

Marine Geoscience and the Renewable Energy Sector

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Industry Activities

BGS has a long history of working with industry (e.g. DONG Energy, Statoil, Statkraft, RWE, SSE and Vattenfall) in the offshore renewables sector. Activities include:

- Input for foundation design
- Interpretation of site survey data
- Preparation of Environmental Impact Assessments (EIAs)
- Analysis of buried landscapes within foundation depths
- Integration of geological, geophysical and geotechnical data into predictive models
- Analysis of geohazards with regards to jack-up siting, foundation installation and cable laying
- Explaining anomalous geotechnical results through analysis of geological processes

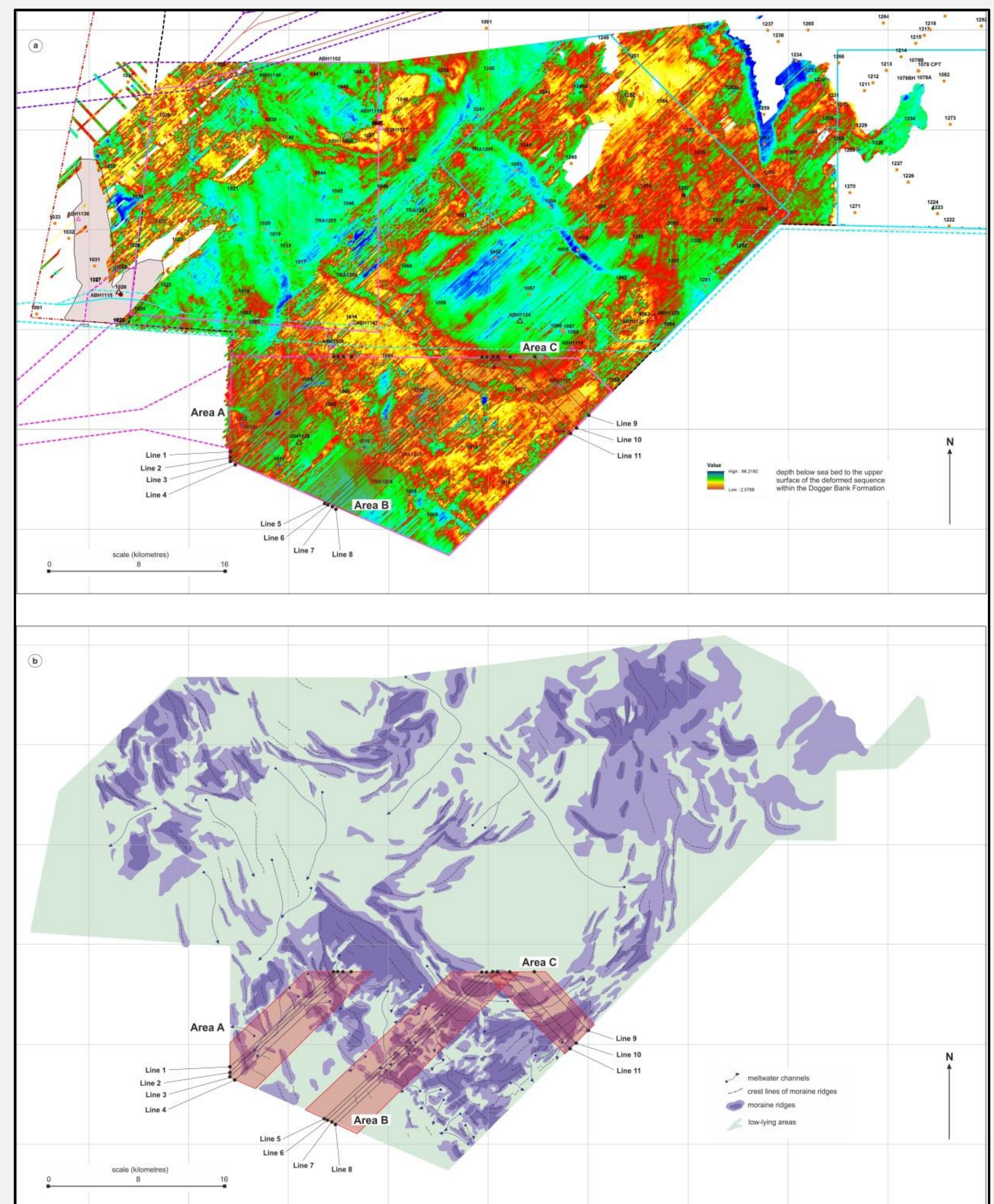


Figure 2 – Glacial landform map of the western Dogger Bank, (Phillips et al. 2016, Glaciated Margins Geological Society presentation).

