

GSI online databases and mapping

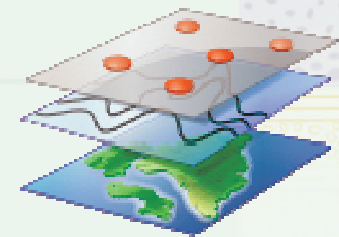
Ray Scanlon

ONLINE GEOSCIENCE DATABASES & MAPPING

SHORT COURSE

Trinity College Dublin
(Museum Building, Room M20)

Thursday 10th November 2011: 09.45 – 13.00



Outline

- A Brief Overview of GSI
 - Programme Areas
- Online Databases and Mapping
 - Online Viewers – **LIVE DEMOS** -
 - Data Download Options
 - “Web Services”
- In Development
 - Next generation Viewers
 - GSI Online Digital Archive
 - National data portal – ISDI
 - 3D modelling and web visualisation

GSI Present

- A Line Division of DCENR
- c.25 permanent technical staff
 - Geologists, Cartographers, Technicians, Drillers
- Approximately 20 contract staff, employed via consultancy contracts

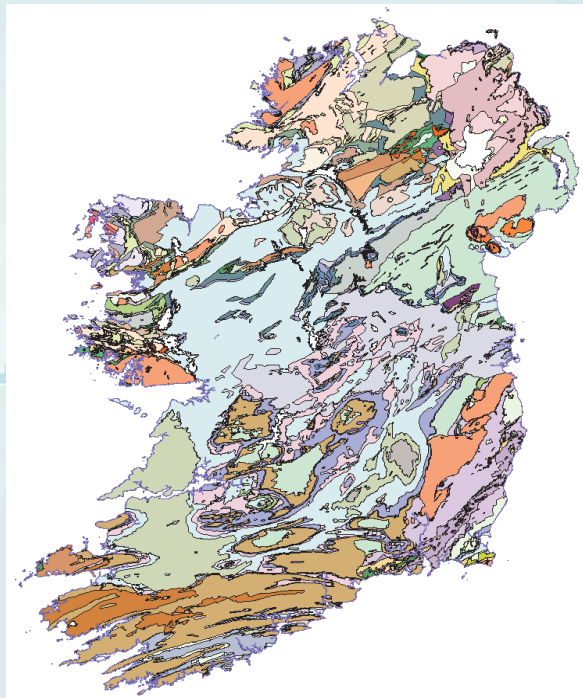
GSI Present

- Surveying Programmes
 - Bedrock, Quaternary, Marine
- Applied Programmes
 - Minerals, Groundwater, Heritage, Geotechnical
- Information Management and Technology Programmes
- Cartography, Technical Services, Admin

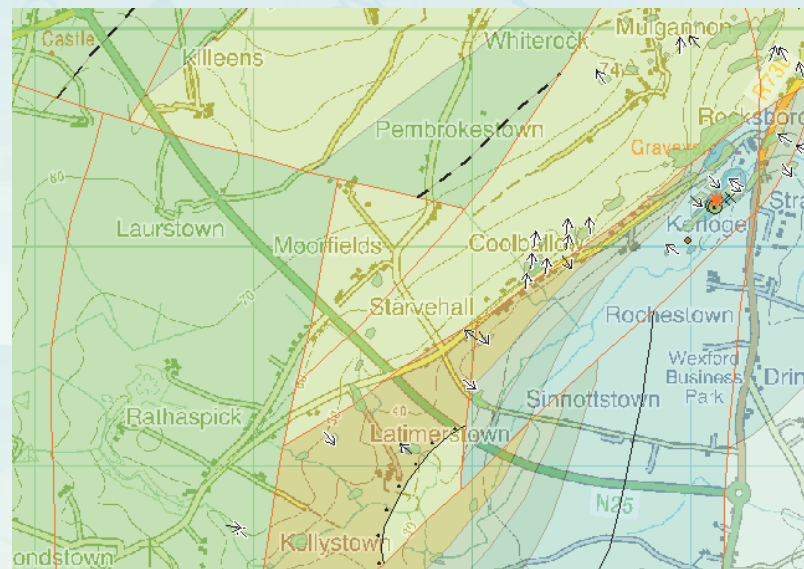
Survey Programmes - Bedrock

- Derived and improved Bedrock Datasets

1:500,000 scale



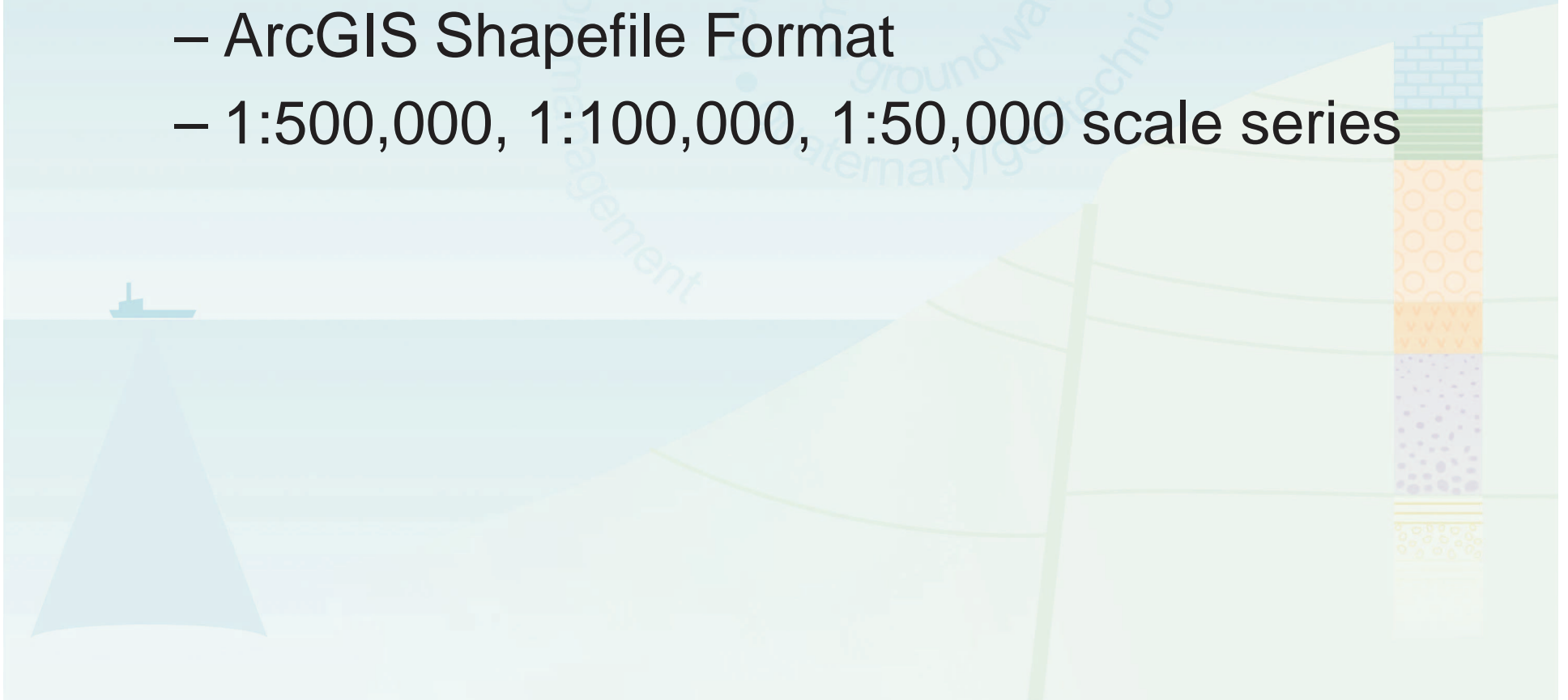
1:50,000 scale



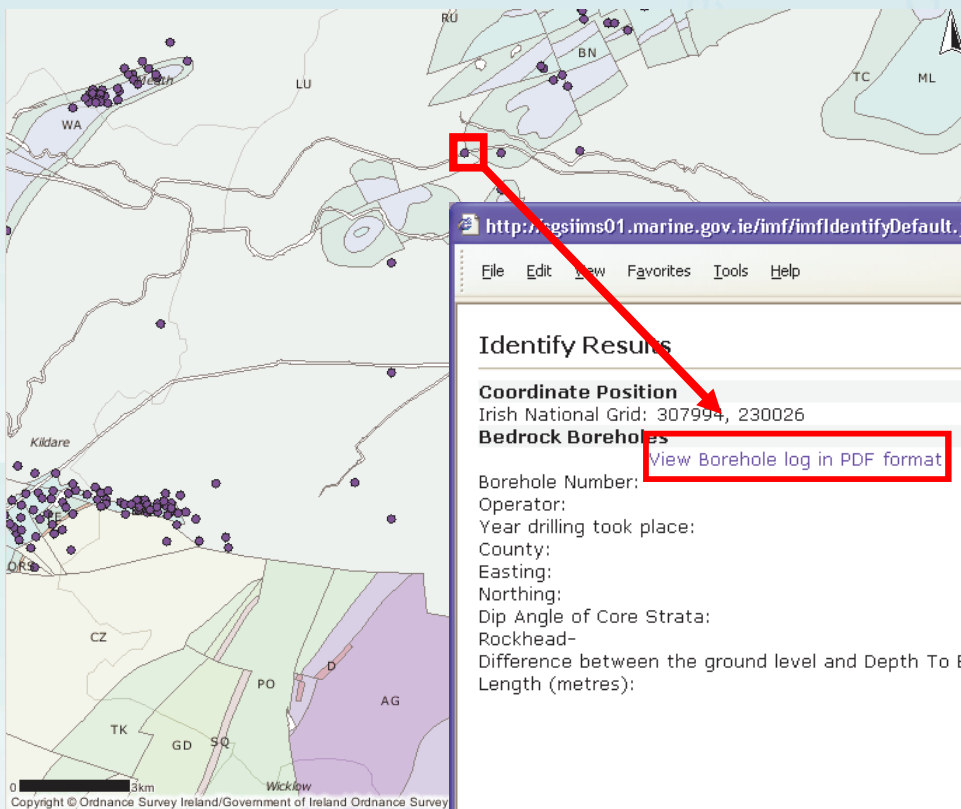
Boreholes, outcrop descriptions, structural
Symbolology etc., re-registered to 50k base maps

Survey Programmes - Bedrock

- Move from Paper map production to GIS web based products
 - ArcGIS Shapefile Format
 - 1:500,000, 1:100,000, 1:50,000 scale series



Bedrock Data Capture



The screenshot shows a web browser window with the URL <http://mgi.marine.gov.ie/imf/imfIdentifyDefault.jsp?loid=...>. The browser's address bar and menu bar (File, Edit, View, Favorites, Tools, Help) are visible. The main content area is titled 'Identify Results'. Under the 'Coordinate Position' heading, the 'Irish National Grid' is listed as '307994, 230026'. Below this, under the 'Bedrock Boreholes' heading, there is a red-bordered box containing the text 'View Borehole log in PDF format'. To the right of this box, a table lists borehole details for 'CIE-15'.

Borehole Number:	CIE-15
Operator:	CIE
Year drilling took place:	0
County:	Dublin
Easting:	308000
Northing:	230000
Dip Angle of Core Strata:	-90
Rockhead-	-999
Difference between the ground level and Depth To Bedrock:	
Length (metres):	-999

http://sgsiims01.marine.gov.ie/imf/sites/GeoUrban/Logs/AD-06....

