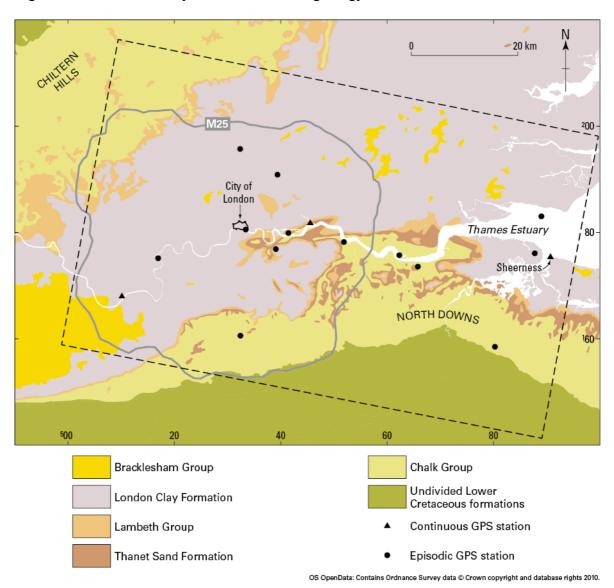
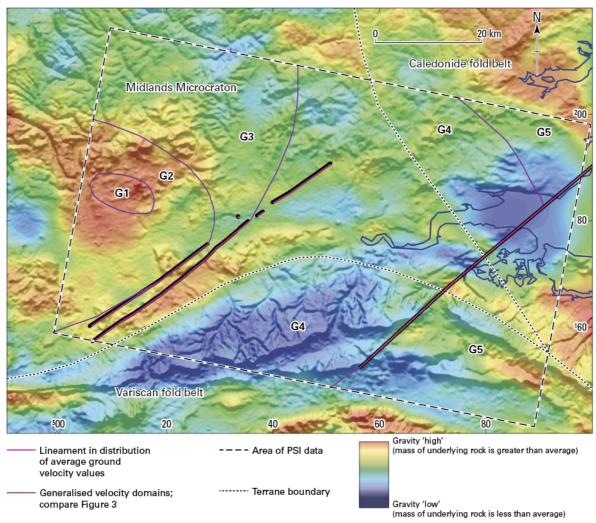
London land levels: Figures with captions

Figure 1: Location of study area with bedrock geology



Position of modern London is indicated by the ancient City of London and by the M25 orbital motorway. Dashed line marks the extent of the Permanent Scatterer Interferometry (PSI) data. For details of the GPS stations, see Bingley et al. (2007, 2008).

Figure 2: Generalised vertical ground velocity domains, gravity field and basement terranes



DTM using NextMap Britain™ dataset covering England, Wales and Scotland. NextMap Britain™ elevation data from IntermapTechnologies

Bouguer gravity field stripped to base of Mesozoic succession (Aldiss et al., 2006) and draped on shaded relief digital terrain model. Range of values in gravity data is from approximately 0 to -30 mGal. G1 to G5 are generalised regional vertical ground velocity domains referred to in Section 6.3.

Figure 3A: Point plot of land level change determinations from Persistent Scatterer Interferometry (PSI) data

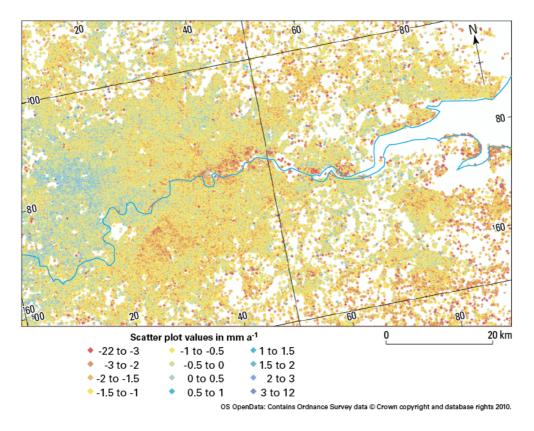


Figure 3B: Point plot of land level change determinations with domain boundaries and lineaments

