

A Appendix: Flood Maps

A.1 Overview

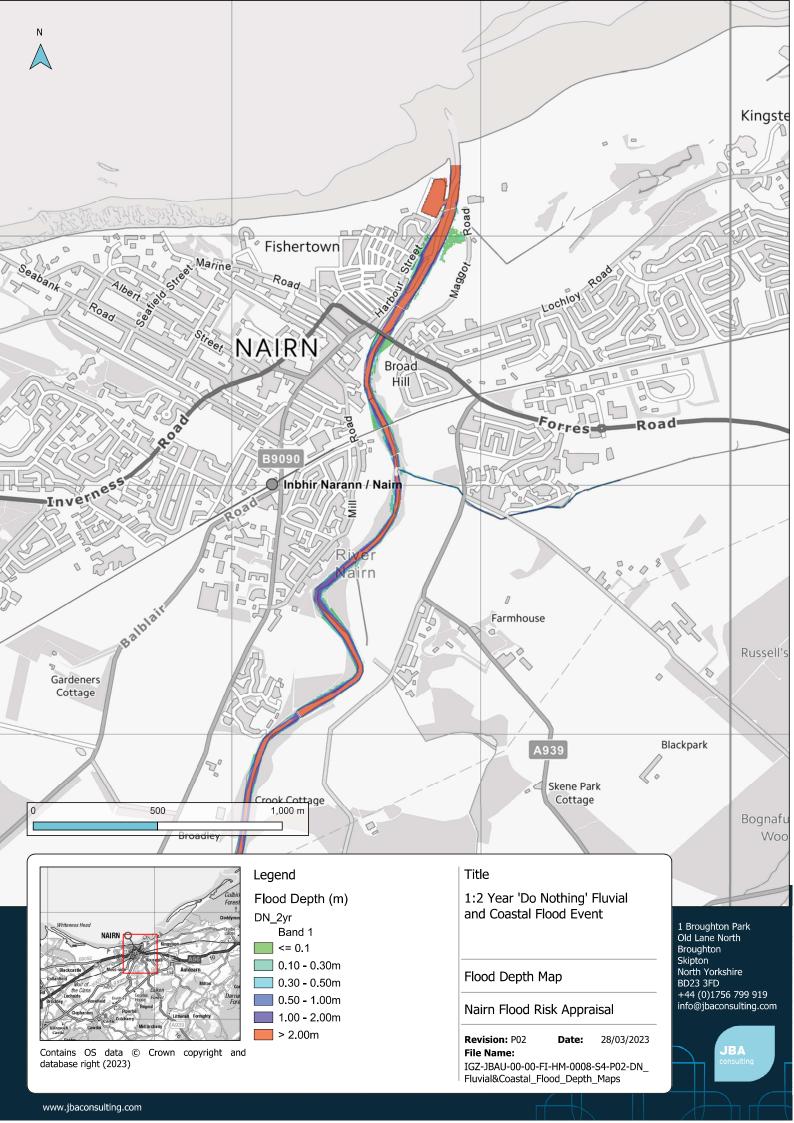
Combined maximum depth, velocity and level grid (raster format) and flood extent maps (pdf format) have been output, these were combined from the joint probability results. For events up to and including the 200-year event, the fluvial and coastal outputs have been combined by outputting the maximum depth, velocity or level from either event (fluvial or coastal) on to the same grid extent, so that the maximum value is used. For instance, the 200-year fluvial and 200-year coastal outputs have been combined and the maximum depth at each grid cell used in the 200-year output. For the 1000-year and climate change events, as well as the 200-year event for the N+20 sensitivity test run, three outputs have been combined. These were from the fluvial (Nairn), fluvial (Auldearn) and coastal runs. The fluvial inputs for the Nairn and Auldearn had to be run separately for these larger events, due to model instability.

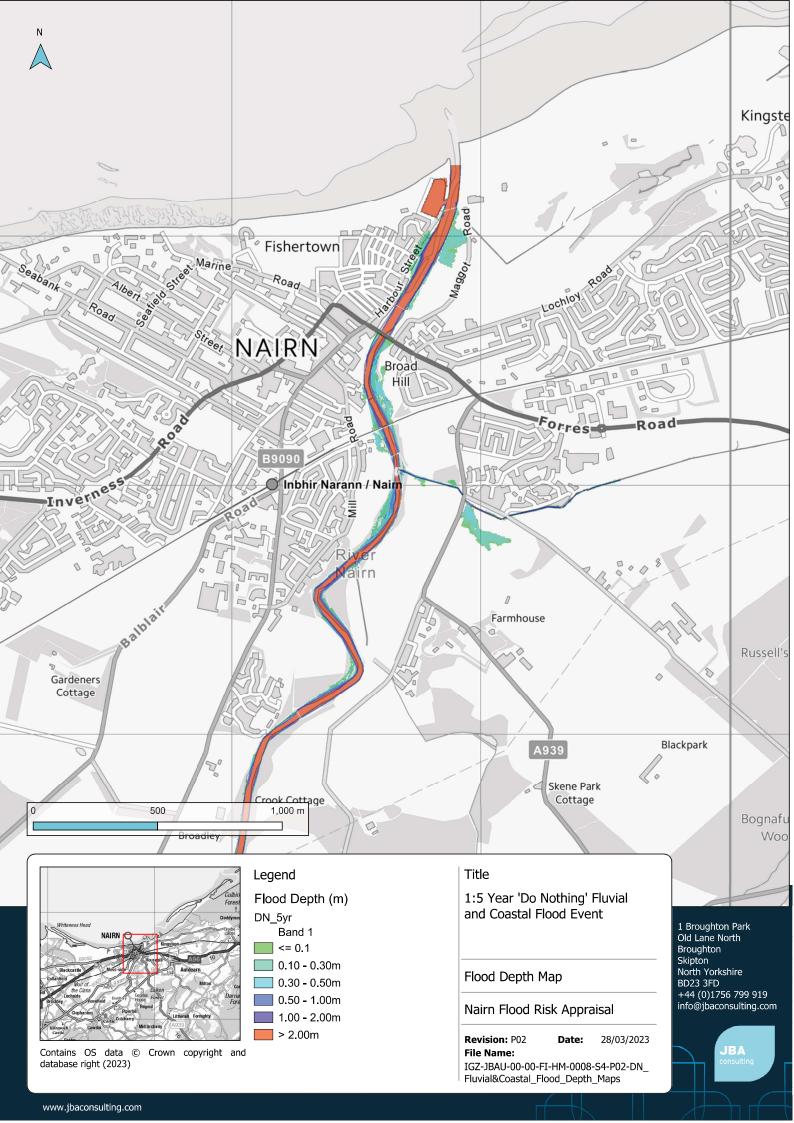
These combined flood maps display the results of the 2D domain i.e. the model extent outwith the channel. The 1D channel has been represented within the food maps for visual completeness, however, the values presented in the 1D channel are indicative only. The true values for the 1D domain should be read directly from the model or from the provided 1D output tables in Appendix F. It is noted that the combined velocity flood maps appear to show a sudden change in velocity on either side of some bridges. From analysing the maximum and mean velocity 1D outputs at the cross section on the downstream face of bridges compared to the upstream face, the velocity is similar or slightly greater than the upstream face. For instance, the 30-year velocity output results have been compared to the 30-year velocity combined pdf flood map. The velocity seen upstream of NAI01_02830 ranges between 2.4 and 2.9 m/s (i.e. it is not above 3 m/s in this area), whereas on the pdf maps the colour banding would suggest that they are greater than 3 m/s.

