



Enabling Access to Geological Information in Support of GMES

# A Free Geohazard Information Service for Europe

Ren Capes: Project Coordinator (Fugro NPA Ltd, UK)

[r.capes@fugro-npa.com](mailto:r.capes@fugro-npa.com)



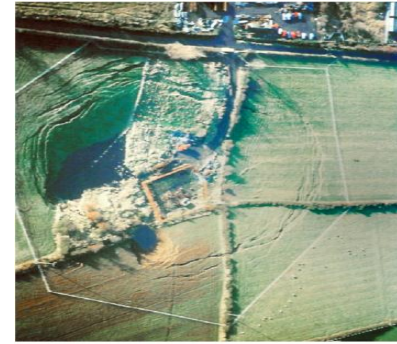
**Geohazards in PanGeo are natural and man-made phenomena that make the ground unstable.**

**PanGeo geohazards include:**

- Earthquakes
- Slope instability (landslides)
- Mineral workings (past & present)
- Groundwater abstraction & recharge
- Shrink and swell clays
- Soluble rocks
- Compressible ground
- Collapsible deposits
- Landfill

**Risks from geohazards are increasing as cities become bigger.**

**Geohazards cost the EU hundreds of lives and billions of Euros each year.**



## Enabling Access to Geological Information in Support of GMES.

- FP7 Collaborative project (2011-2014)
- Born out of ESA GMES TerraFirma project



**Objective:** Provide a free, INSPIRE-compliant online geohazard information system for Europe, starting with the 52 largest towns.

### 37 partners in total, including:

- All 27 EU national Geological Surveys
- Four ESA-qualified PSI Providers
- INSPIRE, IT and Training expertise
- Geospatial data visualisation expertise
- Makers of the GMES Land Core Service 'Urban Atlas'
- A User Advisory Panel (EuroGeoSurveys, Euro-Federation of Geologists, ABC)

**Target users:** - Local Authority Planners & Regulators, Civil Protection Agencies  
- National Geological Surveys  
- Policy Makers, Commerce  
- The Public