File Edit Go To Favorites Help

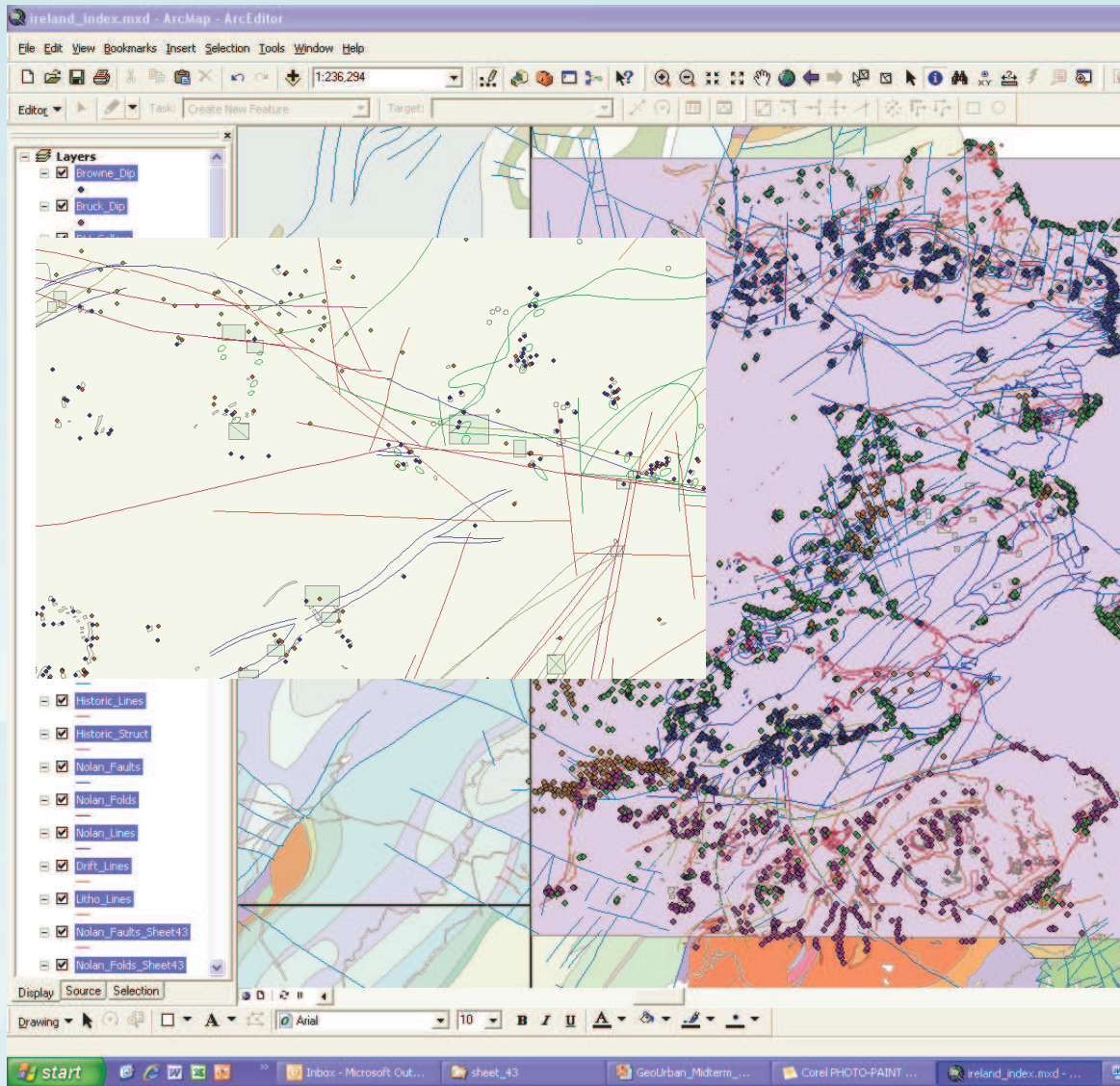
48.1%

Find

Hole Name: AD-06	Boring: 01ad-06	Neiboring: 01ad-06	Borehole: 01ad-06
Dip: 60	Altitude: 0	Length: 000.26	Rockhead: 0.66
County: Dublin	Townland: B000000	RL: 0140	Grid: Sheet: 14-01
Company: Irish Bore Bore Ltd.		Geologist: ND	Year: 1997

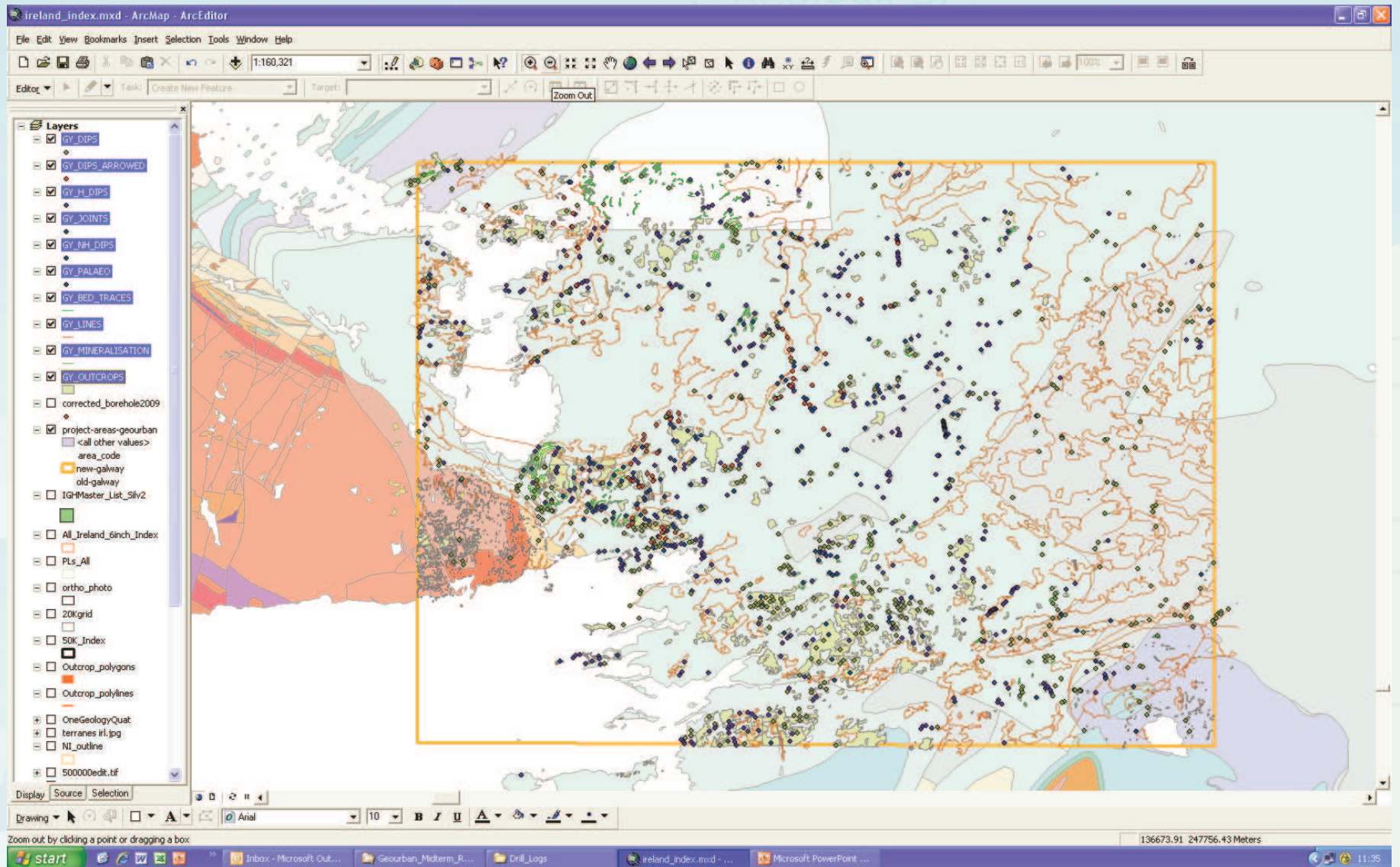
Dipht	Site Code	Log Description	Site Name	General Description
00	00	00	00	00
05	05	05	05	05
10	10	10	10	10
15	15	15	15	15
20	20	20	20	20
25	25	25	25	25
30	30	30	30	30
35	35	35	35	35
40	40	40	40	40
45	45	45	45	45
50	50	50	50	50
55	55	55	55	55
60	60	60	60	60
65	65	65	65	65
70	70	70	70	70
75	75	75	75	75
80	80	80	80	80
85	85	85	85	85
90	90	90	90	90
95	95	95	95	95
100	100	100	100	100
105	105	105	105	105
110	110	110	110	110
115	115	115	115	115
120	120	120	120	120
125	125	125	125	125
130	130	130	130	130
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195	195	195	195	195
200	200	200	200	200
205	205	205	205	205
210	210	210	210	210
215	215	215	215	215
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265	265	265	265	265
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285	285	285	285	285
290	290	290	290	290
295	295	295	295	295
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340	340	340	340	340
345	345	345	345	345
350	350	350	350	350
355	355	355	355	355
360	360	360	360	360
3				

Data compilation by Aurum 2008-9



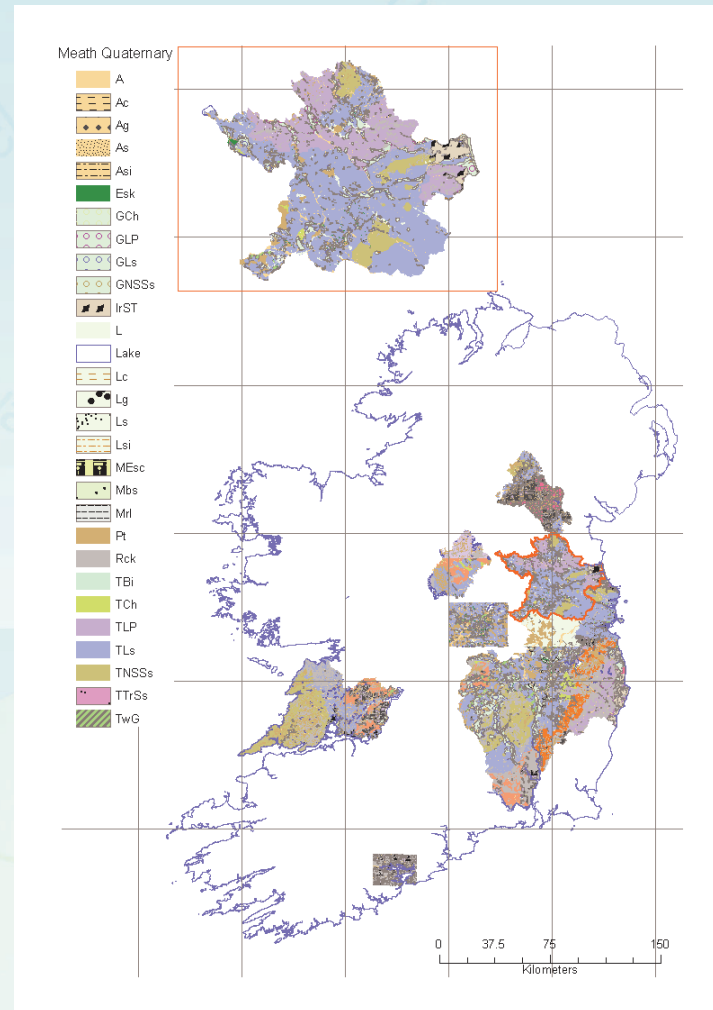
Hole Name :1454/3	Easting :316332.53	Northing :261850.54	GSI
Incl :90	Azimuth :999	Length :139	Elevation :50
Townland :Winterledge Haystown	PLNo :1454	6_Inch_Sheet :Meath34	
Company :Tara Prospecting Ltd	Logged_By :B. O'Donovan	Start_Date :1988	
Depth (m)	GSI Code	Unit Name	Log Description
	OE	Overburden	
	HO	Holmpatrick Formation	"Argillaceous Reefoid calcilutite massive stylonitic, brachiopoda and intercalations dating from 6.4-7.0m. Late Arundian."
25	HO	Holmpatrick Formation	"Light grey calcarenite occasionally sparry interbedded with calcilutite gradationally, stylonitic and crinoidal. Leached 26-27m. Dating sample 24.1-26m indicates Arundian."
	HO	Holmpatrick Formation	"As 12.2-30.7m except dolomitized buff coloured, dolomite is ferroan and ankentic, 35.2-36m. Leached"
50	HO	Holmpatrick Formation	Light to mid-grey variably dolomitized calcarenite slight leaching and occasional vugs.
	HO	Holmpatrick Formation	"Mid grey sparry calcarenite wispy silt intercalations pyritic oolites, dating sample @ 57.4m - 58 indicates Arundian."
75	SR	Smugglers Cave Formation	"Sandstones. Mid and dark grey arenites either siliclastic or carbonate though no reaction with acid thin to medium bedding vague stylonitic oolitic pyrite some leaching. Syringopora, top contact gradational."
	SR	Smugglers Cave Formation	Basal Conglomerates. As 62.6-71.6m except brecciated micro conglomerate with clasts (rounded) with sandier proportions.
	SR	Smugglers Cave Formation	Basal Conglomerates. Green massive pyritic brecciated sandstone well defined contact to base.
	ORS	Old Red Sandstone	"Red Beds. Red medium bedded graded (right way up) brecciated sandstone with green spots, 66.1m evaporite structures."
100	ORS	Old Red Sandstone	Red Beds. As to 98.2m though increasing green serpentine.
	ORS	Old Red Sandstone	Red Beds. Red with green spots sandstone possibly tuffaceous.
125	BP	Belcamp Formation	"Volcanics. Green sandy tuff with red vein fringes, and green and brown spotting."
	BP	Belcamp Formation	Red brecciated tuff more brecciated from 120m down with possible malachite stains
	BP	Belcamp Formation	"Andesite green medium crystal size occasionally porphyritic, to 131.0m altered subsidiary fault plane @ 131.6m."
150			
175			
Scale 1:1000			AURUM EXPLORATION SERVICES

