

This document is a copy of the Data & Maps page from the Geological Survey Ireland Website.

Source : <https://www.gsi.ie/en-ie/data-and-maps/Pages/default.aspx> Captured on : 08/07/2026

It was created to allow users to download GSI Data while the website is offline from the 14th of July for approximately two weeks.

During this time there will also be a period when the data download server is offline. Dates to be confirmed.

Please contact : support@geodata.gov.ie with any enquiries.

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[illegible]

These are organised by themes.

Data can be downloaded in zip files. They can be viewed in our online viewers. Metadata can be accessed along with web services.

All files are projected to Irish Transverse Mercator / ITM except when otherwise stated.
The Marine files are in WGS84.

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General Access to Data

Type	Source
Data Download	see left panel (desktop view) or below (mobile view) for specific theme
Map Viewers	Link to our spatial resources viewers
Metadata	Link to Irish Spatial Data Exchange (ISDE) website
Data.gov.ie	Link to Data.gov.ie website
Web Services	Rest Services Image Services
Goldmine	Link to our online digital archive for maps and documents

Connecting to Web Services (Bring data into your GIS software)

ArcGIS ArcGIS PRO/Insert Tab/Connections/Server/New WFS/WMS/WMTS Server. layers will appear in catalog panel under Servers.

QGIS Layer/ Add Layer/Add ArcGIS MapServer Layer or Add WMS / WMTS Layer/New/Name - Paste in web service link - Select png for image encoding - OK

If you wish to receive **Data Release updates**, please join our **mailing list**.

Bedrock

Bedrock data and maps include national coverage at various scales (100k, 500k, 1M) and area coverage (Northeastern , North Midlands, Cork, Dublin) at 50k scale to date. Bedrock boreholes and outcrops are also available.

Bedrock Geology of the UK and Ireland (scale 1:1,250,000)

Bedrock Geology 1 Million (scale 1:1,000,000)

Bedrock 500k (scale 1:500,000)

Bedrock 100k (scale 1:100,000)

Bedrock 50k (scale 1:50,000) Northeastern area, Midlands area, Dublin GeoUrban area, Cork Geourban area

Bedrock Outcrops

Verified Boreholes With Logs

Bedrock Boreholes (Unverified)

3D Geological Models

Rosguill Peninsula bedrock special sheet (scale 1:12,000)

Hyperspectral sample data

Bedrock Geology of the UK and Ireland (scale 1:1,250,000)

The Geological Mapping programme collaborated with the British Geological Survey and the Geological Survey of Northern Ireland to publish a summary map for Britain and Ireland, derived from our respective national maps. The map is intended primarily as a teaching resource and geological summary for international projects.

Type	Source
------	--------

Map	PDF
-----	---------------------

Bedrock Geology 1 Million (scale 1:1,000,000)

Coordinate System: Irish Transverse Mercator / ITM

Type	Source
Data Download	Zip file (Onshore Data)
Map Viewer	Link to viewer (Onshore Data)
Data.gov.ie	Link to Data.gov.ie website
Web Services	Map Server (Onshore Data)
Map	PDF This map shows the bedrock geology of the island of Ireland, at a scale of 1:1,000,000. It was published by Geological Survey Ireland (GSI) and the Geological Survey of Northern Ireland (GSNI) in 2014. The onshore data includes Bedrock Geology and Faults. The data was created for the OneGeology-Europe project coloured to an Irish lithostratigraphical scheme. It is derived from the GSI Bedrock Geology 1:500,000 Ireland data, the GSI Bedrock Geology 1:100,000 Ireland data and the GSNI 1:250,000 Geological Map of Northern Ireland. This PDF map includes offshore data derived from the EMODnet project map compiled by GSI from Petroleum Affairs Division, INFOMAR seabed mapping and other published sources.

Bedrock 500k (scale 1:500,000)

Coordinate System: Irish Transverse Mercator / ITM

The 1:500k bedrock maps provide a simplified, smaller scale view of the bedrock geology of Ireland. The map was created in 2013 using the detailed 1:100k geology

linework and polygons, which was adjusted and scaled to provide the best representation of the geology at this overview level.

The data represents a seamless bedrock geological dataset encompassing Rep of Ireland and parts of Northern Ireland at the 500,000 scale. This dataset is part of the 'Bedrock Geology 500K Series' (seamless bedrock geological dataset encompassing Rep of Ireland and parts of Northern Ireland) that comprises 3 parts – Bedrock Lithology 500K, Bedrock Faults 500K and Bedrock Dykes 500K.

Type	Source
Data Download	Zip file
Map Viewer	Link to viewer
Data.gov.ie	Link to Data.gov.ie website
Web Services	Map Server
Map	PDF

Bedrock 100k (scale 1:100,000)

Coordinate System: Irish Transverse Mercator / ITM

Bedrock is the solid rock at or below the land surface. Over much of Ireland, the bedrock is covered by materials such as soil and gravel. The Bedrock map shows what the land surface of Ireland would be made up of if these materials were removed. As the bedrock is commonly covered, bedrock maps are an interpretation of the available data.

Geologists map and record information on the composition and structure of rock outcrops (rock which can be seen on the land surface) and boreholes (a deep narrow round hole drilled in the ground). Areas are drawn on a map to show the distribution of rocks.

To produce this dataset, the twenty one 1:100,000 paper maps covering Ireland were digitised and borders and overlaps between map sheets were removed. We collect new data to update our map and also use data made available from other sources.

Type	Source
Data Download	Zip file
Map Viewer	Link to viewer
Data.gov.ie	Link to Data.gov.ie website
Web Services	Map Server

Bedrock 50k (scale 1:50,000)

Coordinate System: Irish Transverse Mercator / ITM

Bedrock is the solid rock at or below the land surface. Over much of Ireland, the bedrock is covered by materials such as soil and gravel. The Bedrock maps shows what the land surface would be made up of if these materials were removed. As the bedrock is commonly covered, bedrock maps are an interpretation of the available data.

To produce these datasets, the bedrock geology 1:100,000 map was used as a base. Historical information was compiled from mineral exploration reports and old geology maps. This new information was used to re-interpret the geology.

Area	Data Download	Notes
Northeastern area	Zip file	PDF
North Midlands	Zip file	PDF
Cork GeoUrban	Zip file	PDF
Dublin GeoUrban	Zip file	PDF

Bedrock Outcrops

Coordinate System: Irish Transverse Mercator / ITM

Rock outcrops are rocks which can be seen on the land surface.

Geologists map and record information on the composition and structure of rock outcrops. Areas are drawn on a map to show the location and extent of these outcrops.

Type	Source
Data Download	Zip file (Note: this download is the same as the Bedrock 1:100,000 download)
Map Viewer	Link to viewer
Data.gov.ie	Link to Data.gov.ie website
Web Services	Map Server

Verified Boreholes With Logs

Coordinate System: Irish Transverse Mercator / ITM

The verified drill holes dataset is a cartographic representation of the collar coordinates of Geological Survey Ireland drill holes combined with a new compilation of historical mineral exploration holes from the Open File system for 2019.

This dataset was generated as part of the Geological Mapping programme's 1:50k re-mapping compilation. This dataset is built on the existing Bedrock Borehole Locations dataset with numerous corrections of the entries and a compilation of previously uncaptured drill holes. Exploration drill holes were captured from the mandatory reporting requirements of exploration in Ireland. Recent holes had coordinates provided in the reports, usually in Irish Grid, allowing transposition into the database. For many holes coordinates were not provided, or were provided in a local or mining grid format. Holes of this type were accompanied by a location map, which could be georeferenced allowing coordinates to be derived. As this was developed during 1:50k mapping it only covers those areas of Ireland where this mapping and compilation were undertaken. As such, it does not yet replace the Bedrock Borehole Locations dataset. This dataset is included in the viewer with the purpose of making the pdf logs of these holes available by direct link. The pdfs will be hosted by GSI.

Type	Source
Data Download	Zip file
Map Viewer	Link to viewer
Web Services	Map Server

Bedrock Boreholes (unverified)

Coordinate System: Irish Transverse Mercator / ITM

We are currently working on upgrading our borehole and core store databases. In the meantime, this database may provide useful information. If you have any remaining queries, please contact Brian McConnell at brian.mcconnell@gsi.ie. For core store queries and to request access, please see the core store page.

Type	Source
Data Download	Zip file
Map Viewer	Link to viewer
Web Services	Map Server

3D Geological Models

Our 3D geological models are now accessible in an online viewer, which allows the models to be viewed and interrogated in a browser window with no software or zip file downloads. Google chrome is the most compatible browser. As of November 2020, the viewer displays four geological models (2 bedrock models: Dublin City and Lough Allen, 2 quaternary models: Dublin City and Cork City). these models were created directly by GSI or in collaboration with iCrag . This viewer will be maintained and updated as new models are produced from GSI projects or collaborations.

Type	Source
Online viewer	Link to viewer
Demo video	Link to video
User manual	PDF

Rosguill Peninsula bedrock special sheet (scale 1:12,000)

The Land Mapping Unit teamed up with Prof. Bernard Anderson to produce a special sheet (1:12,000 scale) of his previously unpublished detailed bedrock mapping of Rosguill Peninsula, Co. Donegal.