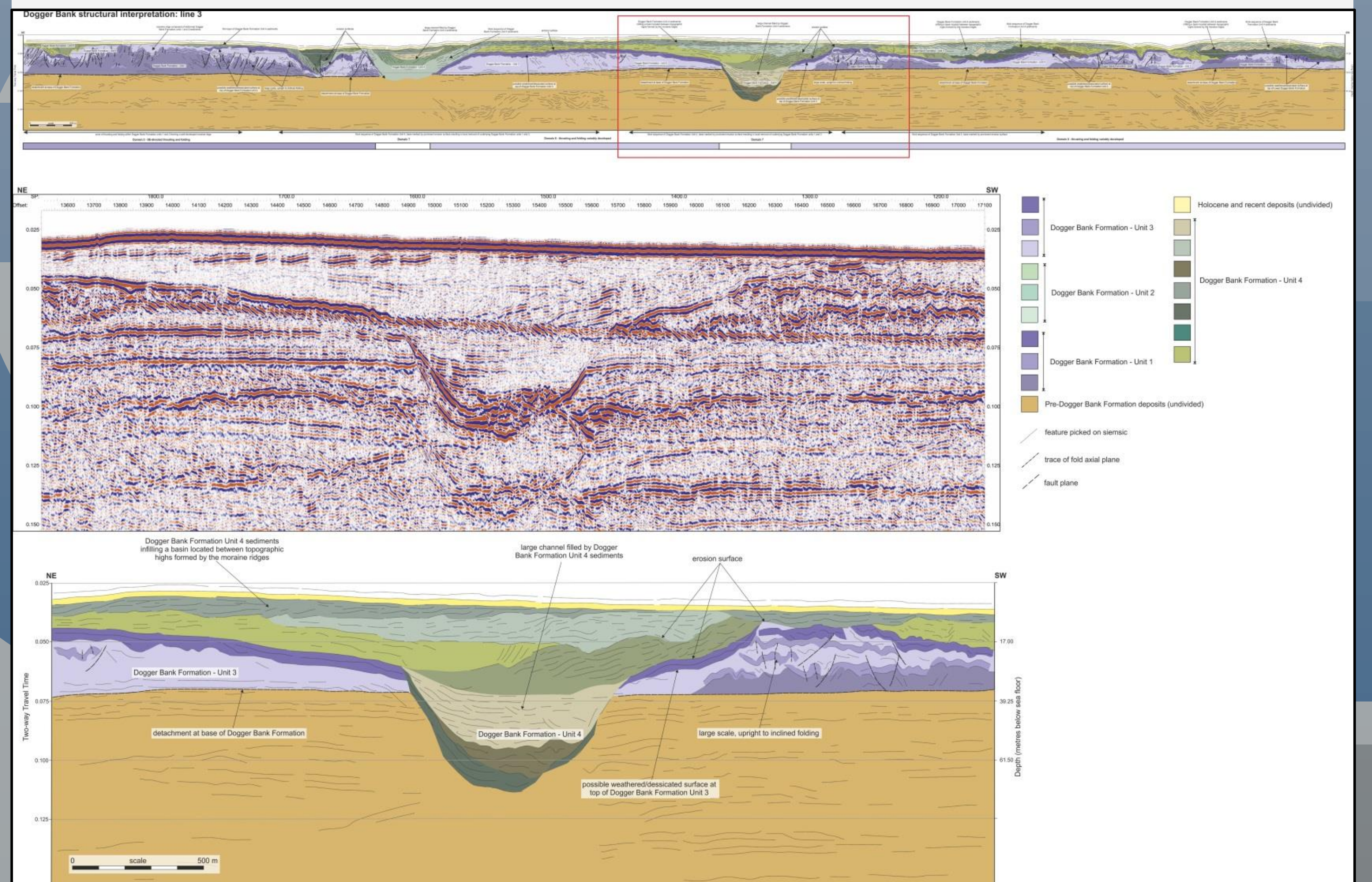


Figure 3 – Tectonostratigraphy of the western Dogger Bank, (Phillips et al. 2016, Glaciated Margins Geological Society presentation).

