

I Individual site assessments

I.1 Introduction

The following tables provide a summary of flood risk for key sites, identified by Tendring District Council, in the Jaywick area. Each table includes the following information:

- A description of the site, including any defences immediately protecting the area
- A map showing the risk from surface water flooding across the site
- A map showing the watercourses within the area
- Access and egress considerations for the area
- Potential flood risk implications for development
- Location specific maps and descriptions of the depth and hazard of modelled overtopping scenarios
 - 0.5% AEP
 - 0.5% AEP plus climate change to 2023
 - 0.5% AEP plus climate change to 2055
 - 0.5% AEP plus climate change to 2112
 - 0.1% AEP
 - 0.1% AEP plus climate change to 2023
 - 0.1% AEP plus climate change to 2055
 - 0.1% AEP plus climate change to 2112
- Location specific maps and descriptions of the depth, hazard and time to inundation for scenarios with of a breach at Location 1
 - Tide level equivalent to the flood warning threshold
 - Tide level equivalent to the severe flood warning threshold
 - Tide level equivalent to the defence crest height
- Location specific maps and descriptions of the depth, hazard and time to inundation for scenarios with of a breach at Location 2
 - Tide level equivalent to the flood warning threshold
 - Tide level equivalent to the severe flood warning threshold
 - Tide level equivalent to the defence crest height
- Location specific maps and descriptions of the depth, hazard and time to inundation for scenarios with of a breach at Location 3
 - Tide level equivalent to the flood warning threshold
 - Tide level equivalent to the severe flood warning threshold
 - Tide level equivalent to the defence crest height

I.2 Legends

The legends below apply to the maps in the following tables

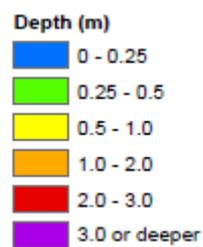
I.2.1 Surface Water (updated Flood Map for Surface Water)



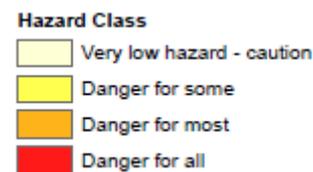
I.2.2 Defences



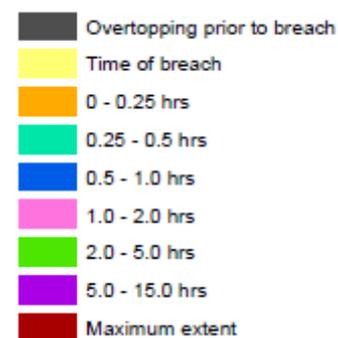
I.2.3 Flood depths



I.2.4 Flood hazard



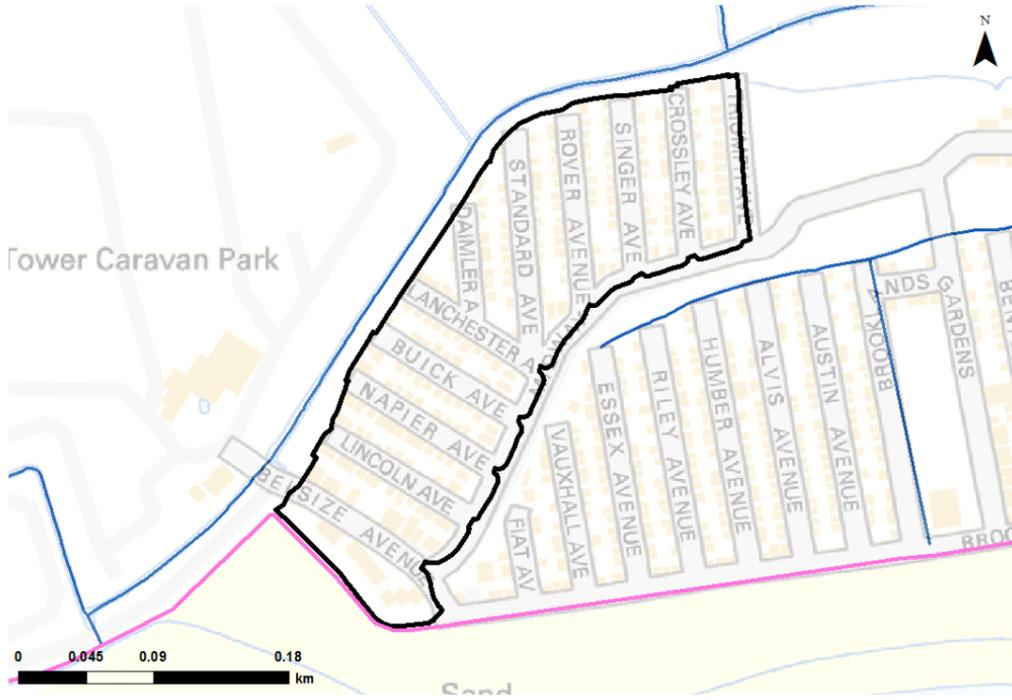
I.2.5 Time to Inundation



The following copyright statement applies to all the maps shown in the following tables

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I.3 Grasslands

SITE NAME	GRASSLANDS	
DESCRIPTION OF THE AREA	<ul style="list-style-type: none"> The Grasslands area is located to the west of Jaywick village at the north west edge of Brooklands. The elevation in the Grasslands area is fairly uniform. The Jaywick Ditch flows along the north west boundary of Grasslands. The area is protected by a flood defence wall running along the coast as well as the counterwall, located to the west of Tower Caravan Park. 	
SOURCES OF FLOOD RISK	<ul style="list-style-type: none"> Grasslands is at risk from coastal and surface water flooding. There is also residual risk from failure of coastal defences. 	
SURFACE WATER FLOOD RISK		FLUVIAL FLOOD RISK
<p>The uFMfSW indicates all streets within the Grasslands area are at risk from surface water flooding. An assessment of surface water risk should be included within a site-specific FRA and adequate surface water drainage design should be implemented to ensure surface water flood risk is not exacerbated.</p>		<p>The Jaywick Ditch flows north east to south west past the Grasslands area. The Brooklands Ditch flows past part of the Grasslands area, between Midway and Brooklands. The fluvial flood zone mapping shows no fluvial risk to the Grasslands area.</p>
		
ACCESS AND EGRESS CONSIDERATIONS		FLOOD RISK ASSESSMENTS
<p>The main access/egress route for the Grasslands area is Lotus Way, which is followed round to Jaywick Village where the route joins Meadow Way. Modelling shows neither of these routes are affected by flooding greater than 0.25 m in the design (0.5% AEP) scenario, although Meadow Way is shown to flood to depths between 0.25 and 0.5 m for approximately 18 hours in the modelled three tide scenario in the 0.1% AEP event. Flooding to access routes worsens during the climate change scenarios with increased flooding depths and durations.</p> <p>Access and egress in a breach scenario is dependent on the location of the breach; given there is only one access/egress route for the Grasslands area, precautionary evacuation on receipt of a severe flood warning is recommended. An option to provide a safe refuge in a public space is recommended for lesser events.</p>		<p>Development in this area will require a site specific FRA. Reference should be made to the breach modelling undertaken for this SFRA. Climate change should be considered when looking at whether the development will be safe for its proposed lifetime.</p> <p>Minimum finished floor levels should be based on the 0.5% AEP plus climate change to 2112 and include an allowance of a 300mm freeboard. Depths in this scenario vary across the area but modelling shows they range from 1.0 to 3.0 m.</p> <p>Surface water drainage design should be implemented to ensure surface water flood risk is not exacerbated and that flows in the nearby watercourses are not increased.</p> <p>An emergency plan should also be considered for developments within this area.</p>

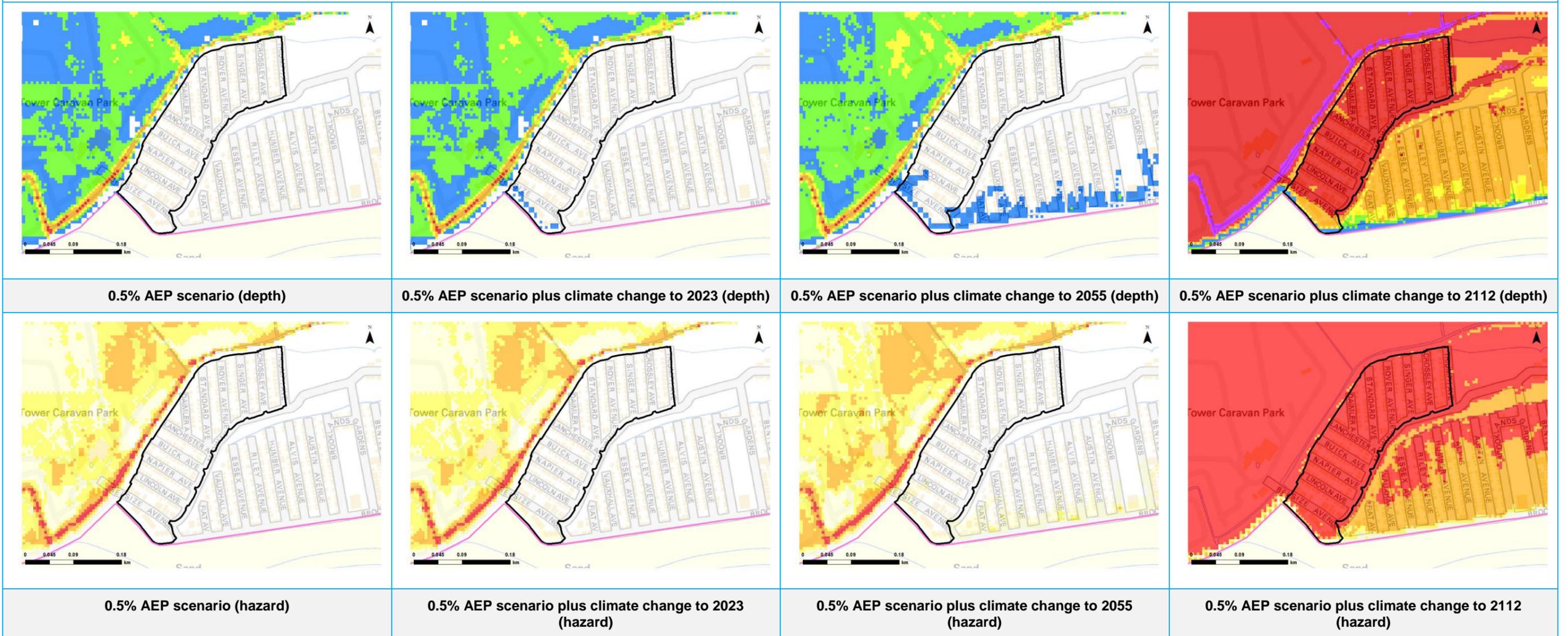
OVERTOPPING scenarios

Model results show the Grasslands area is well protected from wave overtopping of the coastal defences. There is a small amount of overtopping in the 0.5% AEP to 0.5% AEP plus climate change to 2055 scenarios, effecting mainly Belsize Avenue. Depths in these scenarios range between 0.001 to 0.25 m and the hazard is classed as 'very low'.

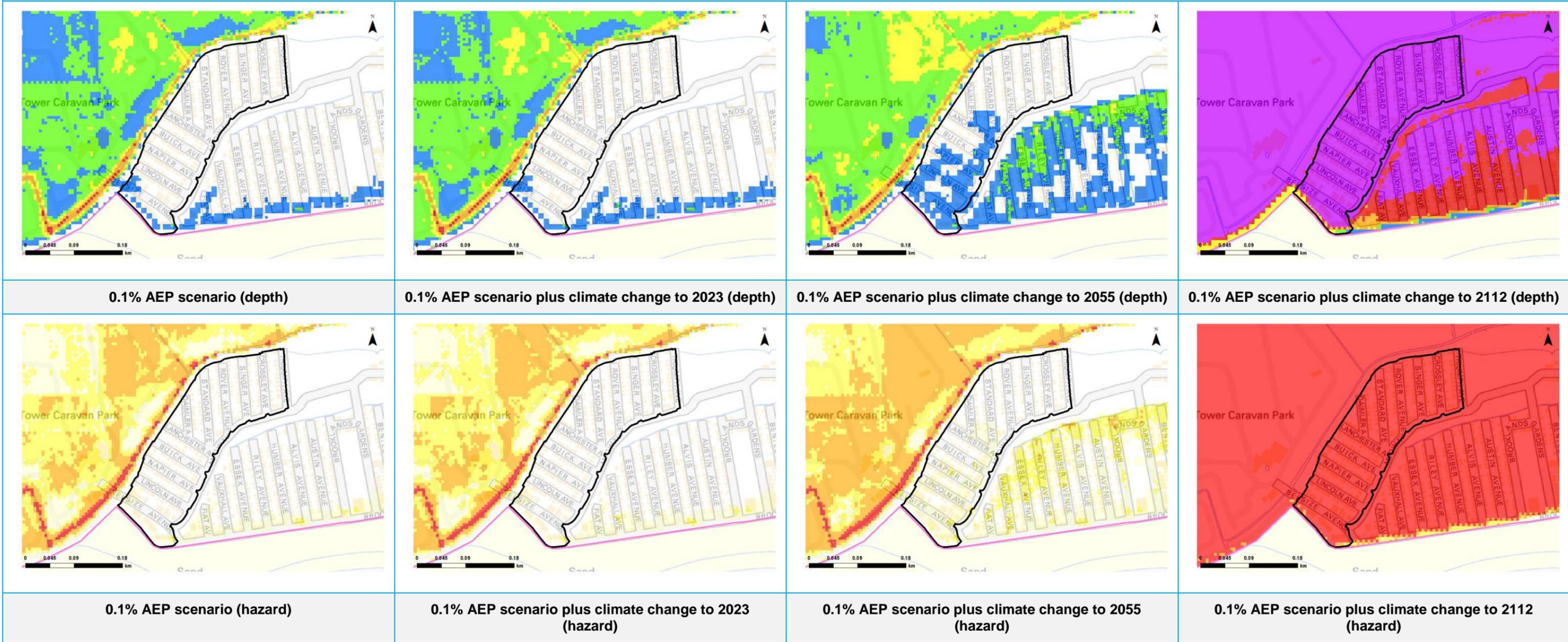
Modelling shows the level of risk increasing significantly in the 0.5% AEP plus climate change to 2112 scenario. In this scenario, the whole of Grasslands area is at risk with depths ranging from 1.0 to 3.0 m. The hazard in this scenario is classed as 'danger for all'.

Flooding from overtopping is still low in the 0.1% AEP and 0.1% plus climate change scenarios. However, the 0.1% AEP plus climate change to 2055 sees a larger area affected by flooding, including parts of Lincoln Avenue, Napier Avenue, Buick Avenue, Lanchester Avenue, Daimler Avenue and Standard Avenue. Depths in this scenario range between 0.001 to 0.25 m and the hazard ranges from 'very low' to 'danger for some'.

The level of risk increases significantly in the 0.1% AEP plus climate change to 2112 scenario, with depths increasing to 3.0 m or deeper and hazard classed as 'danger for all'.



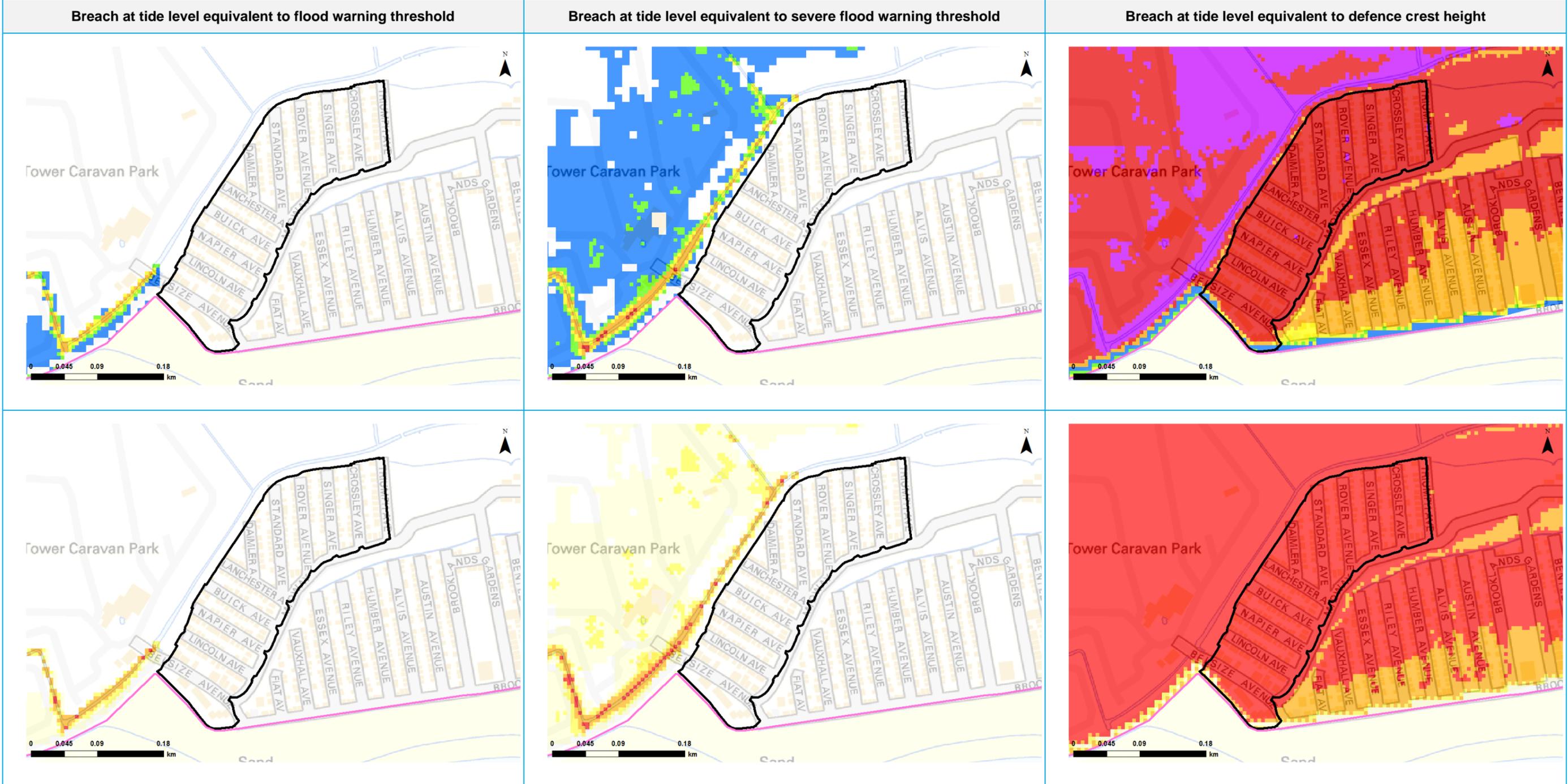
OVERTOPPING scenarios



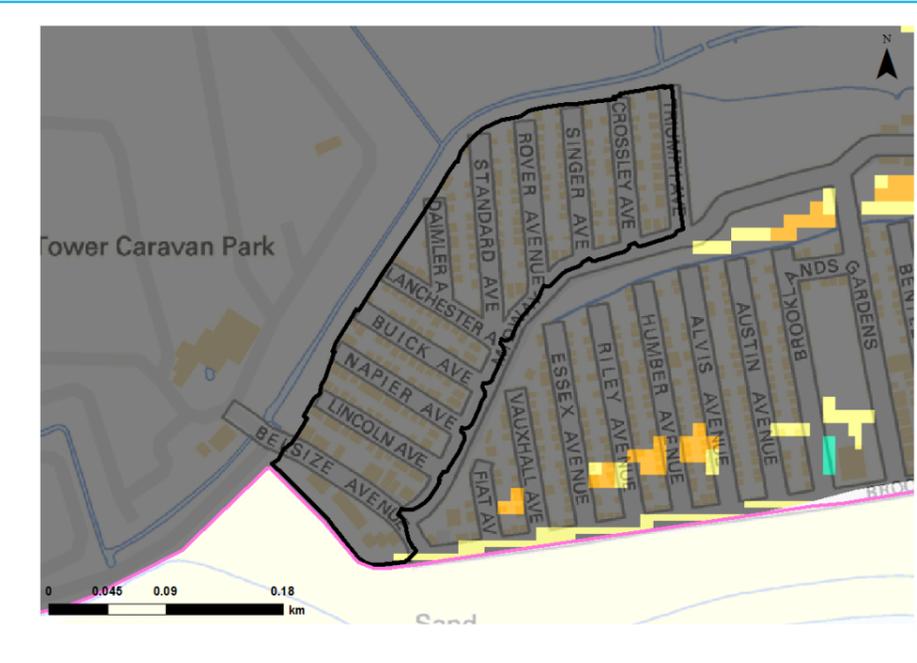
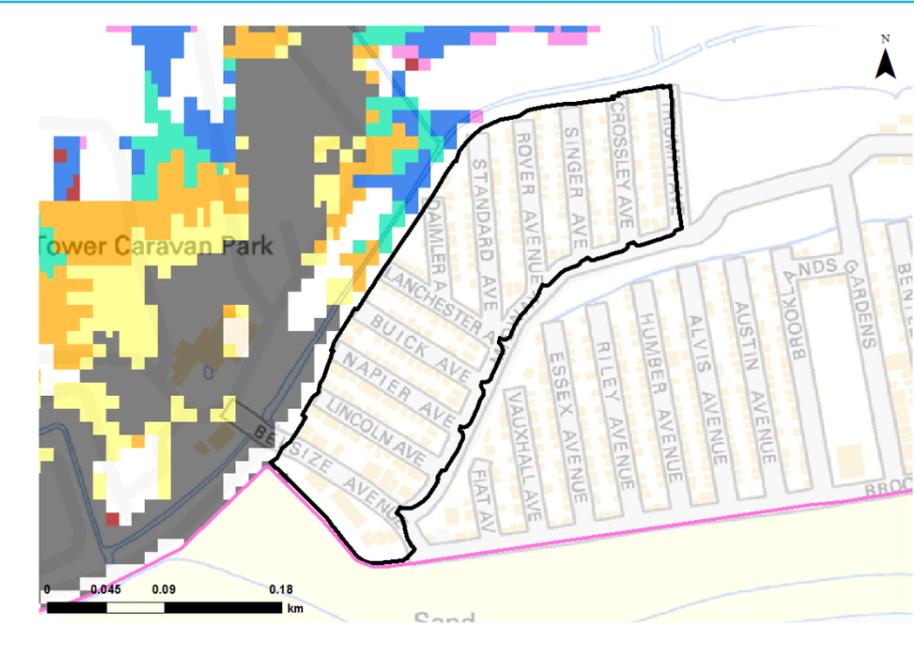
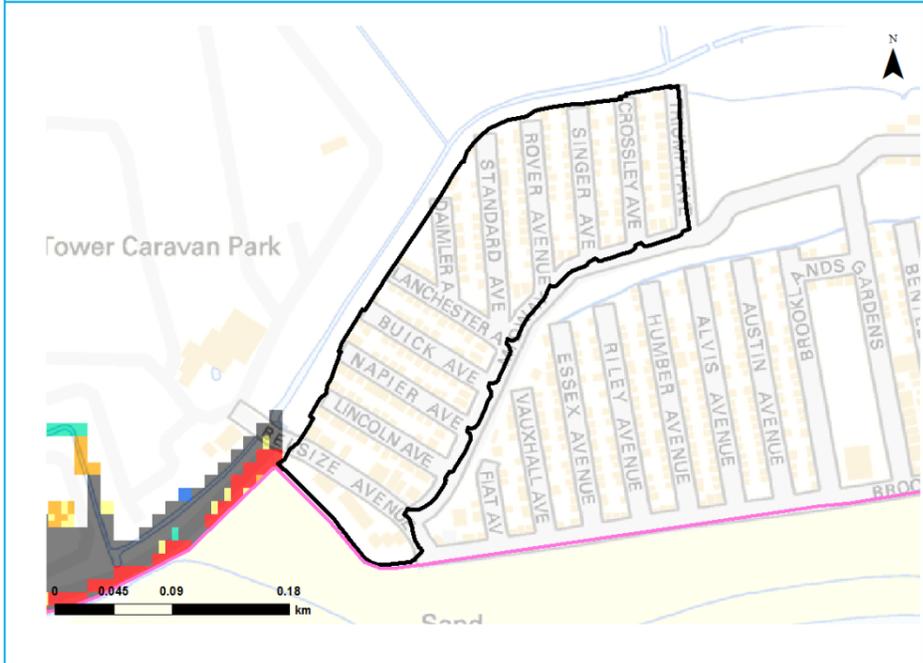
BREACH at location A

Modelling results show the level of risk at the Grasslands area is unaffected by a breach at location A until a tide level equivalent to the defence crest height scenario. In this scenario, the Grasslands area will be affected by flooding of depths between 2.0 to 3.0 m. The hazard would be classed as 'danger for all'.

At the tide level equivalent to the defence crest height scenario, the majority of the Grasslands area will already have been affected by flooding from overtopping before the breach occurs. This has implications for access and egress along Lotus Way and Brooklands. Of the two routes, depths along Brooklands, are shallower due to the higher elevation of this route compared to Lotus Way.



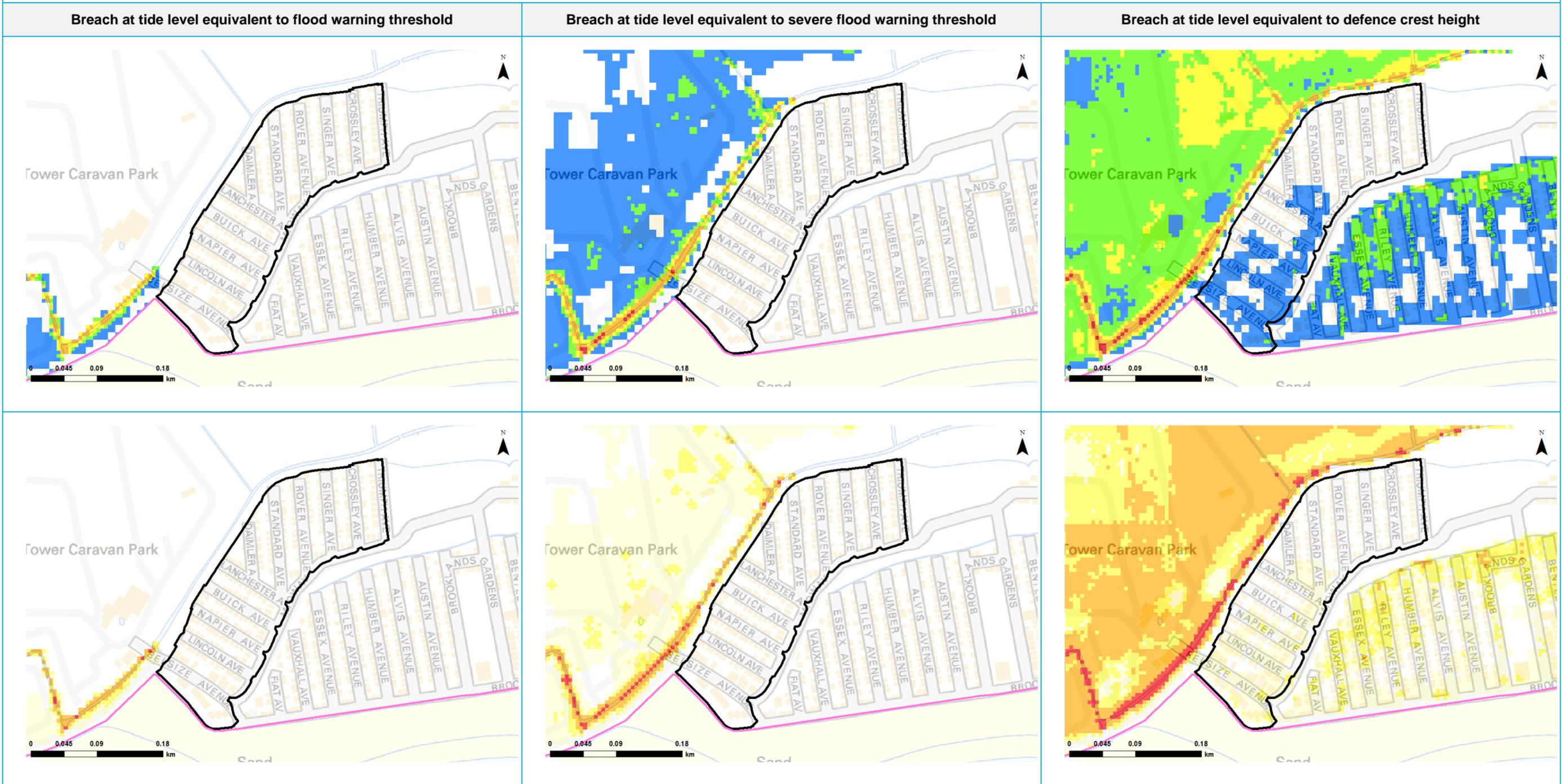
BREACH at location A



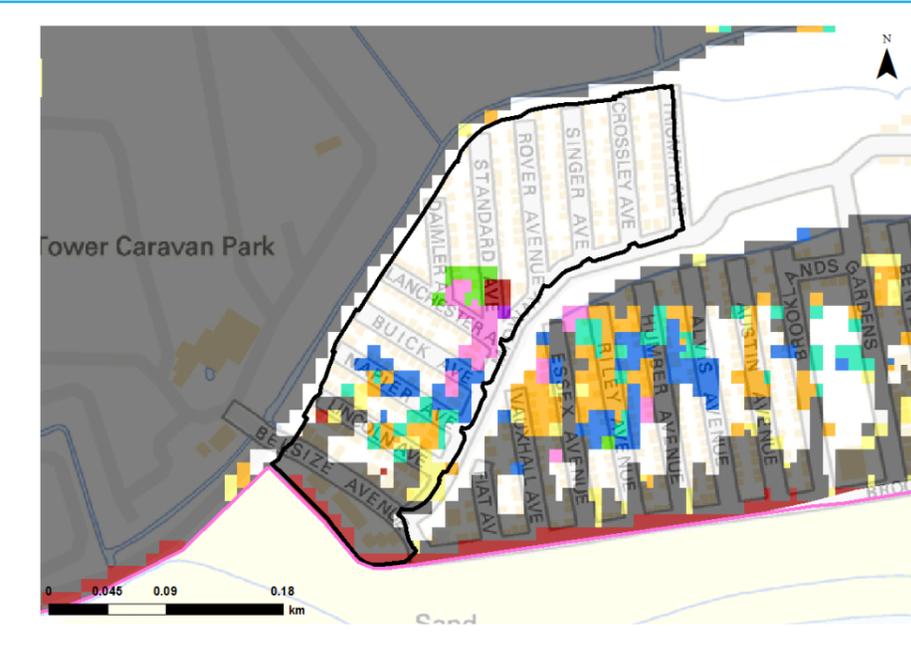
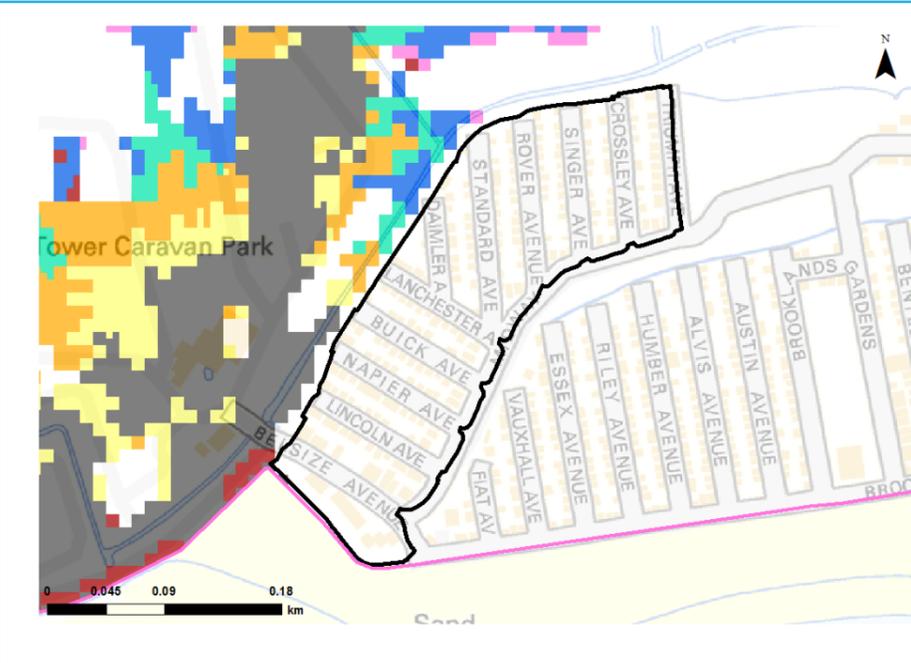
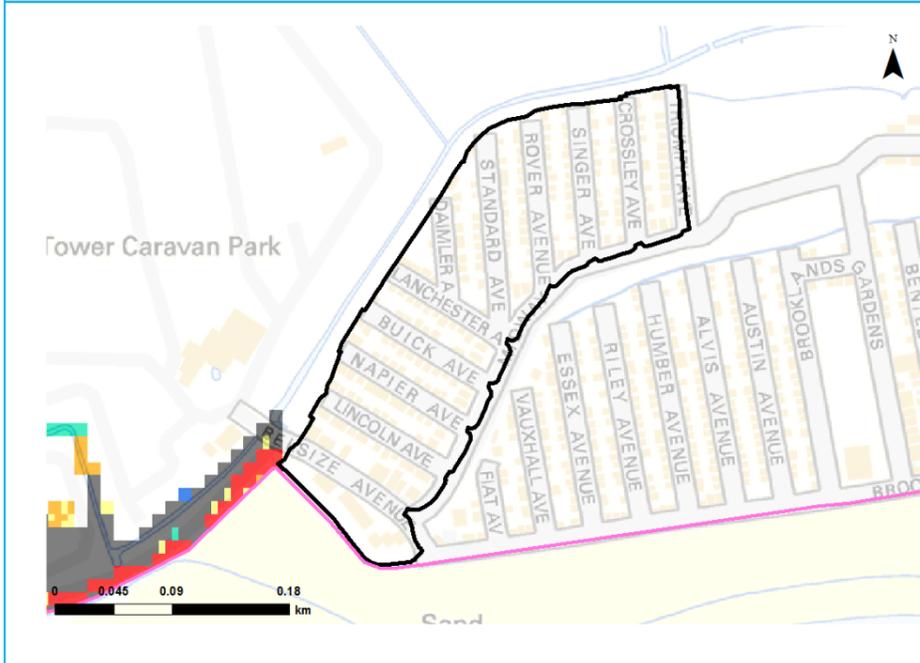
BREACH at location B

As with location A, modelling results show the level of risk at the Grasslands area is unaffected by a breach at location B until a tide level equivalent to the defence crest height scenario. In this scenario, the Grasslands area will be affected by flooding of depths between 0.001 to 0.25 m. The hazard would be classed as 'very low'.

In the tide level equivalent to the defence crest height scenario, a large part of the affected area of Grasslands will already have been affected by flooding from overtopping before the breach occurs. After the breach, flooding in the area will have reached its maximum extent within 15 hours. The main access/egress route along Lotus Way is largely unaffected by flooding, providing safe access/egress for the Grasslands area.



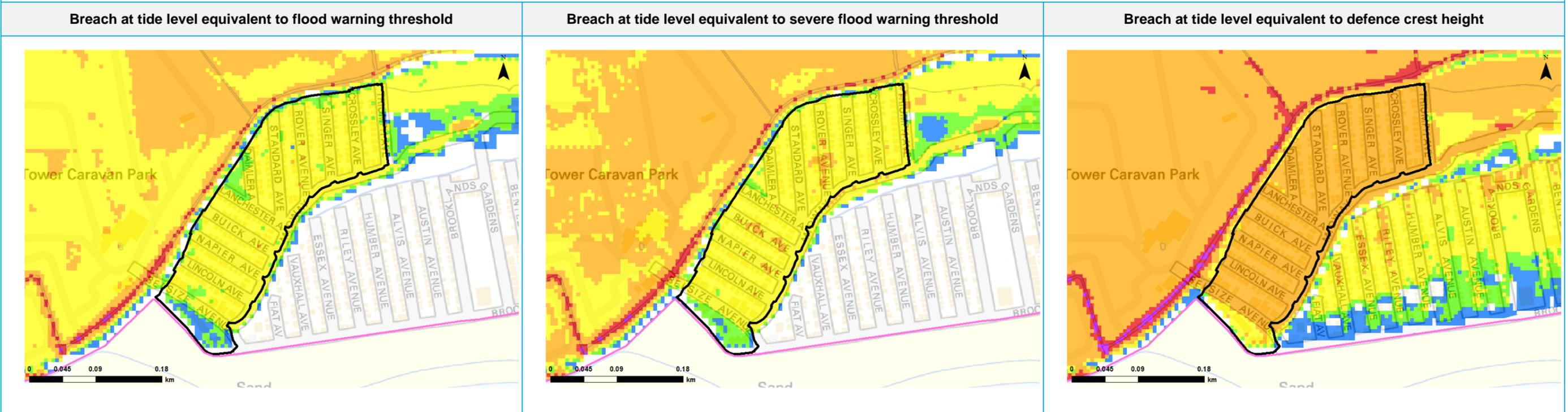
BREACH at location B



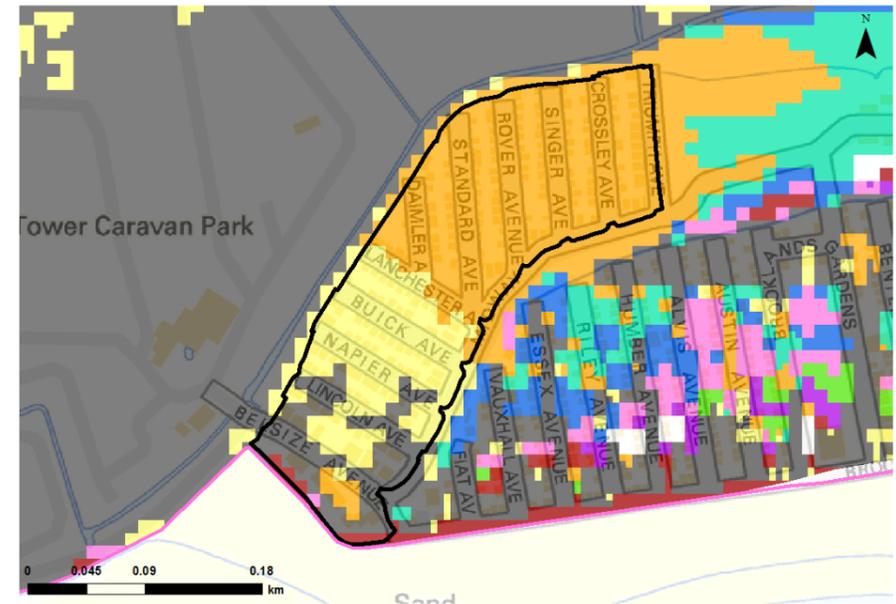
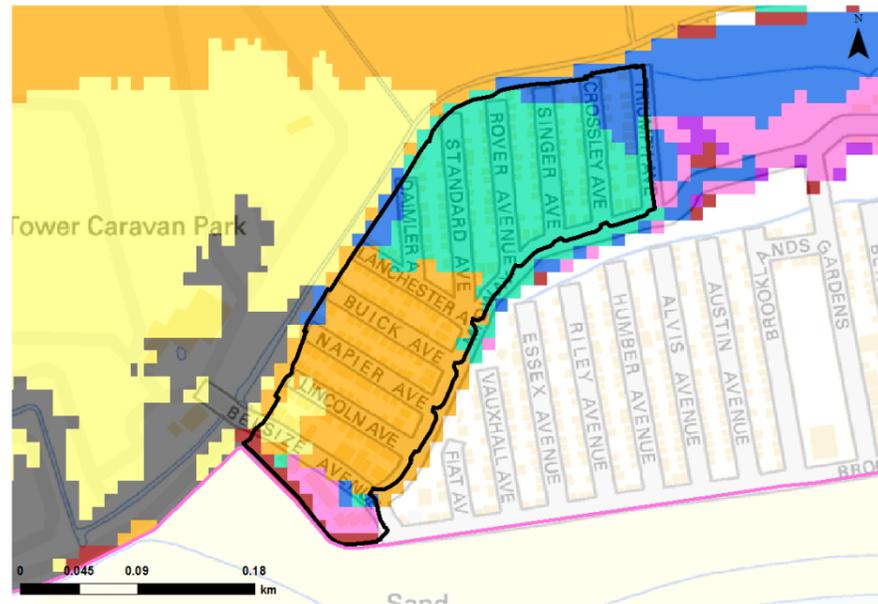
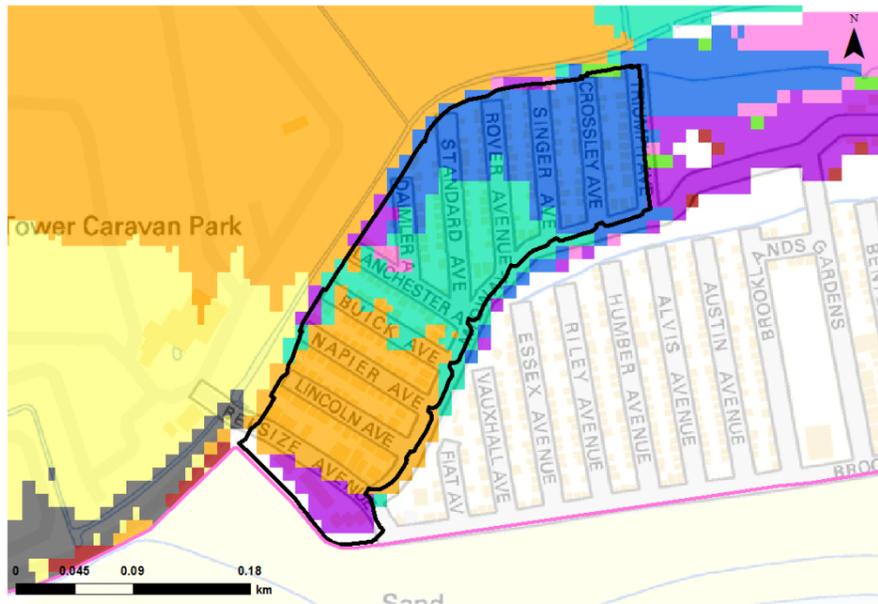
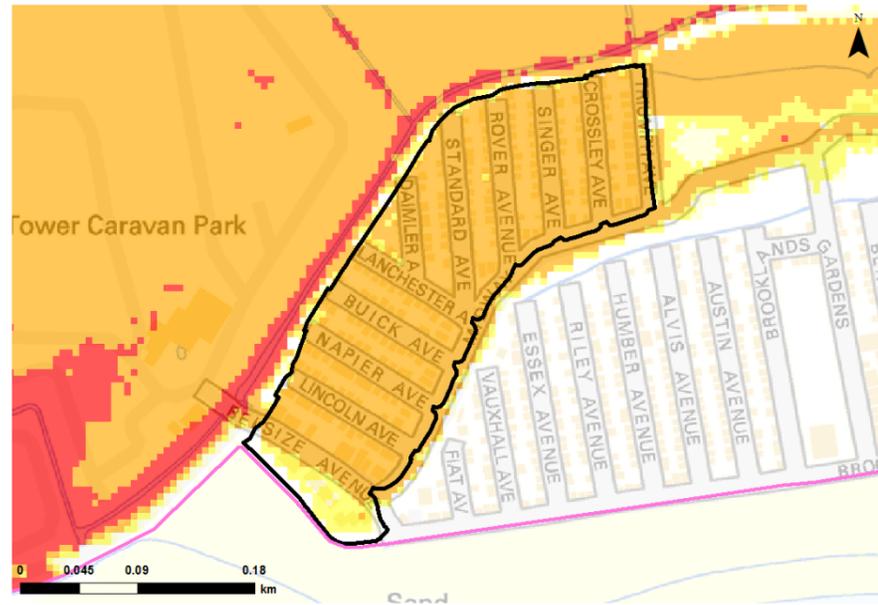
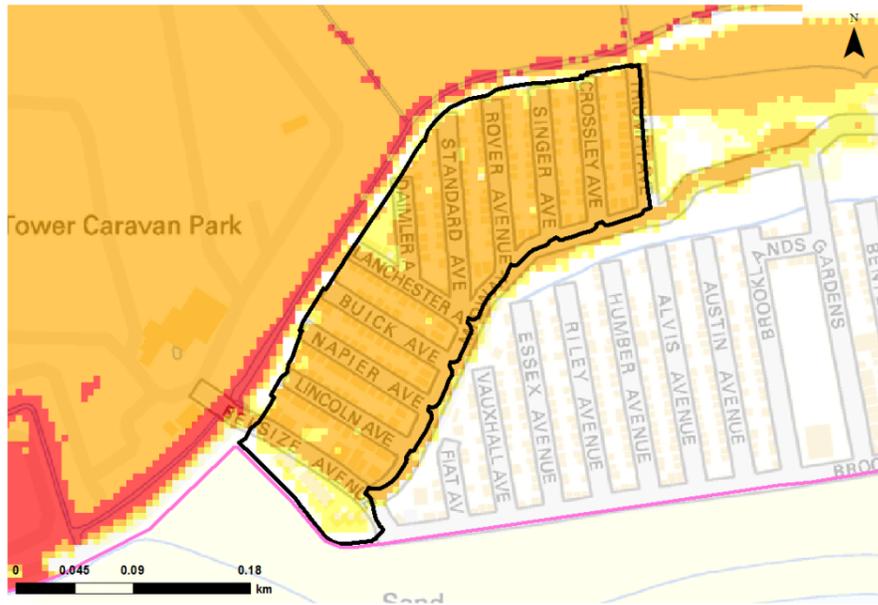
BREACH at location C

Unlike the breaches at locations A and B, location C is situated east of the counterwall. Modelling results show the level of risk at the Grasslands area is significantly affected by a breach at location C in all tide scenarios. The level of risk in the tide levels equivalent to the FW and SFW threshold scenarios is broadly similar with depths between 0.5 and 1.0 m and a hazard classification of 'danger for most'. The majority of the Grasslands area will be flooded within one hour of a breach with a tide level equivalent to the FW threshold and 0.5 hours of a breach with a tide level equivalent to the SFW threshold. In these scenarios the Brooklands access/egress route is largely unaffected by flooding.

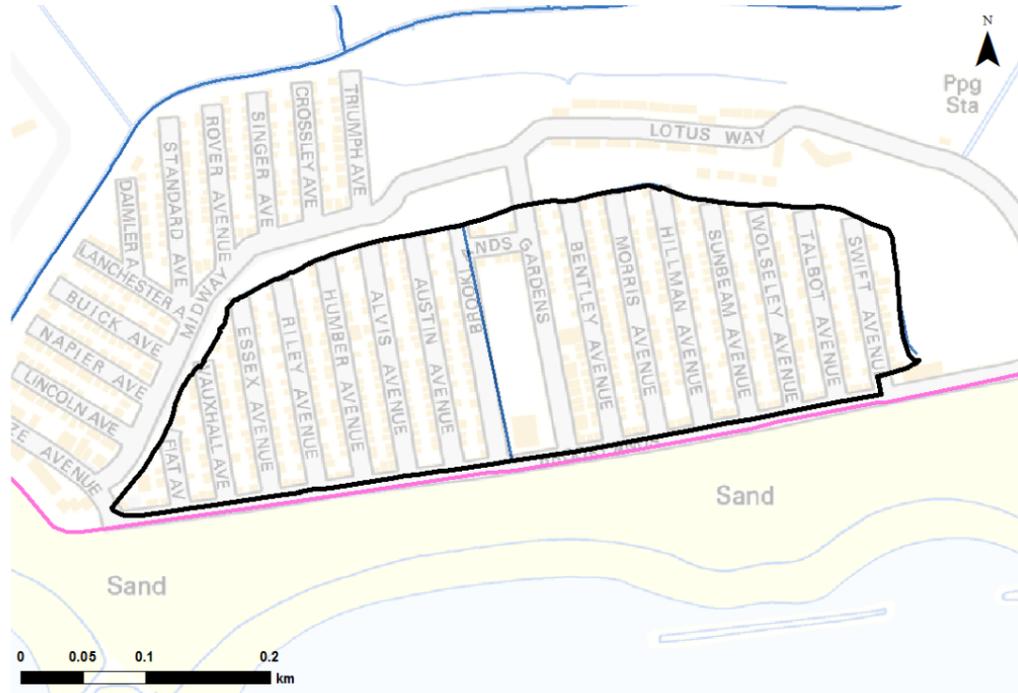
At the tide level equivalent to the defence crest height scenario, the level of risk increases significantly with depths up to 2.0 m. The hazard classification is 'danger for most'. In this scenario the majority of the Grasslands area will be flooded within 0.25 hours, including the Lotus Way and Brooklands access/egress routes.