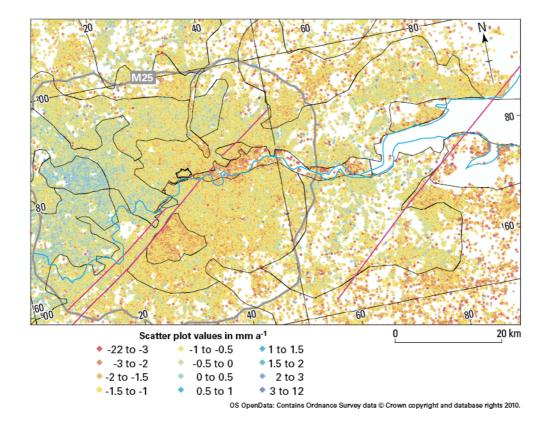
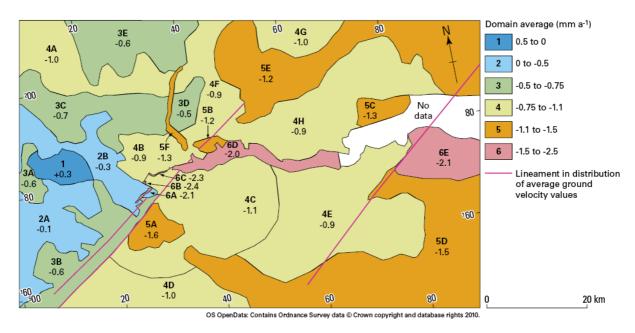


Figure 4: Average vertical ground velocity domains



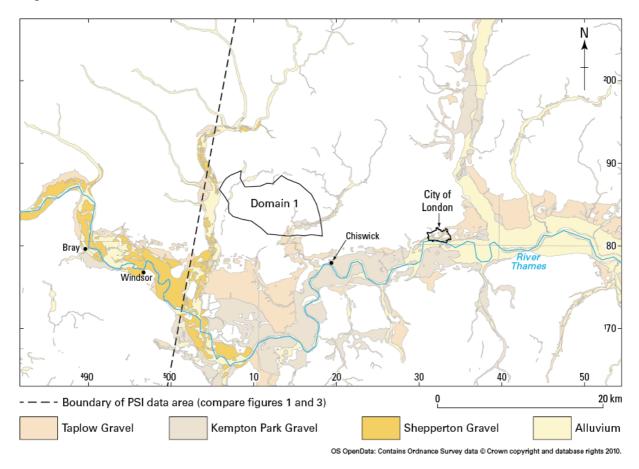
Domain labels indicate rank of average vertical ground velocity with a letter to identify each domain. Each label is accompanied by the average value of vertical ground velocity for that domain. Compare with Figure 3 and Table 1.

Lineament in distribution of average ground velocity values Mapped faults 5E Plaistow Graben faults 80 Holocene deposits NORTH GREENWICH
FAULT
GA STREATHAM
FAULT 80 Anomalous areas of alluvium Canning Town Dagenham motor works WIMBLEDON FAULT 5D Purfleet 40 60 80 20 km

Figure 5: Lineaments, faults and Holocene deposits

Position of Plaistow Graben taken from Mortimore et al. (2011). Geological map information taken from British Geological Survey DiGMapGB-50 (Copyright NERC).

Figure 6: Path of the River Thames around Domain 1



Domain 1 is as in Figure 4; the adjacent section of the River Thames has apparently been deflected southwards between Windsor and Chiswick. Note that the area of apparent local uplift represented by Domain 1 may have varied through time. City of London as in Figure 1. Geological map information taken from British Geological Survey DiGMapGB-50 (Copyright NERC).

Lineament in distribution of average ground velocity values

Mapped faults

CTRL

Plaistow Graben faults

Up to 35 m drawdown

Up to 30 m rise in water table

Merron Abbey Well

5A

180

20 km

Figure 7: Change in groundwater level compared with vertical ground velocity domains

Change in groundwater level from January 1997 to January 2006, compared with vertical ground velocity during March 1997 to December 2005. Position of two major public water supply wells indicated. Domains and lineaments as Figures 4 and 6. CTRL is the Channel Tunnel Rail Link (latterly known as 'High Speed 1'), which terminates in north central London.