Type	Source
Map	PDF

Hyperspectral sample data (GSI-17-007, box 25)

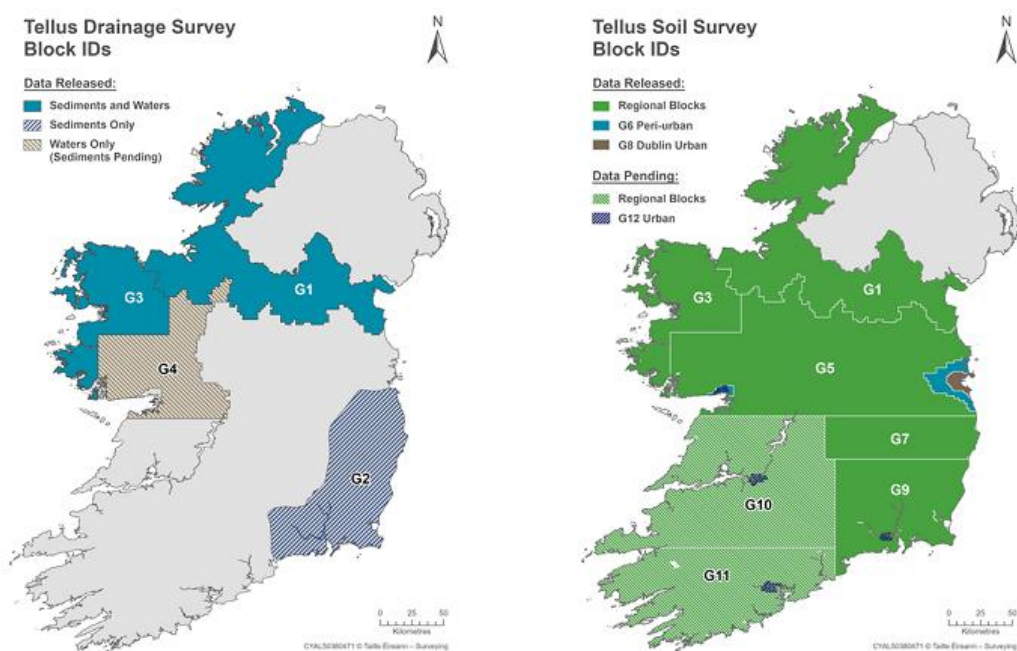
A single core-box scanned in the Short Wave Infra-red range for use with explanatory notebooks (link: <https://github.com/Geological-Survey-Ireland/Hyperspectral>). This data consists of box 25 of drillhole GSI-17-007, 105.98m to 110.35m. This box contains the contact between the Ballymore Formation and the Oakport Formation.

Type	Source
Data Download	Zip File

Geochemistry

Geochemical data and maps available include data from the Tellus project - Drainage (Stream sediments "C" and waters "W") and Soils (shallow "A" and deep "S") along with other research and non-Tellus data.

Tellus coverage blocks



G1: Tellus Border (C,W,A,S)

G2: Leinster, South East Ireland (C)

G3: Tellus West (C,W,A,S)

G4: Tellus North Midlands (West) (W)

G5: Tellus North Midlands (A,S)

G6: Peri-urban | Dublin-Galway (A,S)

G7: Tellus East Central (A,S)

G8: Tellus Urban | Dublin (A,S)

G9: Tellus South East (A,S)

G10: Tellus Mid-West (A,S)

G11: Tellus South West (A,S)

G12: Tellus Urban | Cork, Galway, Limerick, Waterford (A,S)

[Click map for further detail](#)

Tellus data

Stream Sediment 'C'

Stream Water 'W'

Shallow Topsoil 'A'

Deeper Topsoil 'S'

Other data

Minerals Prospectivity Mapping (MPM) Project

Dublin SURGE Project

GEMAS

Lithogeochemistry

Soil chemical characterisation

Dublin Boulder Clay Project

Soil Recovery Facilities

Terra Soil Project

[Tellus Sample Archive](#)

Tellus - Stream Sediment 'C'

Type	Access
	Sample media: <150 µm fraction stream sediment 'C' Coverage: Survey areas G1, G2, G3 and G4 (FA ICP-MS only). Including counties Donegal, Sligo, Leitrim, Cavan, Monaghan, Louth, Mayo, Galway, Roscommon, Clare, Tipperary, Waterford, Kilkenny, Carlow, Wexford, Wicklow, Kildare, Dublin. Analytical methods: Laboratory tests are for multi-element total analyses of major, minor and trace elements by X-ray fluorescence spectrometry (XRFS); and for gold, palladium and platinum precious metals by lead-collection fire assay fusion with analysis by inductively coupled plasma mass spectrometry (ICP-MS). Survey years: 2011-2017

Type	Access
	Data release notes
Data Download	link to zip file (144 MB)
Report	link to PDF (379 MB) (users may experience a delay in downloading due to size of report)
Factsheets	link to stream sediment factsheets (redirect to Tellus website dedicated page)
Periodic Table	link to stream sediment periodic table
Map Viewer	link to online viewer (select stream sediment, stream water, shallow topsoil or deeper topsoil tab)
	Dataset: Lithium in Stream Sediments Southeast Ireland
	Coverage: Survey areas G2. Including Carlow, Dublin, Kildare, Kilkenny, Tipperary, Waterford, Wexford, Wicklow.
	Analytical methods: Lithium was analysed using the AAS technique
	Survey years: 1986-1990
Data Download	link to zip file (Excel file)
Report	link to PDF

Tellus - Stream Water 'W'

Type	Access
	Sample media: <0.45 µm filtered stream water 'W' Coverage: Survey areas G1, G3 and G4. Including counties Donegal, Sligo, Leitrim, Cavan, Monaghan, Louth, Mayo, Galway, Clare, Tipperary, Waterford, Kilkenny, Carlow, Wexford, Wicklow, Kildare, Dublin. Analytical methods: Field determinations are of pH, specific electrical conductance, and total alkalinity to assess bicarbonate concentration. Laboratory tests are for anions by ion chromatography (IC); multi-element major, minor and trace elements by inductively coupled plasma mass spectrometry (ICP-MS); and non-purgeable organic carbon (NPOC). Survey years: 2011-2017 Data release notes
	Data Download link to zip file (161 MB)
	Report link to PDF (351 MB) (users may experience a delay in downloading due to size of report)
	Factsheets link to stream water factsheets (redirect to Tellus website dedicated page)
	Periodic Table link to stream water periodic table
Map Viewer link to online viewer (select stream sediment, stream water, shallow topsoil or deeper topsoil tab)	

Tellus - Shallow Topsoil 'A'

Soil is the outside layer of Earth. It is made up of living organisms, gases, minerals, and organic matter. Knowing what elements are in the soil helps to work out where it came from and how it was made.

Shallow soil samples for the northern half of Ireland were collected by Geological Survey of Northern Ireland (2004-2006) and Geological Survey Ireland (2011-2019). 16,800 soil samples were taken from the top 5–20 cm of the soil, in areas such as meadows, fields, parks and pastures. They were sent to a lab to be tested for the chemicals that make up the soil. This was done using two different methods. Knowing the types of elements in the soil can point to where they came from, how the soils were made. pH and loss on ignition were also tested, which tells us how acid or basic the soils are, and the amount of organic carbon in the soil. The results from the tests were given as mg/kg (milligram per kilogram) or % (percent).

When we map the data, we can see the spread of elements across the country. This also allows us to map different soil types. Shallower topsoil is worth testing as it is good for showing us if any of the changes were caused by the actions of humans. It is also good for farming and the health of soil.

The sample locations are shown as points. Each point shows where the sample was collected and the results for that sample.

The data is also available as polygons or areas, which show the 2km-by-2km grid square around where the samples were taken. It also includes the number of samples that were taken in that square. The data contains the average value of each element for all soils samples taken within that grid square. Maps of the grid data use colour scales to show the different strengths of the elements.

The Tellus survey is a national airborne geophysical and ground geochemical mapping project managed by the Geological Survey Ireland in Ireland and by the Geological Survey of Northern Ireland in Northern Ireland.

All data in Viewer

Type	Source
Shallow Topsoil Map Viewer	Link to online viewer

Shallow Topsoil 'A' Average pH and LOI

Type	Source
GIS Data Download	ZIP
REST Service	REST
WMS Service	WMS

Shallow Topsoil 'A' Average Inductively Coupled Plasma aqua regia (ICPar)

Type	Source
GIS Data Download	ZIP
REST Service	REST
WMS Service	WMS

Shallow Topsoil 'A' Average X-Ray Fluorescence Spectroscopy (XRFS)

Type	Source
GIS Data Download	ZIP
REST Service	REST
WMS Service	WMS

Documentation

Type	Source
G1, G3, G6 A Data Release Notes	PDF
G1, G3, G6 A Data Report	PDF (0.99GB)
G1, G3, G6 A Data XLSX format	ZIP
G5, A Data Release Notes	PDF
G5 A QC Data Report	PDF
G5 A Data XLSX format	ZIP
G5 QC and EDA Data Package	ZIP (513MB)
G8, A Data XLSX format	ZIP
G8, A Data Release Notes	PDF
G8, A QC Data Report	PDF
G8, A QC and EDA Data Package	ZIP (339MB)
G8 Interpretation Report	PDF
G7 G9, A Data XLSX format	ZIP
G7 G9, A Data Release Notes	PDF

Type	Source
G7, A QC Data Report	PDF
G9, A QC Data Report	PDF
G7, A QC and EDA Data	ZIP (363MB)
G9, A QC and EDA Data	ZIP (437MB)
G10, A Data Release Notes	PDF
G10, A Data XLSX format	ZIP
G10, A QC Data Report	PDF
G10 A QC and EDA Data	ZIP
G12, A Data Release Notes	PDF
G12, A Data XLSX format	ZIP
G12, A QC Data Report	PDF
G12 A QC and EDA Data	ZIP (360MB)
Tellus Guidance Note	PDF

Type	Source
Shallow Topsoil ICPar Map Booklet	PDF
Tellus Geochemical Survey: Shallow multi-element maps for southeast Ireland	PDF
GSNI Tellus Methodology Factsheet	PDF
Tellus Survey Periodic Table	PDF

Tellus - Deeper Topsoil 'S'

When we map the data, we can see the spread of elements across the country. This also allows us to map different soil types. Deeper topsoil is worth testing as it is more related to rock beneath than shallow topsoil. This gives us a better idea of how the soil is formed and if there are any useful minerals in the rocks below.

The sample locations are shown as points. Each point shows where the sample was collected and the results for that sample.

The data is also available as polygons or areas, which show the 2km-by-2km grid square around where the samples were taken. It also includes the number of samples that were taken in that square. The data contains the average value of each element for all soils samples taken within that grid square. Maps of the grid data use colour scales to show the different strengths of the elements.

The Tellus survey is a national airborne geophysical and ground geochemical mapping project managed by the Geological Survey Ireland in Ireland and by the Geological Survey of Northern Ireland in Northern Ireland.