BREACH at location C



I.4 Brooklands

SITE NAME	BROOKLANDS	
DESCRIPTION OF THE AREA	<ul style="list-style-type: none"> The Brooklands area is located to the west of Jaywick village... The elevation in the Brooklands area is variable with elevation decreasing moving landwards. The Jaywick Ditch flows to the north of Brooklands. The area is protected by a flood defence wall running along the coast as well as the counterwall, located to the west of Tower Caravan Park. 	
SOURCES OF FLOOD RISK	<ul style="list-style-type: none"> Brooklands is at risk from coastal and surface water flooding. There is also residual risk from failure of coastal defences. 	
SURFACE WATER FLOOD RISK		FLUVIAL FLOOD RISK
<p>The lower lying area of Brooklands is shown to be at risk of surface water flooding in the uFMfSW. The higher areas closer to the sea front and along Brooklands road are shown to be unaffected. The uFMfSW indicates all streets within the Brooklands area are at risk from surface water flooding. An assessment of surface water risk should be included within a site-specific FRA and adequate surface water drainage design should be implemented to ensure surface water flood risk is not exacerbated.</p>		<p>The Brooklands Ditch flows through the Brooklands area and may pose a risk of fluvial flooding to the area.</p>
		
ACCESS AND EGRESS CONSIDERATIONS		FLOOD RISK ASSESSMENTS
<p>The main access/egress route for the Brooklands area is Brooklands, which is followed round to Jaywick Village where the route joins Meadow Way. Modelling shows neither of these routes is affected by flooding greater than 0.25 m in the design (0.5% AEP) scenario, although Meadow Way is shown to flood to depths between 0.25 and 0.5 m for approximately 18 hours in the modelled three tide scenario in the 0.1% AEP event. Flooding to access routes worsens during the climate change scenarios with increased flooding depths and durations.</p> <p>Access and egress in a breach scenario is dependent on the location of the breach; given there is only one access/egress route for the Brooklands area, precautionary evacuation on receipt of a severe flood warning is</p>		<p>Development in this area will require a site specific FRA. Reference should be made to the breach modelling undertaken for this SFRA. Climate change should be considered when looking at whether the development will be safe for its proposed lifetime. Minimum finished floor levels should be based on the 0.5% AEP plus climate change to 2112 and include an allowance of a 300mm freeboard. Depths in this scenario vary across the area but modelling shows they range from 1.0 to 2.0 m.</p> <p>Surface water drainage design should be implemented to ensure surface water flood risk is not exacerbated and that flows in the nearby watercourses are not increased.</p>

recommended. An option to provide a safe refuge in a public space is recommended for lesser events. An emergency plan should also be considered for developments within this area.

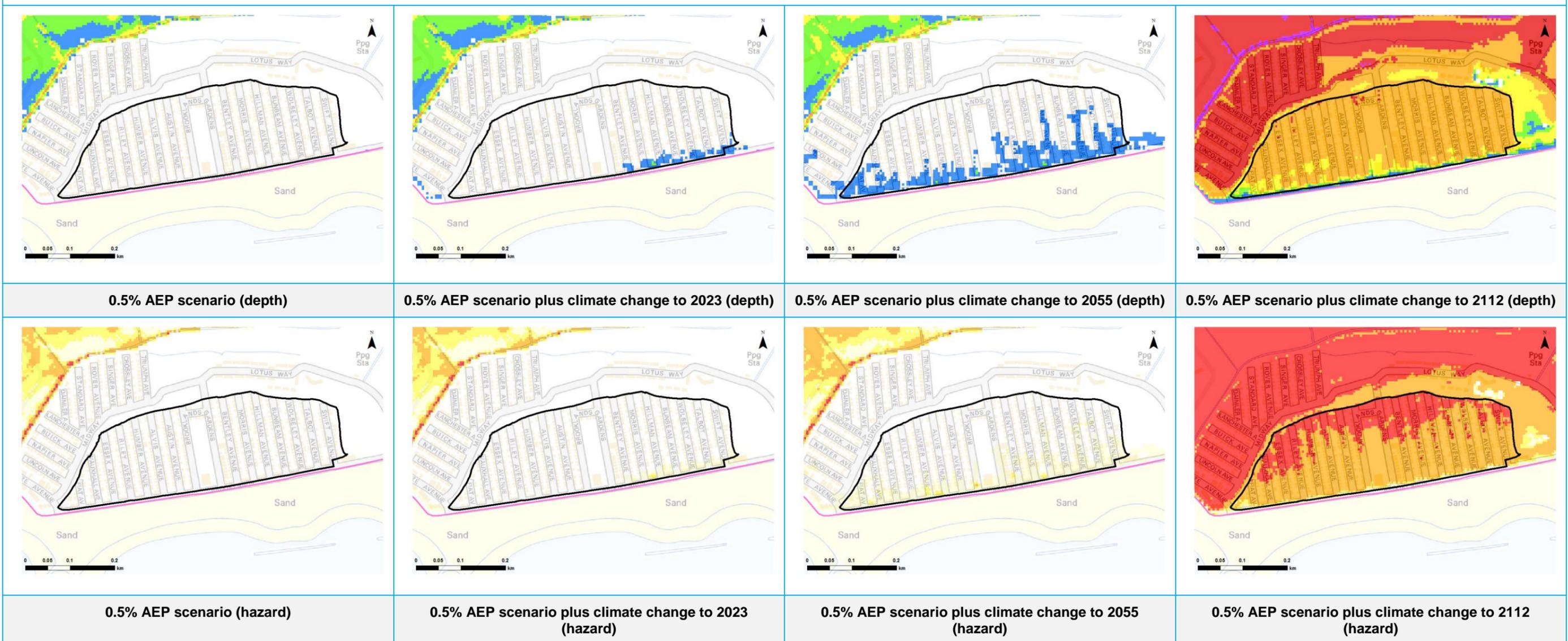
OVERTOPPING scenarios

Model results show the Brooklands area is well protected from wave overtopping of the coastal defences. There is small amount of overtopping in the 0.5% AEP to 0.5% AEP plus climate change to 2023 scenarios, effecting mainly Brooklands road. Depths in these scenarios range between 0.001 to 0.25 m and the hazard is classed as 'very low'. The level of risk increases in the 0.5% AEP plus climate change to 2055 scenario, with the extent of flooding increasing; however, depths and hazard classifications remain similar to those for the lower scenarios. Safe access/egress is possible along Lotus Way.

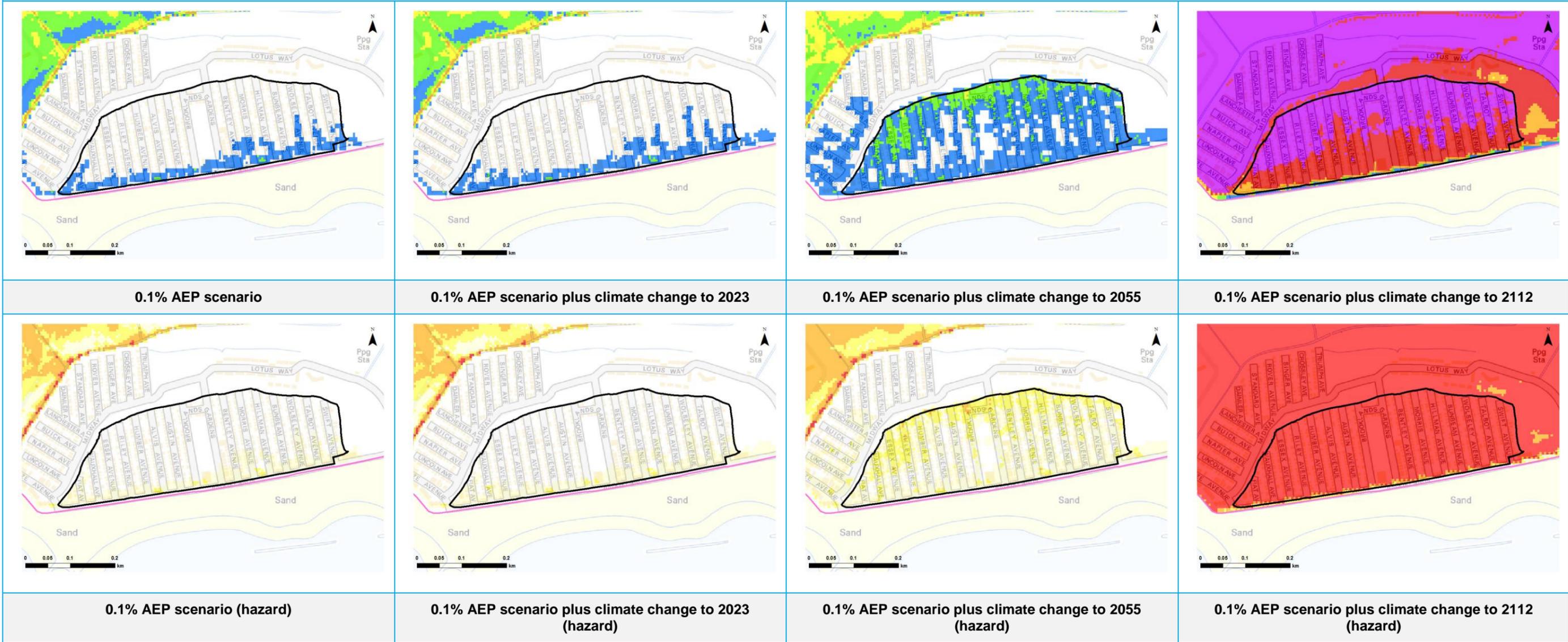
Modelling shows the level of risk increasing significantly in the 0.5% AEP plus climate change to 2112 scenario. In this scenario, the whole of the Brooklands area is at risk with depths ranging from 1.0 to 2.0 m, with the greater depths seen in the lower lying areas further inland towards Jaywick Ditch. The hazard in this scenario is classed as 'danger for all' in the lower areas further inland towards Jaywick Ditch, and 'danger for most' for the slightly higher ground nearer to the sea front.

Slightly more overtopping is seen in the 0.1% AEP scenarios although the extent of flooding is still relatively low in the 0.1% AEP and 0.1% plus climate change to 2023 scenarios. However, the 0.1% AEP plus climate change to 2055 sees a larger area affected by flooding, with flooding affecting all roads within the Brooklands area. Depths in this scenario range between 0.001 to 0.25 m in the higher areas nearer the sea front and 0.25 to 0.5 m for the lower ground further inland towards Jaywick Ditch. This variation is also reflected in the hazard classification with a classification of 'danger for some' in the areas of lower elevation and 'very low' in the areas of higher elevation.

The level of risk increases significantly in the 0.1% AEP plus climate change to 2112 scenario, with depths increasing to 2.0 m in the higher areas near the sea front and increasing to over 3 m in depth in the lower areas further inland. The hazard for all areas has been classed as 'danger for all'. Safe access/egress in the 2112 scenarios is unlikely due to the depth and duration of flooding



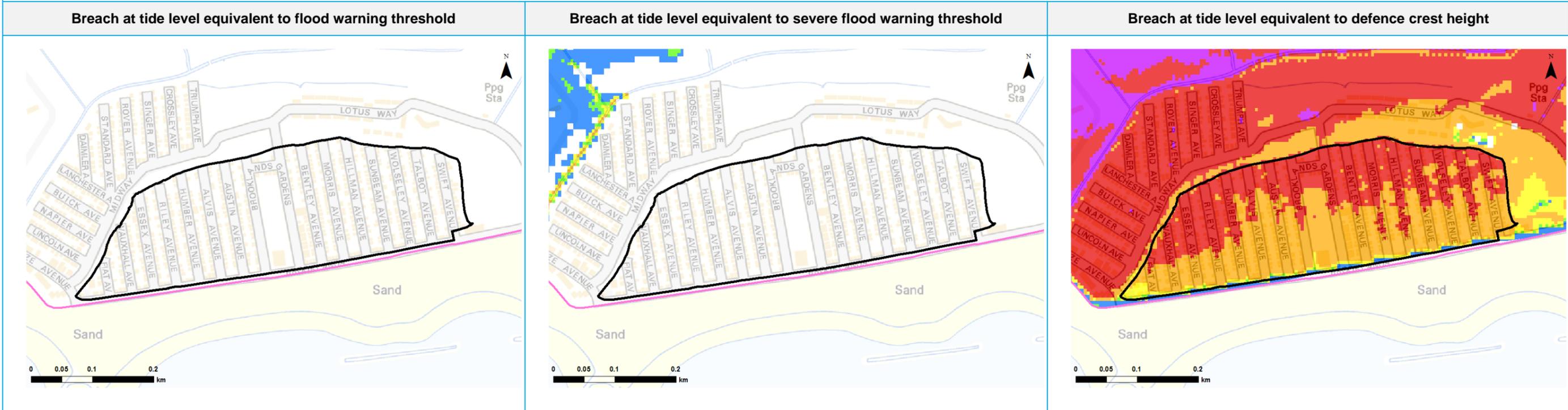
OVERTOPPING scenarios



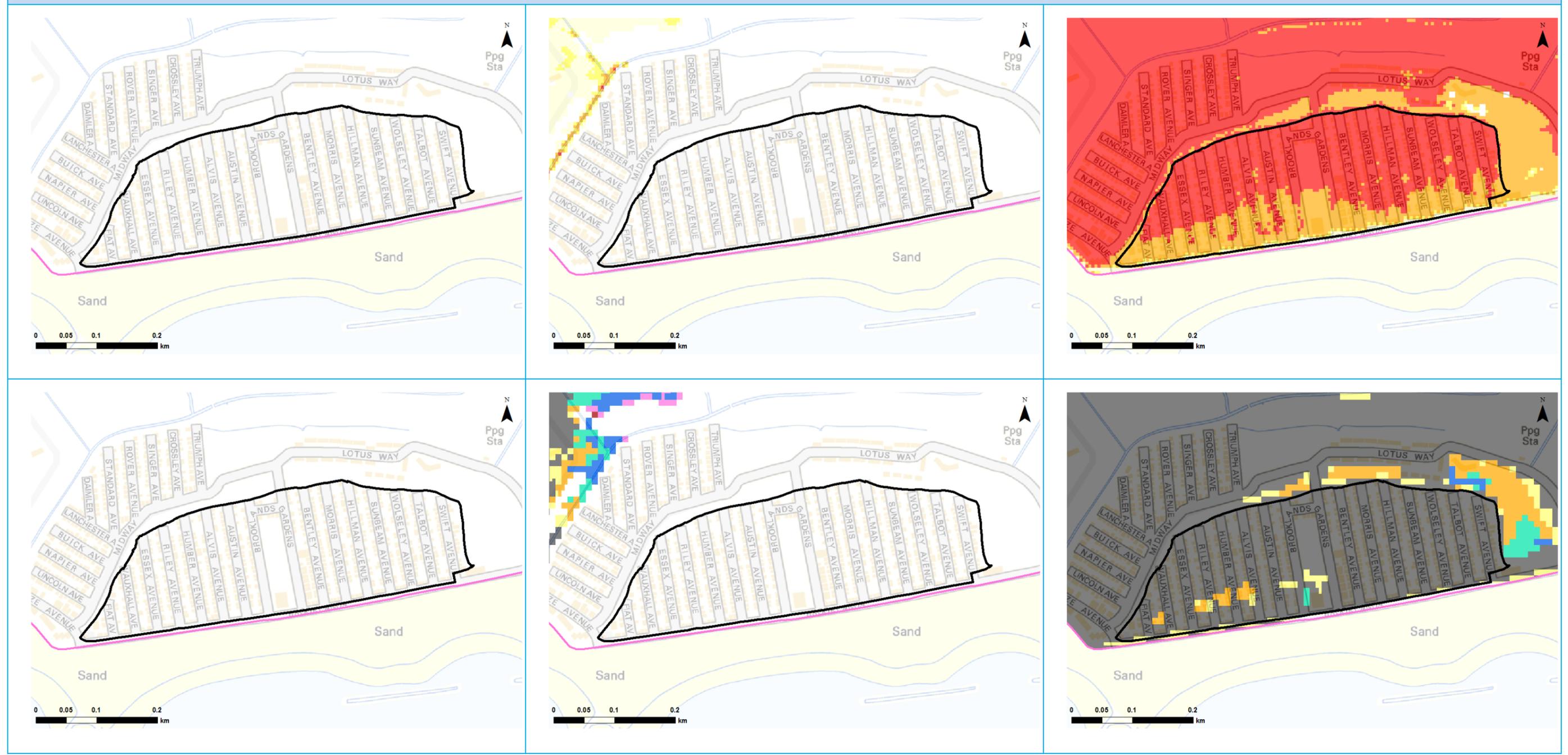
BREACH at location A

Modelling results show the level of risk at the Brooklands area is unaffected by a breach at location A until a tide level equivalent to the defence crest height scenario. In this scenario, the Brooklands area will be affected by flooding of depths between 1.0 to 2.0 m with the greatest depths seen at the areas of lower elevation further inland. The hazard would be classed as 'danger for most' or 'danger for all'.

In the tide level equivalent to the defence crest height scenario, the majority of the Brooklands area will already have been affected by flooding from overtopping before the breach occurs. The main access and egress routes will have been flooded due to overtopping before the breach occurs. Of the two main routes out of Brooklands, Lotus Way and Brooklands, Brooklands has the lowest hazard classification.



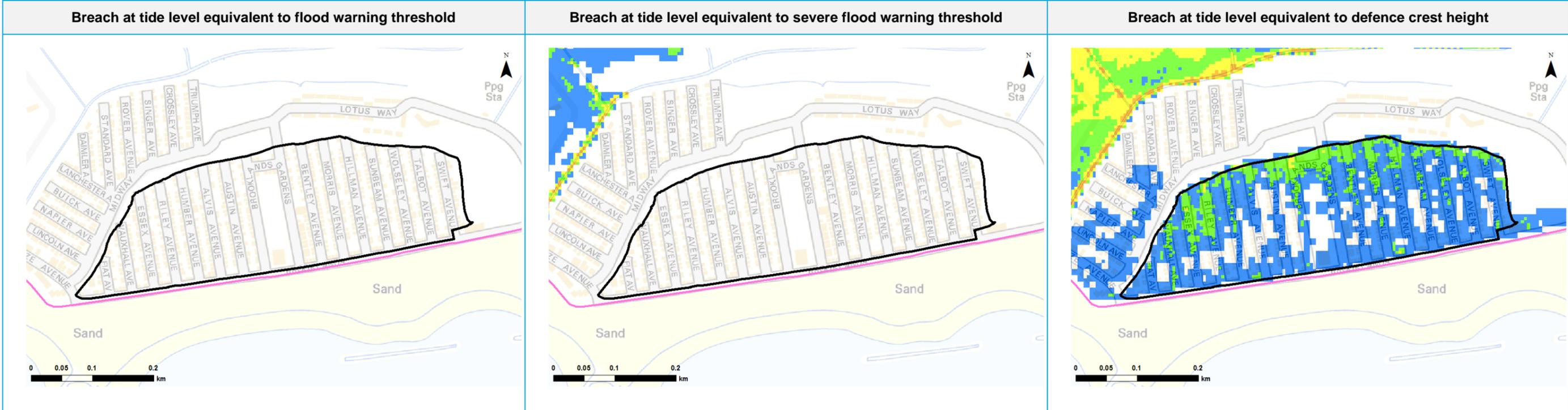
BREACH at location A



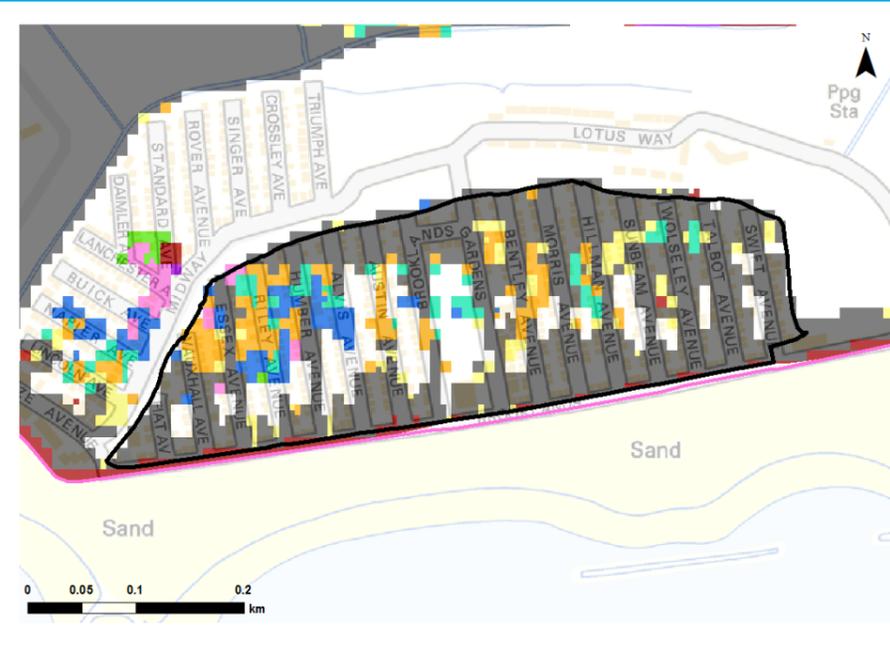
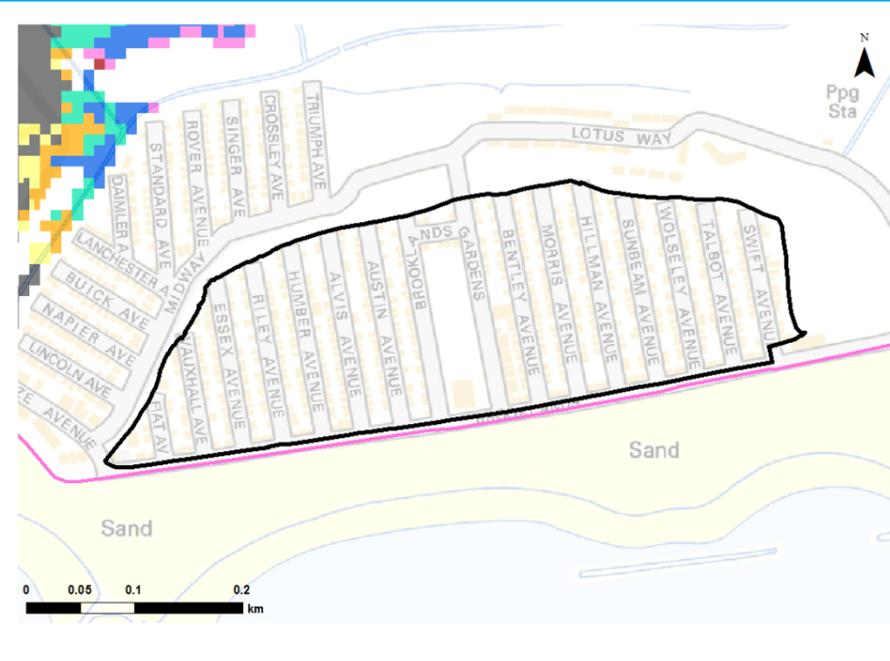
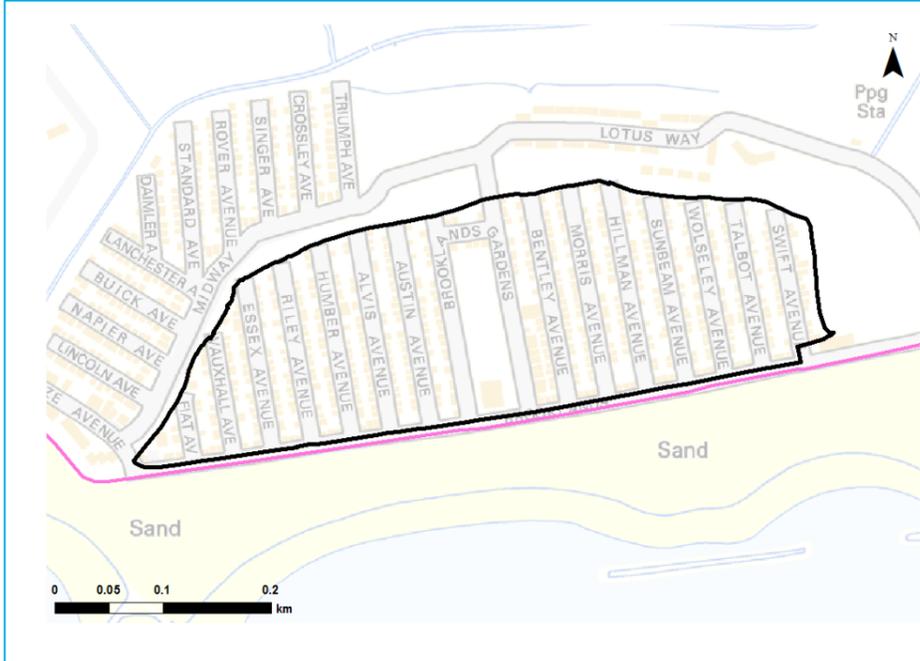
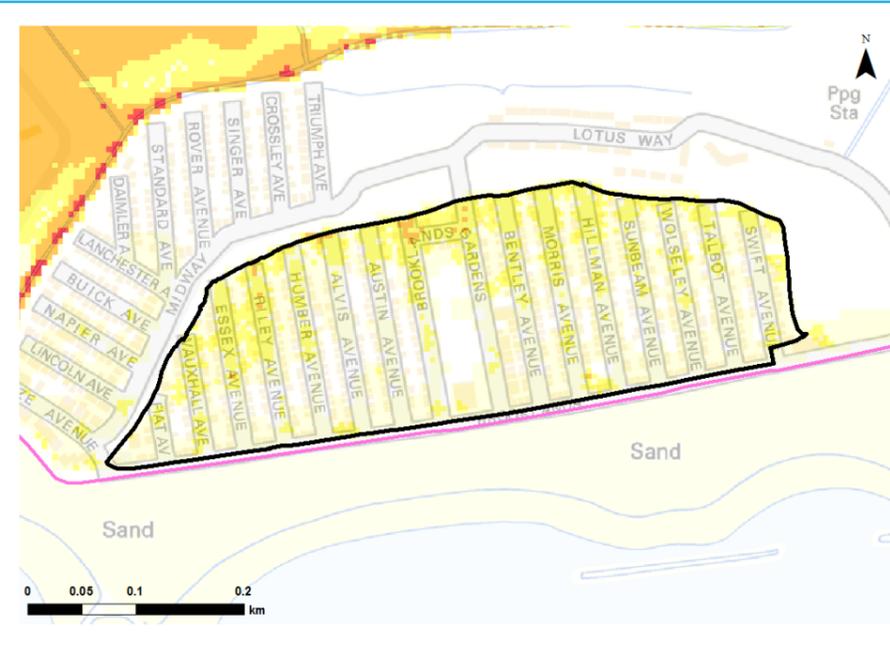
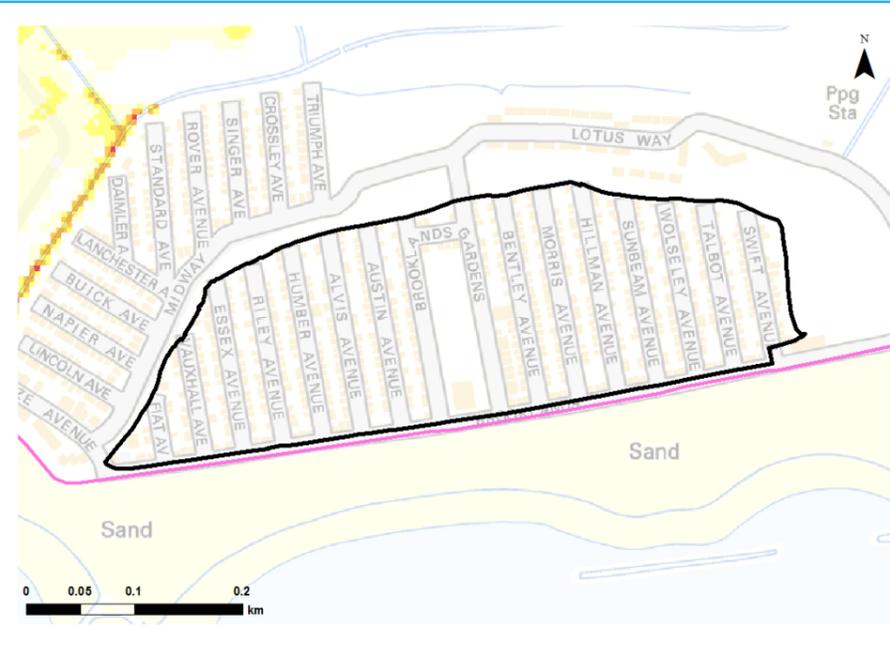
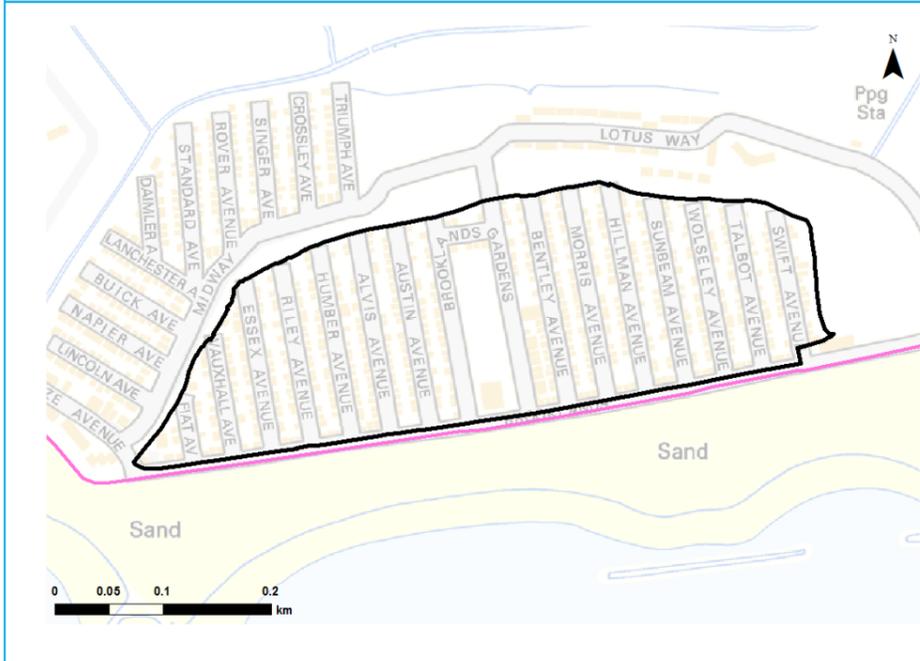
BREACH at location B

As with location A, modelling results show the level of risk at the Brooklands area is unaffected by a breach at location B until a tide level equivalent to the defence crest height scenario. In this scenario, the Brooklands area will be affected by flooding of depths between 0.001 to 0.5 m with the greatest depths seen at the areas of lower elevation further inland. The hazard would be classed as 'very low' or 'danger for some'.

In the tide level equivalent to the defence crest height scenario, a large part of the affected area of Brooklands area will already have been affected by flooding from overtopping before the breach occurs. After the breach, flooding in the area will have reached its maximum extent within 15 hours. For a breach at location B, the main safe access/egress route would be Lotus Way which remains largely unaffected by flooding.



BREACH at location B

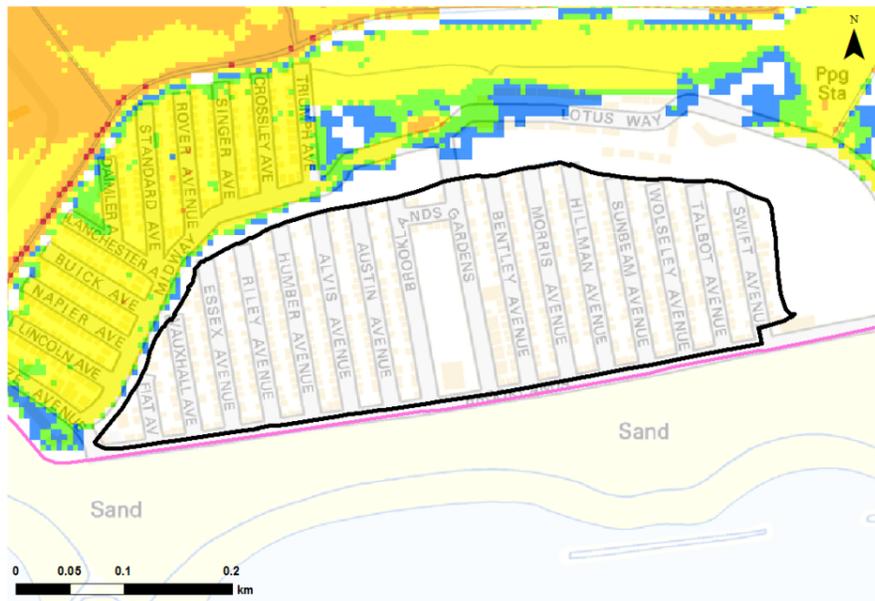


BREACH at location C

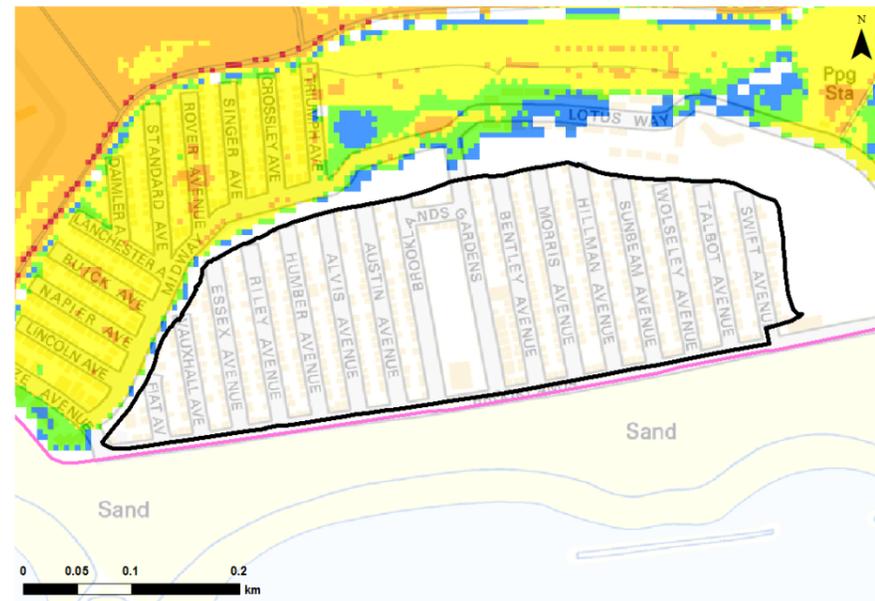
Unlike the breaches at locations A and B, location C is situated east of the counterwall. Modelling results show the level of risk in the Brooklands area is only affected by a breach at location C at the tide level equivalent to the defence crest height scenario. In this scenario, depths range from 0.001 to 2.0 m with the greatest depths seen at the areas of lower elevation further inland. The hazard would be classed as 'very low' or 'danger for some' or 'danger for most'.

The majority of the Brooklands area will be flooded within five hours for a breach with a tide level equivalent to the defence crest height scenario; although a large proportion of the area will have been affected by overtopping before the breach occurred. Of the two main routes out of Brooklands, Lotus Way and Brooklands, Brooklands has the lowest hazard classification; however, this route will experience flooding first due to overtopping. Lotus Way will be flooded to depth of up to 2.0 m within one hour of the breach.

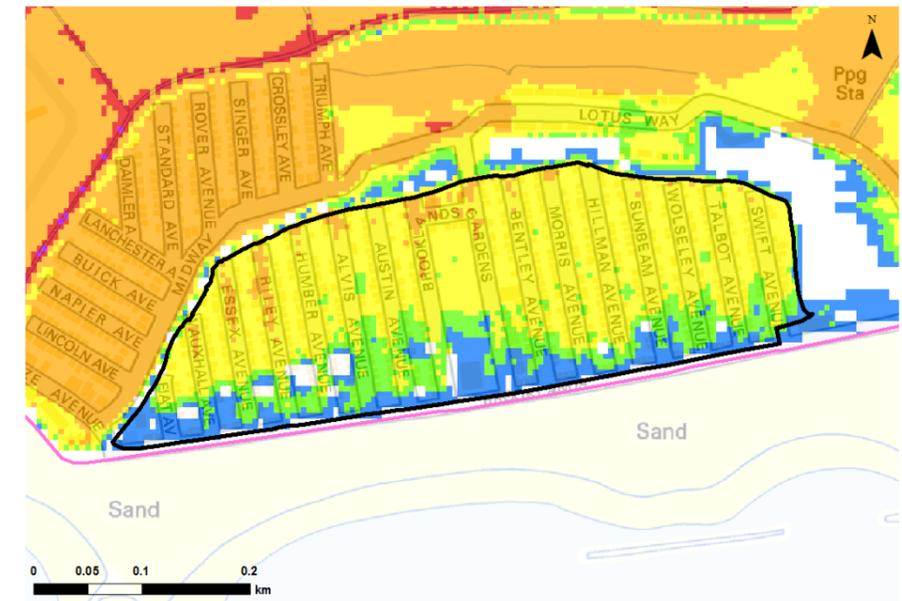
Breach at tide level equivalent to flood warning threshold



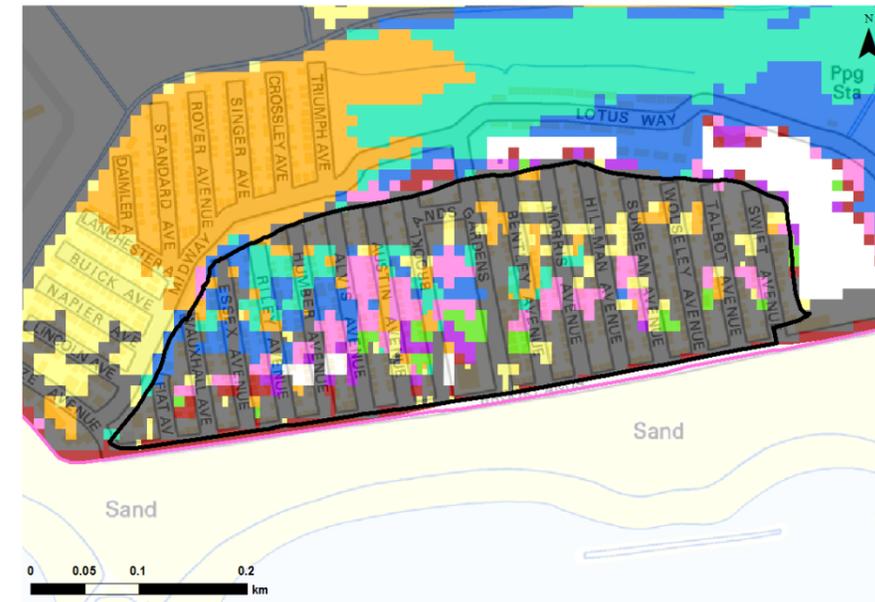
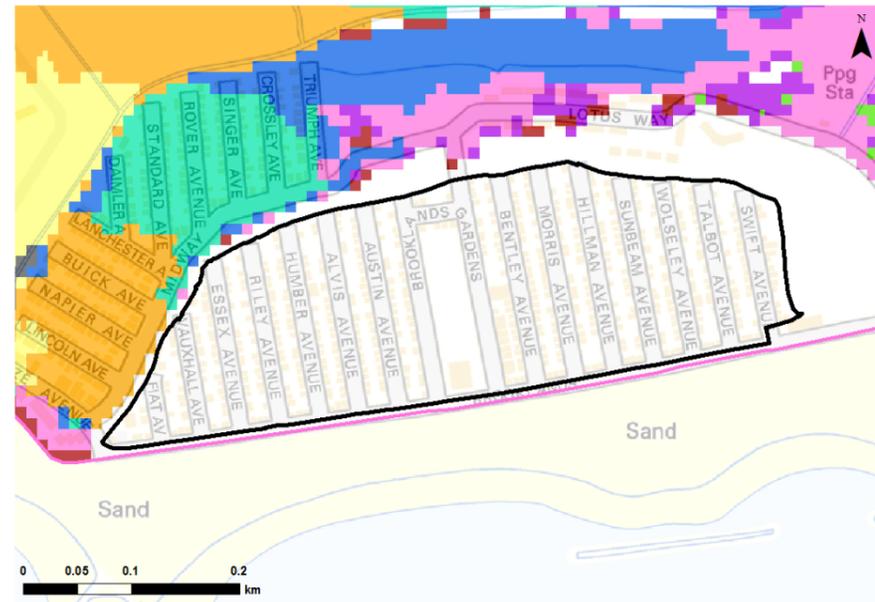
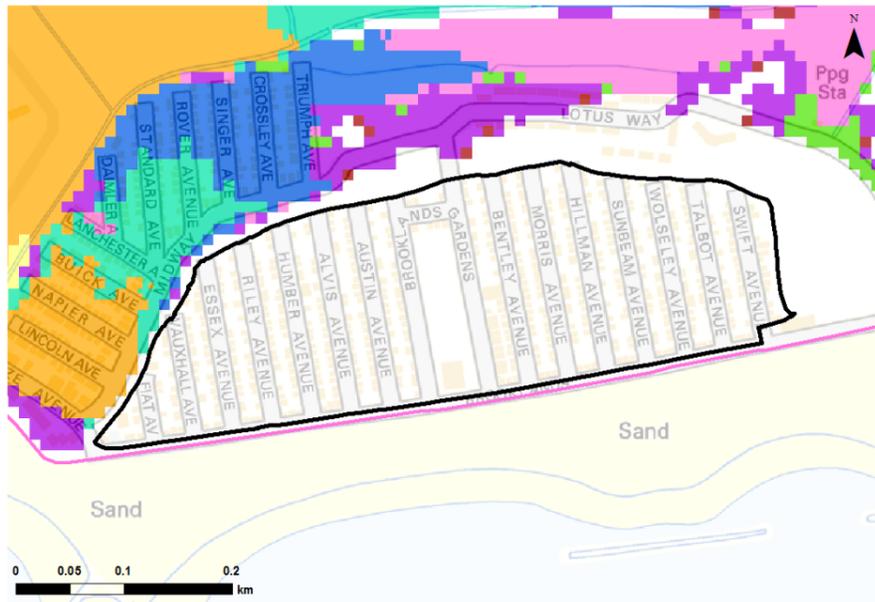
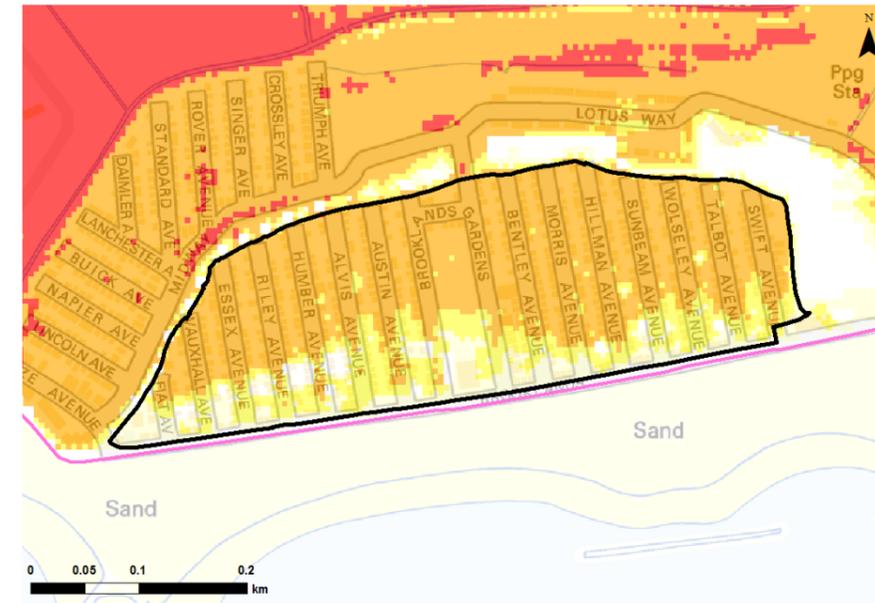
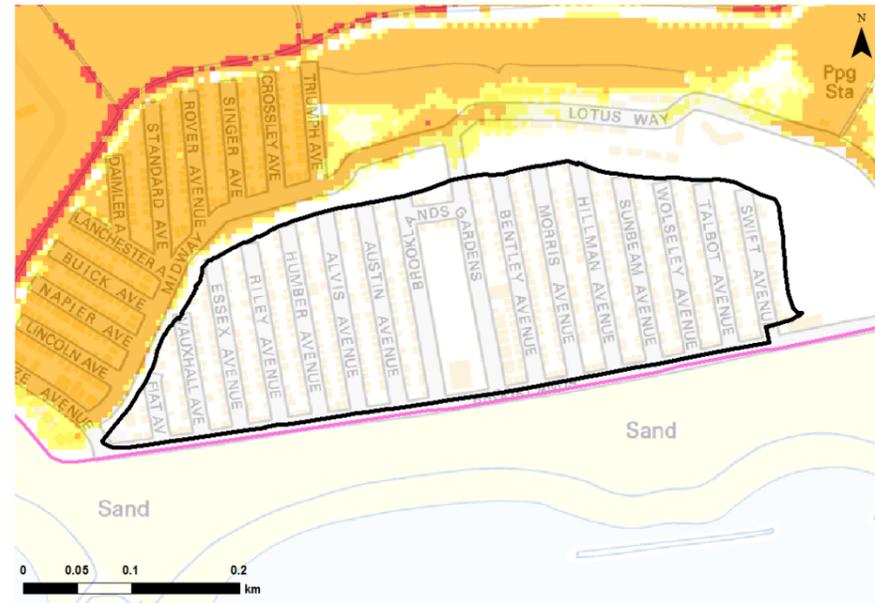
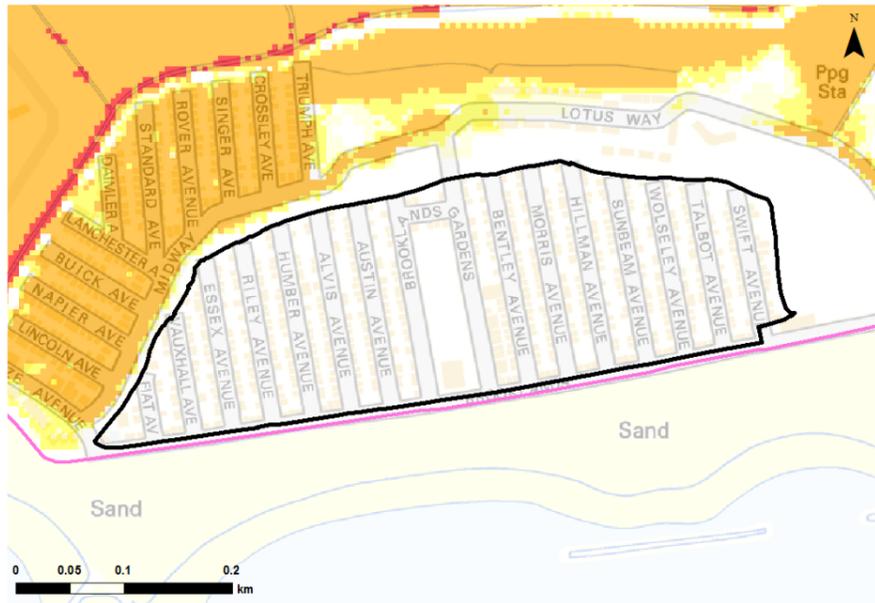
Breach at tide level equivalent to severe flood warning threshold



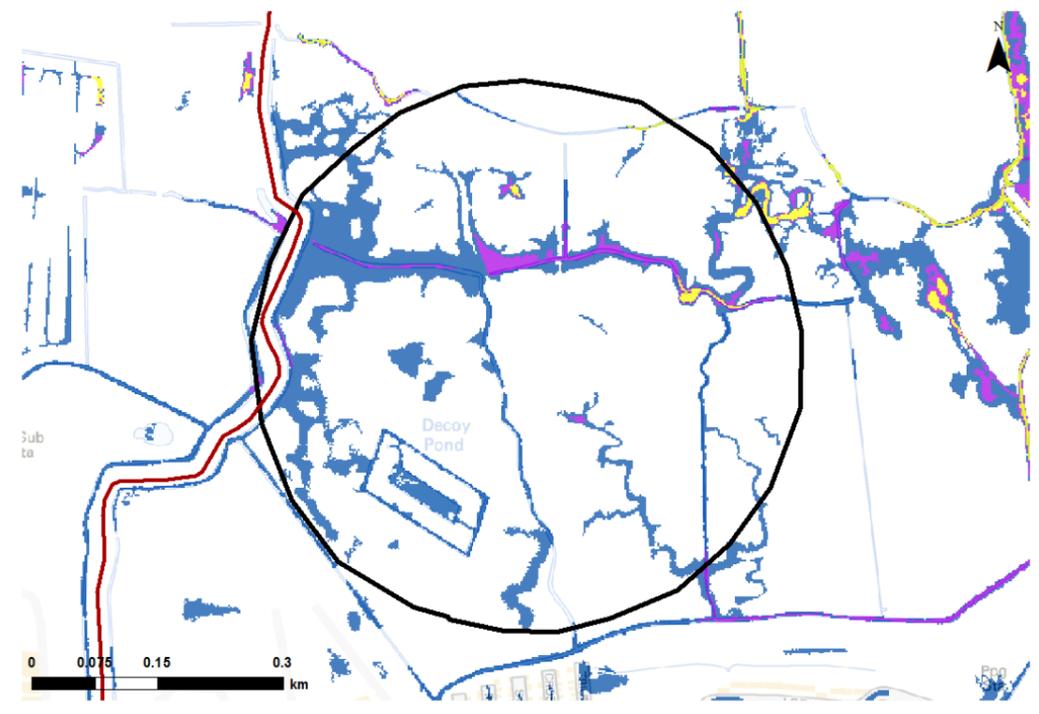
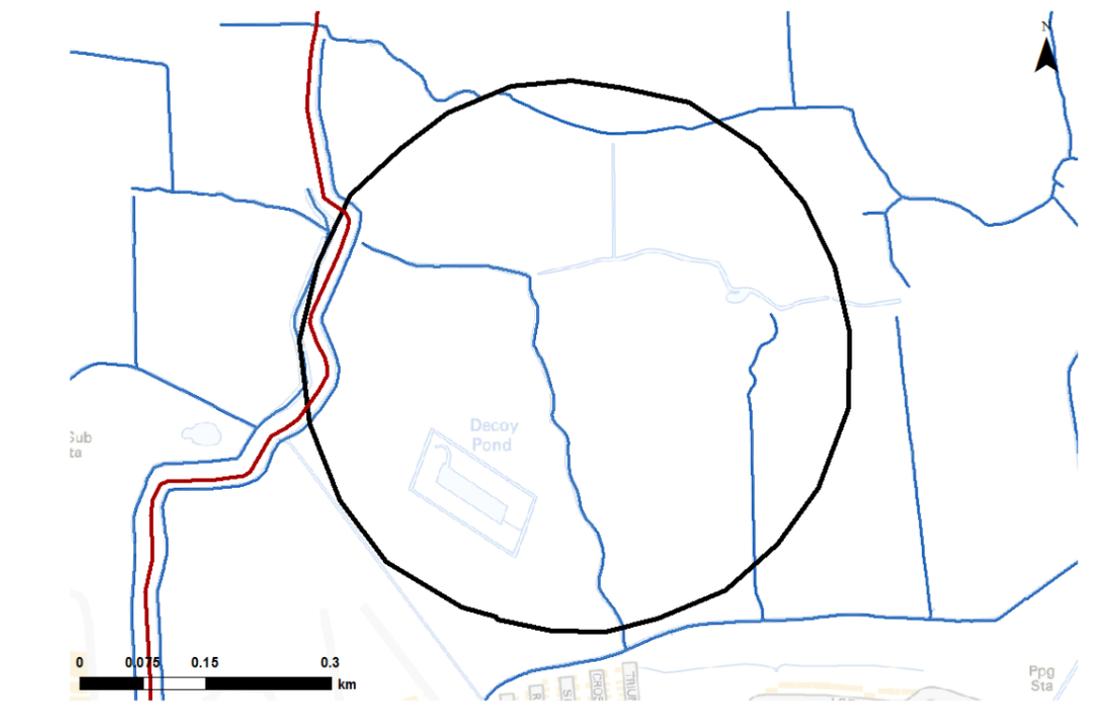
Breach at tide level equivalent to defence crest height