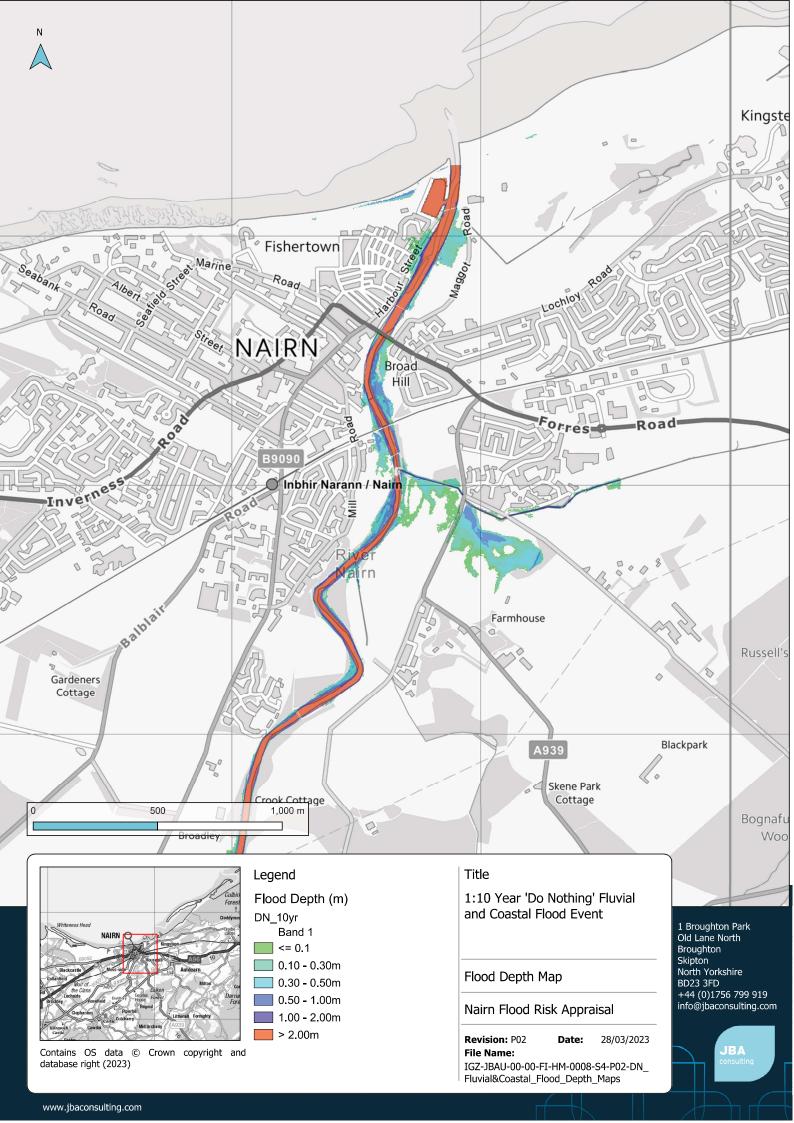


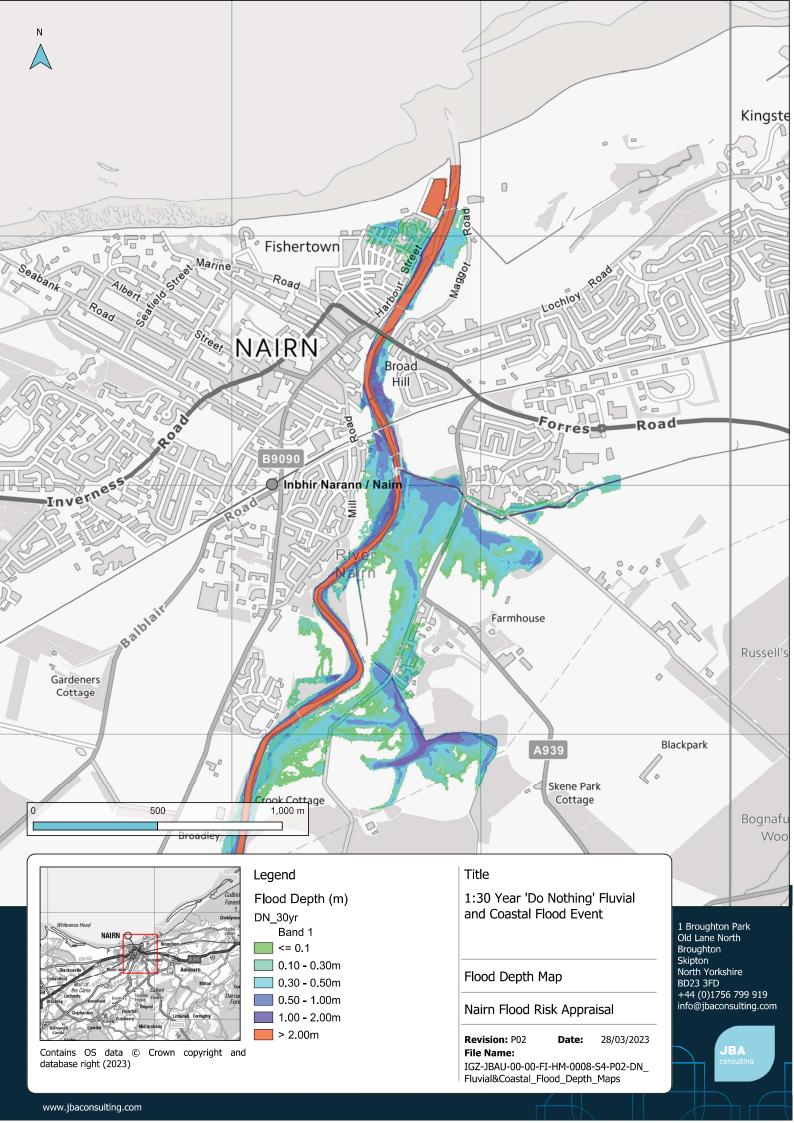
A.2 Flood depth maps

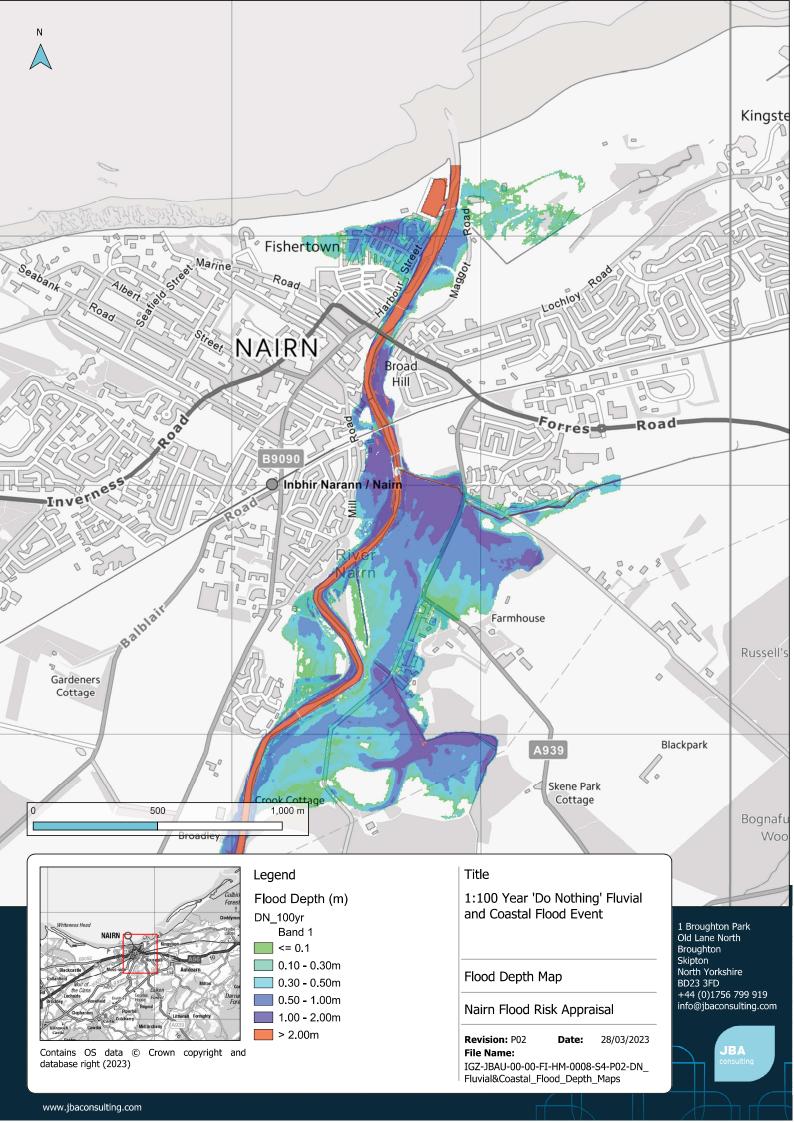
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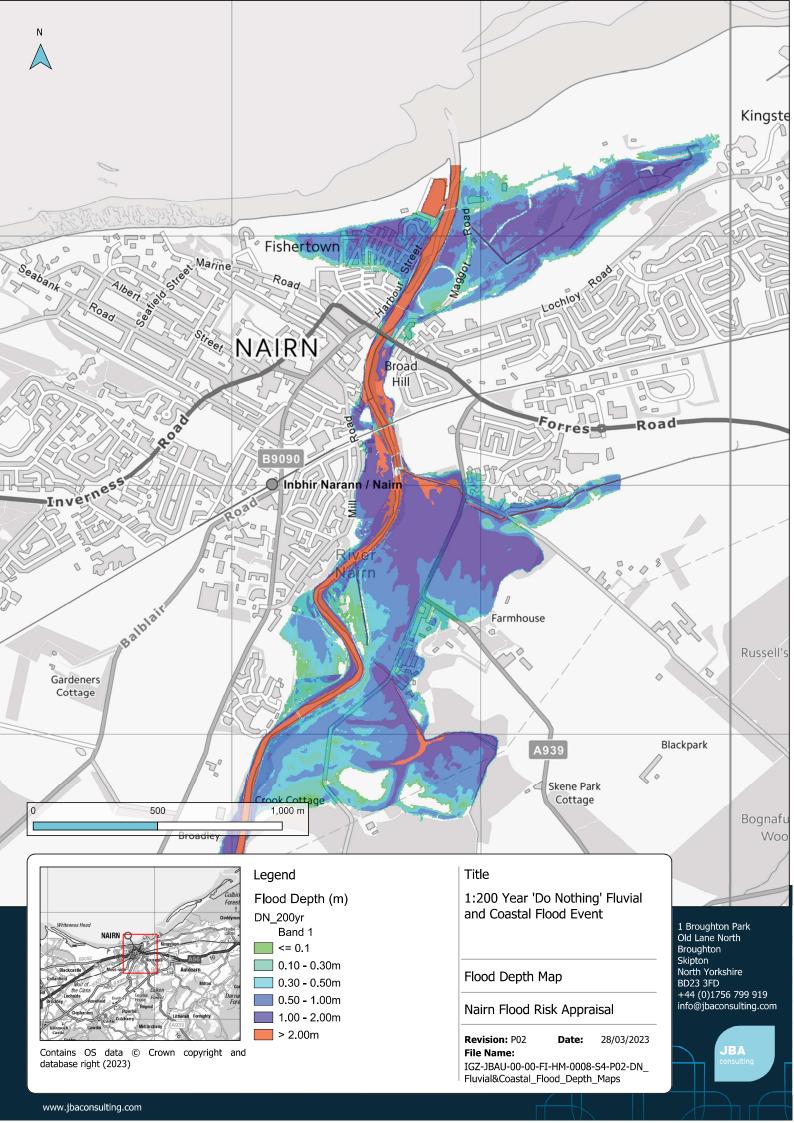