All data in Viewer

Type	Source
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Deeper Topsoil Map Viewer [Link to online viewer](#)

DeeperTopsoil 'S' Average pH and LOI

Type	Source
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GIS Data Download [ZIP](#)

REST Service [REST](#)

WMS Service [WMS](#)

Deeper Topsoil 'S' Average Inductively Coupled Plasma aqua regia (ICPar)

Type	Source
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GIS Data Download [ZIP](#)

REST Service [REST](#)

WMS Service [WMS](#)

Deeper Topsoil 'S' Average X-Ray Fluorescence Spectroscopy (XRFS)

Type	Source
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GIS Data Download [ZIP](#)

REST Service [REST](#)

Type	Source
------	--------

WMS Service [WMS](#)

Documentation

Type	Source
------	--------

G1, G3, G6 S Data Release Notes PDF

G1, G3, G6 S Data Report [PDF](#)

G1, G3, G6 S Data XLSX format [ZIP](#)

G1, G3, G6 QC and EDA Data Package [IP](#) (320MB)

G5, S Data Release Notes PDF

G5 S Data XLSX format [ZIP](#)

G5 S QC Data Report [PDF](#)

G5 QC and EDA Data Package [ZIP](#) (508MB)

G7,G9 S Data XLSX format [ZIP](#)

G7, S Data Report [PDF](#)

G7, S QC and EDA Data Package [ZIP](#) (372MB)

G7, G9 S Data Release Notes [PDF](#)

G9, S Data Report [PDF](#)

Type	Source
G9, S QC and EDA Data Package	ZIP (432MB)
G8, S Data XLSX format	ZIP
G8, S Data Release Notes	PDF
G8, S QC Data Report	PDF
G8, S QC and EDA Data Package	ZIP (332MB)
G12, S Data Release Notes	PDF
G12, S Data XLSX format	ZIP
G12, S QC Data Report	PDF
G12 S QC and EDA Data	ZIP (355)
Tellus Guidance Note	PDF
Deeper Topsoil ICPair Map Booklet	PDF
GSNI Tellus Methodology	PDF
Deeper Topsoils Periodic Table	PDF

Mineral Prospectivity Mapping (MPM) Project

Northwest Midlands Carboniferous historic soil geochemistry

Type	Access
	Sample Media: Soil (various depths). Coverage: Galway, Roscommon, Mayo, Sligo, Leitrim, Longford, along with parts of Cavan, Westmeath and Offaly. Dataset: Merged database of digitised historic third party private sector soil data is compiled from three sources: i) Geological Survey Ireland: Compilation and digitisation of historic third party private sector soils data from the 'Open File' historic minerals exploration data. . iii) Geoscience Regulation Office: Recent and historic ('Legacy') third party private sector soils datasets submitted to the GSRO by exploration companies under the terms of their prospecting licences and made publically available. This merged database includes locations and reported assays (mainly Cu, Pb and Zn), along with any information on the original data source, reporting companies, survey years and analytical methods, <i>if available</i>. Survey years: 1960s to 2010s Data release notes
MPM Historic Soils (File Geodatabase)	link to zip file (122 MB)
MPM Historic Soils (Excel files)	link to zip file (112 MB)
Further details	link to MPM project page

Dublin SURGE Project

Dublin **S**oil **U**rban **G**eochemistry Project

Type



depth.

Coverage: Greater Dublin area.

Analytical methods: Laboratory tests comprise: inorganic elements determined by inductively coupled plasma atomic emission spectrometry (ICP-AES) and cold-vapor atomic absorption spectrometer (CV-AAS) (*mercury (Hg) only*); organic pollutants Polycyclic aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs) determined using gas chromatography – mass spectrometry (GC-MS) and gas chromatography – electron capture detector (GC-ECD), respectively.

Survey years: 2009

[Data release notes](#)

SURGE Data download
(Excel file)

[link to zip file](#) (0.98 MB)

SURGE Report

[link to publication page](#)

Dublin Historic
Industry Database
download (Excel file)

[link to zip file](#) (239K)

Dublin Historic
Industry Database
report

[link to report](#)

Map viewer

[link to online viewer](#)

Type
Web Service
Rest Service

GEMAS

Geochemical **M**apping of **A**gricultural and **G**razing Land **S**oil of Europe.

Type	Source
Data.gov.ie	Link to Data.gov.ie website
Web Service	Rest Service
Website	Link to project website

Lithogeochemistry of rocks from southeast Ireland

Historic multielement geochemical data from samples collected in the period 1972 – 1994

Type	Access
	Sample media: Rock samples Coverage: Survey areas G2. Including Carlow, Dublin, Kildare, Kilkenny, Tipperary, Waterford, Wexford, Wicklow. Analytical methods: Samples were analysed by three techniques: X-Ray fluorescence spectrometry (XRF) for major elements, Induced neutron activation analysis (INAA) for 33, mostly trace, elements and



Type	Access
	Atomic Absorption Spectrophotometry (AAS) for 9 trace elements and Fe. Survey years: 1972–1994
Data Download	link to zip file (Excel)
Report	PDF

Dublin Boulder Clay Project

Type	Source
Report	link to PDF
Appendices	link to PDF
Data	link to zip file (excel file)
Further details	link to Publication Page

Tellus Sample Archive

Type	Access
	The Tellus Programme keeps an archive of the geochemical sample material which has been collected over the years. This archive consists of excess sample material, comprising: Shallow Topsoil ("A" soils), Deeper Topsoil ("S" soils), Stream Sediments ("C" samples), Stream waters ("W" samples) and Vegetation ("V" samples). The samples are kept at GSI Offices in Dublin. Samples can be requested

Type	Access
	by third parties to undertake their own investigations. All data acquired from new analysis of the archive must be shared with Geological Survey Ireland and is subject to GSI open data policy. New archive samples for 2022 will include the G8 Dublin Urban soils (please contact for more information). Please complete the archive request form (below) and email to tellus@gsi.ie.
PDF Form Download	Link to archive request form.

Geohazards

Geohazards data and maps available to date include Landslides Susceptibility Mapping, PanGEO Terrain Motion and Karst features.

Landslides Susceptibility Mapping

PanGeo Terrain Motion

Karst features

Landslides Susceptibility Mapping

This include landslide events and susceptibility map.

Coordinate System: Irish Transverse Mercator / ITM

Type	Source
Data Download	Zip file
Map Viewer	Link to viewer
Web Services	Landslide Susceptibility Classification Landslide Locations & Extents
Report	Link to publication page

PanGeo Terrain Motion

Geological Survey Ireland participated in this FP7-funded project and assessed ground instability geohazard information for two of the most densely populated areas in the country, Co Dublin and Cork City. By combining satellite measurements of ground and building movement with geological information already held by the Geological Survey and limited field validation GSI has developed maps and reports which show and describe areas of potential or observed ground instabilities.

Type	Source
Data Download	Cork Zip file Dublin Zip file
Map Viewer	Link to viewer
Web Services	Rest Service Dublin Rest Service Cork
Reports	PanGeo Geohazard Description of Dublin, Link to publication page PanGeo Geohazard Description for Cork, Link to publication page

Karst features

Karst features should be considered during site assessment due to their implication in ground stability.

Coordinate System: Irish Transverse Mercator / ITM

Type	Source
Data Download	Zip file
Map Viewer	Link to viewer
Data.gov.ie	Link to Data.gov.ie website
Web Services	Map server

Geological heritage

Geological heritage data and maps derive from County Geological Sites (CGS) audits. The counties not yet audited feature under the heading "Geological Heritage Sites Unaudited" where buffers have been applied to potential sites of interest. The counties audited to date feature under the heading "Geological Heritage Sites Audited " and can be downloaded as individual county shapefiles below.

Geological Heritage Sites Audited (completed audits to date)

Geological Heritage Sites Unaudited (buffers)

Individual County Shapefiles

Geological Heritage Sites Audited

County Geological Sites Audits completed to date.

Individual County shapefiles and audits reports can be found in the bottom table.

Type	Source
Data Download	Zip file
Map Viewer	Link to viewer
Data.gov.ie	Link to Data.gov.ie website
Web Services	Rest services

Geological Heritage Sites Unaudited (buffers)

Geological Heritage Sites distribution in Counties that have not yet been audited.

Type	Source
Map Viewer	Link to viewer

Type	Source
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Web Services [Rest services](#)

Individual County Shapefiles and Audit Reports

County	Shapefile	Audit Report
Carlow	Download shapefile	Link to publication page
Cavan	Download shapefile	Link to publication page
Clare	Download shapefile	Link to publication page
Cork	Download shapefile	Link to publication page
Cork City	Download shapefile	Link to publication page
Donegal	Download shapefile	Link to publication page
Dublin City	Download shapefile	Link to publication page
Dublin South	Download shapefile	Link to publication page
Dún Laoghaire-Rathdown	Download shapefile	Link to publication page
Fingal	Download shapefile	Link to publication page
Galway	Download shapefile	Link to publication page
Galway City	Download shapefile	Link to publication page
Kerry	Not audited yet	Not available

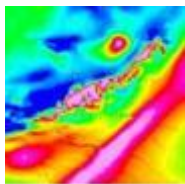
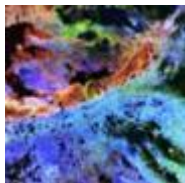
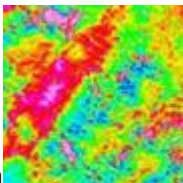
County	Shapefile	Audit Report
Kildare	Download shapefile	Link to publication page
Kilkenny	Download shapefile	Link to publication page
Laois	Download shapefile	Link to publication page
Leitrim	Download shapefile	Link to publication page
Limerick	Download shapefile	Link to publication page
Longford	Download shapefile	Link to publication page
Louth	Download shapefile	Link to publication page
Mayo	Download shapefile	Link to publication page
Meath	Download shapefile	Link to publication page
Monaghan	Download shapefile	Link to publication page
Offaly	Download shapefile	Link to publication page
Roscommon	Download shapefile	Link to publication page
Sligo	Download shapefile	Link to publication page
Tipperary	Download Shapefile	Link to publication page
Waterford	Download shapefile	Link to publication page
Westmeath	Download shapefile	Link to publication page
Wexford	Download shapefile	Link to publication page