BREACH at location C



I.5 North of Jaywick Ditch

SITE NAME	NORTH OF JAYWICK DITCH	
DESCRIPTION OF THE AREA	<ul style="list-style-type: none"> • This area covers the land north of Jaywick Ditch, between Tudor Fields and the counterwall. The elevation in this area is variable, with higher ground located to the east and north of the area. • The Jaywick Ditch flows to the south and a number of smaller watercourses and drains flow through the area. • The area is protected by the counterwall to the west. • There is currently no urban development in the north of Jaywick Ditch area. 	
SOURCES OF FLOOD RISK	<ul style="list-style-type: none"> • Brooklands is at risk from coastal, fluvial and surface water flooding. There is also residual risk from failure of coastal defences. 	
SURFACE WATER FLOOD RISK		FLUVIAL FLOOD RISK
<p>The uFMfSW shows surface water flooding is primarily in the vicinity of the smaller drains and watercourses in the area, and the lower lying ground. An assessment of surface water risk should be included within a site-specific FRA and adequate surface water drainage design should be implemented to ensure surface water flood risk is not exacerbated.</p>		<p>The Jaywick Ditch as well as a number of smaller drains and watercourses flow through this area; these may pose a risk of fluvial flooding to the area.</p>
		
ACCESS AND EGRESS CONSIDERATIONS		FLOOD RISK ASSESSMENTS
<p>There are currently no access/egress routes in this area as it is undeveloped. Based on modelling results, it is recommended that any access/egress route for this area should direct people north or east out of the area, away from the areas of land flooded in the modelled overtopping scenarios. In the event of a breach, this would also maximise the time before the route is inundated and the area cut off.</p> <p>It is recommended that more than one access/egress route is provided as flooding in this area can come from two directions; this would improve the chances of evacuation in the event of a flood.</p>		<p>Development in this area will require a site specific FRA. Reference should be made to the breach modelling undertaken for this SFRA. Climate change should be considered when looking at whether the development will be safe for its proposed lifetime.</p> <p>Minimum finished floor levels should be based on the 0.5% AEP plus climate change to 2112 and include an allowance of a 300mm freeboard. Depths in this scenario vary across the area but modelling shows they range from 1.0 to 3.0 m.</p> <p>Surface water drainage design should be implemented to ensure surface water flood risk is not exacerbated and that flows in</p>

Depending on the location of an access/egress route, precautionary evacuation on receipt of a severe flood warning may be recommended. An option to provide a safe refuge in a public space is recommended for lesser events.	the nearby watercourses are not increased. An emergency plan should also be considered for developments within this area.
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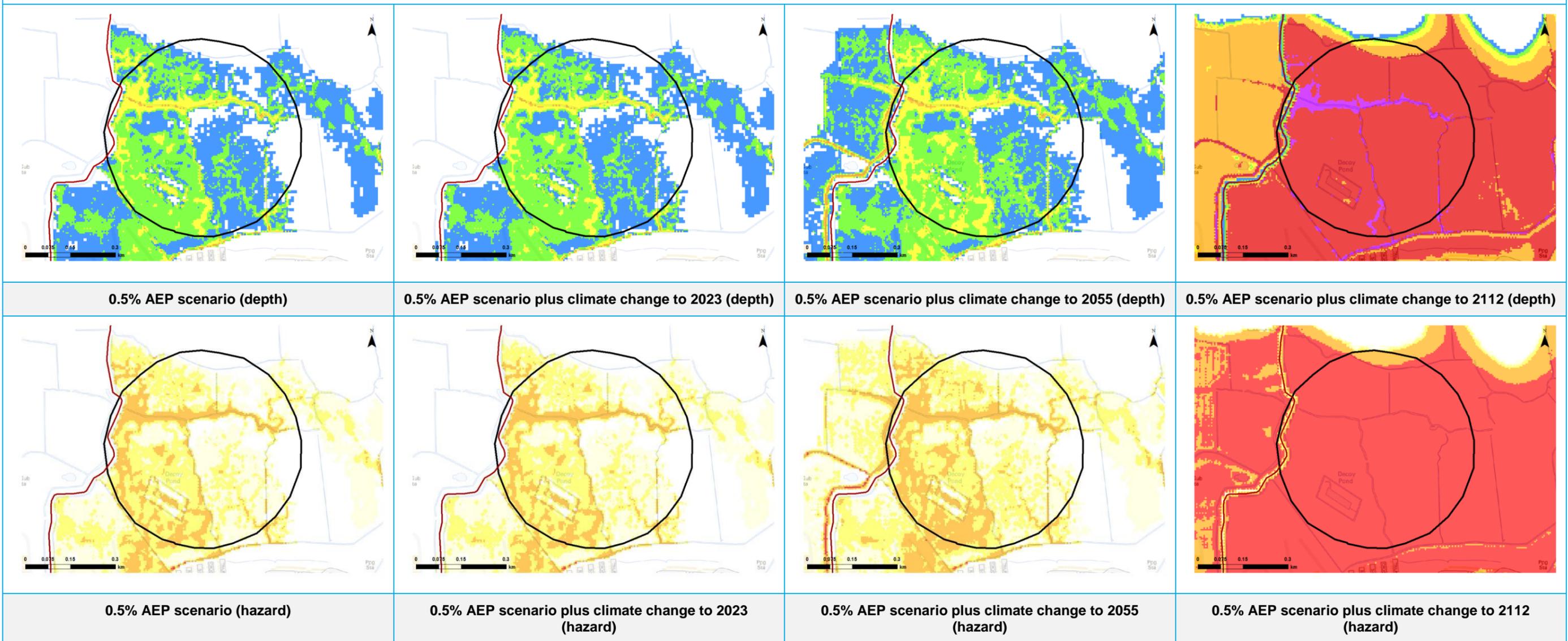
OVERTOPPING scenarios

Model results show the area north of Jaywick Ditch area is at risk from wave overtopping in all scenarios. There is overtopping in the 0.5% AEP to 0.5% AEP plus climate change to 2055 scenarios with depths in these scenarios ranging between 0.001 to 1.0 m and hazard classed as 'very low' to 'danger for most'. The areas of greatest depth and hazard are in the lower lying areas in the west.

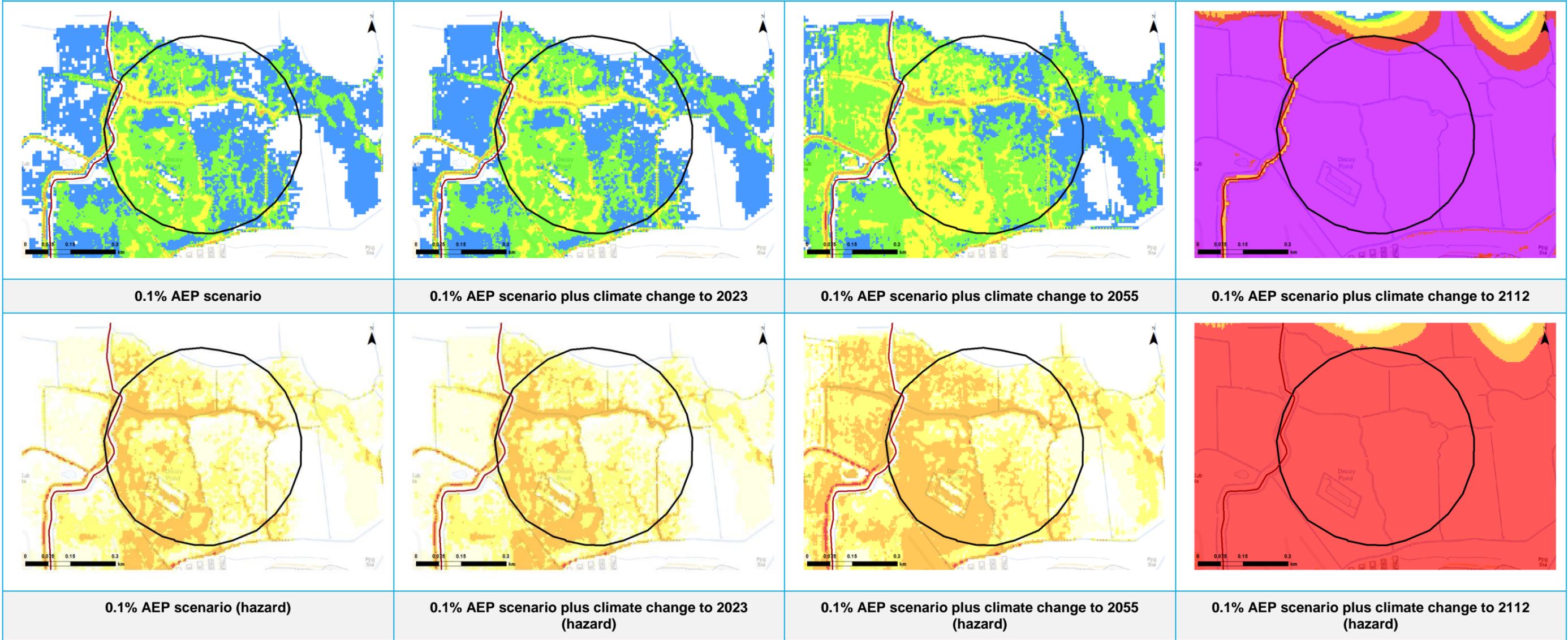
Modelling shows the level of risk increasing significantly in the 0.5% AEP plus climate change to 2112 scenario. In this scenario, the whole of the area north of Jaywick Ditch is at risk with depths ranging from 1.0 to 3.0 m. The hazard in this scenario is classed as 'danger for all'.

Flooding from overtopping follows a similar trend in the 0.1% AEP and 0.1% plus climate change scenarios. However, the 0.1% AEP plus climate change to 2055 sees a larger area affected by flooding. Depths in this scenario range between 0.001 to 1.0 m and the hazard ranges from 'very low' to 'danger for most'. The proportion of the area covered by deeper flood depths and greater hazard class increases in this scenario.

The level of risk increases significantly in the 0.1% AEP plus climate change to 2112 scenario, with depths increasing to 3.0 m or deeper and hazard classed as 'danger for all'.



OVERTOPPING scenarios

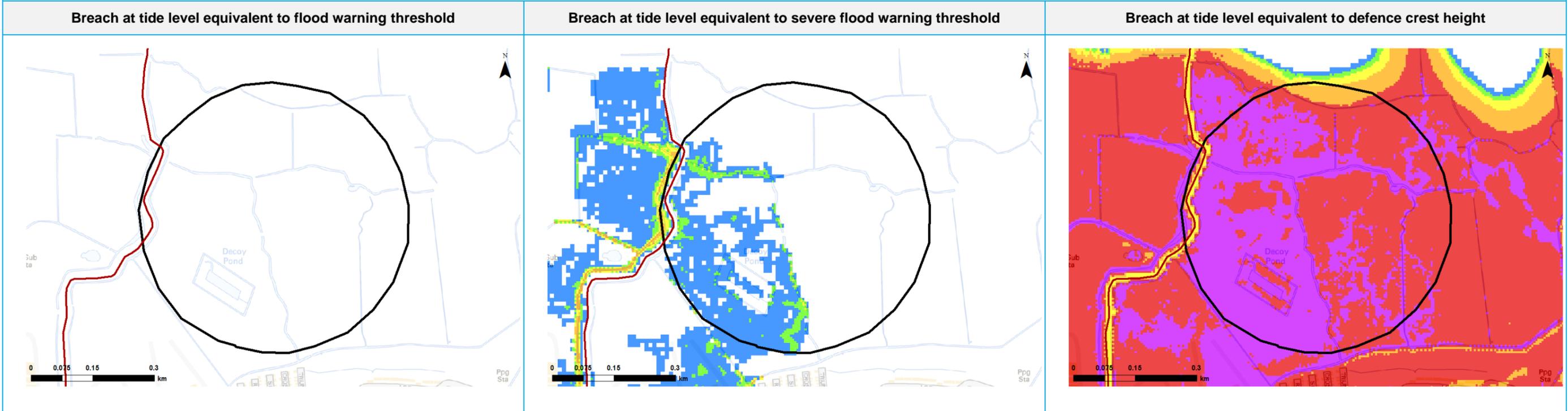


BREACH at location A

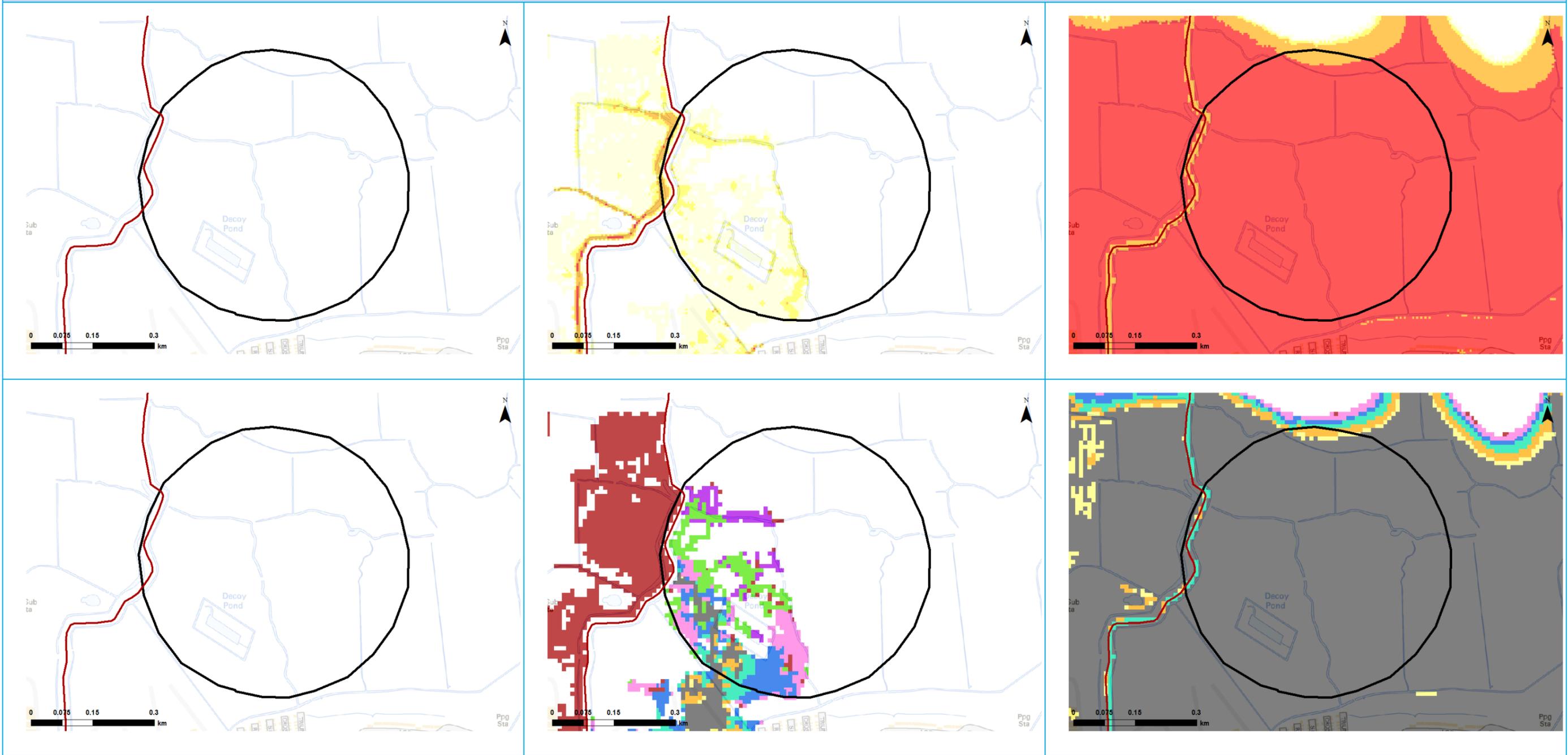
Modelling results show the level of risk in the area north of Jaywick Ditch is unaffected by a breach at location A until a tide level equivalent to the SFW threshold scenario. In this scenario, the area will be affected by flooding of depths between 0.25 to 0.5 m with the greatest depths seen at the areas of lower elevation in the west. The hazard would be classed as 'very low' or 'danger for some'.

The level of risk increases significantly by a breach with a tide level equivalent to the defence crest height with depth ranging from 2.0 to 3.0 m or deeper. In this scenario, the hazard has increased to 'danger for all'.

At the tide level equivalent to the defence crest height scenario, the majority of the area will already have been affected by flooding from overtopping before the breach occurs.



BREACH at location A

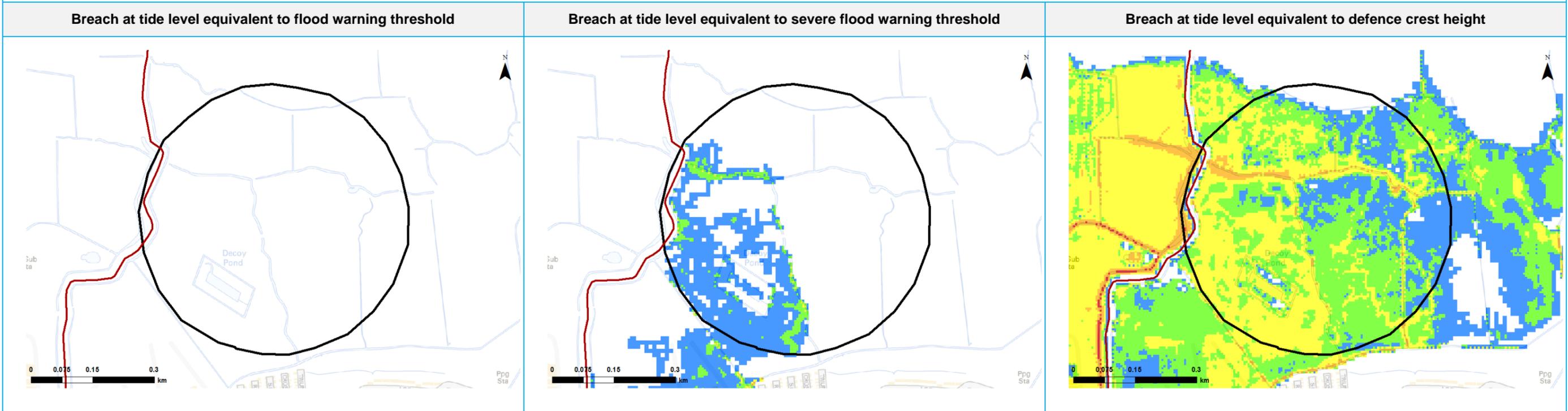


BREACH at location B

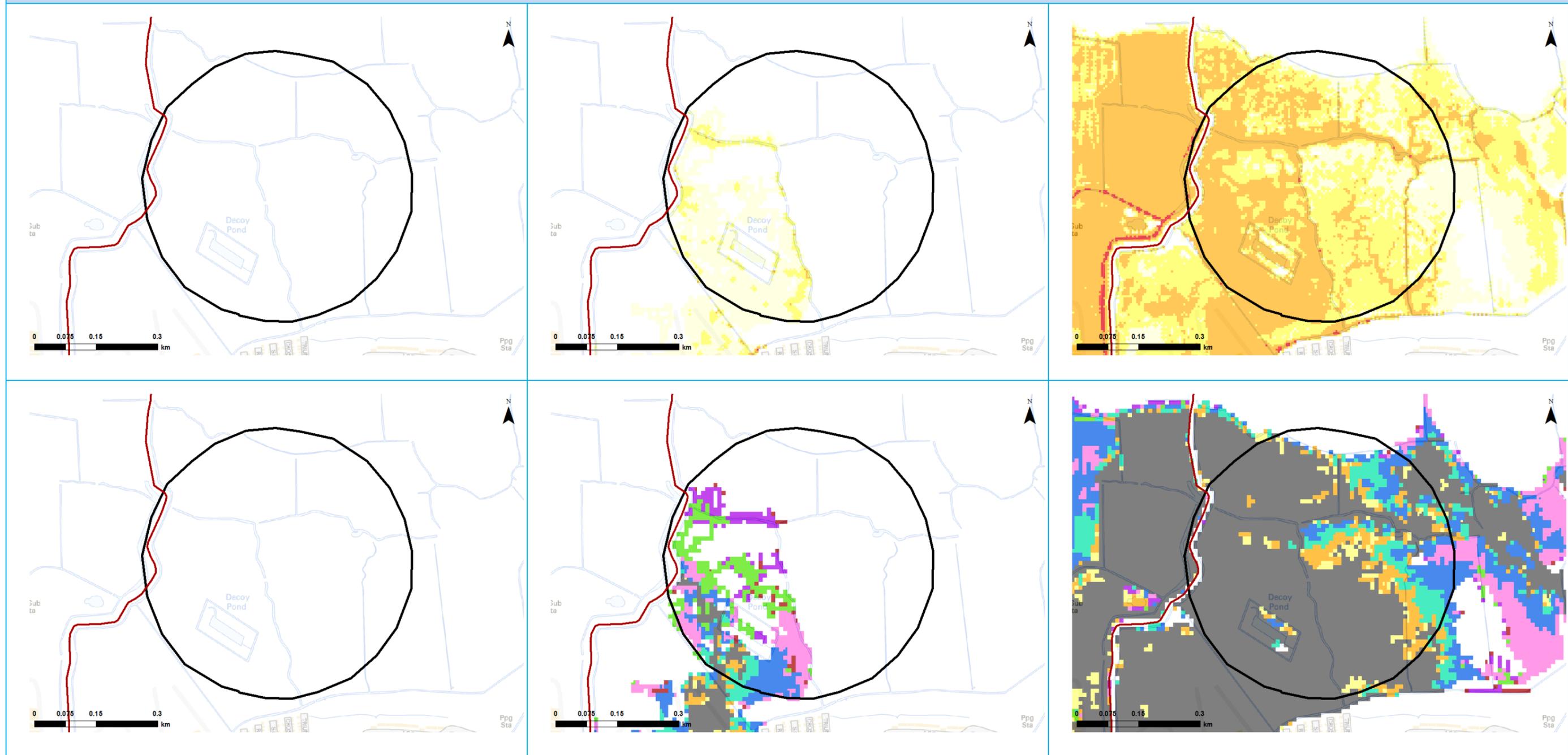
As with location A, modelling results show the level of risk in the area north of Jaywick Ditch is unaffected by a breach at location B until a tide level equivalent to the SFW threshold scenario. In this scenario, the area will be affected by flooding of depths between 0.25 to 0.5 m with the greatest depths seen at the areas of lower elevation in the west. The hazard would be classed as 'very low' or 'danger for some'.

The level of risk increases significantly by a breach with a tide level equivalent to the defence crest height with depth ranging from 0.25 to 1.0 m. In this scenario, the hazard has increased to 'danger for some' or 'danger for most'.

At the tide level equivalent to the defence crest height scenario, the majority of the area will already have been affected by flooding from overtopping before the breach occurs. Parts of the higher elevated areas to the east of the area are not flooded until two hours after the breach.



BREACH at location B

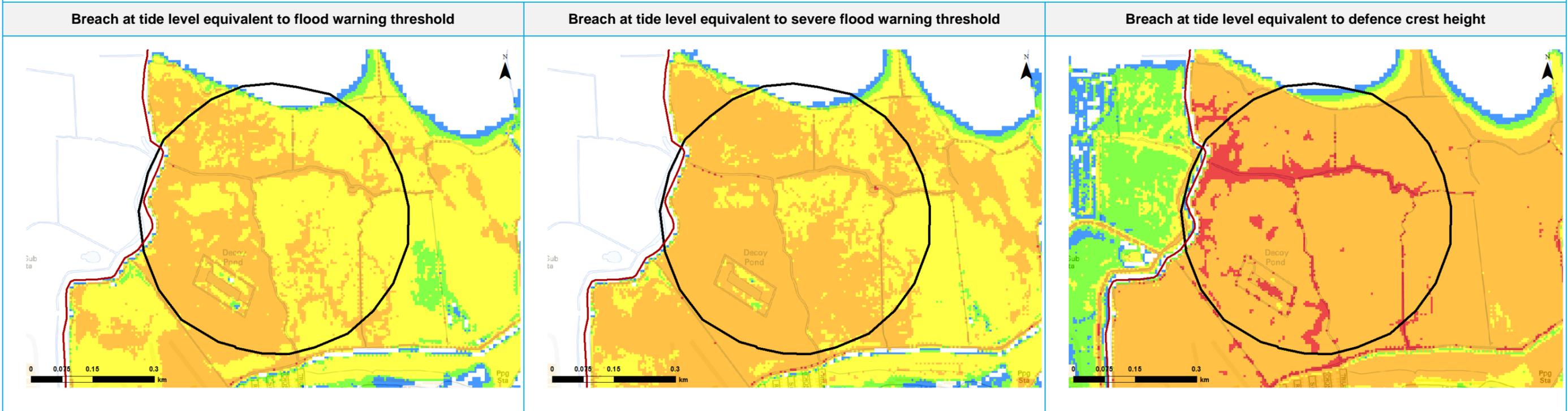


BREACH at location C

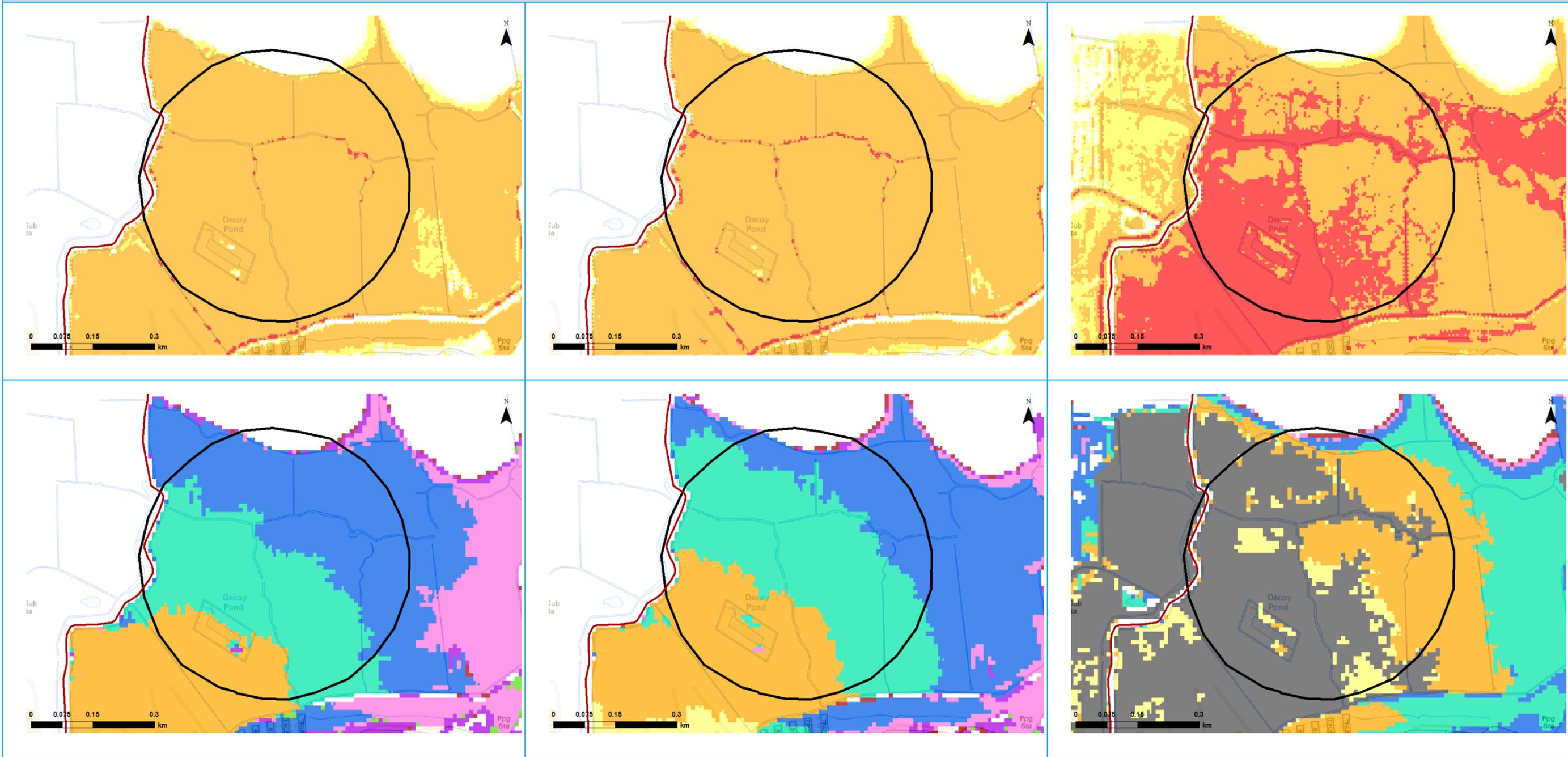
Unlike the breaches at locations A and B, location C is situated east of the counterwall. Modelling results show the level of risk at the area north of Jaywick Ditch is significantly affected by a breach at location C for all tide scenarios. In the tide level equivalent to the FW threshold and the SFW threshold scenarios, depths are broadly similar ranging from 0.25 to 2.0 m with the greatest depths seen at the areas of lower elevation further west. The extent of the deepest flooding increases in the tide level equivalent to the SFW scenario. The hazard would be classed as 'danger for most' for the majority of the area.

For the tide level equivalent to the defence crest height scenario, the majority of the area is flooded to a depth of 1.0 to 2.0 m. The south west of the area is classed as 'danger for all' due to the higher velocity of flooding in this area closest to the breach. This hazard classification also extends to the lower areas in the west. The remainder of the area is classed as 'danger for most'.

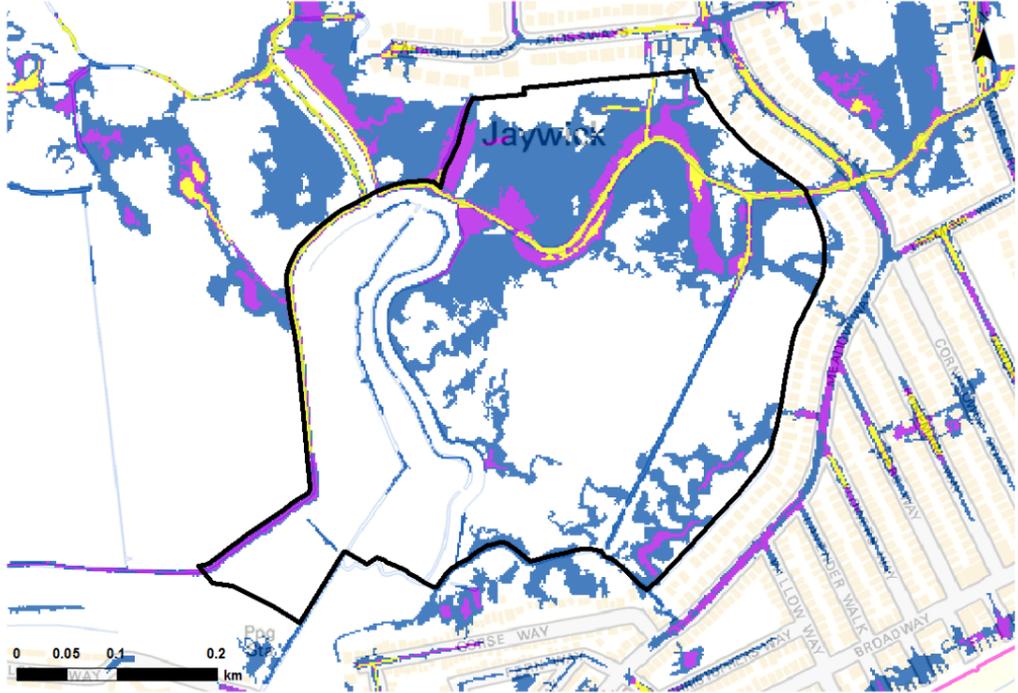
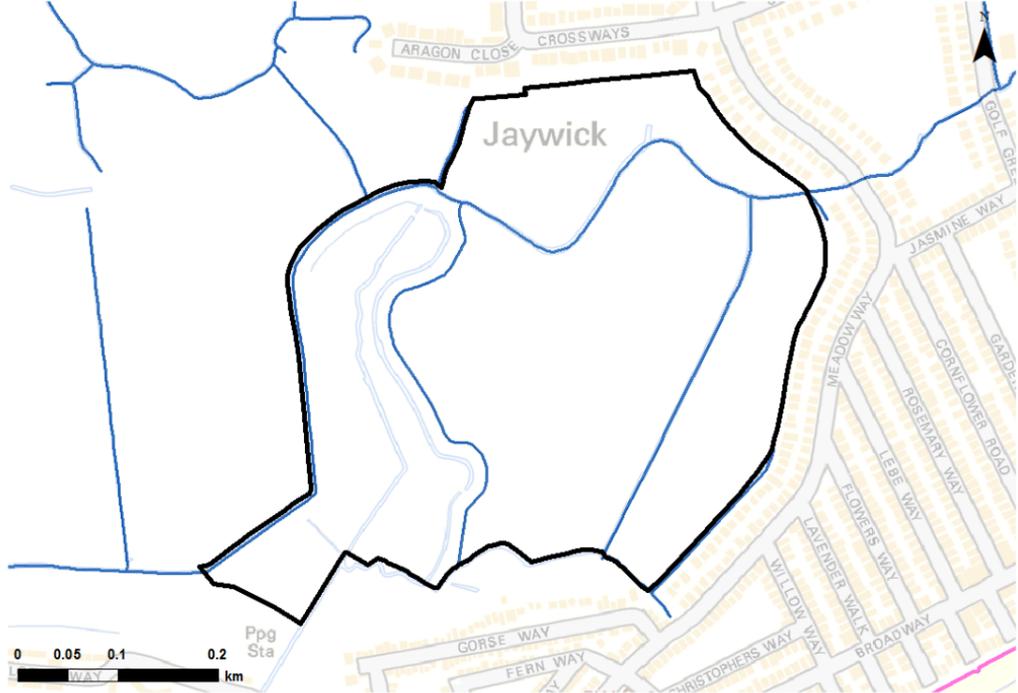
The majority of the area north of Jaywick Ditch will be flooded within one hour of a breach with a tide level equivalent to the FW or SFW thresholds. In the tide level equivalent to the defence crest height scenario, although a large proportion of the area will have been affected by overtopping before the breach occurred, the remainder of the area flooding will flood within 0.5 hours of the breach.



BREACH at location C



I.6 Tudor Fields

SITE NAME	TUDOR FIELDS	
DESCRIPTION OF THE AREA	<ul style="list-style-type: none"> The Tudor Fields area is located to the north and west of Jaywick village and south of the Tudor Estate. The elevation in the Tudor Fields area is variable with the lowest elevations along the flow paths of watercourses. There is an area of higher elevation in the centre and east and south of the area. The Jaywick Ditch flows through the assessment area There is currently no urban development in the Tudor Fields area. 	
SOURCES OF FLOOD RISK	<ul style="list-style-type: none"> Tudor Fields is at risk from coastal and surface water flooding. There is also residual risk from failure of coastal defences, and potential fluvial flood risk from the Jaywick Ditch and small drains and watercourses in the area. 	
SURFACE WATER FLOOD RISK		FLUVIAL FLOOD RISK
<p>The uFMfSW shows surface water flooding is primarily in the vicinity of the smaller drains and watercourses in the area, and the lower lying ground. An assessment of surface water risk should be included within a site-specific FRA and adequate surface water drainage design should be implemented to ensure surface water flood risk is not exacerbated.</p>		<p>The Jaywick Ditch as well as a number of smaller drains and watercourses flow through this area; these may pose a risk of fluvial flooding to the area.</p>
		
ACCESS AND EGRESS CONSIDERATIONS		FLOOD RISK ASSESSMENTS
<p>The main access/egress route for the Tudor Fields area would be Meadow Way or Crossways. Modelling shows neither of these routes is affected by flooding greater than 0.25 m in the design (0.5% AEP) scenario. Meadow Way is shown to flood to depths between 0.25 and 0.5 m for approximately 18 hours in the modelled three tide scenario in the 0.1% AEP event, although this is more likely in the area of Meadow Way closer to Jaywick Village and Broadway. Flooding to Meadow Way worsens during the climate change scenarios with increased flooding depths and durations.</p>		<p>Development in this area will require a site specific FRA. Reference should be made to the breach modelling undertaken for this SFRA. Climate change should be considered when looking at whether the development will be safe for its proposed lifetime.</p> <p>Minimum finished floor levels should be based on the 0.5% AEP plus climate change to 2112 and include an allowance of a</p>

An access/egress route via Crossways would be more appropriate as modelling shows this route does not flood until the climate change to 2112 scenarios.

Access and egress in a breach scenario is dependent on the location of the breach; precautionary evacuation on receipt of a severe flood warning is recommended. An option to provide a safe refuge in a public space is recommended for lesser events.

300mm freeboard. Depths in this scenario vary across the area but modelling shows they range from 1.0 to 3.0 m.

Surface water drainage design should be implemented to ensure surface water flood risk is not exacerbated and that flows in the nearby watercourses are not increased.

An emergency plans should also be considered for developments within this area.

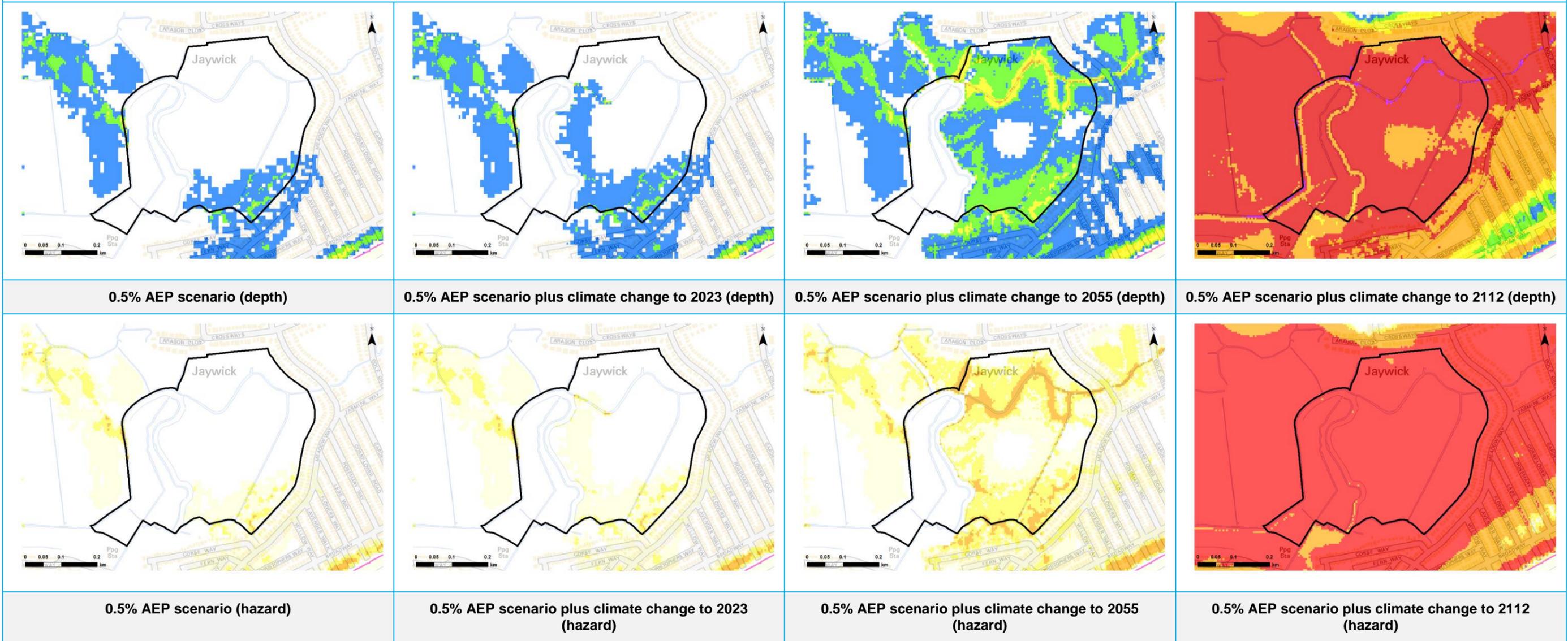
OVERTOPPING scenarios

Model results show the Tudor Fields area is at risk from wave overtopping in all scenarios. The overtopping approaches the area from two directions; from the west from overtopping by Tower Caravan Park and from the south from overtopping of the defence by Jaywick Village. The extent and depths in the 0.5% and 0.5% plus climate change to 2023 are broadly similar ranging from 0.001 to 0.5 m with the majority of hazard is classed as 'very low' or 'danger for some'.

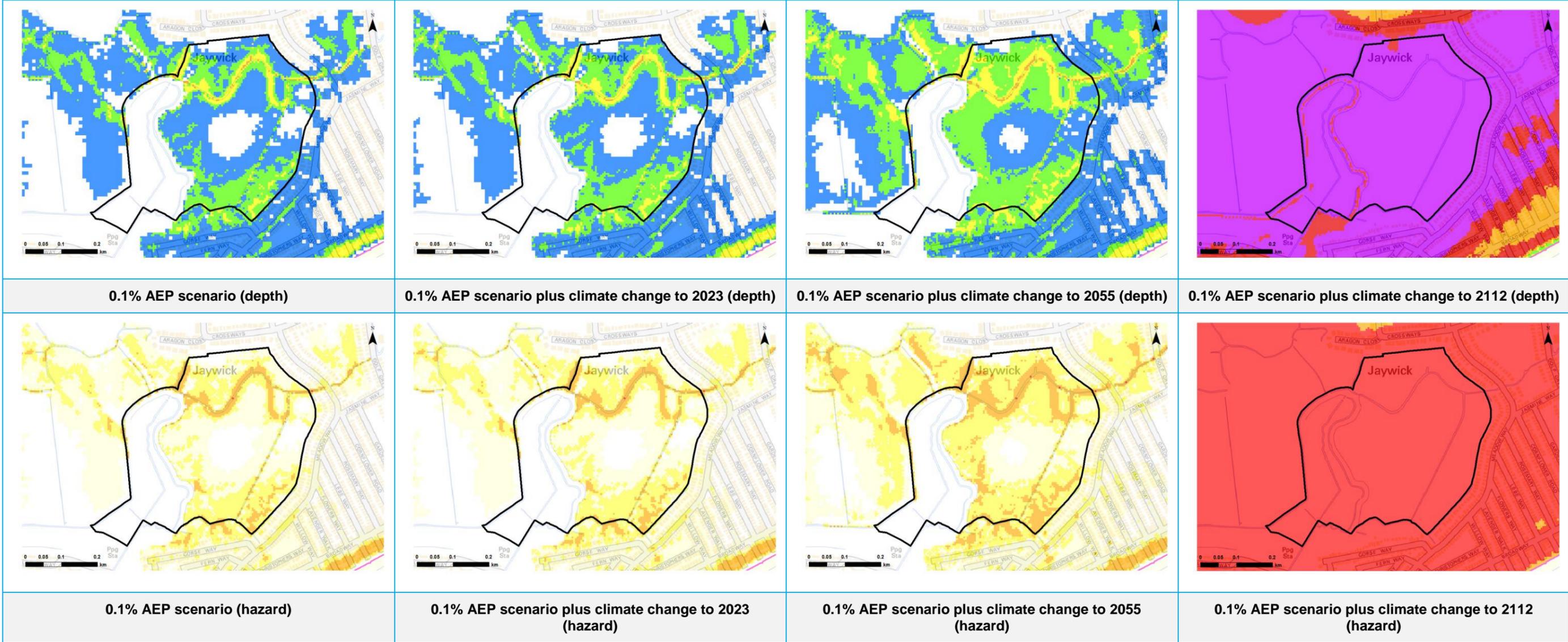
Modelling shows the extent of flooding increasing in the 0.5% AEP plus climate change to 2055 scenario, although the range of depths remains broadly the same. Deeper flooding is seen in the areas to the north and south.

The extent and depth of flooding increases significantly in the 0.5% AEP plus climate change to 2112 scenario, with flood depths increasing to 1.0 to 3.0 m. Flood hazard increases to 'danger for all' in this scenario.

Flooding from overtopping follows a similar trend in the 0.1% AEP and 0.1% plus climate change scenarios, covering a greater extent than the 0.5% AEP scenarios. However, the 0.1% AEP plus climate change to 2112 sees depths increasing to 3.0 m or deeper for the majority of the area.