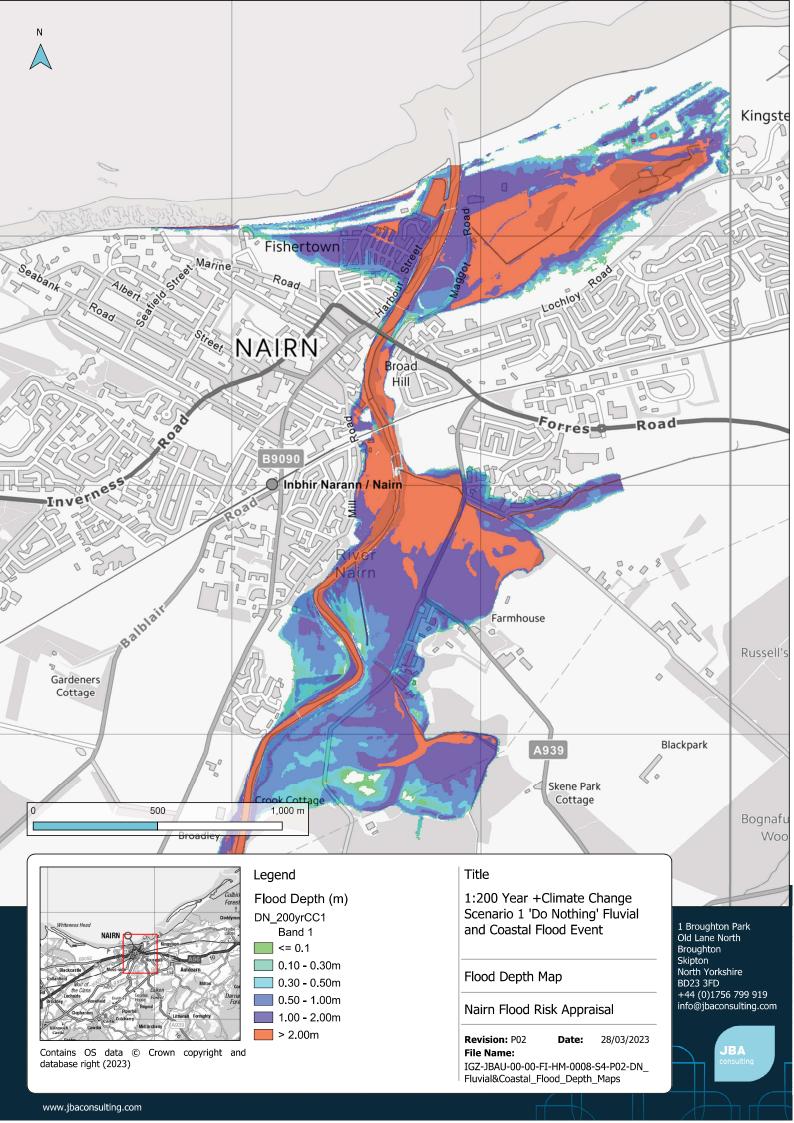


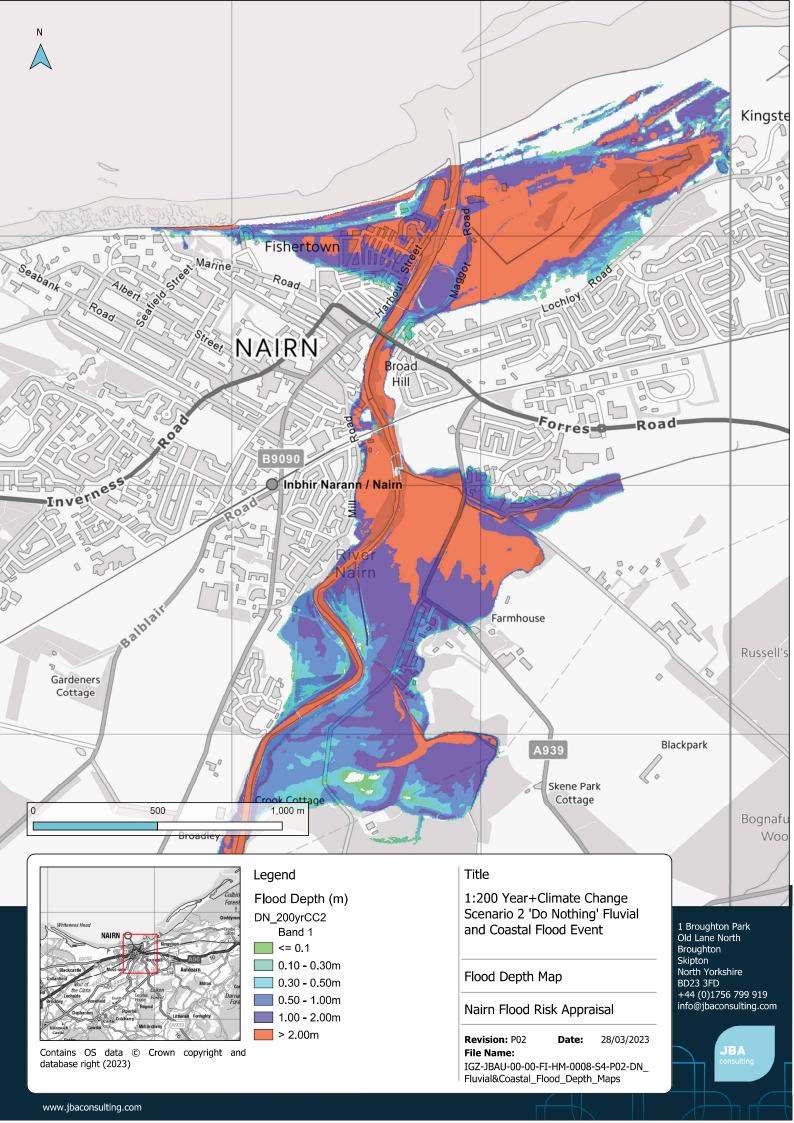


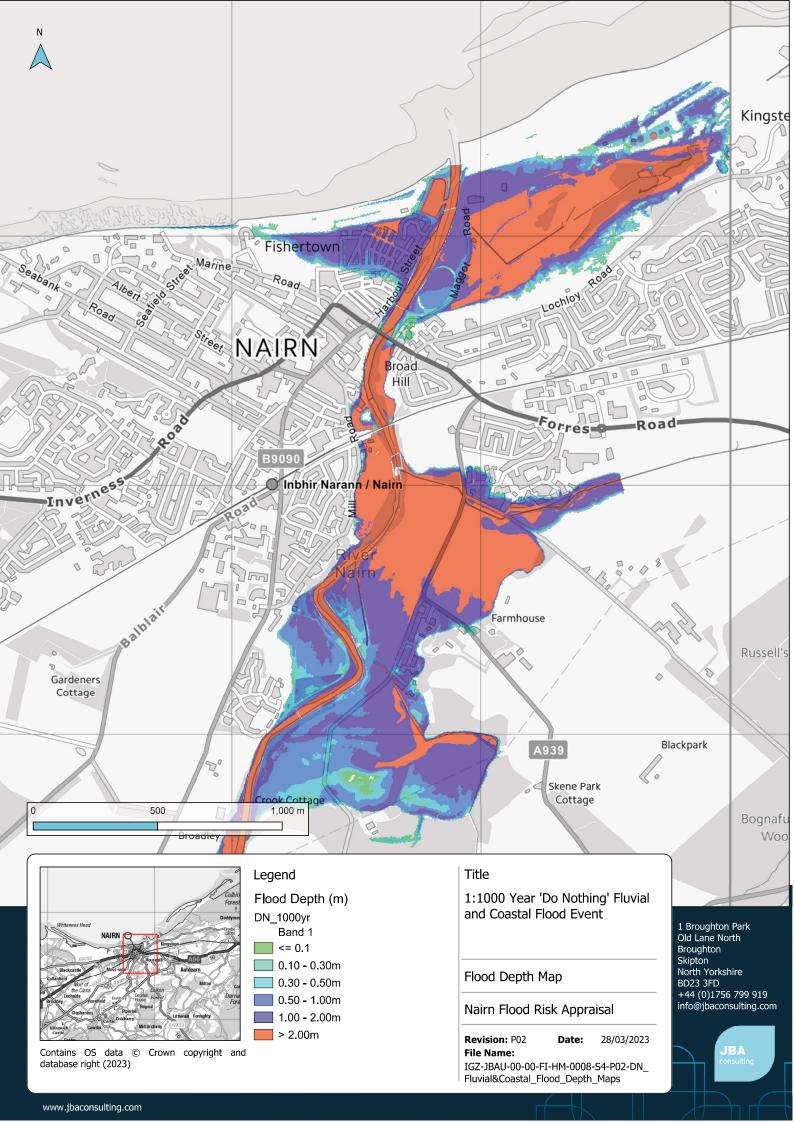


