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### About Tellus

Tellus is a ground and airborne geoscience mapping programme, collecting geochemical 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 completed in Northern Ireland and the northern region of Ireland. The Geological Survey of Ireland endeavours to complete surveying in 50% of Ireland by end 2017.

Data and maps are freely accessible at [www.tellus.ie](http://www.tellus.ie)



### Geochemical surveying in Ireland

The Tellus geochemical survey routinely collects samples of stream sediment, stream water and topsoil from across Ireland. The average sampling density is one sample per four  $\text{km}^2$ .

Stream water and sediment samples are typically collected from small first-, second- and third-order streams. Stream sediment is wet-sieved to less than 150 microns size fraction and is analysed to measure concentrations of a range of major, minor and trace element concentrations by X-ray fluorescence spectrometry (XRF), and of precious metals by lead-collection fire assay followed by ICP-MS analyses.

Archive stream sediment samples have been re-analysed by multi-element and precious metal analytical techniques, and data have been quality controlled. Reports and publications are available at [www.tellus.ie/about/publications](http://www.tellus.ie/about/publications)

### Gold in stream sediment

Samples collected between 1986 and 1990 by the Geological Survey of Ireland were reanalysed in 2015 as part of the Tellus programme. Data have been quality controlled with respect to a range of certified and secondary reference materials.

The highest gold concentrations (up to 2010  $\mu\text{g kg}^{-1}$ ) were measured in stream sediments collected in north county Wexford, where modern exploration has revealed numerous bedrock gold occurrences associated with Lower Palaeozoic rocks. Relatively high background gold concentrations also occur over the Ordovician volcanic rocks that extend from the east coast to Dungarvan in county Waterford, and the Cambrian Bray Group in northeast county Wicklow. Single-point gold anomalies are scattered throughout the region, with some notable occurrences (up to 1933  $\mu\text{g kg}^{-1}$ ) overlying the Leinster Granite and adjacent country rocks.