Data compilation by Aurum 2010



Survey Programmes - Quaternary

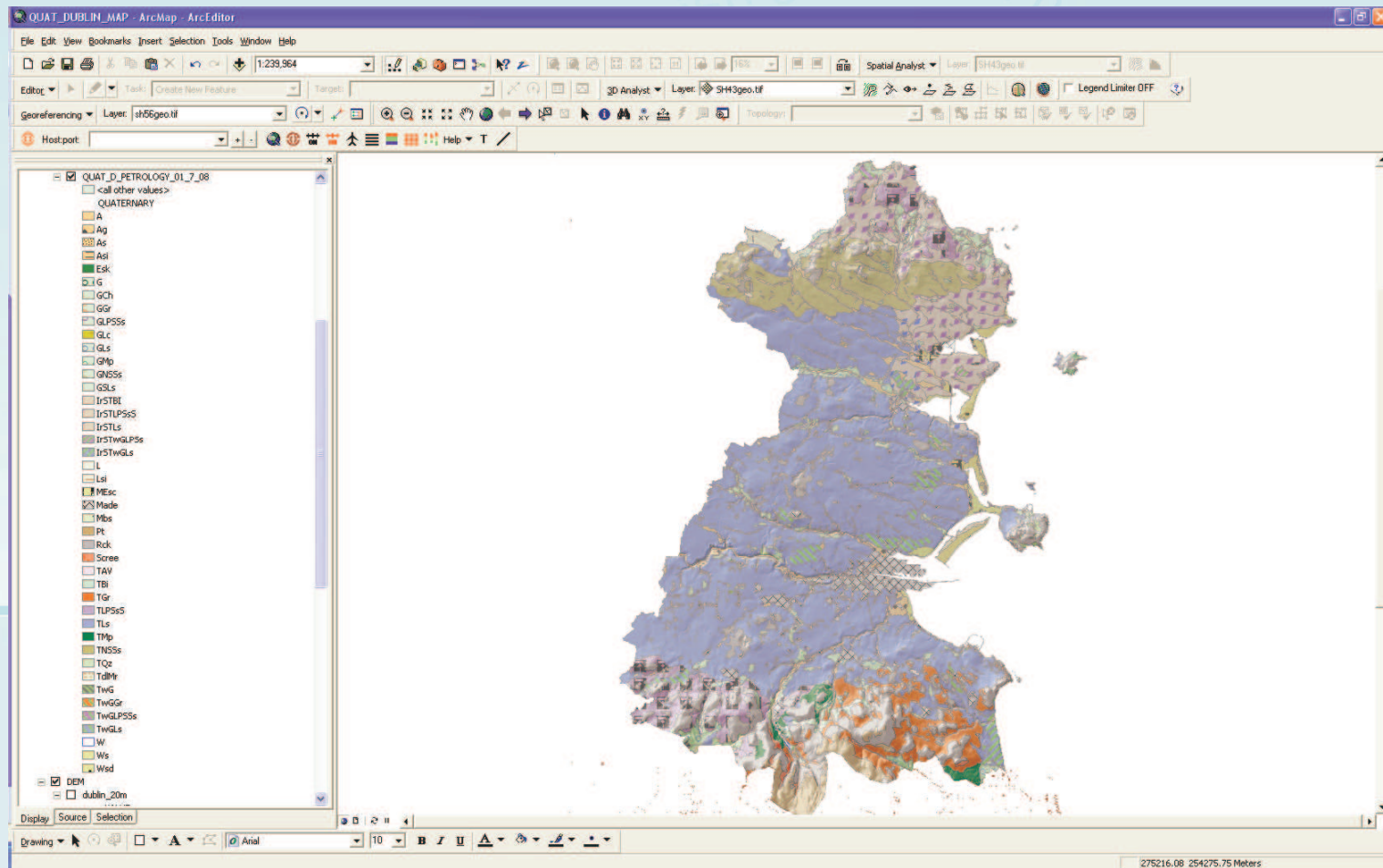
- National mapping of unconsolidated sand, gravel, till etc.



Quaternary/Subsoil

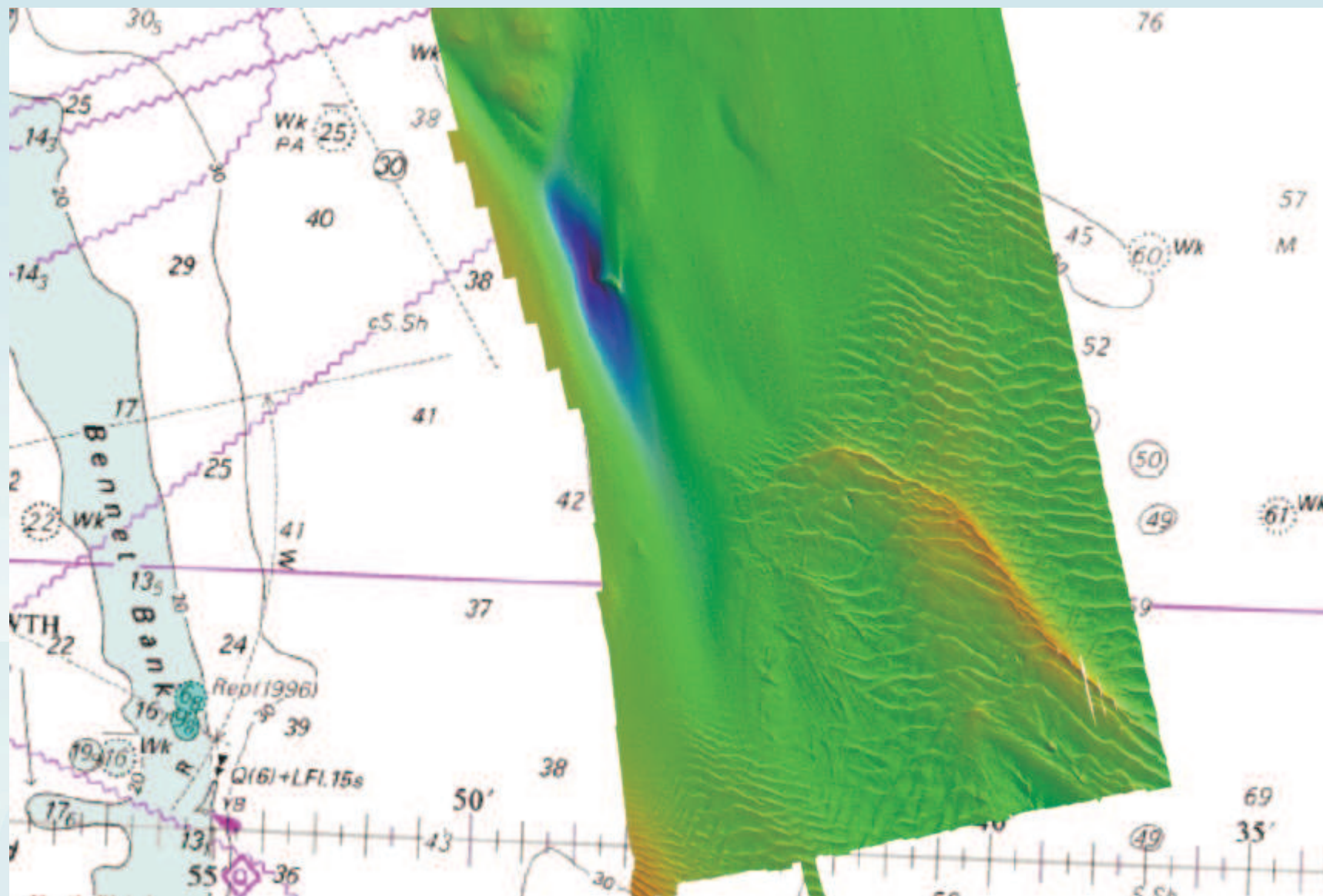
- Completed new Quaternary map of Dublin
- Quaternary national mapping not complete
- Subsoil mapping as part of National Groundwater Vulnerability project
 - Partially revising Teagasc (Irish Agricultural Institute) subsoil dataset
 - Field work and data capture largely outsourced
 - Supported by GSI drill rig and staff