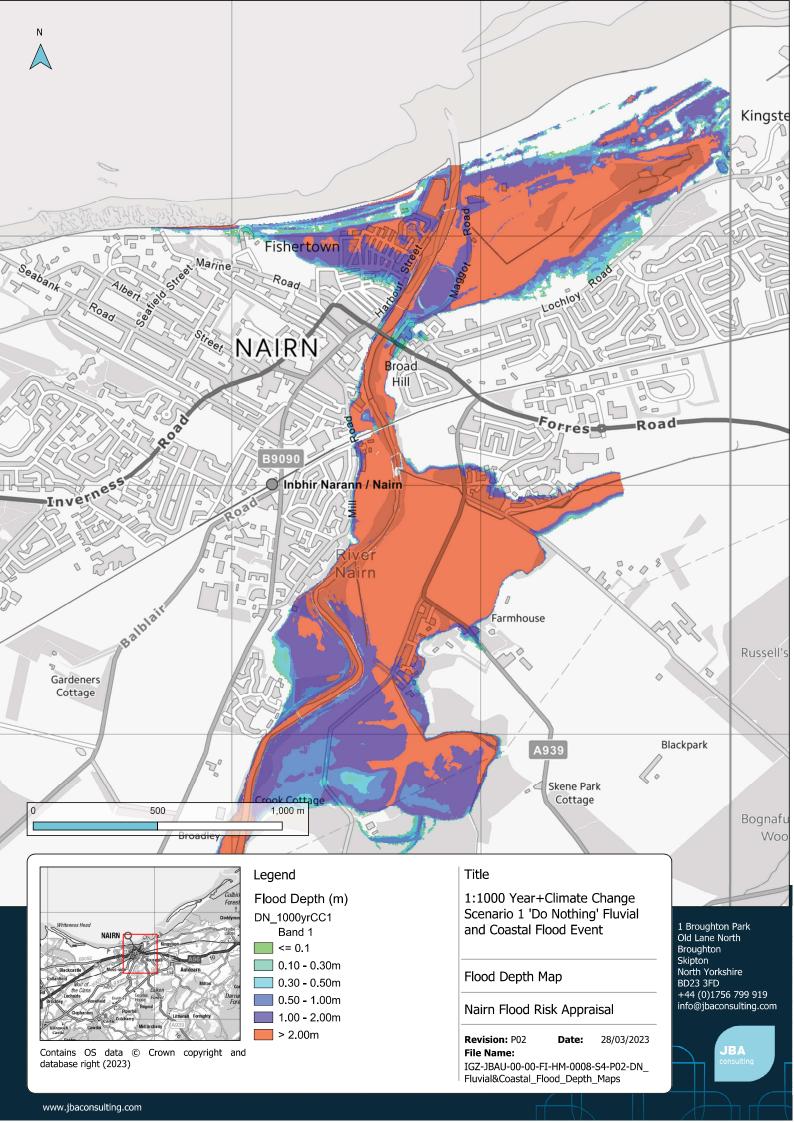


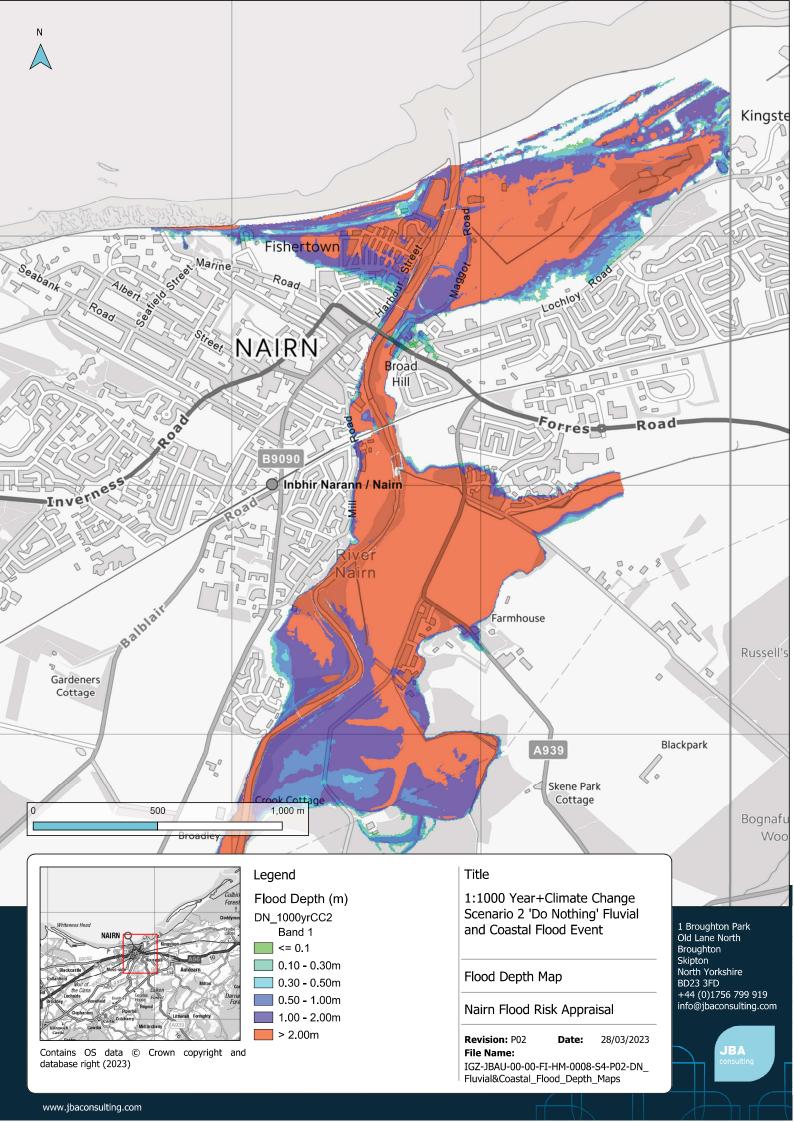








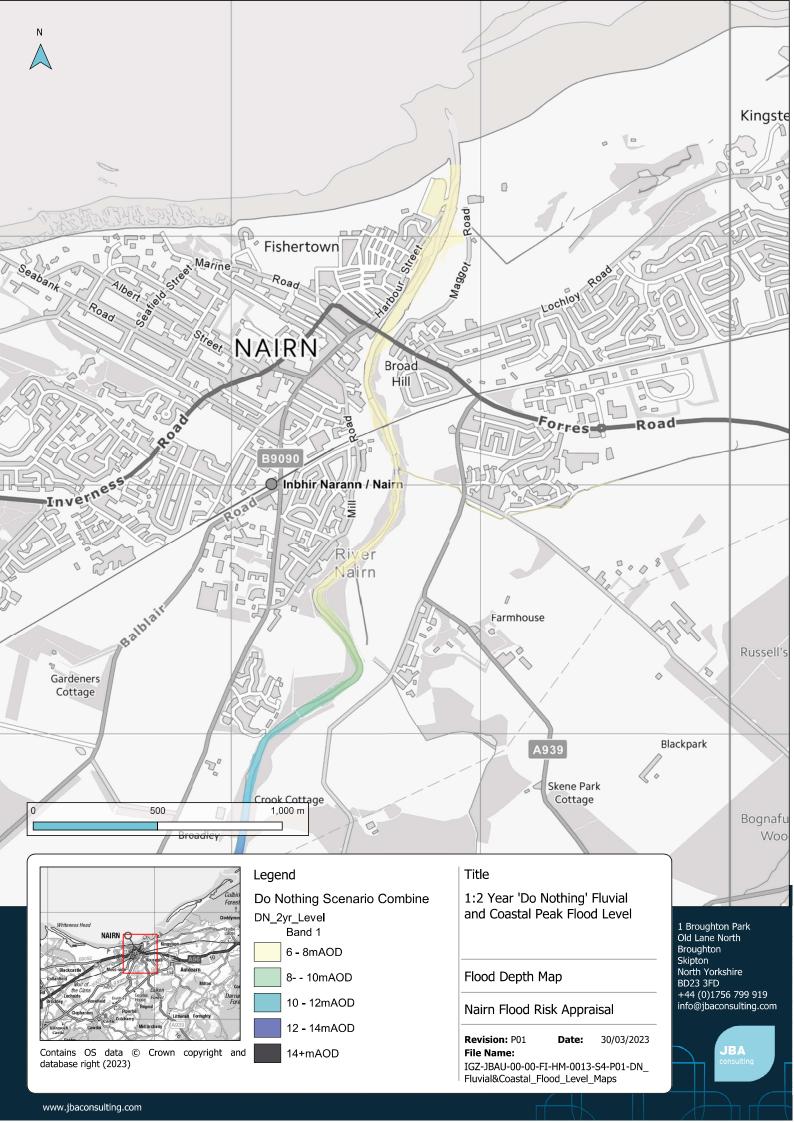