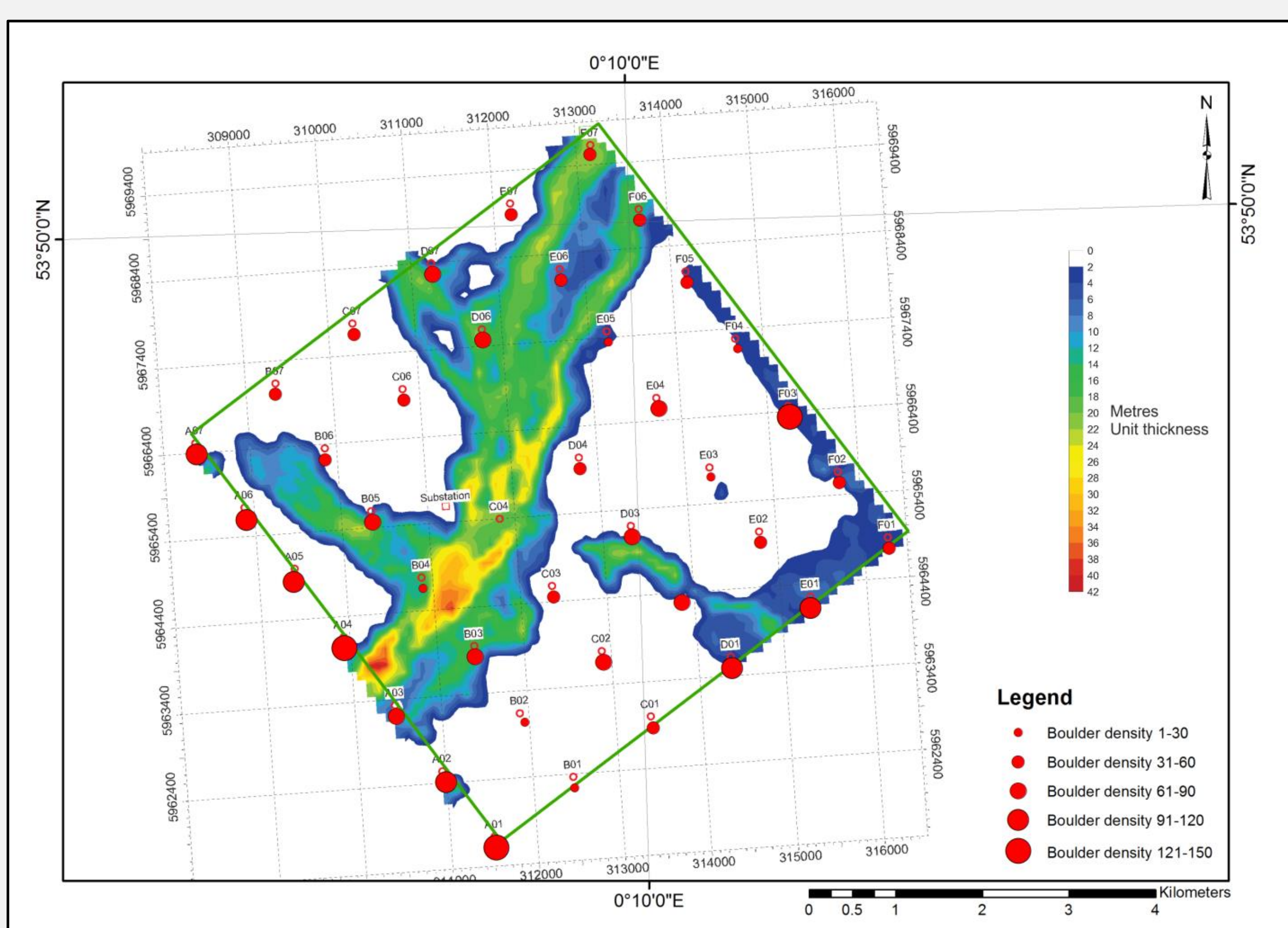


Figure 1 – Offshore boulder density assessment with respect to cable laying, (Carter et al. 2013. Commissioned Report CR/13/041)

This boulder analysis was conducted for the Westermost Rough windfarm to aid design of cable routes. Similar studies have been conducted for the Forewind Consortium on Dogger Bank.

Current Research Themes

Research into aspects impacting on foundation design and installation is ongoing, with 7 industry supported Ph.D studentships encompassing:

- Shoreline response to changing sea level
- Glacitectonic deformation
- Relationship between seismo-stratigraphy, tectono-stratigraphy and geotechnical responses
- 3D predictive modelling