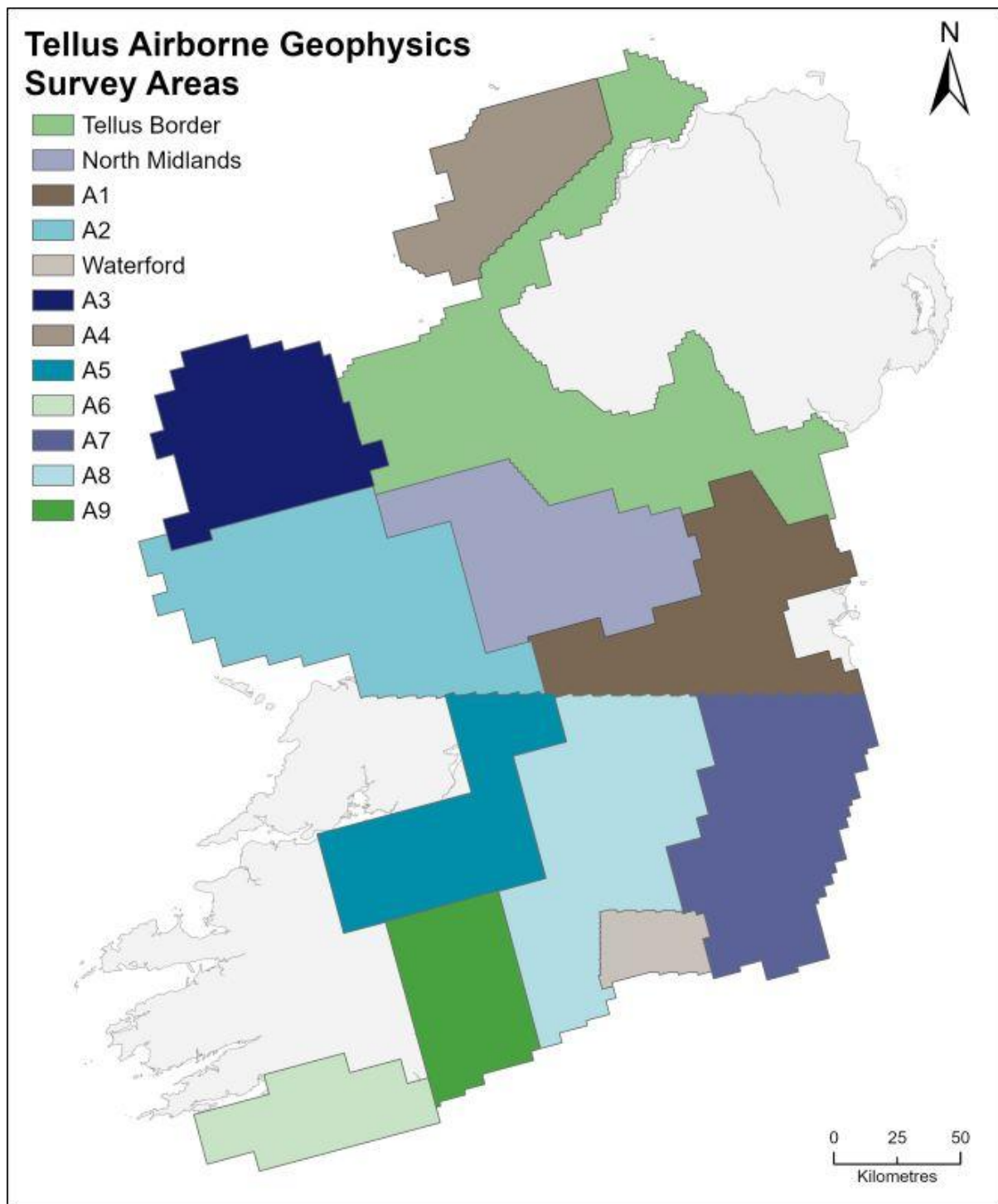
County	Shapefile	Audit Report
Wicklow	Download shapefile	Link to publication page

Geophysics

Geophysical data and maps include data from the Tellus project (magnetic, electromagnetic, radiometric data) and other sources (2006 Joint Airborne Geoscience Capability pilot studies and 1979-1981 Hunting Geology and Geophysics Ltd.).

Airborne surveys collect magnetic, radiometric and electromagnetic data. Data are available in merged packages of all the Tellus phases or individually as survey blocks are completed.

Type	Description
Magnetic Data 	Airborne geophysical magnetic intensity data (in nT) collected at 10Hz at a nominal survey altitude of 60m and a line spacing of 200m.
Radiometric Data 	Airborne geophysical Gamma-Ray data (including Total Counts (cps), Potassium (%), equivalent Thorium (ppm) and equivalent Uranium (ppm)) collected at 1Hz at a nominal survey altitude of 60m and a line spacing of 200m.
Electromagnetic Data 	Airborne geophysical frequency domain electromagnetic data (four-frequencies: 912, 3005, 11962 and 24510 Hz, in-phase and quadrature EM responses and resistivity transforms) collected at 1Hz at a nominal survey altitude of 60m and a line spacing of 200m.



Tellus 2022 Merged areas of Tellus phases

Tellus 2022 A9 block

Tellus 2022 A8 block

Tellus 2019 A7 block

Tellus 2019 A6 block

Tellus 2019 A5 block

Tellus 2018 A4 block

Tellus 2018 A3 block

Tellus 2017 A2 block

Tellus 2016 Waterford

Tellus 2016 A1 block

Tellus 2015 North Midlands

Tellus 2013 Tellus Border

2006 - Joint Airborne Geoscience Capability (JAC) pilot studies (Cavan-Monaghan, Silvermines and Castleisland)

[Click map for further detail](#)

Other data

Tellus Caesium 137 2022 Merged areas of Tellus phases

Minerals Prospectivity Mapping (MPM) Project

1979-1981 Hunting Geology and Geophysics Ltd (Central Ireland)

Tellus 2022: Merged areas of Tellus phases

Data	Access
	Merged areas of all Tellus phases to date, including Tellus Border, Tellus North Midlands, blocks A1, A2, A3, A4, A5, A7, A8, A9 and Waterford Tellus Merge 2022 geophysical technical report (7 MB) Tellus Merge 2022 data release notes
Magnetic data	Tellus magnetic merged data XYZ (854 MB) Tellus magnetic merged grd, tiff and gxf (843 MB)
Radiometric data	Tellus radiometric merged data XYZ (142 MB) Tellus radiometric merged grd, tiff and gxf (1.12 GB)

Data	Access
Electromagnetic data	Tellus electromagnetic 2F merged data XYZ (966 MB) Tellus electromagnetic 2F merged grd, tiff and gxf (530 MB) Tellus electromagnetic 4F merged data XYZ (1.10 GB) Tellus electromagnetic 4F merged grd, tiff and gxf (771 MB)
Map Viewer	links to online viewers (select either magnetic, radiometric or electromagnetic viewer)

Tellus 2022: A9 block (Cork)

Data	Access
	A9 block Cork Tellus A9 block geophysical technical report (8MB) Tellus A9 block data release notes
Magnetic data	Tellus A9 magnetic data XYZ (60 MB) Tellus A9 magnetic grd, tiff and gxf (41 MB)
Radiometric data	Tellus A9 radiometric data XYZ (14 MB) Tellus A9 radiometric grd, tiff and gxf (53 MB)
Electromagnetic data	Tellus A9 electromagnetic data XYZ (220 MB) Tellus A9 electromagnetic grd, tiff and gxf (94 MB)
Map Viewer	links to online viewers (select either magnetic, radiometric or electromagnetic viewer)

Tellus 2022: A8 block (South-central Ireland)

Data	Access
	A8 block South-central Ireland
	Tellus A8 block geophysical technical report (8MB)
	Tellus A8 block data release notes
Magnetic data	Tellus A8 magnetic data XYZ (126 MB) Tellus A8 magnetic grd, tiff and gxf (82 MB)
Radiometric data	Tellus A8 radiometric data XYZ (30 MB) Tellus A8 radiometric grd, tiff and gxf (108 MB)
Electromagnetic data	Tellus A8 electromagnetic data XYZ (475 MB) Tellus A8 electromagnetic grd, tiff and gxf (199 MB)
Map Viewer	links to online viewers (select either magnetic, radiometric or electromagnetic viewer)

Tellus 2019: A7 block (SE Ireland)

Data	Access
	A7 block: South East Ireland
	Tellus A7 block geophysical technical report (12.6 MB)
	Tellus A7 block data release notes
Magnetic data	Tellus A7 magnetic data XYZ (118.4 MB) Tellus A7 magnetic grd, tiff and gxf (91 MB)
Radiometric data	Tellus A7 radiometric data XYZ (22.6 MB) Tellus A7 radiometric grd, tiff and gxf (111.8 MB)
Electromagnetic data	Tellus A7 electromagnetic data XYZ (428.7 MB) Tellus A7 electromagnetic grd, tiff and gxf (236.4 MB)

Data	Access
Map Viewer	links to online viewers (select either magnetic, radiometric or electromagnetic viewer)

Tellus 2019: A6 block (West Cork)

Data	Access
	A6 block: West Cork Tellus A6 block geophysical technical report (12.6 MB) Tellus A6 block data release notes
Magnetic Data	Tellus A6 magnetic data XYZ (41.9 MB) Tellus A6 magnetic grd, tiff and gxf (34.7 MB)
Radiometric Data	Tellus A6 radiometric data XYZ (10.3 MB) Tellus A6 radiometric grd, tiff and gxf (45.2 MB)
Electromagnetic Data	Tellus A6 electromagnetic data XYZ (163.6 MB) Tellus A6 electromagnetic grd, tiff and gxf (80.7 MB)
Electromagnetic Inversion Data	Tellus A6 electromagnetic inversion data XYZ (120 MB) Tellus A6 electromagnetic inversion grd and tiff (61.7 MB) Tellus A6 electromagnetic inversion data report (11.3 MB)
Map Viewer	links to online viewers (select either magnetic, radiometric or electromagnetic viewer)

Tellus 2019: A5 block (Limerick)