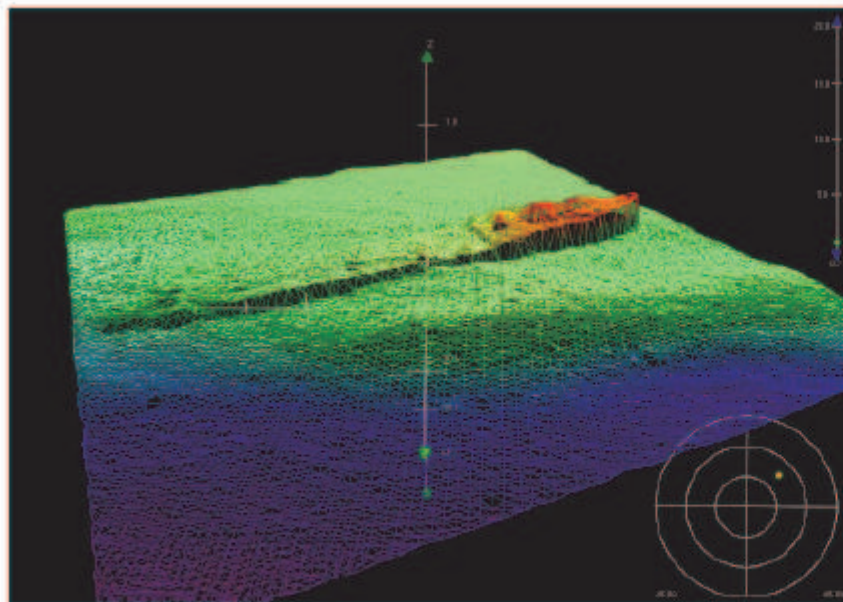
Quaternary



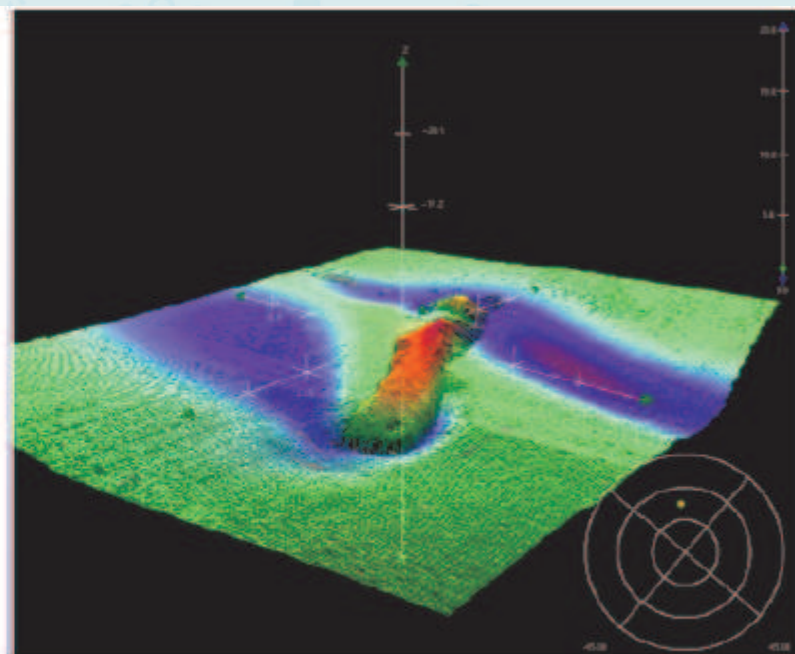
Surveying Programme - Marine



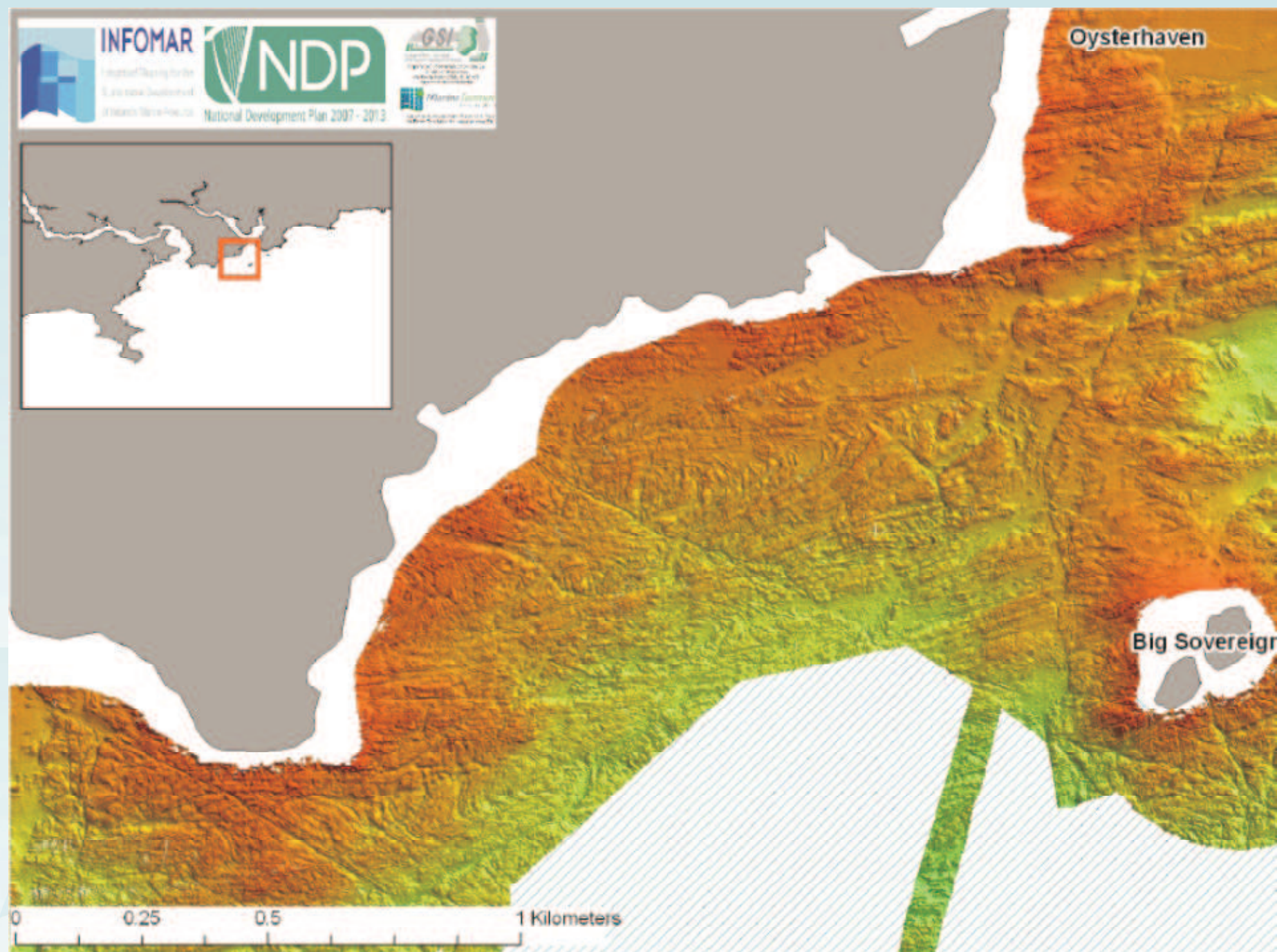




SS Premier, Shannon



SS Marlay, Irish Sea off Howth Head

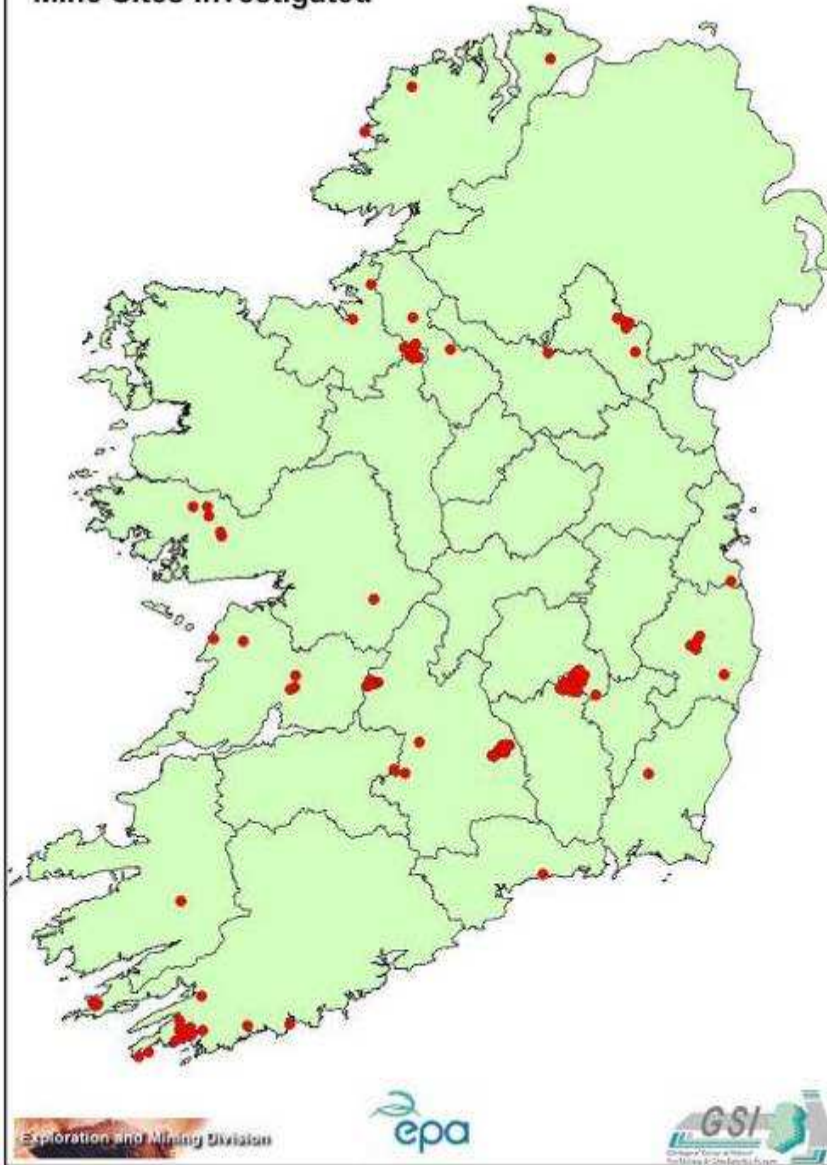


Applied Programmes - Minerals

- Historic Mine Sites
- Aggregate Potential Mapping



**HMS-IRC Project
Mine Sites Investigated**



Historic Mine Sites

101 sites

Mine types

- Metallic mines
- Coal mines
- Industrial minerals operations

Dating from

- Bronze Age
- 19th Century
- Closed Modern operations

- Individual Site Reports
- Protocol Reports
- Project Report

St. Kevin's Site Report on 10/11/08 → → Page 1 of 7

ST.-KEVIN'S

Background information

Mine Name → St. Kevin's

Mine District → Glendalough

Alternative Name:

Checklist of concerns:

PA, A, S, C, E, L

Project Ref: → GLD-1

County → → → Township → → → Grid Reference →

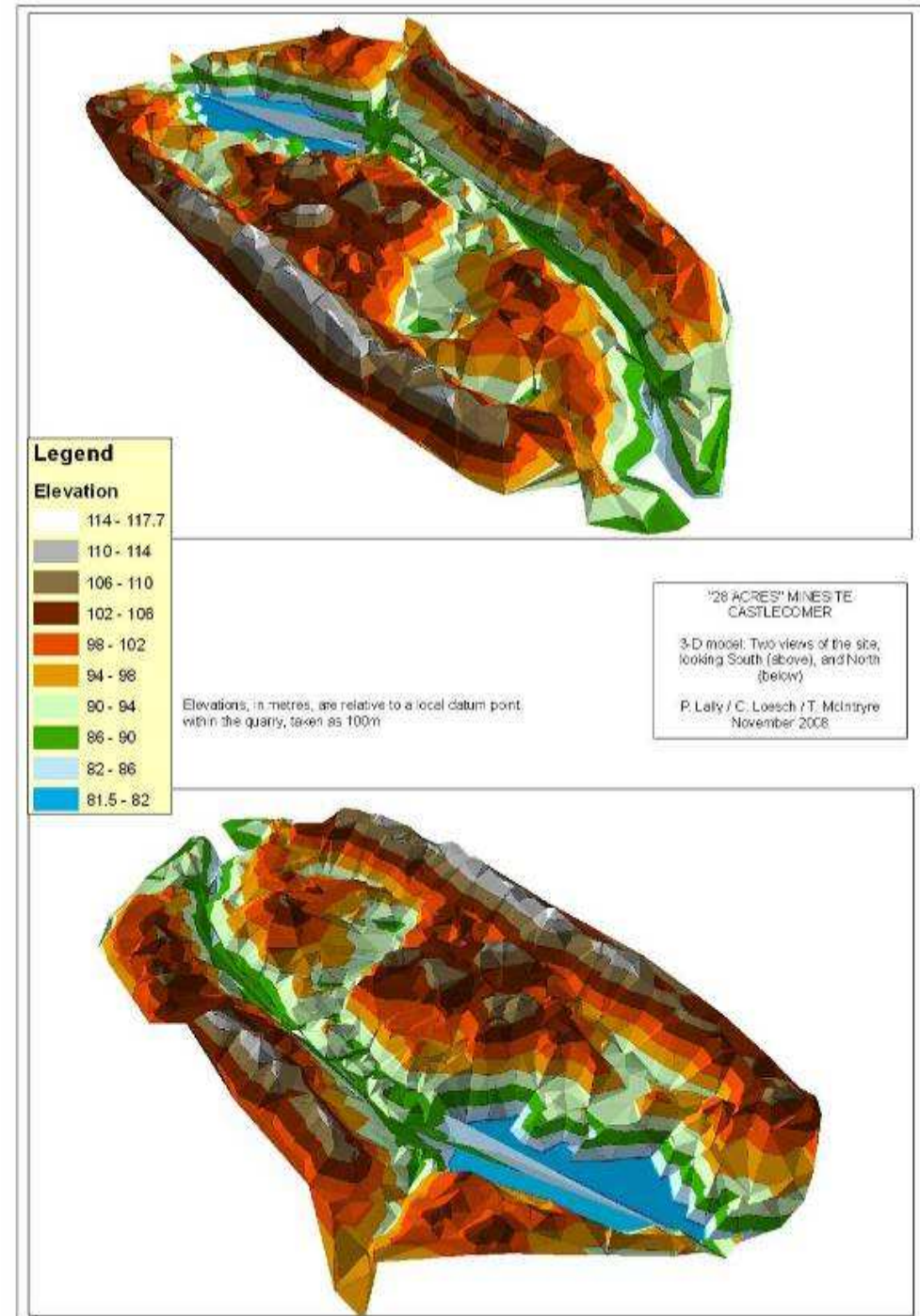
Wallow → → → Canadian: 2000000000 → 11044, 197009

Site Description

St. Kevin's mine site is located at the base of a steep section of the Glendalough River where the valley becomes much flatter and wider. An unmetalled road runs southeast along the river bank from the mine to the monastic site and hotel at Glendalough. Two hotels and a number of houses are located along the road. The southern side of the valley is covered by coniferous plantation; the northern side has rough pasture for sheep. The mine site is popular with walkers and cyclists.

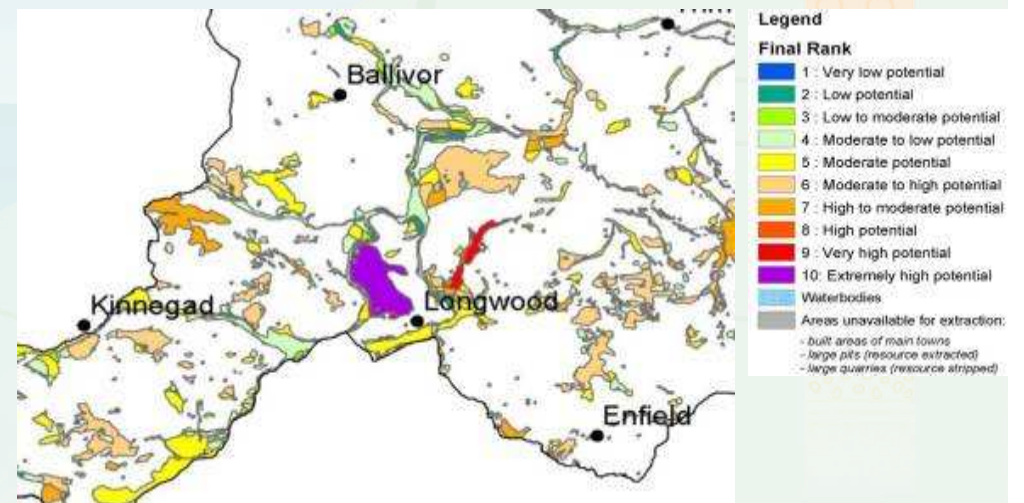
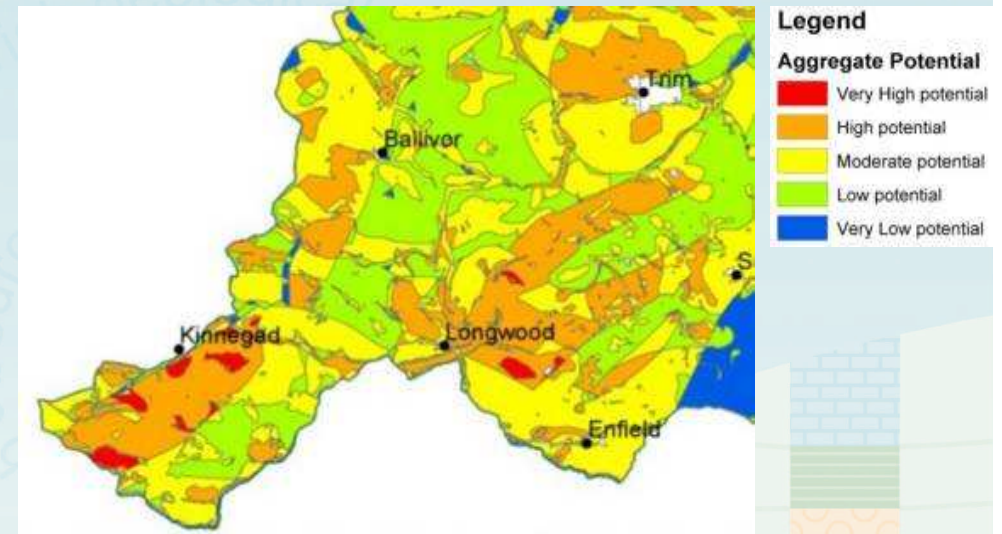



The site covers an area of about 1.5 ha that includes a large area (1.5 ha) of fine waste or tailings deposited on the northern bank of the Glendalough River (left). The area was first mined in the 19th century but was reopened by the Wallow Mining Company in the 1970s. Mining was chiefly on the Western side accessed via the 4th Adit at the northwestern end of the site. It is not certain how much of the waste now present was produced during the