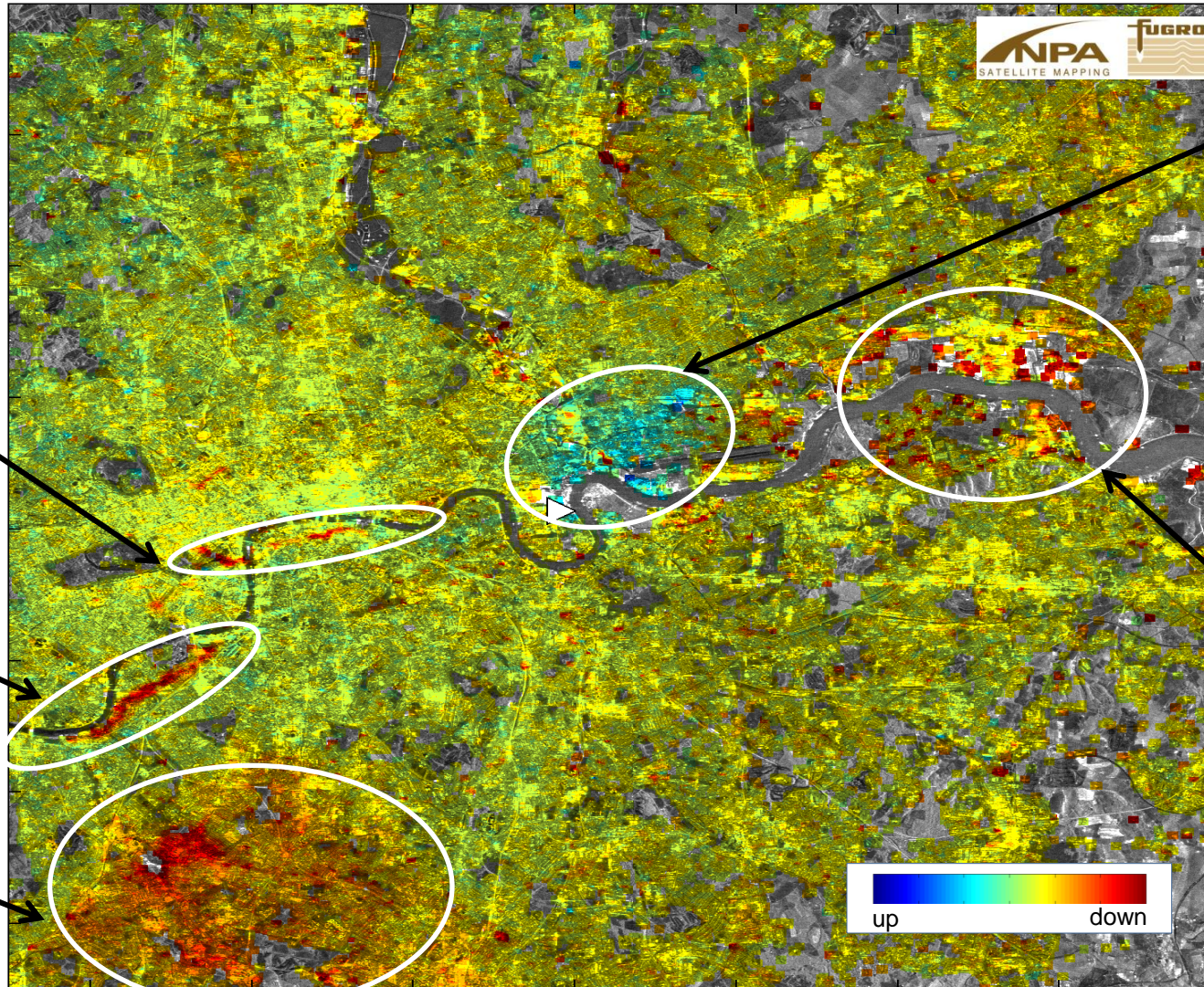


## London

New metro-line tunnelling

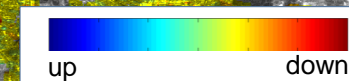
Electricity cable tunnelling

Subsidence due to lowering water-table



Uplift due to rising water-table

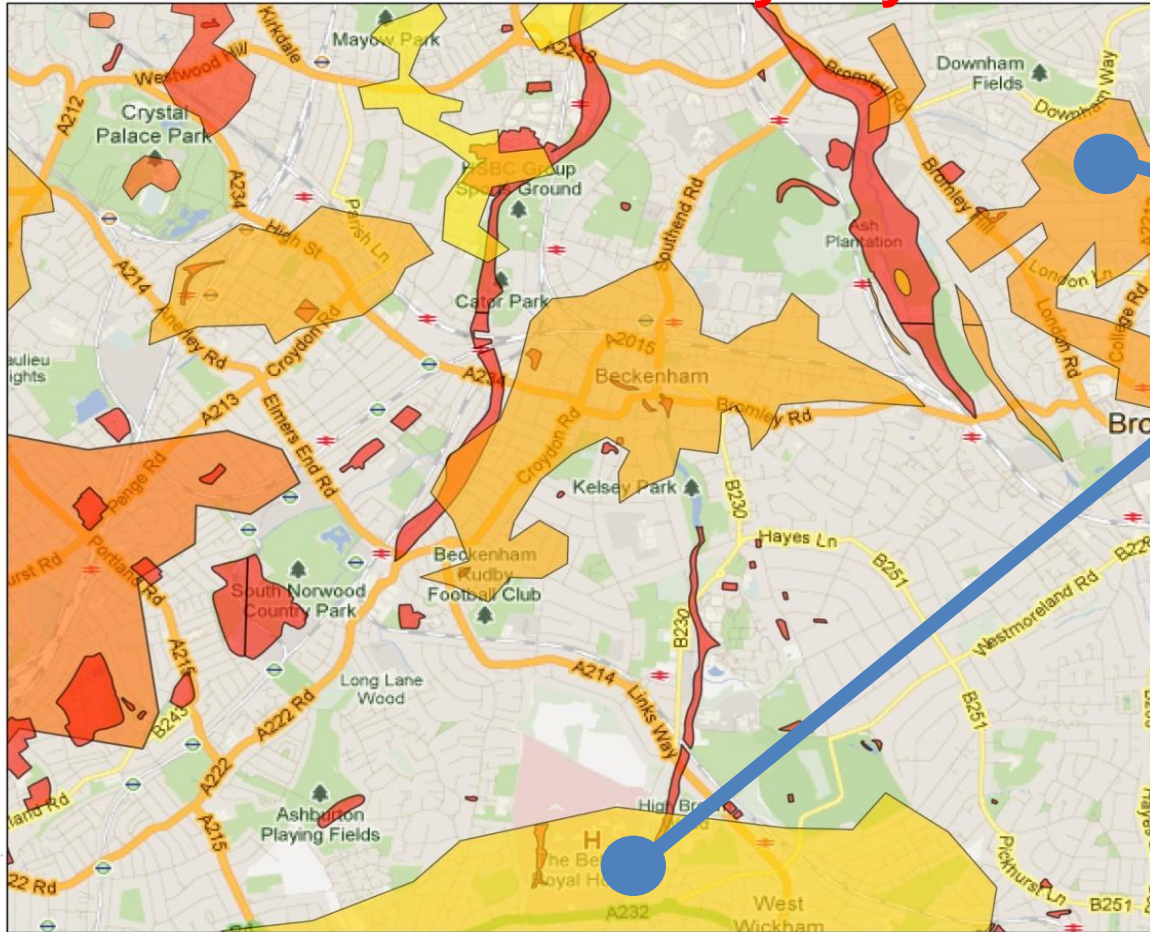
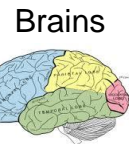
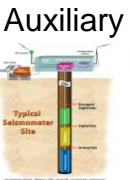
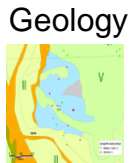
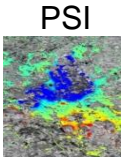
Subsidence due to localised compaction