Data	Access
	A5 block: Limerick
	Tellus A5 block geophysical technical report (11.1MB)
	Tellus A5 block data release notes
Magnetic Data	Tellus A5 magnetic data XYZ (85.4 MB) Tellus A5 magnetic grd, tiff and gxf (53.6 MB)
Radiometric Data	Tellus A5 radiometric data XYZ (18.2 MB) Tellus A5 radiometric grd, tiff and gxf (78.3 MB)
Electromagnetic Data	Tellus A5 electromagnetic data XYZ (317.1 MB) Tellus A5 electromagnetic grd, tiff and gxf (130.8 MB)
Electromagnetic Inversion Data	Tellus A5 electromagnetic inversion data XYZ (291 MB) Tellus A5 electromagnetic inversion grd and tiff (167 MB) Tellus A5 electromagnetic inversion data report (20.9 MB)
Map Viewer	links to online viewers (select either magnetic, radiometric or electromagnetic viewer)

Tellus 2018: A4 block (Donegal)

Data	Access
	A4 block: Donegal
	Tellus A4 block geophysical technical report (28MB)
	Tellus A4 block electromagnetic re-release 2022 data release notes

Data	Access
Magnetic Data	Tellus A4 magnetic data XYZ (121 MB)
Radiometric Data	Tellus A4 radiometric data XYZ (18 MB)
Electromagnetic Data (Re-release 2022)	Tellus A4 electromagnetic data XYZ (227 MB) Tellus A4 electromagnetic grd, tiff and gxf (49 MB)
Map Viewer	links to online viewers (select either magnetic, radiometric or electromagnetic viewer)

Tellus 2018: A3 block (Mayo)

Data	Access
	A3 block: Mayo Tellus A3 block geophysical technical report (28MB) Tellus A3 block electromagnetic re-release 2022 data release notes
Magnetic Data	Tellus A3 magnetic data XYZ (161 MB)
Radiometric Data	Tellus A3 radiometric data XYZ (26 MB)
Electromagnetic Data (Re-release 2022)	Tellus A3 Mayo electromagnetic data XYZ (325 MB) Tellus A3 electromagnetic grd, tiff and gxf (65 MB)
Map Viewer	links to online viewers (select either magnetic, radiometric or electromagnetic viewer)

Tellus 2017: A2 block (Co Galway, including parts of Mayo, Tipperary and Offaly)

Data	Access
	A2 block: Co Galway, including parts of Mayo, Tipperary and Offaly Tellus A2 block contractor technical report (17 MB) Tellus A2 block electromagnetic re-release 2022 data release notes
Magnetic Data	Tellus A2 magnetic data (532 MB)
Radiometric Data	Tellus A2 radiometric data (72 MB)
Electromagnetic Data (Re-release 2022)	Tellus A2 electromagnetic data (559 MB) Tellus A2 electromagnetic grd, tiff and gxf (100 MB)

Tellus 2016: Waterford (Waterford, parts of southern Tipperary and Kilkenny)

Data	Access
	Waterford block, Waterford, parts of southern Tipperary and Kilkenny Waterford block contractor technical report (22 MB) Waterford block data release notes Waterford block electromagnetic re-release 2022 data release notes
Magnetic Data	Waterford magnetic data (89 MB)
Radiometric Data	Waterford radiometric data (10.8 MB)

Data	Access
Electromagnetic Data	Waterford electromagnetic data XYZ (87 MB)
(Re-release 2022)	Waterford electromagnetic grd, tiff and gxf (21 MB)
Electromagnetic Inversion Data	Waterford electromagnetic inversion data XYZ (74.3 MB) Waterford electromagnetic inversion grd and tiff (41.3 MB) Waterford electromagnetic inversion data report (8.2 MB)

Tellus 2016: A1 block (Meath, Kildare, Offaly, rural Dublin and parts of Laois, Wicklow)

Type	Source
	A1 block: Meath, Kildare, Offaly, rural Dublin and parts of Laois, Wicklow
	Tellus A1 block geophysical technical report (14.7 MB)
	Tellus A1 block contractor technical report (9.5 MB)
	Tellus A1 block electromagnetic re-release 2022 data release notes
Magnetic Data	Tellus A1 magnetic data (473 MB)
Radiometric Data	Tellus A1 radiometric data (54MB) - revised 24/10/2016
Electromagnetic Data	Tellus A1 electromagnetic data XYZ (428 MB)
(Re-release 2022)	Tellus A1 electromagnetic grd, tiff and gxf (75 MB)

Tellus 2015: North Midlands (Roscommon, Longford, Westmeath)

Type	Source
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Roscommon, Longford, Westmeath

Tellus North Midlands [geophysics technical report](#) (7.9 MB)

Magnetic Data [Tellus North Midlands magnetic data](#) (428 MB)

Radiometric Data [Tellus North Midlands radiometric data](#) (59 MB)

Electromagnetic Data [Tellus North Midlands electromagnetic data](#) (984 MB)

[Tellus North Midlands CDT data](#) (359 MB)

Tellus 2013: Tellus Border (Donegal, Sligo, Leitrim, Cavan, Monaghan, Louth)

Data	Access
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Tellus Border block: Donegal, Sligo, Leitrim, Cavan, Monaghan, Louth

Tellus Border block [geophysical technical report](#) (10.8 MB)

Tellus Border block electromagnetic re-release 2022 data release notes

Magnetic Data [Tellus Border magnetic data](#) (249 MB)

Radiometric Data [Tellus Border radiometric data](#) (Ascii.xyz, 34.3 MB)

Electromagnetic Data [Tellus Border electromagnetic data XYZ](#) (726 MB)

[Tellus Border electromagnetic grd, tiff and gxf](#) (146 MB)

(Re-release 2022)

2006 - Joint Airborne Geoscience Capability (JAC) pilot studies

Data	Access
	Cavan-Monaghan, Silvermines and Castleisland Airborne geophysical survey Pilot studies 2006 report (35 MB)
Magnetic Data	Castleisland magnetic data (45 MB) Cavan-Monaghan magnetic data (54 MB) Silvermines magnetic data (7.3 MB)
Radiometric Data	Castleisland radiometric data (3.7 MB) Cavan-Monaghan radiometric data (4 MB) Silvermines radiometric data (678 KB)
Electromagnetic Data	Castleisland electromagnetic data (22 MB) Cavan-Monaghan electromagnetic data (33 MB) Silvermines electromagnetic data (4 MB)

Tellus Caesium 137 2022: Merged areas of Tellus phases

Data	Access
	Merged areas of all Tellus phases to date, including Tellus Border, Tellus North Midlands, blocks A1, A2, A3, A4, A5, A7, A8, A9 and Waterford Tellus Caesium 137 Merge 2022 geophysical technical report Tellus Caesium 137 Merge 2022 data release notes

Data	Access
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Caesium 137 Data	Tellus Caesium 137 merged data XYZ (89 MB) Tellus Caesium 137 merged data grd, tiff and gxf (200 MB)
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Mineral Prospectivity Mapping (MPM) Project

Northwest Midlands geophysical lineaments

Type	Source
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Structural lineaments picked in Tellus airborne geophysical maps across the Northwest Mineral Prospectivity Mapping (NW MPM) project area.

[Report](#) (12 MB)

Geophysical Lineaments Vector Data	File Geodatabase (3 MB) Shapefiles (2.5 MB)
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Magnetic Data	Link to zip file (114 MB)
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Electromagnetic Data	Link to zip file (122 MB)
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Further details	Link to MPM project page
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1979-1981 Hunting Geology and Geophysics Ltd

Data	Access
	Central Ireland Low resolution magnetic survey Geophysical technical report - Hunting Geology and Geophysics Ltd (6 MB)
Magnetic Data	Hunting Geology and Geophysics Ltd magnetic data(19 MB) Note: This low resolution data was collected with variable specifications (1-2km line spacing) and limited documentation, see associated report for details

Geotechnical

Geotechnical data and maps includes Geotechnical Boreholes and Sites provided by industry, Geotechnical Products from the National Geotechnical Borehole Database and Transport Infrastructure Ireland and the GeoURBAN Viewer presenting a spatial geological model of Greater Dublin Area.

External Geotechnical Boreholes and Site Investigations

Geotechnical boreholes and site investigations are submitted by industry, stored in the National Geotechnical Borehole Database and displayed on the geotechnical viewer.

Coordinate System: Irish Transverse Mercator / ITM

Type	Source
Data Download	Zip file
Map Viewer	Link to viewer
Web Services	Boreholes Map Server Site Investigations Map Server

Geotechnical Products

This dataset has been extracted from the National Geotechnical Borehole Database with some additional reports donated by Transport Infrastructure Ireland (TII) and some PSA tests acquired in-house.

Each zip contains a series of pdfs, an excel file and an information document . Each pdf file is recorded in the excel file attached with all the information related to the test.

Type	Source
In-Situ Permeability	Zip File
Plasticity A	Zip File

Type	Source
Plasticity B	Zip File
Plasticity C	Zip File
PSA A	Zip File
PSA B	Zip File
PSA C	Zip File

GeoURBAN

The GeoUrban viewer provides a range of geological data for Irish urban areas including Depth-to-bedrock and Rockhead for Dublin.

Coordinate System: Irish Transverse Mercator / ITM

Type	Source
Map Viewer	Link to viewer
Web Services	Depth to Bedrock MapServer

Geothermal Energy

Geothermal Suitability

Ground source heat energy, sometimes called shallow geothermal energy, can be collected from the ground and boosted with heat pumps. Heat energy can be harnessed, or ‘collected’, using different types of collector systems such as closed and open loop. The ground source heating/cooling suitability maps indicate which type of ground source heat collector is most compatible with the geology below your site.

The suitability maps use a suitability rating ranging from 1 (worst) to 5 (best) for each type of heat collector/cooling system. Suitability maps for open loop (domestic/small commercial), open loop (larger commercial/industrial processes) and vertical closed loop systems are available.

Coordinate System: Irish Transverse Mercator / ITM

Type	Source
Data Download	Zip file
Map Viewer	Link to viewer
Web Services	Rest services

Groundwater

Groundwater data and maps include:

County Groundwater Protection Scheme Reports

Groundwater Body Descriptions

Sand and Gravel Aquifers

Groundwater Flood Data

Groundwater Karst Data

Groundwater Recharge

Groundwater Resources (Aquifers)

Groundwater Vulnerability

Groundwater Wells and Springs

Group Scheme and Public Supply Source Protection Areas

Hydrostratigraphic Rock Unit Groups

Open Topographic Data Viewer (Lidar)

Subsoil Permeability

County Groundwater Protection Scheme Reports

A Groundwater Protection Scheme provides guidelines for the planning and licensing authorities in carrying out their functions, and a framework to assist in decision-making on the location, nature and control of developments and activities in order to protect groundwater.