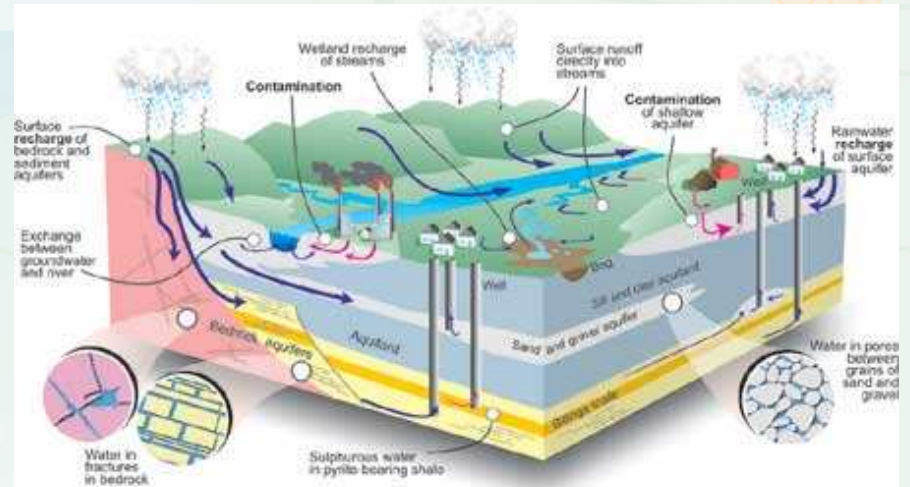
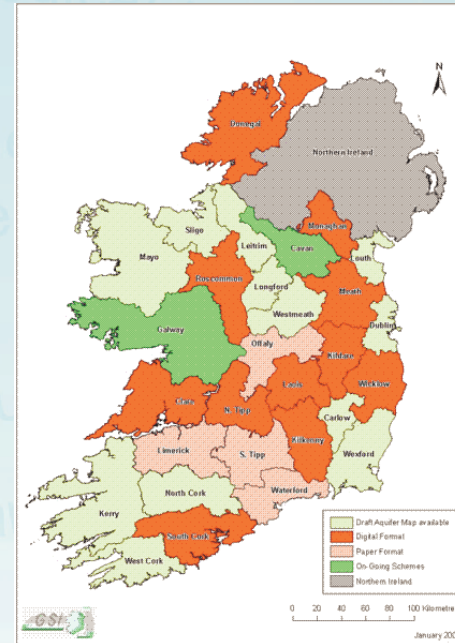
Aggregate Potential Mapping

- Aggregate and Mineral 'Potential' mapping
 - Spatial analysis of many layers to highlight areas with high potential of specific mineral or aggregate yield
- APM - Important planning tool for linear infrastructure
 - To ensure aggregates supply
 - To avoid sterilising resources



Applied Programmes - Groundwater

- Groundwater Protection Schemes
 - Highlights areas where aquifers (either bedrock or sand or gravel) are vulnerable to pollution and should be protected
 - Local Authorities use to support planning decisions

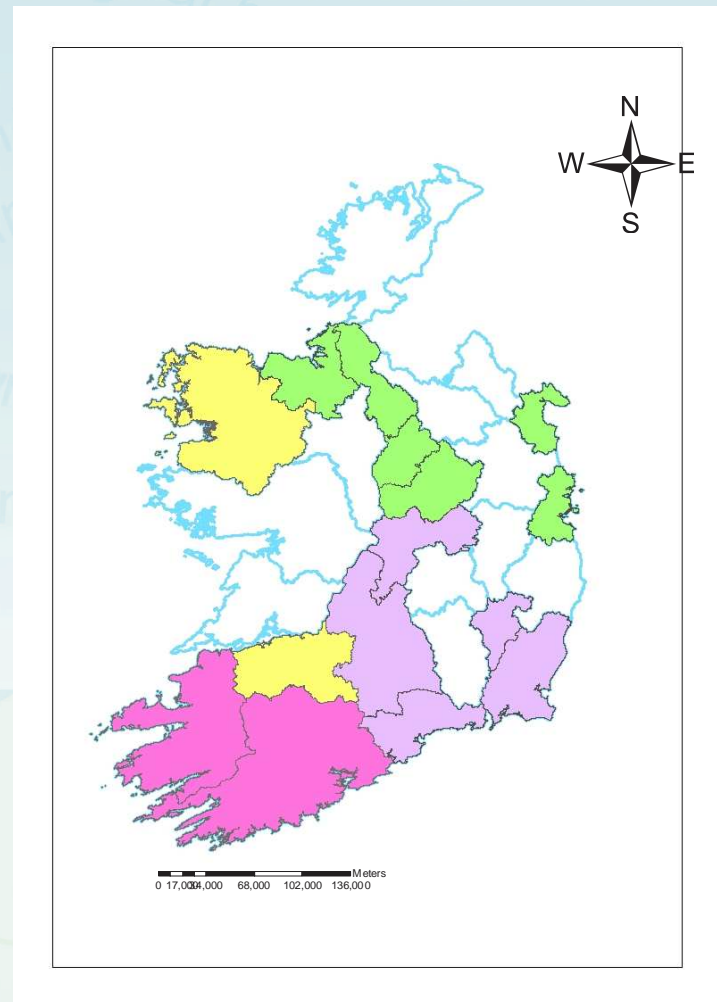


Counties covered for Groundwater Protection Scheme 2008, 2009, 2010, 2011

- 2008: Sligo, Leitrim, Westmeath, Longford, Louth & Dublin
- 2009: Offaly, Carlow, Wexford, Waterford & Limerick
- 2010: Cork & Kerry
- 2011: Mayo & Tipperary

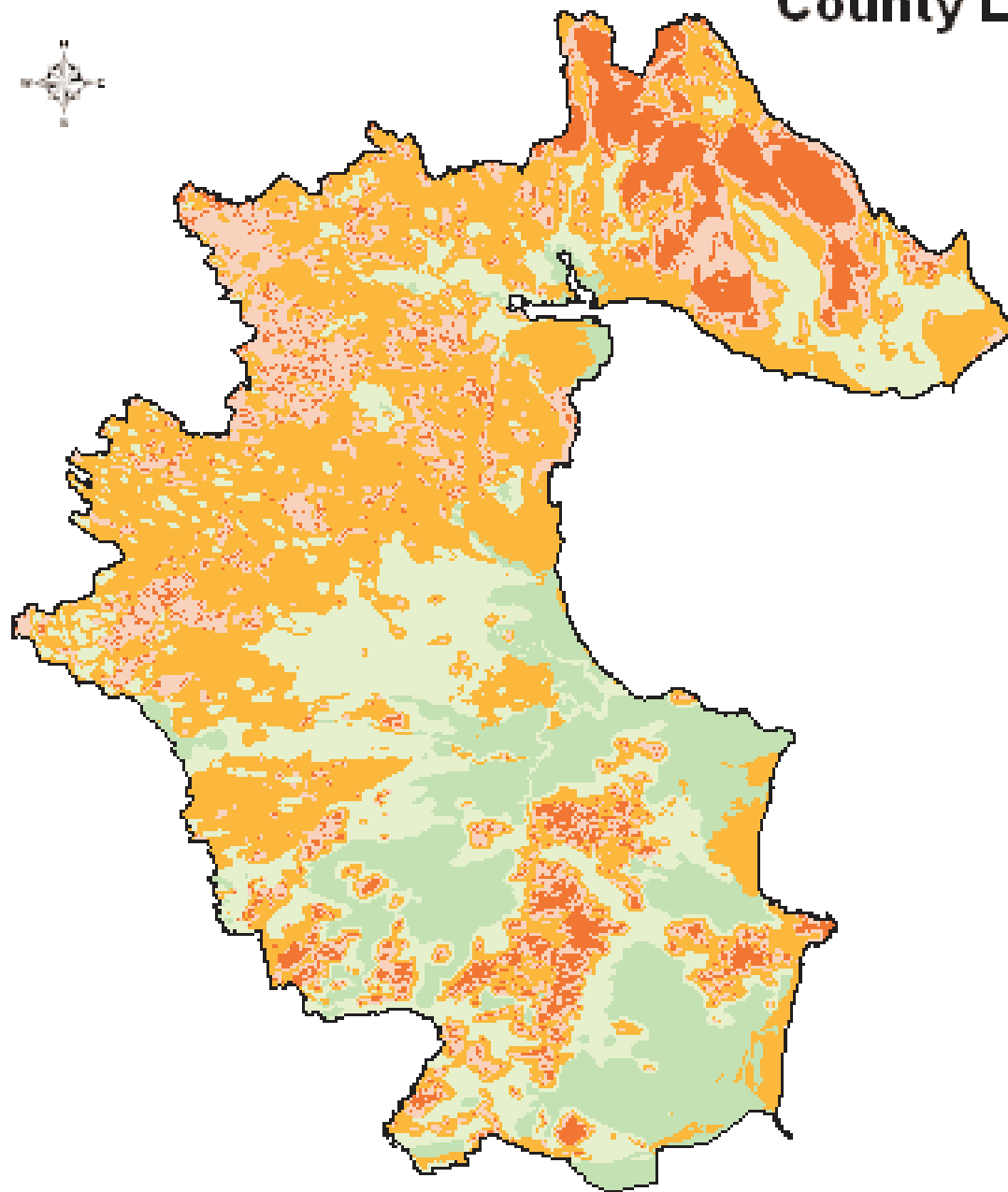
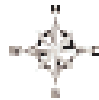
Groundwater Protection Schemes completed for Counties Leitrim, Longford, Louth and Sligo,

Draft Groundwater Protection Schemes for Counties Dublin and Westmeath.










County Louth Vulnerability Map



Legend

-  Rock outcrop/karst
-  Extreme
-  High
-  Moderate
-  Low



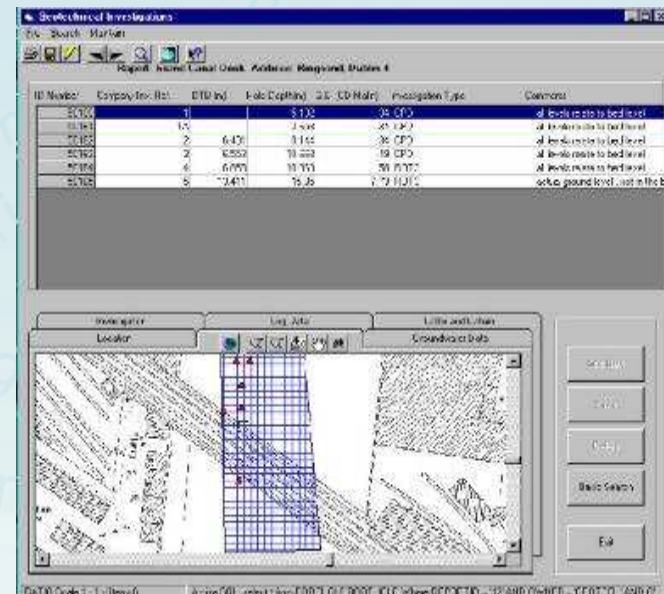
Applied Programme - Heritage

- Mapping areas of geological heritage
 - County Councils include them as part of their County Development Plans
 - Named body for consultation for Environmental Impact Statements



Applied Programme - Geotechnical

- National Oracle database for capturing locations of site investigation boreholes and site report areas.
- Outputs include depth to Bedrock maps, Rock head height map, and 3D models
- Critical for Infrastructure Planning

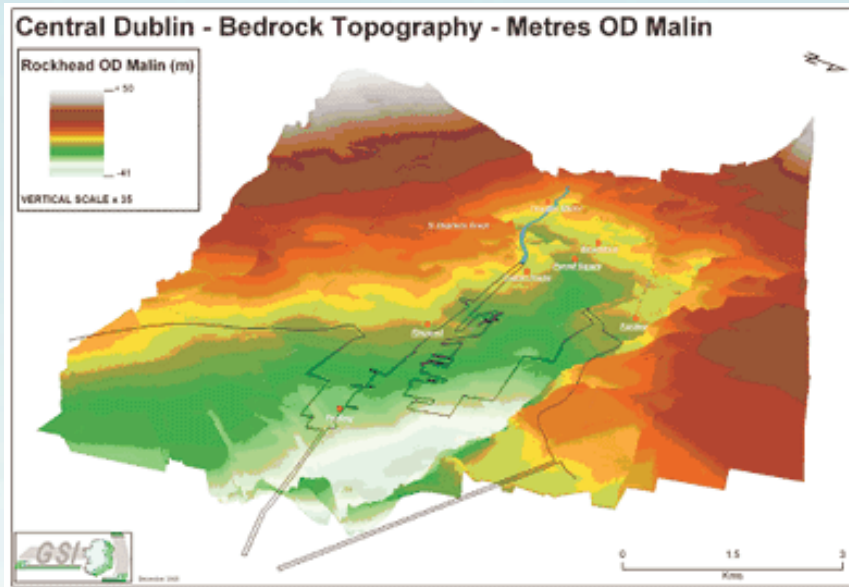


The screenshot shows the 'Geotechnical Investigations' software interface. At the top, there's a menu bar with 'File', 'Search', 'Map/View', 'Report', 'Internal Label Check', 'Advanced', 'Help/About', and 'Print'. Below the menu is a toolbar with icons for file operations, search, map, and report. The main window is divided into two panes. The top pane is a table with columns: 'ID Number', 'Elevation (m)', 'DTM (m)', 'File Depth (m)', 'ZL (m)', 'CD (m)', 'Investigation Type', and 'Comments'. The bottom pane is a map view showing a grid overlay on a terrain map. The map view has tabs for 'Investigation Location', 'Log Data', and 'Lithology and Lithology'. The 'Investigation Location' tab is active, showing a grid of points. The 'Log Data' tab shows a list of logs. The 'Lithology and Lithology' tab shows a list of lithology types. The 'Groundwater Data' tab shows a list of groundwater data. The 'Map/View' tab shows a map view. The 'Report' tab shows a report view. The 'Internal Label Check' tab shows a list of internal labels. The 'Advanced' tab shows a list of advanced options. The 'Help/About' tab shows a list of help and about information. The 'Print' button is located at the bottom right of the map view.