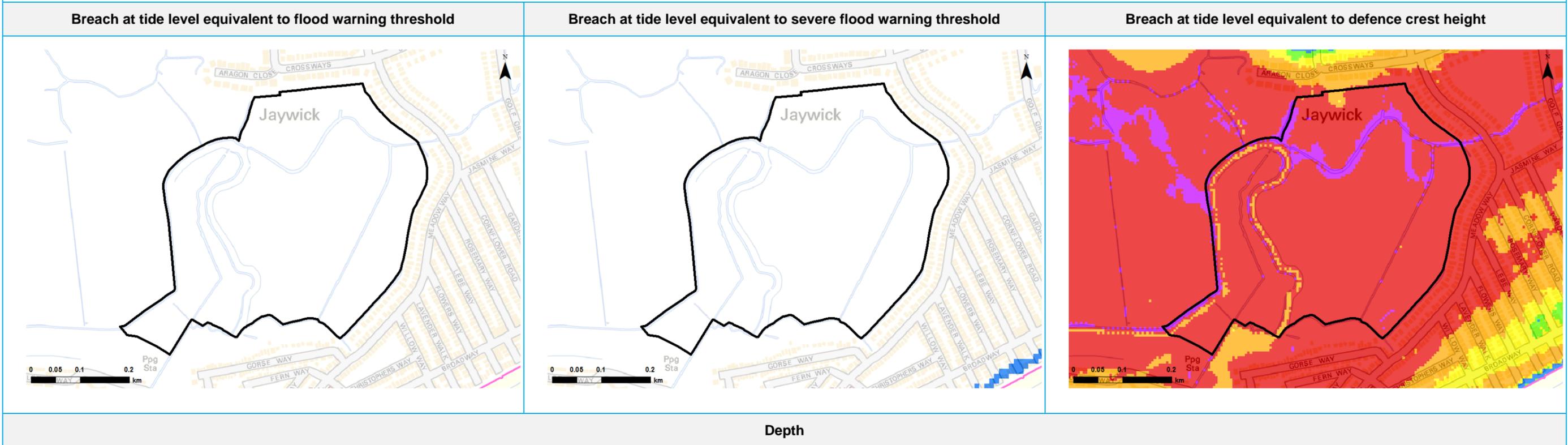
OVERTOPPING scenarios



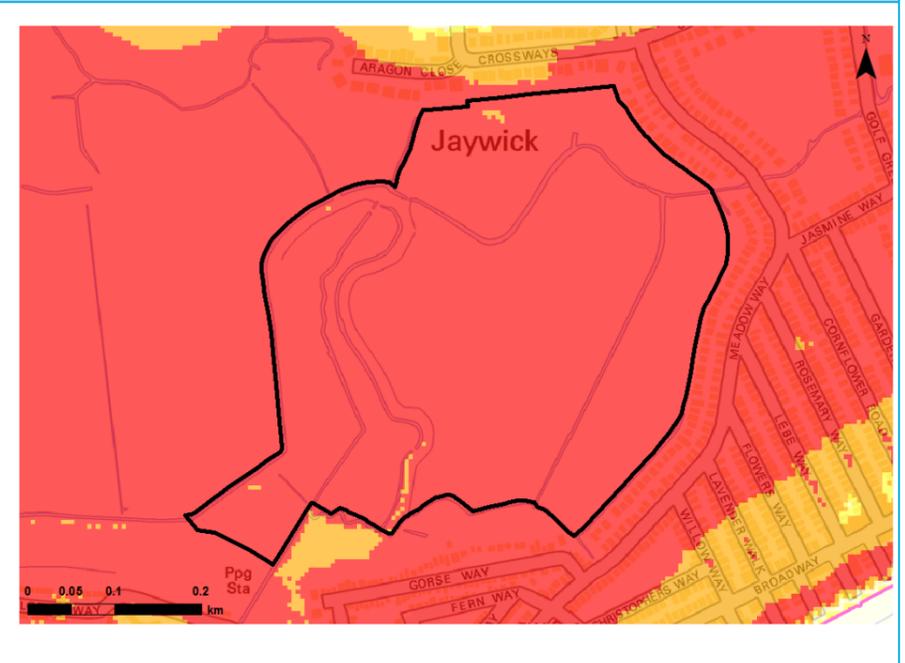
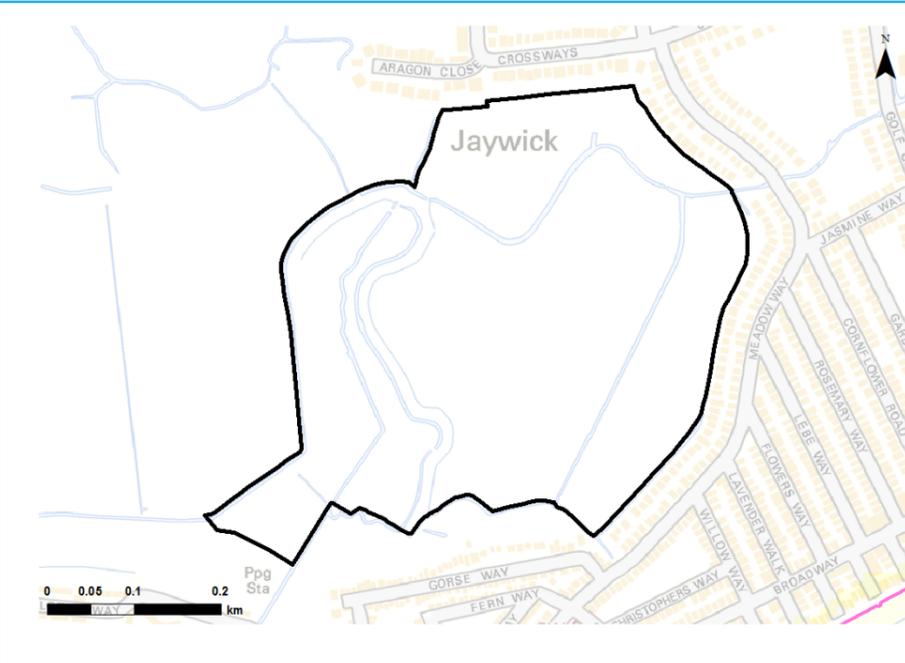
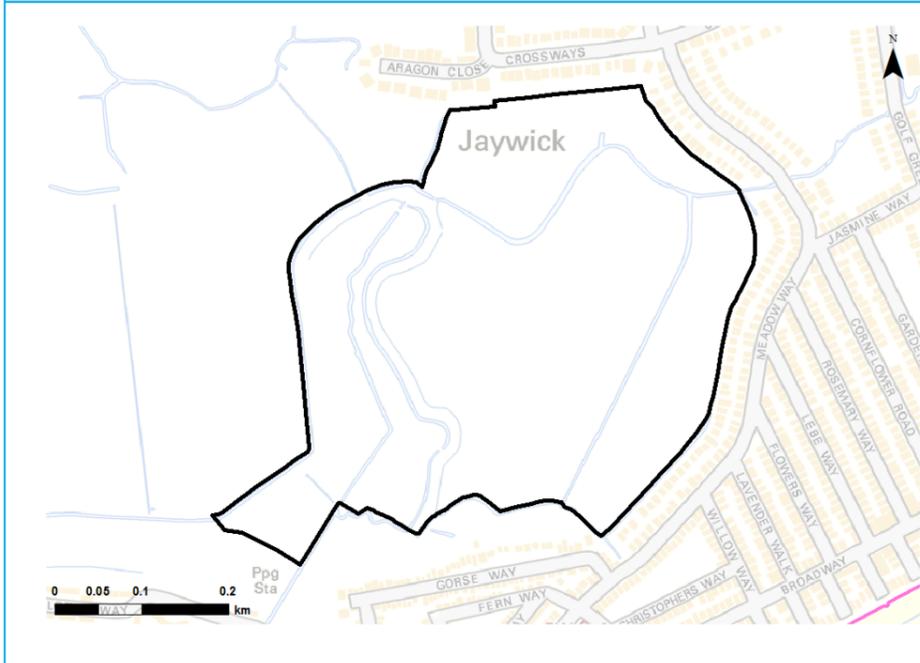
BREACH at location A

Modelling results show the level of risk at the Tudor Fields area is unaffected by a breach at location A until a tide level equivalent to the defence crest height scenario. In this scenario, the Tudor Fields area will be affected by flooding of depths between 2.0 to 3.0 m. The hazard would be classed as 'danger for most' or 'danger for all'. All access and egress routes in this scenario will be at risk with depths of 2.0 to 3.0 m.

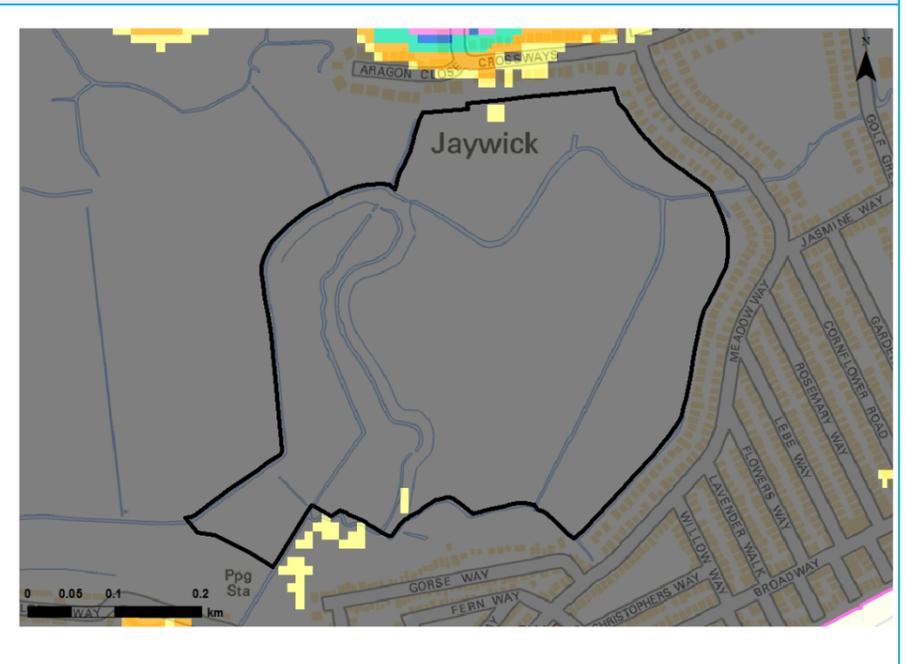
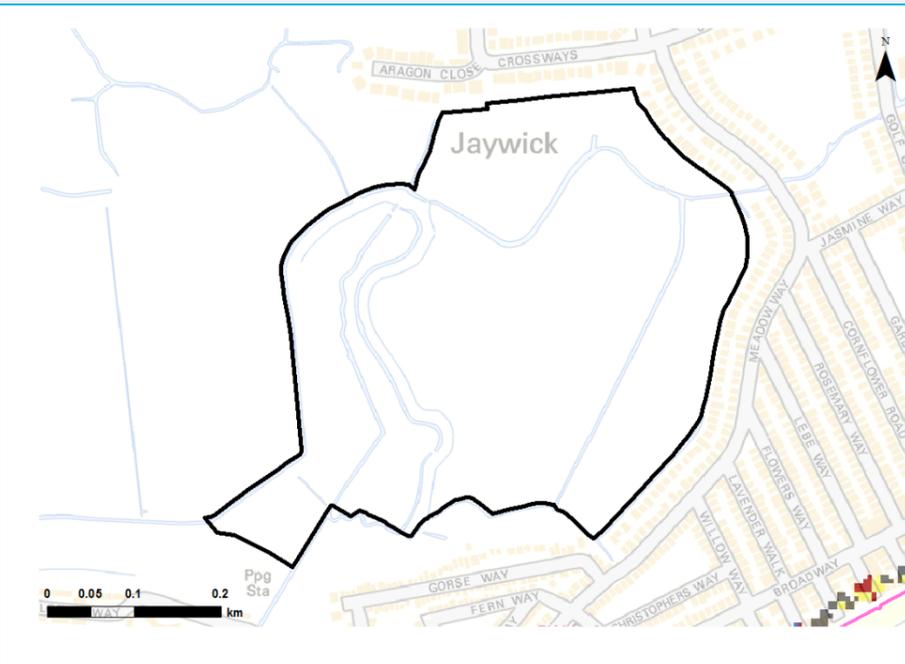
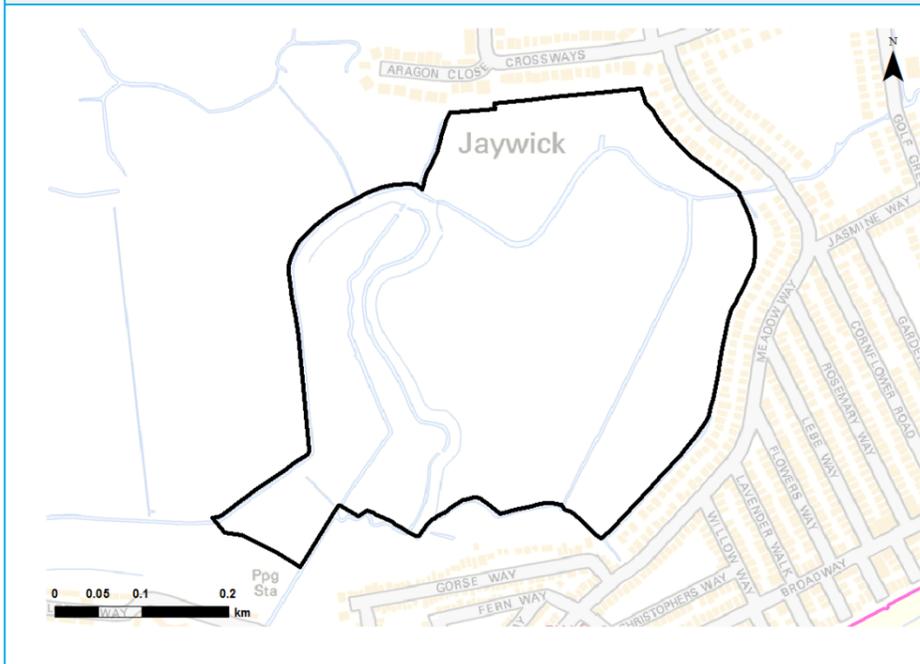
At the tide level equivalent to the defence crest height scenario, the majority of the Tudor Fields area, as well as the main access and egress routes, will already have been affected by flooding from overtopping before the breach occurs.



BREACH at location A



Hazard

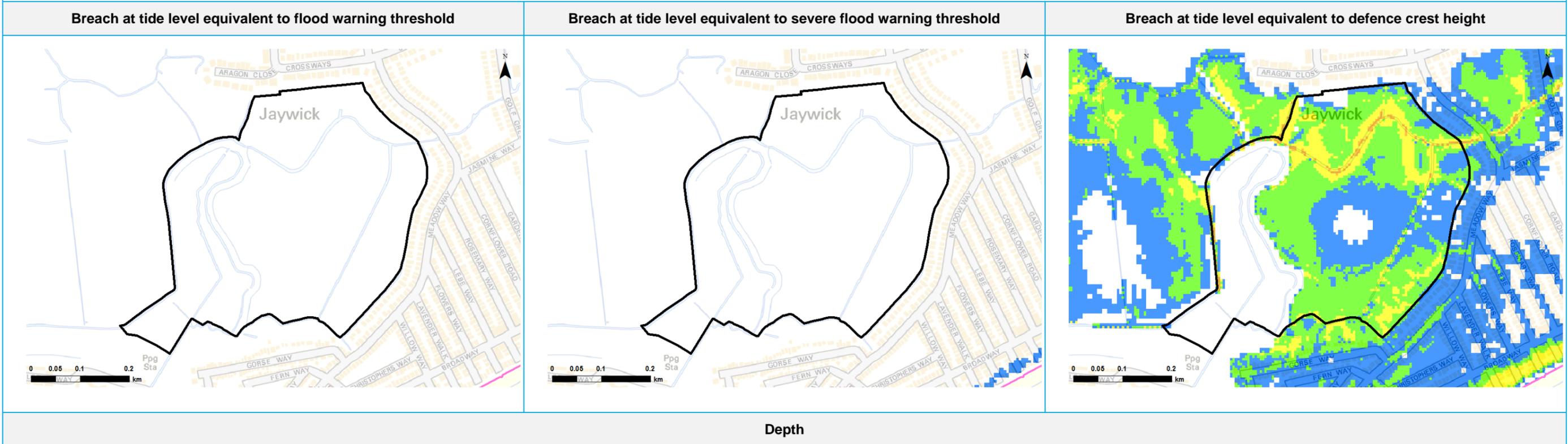


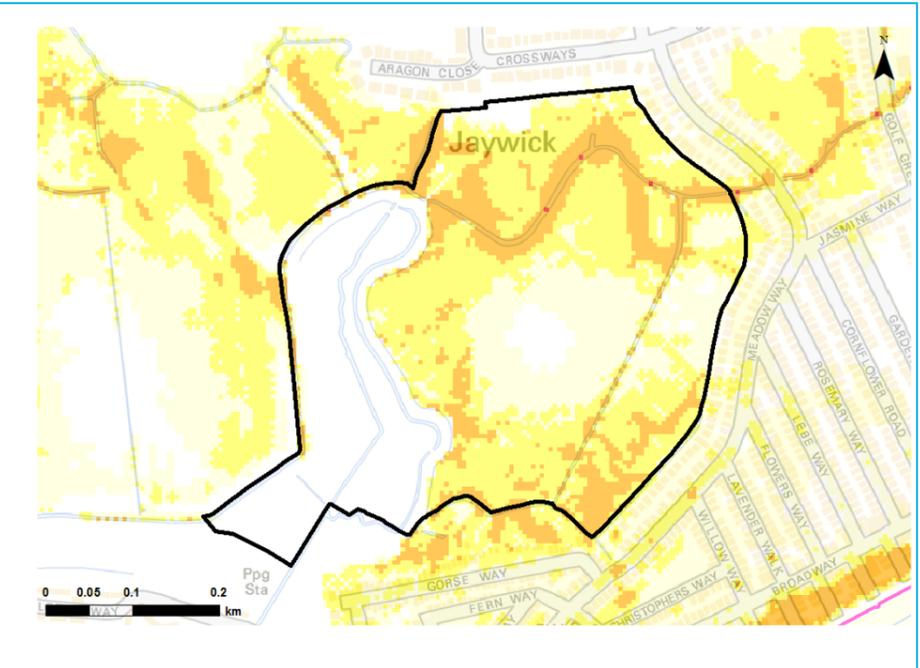
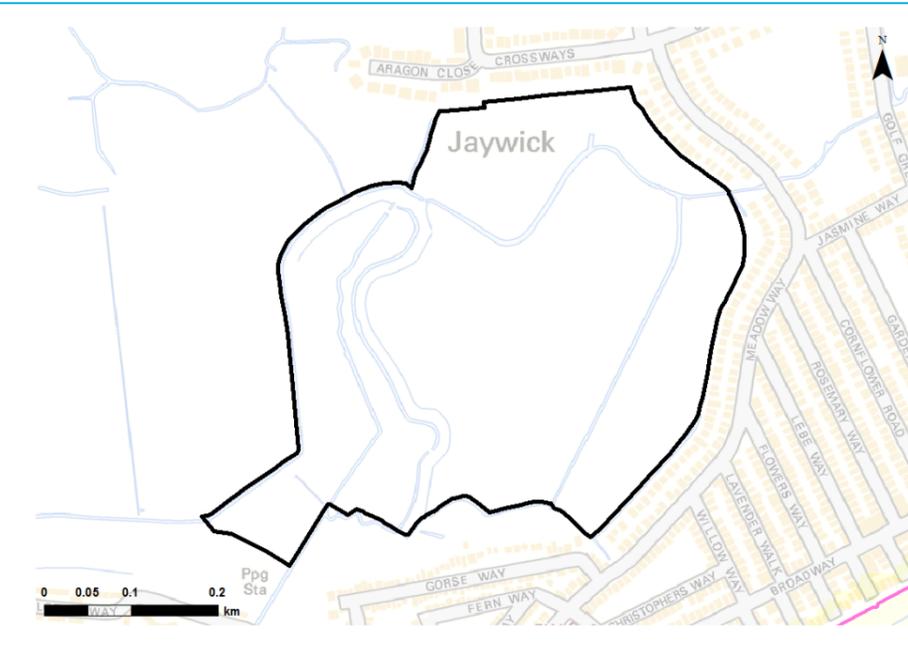
Time to Inundation

BREACH at location B

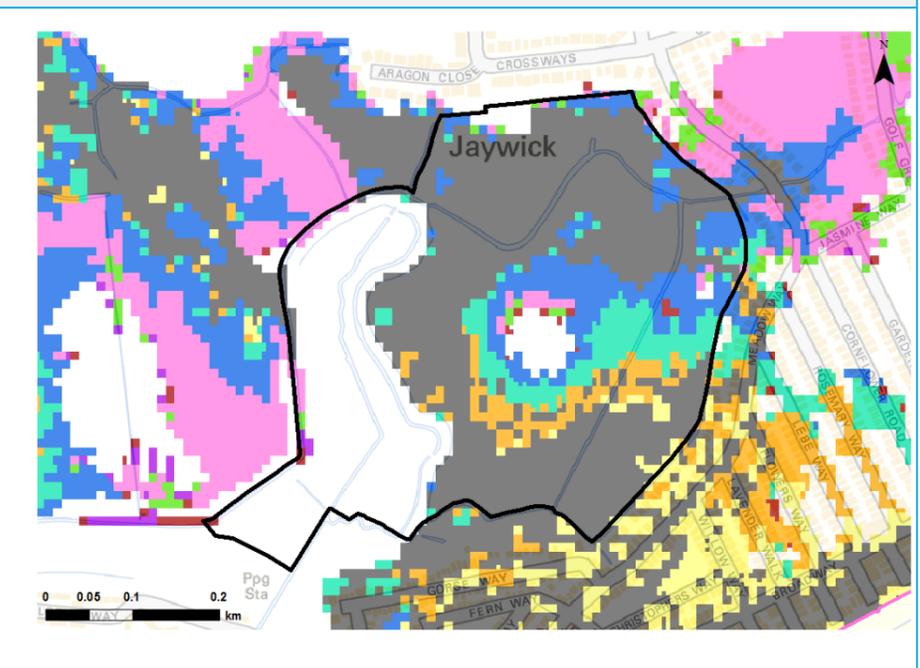
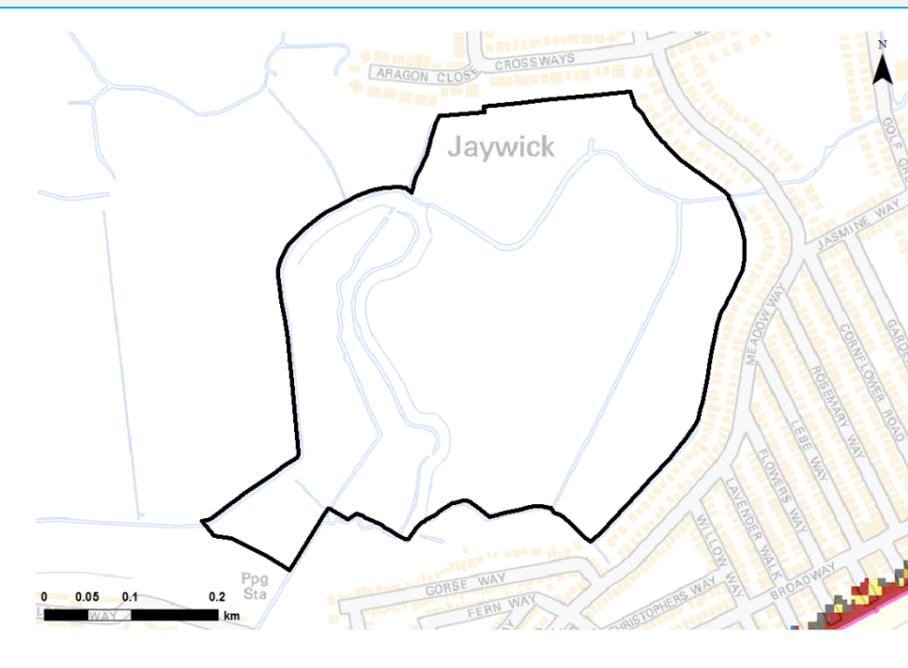
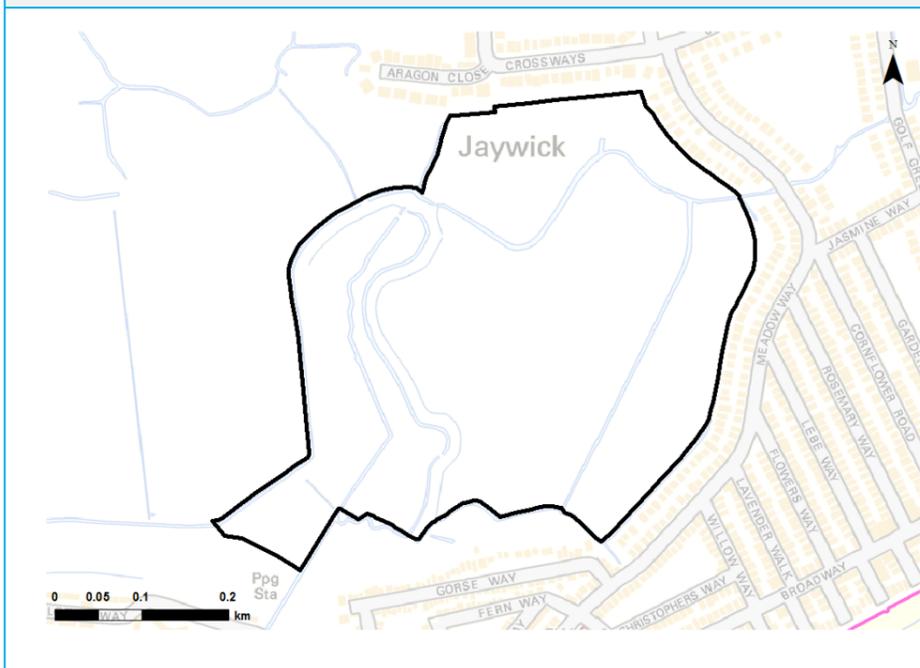
As with location A, modelling results show the level of risk at the Tudor Fields area is unaffected by a breach at location B until a tide level equivalent to the defence crest height scenario. In this scenario, the Tudor Fields area will be affected by flooding of depths between 0.001 to 0.5 m. The hazard would be classed as 'very low' or 'danger for some' with some pockets of 'danger for most'.

At the tide level equivalent to the defence crest height scenario, a large part of the affected area of Tudor Fields area will already have been affected by flooding from overtopping before the breach occurs. After the breach, flooding in the area, and to the main access and egress routes, will have reached its maximum extent within one hour.





Hazard



Time to Inundation

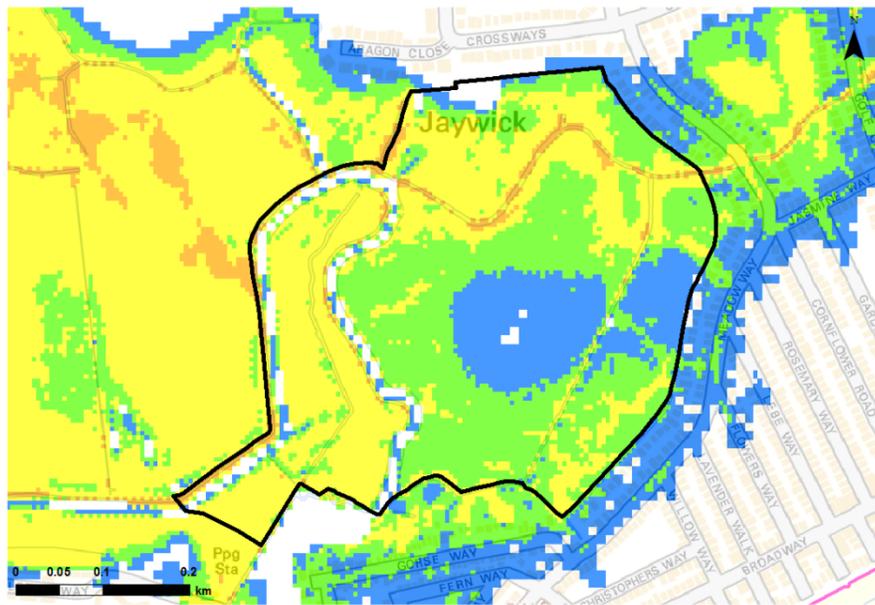
BREACH at location C

Unlike the breaches at locations A and B, location C is situated east of the counterwall. Modelling results show the level of risk at the Tudor Fields area is significantly affected by a breach at location C for all tide scenarios. In the tide level equivalent to the FW threshold and the SFW threshold scenarios, depths are broadly similar ranging from 0.01 to 1.0 m with the greatest depths seen at the areas of lower elevation to the west. The extent of the deepest flooding increases in the tide level equivalent to SFW scenario. The hazard would be classed as 'danger for some' or 'danger for most'.

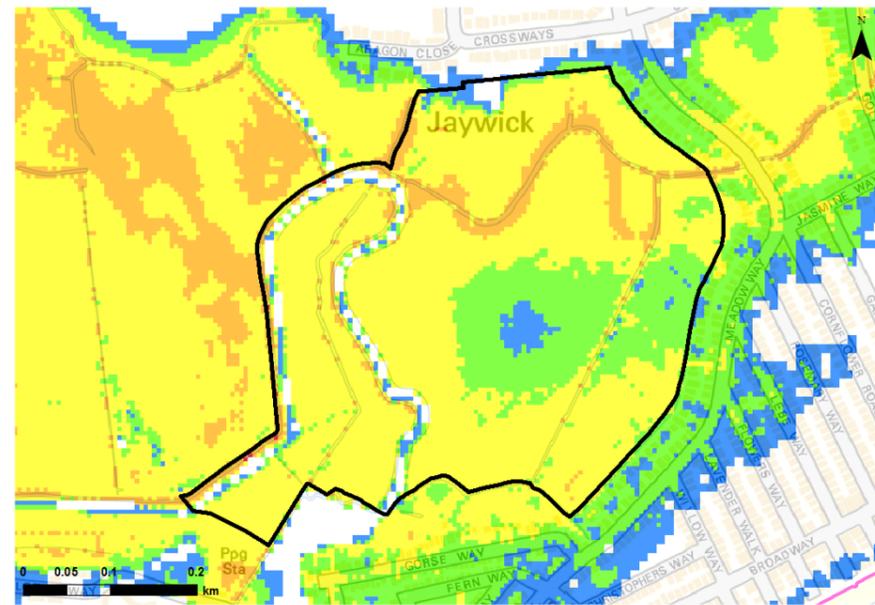
For the tide level equivalent to the defence crest height scenario, the majority of the area is flooded to a depth of 1.0 to 2.0 m. A section to the north of the site is classed as 'danger for all' due to the higher velocity of flooding in this area closest to the flow path of the breach. The remainder of the area is classed as 'danger for most'.

The majority of the area north of Jaywick Ditch will be flooded within 15 hours for a breach with a tide level equivalent to the FW threshold and five hours for a breach with a tide level equivalent to the SFW threshold. For the tide level equivalent to the defence crest height scenario, a large proportion of the area will have been affected by overtopping before the breach occurred, with the remainder of the area flooding within one hour of the breach.

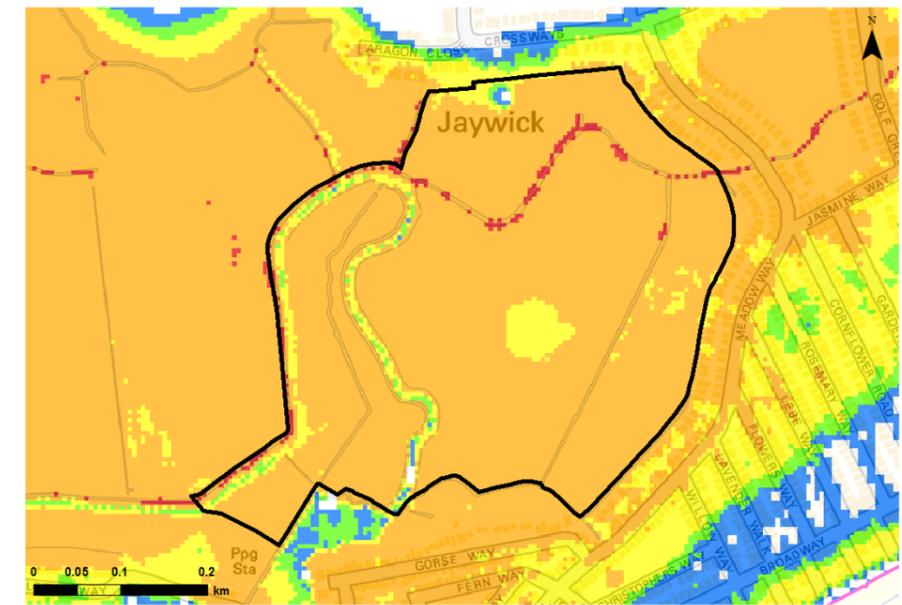
Breach at tide level equivalent to flood warning threshold



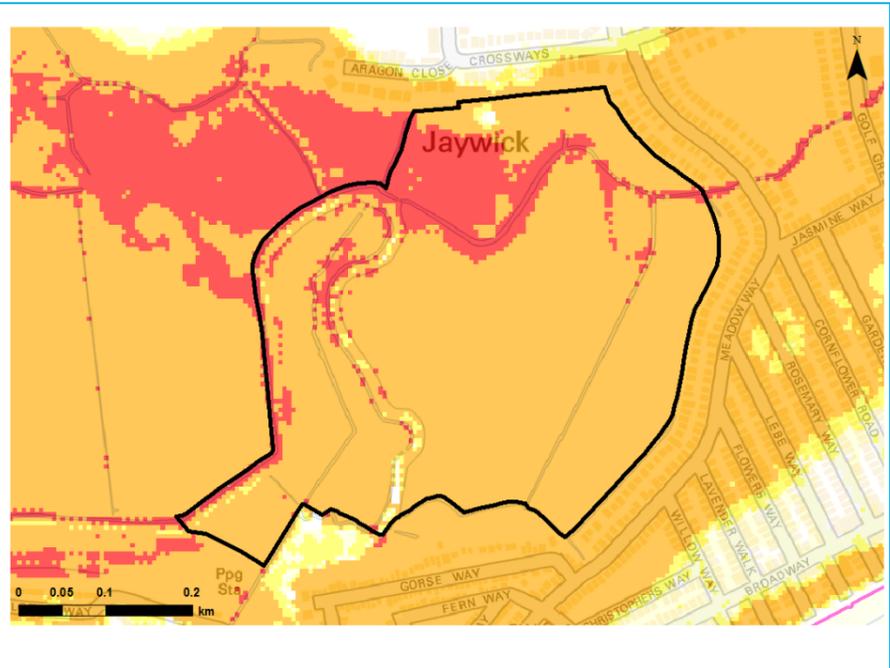
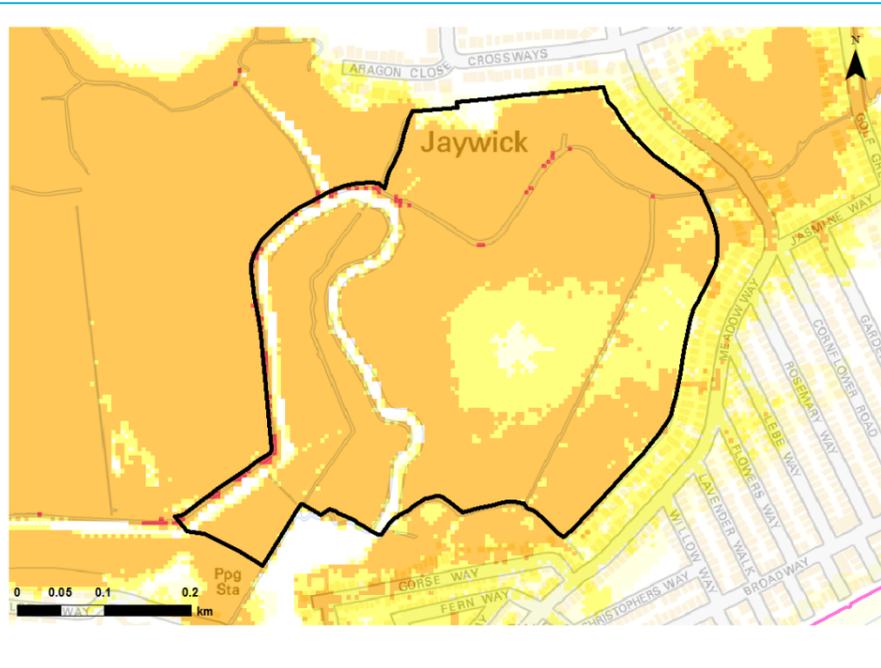
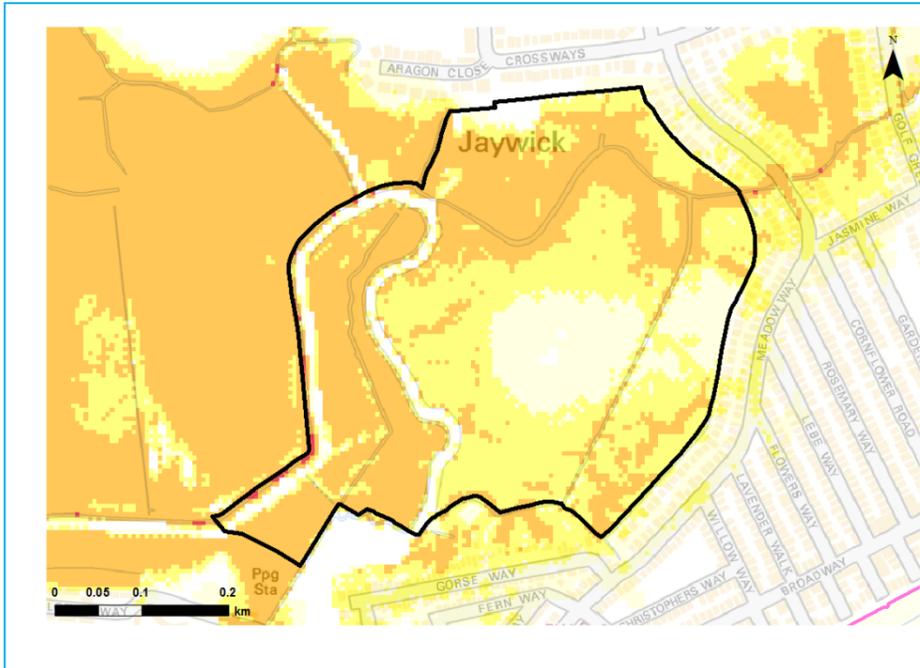
Breach at tide level equivalent to severe flood warning threshold



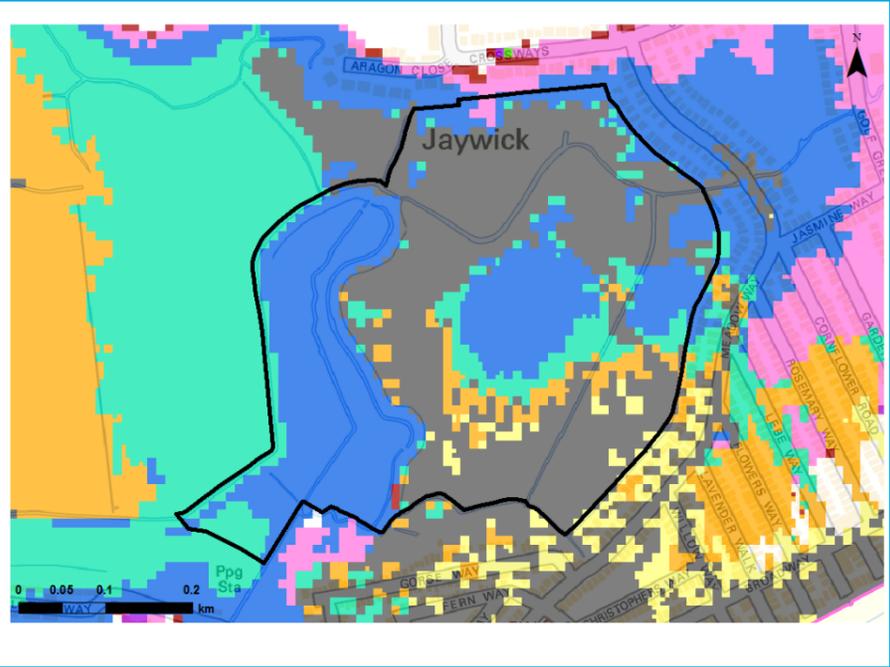
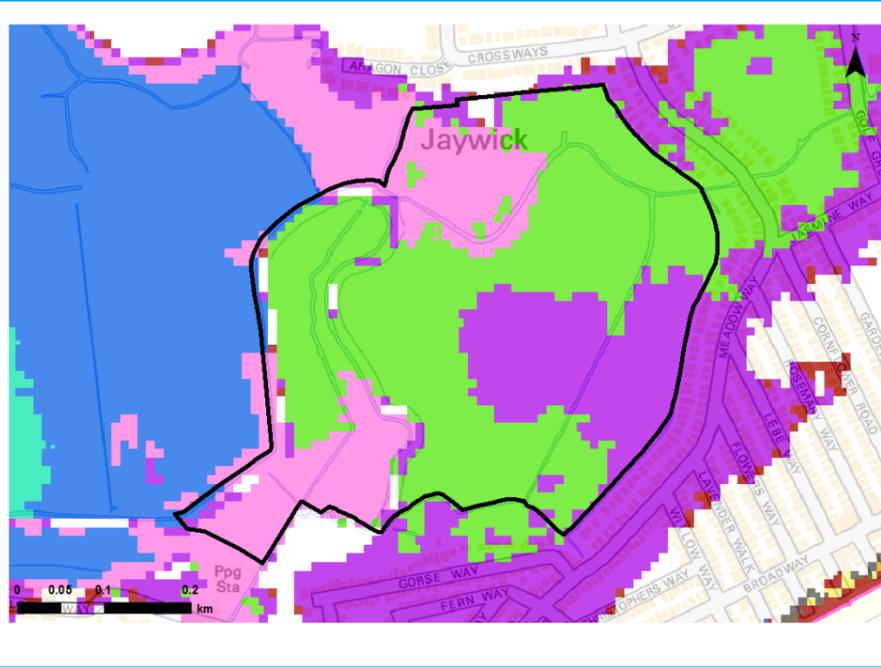
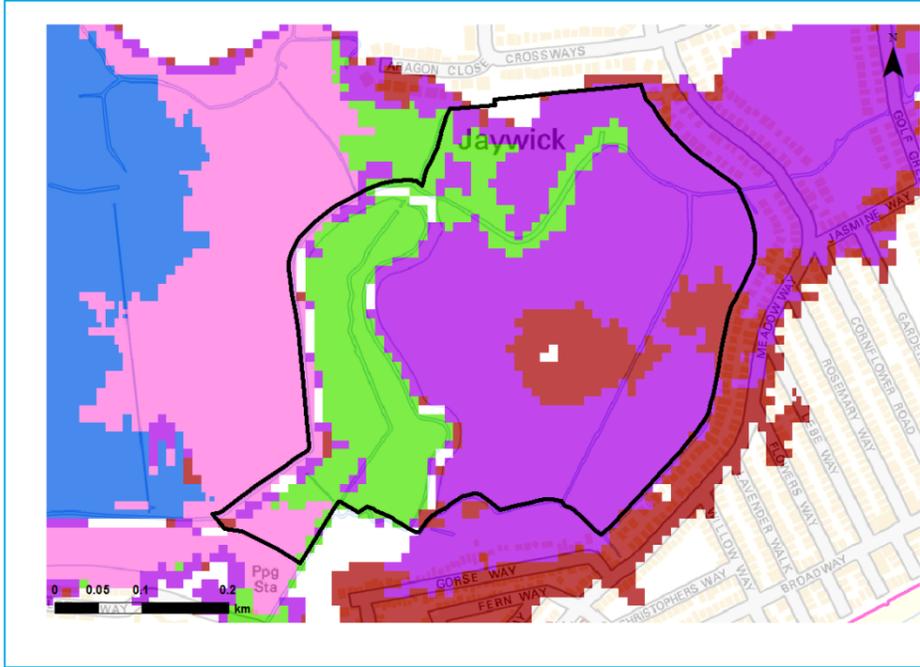
Breach at tide level equivalent to defence crest height



Depth

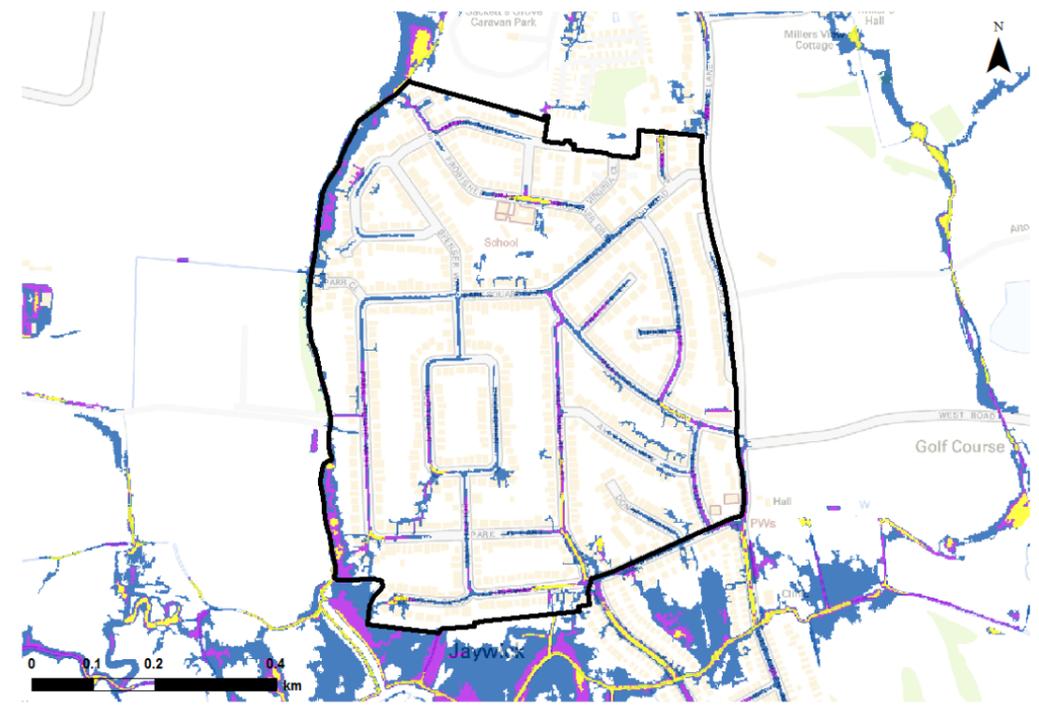
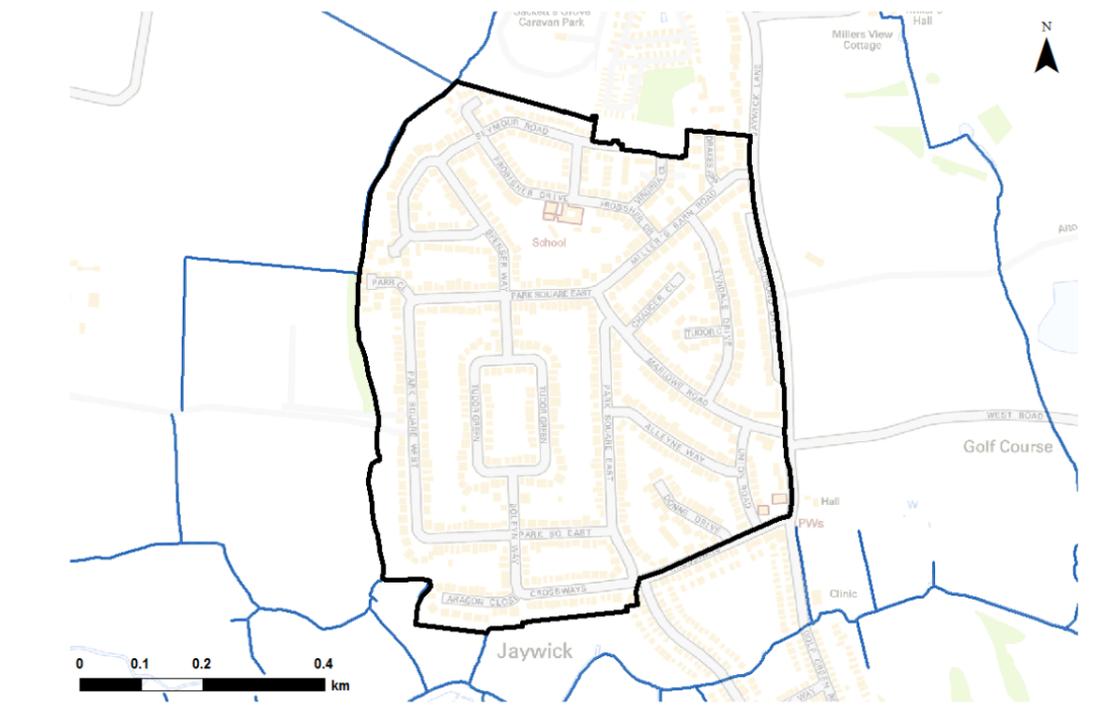


Hazard



Time to Inundation

I.7 Tudor Estate

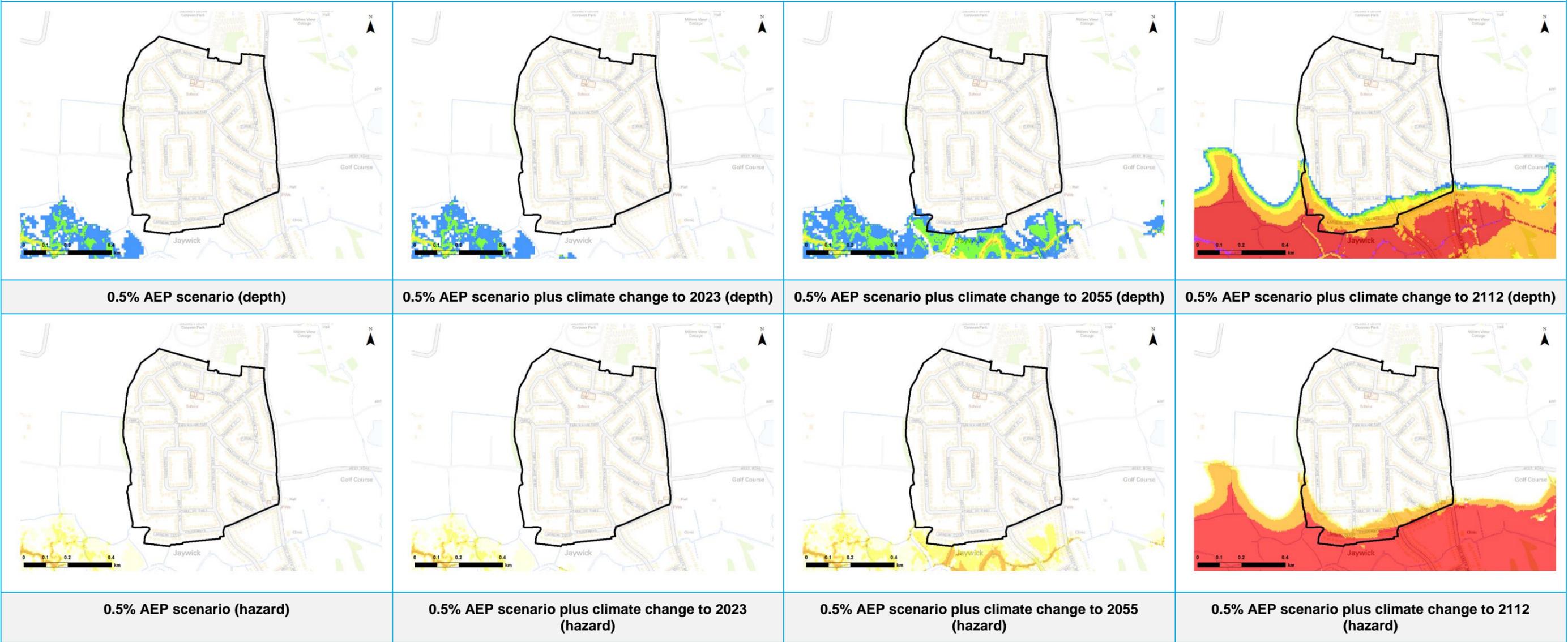
SITE NAME	BROOKLANDS	
DESCRIPTION OF THE AREA	<ul style="list-style-type: none"> The Tudor Estate is located to the north of the study area and of Jaywick village. The elevation in the Tudor Estate is considerably higher than the other locations in the study area. The lowest lying areas are to the south of the area at Aragon Close and Crossways The area is protected by a flood defence wall running along the coast as well as the counterwall, located to the west of Tower Caravan Park. 	
SOURCES OF FLOOD RISK	<ul style="list-style-type: none"> The Tudor Estate is potentially at risk from coastal flooding and at risk from surface water flooding. There is also residual risk from failure of coastal defences. 	
SURFACE WATER FLOOD RISK		FLUVIAL FLOOD RISK
<p>The majority of roads are shown to be at risk of surface water flooding in the uFMfSW. An assessment of surface water risk should be included within a site-specific FRA and adequate surface water drainage design should be implemented to ensure surface water flood risk is not exacerbated.</p>		<p>There are a number of small drains and watercourses surrounding Tudor Estate; these may pose a risk of fluvial flooding to the area.</p>
		
ACCESS AND EGRESS CONSIDERATIONS		FLOOD RISK ASSESSMENTS
<p>The Tudor Estate has a number of possible access and egress routes which are unaffected by flooding.</p>		<p>Development in the area around Aragon Close and Crossways may require a site specific FRA. Reference should be made to the breach modelling undertaken for this SFRA. Climate change should be considered when looking at whether the development will be safe for its proposed lifetime.</p> <p>Minimum finished floor levels should be based on the 0.5% AEP plus climate change to 2112 and include an allowance of a 300mm freeboard. Depths in this scenario vary across the area but modelling shows they range from 0.001 to 2.0 m.</p> <p>Surface water drainage design should be implemented to ensure surface water flood risk is not exacerbated and that flows in the nearby watercourses are not increased.</p> <p>Given the availability of more suitable land in the remainder of this area, it is recommended development is restricted in the</p>

Aragon Close and Crossways area.

