



## 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](http://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 km<sup>2</sup> at a typical density of one sample per 4 km<sup>2</sup>.

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 Subsoil (c.35–50 cm) samples have been archived.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.

## Molybdenum (Mo) in topsoil

The map displays the range of molybdenum (Mo) 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.

Molybdenum concentrations were determined by ICP-MS analyses following *aqua regia* digestion. The lower limit of detection is 0.05 mg kg<sup>-1</sup>. Data have been QA/QC'd with respect to a range of certified and secondary reference materials.

High Mo concentrations occur principally in topsoils around the Lough Allen area where they are focused on the Pennsylvanian shale and cyclothem sandstone-shale-coal sequences and the underlying Mississippian (Viséan) mudstone-sandstone-evaporite sequences. Low concentrations of Mo are typical of topsoils overlying the ORS, the Tyrone inlier and surrounding Tyrone Igneous Complex felsic intrusions, Tournaisian basal clastic sequences, the Oligocene clay, sand and lignite deposits around Lough Neagh and the calcareous soils of the *machairs* along the west and north coasts.