ID Number	Elevation (m)	DTM (m)	File Depth (m)	ZL (m)	CD (m)	Investigation Type	Comments
10101	10	10.00	10.00	10.00	10.00	10.00	10.00
10102	10	10.00	10.00	10.00	10.00	10.00	10.00
10103	10	10.00	10.00	10.00	10.00	10.00	10.00
10104	10	10.00	10.00	10.00	10.00	10.00	10.00
10105	10	10.00	10.00	10.00	10.00	10.00	10.00

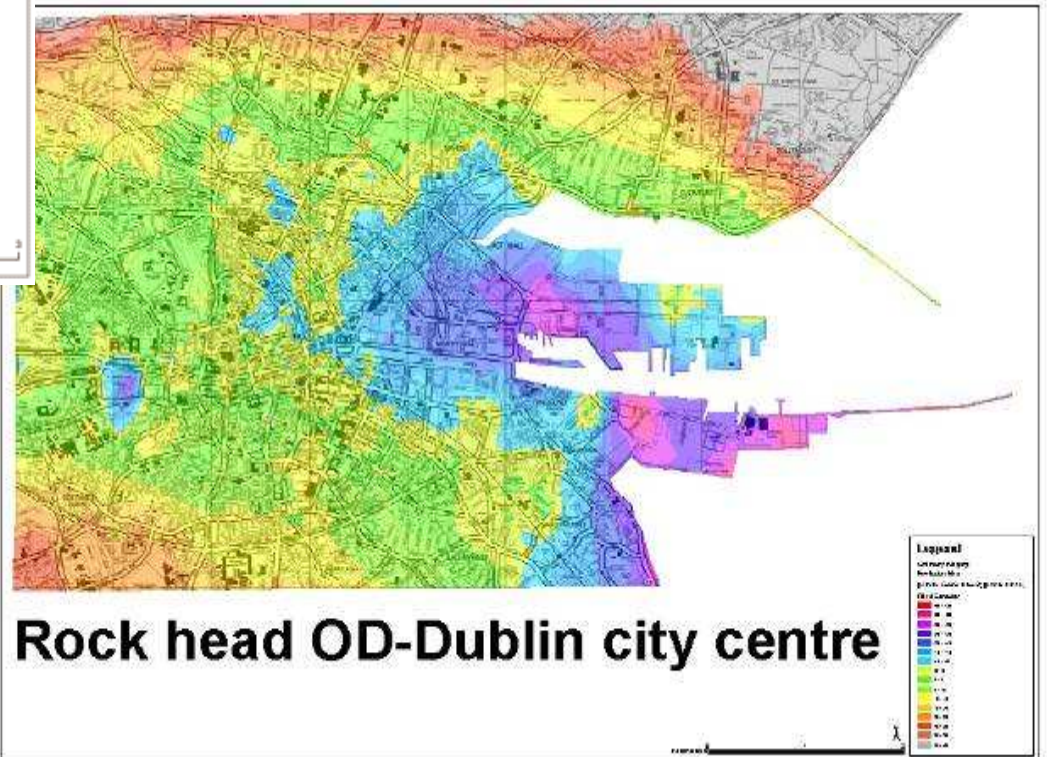


Applied Programme - Geotechnical



ESRI 3D Analyst
ESRI ArcScene
Fleidermaus

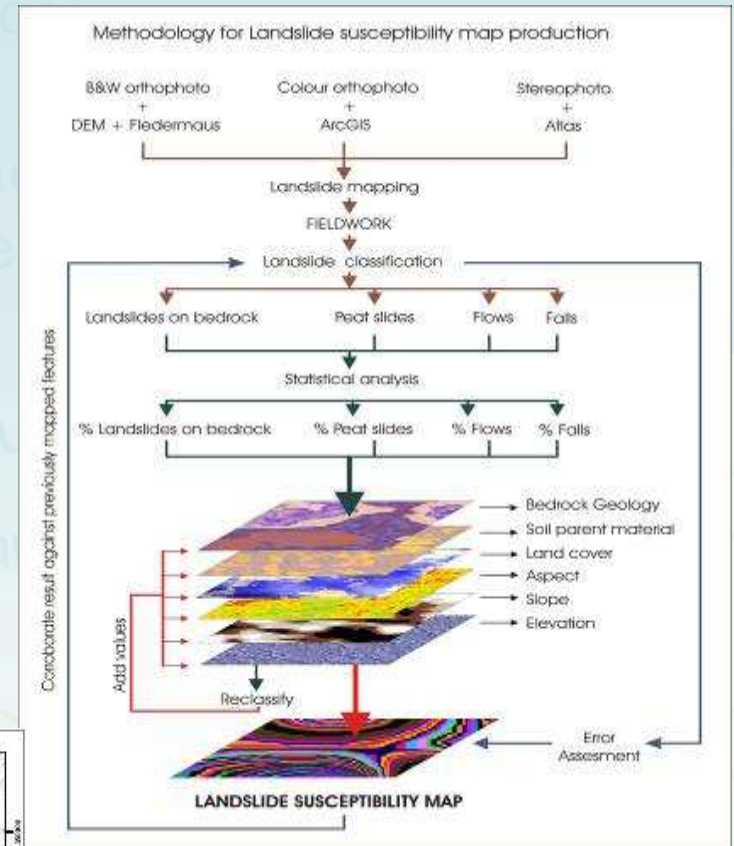
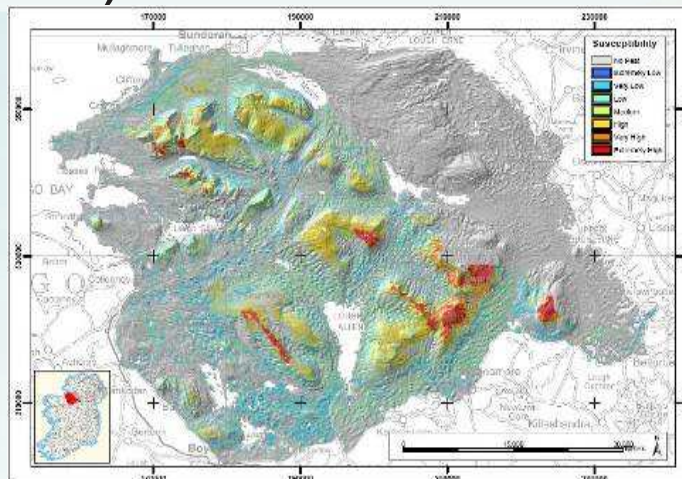
ESRI Geostatistical Analyst
ESRI Spatial Analyst



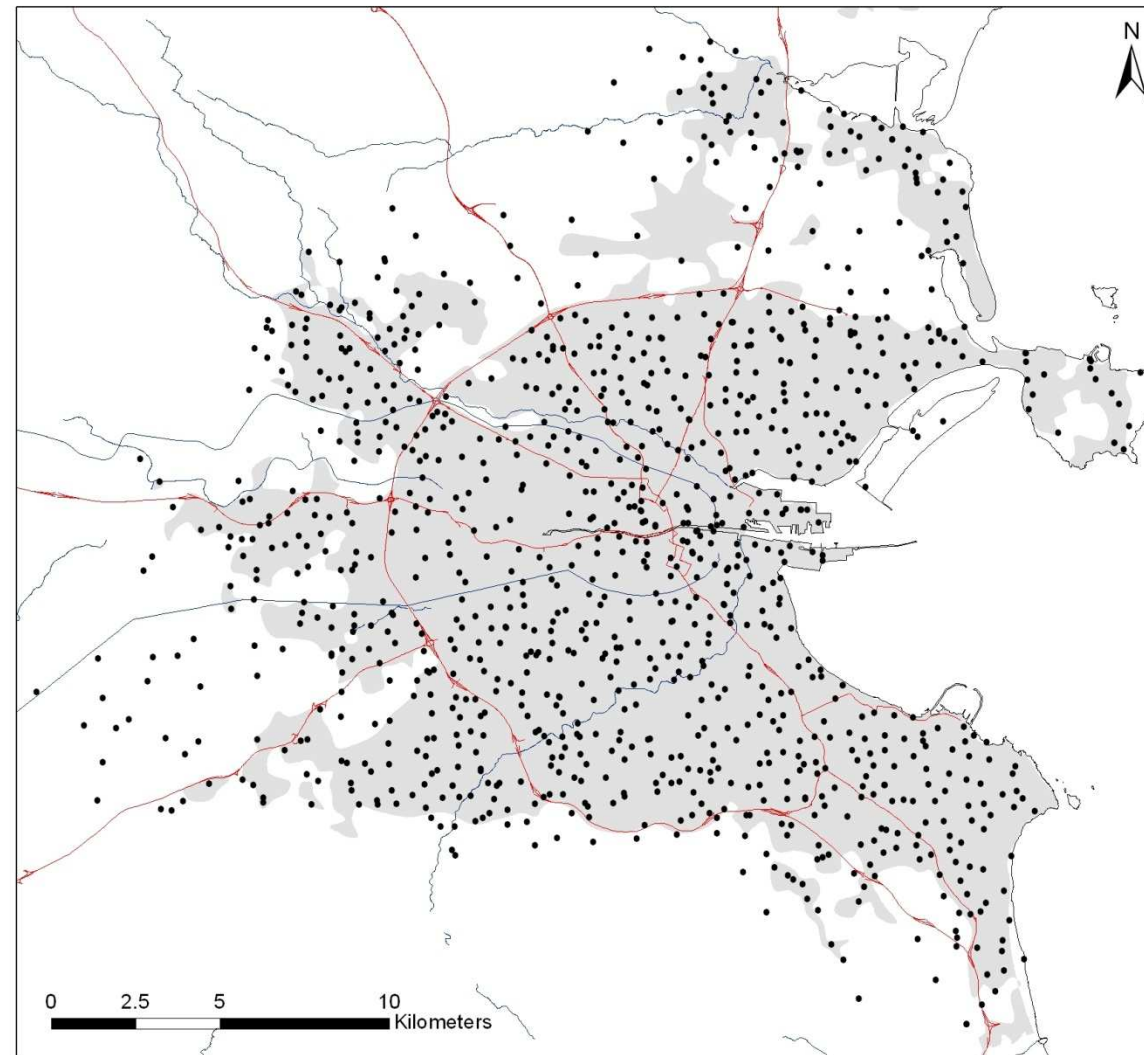
Rock head OD-Dublin city centre

Applied Projects - Landslides

- Cross Programme project
 - Bedrock data
 - Quaternary data
 - DEM (aspect, slope, elevation)



Applied Projects – Soil Geochemical Mapping



Dublin SURGE Project *Urban Soil Geochemistry*

Greater Dublin Area Sampling locations







- Sampling location
- River / canal
- Major road
- Coastline
- Urban area

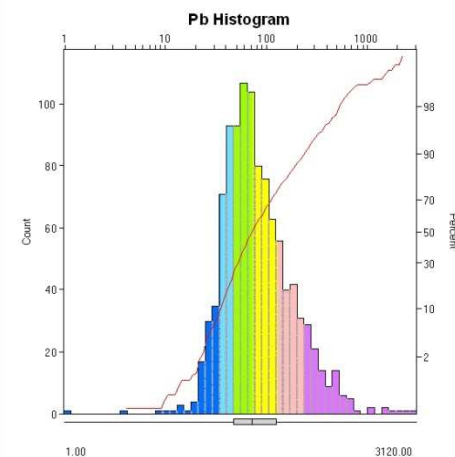
Date:	Drawn:
22/04/10	M.G.