Groundwater Protection Schemes are county-based projects that are undertaken jointly between the GSI and the respective Local Authority.

The reports summarise the hydrogeology, aquifers, groundwater vulnerability and the groundwater use in a county at the time of the study.

Groundwater Water Quality Reports give an overview of the main water quality issues in each county at the time of reporting.

Type	Source
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Reports [Link to dedicated page](#)

Groundwater Body Descriptions

Groundwater bodies are subdivisions of large geographical areas of aquifers so that they can be effectively managed in order to protect the groundwater and linked surface waters.

Type	Source
------	--------

Reports [Link to dedicated page](#)

Sand and Gravel Aquifers

Sand and Gravel Aquifers act as effective resevoirs for groundwater, therefore it is important that we keep detailed information on them regarding their location and characterisation.

Type	Source
------	--------

Reports [Link to dedicated page](#)

Groundwater Flood Data

The winter of 2015/2016 saw the most extensive groundwater flooding ever witnessed in Ireland. The lack of data on groundwater flooding and fit-for-purpose flood hazard maps were identified as serious impediments to managing groundwater flood risk in vulnerable communities. Geological Survey Ireland - in collaboration with Trinity College Dublin and Institute of Technology Carlow - initiated the groundwater flood project GWFlood to address these deficits. The resulting project products include a Groundwater Flood Maps Viewer showing historic and predictive groundwater flood maps, a Groundwater Level Data Viewer showing live groundwater hydrometric data and a comprehensive project report available below.

Type	Source
Data Download	Link to Historic Flooding Data zip Link to SAR Seasonal Flood Data zip Link to Flood Probability Data zip Note: This data is under a Creative Commons Non-Commercial Non-Derivatives licence
Groundwater Flooding Data Viewer	Link to viewer
Groundwater Level Data Viewer	Link to viewer (doesn't display in Internet Explorer, use Google Chrome instead)
GWFLood Project Report	Link to dedicated page (redirect to publication page)
Web Services	Map Server & WMS

Groundwater Karst Data

Karst is a landscape with distinctive landforms that develop on rock types that are readily dissolved by water. In Ireland, karstification mostly occurs in limestone regions.

This karst dataset contains mapped karst landforms in Ireland including: boreholes, caves, dry valleys, enclosed depressions, estavelles, springs, superficial solution features, swallow holes and turloughs. It is displayed as point features, locating the centre (or, in the case of a cave, the entrance) of the karst landform, and records details of the landform's dimensions and functioning.

Coordinate System: Irish Transverse Mercator / ITM

Type	Source
Data Download	Zip file
Map Viewer	Link to viewer
Data.gov.ie	Link to Data.gov.ie website

Type	Source
------	--------

Web Services [Map Server](#) & [WMS](#)

Karst Traced Underground Connections

Water tracing involves ‘tagging’ water to see where it goes. The karst traced underground connections dataset is an inventory of known water dye trace studies and results in Ireland. It is displayed as straight-line paths from input to emergence, with an arrow indicating direction of flow.

Coordinate System: Irish Transverse Mercator / ITM

Type	Source
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Data Download Included in Karst download

Map Viewer [Link to viewer](#)

Data.gov.ie [Link to Data.gov.ie website](#)

Web Services Included in Karst Web Service

Groundwater Recharge

The groundwater recharge map provides an estimate of the average amount of rainwater that percolates down through the subsoils to the water table over a year. Scale: 1:40,000

Coordinate System: Irish Transverse Mercator / ITM

Type	Source
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Data Download [Zip file](#)

Map Viewer [Link to viewer](#)

Data.gov.ie [Link to Data.gov.ie website](#)

Type	Source
------	--------

Web Services [Map Server](#) & [WMS](#)

Groundwater Resources (Aquifers)

An aquifer is an underground body of water bearing rock or unconsolidated materials (gravel or sand) from which groundwater can be extracted in useful amounts.

There are two main types of aquifer in Ireland – bedrock aquifers, and sand and gravel aquifers (<5%).

GSI Aquifer classes are divided into three main groups based on their resource potential (Regionally or Locally important, or Poor), and further subdivided based on the type of openings through which groundwater flows (through fissures, karst conduits or intergranular). There are nine aquifer categories in total.

Aquifers Bedrock

In bedrock aquifers the groundwater is stored in and travels through fractures, joints and other weaknesses in the rock.

This is a polygon dataset containing nine Bedrock Aquifer classes. Scale: 1:100,000

Coordinate System: Irish Transverse Mercator / ITM

Type	Source
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Data Download [Zip file](#) (all aquifer datasets)

Map Viewer [Link to viewer](#)

Data.gov.ie [Link to Data.gov.ie website](#)

Web Services [Map Server](#) & [WMS](#)

Aquifers Sand and Gravel

In sand and gravel aquifers groundwater is stored and flows between the sand and gravel grains.

This is a polygon dataset containing two Sand and Gravel Aquifer classes. Scale: 1:40,000

Coordinate System: Irish Transverse Mercator / ITM

Type	Source
Data Download	Zip file (all aquifer datasets)
Map Viewer	Link to viewer
Data.gov.ie	Link to Data.gov.ie website
Web Services	Map Server & WMS

Groundwater Vulnerability

The Groundwater Vulnerability map outlines how susceptible areas are to groundwater contamination. Scale: 1:40,000

Coordinate System: Irish Transverse Mercator / ITM

Type	Source
Data Download	Zip file
Map Viewer	Link to viewer
Data.gov.ie	Link to Data.gov.ie website
Web Services	Map Server & WMS

Groundwater Wells and Springs (not exhaustive)

This dataset contains records of boreholes, dug wells, springs, and ground site investigations.

Coordinate System: Irish Transverse Mercator / ITM

Type	Source
Data Download	Zip file

Type	Source
Map Viewer	Link to viewer
Data.gov.ie	Link to Data.gov.ie website
Web Services	Map Server & WMS

Group Scheme and Public Supply Source Protection Areas

Groundwater sources, particularly public, group scheme and industrial supplies, are of critical importance in many regions.

Public Supply Source Protection Areas

The dataset comprises Source Protection Areas (SPAs) around groundwater abstraction points that are managed by Irish Water to supply Public Water Supply Schemes across Ireland. The objective of the SPAs is to provide protection by placing tighter controls on activities within all or part of the zone of contribution (ZOC) of the source. The Zone of Contribution (ZOC) is the land area that contributes water to the well or spring. Scale: 1:15,000 – 1:20,000

Coordinate System: Irish Transverse Mercator / ITM

Type	Source
Data Download	Zip file
Map Viewer	Link to viewer
Data.gov.ie	Link to Data.gov.ie website
Web Services	Map Server & WMS

Source Protection Zone Reports

Type	Source
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Reports [Link to dedicated page \(Redirect to Groundwater Programme Project page\)](#)

Group Scheme Preliminary Source Protection Areas

The dataset comprises Zones of Contribution (ZOC) to groundwater abstraction points that supply Group Water Schemes across Ireland that are affiliated to the National Federation of Group Water Schemes and that supply more than 15 people. The ZOCs are preliminary protection areas around groundwater abstractions, but are not full Source Protection Areas.

Scale: 1:15,000 – 1:20,000

Coordinate System: Irish Transverse Mercator / ITM

Type	Source
------	--------

Data Download [Zip file](#)

Map Viewer [Link to viewer](#)

Web Services [Map Server](#) & [WMS](#)

Hydrostratigraphic Rock Unit Groups

This Hydrostratigraphic Rock Unit Groups map is a reclassification of the 1:100,000 bedrock geology map into 27 'Rock Unit Group' categories that, within them, have similar hydrogeological properties. Scale: 1:100,000

Coordinate System: Irish Transverse Mercator/ITM

Type	Source
------	--------

Data Download [Zip file](#)

Map Viewer [Link to viewer](#)

Type	Source
------	--------

Data.gov.ie [Link to Data.gov.ie website](#)

Web Services [Map Server](#) & [WMS](#)

Open Topographic Data Viewer (Lidar)

The Open Topographic Data Viewer provides access to processed LiDAR data in raster format from Geological Survey Ireland, Department of Culture, Heritage and the Gaeltacht, Discovery Programme, Transport Infrastructure Ireland and New York University.

The aim of this viewer is to host LiDAR from all interested government and non-government organisations and to build up a mosaic of available data across the country.

The high resolution raster data in the form of Digital Terrain Models and Digital Surface Models can be downloaded from the viewer.

Type	Source
------	--------

Map Viewer [Link to viewer](#)

Subsoil Permeability

The Groundwater Subsoil Permeability map classifies how easy water can infiltrate subsoils downwards at any point in the land surface. Permeability across the country is classified as either 'High', 'Moderate' or 'Low'. This map is used to determine groundwater vulnerability categories. Scale: 1:40,000

Coordinate System: Irish Transverse Mercator / ITM

Type	Source
------	--------

Data Download [Zip file](#)

Map Viewer [Link to Viewer](#)

Data.gov.ie [Link to Data.gov.ie website](#)

Type	Source
Web Services	Map Server & WMS

Marine

Our extensive marine datasets have been compiled over the years through several programmes including INFOMAR and EMODnet.

Shoreline Change

INFOMAR

EMODnet Bathymetry

EMODnet Geology

To access specific datasets, with data download formats and software for viewing the data, click on any relevant links below:

Backscatter

Bathymetry

Sub-bottom

Geology

Lidar

Maps

Seabed Habitats & Substrate

Seabed Samples

Shipwrecks

Survey Coverage and Reports

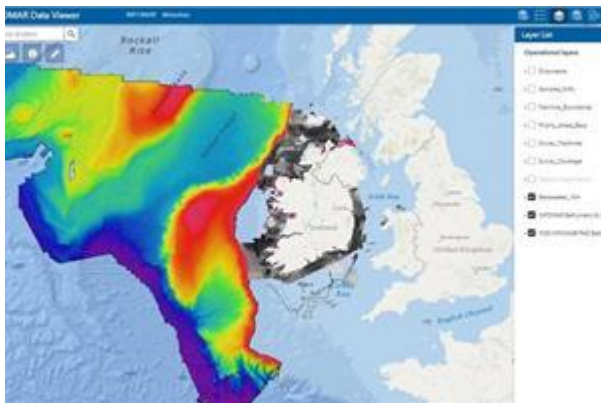
Shoreline Change

Shoreline rates show how fast the coast is moving. They show if it is moving out towards the sea or back towards the land.

