Geological models

A geological model is a virtual representation of the geology in three dimensions. Geological models can provide information on geological unit surface elevations or thicknesses and can be queried to generate synthetic boreholes and vertical and horizontal cross-sections.

Geological models are created by geologists using geological data and expert knowledge. Data such as borehole records, geophysics, field observations and digital terrain models are interpreted and the conceptual geological understanding is captured via geological cross sections, geological maps and/or point interpretations that describe a surface. The 3D geological model is created by interpolation between all interpreted points.

The accuracy of the geological model is dependent on, for example, the data density, the prevailing understanding of the geology at the time of modelling and the geological complexity. The geological map herein indicates the sites of borehole records considered by the geologist and also the locations of interpreted cross sections; the density of these around the area of interest provides an indication of uncertainty.

Limitations

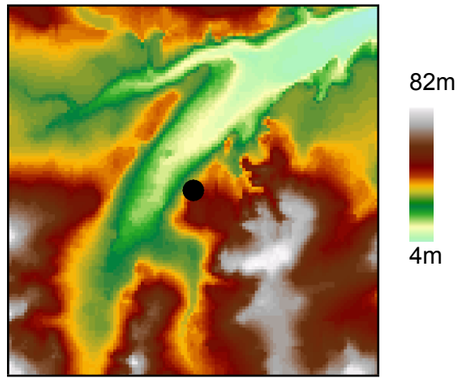
The quality of observations and interpretations may be affected by the availability of new data, by subsequent advances in knowledge, improved methods of interpretation, improved databases and modelling software, and better access to sampling locations. The top surface of the geological model is constrained by the digital terrain model; this may contain artefacts and may have been sub-sampled at a lower resolution and thus minor mismatches between geomorphological features and modelled units may occur.

The information herein should not be used as a replacement for site investigation. For further information on the limitations of modelling in this area, see the relevant metadata report available from enquiries@bgs.ac.uk and view the current terms and conditions at http://shop.bgs.ac.uk/Groundhog. For comprehensive information of the geology at this point, please use our BGS GeoReports Service at http://shop.bgs.ac.uk/GeoReports/.

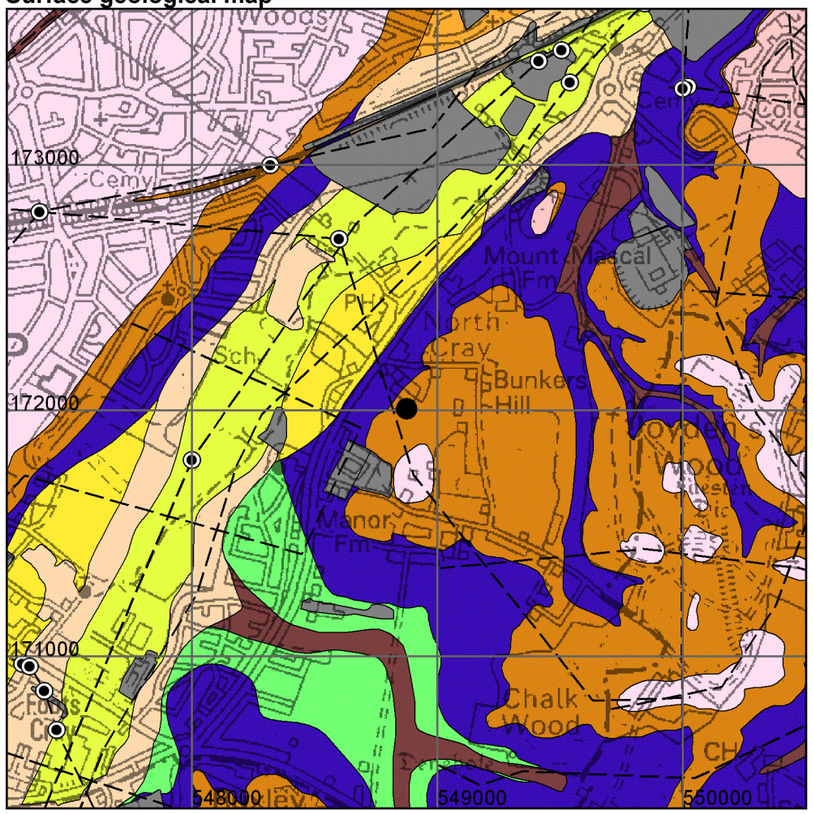
Feedback

To improve geological models your feedback is essential. Please contact enquiries@bgs.ac.uk if your site investigations yield data that could improve our interpretations.