Dublin SURGE Project

Pb - topsoil

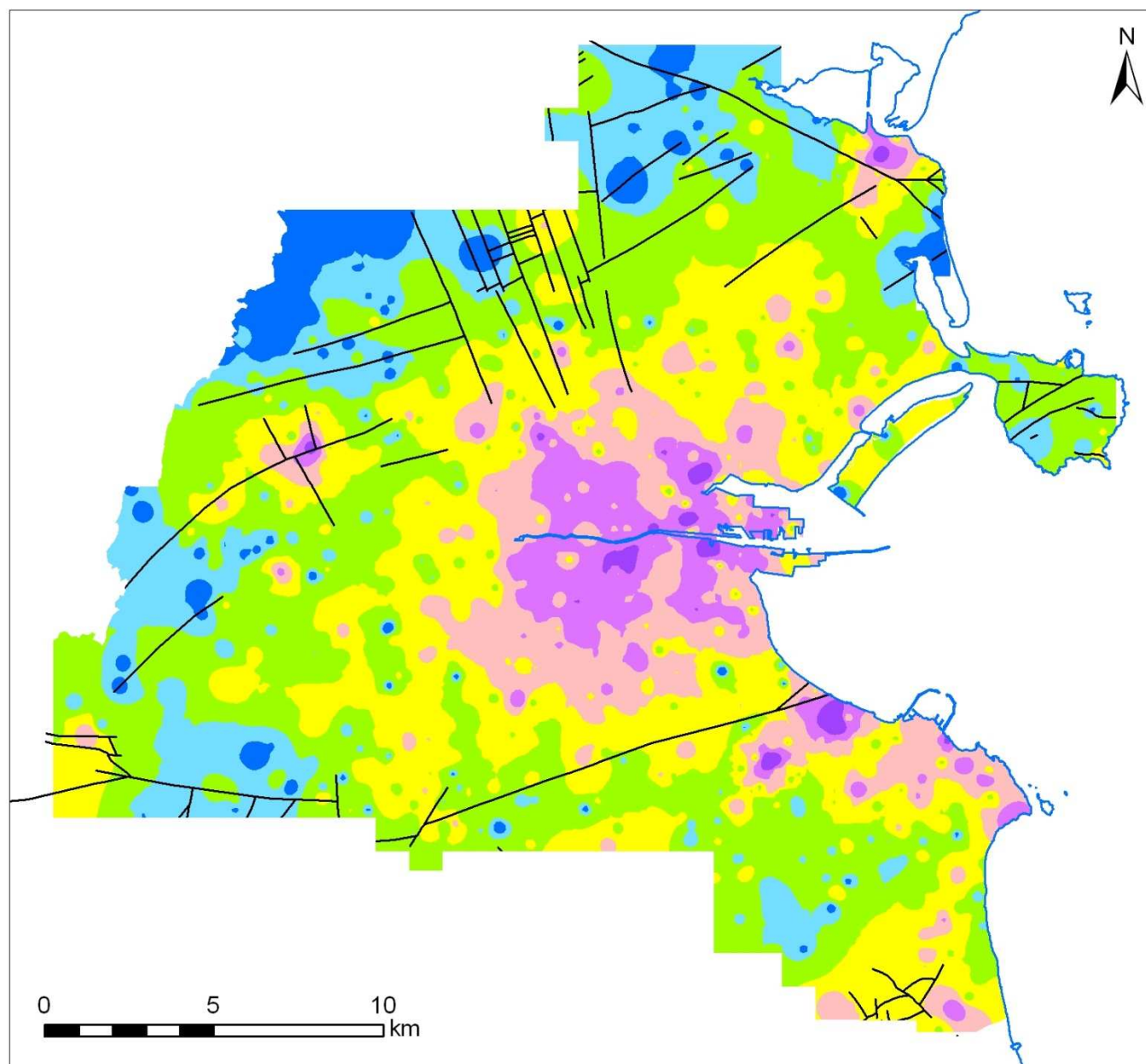
Percentile		mg/kg
Min - 10th		2 - 35.6
10th - 25th		35.6 - 48
25th - 50th		48 - 73.8
50th - 75th		73.8 - 129
75th - 90th		129 - 239
90th - max		239 - 3,120



Legend

-  Coastline
-  Structural geology

Analytical method: ICP-AES
Detection limit: 2 mg/kg
Count: 1057



Tellus Border - Airborne geophysical survey

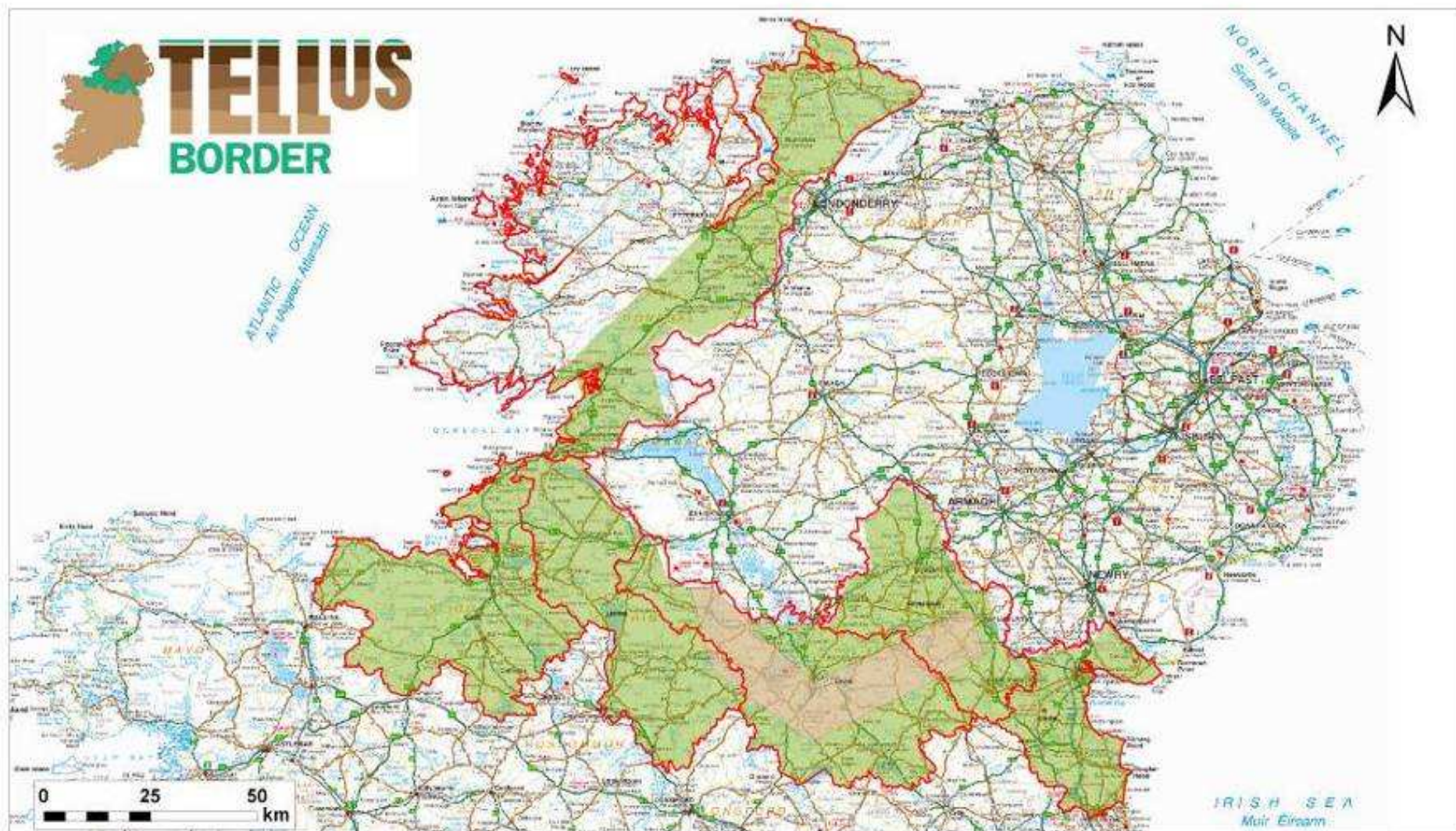
- Altitude 58m
- Flight lines c.200m apart

Electromagnetic coil

Gamma-ray detector

Magnetometer





Legend

- Geochemical Survey Area
- Geophysical Survey completed
- Geophysical Survey Area

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European Union
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Special EU Programmes Body
Foras Um Chláir Speisialta An AE
Boord O Owre Ocht UE Projects

A project supported by the INTERREG IVA Programme managed by the Special EU Programmes Body



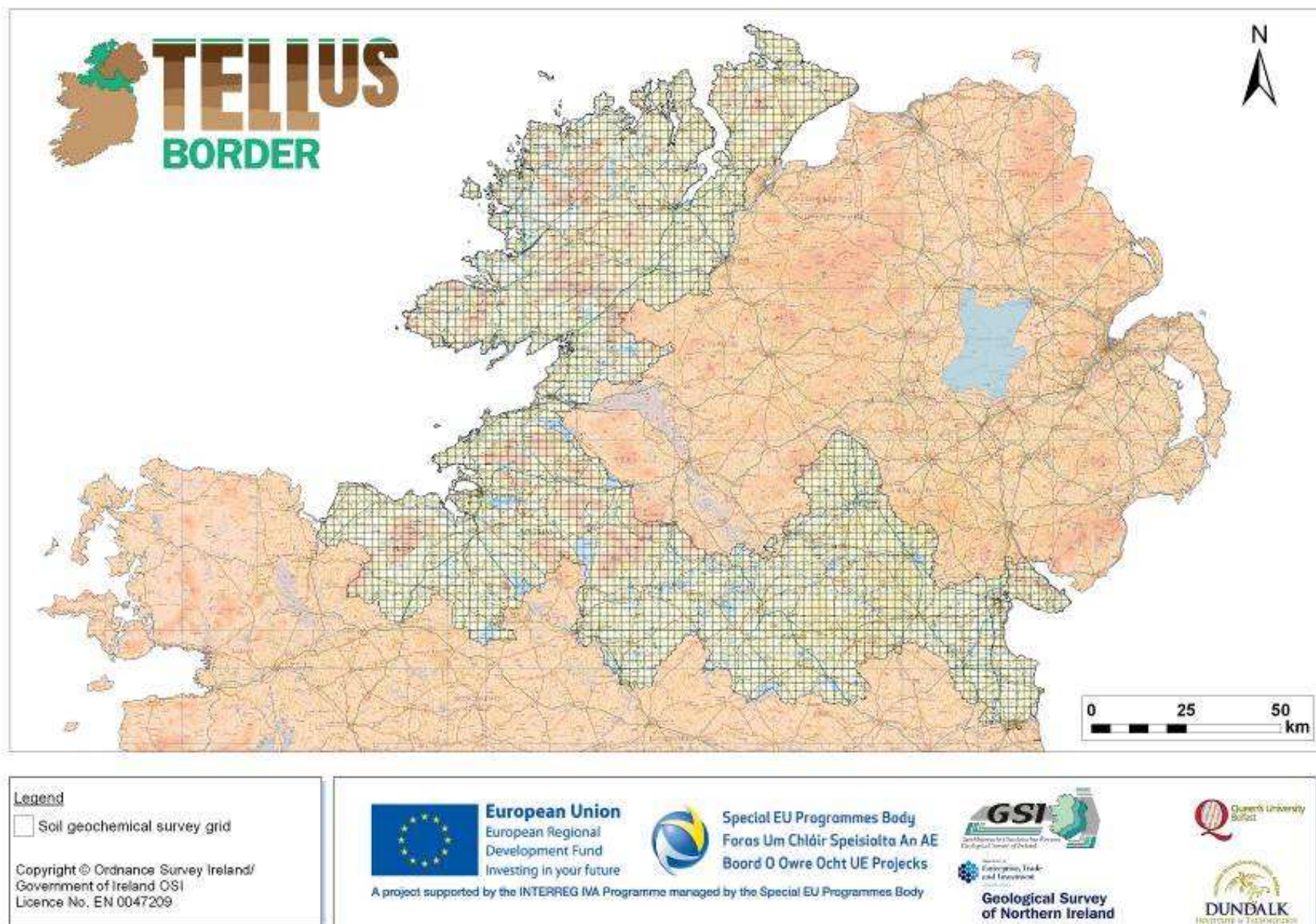
**Geological Survey
of Northern Ireland**



Tellus Border - Geochemical surveys

- Soil sampling – 3500 sites
- Steam water and sediment sampling – 3500 sites
- Measuring up to 55 elements and compounds
- Regional cross-border interpretation
- Integrate with Tellus data

