

3D lithospheric structure and density of the NE Atlantic

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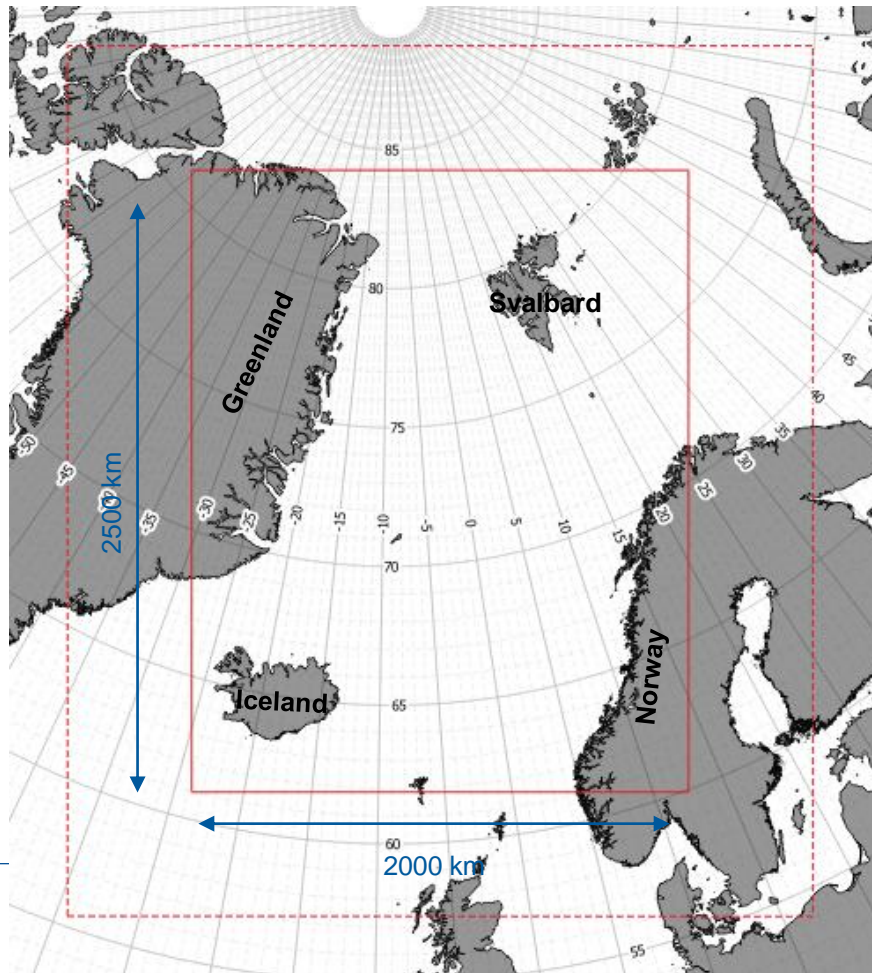


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Area and objective



Integrate available, updated and corrected data in one 3D lithospheric-scale structural and density model of this very interesting area in terms of tectonics and georesources



Characterize the present-day heterogeneities of the lithosphere in the NE Atlantic

Methodology

- ✓ Global thickness compilations
- ✓ Regional depth compilations
- ✓ Seismic profiles
- ✓ Seismic tomographies
- ✓ Digital elevation maps
- ✓ Previous density models
- ✓ etc

→ STRUCTURAL MODEL

IGMAS^(1,2)

- ✓ Heterogeneities in the mantle
- ✓ Shape of the Lower Crustal Bodies

Calculated gravity anomalies

Observed gravity anomalies

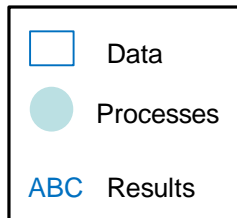
Modify free parameters

Good fit?

NO

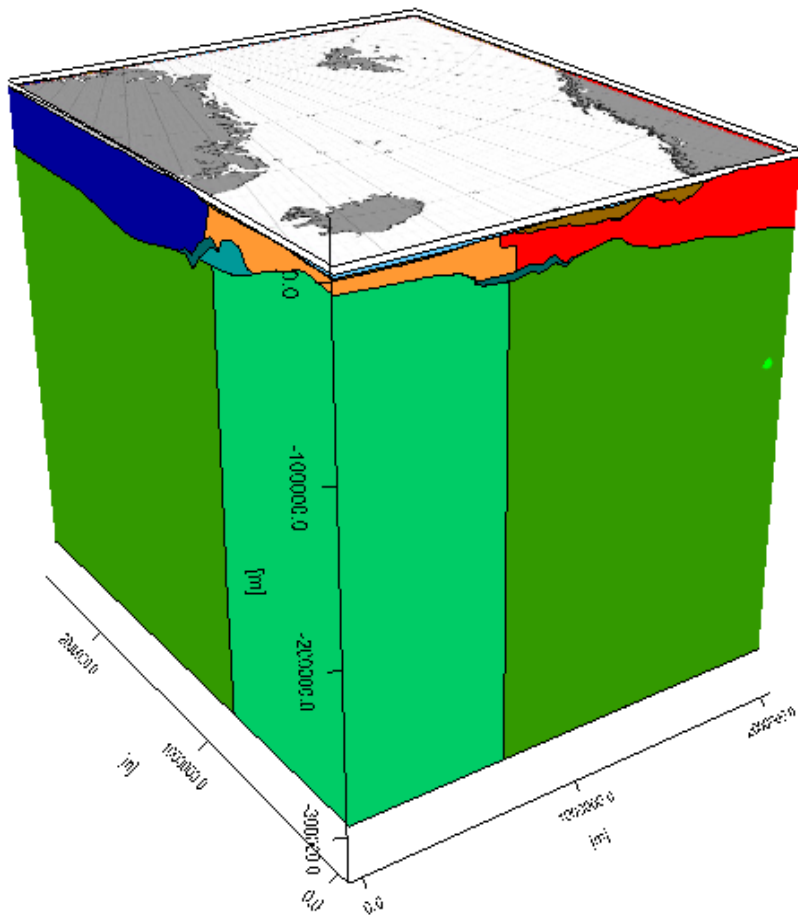
YES

Final 3D gravity model



→ 3D DENSITY DISTRIBUTION

3D lithospheric model of NE Atlantic



- ✓ Integration of several data sources to constrain the first order structure and density of the NE Atlantic
- ✓ Characterization of the mantle heterogeneities in the area
- ✓ Modelling of lower crustal bodies coinciding with the proposed track of the Iceland plume