



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 Subsoil (c.35–50 cm) samples have been archived.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

Arsenic (As) in stream sediments

The map displays the range of arsenic (As) concentrations in stream sediment samples (<150 µm particle size) determined by the Tellus Border survey in the Republic of Ireland, and the Tellus survey in Northern Ireland.

Arsenic concentrations were determined by XRF analysis. The lower limit of detection is 0.9 mg kg⁻¹. Data have been QA/QC'd with respect to a range of certified and secondary reference materials.

As concentrations are very low in stream sediments overlying the Antrim basalts, consistent with the generally low As concentrations found in mafic igneous rocks. Stream sediments with high As concentrations (typically ≥ 15.5 mg kg⁻¹) tend to occur as well-defined anomalies or clusters of anomalies, notably over the Dalradian succession in counties Tyrone and Donegal. In Tyrone, these anomalies can be directly linked to gold occurrences. Similarly, the well-defined anomaly in counties Monaghan and Armagh is spatially associated with known As and Au mineralization.