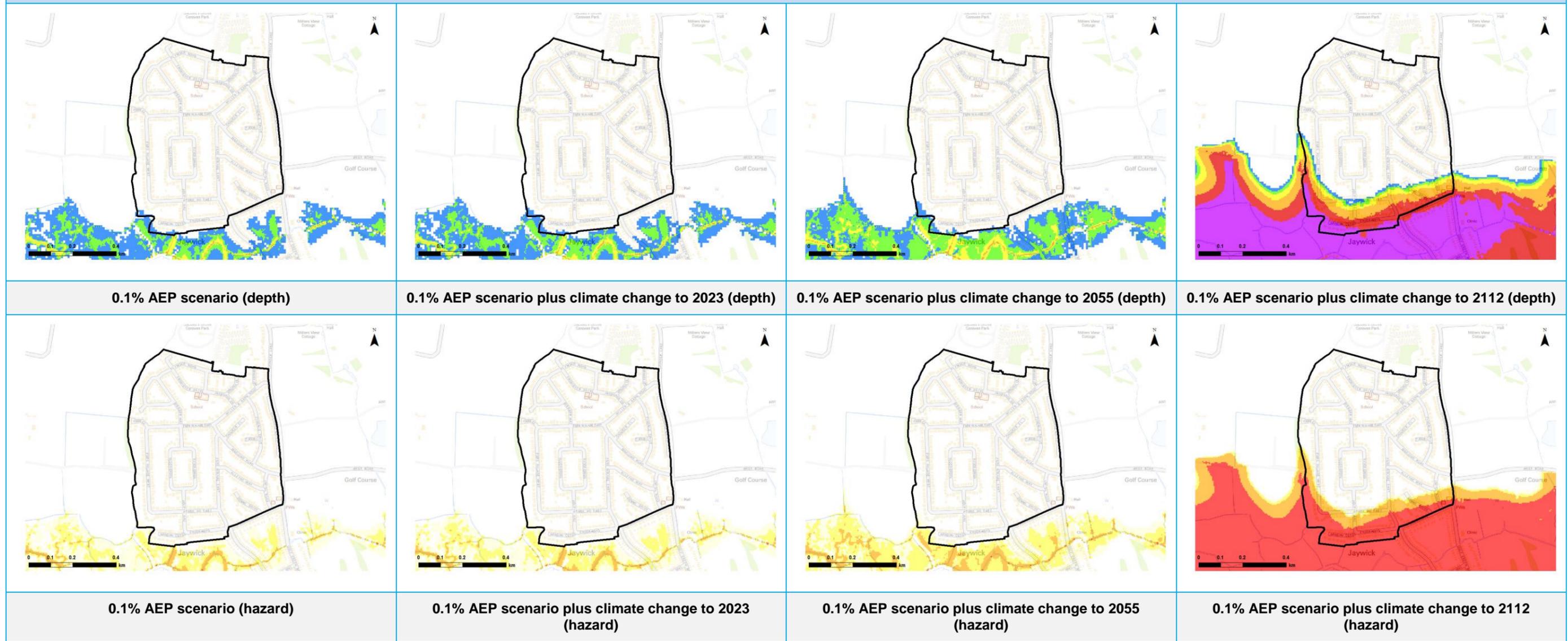
OVERTOPPING scenarios

Model results show the Tudor Estate is well protected from wave overtopping of the coastal defences with no risk until the 0.5% AEP plus climate change to 2112 scenario. In this scenario, only the southern edge of Tudor Estate is at risk with depths ranging from 0.001 to 2.0 m, with the greater depths seen at the southern boundary. The hazard in this scenario is mostly classed as 'danger for most' or 'danger for all'.

Slightly more overtopping is seen in the 0.1% AEP scenarios; however, the extent of flooding is still relatively low until the 0.1% plus climate change to 2112 scenario. The 0.1% AEP plus climate change to 2112 sees similar extent affected by flooding but depths have increased, ranging between 0.001 to 0.3.0 m or deeper. The hazard in this scenario is classed as 'danger for most' or 'danger for all'.



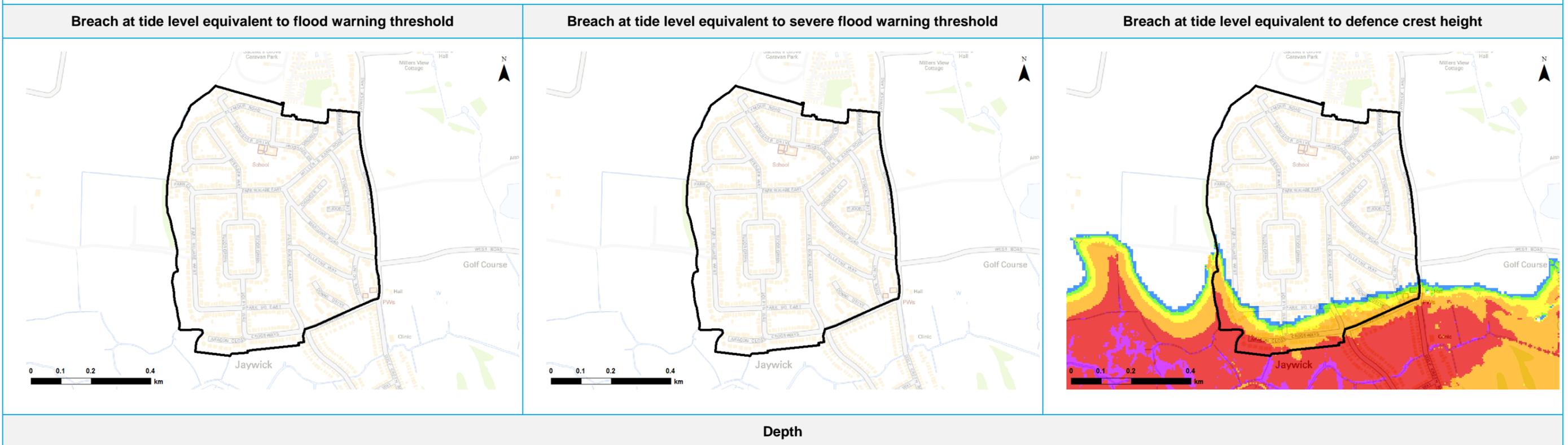
OVERTOPPING scenarios



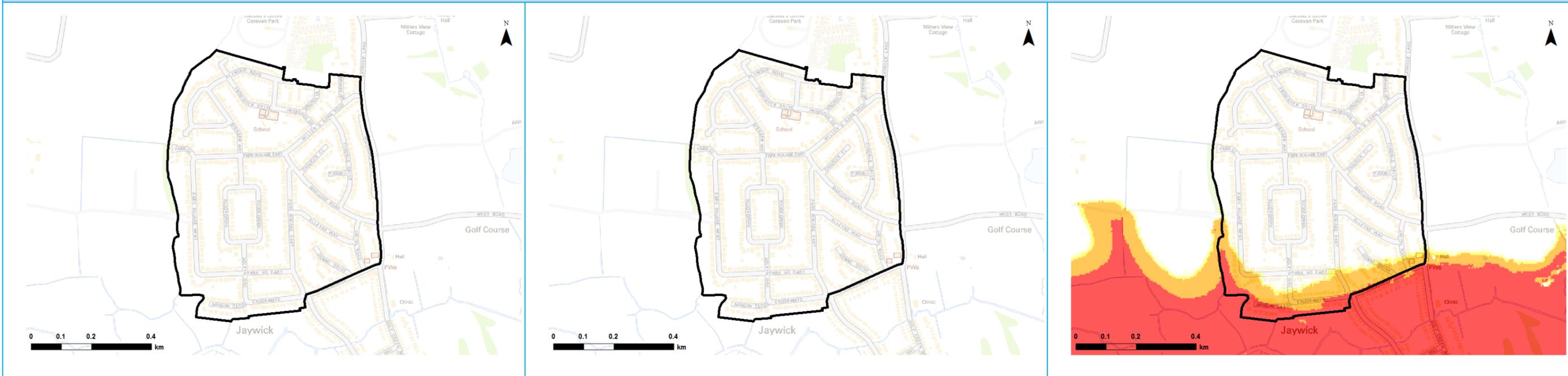
BREACH at location A

Modelling results show the level of risk at the Tudor Estate area is unaffected by a breach at location A until a tide level equivalent to the defence crest height scenario. In this scenario, the Tudor Estate will be affected by flooding of depths between 0.001 to 2.0 m with the greatest depths seen in the areas to the south. The hazard would be classed as 'danger for most' or 'danger for all'.

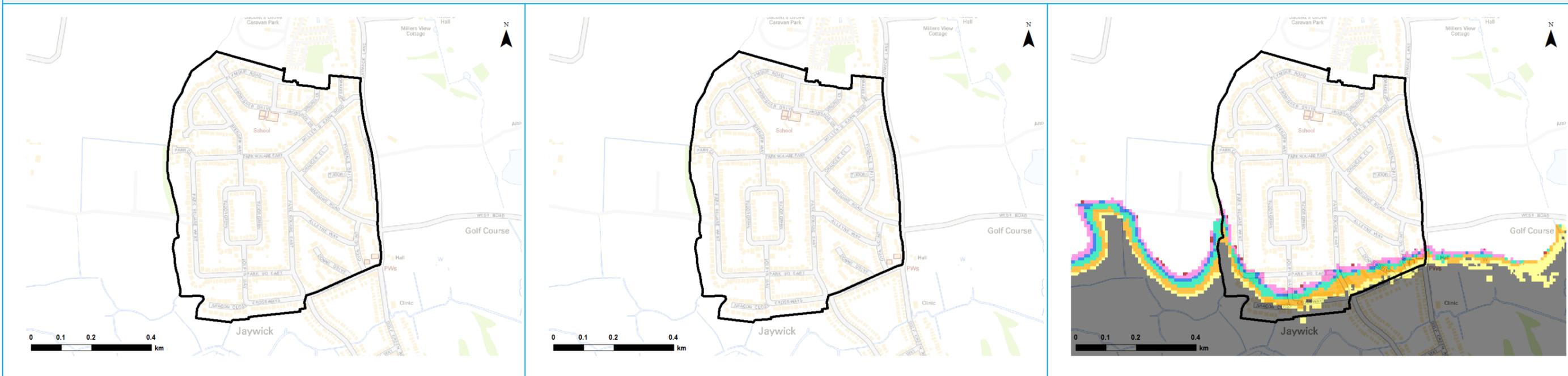
At the tide level equivalent to the defence crest height scenario, the southernmost area of Tudor Estate will already have been affected by flooding from overtopping before the breach occurs, with the remainder flooding within two hours of the breach. One of the access/egress routes out of Tudor Estate, Crossways, will be completely flooded within 15 minutes of the breach occurring.



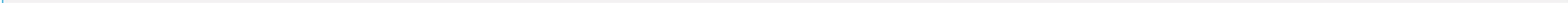
BREACH at location A



Hazard



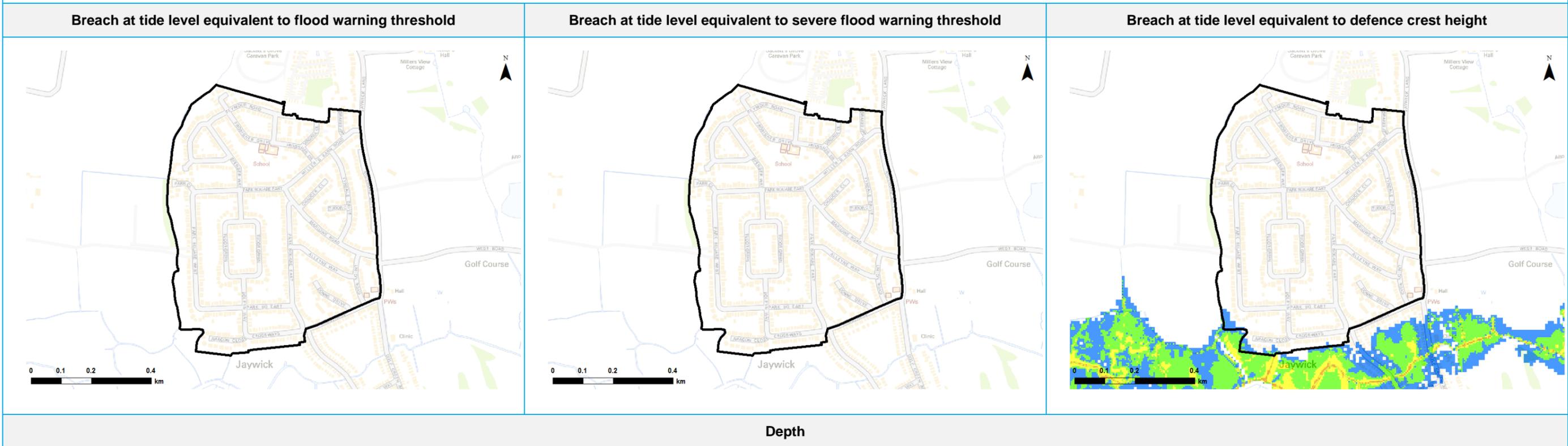
Time to Inundation



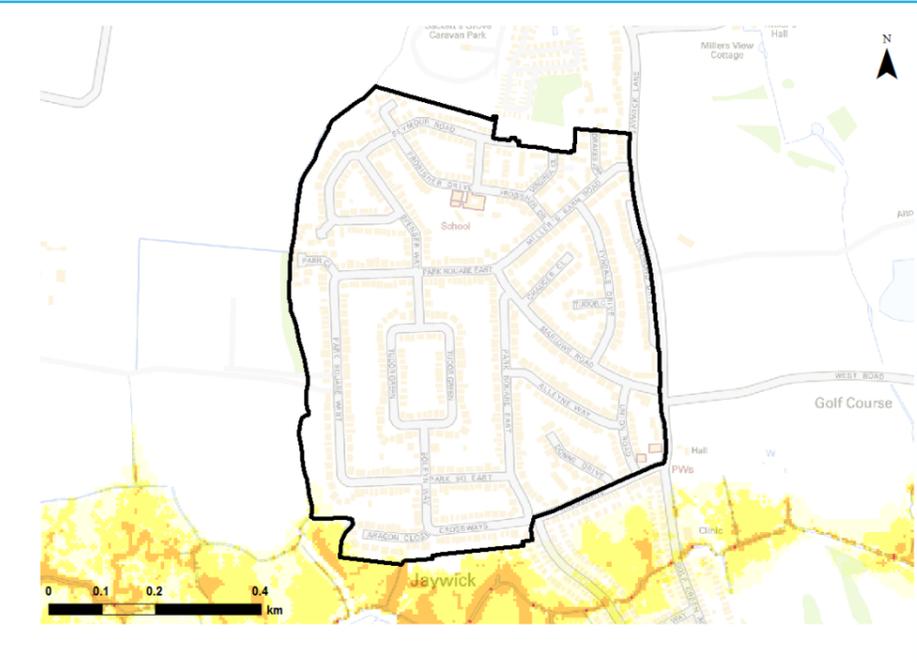
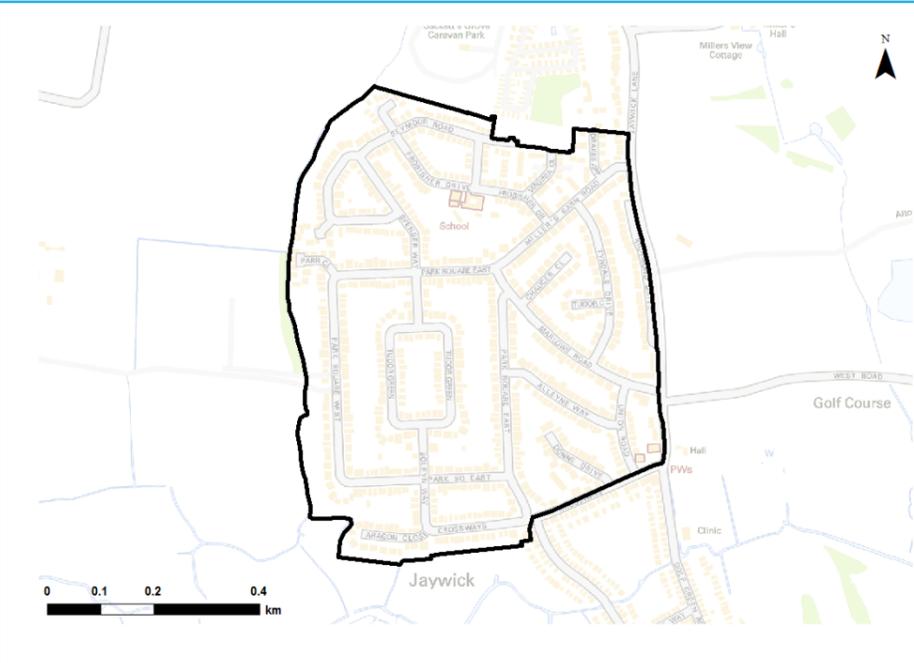
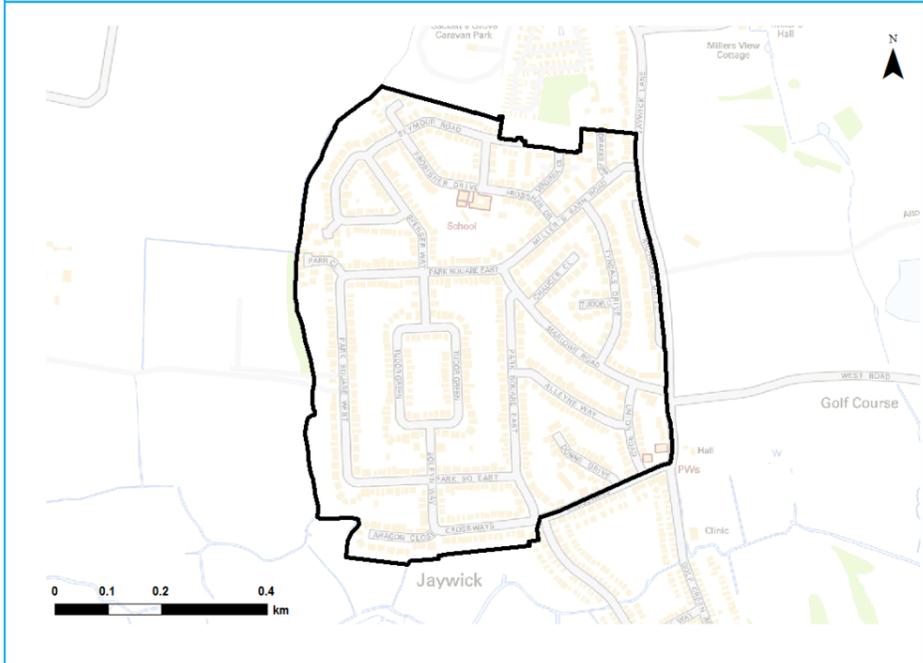
BREACH at location B

As with location A, modelling results show the level of risk at Tudor Estate is unaffected by a breach at location B until a tide level equivalent to the defence crest height scenario. In this scenario, the southernmost extent of the Tudor Estate will be affected by flooding of depths between 0.001 to 0.25 m. The hazard would be classed as 'very low'.

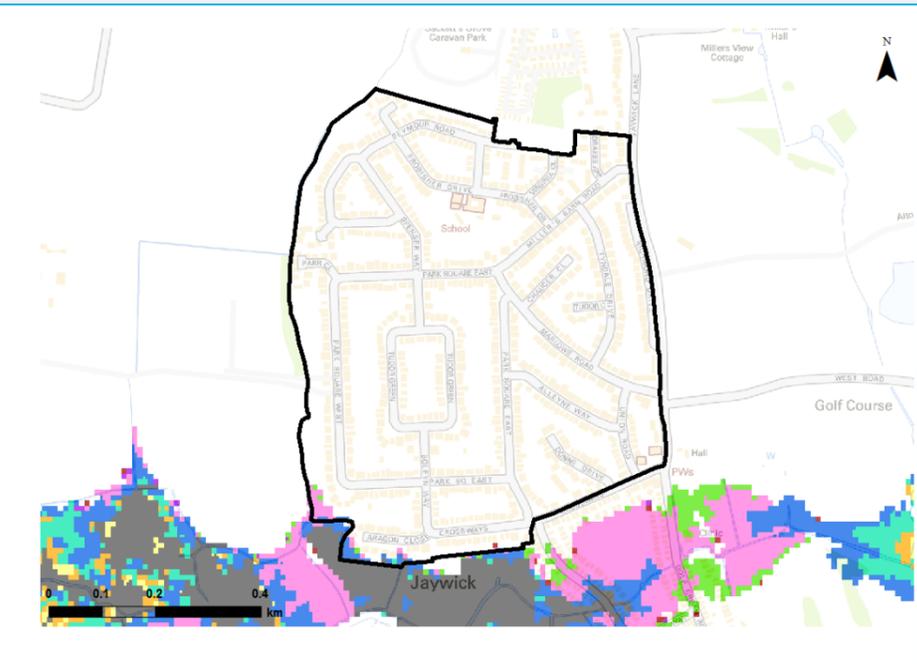
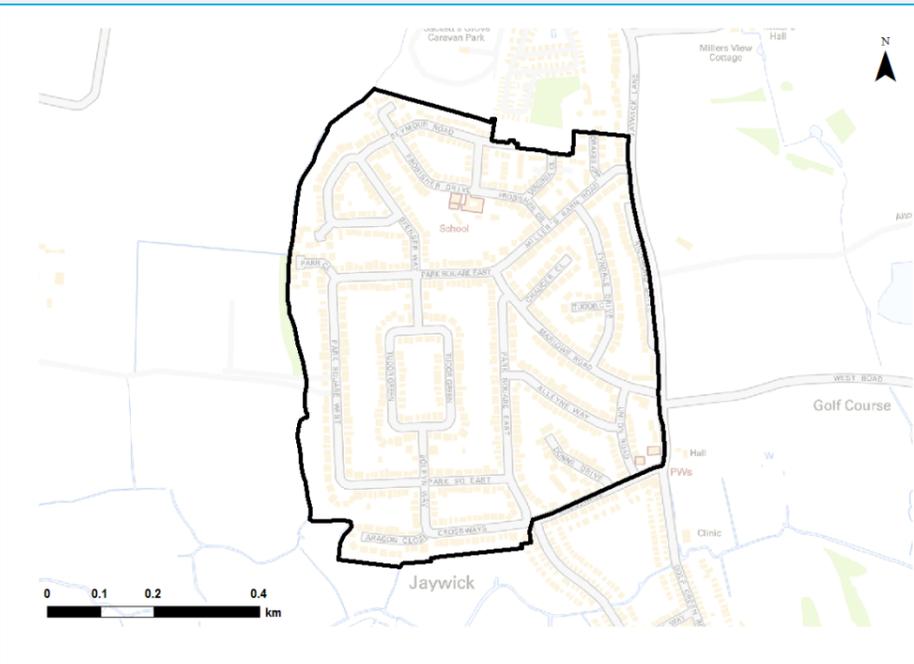
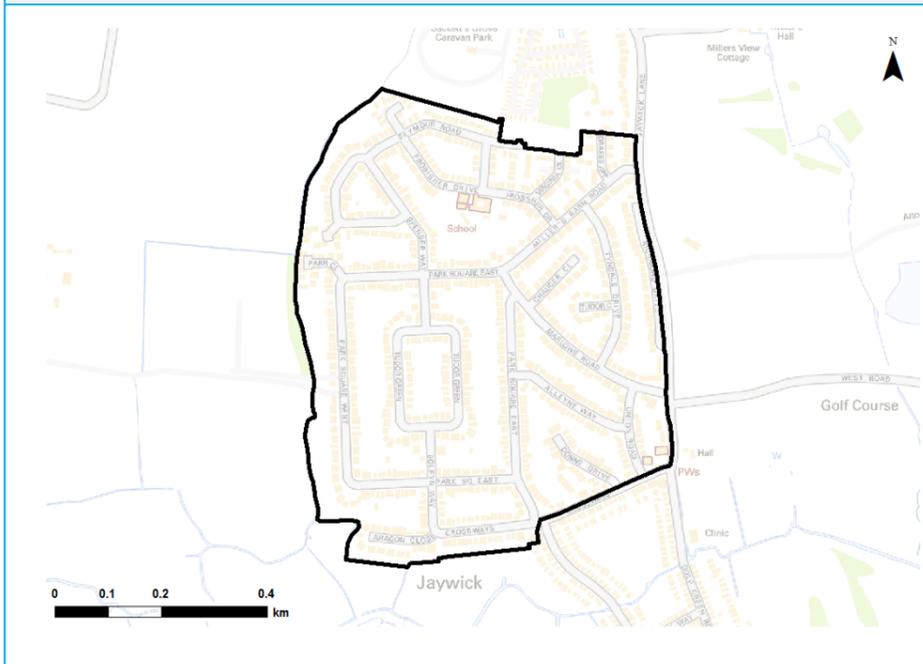
At the tide level equivalent to the defence crest height scenario, a large part of the affected area of Brooklands area will already have been affected by flooding from overtopping before the breach occurs. After the breach, flooding in the area will have reached its maximum extent within two hours. The access/egress route out of Tudor Estate, Crossways, will not be affected by flooding.



BREACH at location B



Hazard



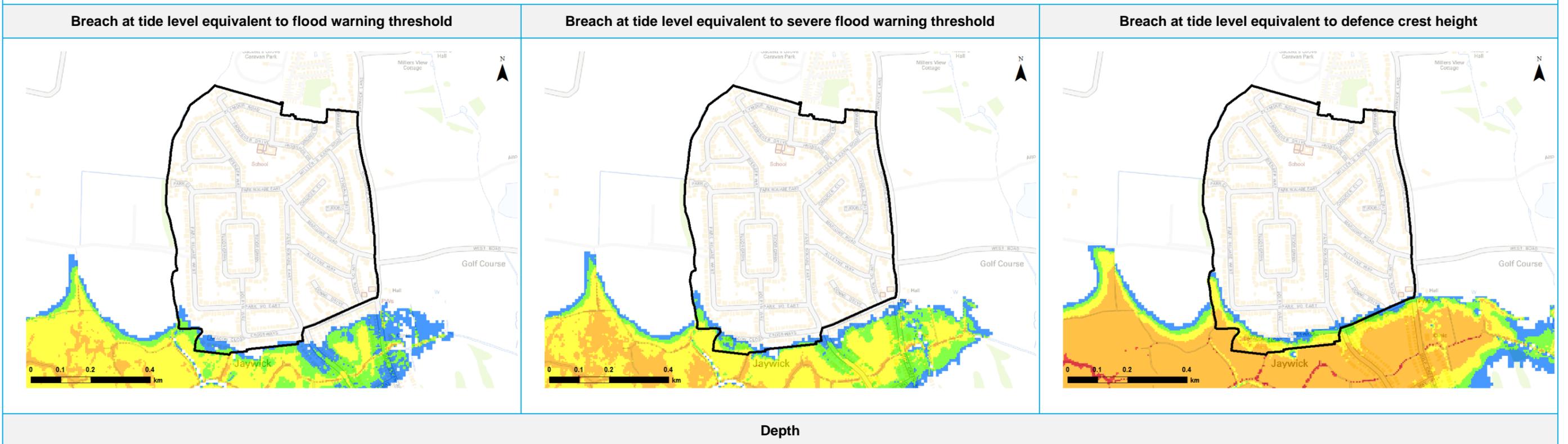
Time to Inundation

BREACH at location C

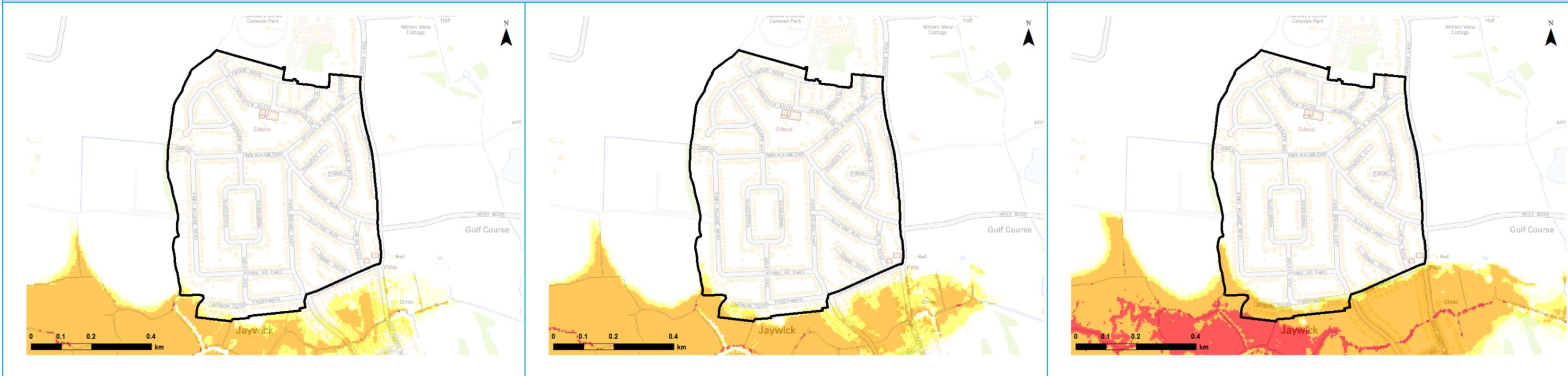
Unlike the breaches at locations A and B, location C is situated east of the counterwall. Modelling results show the level of risk at Tudor Estate is affected by a breach at location C at all tide scenarios. In the tide level equivalent to the FW threshold and the SFW threshold scenarios, depths are broadly similar ranging from 0.01 to 1.0 m. The extent of the deepest flooding increases slightly in the tide level equivalent to SFW scenario. The hazard would be classed as 'danger for some' or 'danger for most'.

For the tide level equivalent to the defence crest height scenario, the majority of the affected area is flooded to a depth of 0.001 to 2.0 m. The hazard in this scenario is classed as 'danger for most'.

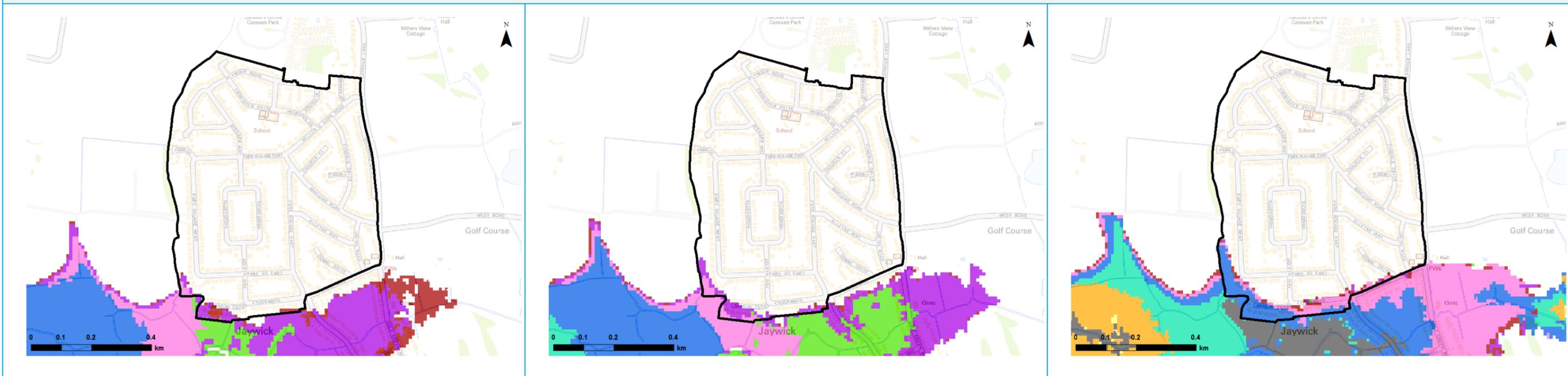
The majority of the area will be flooded within 15 hours for a breach with a tide level equivalent to the FW threshold and the SFW threshold. For the tide level equivalent to the defence crest height scenario, the majority of the flooded area will have been inundated within two hours of the breach.



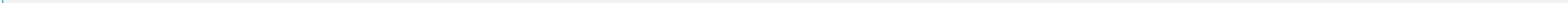
BREACH at location C



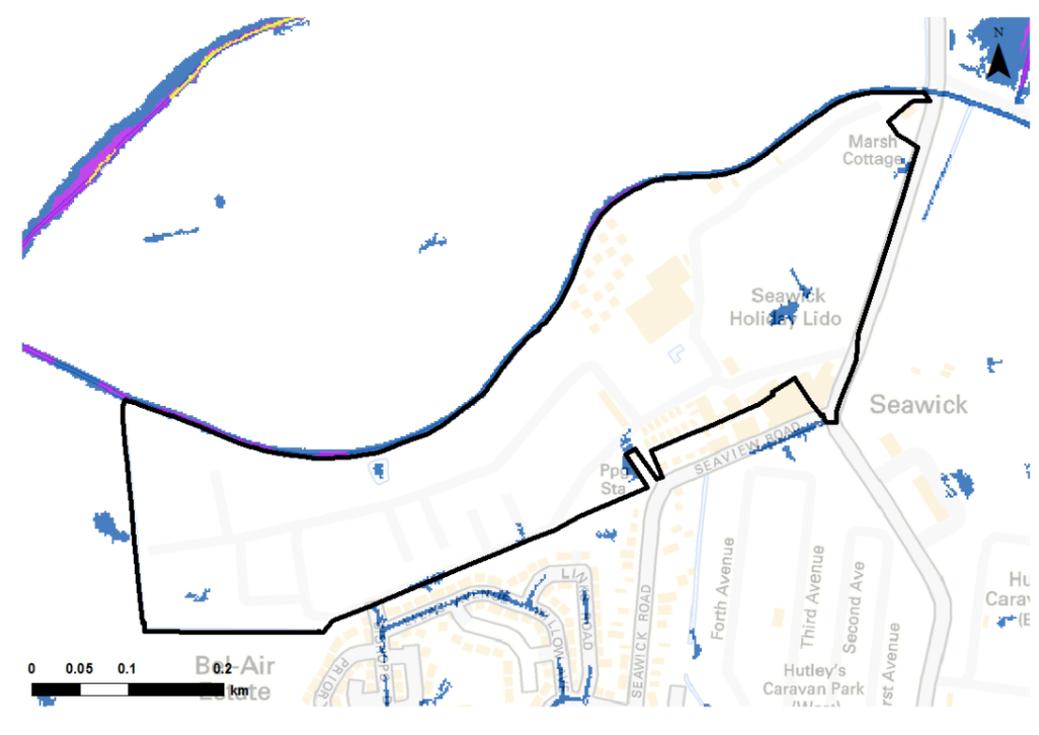
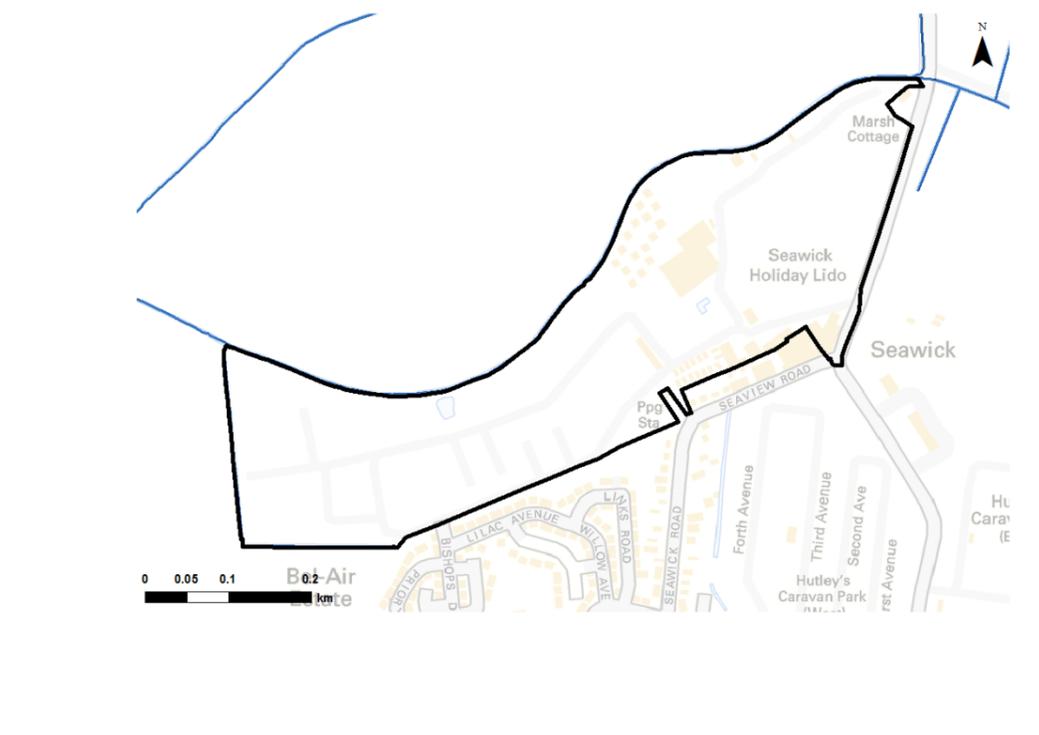
Hazard



Time to Inundation



I.8 Seawick

SITE NAME	SEAWICK		
DESCRIPTION OF THE AREA	<ul style="list-style-type: none"> The Seawick area is located to the west of Jaywick on the western side of the counterwall. The elevation in the Seawick area is fairly consistent with higher elevations located towards the centre of the assessment area. The St Osyth Ditch flows to the north of Seawick. The area is protected by a flood defence wall running along the coast. It is also protected from flooding from overtopping further up the coast due to the presence of the counterwall. 		
SOURCES OF FLOOD RISK	<ul style="list-style-type: none"> Seawick is at risk from coastal and small areas of surface water flooding. There is also residual risk from failure of coastal defences. St Osyth Ditch also flows to the north of Seawick and may pose a fluvial flood risk to the area. 		
SURFACE WATER FLOOD RISK		FLUVIAL FLOOD RISK	
<p>The uFMfSW shows the Seawick area is largely unaffected by risk of surface water flooding. However, consideration will need to be given to surface water drainage as part of a site specific FRA to ensure risk is not increased with new development.</p>		<p>The St Osyth Ditch flows to the north of Seawick and may pose a risk of fluvial flooding to the area.</p>	
			
ACCESS AND EGRESS CONSIDERATIONS		FLOOD RISK ASSESSMENTS	
<p>The main access/egress route for the Seawick area is Beach Road. Modelling shows this route is not affected by flooding greater than 0.25 m in the design (0.5% AEP) scenario or the 0.1% AEP event. Flooding to the route does not occur until the 0.5% AEP plus climate change to 2112 event in which it is flooded of 1.5 m or higher for over 18 hours in the modelled three tide cycle.</p> <p>Access and egress in a breach scenario is dependent on the location of the breach; given there is only one access/egress route for the Seawick area which may become quickly inundated, precautionary evacuation on receipt</p>		<p>Development in this area will require a site specific FRA. Reference should be made to the breach modelling undertaken for this SFRA. Climate change should be considered when looking at whether the development will be safe for its proposed lifetime.</p> <p>Minimum finished floor levels should be based on the 0.5% AEP plus climate change to 2112 and include an allowance of a 300mm freeboard. Depths in this scenario vary across the area but modelling shows they range from 1.0 to 2.0 m.</p>	

of a severe flood warning is recommended. An option to provide a safe refuge in a public space is recommended for lesser events.

Surface water drainage design should be implemented to ensure surface water flood risk is not exacerbated and that flows in the St Osyth Ditch are not increased.

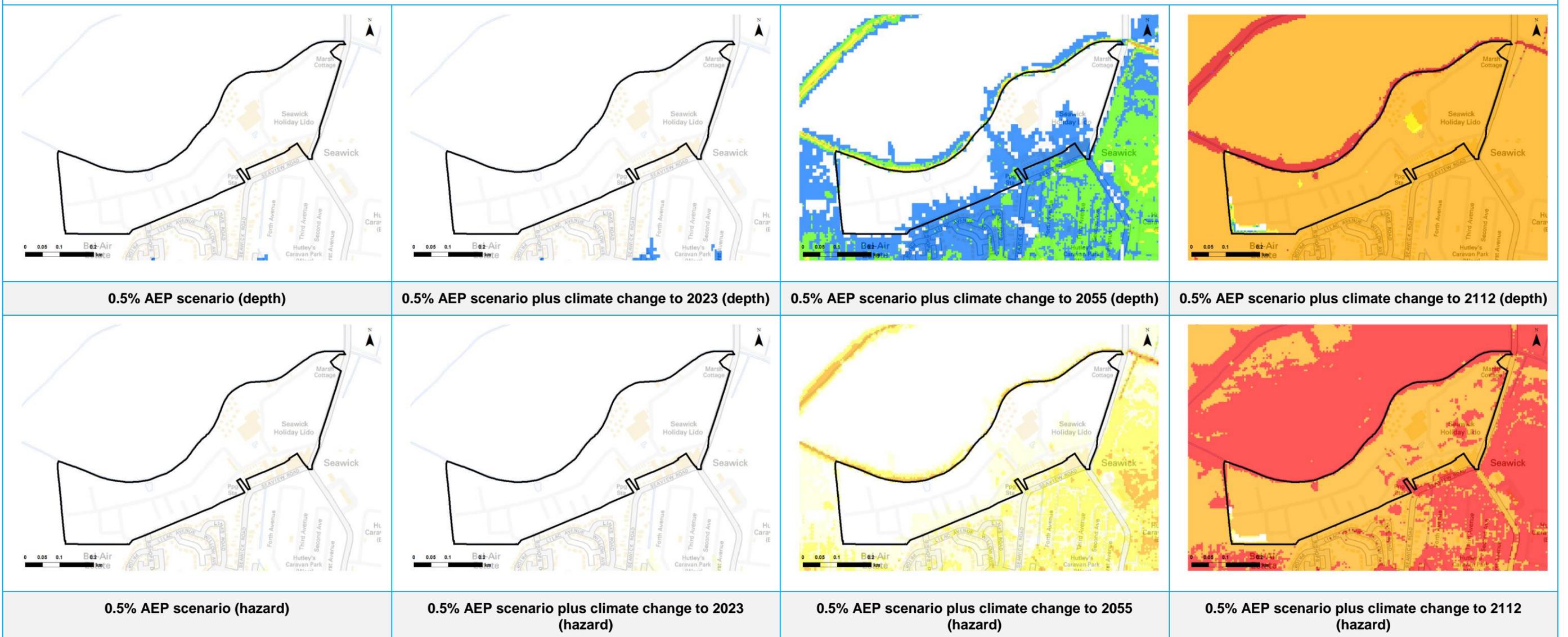
An emergency plan should also be considered for developments within this area.

OVERTOPPING scenarios

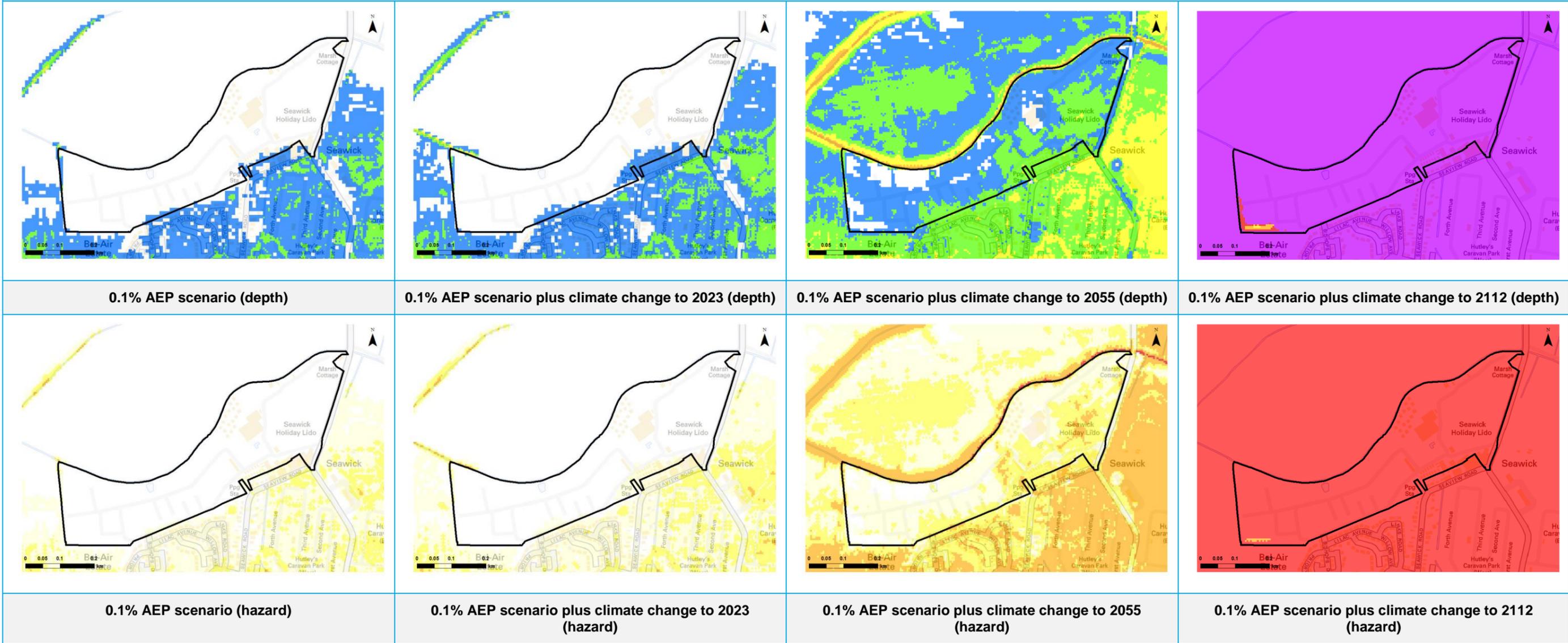
Model results show the Seawick area is well protected from wave overtopping of the coastal defences. There is small amount of overtopping in the 0.5% AEP plus climate change to 2055 scenario, effecting mainly areas north of Seaview Road. Depths range between 0.001 to 0.25 m and the hazard is classed as 'very low'. The level of risk increases in the 0.5% AEP plus climate change to 2112 scenario, with the extent of flooding increasing significantly. In this scenario, the whole of the Seawick area is at risk with depths ranging from 1.0 to 2.0 m. The hazard in this scenario is mostly classed as 'danger for most with some small pockets of 'danger for all'.

Slightly more overtopping is seen in the 0.1% AEP scenarios although the extent of flooding is still relatively low in the 0.1% AEP and 0.1% plus climate change to 2023 scenarios. However, the 0.1% AEP plus climate change to 2055 sees a larger area affected by flooding, with flooding affecting the majority of the Seawick area. Depths in this scenario range between 0.001 to 1.0 m and hazard is classed as 'very low' or 'danger for some'.

The level of risk increases significantly in the 0.1% AEP plus climate change to 2112 scenario, with depths increasing to 3.0 m or deeper. The hazard for all areas has been classed as 'danger for all'.



OVERTOPPING scenarios

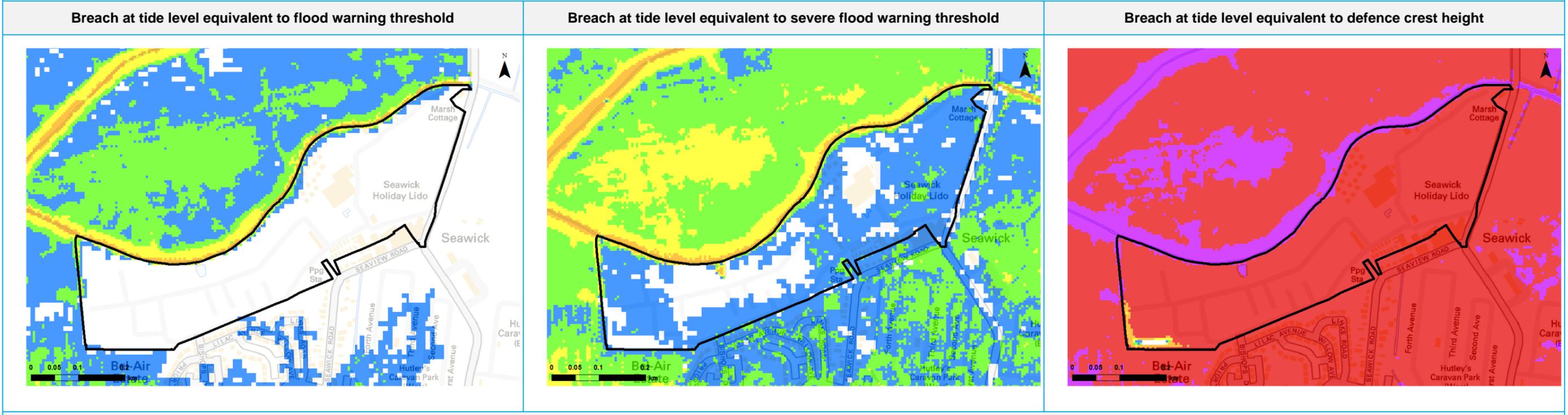


BREACH at location A

Modelling results show the level of risk at the Seawick area is unaffected by a breach at location A until a tide level equivalent to the SFW threshold scenario. In this scenario, the Seawick area will be affected by flooding of depths between 0.001 to 0.5 m. The hazard would be classed as 'very low' or 'danger for some'. The majority of the flooded area will have flooded within 5 to 15 hours. The main access/egress route, Beach Road, will have been flooded within 5 to 15 hours of the breach occurring.

