



About Tellus

Tellus is a ground and airborne geoscience mapping programme, collecting chemical and geophysical data that will inform the management of Ireland's environment and natural resources. Tellus is undertaken by the Geological Survey of Ireland and is funded by the Department of Communications, Energy and Natural Resources.

Tellus surveying has been carried out in Northern Ireland (2004–2008), the border region of Ireland (2011–2013) and in the north midlands and east of Ireland (2014–2015). Surveying of the west of Ireland is scheduled for completion in 2017. Tellus aims to complete surveying the entire island of Ireland on a phased basis, completing 50% by the end of 2017.

Download data and interactive maps at www.tellus.ie



Geochemical data fact file

Tellus Border geochemical surveys were conducted between August 2011 and June 2012.

Samples of soil, stream sediment and stream water were collected from a region spanning 12,339 km² at a typical density of one sample per 4 km².

Two soil samples were taken at each location. Topsoil samples (c.5–20 cm depth) were analysed for 52 elements, pH and loss-on-ignition. Subsoil (c.35–50 cm) samples have been archived.

Stream water and sediment samples were typically collected from first and second order streams. The sieved <150 µm sediment fraction was analysed for 56 elements. Water samples were analysed for a range of physical parameters and 65 chemical elements and ion species.

Copper (Cu) in topsoil

The map displays the range of copper (Cu) concentrations in 10,335 topsoil samples (c.5–20 cm) determined by the Tellus Border survey in the Republic of Ireland, and the Tellus survey in Northern Ireland.

Copper concentrations were determined by ICP-OES analyses following *aqua regia* digestion. The lower limit of detection is 0.5 mg kg⁻¹. Data have been QA/QC'd with respect to a range of certified and secondary reference materials.

Cu, as noted for several other transition elements, is present in relatively high concentrations in topsoil overlying the Antrim basalts as well as parts of the Longford-Down inlier, notably where base metal deposits occur. Scattered small positive anomalies sited over towns are probably anthropogenic in origin, while similar anomalies elsewhere may be linked to mineralization or agricultural practices. Peaty topsoil in the region typically has a very low Cu concentration and the low Cu concentrations observed over the Donegal granites and the Mourne Mountains granite are at least a partial reflection of this.