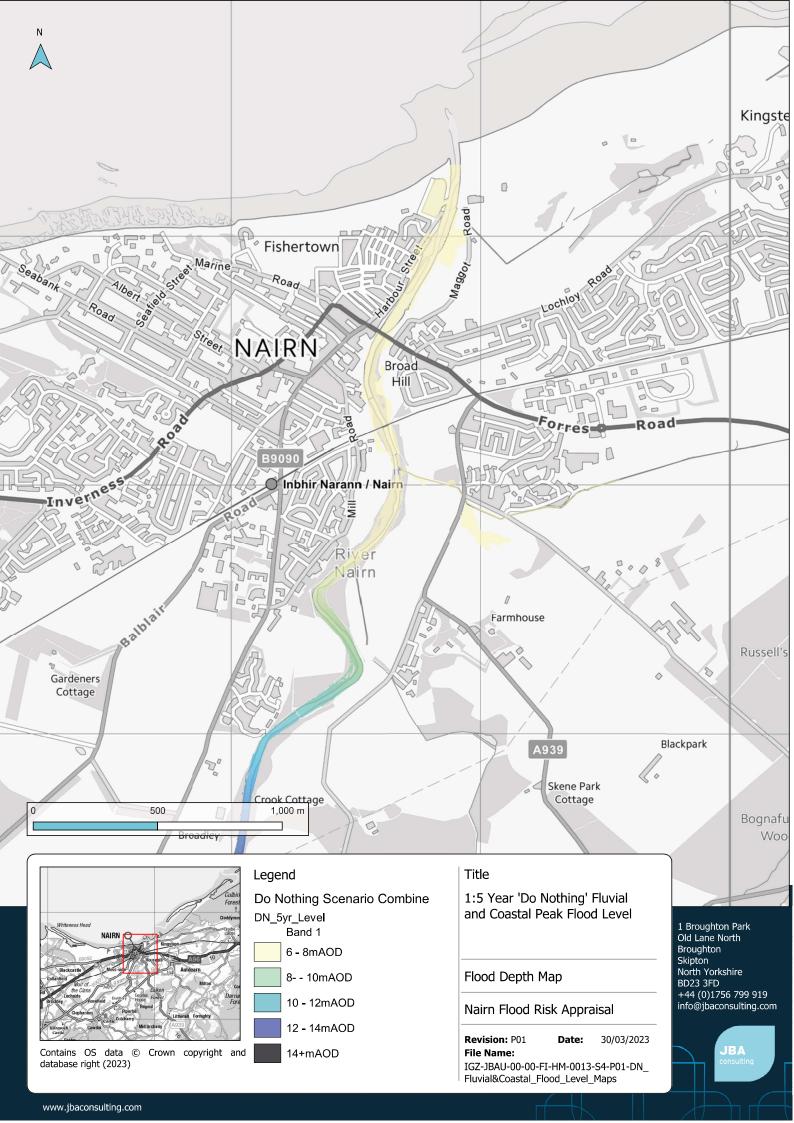


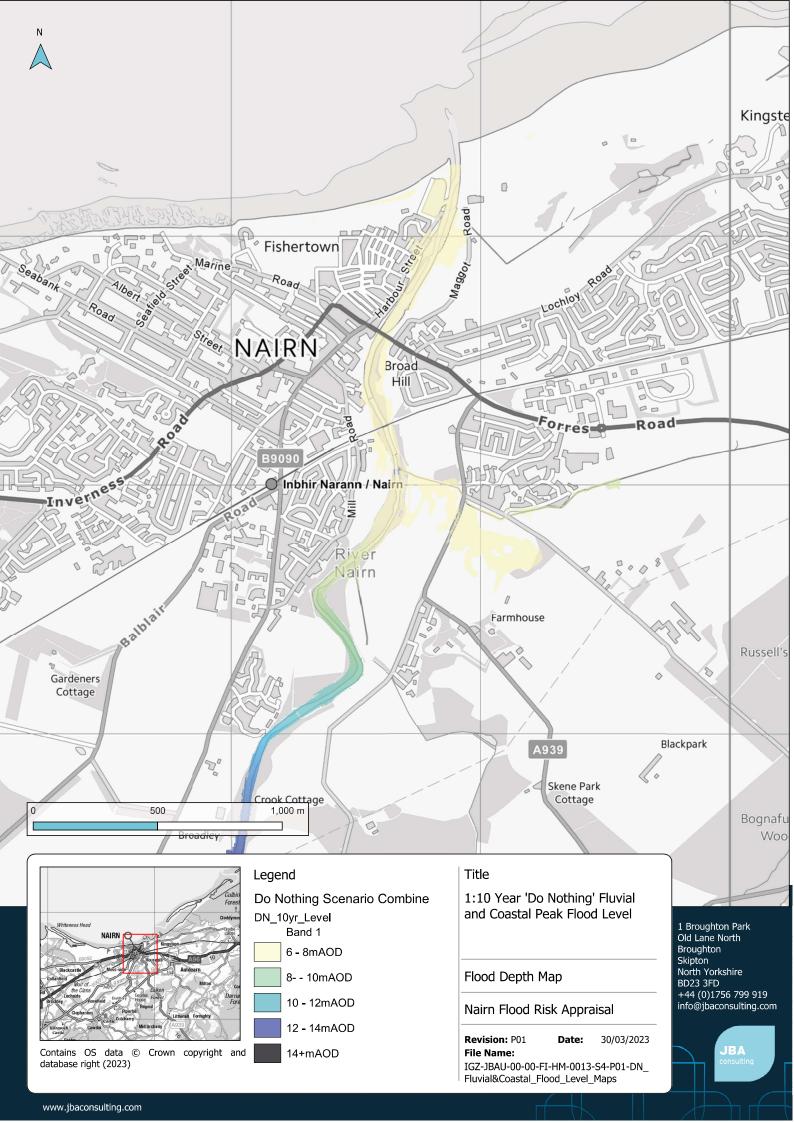


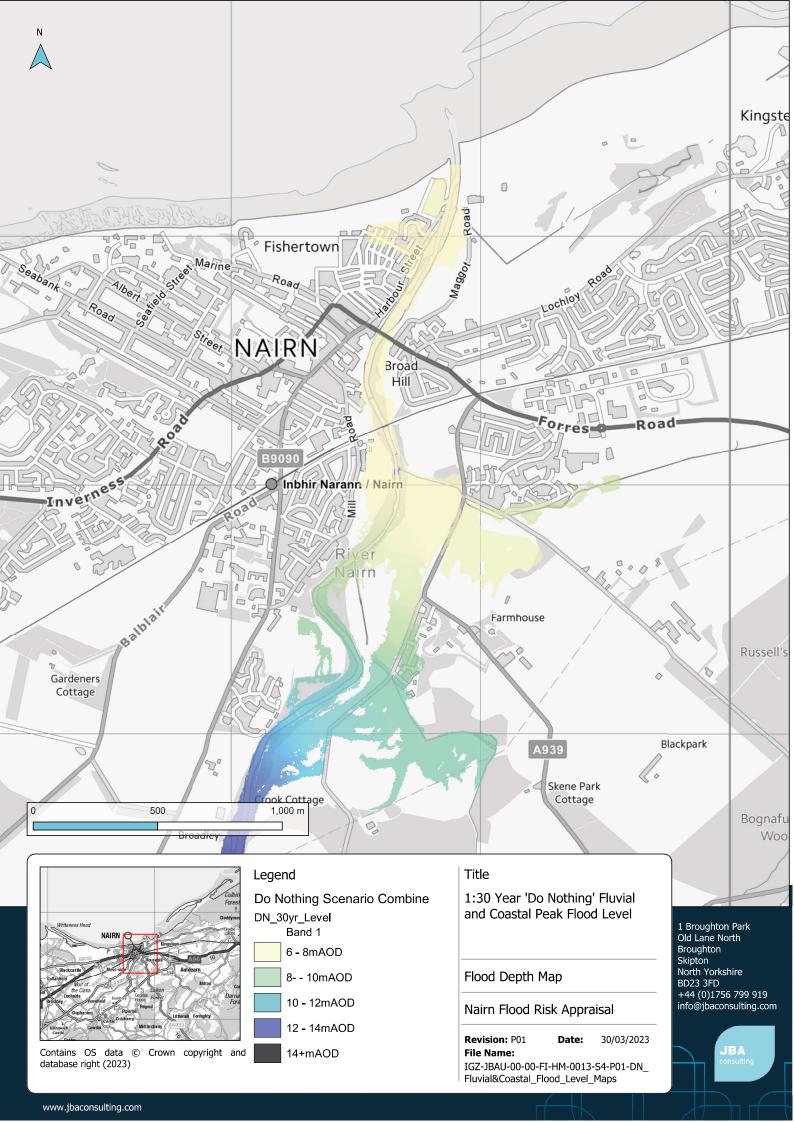
A.3 Flood level maps

