



Moray Firth 3D onshore-offshore modelling

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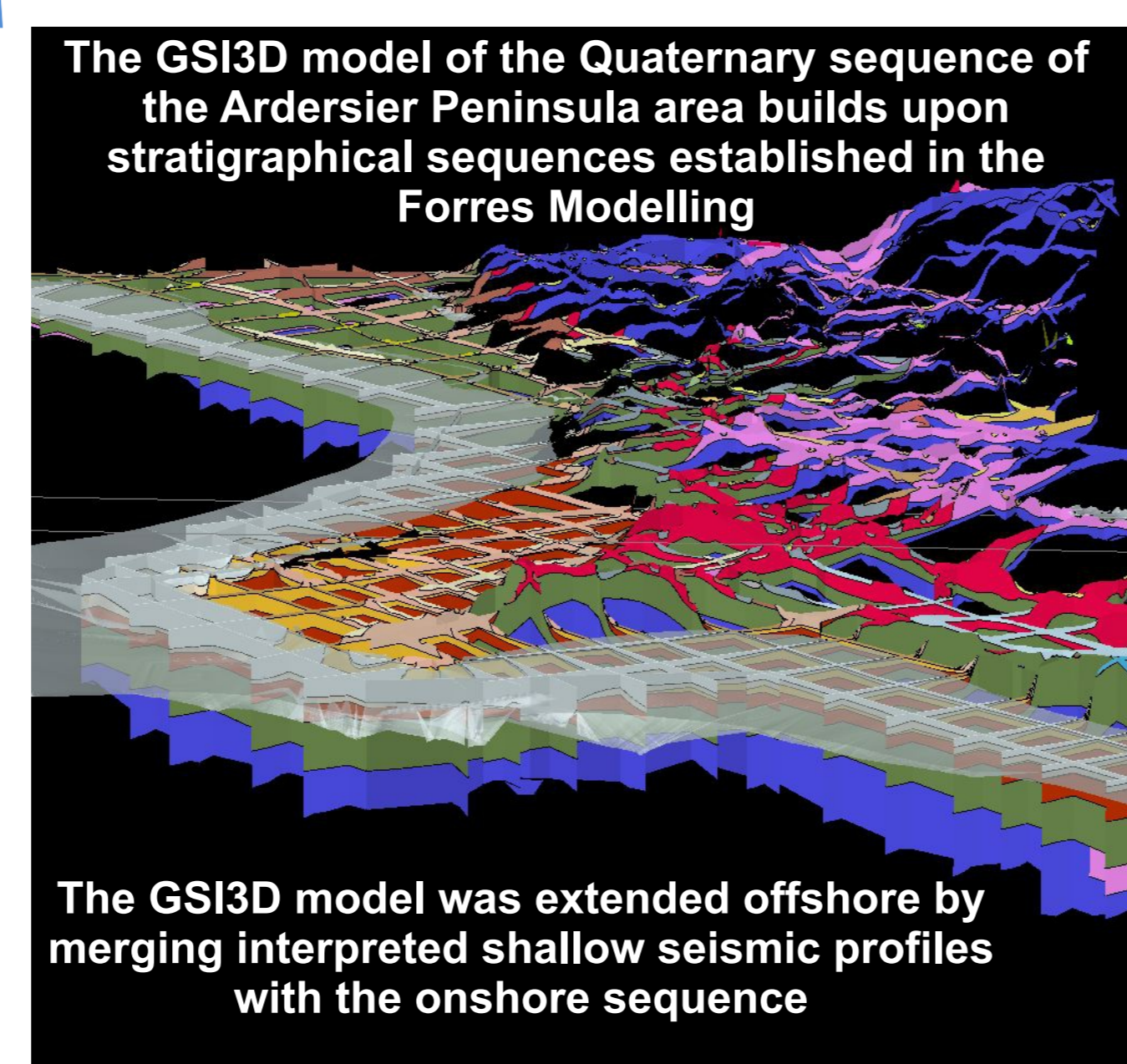
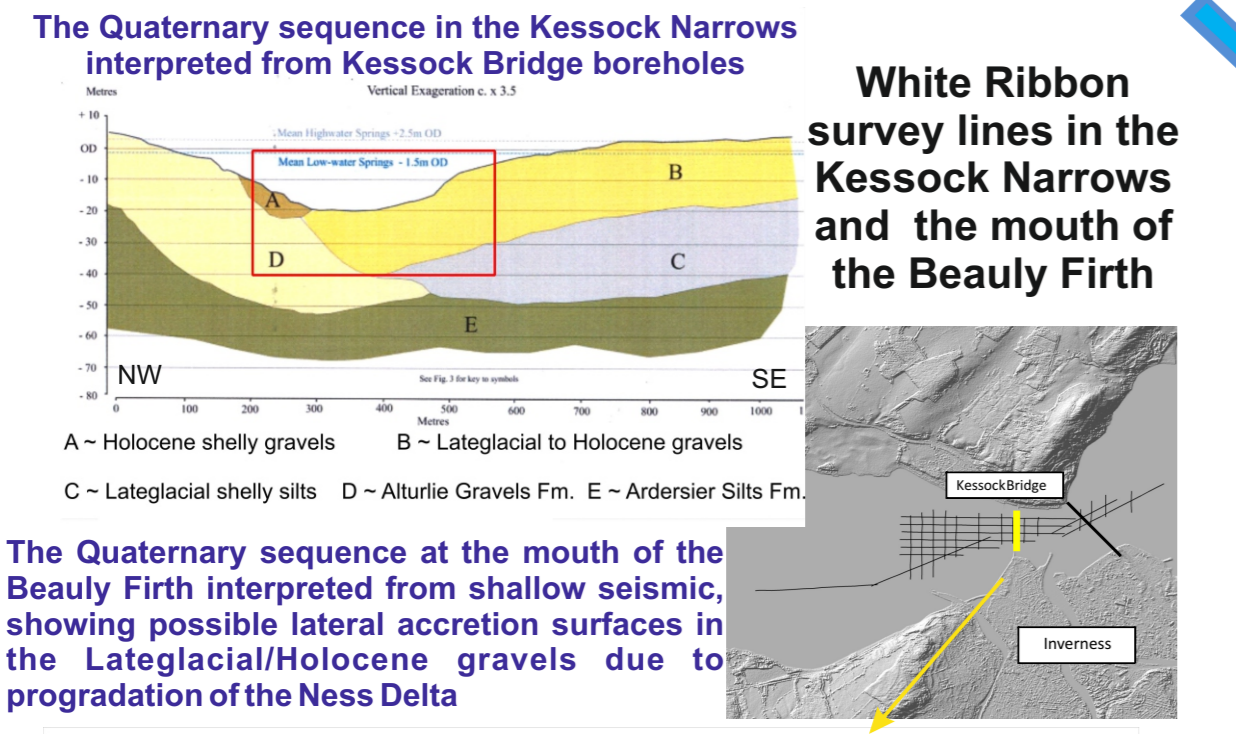
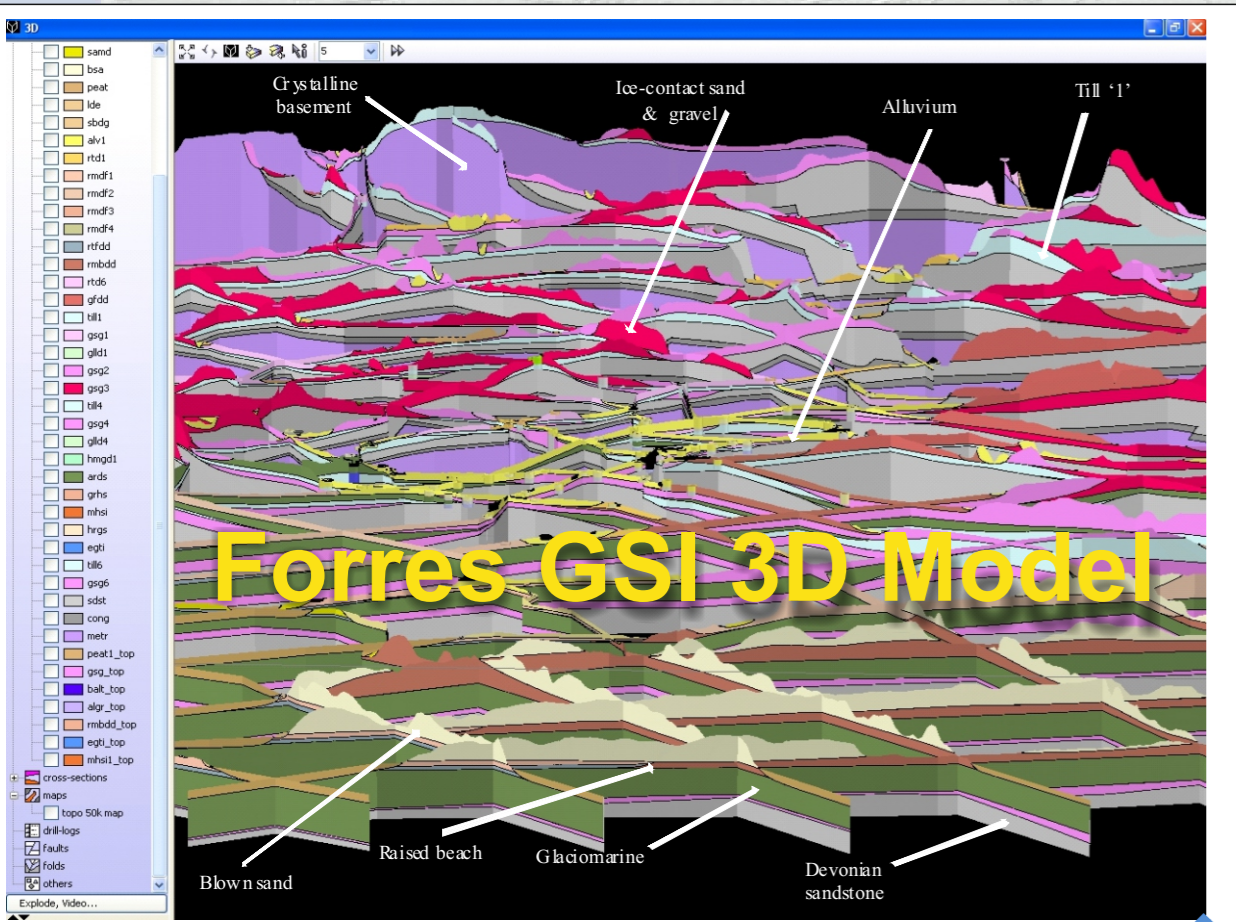
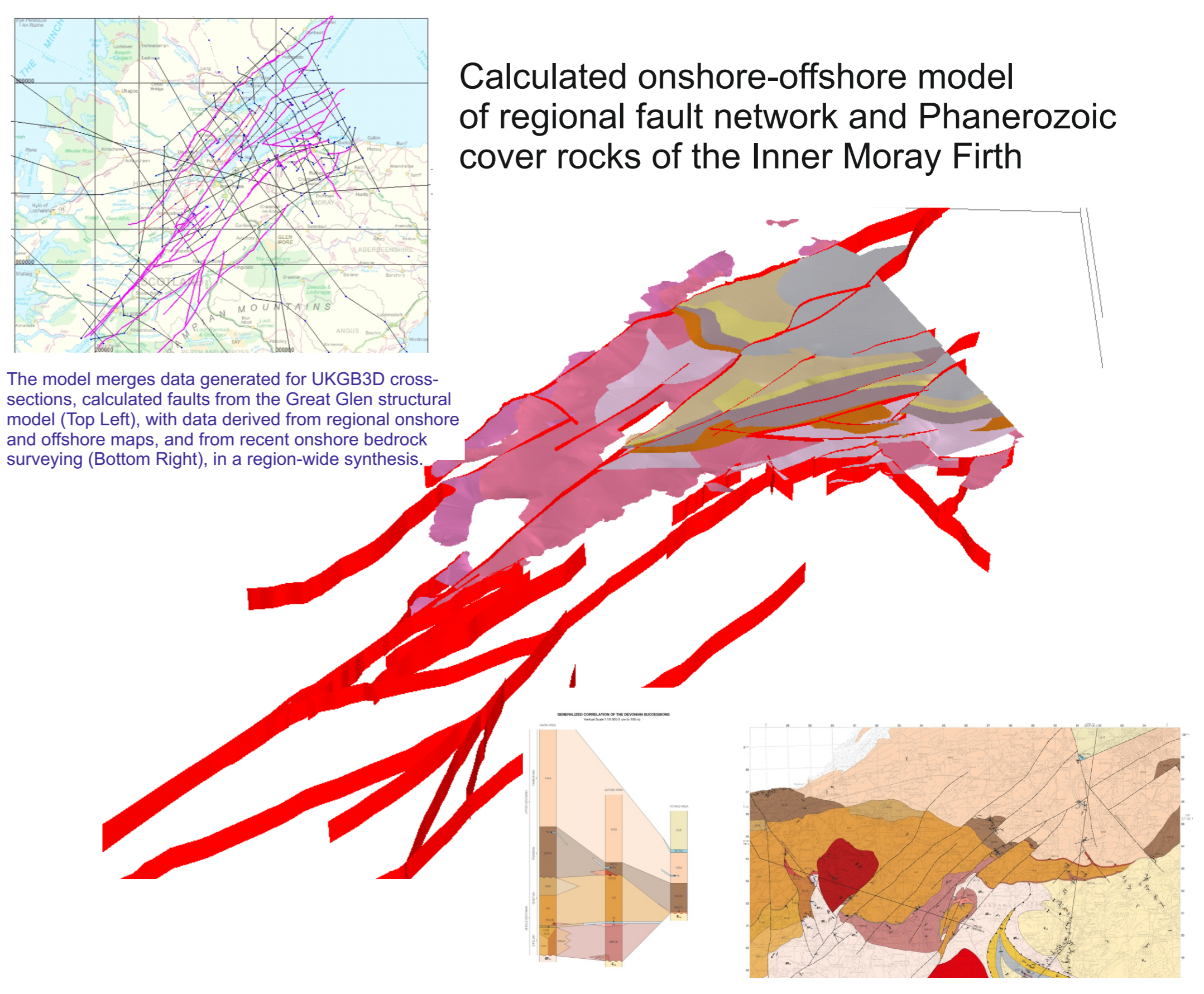
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Improved 3D visualisation and interpretation of the geology of the Inner Moray Firth North East Scotland has been achieved as a result of collaborative investigations by an team of BGS land and marine surveyors feeding combined data sets into GSI3D models.

A calculated regional fault network, has been generated, incorporating data from the Great Glen-Moray Firth tectonic model, informed by detailed bedrock survey data from the coastal zone. This network has been amalgamated with cross-sections, based upon those generated for the GB3D model and by numerous additional helper sections, to produce a fully calculated model of the onshore and offshore cover sequence of the Inner Moray Firth between Inverness, Helmsdale and Portsoy (c. 8,500 km²).

A more detailed, fully attributed GSI3D combined faulted Bedrock and Superficial Deposits model is being constructed for Inverness and its hinterland. This combines newly-captured onshore digital datasets, with results from targeted offshore seismic and bathymetric surveys, to extend the model seamlessly beyond the intertidal zone. This is producing new insights into the glacial and post-glacial evolution of the subsurface of this rapidly expanding urban area, and of its coastal fringe. This is critical to informing several major infrastructure developments planned in the next decade and to mitigate the impacts of developments on the internationally important marine habitats within the Moray Firth.

A series of models, nested within the Inverness City-Region Model, are also being developed. These cover more detailed assessments of Anthropocene sequences on development areas within and beyond the city. They focus on sites of environmental concern identified by the Highland Council.



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