

## Geogenic Arsenic concentrations in Irish drinking water

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Metals of anthropogenic and geogenic origin are responsible for contamination of the environment. Of particular interest is the persistent threat of arsenic which affects the safety of potable water supplies around the world.

In Ireland, detailed investigations of the mapping of metals on a national scale have not been done thus far. In order to map the spatial distribution of arsenic around Ireland, a collaboration was established between 29 County Councils (CCs), the Environmental Protection Agency (EPA), the Health Service Executive (HSE) and the Geological Survey of Ireland (GSI). The collated data was then used to develop spatial distribution maps of arsenic around Ireland using interpolation methods. As a result, these maps can be used to interpret groundwater quality in relation to arsenic for better management. From this data appropriate field sites were selected for more detailed studies.

Currently combined hydrogeological and analytical investigations are currently being completed in County Louth. Speciation analysis using HPLC-ICP-MS is currently being developed at the Chemical Monitoring Facility (CMF) at NUIG in order to understand the mobility, toxicity and potential bioavailability of arsenic within the groundwater system.