Type	Source
Data Download	Zip file - Download Dublin Data
	Zip file - Download Wicklow Data
Map Viewer	Link to viewer

Type	Source
Web Services	Rest service Dublin Rest service Wicklow

INFOMAR



INFOMAR is the **IN**tegrated Mapping **FO**r the Sustainable Development of Ireland's **MA**rine **R**esource Programme.

It is a twenty year programme to map Ireland's seabed. INFOMAR is funded by the Department of the Environment, Climate and Communications (DECC), and delivered by joint management partners Geological Survey Ireland and the Marine Institute.

Official [website](#)

Type	Source
Data Download	Link to portal Note, you may need to hard reload the Portal in your browser following recent maintenance.
Map Viewer	Link to viewer
Data.gov.ie	Link to Data.gov.ie website keyword 'infomar'
Web Services	Rest services Image Services

Type	Source
The Real Map of Ireland	Download PDF

EMODnet Bathymetry

EMODnet is the **E**uropean **M**arine **O**bservation and **D**ata **network**.

Developing and providing a harmonised Digital Terrain Model (DTM) of the seabed for European sea regions.

Official [website](#)

Type	Source
Map Viewer	EMODnet Map Viewer
Products	Access the Products Catalogue

EMODnet Geology

EMODnet is the **E**uropean **M**arine **O**bservation and **D**ata **network**.

Developing and providing a harmonised Digital Terrain Model (DTM) of the seabed for European sea regions.

Official [website](#)

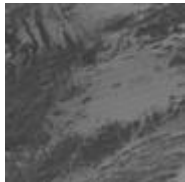
Type	Source
Map Viewer	EMODnet Map Viewer
Products	Access the Products Catalogue

Backscatter

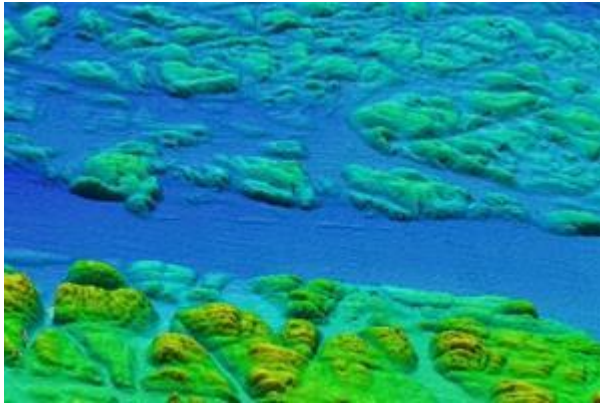


A Multibeam Echosounder (MBES) also measures the strength of the sound returning from the seabed, known as backscatter. Each seabed type (mud, sand, gravel, rock) is given a backscatter value, depending on the strength of the sound returned to the sonar head. Rocky areas have high returns. Soft sediments like sand absorb energy and have low backscatter returns. These values are used to make a grey-scale image with a dark colour for high returns (rocks) and a bright colour for low returns (sand).

Backscatter data formats.

Image	Format	Software	Instructions
	PDF chart	Free Adobe	Download Charts
	Geotiff (.tif)	ArcGIS Earth (Free) ArcGIS PRO QGIS	INFOMAR Marine Data Download Portal Select Download Survey Leg Data or Download Entire Area Tab

Bathymetry (shaded relief, water depth / underwater terrain)



We use a Multibeam Echosounder (MBES) on a boat to determine water depth. The depth is calculated based on the time it takes the sound to be emitted from the sensor, hit the seabed and bounce back. The water depth maps are known as "Bathymetry Maps". We use software called Fledermaus to get the 3D effect. By using vertical exaggeration, artificial sun-shading (mostly as if there is a light source in the northwest) and colouring the depths using colour maps, it is possible to highlight the subtle relief of the seabed. These are known as "Shaded Relief Bathymetry Maps".

Bathymetry data formats.

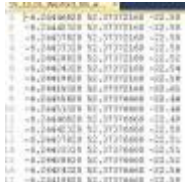
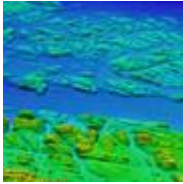
Image	Format	Software	Instructions
	PDF chart	Free Adobe	Download Charts
	Google (.kmz)	Free Google Earth	Download KMZ See Google Earth Column
	Grid XYZ	ArcGIS PRO QGIS	INFOMAR Marine Data Download Portal Select Download Survey Leg Data Tab - Select Download Survey Leg Data - Select Download XYZ

Image	Format	Software	Instructions
	Shaded Relief Bathymetry GeoTiff	ArcGIS Earth (Free) ArcGIS PRO QGIS	INFOMAR Marine Data Download Portal Select Download Survey Leg Data Tab - Select Download Survey Leg Data -Select Download Shaded Relief GeoTiff
	Floating Point GeoTiff Grid	ArcGIS Earth (Free) ArcGIS PRO QGIS	INFOMAR Marine Data Download Portal Select Download Survey Leg Data Tab - Select Download Survey Leg Data - Select Download Bathymetry GeoTiff

Sub-bottom (SEGY)



The SBP family includes various types of systems including 'Pinger' systems which transmit a single frequency (~4 kHz) and 'Chirp' systems which transmit a sweep of frequencies (e.g. 2-10 kHz) in a single pulse. These systems use lower sound frequencies that penetrate further into the sediment and examine sediment layers and the extent of bedrock.

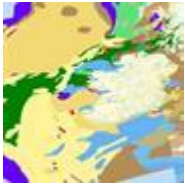
Image	Format	Software	Instructions
	SEGY	Seismic data softwares	INFOMAR Marine Data Download Portal Select Survey Leg Data Tab - Select Download Survey Leg Data – Select Download SEG Y
	Online	Any browser	INFOMAR Data Viewer See Sub-bottom Profile Availability and Sub-bottom Profile Tracklines layers.
	Shapefile	ArcGIS Earth (Free) ArcGIS PRO QGIS	INFOMAR Marine Data Download Portal Select Download Vector Datasets Tab for Sub-bottom Tracklines Shapefile.

Geology



The Onshore Geology map is the Bedrock Geology 1:1 Million scale map. The Seabed geology 1:1 Million scale map was compiled for the EMODnet Geology project (lithology).

Geology data formats.

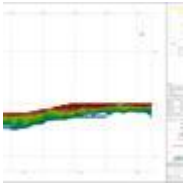
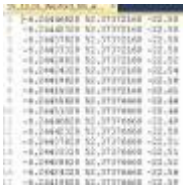
Image	Format	Software	Instructions
	Shapefile	ArcGIS Earth (Free) ArcGIS PRO QGIS	INFOMAR Marine Data Download Portal Select Download Vector Datasets Tab for offshore shapefiles
	Shapefile	ArcGIS Earth (Free) ArcGIS PRO QGIS	Bedrock For onshore shapefile see 'Bedrock Geology 1 Million'

Lidar



This method of surveying emits two laser light beams from a sensor on-board an airplane. The red beam reaches the water surface and bounces back, while the green beam penetrates the water hits the seabed and bounces back. The difference in time between the two beams returning allows the water depth to be calculated. Digital photographs can also be taken using a downward looking geo-referenced digital camera. We use software called Fledermaus to get the 3D effect. By using vertical exaggeration, artificial sun-shading (mostly as if there is a light source in the northwest) and colouring the depths using colour maps, it is possible to highlight the subtle relief of the seabed/landscape. These are known as "Shaded Relief Lidar Maps".

Lidar data formats.

Image	Format	Software	Instructions
	PDF chart	Free Adobe	Download Charts
	Geotiff (.tif)	ArcGIS Earth (Free) ArcGIS PRO QGIS	INFOMAR Marine Data Download Portal Select Download Survey Leg Data Tab – Type 'LI_' into search to see LiDAR Survey Legs
	ESRI ArcGIS GRID	ArcGIS PRO QGIS	INFOMAR Marine Data Download Portal Select Download Survey Leg Data Tab – Type 'LI_' into search to see LiDAR Survey Legs
	Grid xyz(.dat)	ArcGIS PRO QGIS	INFOMAR Marine Data Download Portal Select Download Survey Leg Data Tab – Type 'LI_' into search to see LiDAR Survey Legs

Maps

Maps available for download

Image	Format	Software	Instructions
	PDF Map	Free Adobe	Download PDF The Real Map of Ireland

Image	Format	Software	Instructions
	PDF Map	Free Adobe	Download Charts
	Online	Any browser	View Story Maps

Seabed Habitats & Substrate



The seabed substrate map is created by grouping seabed areas that are alike. We use the bathymetry, backscatter and seabed samples data to select these areas.

EMODnet Geology WP3 Seabed substrate map. This is a broad scale map (1: 250 000 scale) collected and harmonised by the EMODnet-Geology partners. It is classified using the Folk schema (7 classes).

INFOMAR have produced more detailed Seabed Classification maps for some areas around the Irish coast.

Seabed Habitats data formats.

Image	Format	Software	Instructions
	Shapefile	ArcGIS Earth (Free) ArcGIS PRO QGIS	INFOMAR Marine Data Download Portal Select Download Vector Datasets Tab for Sediment Classification Shapefile.
	Online	Any browser	EMODnet Map Viewer See EMODnet Geology - Seabed Substrate Layers. Shapefiles can be downloaded from layer info.

Seabed Samples



We collect sediment samples from the seabed.

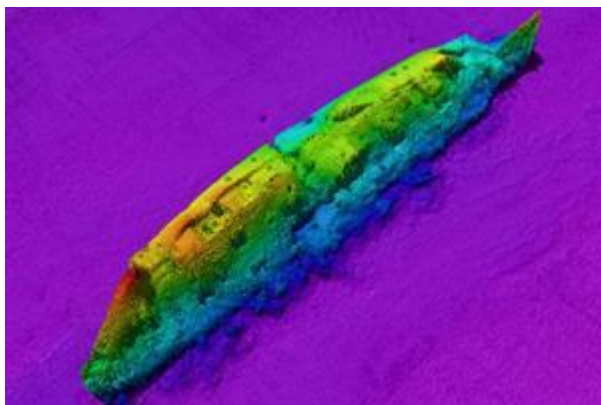
Looking at the samples along with the bathymetry and backscatter maps allows us to group seabed areas of similar nature, and create seabed habitat maps.