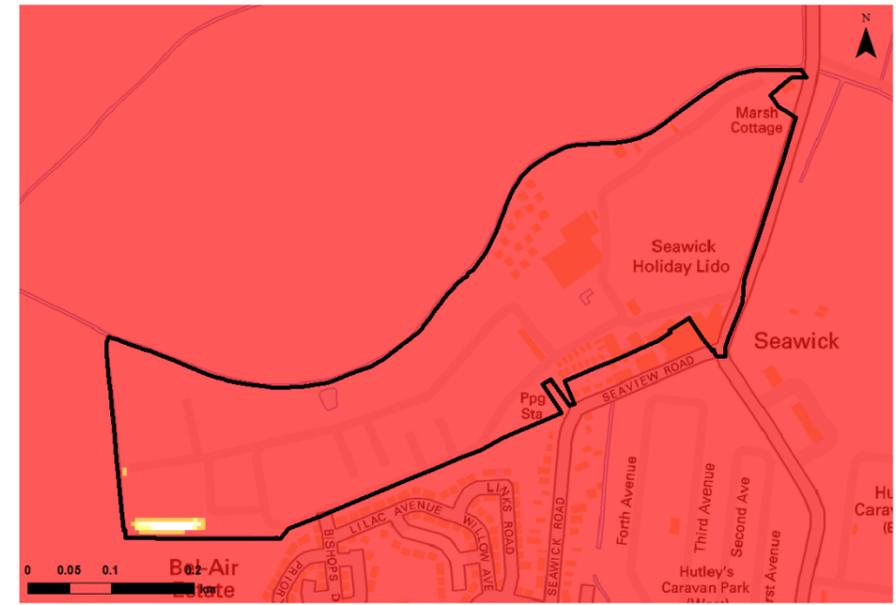
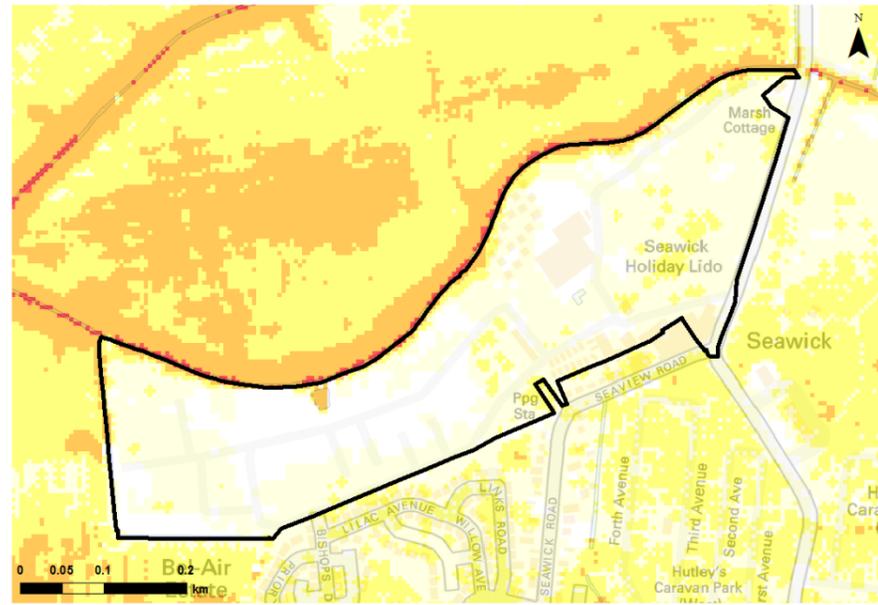
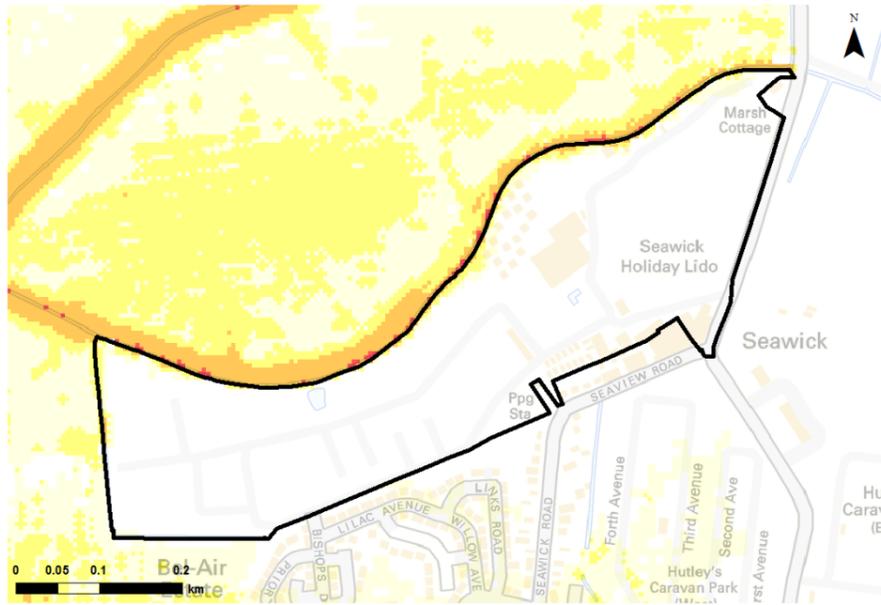
In the tide level equivalent to the defence crest height scenario the whole of the Seawick area is flooded to a depth of between 2.0 to 3.0 m with a hazard classification of 'danger for all'.

At the tide level equivalent to the defence crest height scenario, the majority of the Seawick area will already have been affected by flooding from overtopping before the breach occurs. The main access and egress routes will have been flooded due to overtopping before the breach occurs.

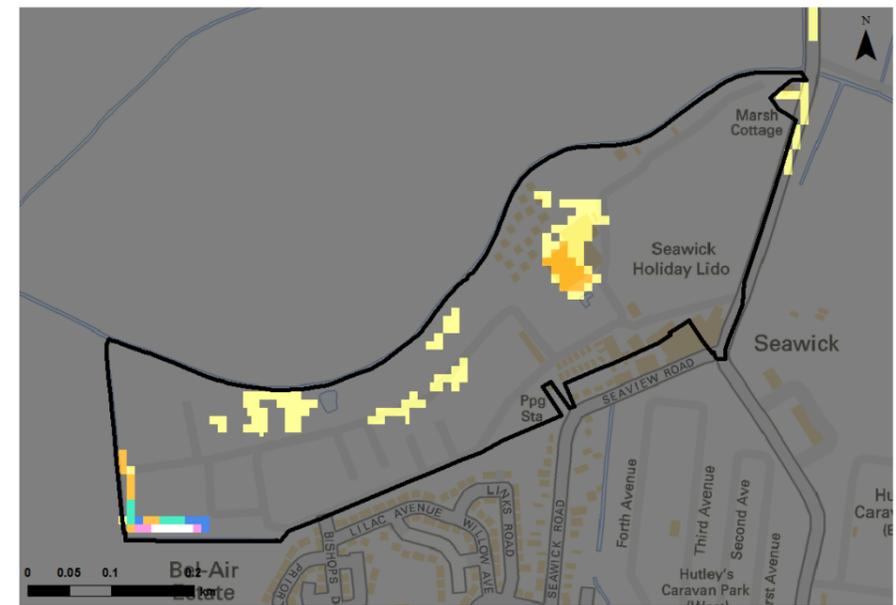
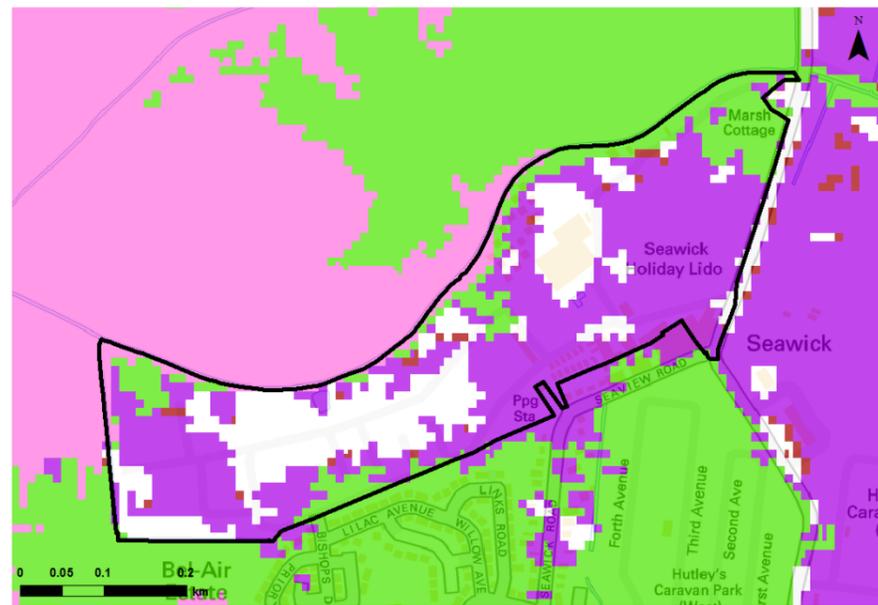
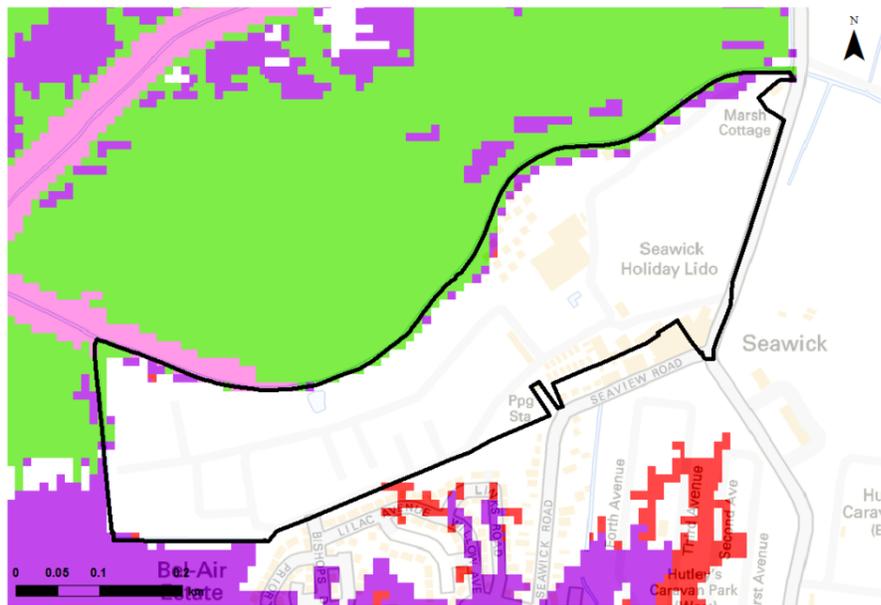


Depth

BREACH at location A



Hazard

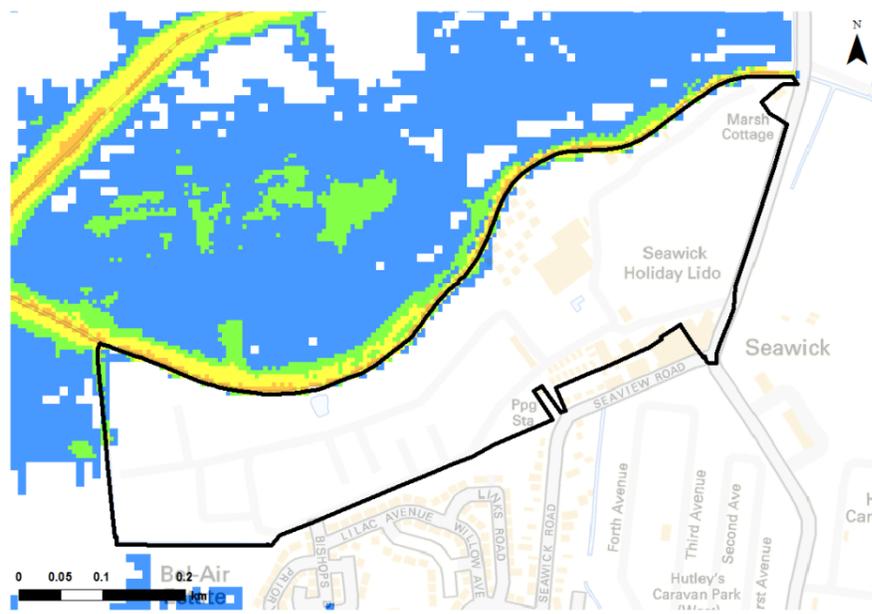


Time to Inundation

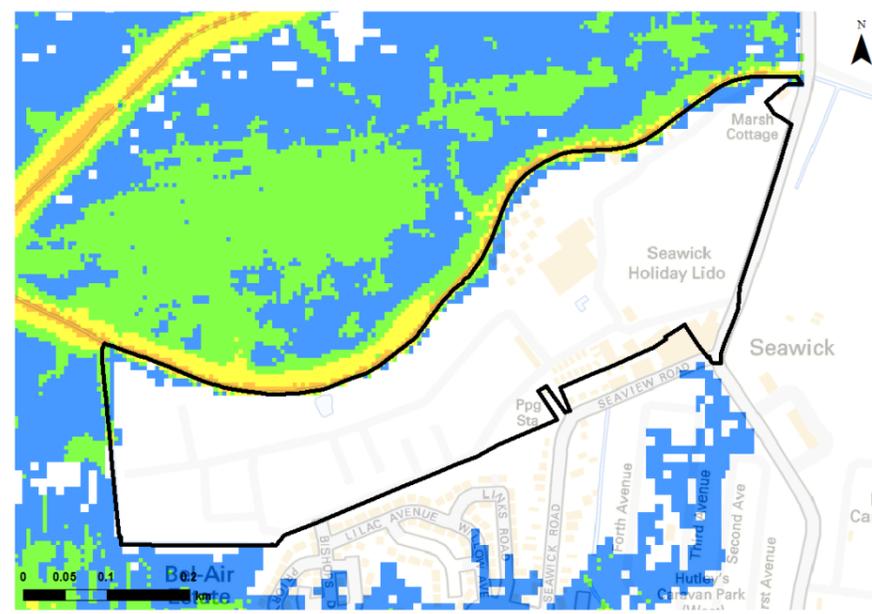
BREACH at location B

Modelling results show the level of risk at the Seawick area is unaffected by a breach at location B until a tide level equivalent to the defence crest height scenario. In this scenario, the Seawick area will be affected by flooding of depths between 0.25 to 1.0 m. The hazard would be classed as 'danger for some' or 'danger for most'. The majority of the flooded area will have flooded within two hours of the breach and the main access/egress route, Beach Road, will have been completely flooded within 0.25 hours of the breach occurring.

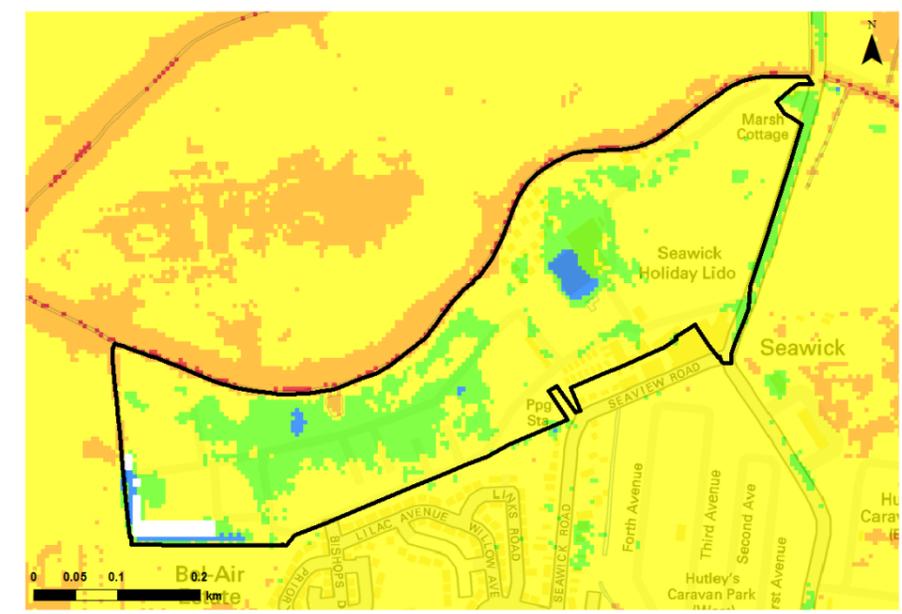
Breach at tide level equivalent to flood warning threshold



Breach at tide level equivalent to severe flood warning threshold

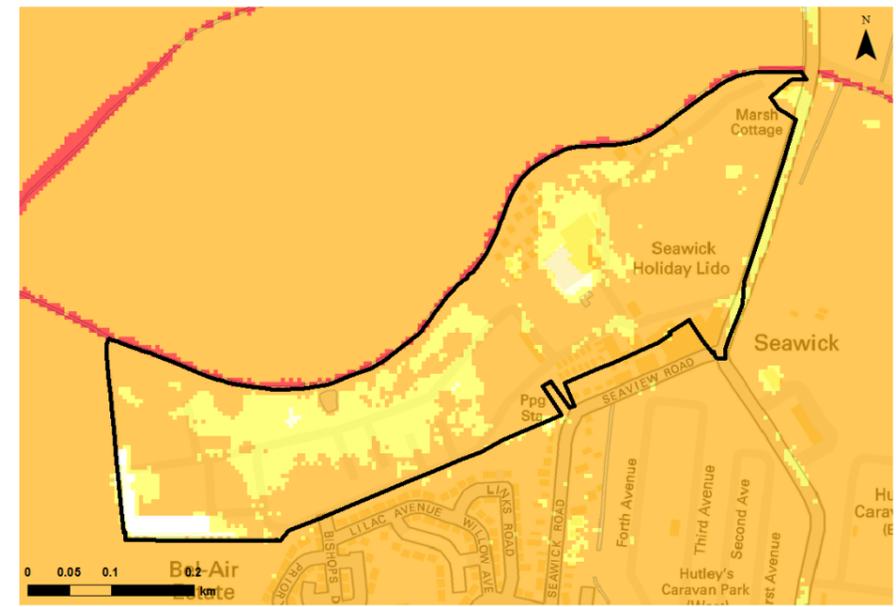
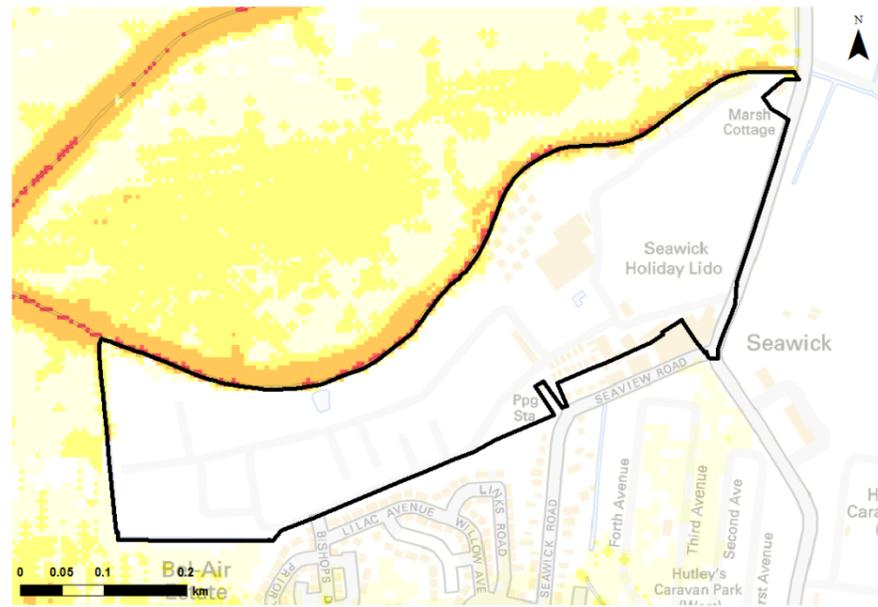
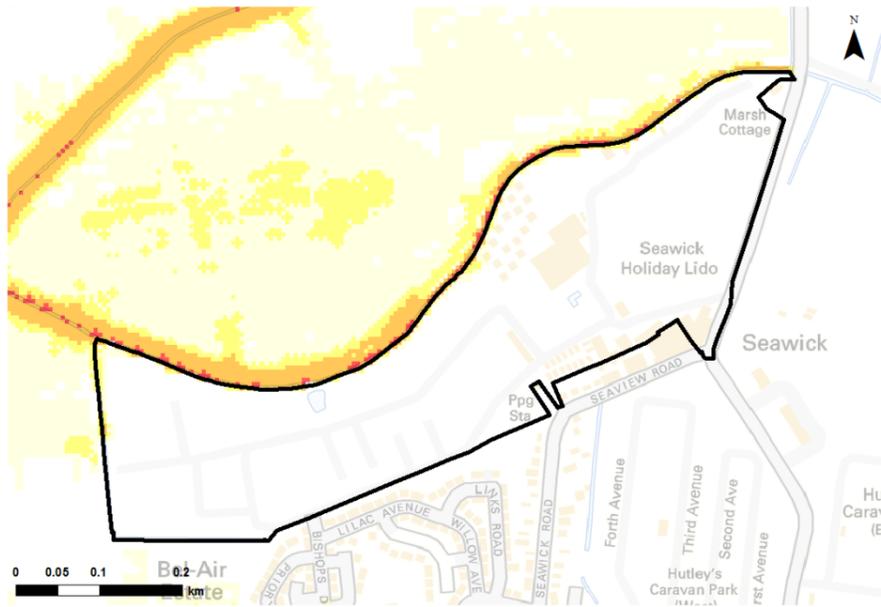


Breach at tide level equivalent to defence crest height

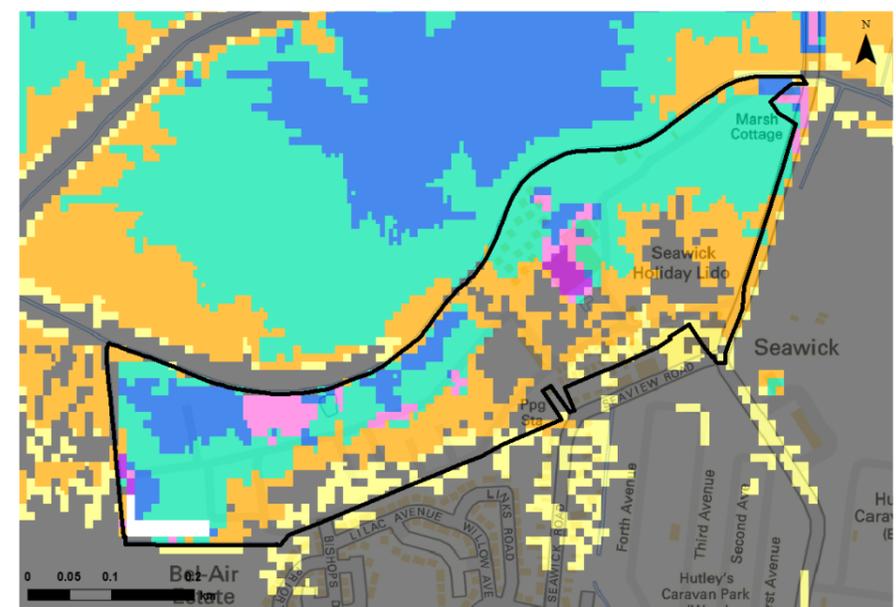
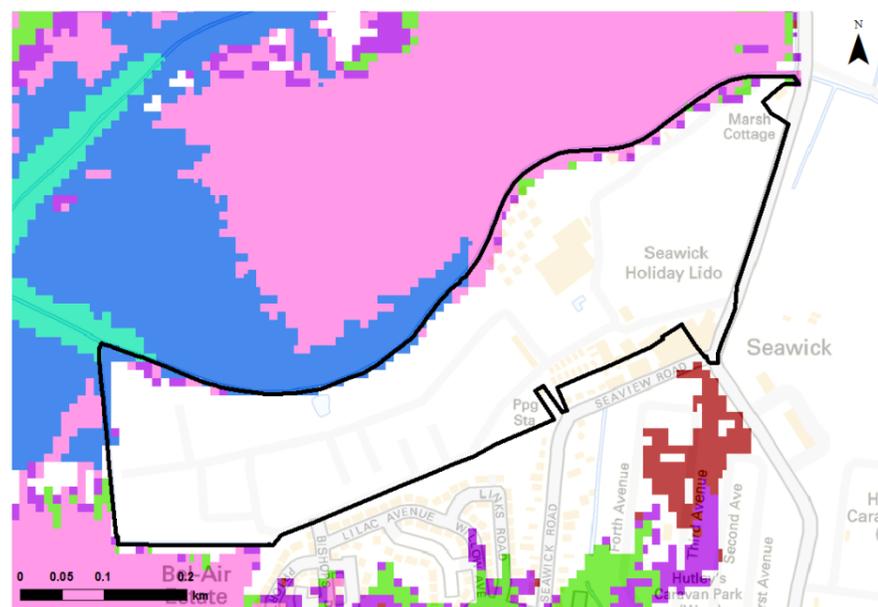
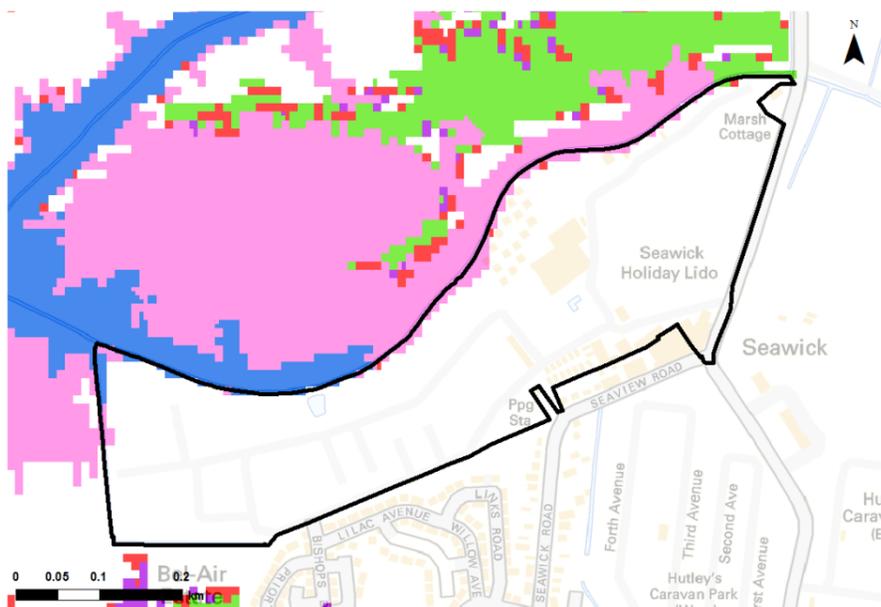


Depth

BREACH at location B



Hazard

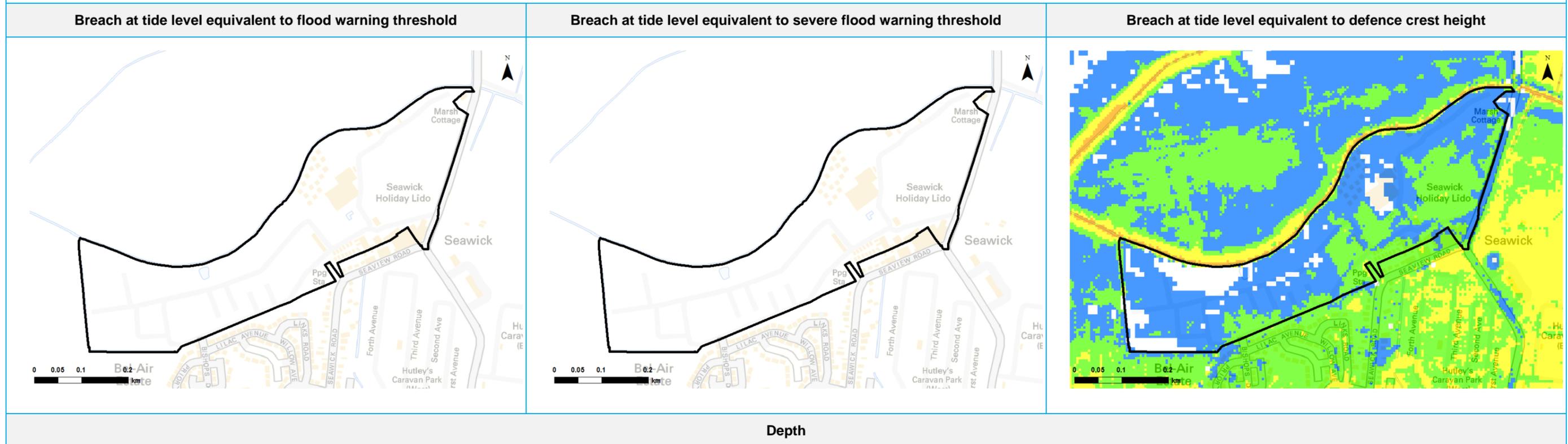


Time to Inundation

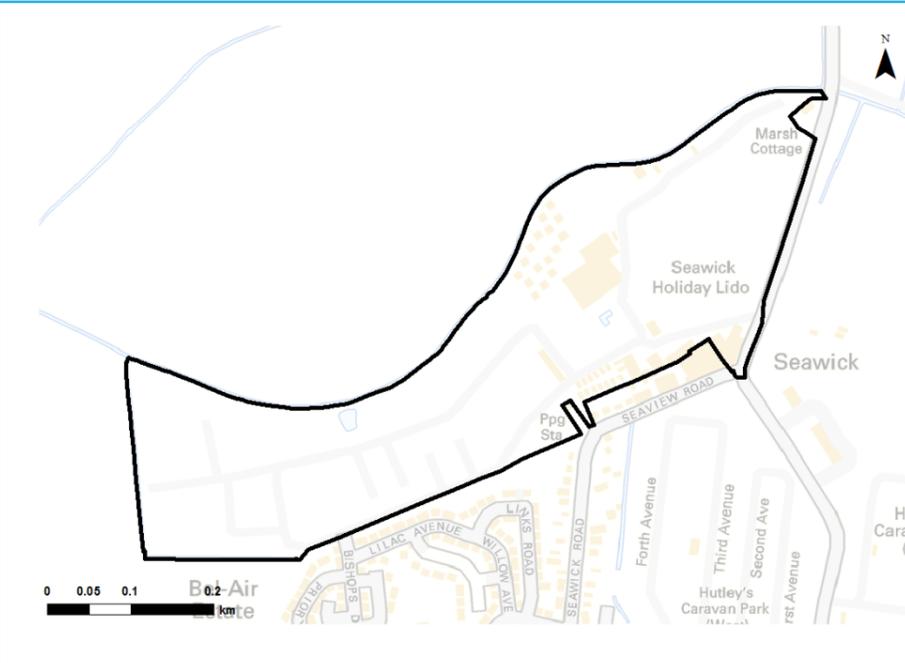
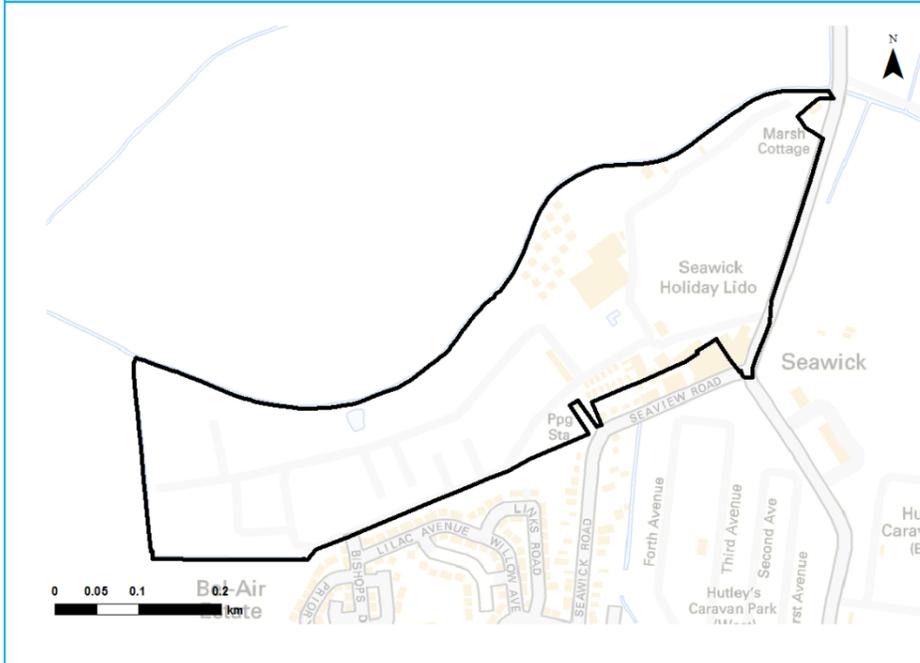
BREACH at location C

Unlike the breaches at locations A and B, location C is situated east of the counterwall. Modelling results show the level of risk at the Seawick area is only affected by a breach at location C at the tide level equivalent to the defence crest height scenario. In this scenario, depths range from 0.001 to 0.25 m. The hazard would be classed as 'very low' or 'danger for some' or 'danger for most'.

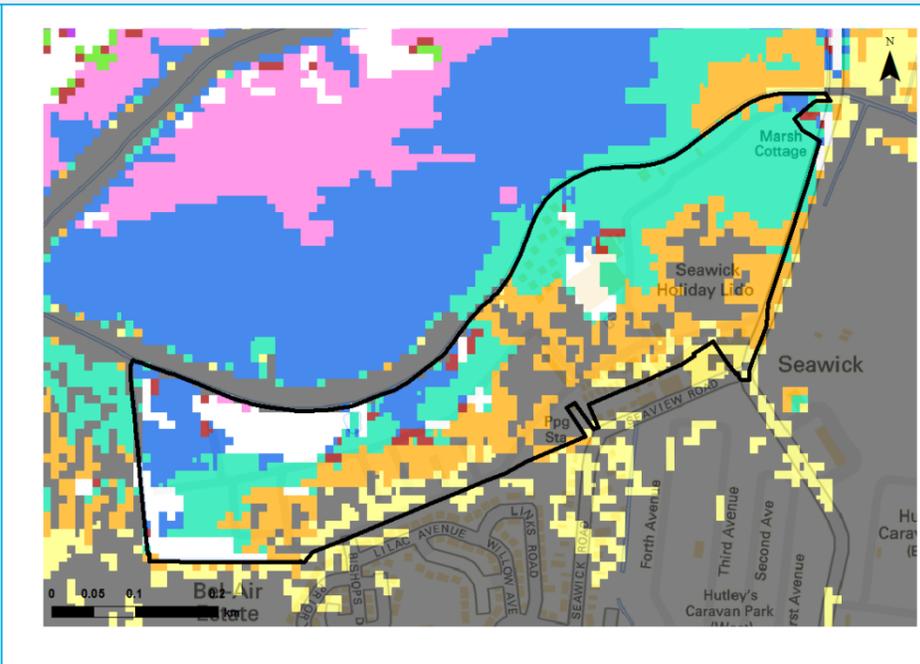
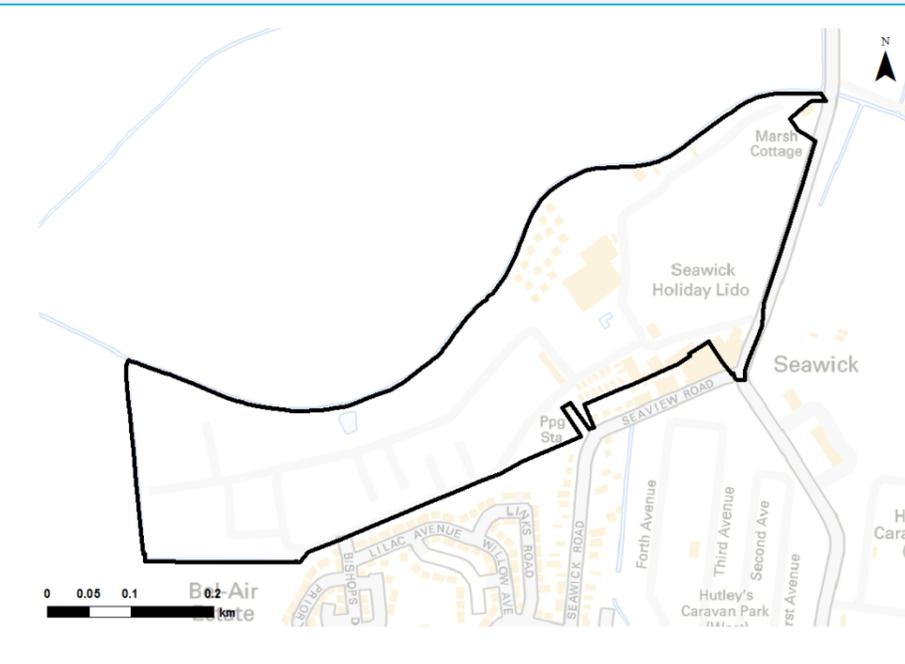
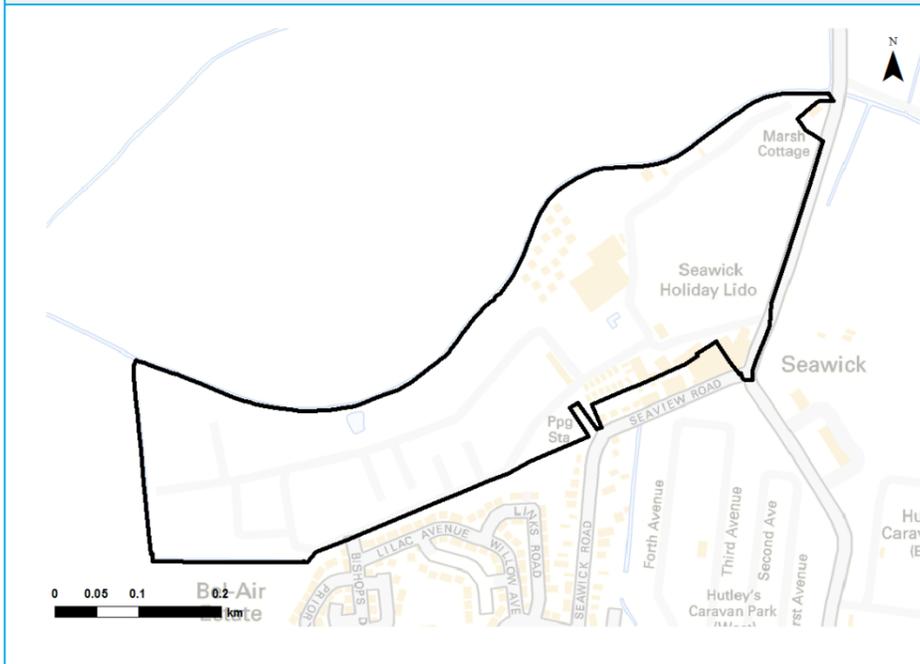
The majority of the Seawick area will be flooded within 0.5 hours of a breach with a tide level equivalent to the defence crest height scenario, although this is likely to be due to overtopping of the defence at Seawick rather than as a result of the breach on the eastern side of the counterwall. The main access/egress route, Beach Road, would be completely flooded within 0.5 hours of the breach.



BREACH at location C

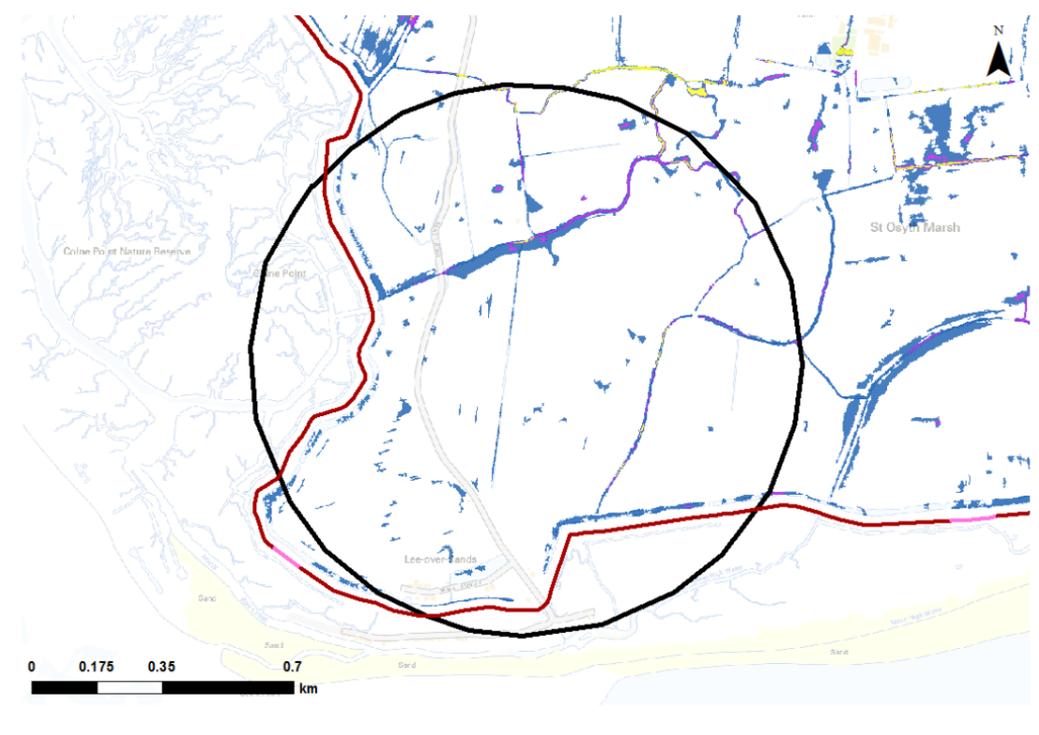
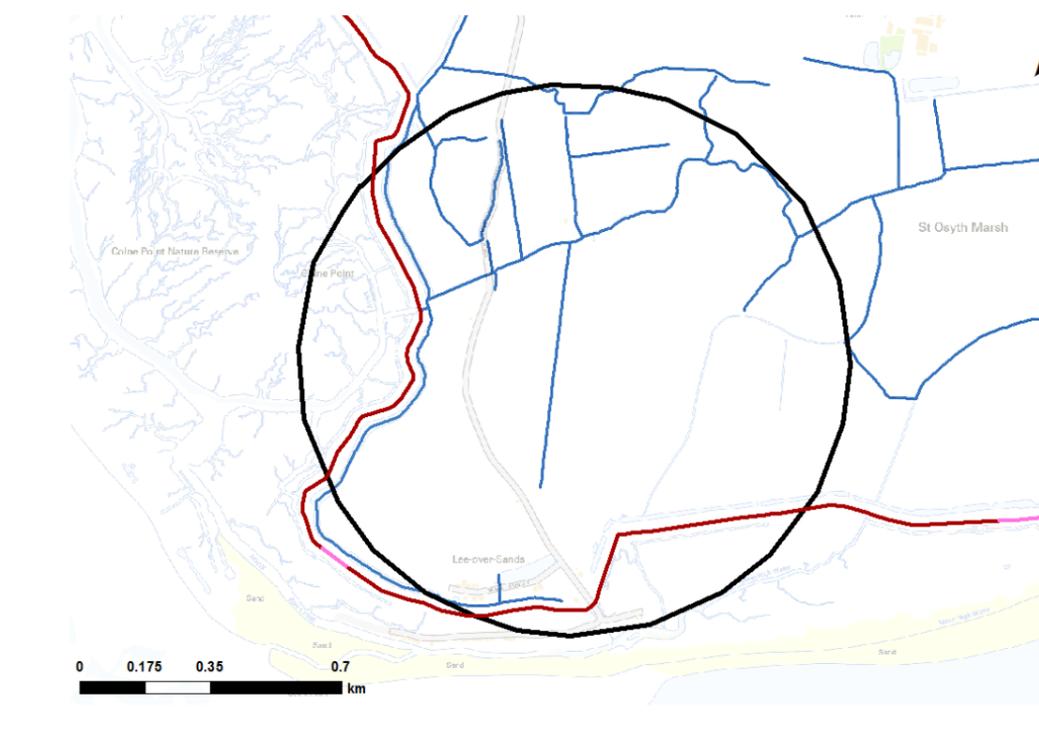


Hazard



Time to Inundation

I.9 Central St Osyth Marsh and Lee-Over-Sands

SITE NAME	CENTRAL ST OSYTH MARSH AND LEE-OVER-SANDS	
DESCRIPTION OF THE AREA	<ul style="list-style-type: none"> • This assessment area accommodates the area between the west of Jaywick, on the western side of the counterwall, and Point Clear. The elevation in the assessment area is fairly consistent; low lying land at St Osyth Marsh. • The St Osyth Ditch as well as a number of smaller drains and watercourses flow through the assessment area. • The area is protected by an embankment that stretches from Bel-Air Estate to Point Clear. It is also protected from flooding from overtopping further up the coast due to the presence of the counterwall. 	
SOURCES OF FLOOD RISK	<ul style="list-style-type: none"> • The assessment area is at risk from coastal, fluvial and surface water flooding. There is also residual risk from failure of coastal defences. 	
SURFACE WATER FLOOD RISK		FLUVIAL FLOOD RISK
<p>Small pockets of the assessment area are shown to be at risk of surface water flooding in the uFMfSW. These areas tend to correlate with the location of smaller drains and watercourses as well as isolated areas of lower lying land. An assessment of surface water risk should be included within a site-specific FRA and adequate surface water drainage design should be implemented to ensure surface water flood risk is not exacerbated.</p>		<p>The St Osyth Ditch and a number of smaller drains and watercourses flow through the area and may pose a risk of fluvial flooding.</p>
		
ACCESS AND EGRESS CONSIDERATIONS		FLOOD RISK ASSESSMENTS
<p>The main access/egress route through this area is Beach Road which extends from Lee-on-Sands to Point Clear. Modelling shows this route is unaffected by flooding in the design (0.5% AEP) scenario. Flooding to this route worsens during the climate change to 2112 scenario with increased flooding depths and durations.</p> <p>Access and egress in a breach scenario is dependent on the location of the breach, with breaches west of the jaywick counterwall having the biggest impact on flood risk in the area; given there is only one access/egress route for Lee-on-Sands, precautionary evacuation on receipt of a flood warning is recommended.</p>		<p>Development in this area will require a site specific FRA. Reference should be made to the breach modelling undertaken for this SFRA. Climate change should be considered when looking at whether the development will be safe for its proposed lifetime.</p> <p>Minimum finished floor levels should be based on the 0.5% AEP plus climate change to 2112 and include an allowance of a 300mm freeboard. Depths in this scenario vary across the area but modelling shows they range from 1.0 to 3.0 m.</p> <p>Surface water drainage design should be implemented to ensure surface water flood risk is not exacerbated and that flows in</p>

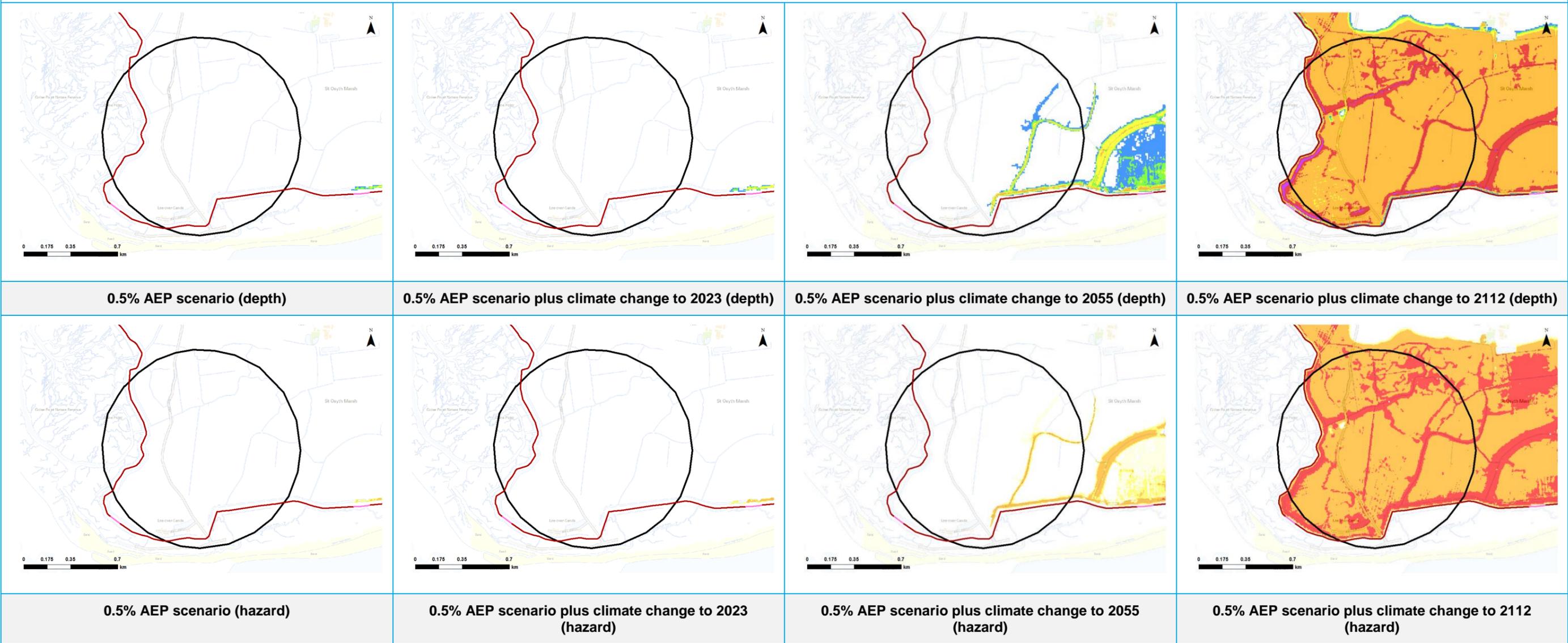
the nearby watercourses are not increased.
An emergency plan will be essential for developments within this area.

