A high-resolution digital elevation model (DEM) is a vital dataset required to accurately simulate water mixing and current flow within a whole-of-Great Barrier Reef (GBR) scale hydrodynamic model. The finer-scale detail of the undersea landscape underpins the ability of the hydrodynamic model to resolve the effects of coral reefs and inter-reefal passages on water circulation. There is also a critical lack of information about the location and spatial extent of deep-water ecosystems and habitats in the GBR and Coral Sea. Therefore, key seabed geomorphic features remain largely hidden from view and outside of effective management.

Project 3DGBR has developed a new high-resolution DEM for the GBR and adjoining Coral Sea at a grid pixel resolution of 0.001-arc degree (~100 m). The geographic coverage ranges from latitude 10° to 29° South, longitude 142° to 160° East. Including the Queensland hinterland, the new grid represents an area of about 3,000,000 km². The project utilised the latest data sourced from ship-based multibeam and singlebeam echo sounder surveys, airborne lidar bathymetry surveys, and satellite remotely sensed imagery. The new grid is called gbr100 and is a significant improvement on current bathymetry grids.

The gbr100 DEM was generated from digital bathymetry data and SRTM land data at a grid pixel resolution of 0.001-arc degree (~100 m). The geographic coverage ranges from latitude 10° to 29° South, longitude 142° to 160° East. The gbr100 DEM incorporates data which is © Commonwealth of Australia (Geoscience Australia) 2010. The Commonwealth gives no warranty regarding the data accuracy, completeness, currency or reliability for any particular purpose. Hydrographic chart produced under license by the Australian Hydrographic Service © Commonwealth of Australia 2010. Poster for AMSA conference 3-7 July 2011, Fremantle Australia.