Seabed Sample data formats.

Image	Format	Software	Instructions
	Shapefile	ArcGIS Earth (Free) ArcGIS PRO QGIS	INFOMAR Marine Data Download Portal Select Download Vector Datasets Tab for Sediment Samples Shapefile.

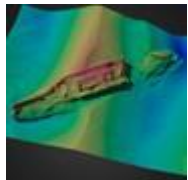
Image	Format	Software	Instructions
	Online	Any browser	Seabed & Sediment Viewer See Sample Points layer

Shipwrecks



We map shipwrecks.

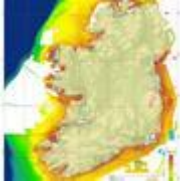
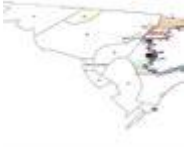
Shipwreck data formats.

Image	Format	Software	Instructions
	Shapefile	ArcGIS Earth (Free) ArcGIS PRO QGIS	INFOMAR Marine Data Download Portal Select Download Vector Datasets Tab for Shipwrecks Shapefile.
	Online	Any browser	View 3D Models

Survey Coverage & Reports

Download the Survey Coverage polygons & track lines.

You can also download the Survey Leg Reports.

Image	Format	Software	Instructions
	PDF Chart	Free Adobe	Download Charts
	Shapefile	ArcGIS Earth (Free) ArcGIS PRO QGIS	INFOMAR Marine Data Download Portal Select Download Vector Datasets Tab for Survey Coverage Shapefile.
	Shapefile	ArcGIS Earth (Free) ArcGIS PRO QGIS	INFOMAR Marine Data Download Portal Select Download Vector Datasets Tab for Survey Tracklines Shapefile.
	PDF, .doc,.xls	Free Adobe	INFOMAR Marine Data Download Portal Select Download Survey Leg Data for individual Survey Leg Reports.

Minerals

Minerals data and maps available include Minerals Prospectivity Mapping (MPM) Project, Mineral Exploration Boreholes, Mineral localities, Quarry directory, Aggregate Potential Mapping and Exploration records/Open file.

Minerals Prospectivity Mapping (MPM) Project

Mineral Exploration Boreholes

Mineral Localities

Quarry Directory 2014

Aggregate Potential Mapping

Exploration Records ('Open File')

Core store catalogue

Mineral Prospectivity Mapping (MPM) Project

Northwest Midlands Carboniferous historic soil geochemistry.

Type	Access
	Sample Media: Soil (various depths). Coverage: Galway, Roscommon, Mayo, Sligo, Leitrim, Longford, along with parts of Cavan, Westmeath and Offaly. Dataset: Merged database of digitised historic third party private sector soil data is compiled from three sources: i) Geological Survey Ireland: Compilation and digitisation of historic third party private sector soils data from the 'Open File' historic minerals exploration data. ii) Vedanta Exploration Ireland Ltd. 'Geochemistry Compilation Project: Compilation of shallow soils published by the Geoscience Regulation Office (GSRO) in 2020. iii) Geoscience Regulation Office: Recent and historic ('Legacy') third party private sector soils datasets submitted to the GSRO by exploration companies under the terms of their prospecting licences and made publically available. This merged database includes locations and reported assays (mainly Cu, Pb and Zn), along with any information on the

Type	Access
	original data source, reporting companies, survey years and analytical methods, <i>if available</i> . Survey years: 1960s to 2010s Data release notes
MPM Historic Soils (File Geodatabase)	link to zip file (122 MB)
MPM Historic Soils (Excel files)	link to zip file (112 MB)
Further details	link to MPM project page

Northwest Midlands geophysical lineaments.

Type	Access
	Structural lineaments picked in Tellus airborne geophysical maps across the Northwest Mineral Prospectivity Mapping (NW MPM) project area. Report (12 MB)
Geophysical Lineaments Vector Data	File Geodatabase (3 MB) Shapefiles (2.5 MB)
Magnetic Data	Link to zip file (114 MB)
Electromagnetic Data	Link to zip file (122 MB)
Further details	link to MPM project page

Mineral Exploration Boreholes

These boreholes were drilled to find minerals, oil, gas, water or to find out more about geology. The data shows the location of the boreholes drilled in Ireland from 1957 to 2002. They were submitted to the GSI from mineral exploration companies.

Type	Source
Data Download	Zip file (Shapefile) or Zip file (Excel)
Map Viewer	Link to viewer
Web Services	REST Service or WMS
Goldmine	Link to GOLDMINE

Mineral Localities

Minerals are naturally occurring; they are not made by humans. They are inorganic in that they have never been alive and are not made up from plants or animals. They are solid, not liquids (like water), or gases (like the air around you). Each one is made of a particular mix of chemical elements arranged in a particular way. Minerals mined in Ireland include gypsum, copper, lead and zinc. Most rocks that we see today are made of minerals (they are the 'ingredients' in rocks). This data map shows locations where minerals have been found in Ireland.

Type	Source
Data Download	Zip file
Map Viewer	Link to viewer
Web Services	REST Service

Quarry Directory 2014

The Quarry Directory 2014 provides information on crushed rock, sand and gravel, and dimension stone operations throughout the country.

Type	Source
Data Download	Zip file
Map Viewer	Link to viewer
Web Services	REST Service
Directory	Link to publication

Aggregate Potential Mapping

The Aggregate Potential Mapping (APM) shows the potential for crushed rocks and for sand and gravel. The APM also shows the inventory of active and historical quarries and pits in Ireland, as known in 2014.

Type	Source
Data Download	Zip file
Map Viewer	Link to viewer
Web Services	Rest services

Exploration Records ('Open File')

GSI holds Exploration Company Reports relating to many current and retired Prospecting Licence (PL) Areas.

Type	Source
Map Viewer	Link to Mineral Exploration and Mining Web Applications hosted by Geoscience Regulation Office (GSRO)

Type	Source
Goldmine	Link to Goldmine

Core store

Type	Source
Catalogue	Excel spreadsheet

Core viewing	See details (redirect to Core store page)
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Quaternary

Quaternary data and maps available include Geomorphology and Sediments, All Ireland 500k Quaternary map, IQUAD map packages and 3D models of Dublin City and Cork City.

Physiographic Units

Quaternary Geomorphology

Quaternary Sediments

All Ireland Quaternary Map 500k

IQUAD Quaternary Map Packages

3D Geological Models

Physiographic Units

Physiographic maps are cartographic representations of the broad-scale physical landscape units of a region, and physiographic units consist of physical regions showing internal uniformity with respect to one or more environmental attributes, which are clearly differentiated from neighbouring regions.

The three tier classification scheme shows a number of hierarchical landscape divisions, different levels of which will be used by different end users depending on the level of detail required.

Type	Source
Data Download	Physiographic Units Zip file
	Physiographic Units Map of Ireland Report
	Physiographic Units Maps of Ireland pdf
Map Viewer	Link to viewer
Web Services	Physiographic Units Level 1 REST Service
	Physiographic Units Level 2 REST Service

Type	Source
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[Physiographic Units Level 3 REST Service](#)

Quaternary Geomorphology

The Quaternary geology of Ireland – Geomorphology Map is a representation of Irish glacial geomorphological features at a scale of 1 to 50,000. The map shows categorised erratic carriage sources and sinks, subglacial lineations and striae, subglacial moraines, ice-marginal landforms and mountain glaciation corries and trimlines.

Type	Source
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Data Download [Zip file](#)

Map Viewer [Link to viewer](#)

Metadata [Quaternary Geomorphology](#)

Web Services [Rest services](#)

Quaternary Sediments

The Quaternary geology of Ireland – Sediments Map is a representation of the surficial geology of Ireland at a scale of 1 to 50,000. The map shows the sediments mapped within 1 metre of the surface which were laid down during the Quaternary, bedrock at or close to the surface water bodies or made ground. Quaternary sediments are categorised according to their genesis. The main types of sediment recognised are tills, (glacio)fluvio/lacustrine deposits, alluvium, lacustrine sediments and peat. Bedrock and karstified bedrock at or close to the surface are also mapped out as separate units.

Type	Source
Data Download	Zip File
Map Viewer	Link to viewer
Metadata	Quaternary Sediments
Web Services	Rest services

All Ireland Quaternary Map 500k (scale 1:500.000)

Coordinate System: Irish Transverse Mercator / ITM.

This is a joint GSI-GSNI project. The All-Ireland Quaternary geology map at 1:500,000 scale is an amalgamation of Quaternary maps from Ireland and Northern Ireland. Soil geochemistry and radiometric data from the Tellus and Tellus Border projects were used to subdivide undifferentiated till deposits in Northern Ireland to match the till types mapped in Ireland. Merging data sets was achieved by statistical distribution matching. Data from the two surveys and the relevant literature were compiled, homogenized and simplified to produce a seamless data set comprising sixteen sediment types, four geomorphological features and the location of key sites with dated sediments.

Type	Source
Map	PDF

IQUAD Quaternary Map Packages

Coordinate System: Irish Transverse Mercator / ITM

Type	Source
IQUAD 2014 (Lough Allen Area)	Zip file

Type	Source
IQUAD 2015 (Cavan Lake District)	Zip file
IQUAD 2016 (Counties Monaghan, Cavan, Longford, Leitrim and Roscommon)	Zip file

3D Geological Models

Our 3D geological models are now accessible in an online viewer, which allows the models to be viewed and interrogated in a browser window with no software or zip file downloads. Google chrome is the most compatible browser. As of November 2020, the viewer displays four geological models (2 bedrock models: Dublin City and Lough Allen, 2 quaternary models: Dublin City and Cork City). these models were created directly by GSI or in collaboration with iCRAG . This viewer will be maintained and updated as new models are produced from GSI projects or collaborations.

Type	Source
Online Viewer	Link to viewer
Demo video	Link to video
User manual	PDF