Elevation model



Surface geological map

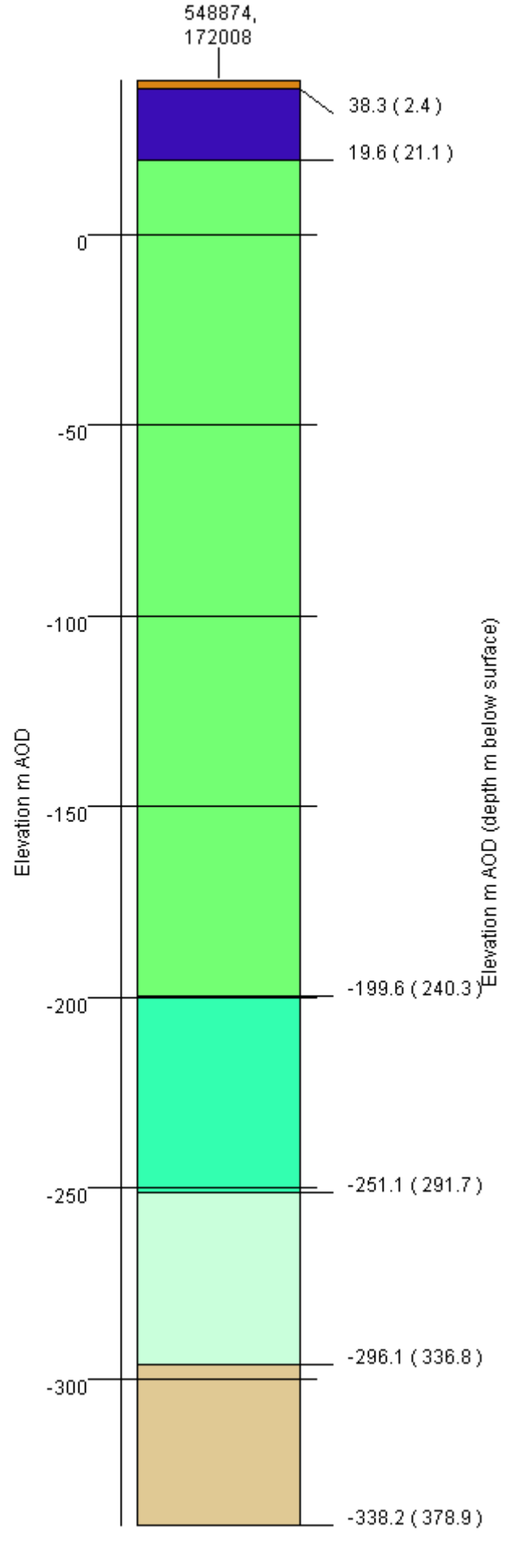


Legend

- Worked Ground (Void)
- Made Ground (Variable composition)
- Infilled Ground (Variable composition)
- Alluvium (Clay, Silty, Sandy, Gravelly)
- Head (Clay, Silty, Sandy, Gravelly)
- Crayford Silt Formation (Silt, Sandy)
- Taplow Gravel Formation (Gravel, Sandy)
- Lynch Hill Gravel Formation (Gravel, Sandy)
- Boyn Hill Gravel Formation (Gravel, Sandy)
- Harwich Formation (Sand, Gravelly)
- Lambeth Group (Clay, Silty, Sandy, Gravelly)
- Thanet Sand Formation (Sand)
- Chalk Formation, undifferentiated (Chalk)
- Gault and Upper Greensand Formations (Mudstone, Sandstone and Limestone)
- Lower Greensand Formation (Sandstone and Mudstone)
- Wealden and Jurassic strata, undifferentiated (Mudstone, sandstone and limestone)

- Borehole record
- Synthetic borehole
- Interpreted cross section

Synthetic borehole



British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

NERC SCIENCE OF THE ENVIRONMENT

Bunkers Hill

Report ID: GH_100074/136

Model: London and Thames Valley geological model

Regional geological model originally created by H Burke, S Mathers, J Ford, R Terrington, S Thorpe, P Williamson. Model released: 2014.

The information on this map sheet, including the surface geological map and the synthetic borehole, is derived from the National Geological Model. Geological models provide an indication of reality; alternative interpretations of the same data are possible. The surface geological map is based on the published geological map, with revisions based on new interpretations and may therefore differ from published geological maps and products. Truncation of the lowest unit in the borehole does not necessarily denote its basal depth. Heights are in metres.

Deposits of artificial ground, head and clay with flints typically form thin veneers and whilst they are present on the surface map, they may be absent in the synthetic borehole or section.

Boreholes shown on the map were considered during the construction of the geological model. The original borehole records can be viewed at http://shop.bgs.ac.uk/Groundhog.