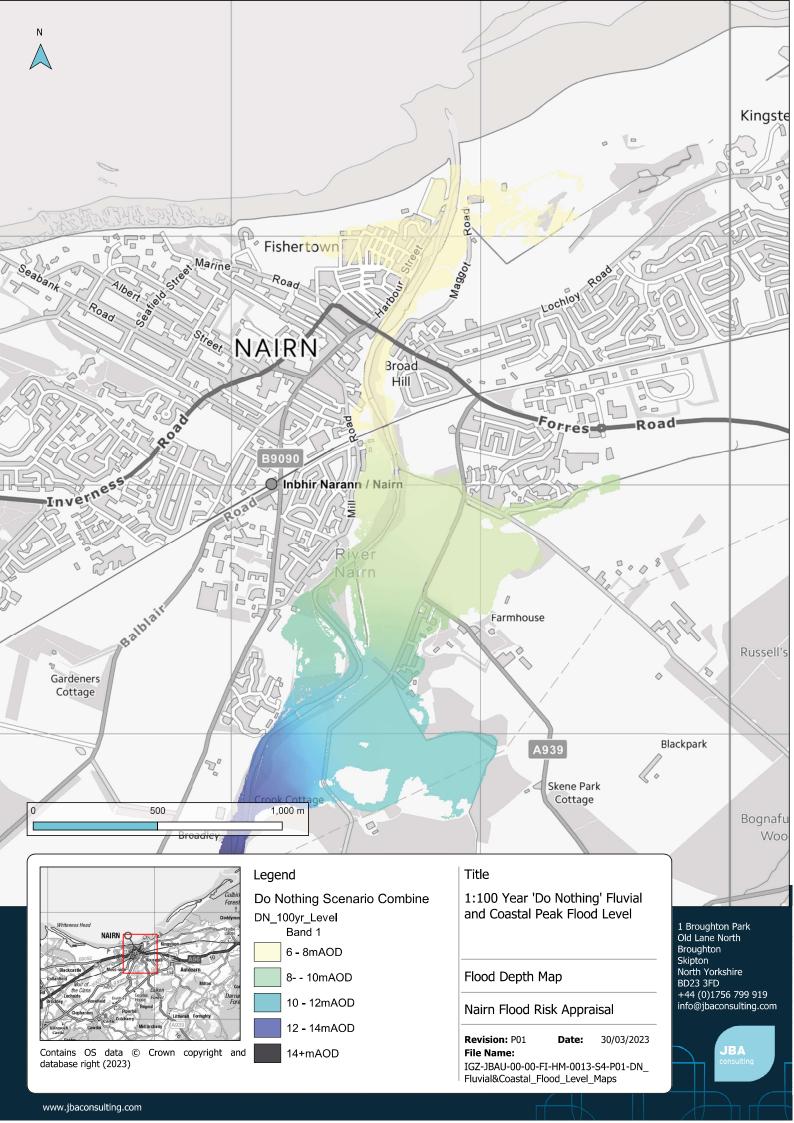
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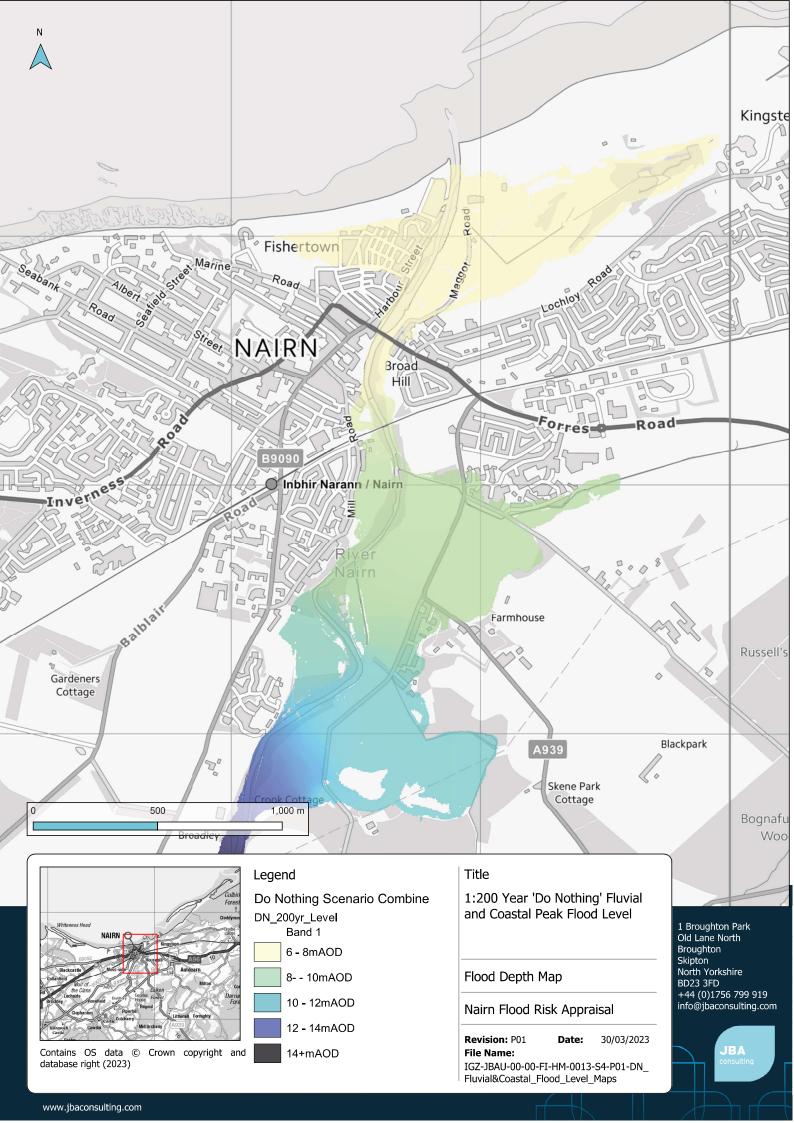