OVERTOPPING scenarios

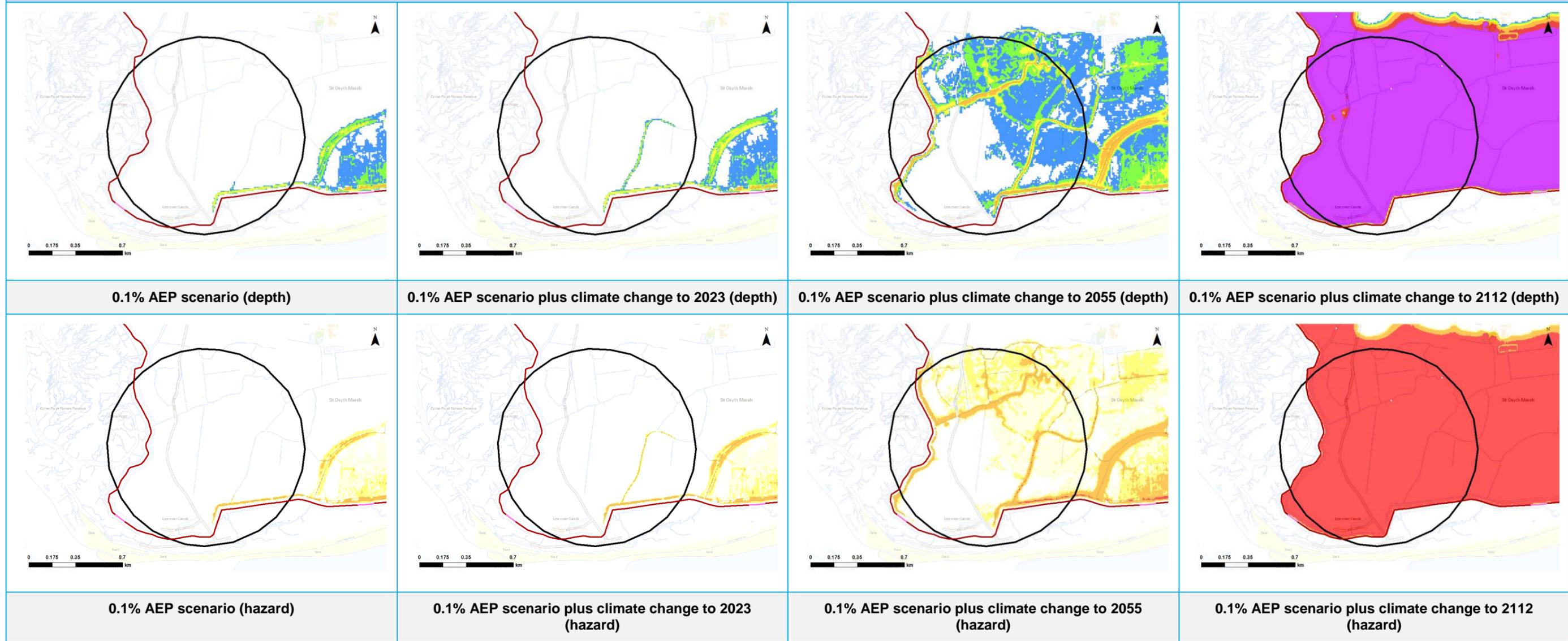
Model results show the assessment area is well protected from wave overtopping of the coastal defences. There is small amount of overtopping in the 0.5% AEP plus climate change to 2055 scenario, effecting mainly the south of the area along the sea front. Deeper flooding follows the flow path of the smaller drains or watercourses whilst depths away from the watercourses range between 0.001 to 0.5 m and the hazard is classed as 'very low'. The level of risk increases in the 0.5% AEP plus climate change to 2112 scenario, with the extent of flooding increasing significantly. In this scenario, the whole of the assessment area is at risk with depths ranging from 1.0 to 3.0 m. The hazard in this scenario is mostly classed as 'danger for most with some pockets of 'danger for all'.

Slightly more overtopping is seen in the 0.1% AEP scenarios although the extent of flooding is still relatively low in the 0.1% AEP and 0.1% plus climate change to 2023 scenarios. However, the 0.1% AEP plus climate change to 2055 sees a larger area affected by flooding, with flooding affecting approximately half of the assessment area, mainly to the east. Depths in this scenario range between 0.001 to 1.0 m and hazard is classed as 'very low', 'danger for some' or 'danger for most'.

The level of risk increases significantly in the 0.1% AEP plus climate change to 2112 scenario, with depths increasing to 3.0 m or deeper across the assessment area. The hazard has been classed as 'danger for all'.



OVERTOPPING scenarios



BREACH at location A

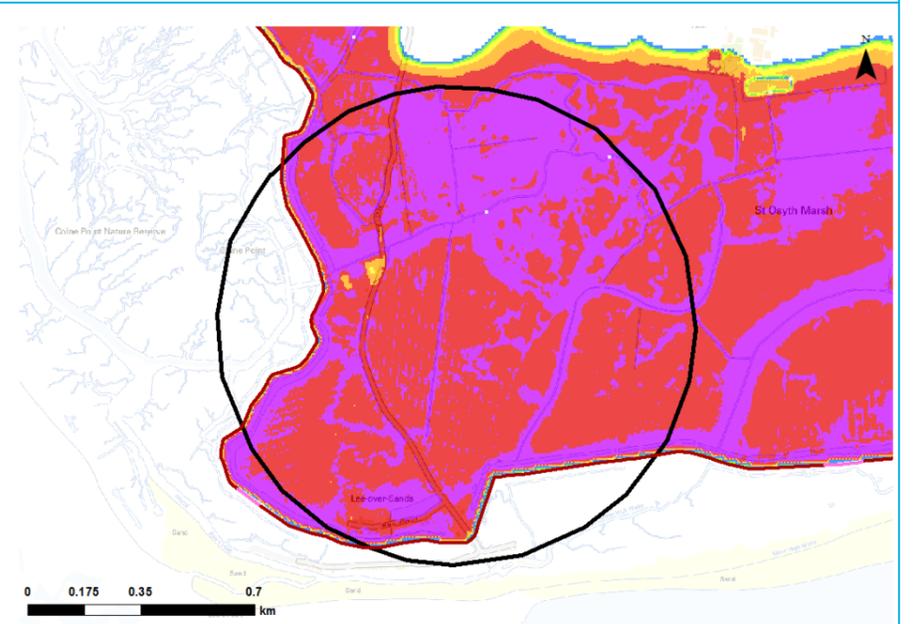
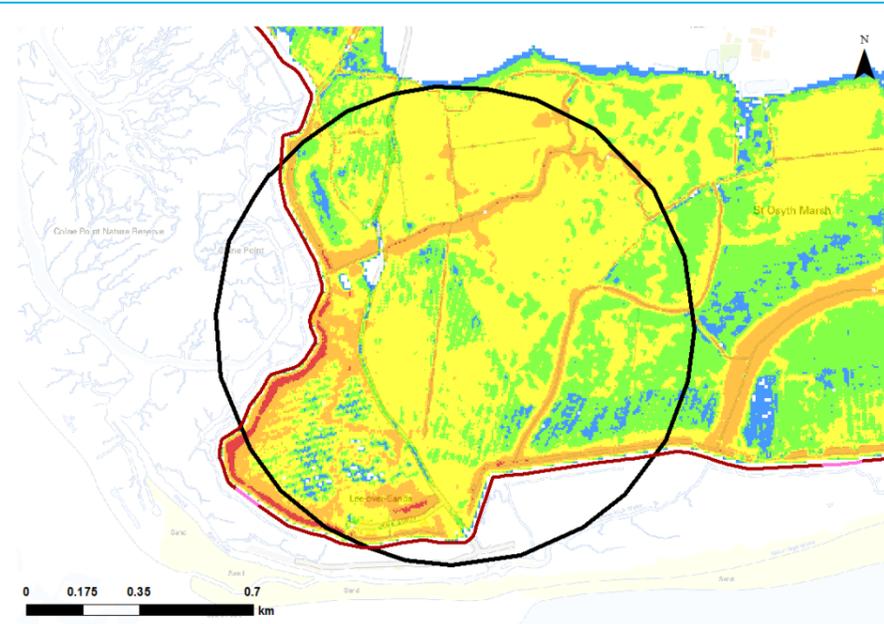
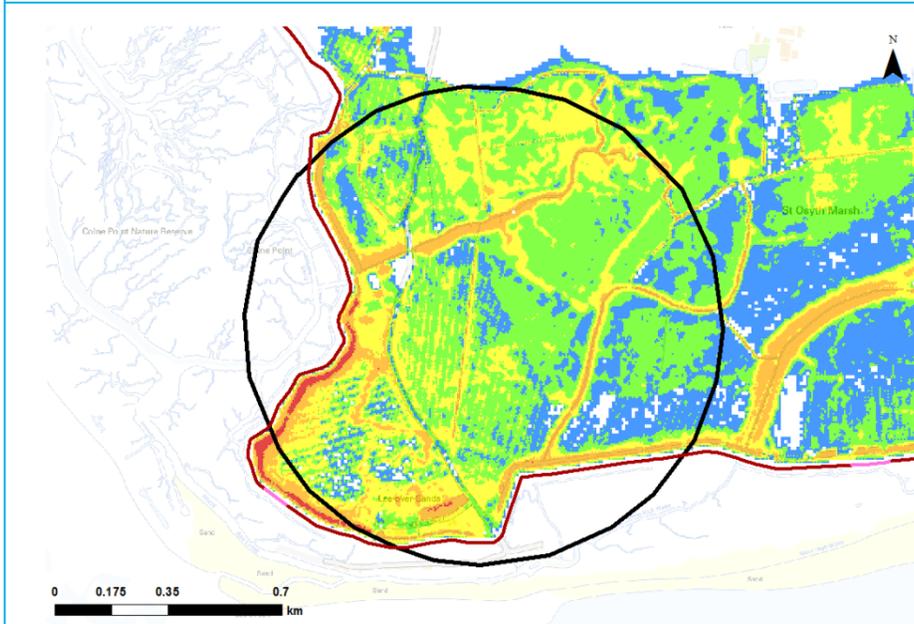
Modelling results show the level of risk at the assessment area is significantly affected by a breach at location A. In all scenarios, the entire assessment area is at risk of flooding with depths ranging between 0.001 to 2.0 m in the tide level equivalent to the FW and SFW scenarios. In these scenarios the majority of the area is classed as 'danger for some' or 'danger for all'. In the tide level equivalent to defence crest height risk increases significantly with depths increasing to between 2.0 to 3.0 m or deeper. The hazard is classed 'danger for all'.

At the tide level equivalent the FW threshold the majority of the area will have been flooded within two hours of the breach, whilst in the tide level equivalent to the SFW threshold, this decreases to within one hour of the breach. In the tide level equivalent to the defence crest height scenario, the area will already have been affected by flooding from overtopping before the breach occurs.

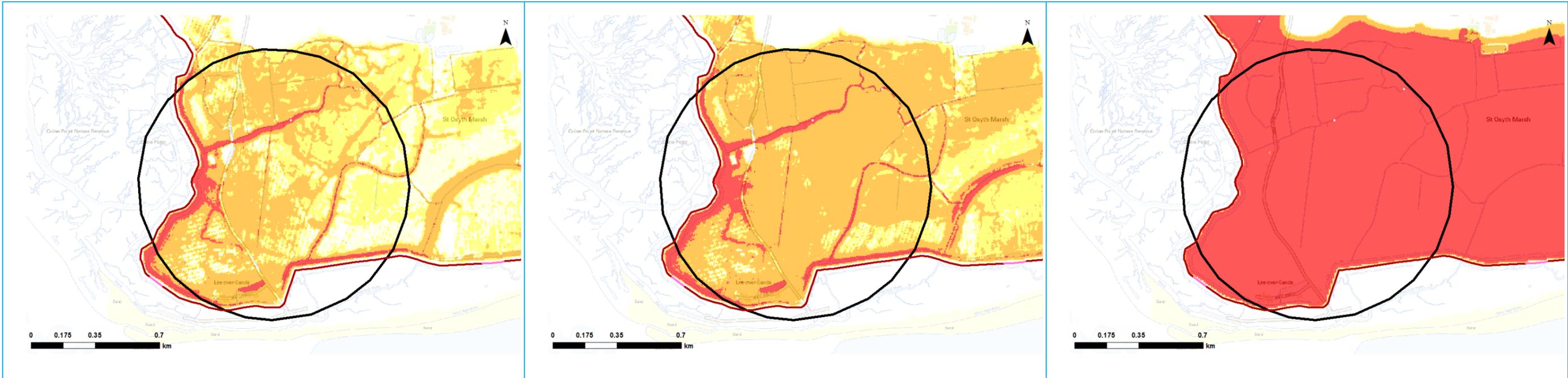
Breach at tide level equivalent to flood warning threshold

Breach at tide level equivalent to severe flood warning threshold

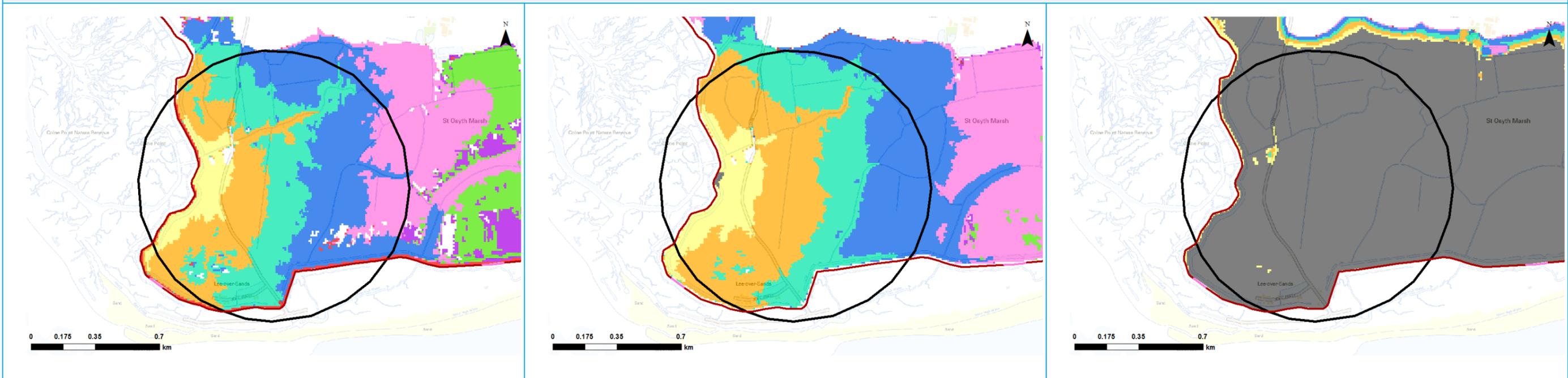
Breach at tide level equivalent to defence crest height



Depth



Hazard

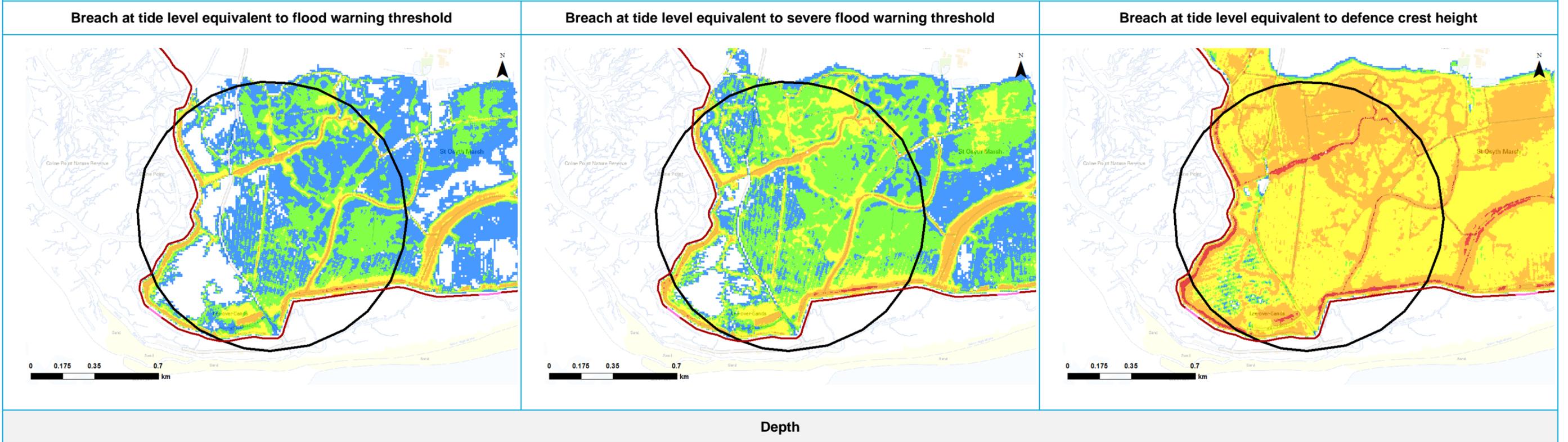


Time to Inundation

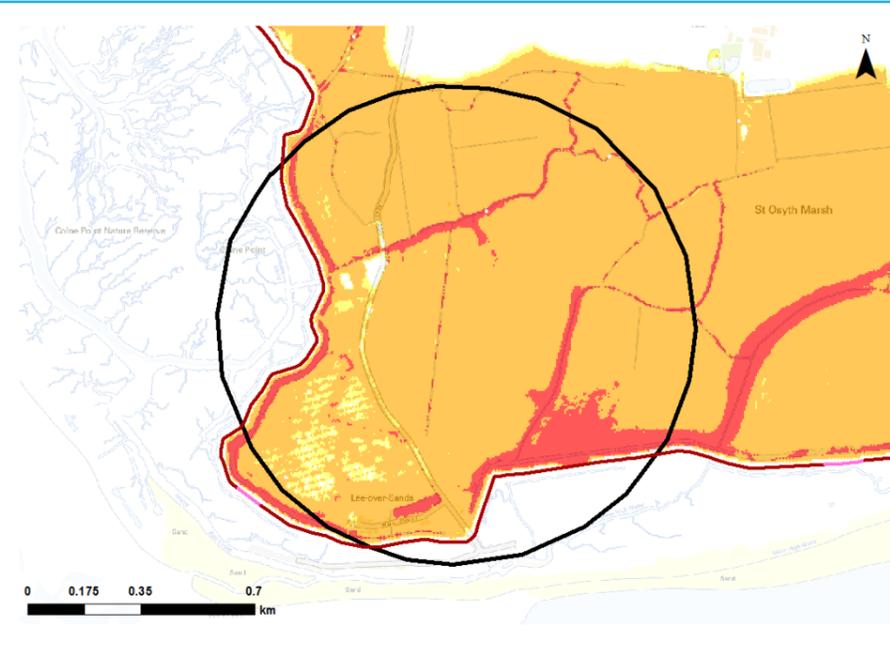
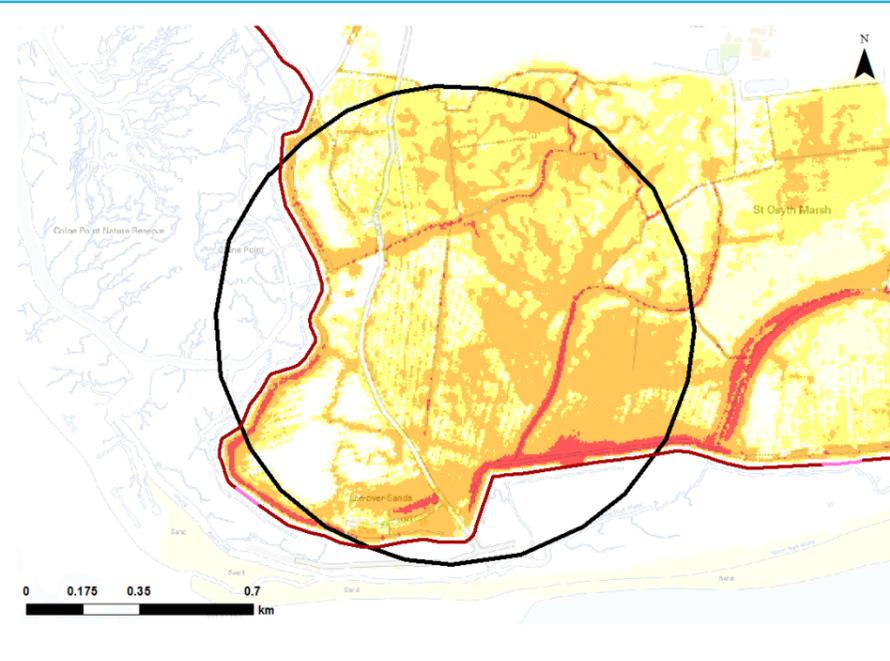
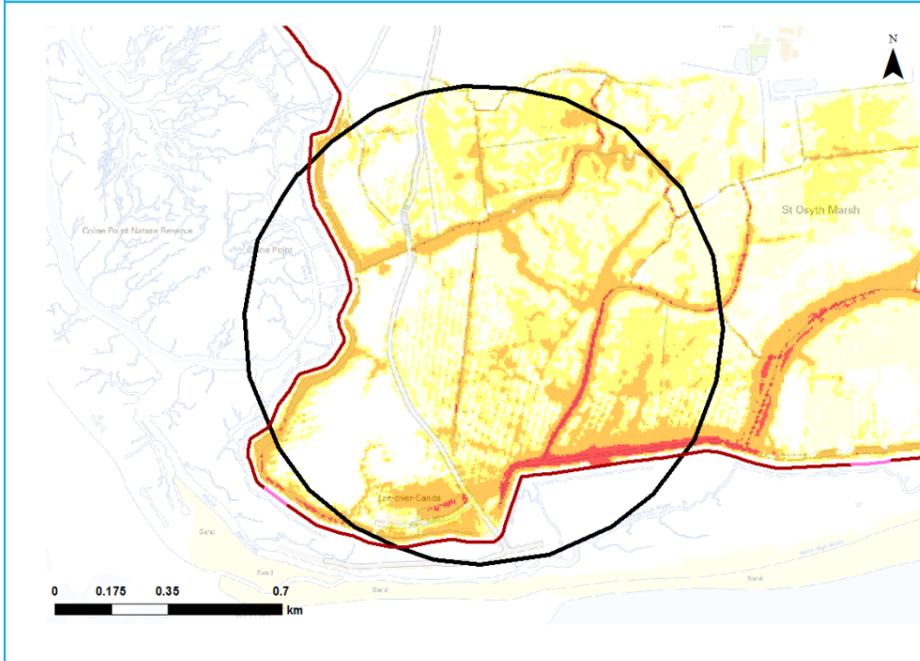
BREACH at location B

Modelling results show the level of risk at the assessment area is significantly affected by a breach at location B. In all scenarios, the majority of the assessment area is at risk of flooding with depths ranging between 0.001 to 2.0 m in the tide level equivalent to the FW and SFW scenarios. Hazard varies across the site, with the eastern areas of the site tending to have the higher hazard class of 'danger for most'. In the tide level equivalent to defence crest height risk increases with depths increasing to between 0.50 to 2.0 m. The hazard class for the majority of the site is 'danger for all'.

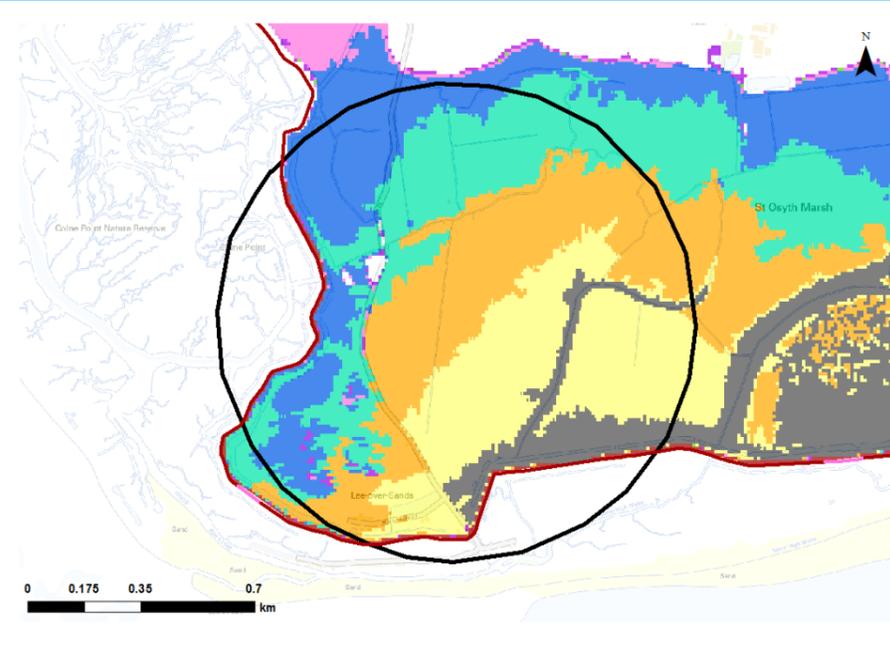
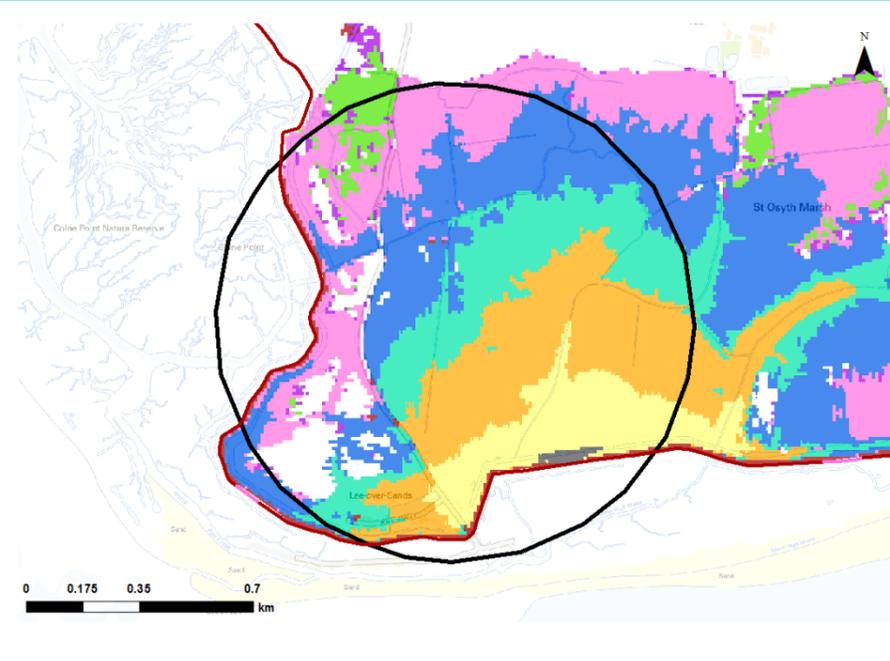
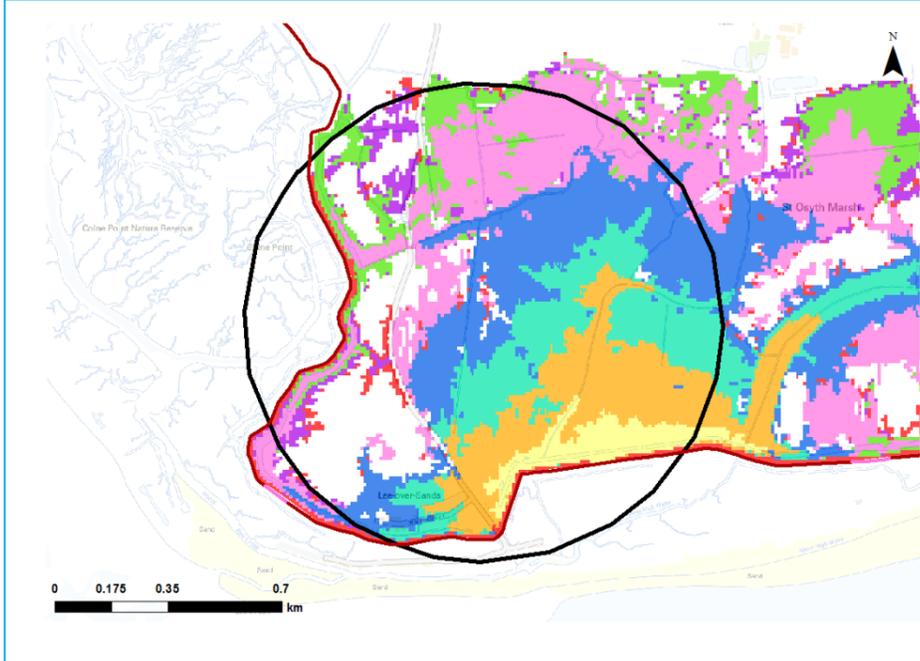
In the tide level equivalent the FW threshold scenario the majority of the area will have been flooded within two hours of the breach, whilst it in the tide level equivalent to the SFW threshold, this decreases to within one hour of the breach. In the tide level equivalent to the defence crest height scenario, this decreases even further with the majority of the site flooded within 0.5 hours of the breach. The south of the area will already have been affected by flooding from overtopping before the breach occurs.



BREACH at location B



Hazard

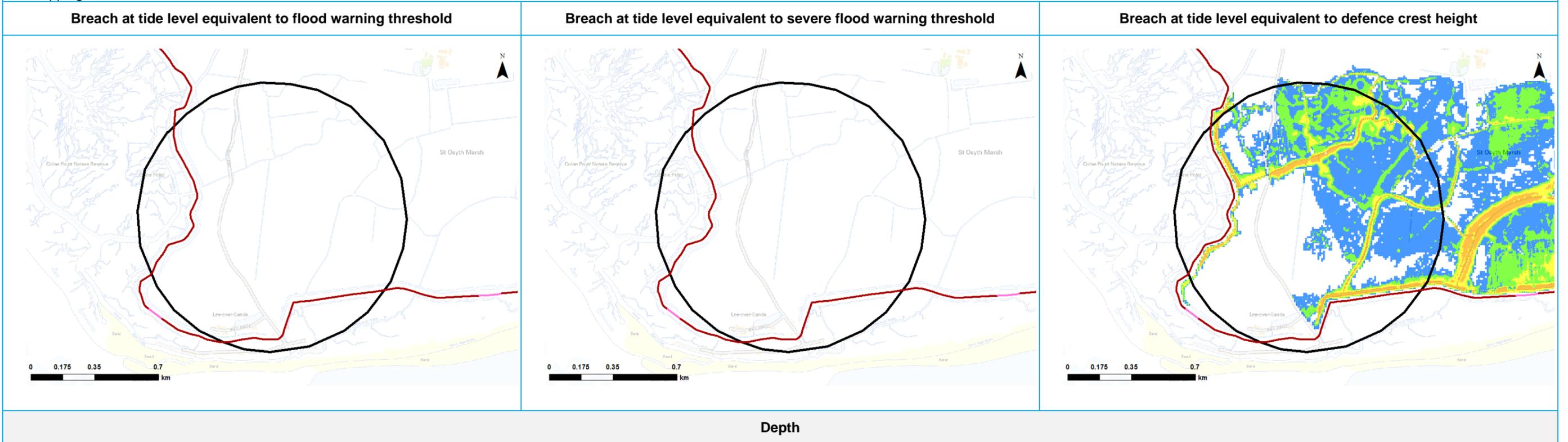


Time to Inundation

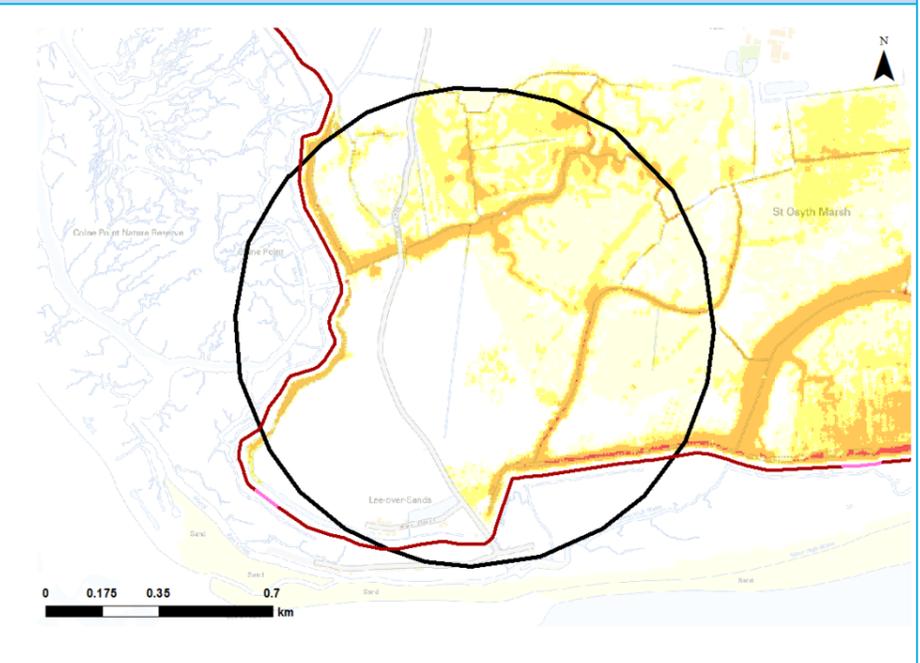
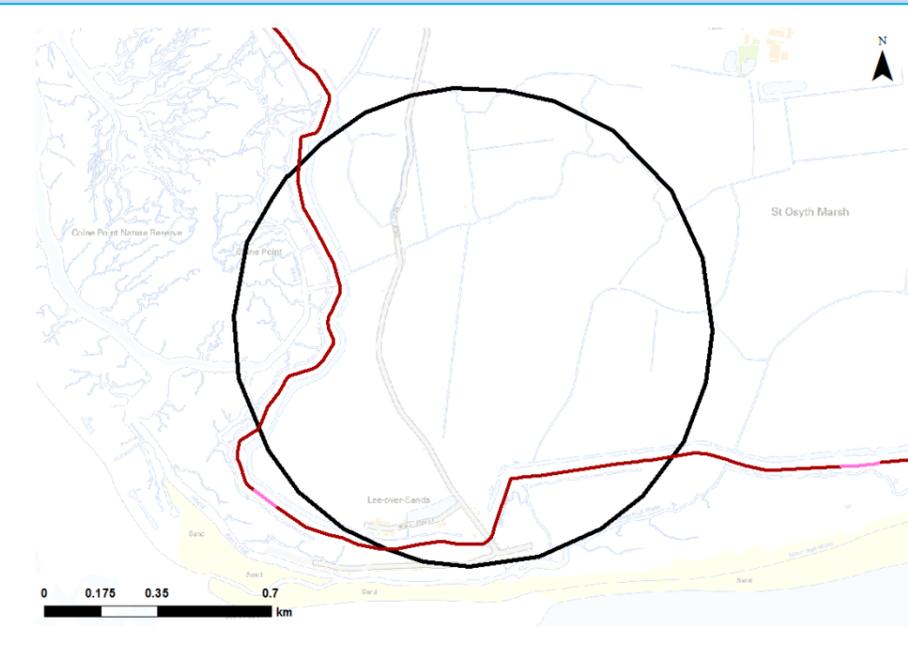
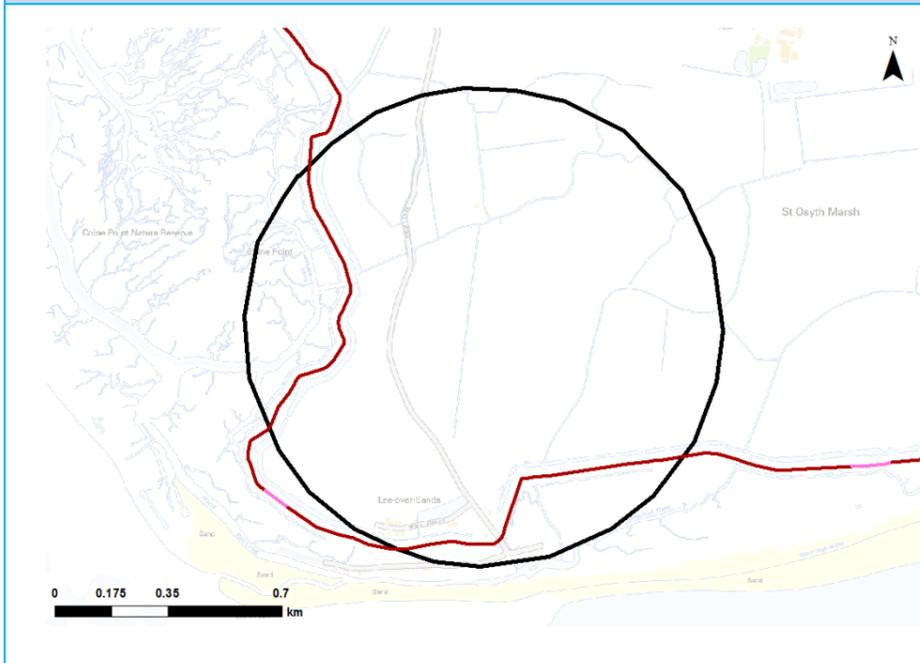
BREACH at location C

Modelling results show the assessment area is unaffected by a breach at location A until a tide level equivalent to the defence crest height scenario. In this scenario, the east of the assessment area is at risk of flooding with depths ranging between 0.001 to 1.0 m. Hazard varies across the assessment area, ranging from 'very low' to 'danger for some'.

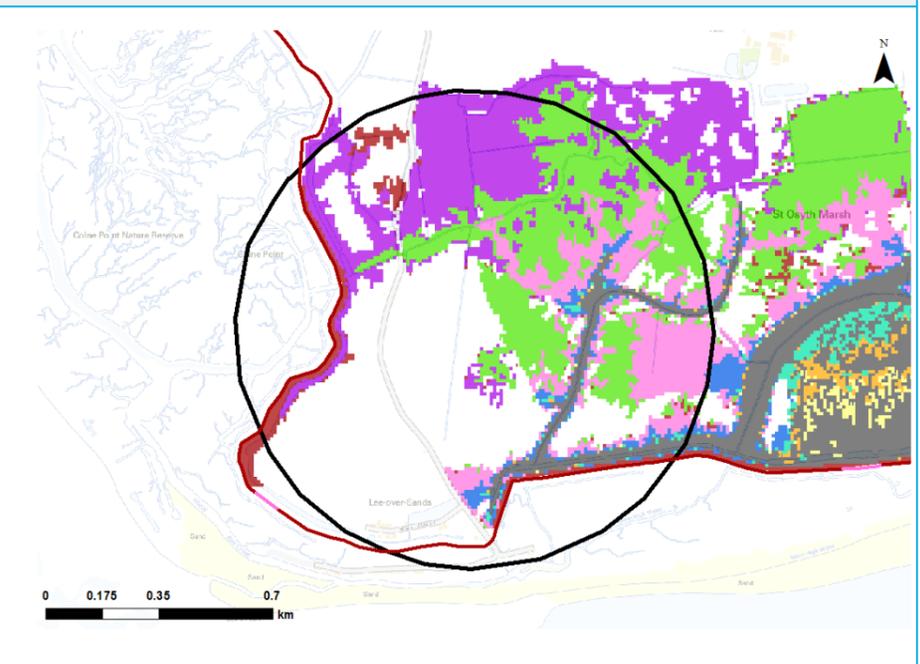
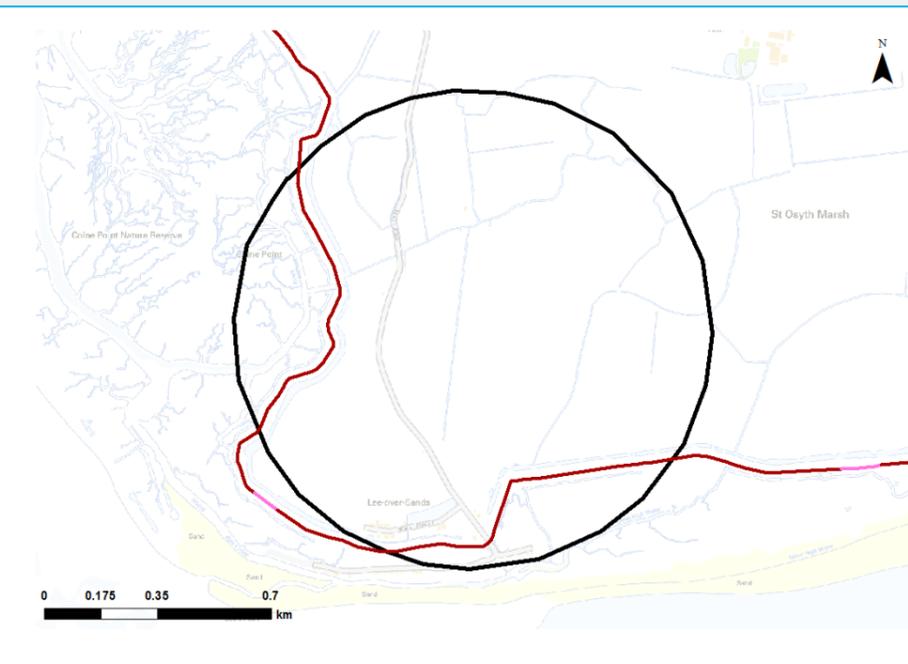
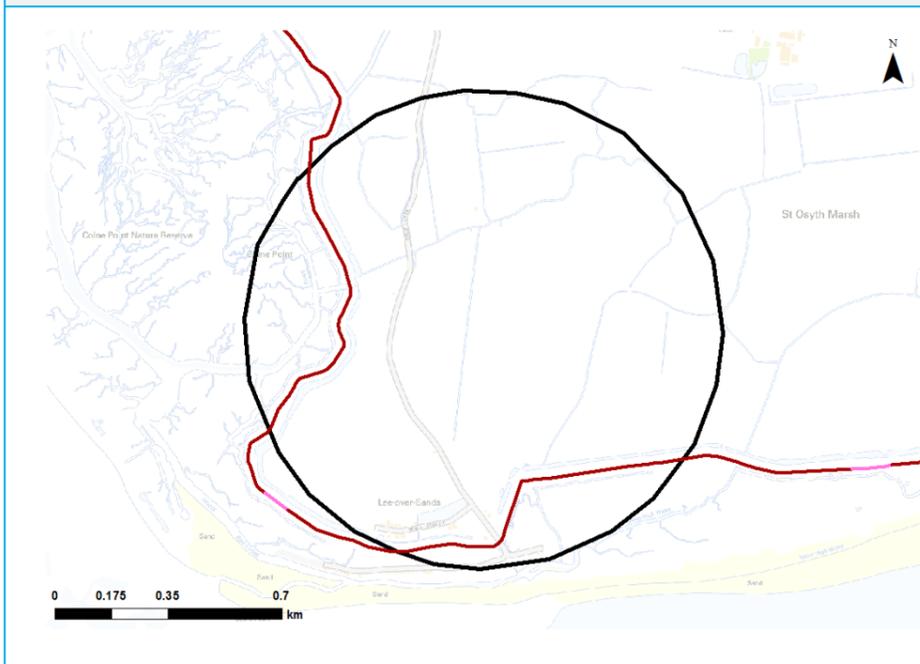
In the tide level equivalent to the defence crest height scenario, the majority of the eastern area of the assessment area is flooded within one to 15 hours of the breach. The south of the area will already have been affected by flooding from overtopping before the breach occurs.



BREACH at location C

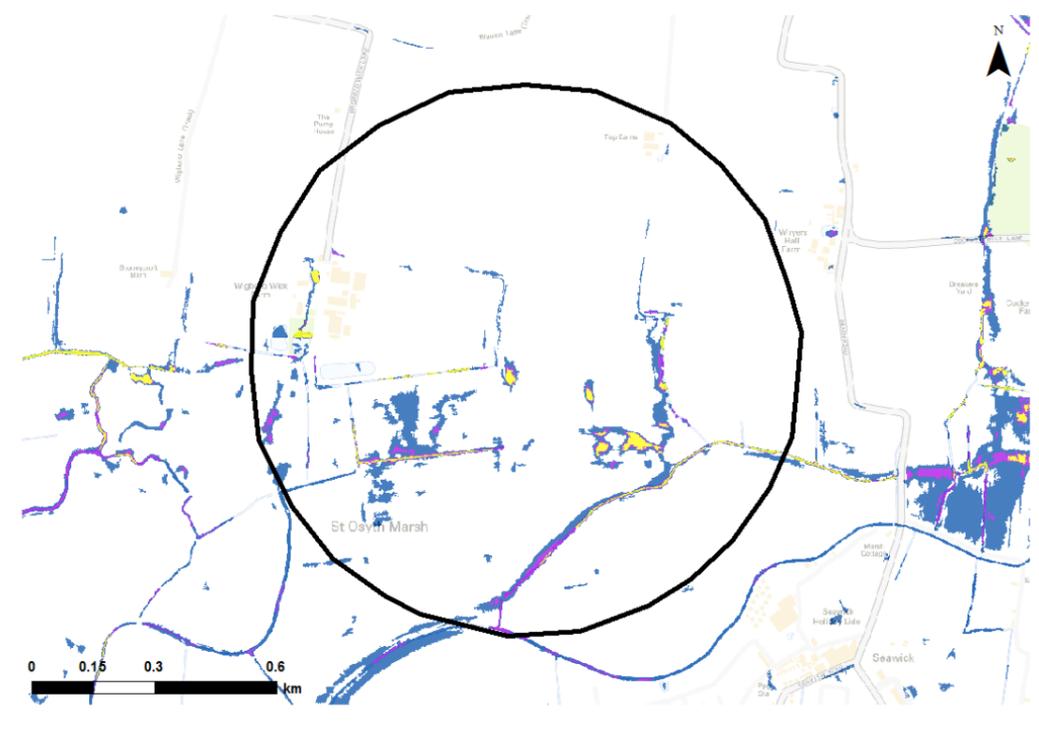
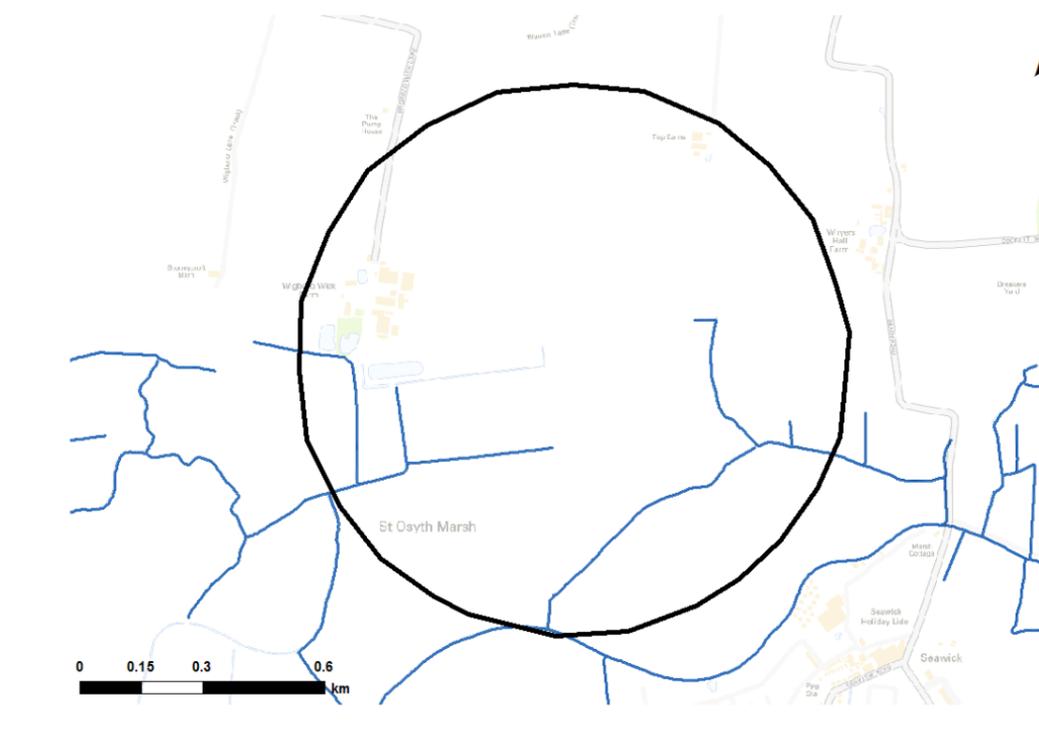


Hazard



Time to Inundation

I.10 North of St Osyth Marsh

SITE NAME	NORTH OF ST OSYTH MARSH	
DESCRIPTION OF THE AREA	<ul style="list-style-type: none"> • This assessment area is located to the west of Jaywick on the western side of the counterwall. The elevation in the assessment area is fairly consistent; low lying land at St Osyth Marsh with a band of higher ground to the north from Point Clear stretching towards Clacton-on-Sea. • The St Osyth Ditch as well as a number of smaller drains and watercourses flow through the assessment area. • The area is protected by an embankment that stretches from Bel-air Estate to Point Clear. It is also protected from flooding from overtopping further up the coast due to the presence of the counterwall. 	
SOURCES OF FLOOD RISK	<ul style="list-style-type: none"> • The assessment area is at risk from coastal, fluvial and surface water flooding. There is also residual risk from failure of coastal defences. 	
SURFACE WATER FLOOD RISK		FLUVIAL FLOOD RISK
<p>Small pockets of the assessment area are shown to be at risk of surface water flooding in the uFMfSW. These areas tend to correlate with the location of smaller drains and watercourses and areas of lower lying land. An assessment of surface water risk should be included within a site-specific FRA and adequate surface water drainage design should be implemented to ensure surface water flood risk is not exacerbated.</p>		<p>The St Osyth Ditch and a number of smaller drains and watercourses flow through the area and may pose a risk of fluvial flooding.</p>
		
ACCESS AND EGRESS CONSIDERATIONS		FLOOD RISK ASSESSMENTS
<p>The main access/egress route for the assessment area is Beach Road running south to north from Seawick, St Cleres Hall Lane and Wigboro Wick Lane. Modelling shows none of these routes are affected by flooding in the design (0.5% AEP) scenario. Flooding to these Beach Road occurs in the climate change to 2055 and 2112 scenarios; however, this is mainly to the south of the assessment area.</p> <p>Access and egress in a breach scenario is dependent on the location of the breach; however St Cleres Hall Lane and Wigboro Wick Lane are unaffected in these scenarios and only the southern section of Beach Road is affected.</p>		<p>Development in this area should be restricted the higher land in the north, outside of the flood extent shown in the modelled scenarios. This will ensure development is unaffected by overtopping into the future as well as in the event of a breach.</p> <p>Should development be located in the south of the assessment area then it will require a site specific FRA. Reference should be made to the breach modelling undertaken for this SFRA. Climate change should be considered when looking at whether the development will be safe for its proposed lifetime.</p> <p>Minimum finished floor levels should be based on the 0.5% AEP plus climate change to 2112 and include an allowance of a</p>

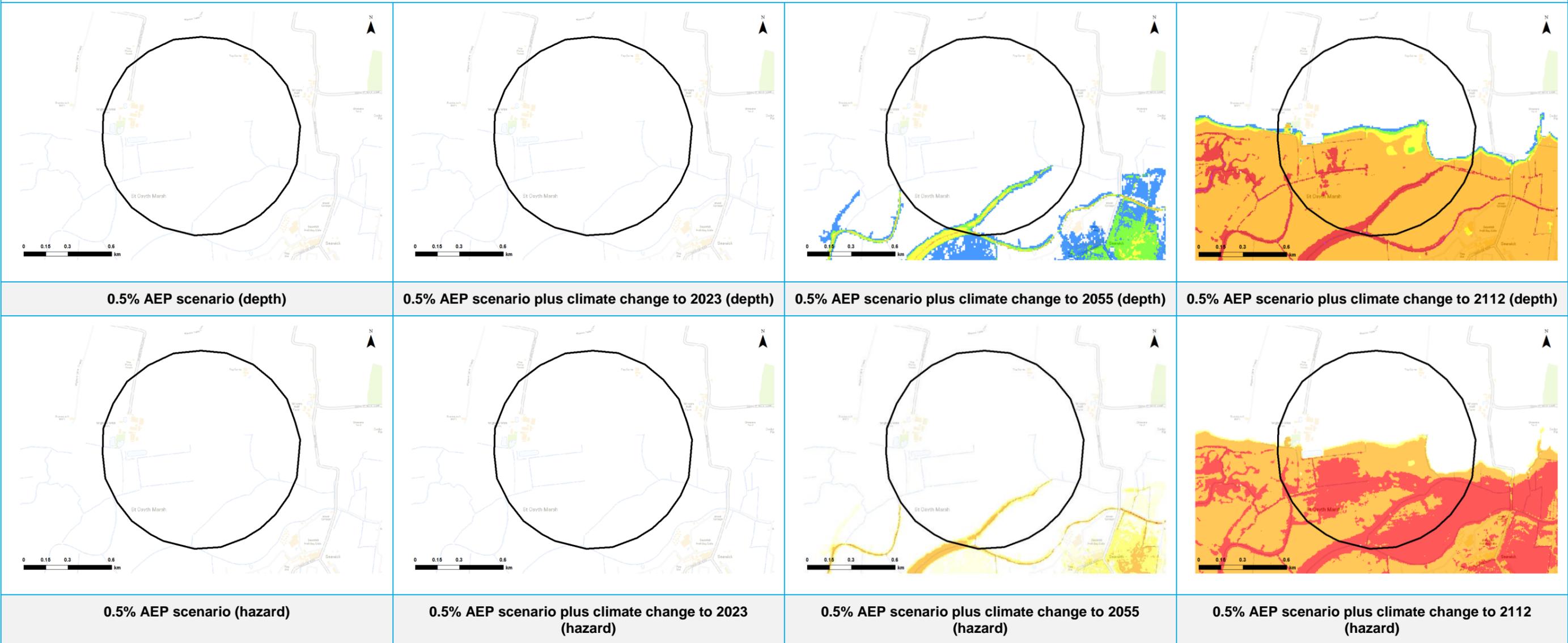
300mm freeboard. Depths in this scenario vary across the area but modelling shows they range from 1.0 to 3.0 m. Surface water drainage design should be implemented to ensure surface water flood risk is not exacerbated and that flows in the nearby watercourses are not increased. An emergency plan is essential for any developments within south of this assessment area.

