Plan Overview

A Data Management Plan created using DMPonline

Title: Identifying and targeting Ireland's deep groundwater resources using seismic reflection data

Creator: Abdoulie Faal

Affiliation: University College Dublin

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Project abstract:

Groundwater resources make up about 16 percent of Ireland's public water supply, but the nature and extent of the resource distribution at depth (>100m) is poorly understood. The broad context of this project is to develop a better understanding of deep groundwater resources in Irish limestones using existing seismic data sets. Anecdotal and field evidence suggests that deeper groundwater resources are largely untapped and uncharacterised. The aim of this project is to model water-bearing features using existing seismic and drill data, and to develop a direct detection method for locating these deep-seated, water-bearing features. These data sets will be used to characterise the appearance of deep-seated karst features, allowing for the development of synthesised seismic sections. Original seismic data sets will then be reprocessed with the aim of highlighting water-, air- or water and air-filled features. The approaches developed can be used to identify potential deep groundwater resources, and these resources could have multiple users: including augmenting and enhancing water supplies, providing a stable saline water resource for desalination, and providing targets for geothermal use (at local and district level, for agricultural use, and to data centres as potential independent sources of heating and cooling).

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