

About Tellus

Tellus is a national programme to gather geochemical and geophysical data across the island of Ireland, examining the chemical and physical properties of our soils, rocks and waters. The data will help to inform the management of Ireland's environment and natural resources. Tellus is undertaken by Geological Survey Ireland and is funded by the Department of the Environment, Climate and Communications.

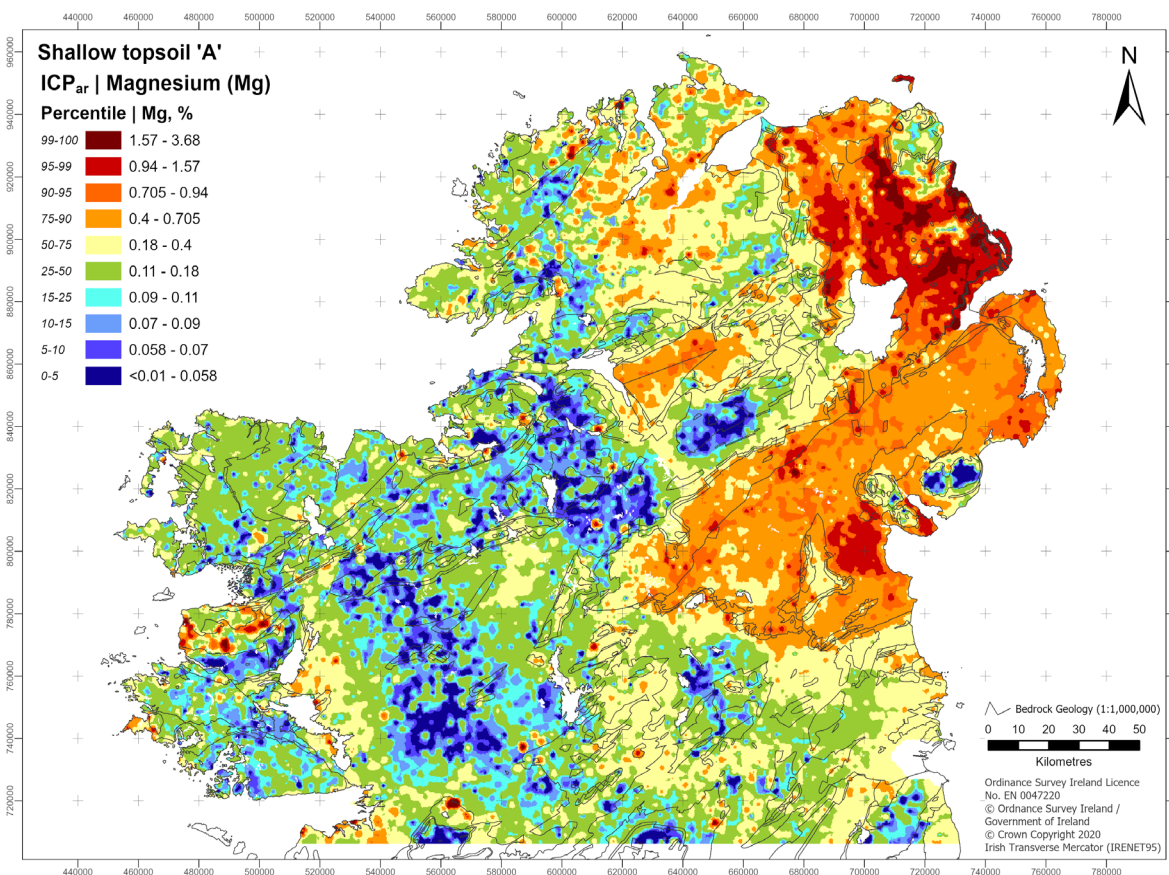
Magnesium | Mg

Shallow topsoil samples were collected from the northern half of Ireland between 2004 and 2019, as part of the Tellus geochemical survey projects of Geological Survey Ireland and the Geological Survey of Northern Ireland. The map represents almost 17,000 sites covering an area of just over 50,000 km² and incorporates a wide variety of geological domains in Ireland. Samples were collected at a typical density of one sample per 4 km² in Ireland and one sample per 2 km² in Northern Ireland.

Laboratory analyses comprised soil pH (CaCl₂), loss-on-ignition at 450°C and multi-element partial-extract analyses of major, minor and trace elements by ICP following aqua regia digestion.

The map displays the distribution of measured Magnesium (Mg) concentrations in shallow topsoil and demonstrates strong bedrock control on topsoil composition. The high concentrations observed over the Antrim basalts reflect the Mg-rich composition of the mafic minerals that comprise these igneous rocks. Similarly, the greywackes of the Longford-Down inlier in counties Longford, Cavan, Monaghan, Louth and Down have relatively high Mg concentrations owing to the presence of abundant fragments of mafic igneous rock. In south County Mayo, Mg-rich rocks, including serpentinites, characterize parts of the Lower Palaeozoic succession. Mineral-poor organic soils in upland and peat-covered areas and soil overlying the limestone-dominated bedrock of the midlands generally has low Mg concentrations.

Geochemical Data in Shallow Topsoil Magnesium | (Mg)



Free data & maps at www.gsi.ie/tellus

Geological Survey Ireland is a division of
the Department of the Environment, Climate and Communications



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