	11187	NoData	5.28	NoData	5.28	5.30	NoData	5.30	5.31	
27	90865	11187	NoData	5.18	NoData	5.18	5.21	5.14	5.20	5.25	
Max value in selected area:			5.64	5.71	5.65	5.71	5.73	5.67	5.73	5.74	

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.

If no height or depth data is available for a scenario, no table will be shown.



Sample point data

Defences removed climate change

Label	Easting	Northing	0.5% AEP (+351mm)	0.5% AEP (+812mm)	0.5% AEP (+1037mm)	0.1% AEP (+351mm)	0.1% AEP (+812mm)	0.1% AEP (+1037mm)	0.5% AEP (+351mm)	0.5% AEP (+812mm)	0.5% AEP (+1037mm)	0.1% AEP (+351mm)	0.1% AEP (+812mm)	0.1% AEP (+1037mm)
			Depth	Depth	Depth	Depth	Depth	Depth	Height	Height	Height	Height	Height	Height
1	90829	11151	0.65	0.97	1.14	0.72	1.05	1.36	4.50	4.82	5.00	4.58	4.90	5.21
2	90838	11151	NoData	NoData	NoData									
3	90847	11151	NoData	NoData	NoData									
4	90829	11160	0.21	0.41	0.55	0.24	0.47	0.71	4.73	4.96	5.09	4.78	5.02	5.25
5	90838	11160	0.08	0.14	0.15	0.10	0.15	0.16	5.72	5.77	5.79	5.74	5.79	5.80
6	90847	11160	NoData	NoData	NoData									
7	90856	11160	NoData	NoData	NoData									
8	90865	11160	NoData	NoData	NoData									
9	90820	11169	0.60	1.01	1.24	0.69	1.12	1.49	4.25	4.66	4.88	4.33	4.77	5.13
10	90829	11169	0.08	0.17	0.25	0.09	0.21	0.35	5.00	5.11	5.22	5.01	5.16	5.34
11	90838	11169	0.08	0.11	0.12	0.09	0.12	0.13	5.68	5.71	5.72	5.69	5.72	5.73
12	90847	11169	NoData	NoData	NoData									
13	90856	11169	NoData	NoData	NoData									
14	90865	11169	NoData	NoData	NoData									
15	90874	11169	NoData	NoData	NoData									
16	90820	11178	0.80	1.21	1.41	0.90	1.31	1.64	4.20	4.66	4.88	4.31	4.77	5.13

Label	Easting	Northing	0.5% AEP (+351mm)	0.5% AEP (+812mm)	0.5% AEP (+1037mm)	0.1% AEP (+351mm)	0.1% AEP (+812mm)	0.1% AEP (+1037mm)	0.5% AEP (+351mm)	0.5% AEP (+812mm)	0.5% AEP (+1037mm)	0.1% AEP (+351mm)	0.1% AEP (+812mm)	0.1% AEP (+1037mm)
			Depth	Depth	Depth	Depth	Depth	Depth	Height	Height	Height	Height	Height	Height
17	90829	11178	NoData	NoData	NoData									
18	90838	11178	0.20	0.25	0.27	0.21	0.27	0.28	5.28	5.34	5.36	5.30	5.36	5.37
19	90847	11178	0.09	0.14	0.16	0.11	0.16	0.17	5.28	5.33	5.35	5.30	5.35	5.36
20	90856	11178	0.10	0.15	0.16	0.12	0.16	0.17	5.28	5.32	5.33	5.29	5.33	5.34
21	90865	11178	0.01	0.06	0.06	0.03	0.06	0.10	5.10	5.14	5.15	5.12	5.15	5.19
22	90820	11187	0.42	0.88	1.10	0.53	0.99	1.35	4.20	4.66	4.88	4.31	4.77	5.13
23	90829	11187	NoData	NoData	NoData									
24	90838	11187	0.16	0.21	0.23	0.18	0.23	0.24	5.28	5.34	5.35	5.30	5.35	5.36
25	90847	11187	0.31	0.36	0.38	0.32	0.37	0.38	5.28	5.33	5.35	5.30	5.35	5.36
26	90856	11187	0.03	0.07	0.08	0.05	0.08	0.09	5.27	5.31	5.32	5.29	5.32	5.33
27	90865	11187	0.01	0.02	0.02	0.01	0.02	0.02	5.17	5.21	5.22	5.19	5.22	5.26
ı	Max value ii	n selected area:	0.39	0.44	0.45	0.41	0.45	0.46	5.73	5.80	5.81	5.75	5.81	5.82

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.

If no height or depth data is available for a scenario, no table will be shown.