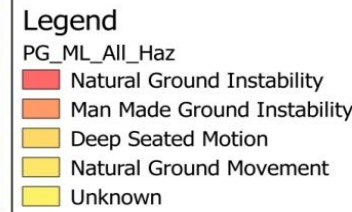


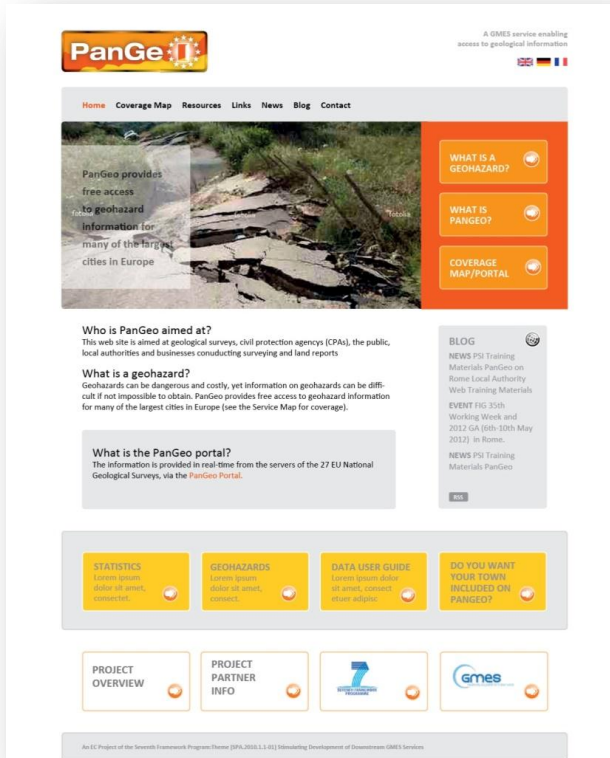
## Ground Stability Layer

## Geohazard Description

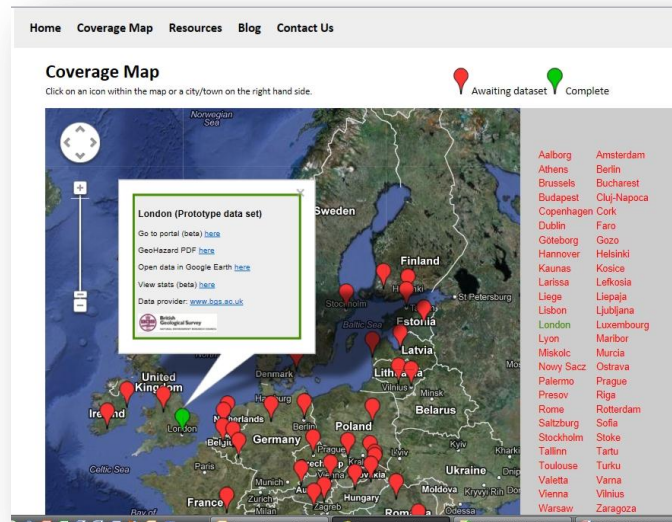


Overall geological context  
and individual  
descriptions for each  
polygon

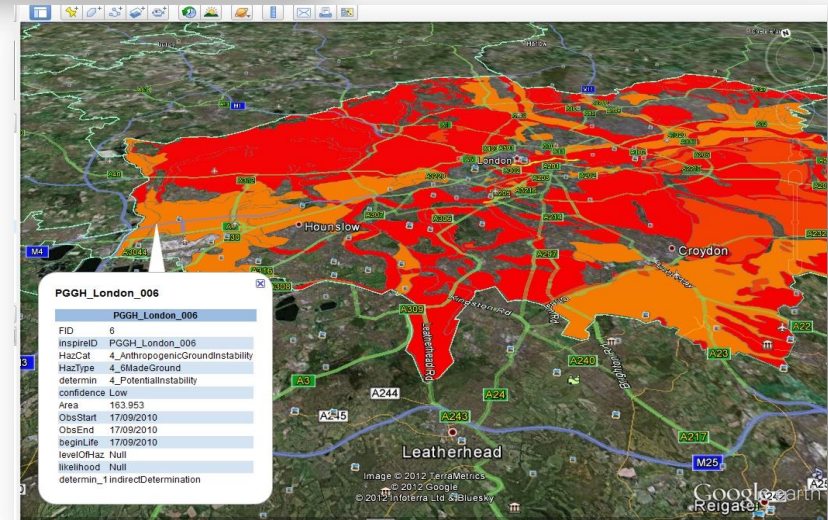




**PanGeo Home Page**



**Service Coverage Map**



**Ground Stability Map**



- PanGeo is establishing an INSPIRE-compliant, free, online Geohazard Information Service.
- All 27 national Geological Surveys of the EU included.
- Aimed at Local Authorities, Geological Surveys, Policy-makers and the EU Citizen and Commerce.
- Concerted *Sustainability Action Plan* driving promotion.
- Cost of new town inclusion: Around €40,000.



## Enabling Access to Geological Information in Support of GMES

[www.pangeoproject.eu](http://www.pangeoproject.eu)