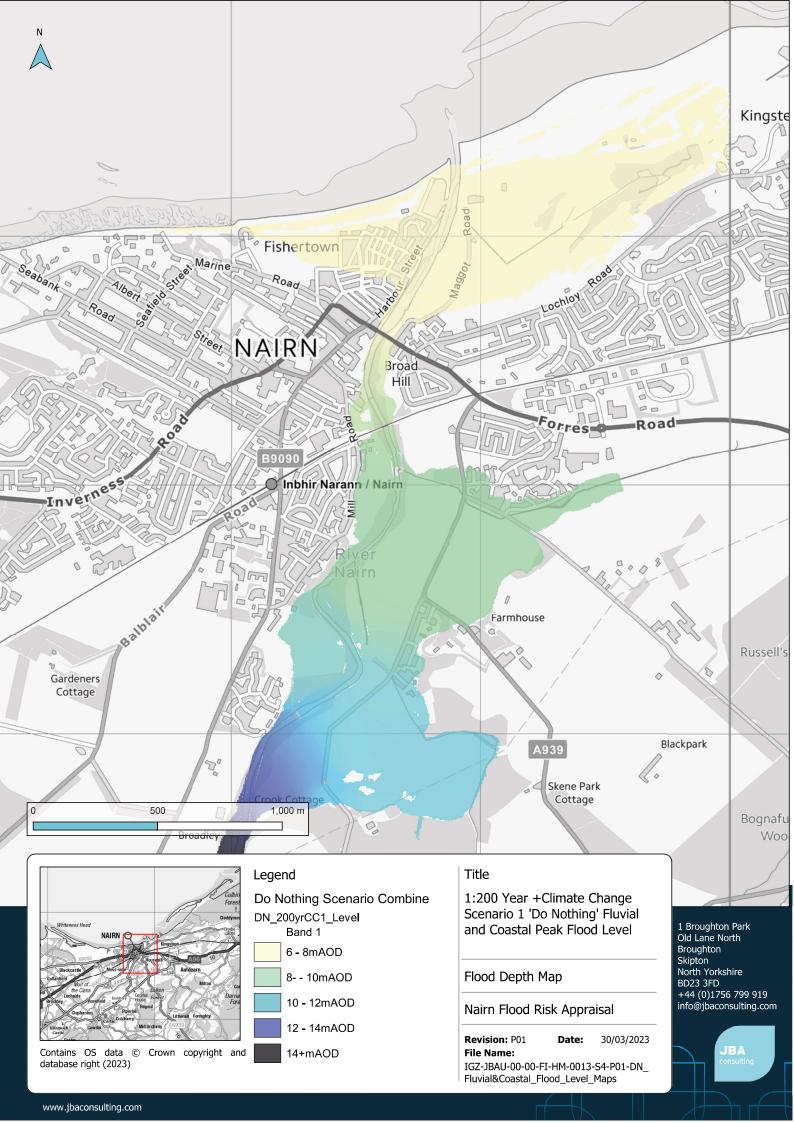


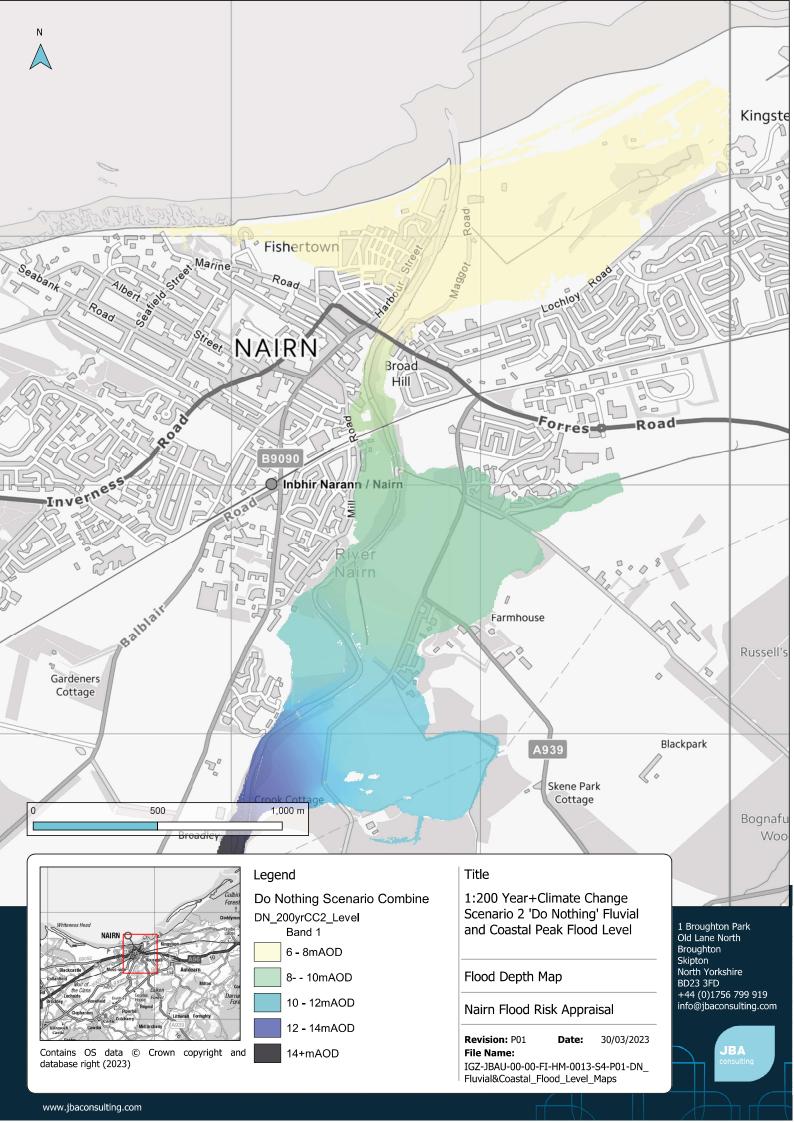


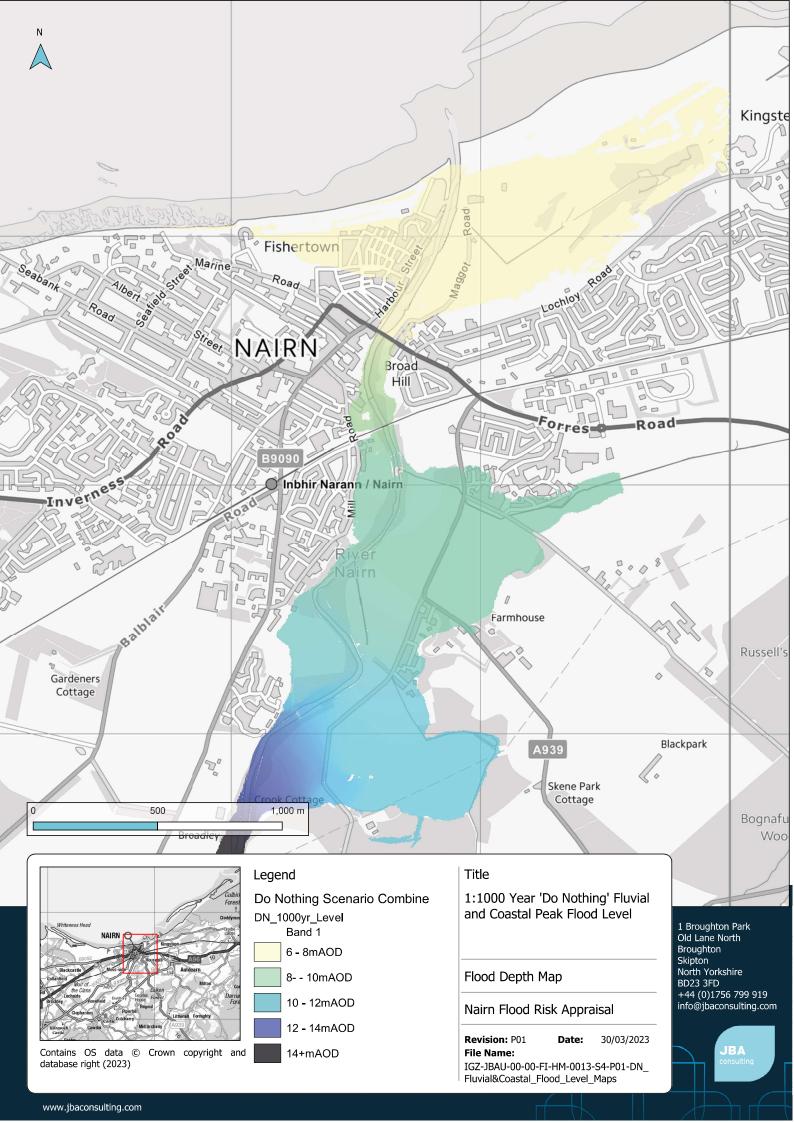


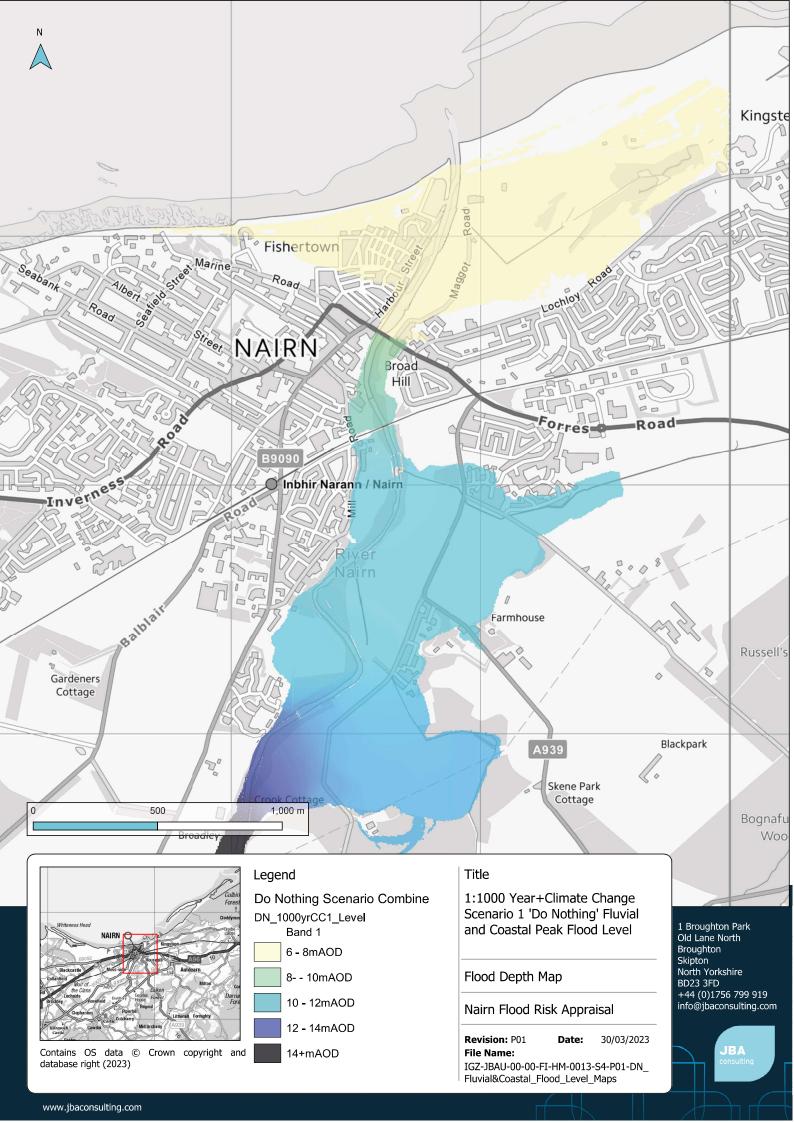