OVERTOPPING scenarios

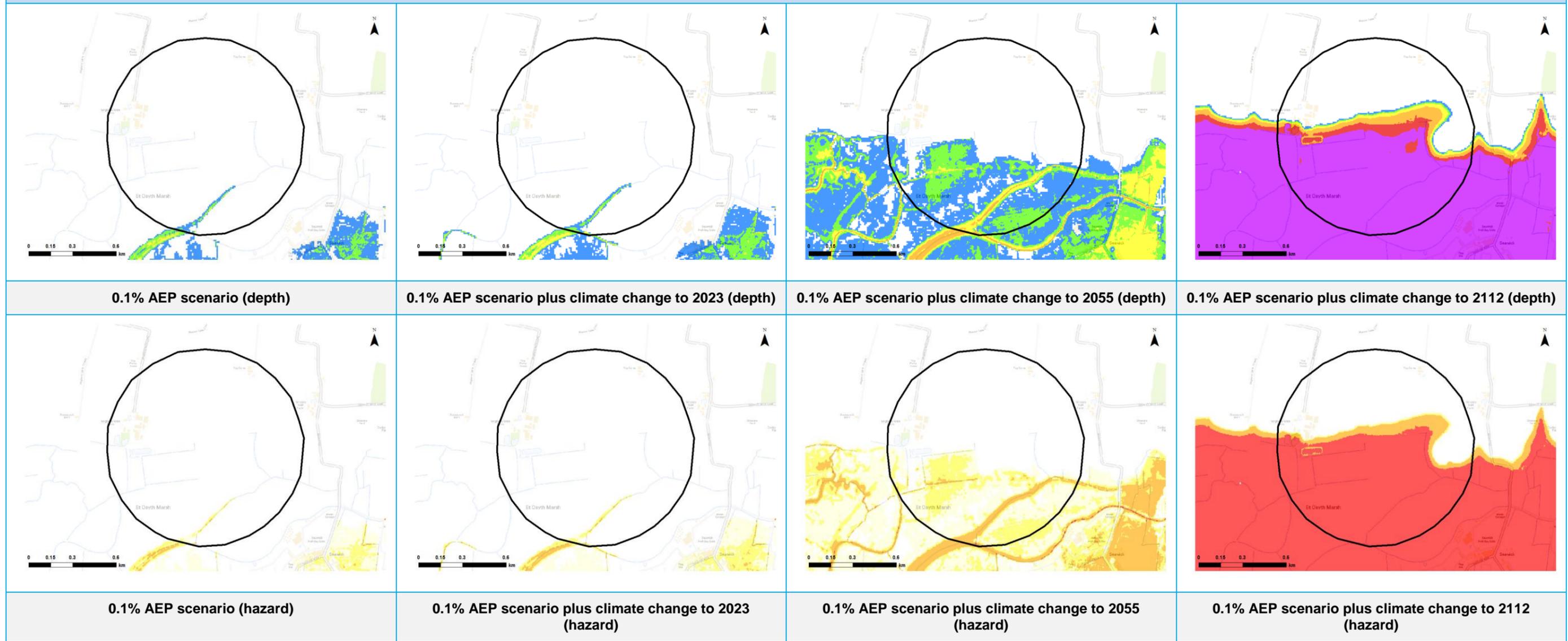
Model results show the assessment area is well protected from wave overtopping of the coastal defences. There is small amount of overtopping in the 0.5% AEP plus climate change to 2055 scenario, mainly confined to an area of unnamed drain in the south of the area. The level of risk increases in the 0.5% AEP plus climate change to 2112 scenario, with the extent of flooding increasing significantly to around half of the assessment area. In this scenario, the lower lying land in the southern half of the assessment area is at risk with depths mainly ranging from 1.0 to 3.0 m. The hazard in this scenario is classed as 'danger for most' with some pockets of 'danger for all'.

Slightly more overtopping is seen in the 0.1% AEP scenarios although the extent of flooding is still relatively low in the 0.1% AEP and 0.1% plus climate change to 2023 scenarios. However, the 0.1% AEP plus climate change to 2055 sees a larger area affected by flooding, with flooding affecting approximately half of the assessment area (the lower lying southern areas). Depths in this scenario range between 0.001 to 0.5 m and hazard is mainly classed as 'very low' or 'danger for some'.

The level of risk increases significantly in the 0.1% AEP plus climate change to 2112 scenario, with the majority of the southern half of the area affected by depths of 3.0 m or deeper. The hazard has been mainly classed as 'danger for all'.



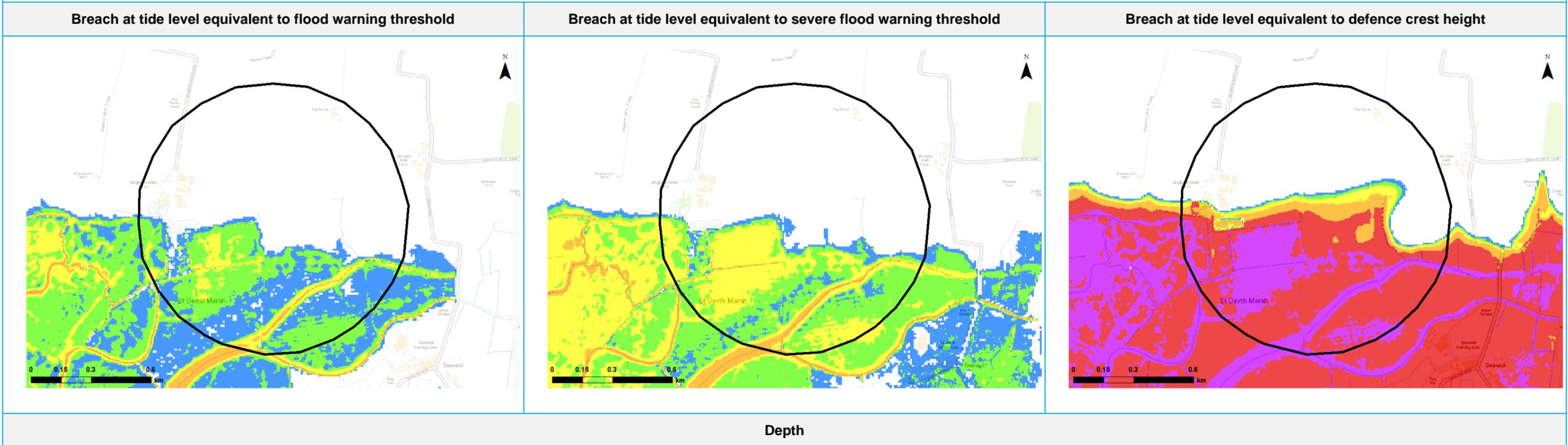
OVERTOPPING scenarios



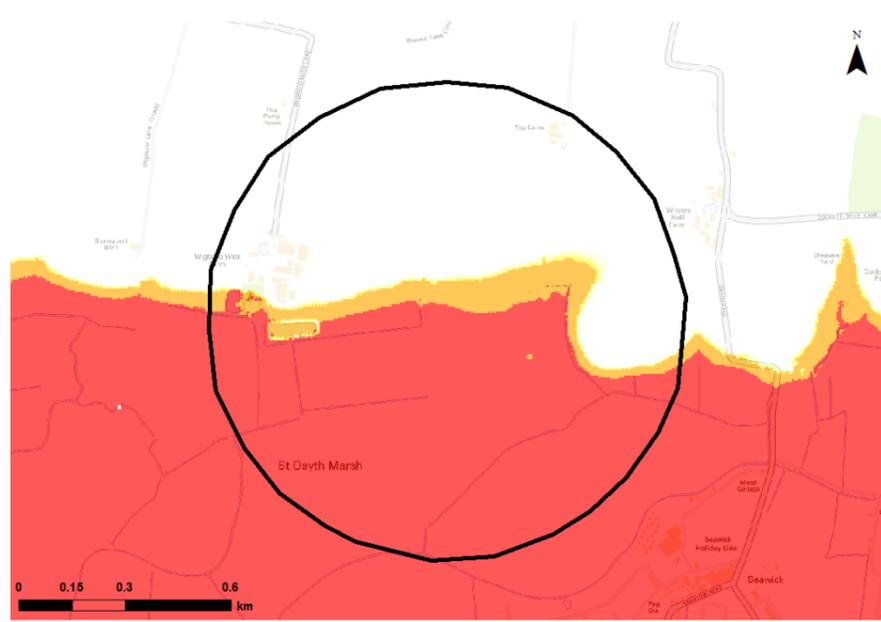
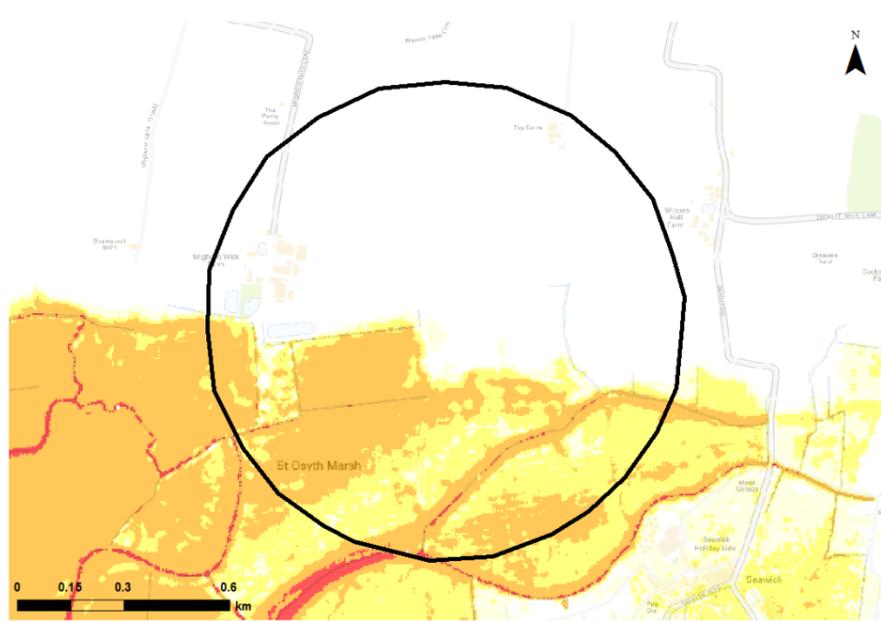
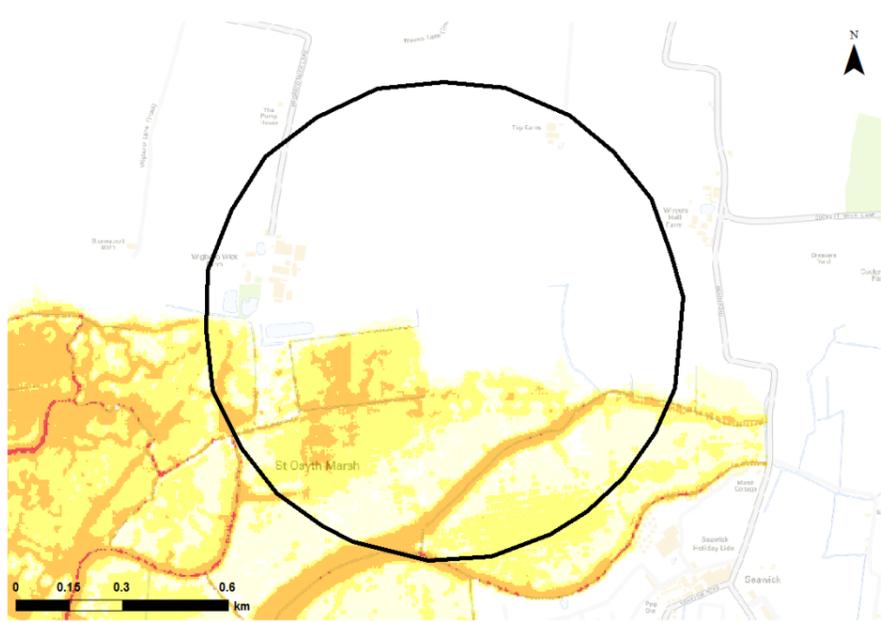
BREACH at location A

Modelling results show the level of risk at the assessment area is significantly affected by a breach at location A. In all scenarios, the entire southern half of the assessment area is at risk of flooding with depths ranging between 0.001 to 2.0 m in the tide level equivalent to the FW and SFW scenarios. In these scenarios the majority of the flooded area is classed as 'danger for some' or 'danger for all'. In the tide level equivalent to defence crest height scenario risk increases significantly with depths increasing to between 2.0 to 3.0 m or deeper. The hazard is classed 'danger for all'.

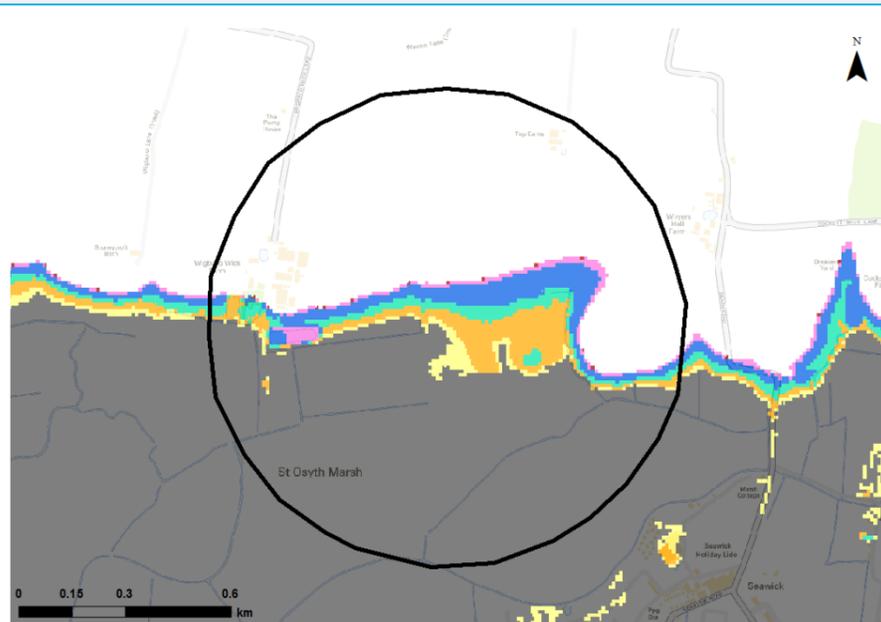
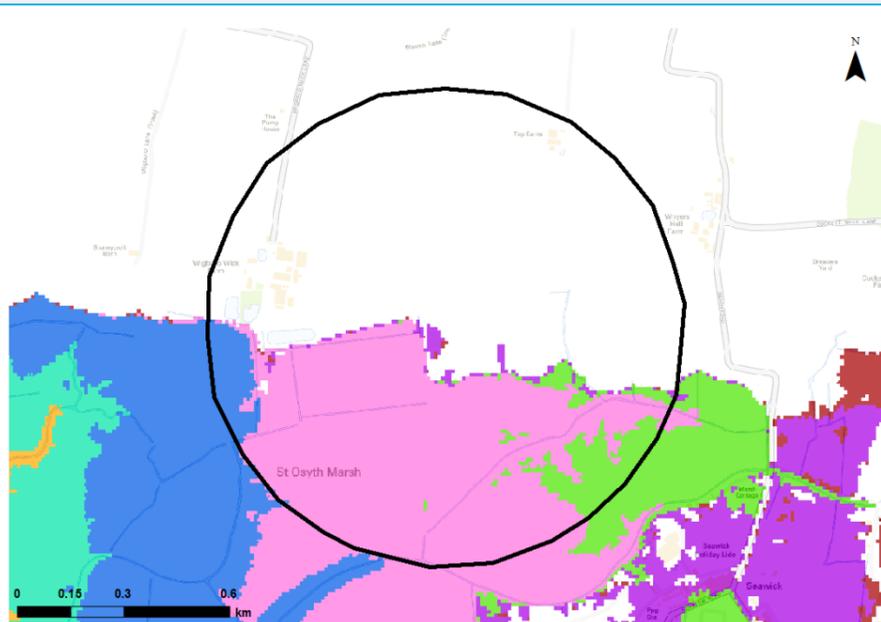
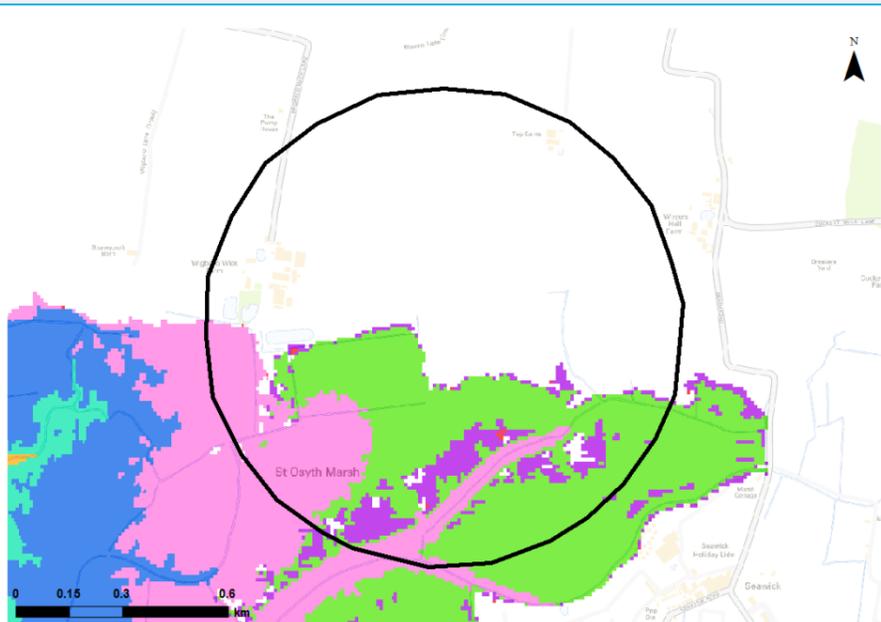
In the tide level equivalent to the FW threshold the majority of the southern half of the area will have been flooded within one to five hours of the breach, whilst in the tide level equivalent to the SFW threshold, this decreases to within one to two hours of the breach. In the tide level equivalent to the defence crest height scenario, the southern area will already have been affected by flooding from overtopping before the breach occurs with the areas further north flooding within two hours of the breach.



BREACH at location A



Hazard

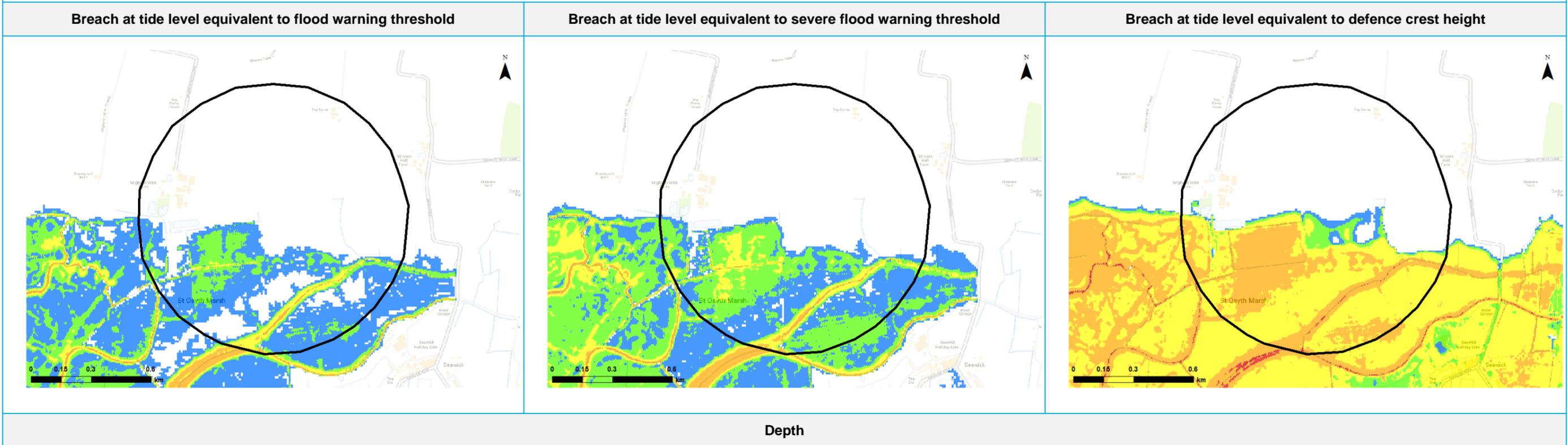


Time to Inundation

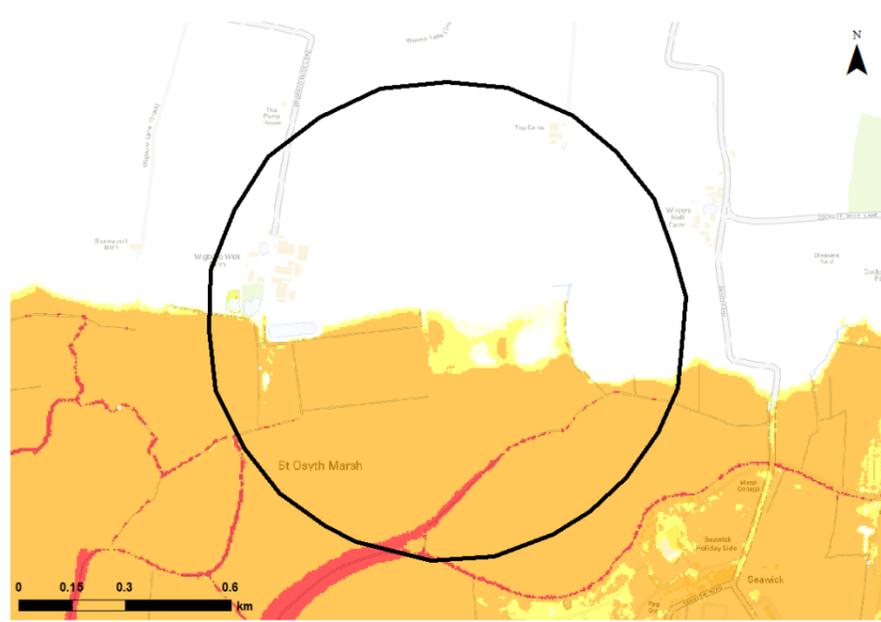
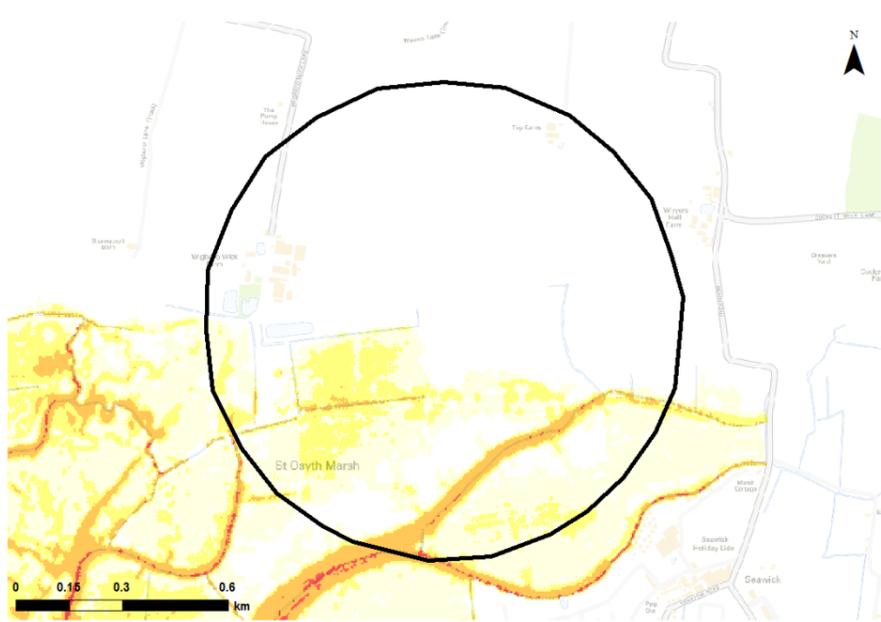
BREACH at location B

Modelling results show the level of risk at the assessment area is affected by a breach at location B. In all scenarios, the southern half of the assessment area is at risk of flooding with depths ranging between 0.001 to 1.0 m in the tide level equivalent to the FW and SFW scenarios. In these scenarios the majority of the area is classed as 'very low' or 'danger for some'. In the tide level equivalent to defence crest height risk increases significantly with depths increasing to between 0.5 to 2.0 m for all but the most northern extent of the flooding. The hazard is classed 'danger for most'.

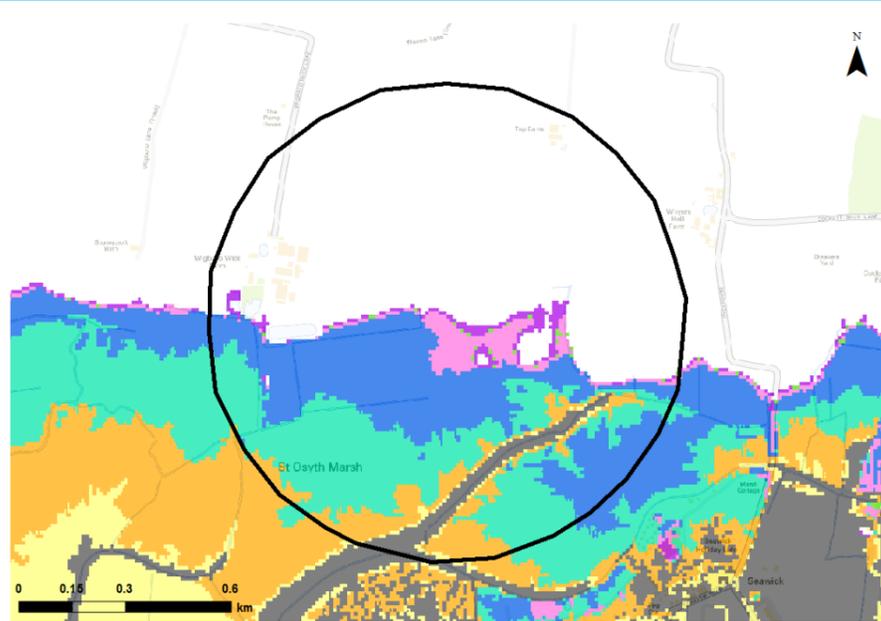
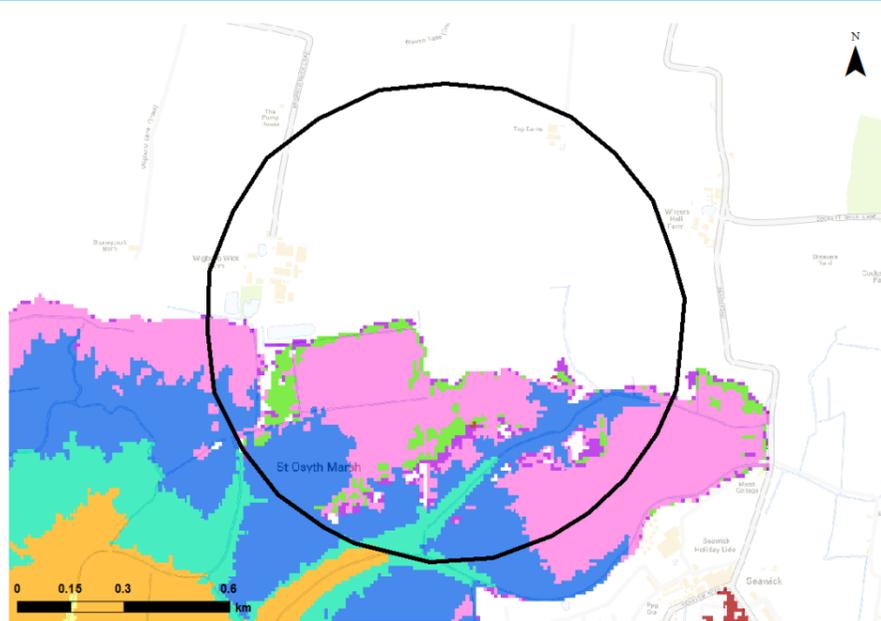
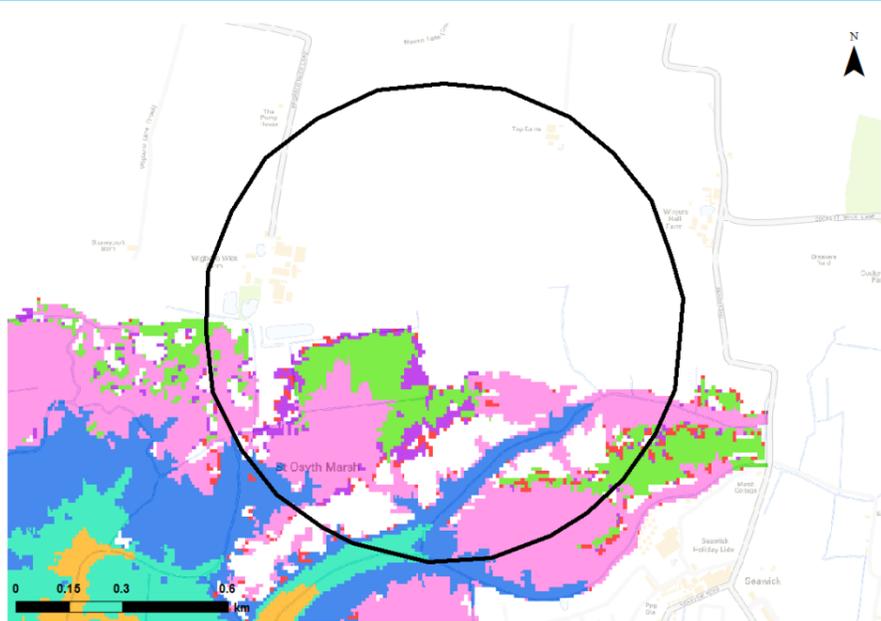
At the tide level equivalent to the FW threshold the majority of the southern half of the area will have been flooded within one to five hours of the breach, whilst it in the tide level equivalent to the SFW threshold, this decreases to within 0.5 to two hours of the breach. In the tide level equivalent to the defence crest height scenario, the majority of the southern half of the area will be flooded within 0.25 to one hour of the breach.



BREACH at location B



Hazard

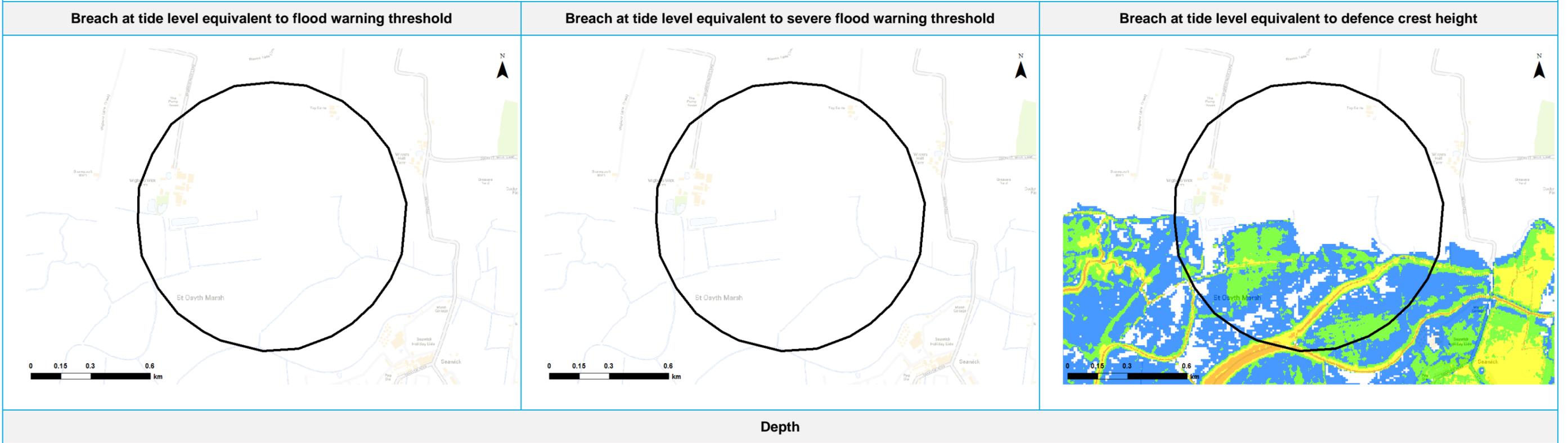


Time to Inundation

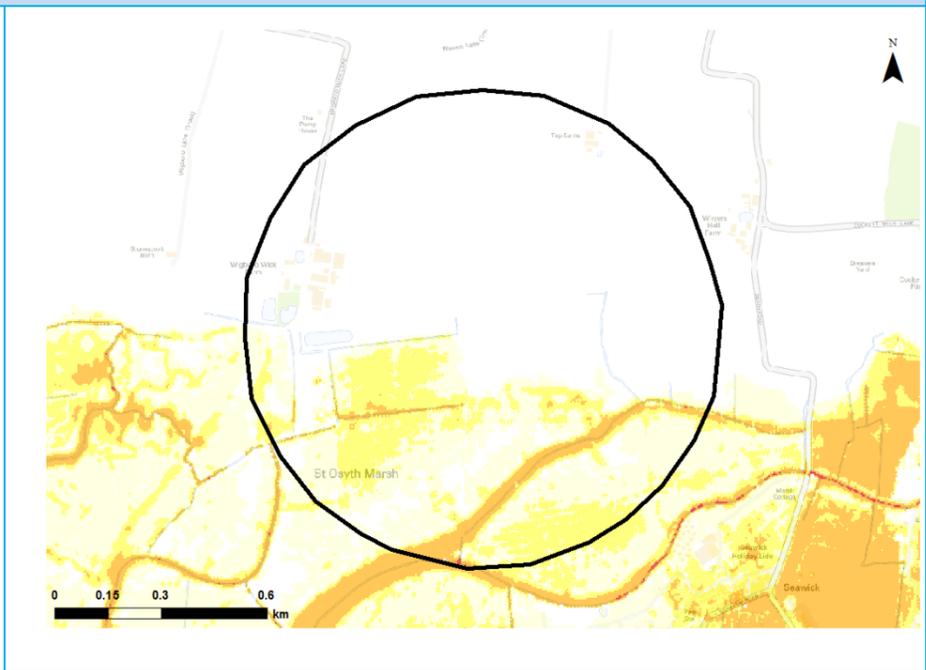
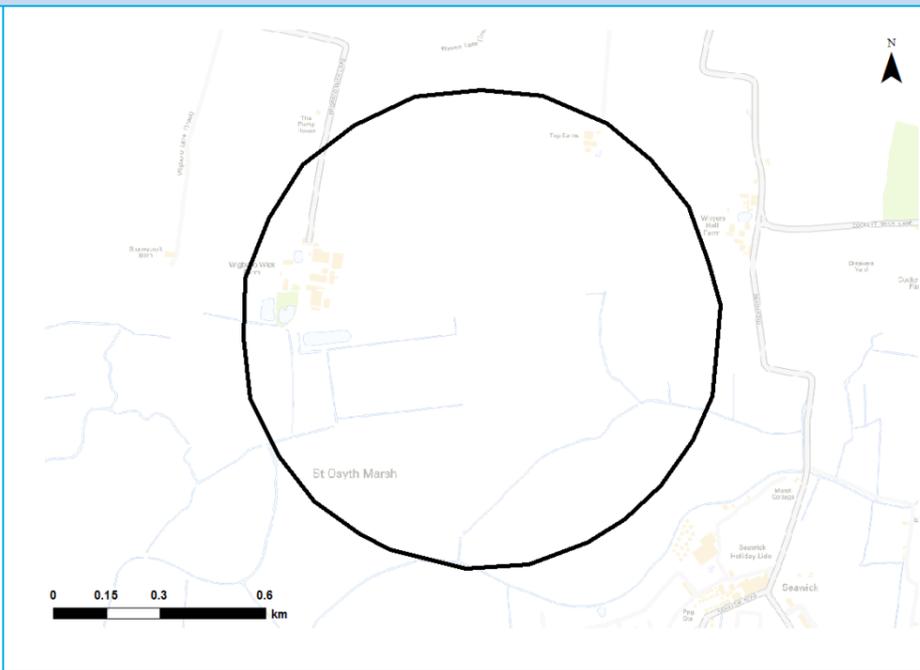
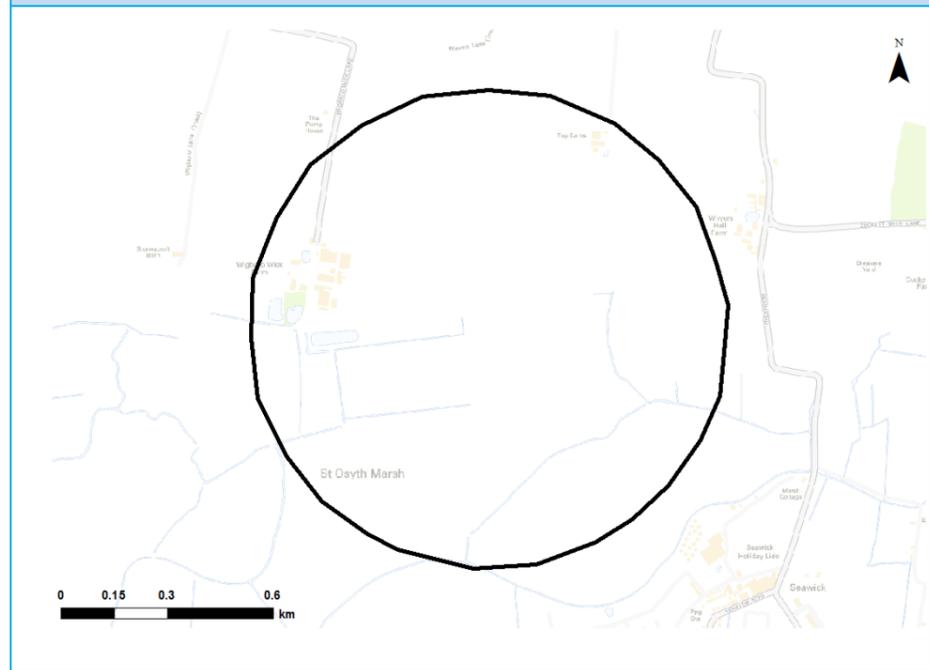
BREACH at location C

Modelling results show the assessment area is unaffected by a breach at location A until a tide level equivalent to the SFW threshold scenario. In this scenario, the southern half of the assessment area is at risk of flooding with depths ranging between 0.001 to 0.5 m. Hazard varies across the assessment area, ranging from 'very low' to 'danger for some'.

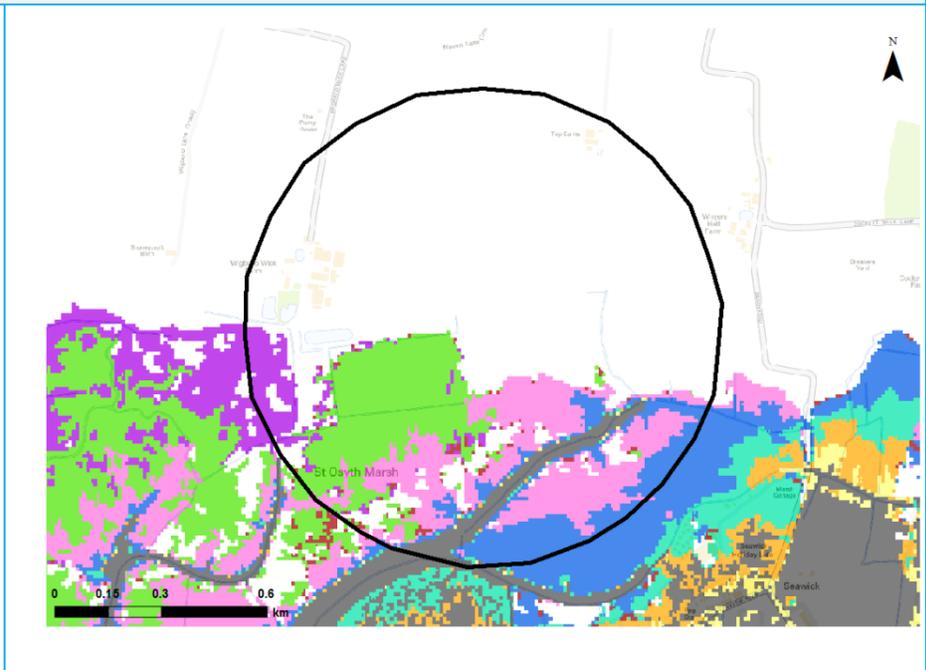
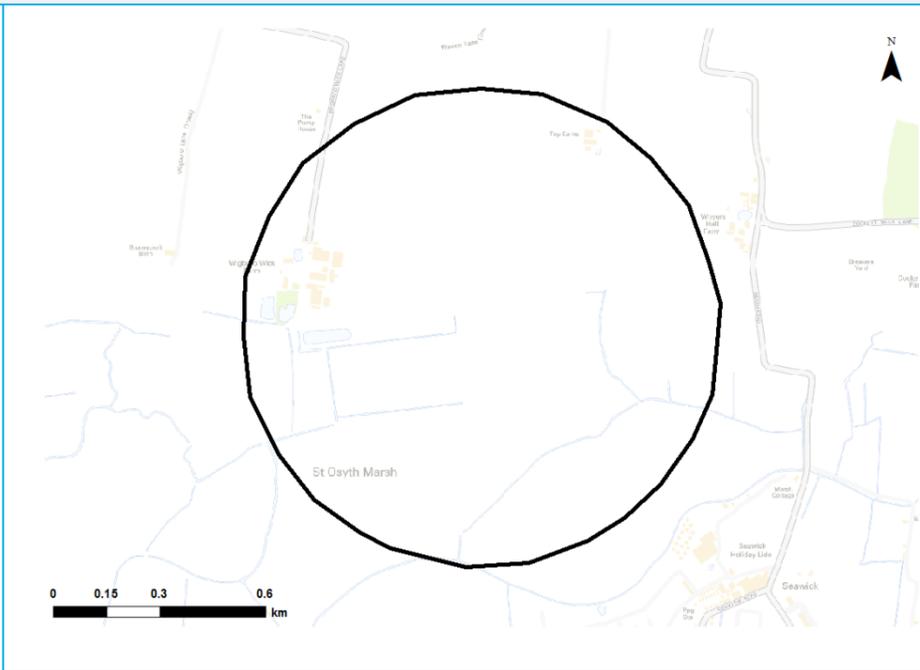
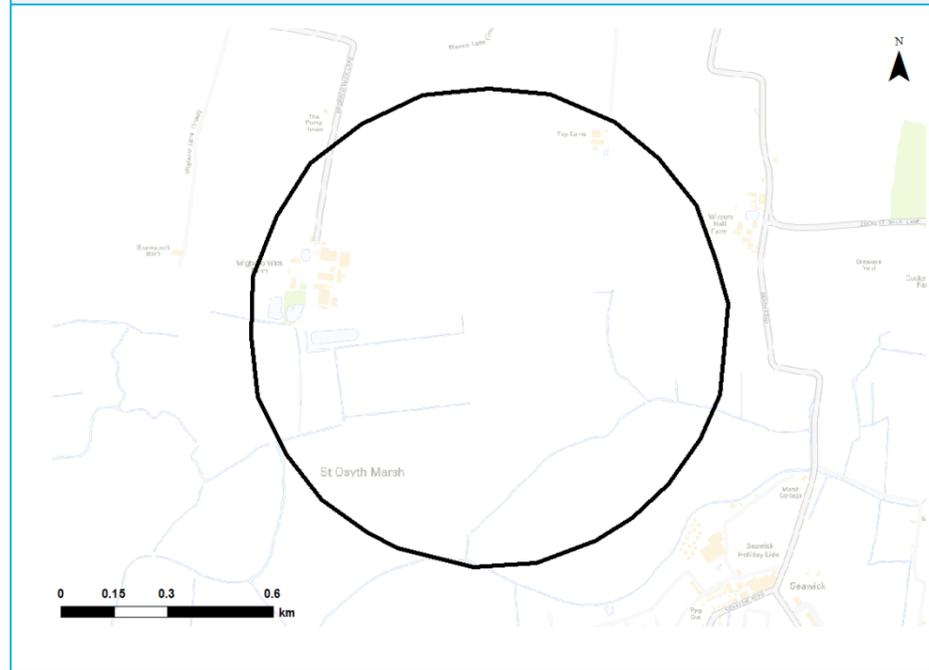
In the tide level equivalent to the defence crest height scenario, the majority of the southern area of the assessment area is flooded within one to five hours of the breach.



BREACH at location C



Hazard



Time to Inundation