There is a continuous grid of gravity and magnetic data available throughout the entire study area. Getech's Global Gravity Grid (Getech Group plc, 2021a; BAFA: Bouguer anomaly onshore and free-air anomaly offshore; see Figure 2) has been used as the basis of all gravity modelling. Getech's Global Magnetic Grid (Getech Group plc, 2021b; see Figure 3) has been sampled to profile locations as the input magnetic field. In particular, the reduced to pole (RTP) anomaly was used to ensure that the magnetic highs and lows were located more centrally over the causative body.

Published depth converted seismic lines in Berger & Jokat (2009 83972), Ehlers & Jokat (2009 68408) and Granath et al. (2011 84666) constrain profile Fram_Strait_N_1 (top panel) in the Greenland margin and Molloy Basin respectively. Lines published by Gernigon et al. (2014 68409) act as analogues from other sections of the margin and ties provided by profiles in Dumais et al. (2022 84640) constrain the Svalbard margin.

Published depth converted seismic lines in Granath et al. (2011 84666), Fyhn et al. (2021) and Houghton et al. (2014 84674) constrain profile Fram_Strait_S_1 (bottom panel L) in the Greenland margin. Seismic lines in Berger & Jokat (2009), Hermann et al. (2013 84667), Ehlers et al. (2009 68408), Grutezner et al. (2022 84668) and Dumais et al. (2022 84640) provide constraint for the Boreas Basin.

Published depth converted seismic lines in Kandilarov et al (2010 83952), Czuba (2013 84641), Ritzmann et al. (2004 84675) and Dumais et al. (2022 84640) constrain profile Fram_Strait_S_2 (bottom panel central).

Published depth converted seismic lines, crustal profiles and well correlations were used to constrain profile Barents_Sea_3 (bottom panel R). Lines published by Czuba (2013 84641), Dumais et al. (2022 84640), Fichler et al. (2022 84434) and Gernigon et al. (2014 68409) focussed primarily on the pre-Devonian basement, whereas Clark et al. (2013 68667) and Ktenas et al. (2018 84654) consider the post-Devonian sedimentary section.

The initial 2D gravity and magnetic models utilised Getech's Global Depth-to-Basement and Depth-to-Moho Grids (Getech Group plc, 2022a) as reference/input horizons that were adjusted accordingly depending on additional constraint data. The models also utilised Getech's 1:1M Structural Elements Map (Getech Group plc, 2022b) to locate major faults along the sections. Published maps including, but not limited to, Aarseth et al. (2017 84645), Barrere et al. (2009 84449), Gernigon et al. (2014), Gernigon & Bronner (2012 84648), Klitzke et al (2019 84639), Ktenas et al. (2018 84654), Marello et al. (2013 84638), Shulgin et al. (2018 84449; 2020 84647) and Smelor et al. (2009 84018) helped guide interpretations of basement terranes and geological features.