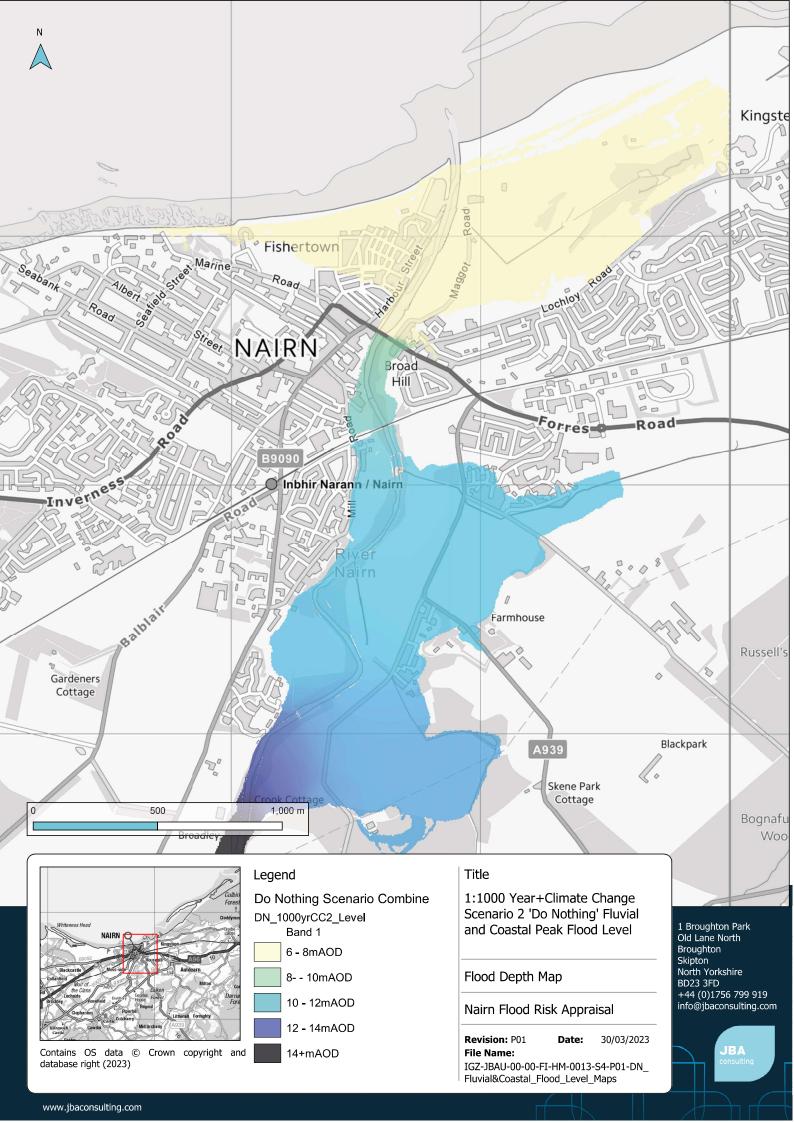














A.4 Flood velocity maps

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