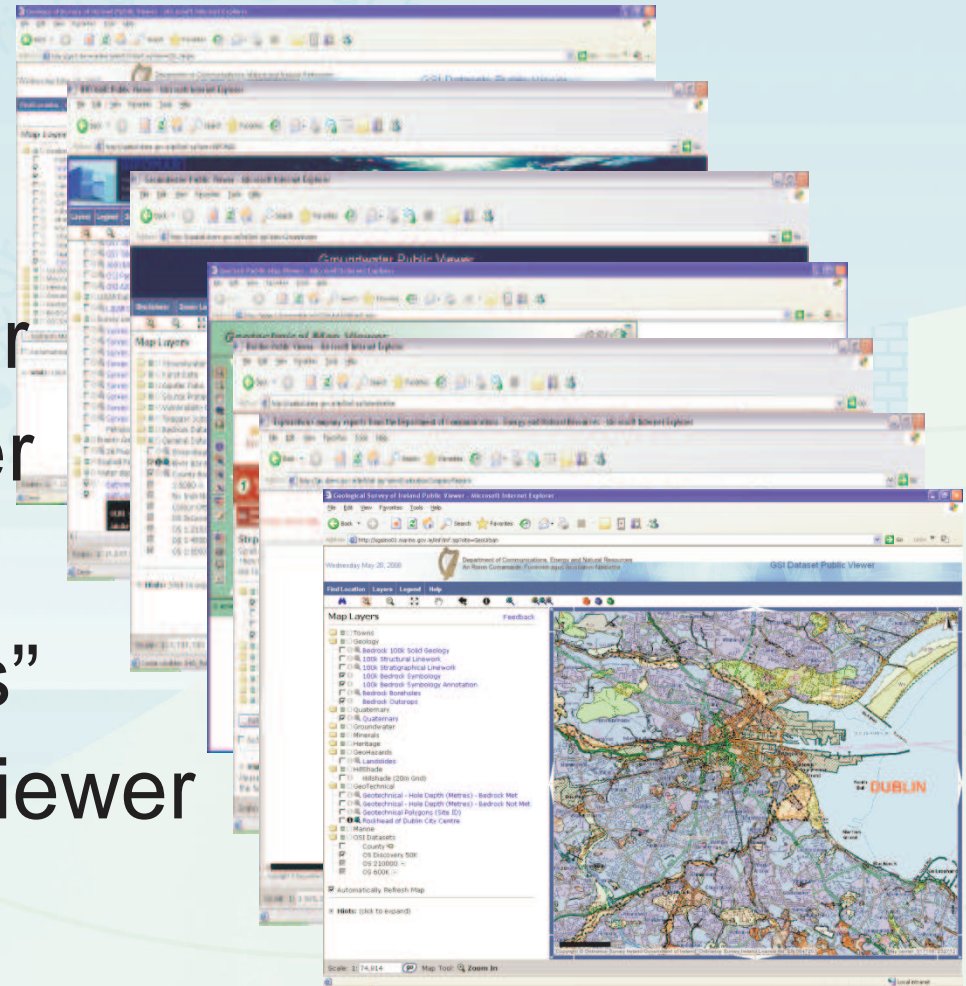




Preliminary soil sampling locations – one per 4km²

WebMapping sites

- GSI public viewer
- INFOMAR viewer
- Groundwater viewer
- Geotechnical viewer
- Brefnie viewer
- Mineral “Open Files”
- GeoUrban Dublin viewer



Live Demos

- www.gsi.ie
 - Simple Viewer
- <http://gis.dcenr.gov.ie/imf/imf.jsp?site=ExplorationCompanyReports>
 - Minerals “Open File” Viewer
- <http://spatial.dcenr.gov.ie/GSIGeotech/>
 - Geotechnical Database

Spatial Data Download Pages

- Simple pre-zipped datasets
 - Free to use commercially, remains Government copyright
- Pre-bundled data, with metadata sheets, style files etc.
- ESRI shapefile and GRID formats

EMD Data Downloads - Department of Communications, Energy and Natural Resources | An Roinn Cuma - Microsoft Internet Explorer

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Address

http://www.dcmnr.gov.ie/Spatial+Data/Exploration+and+Mining/EMD+Spatial+Data+Downloads.htm

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Filename: Plmapaug07.zip

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Download



Filename: EMDgeophysics.zip

Filesize: 18Kb

Download



Filename: historic_mines.zip

Filesize: 87Kb

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Historic Downloads

Download Name	Date	Filesize	Download
Plmapmay07.zip	May 2007	15,631Kb	Download

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Available downloads




Bedrock Geology
1:100,000 (19.8Mb)

Download




Bedrock Geology
1:500,000 (4.45Mb)


Download




Bedrock Boreholes
(542Kb)

Download







Done

Internet

Groundwater Aquifers
(13.2Mb)

Download

Karst Features
(302Kb)

Download

Source Protection Areas
(520Kb)

Download

National Draft Generalised
Bedrock Map (Groundwater
Rockunits) (7.98Mb)

Download

Upper
Palaeozoic Palaeontology
Sites (26.3Kb)

Download

INSS Zones & Survey Tracks
(21.4Mb)

Download

Geotechnical Boreholes &
Report areas (845Kb)

Download

Mineral Locations & Quarry
Directory (610Kb)



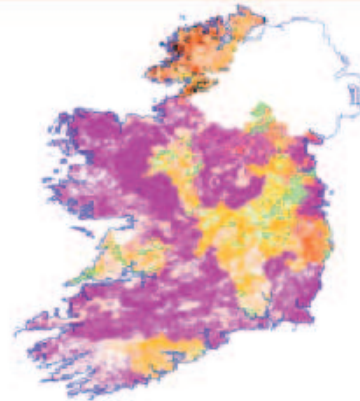
Download

GSI Data Downloads - Department of Communications, Energy and Natural Resources | An Roinn Cumair - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Reload Home Search Favorites

Address <http://www.dcmnr.gov.ie/Spatial+Data/Geological+Survey+of+Ireland/GSI+Spatial+Data+Downloads.htm> Go Links

	Rockunits (7.98Mb) Download	Sites (26.3Kb) Download	(21.4Mb) Download
			
	Geotechnical Boreholes & Report areas (845Kb) Download	Mineral Locations & Quarry Directory (610Kb) Download	
Groundwater Vulnerability			
Eastern Interim Vulnerability (9.4Mb)			
Neagh Bann Interim Vulnerability (6.1Mb)			
North Western Interim Vulnerability (40Mb)			
South Eastern Interim Vulnerability (19.2Mb)			
Shannon Interim Vulnerability (29.6Mb)			
South Western Interim Vulnerability (35Mb)			
Western Interim Vulnerability (36.2Mb)			
National Interim Vulnerability (Entire dataset. Warning: 174Mb)			
			

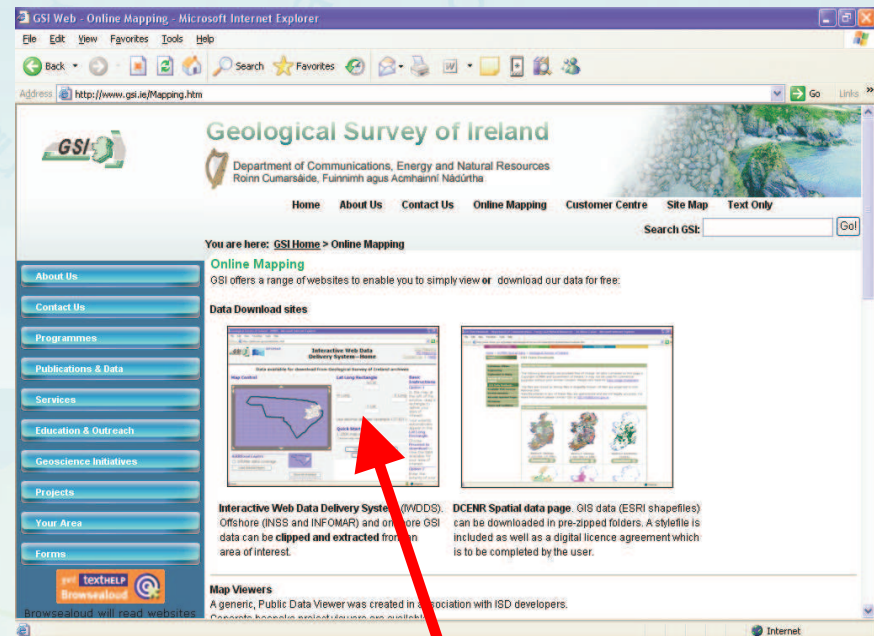
Internet

IWDDS - GSI & MI data download

- GSI & MI conducting large seabed surveying programme – INFOMAR
- Successor to GSI Irish National Seabed Survey
- **Interactive Web Data Download System** (IWDDS), developed by Intrepid Geophysics, Australia – Jetstream Product
- Large volumes of gridded bathymetric data and GSI onshore data (7Tb disk on HEAnet)

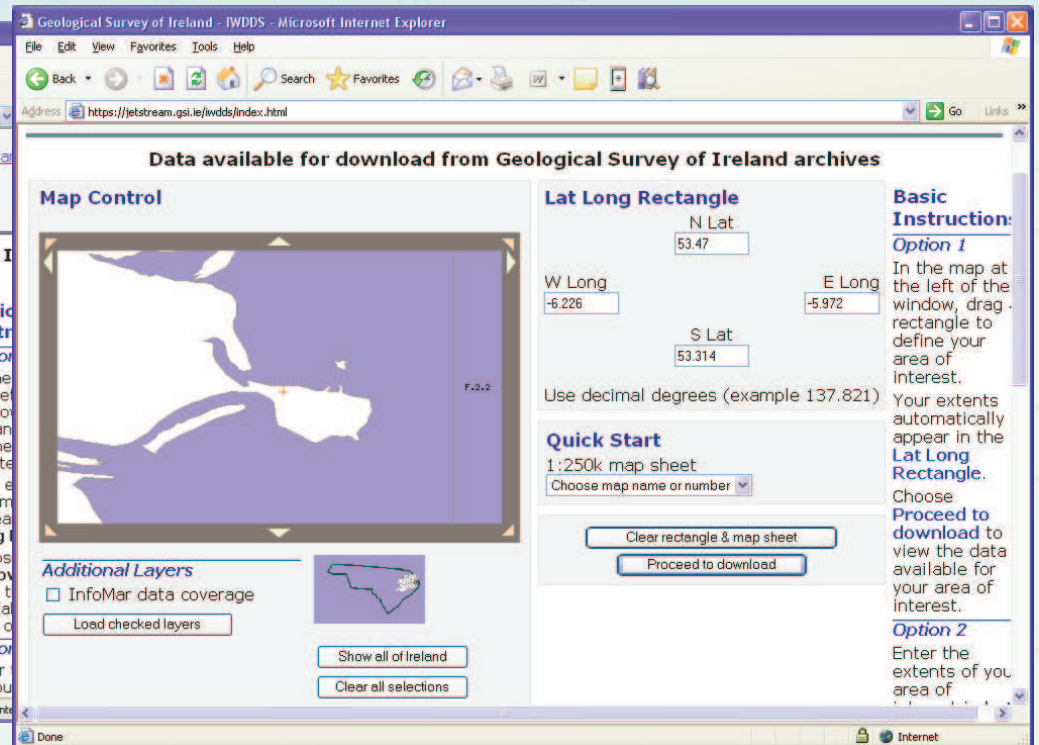
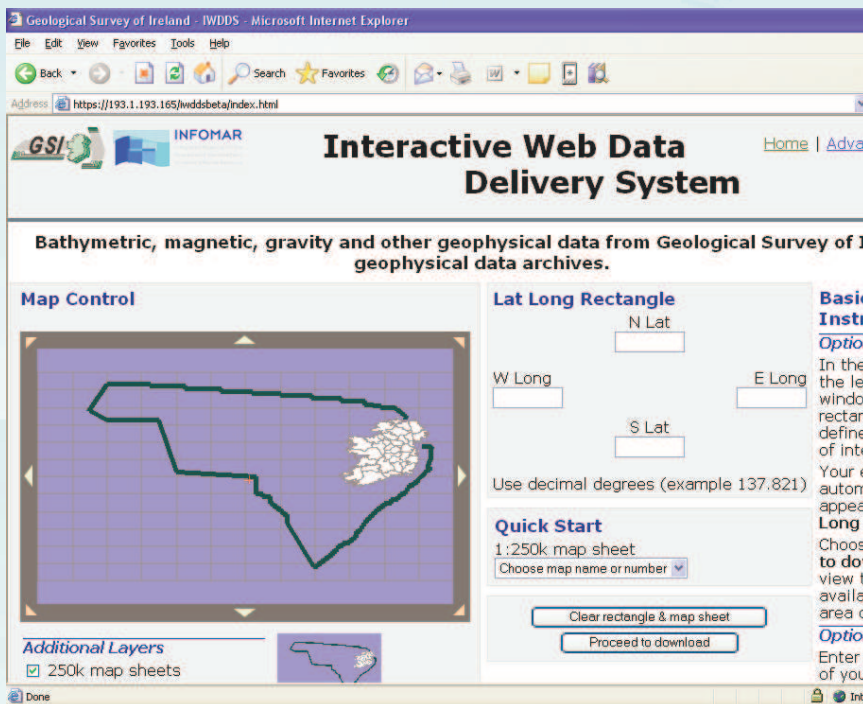
How to find the IWDDDS

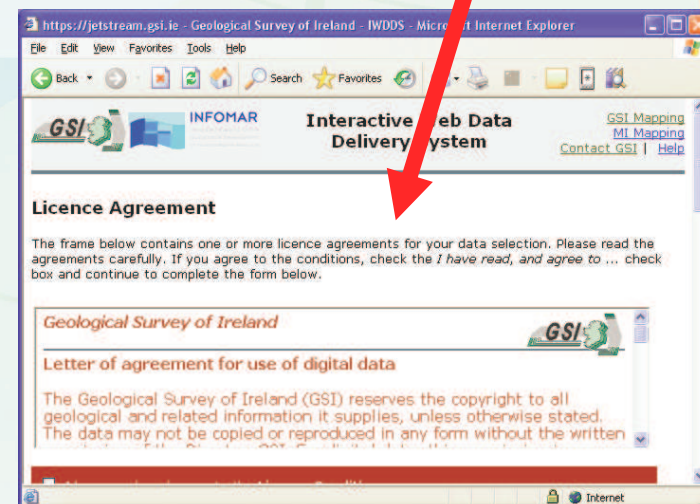
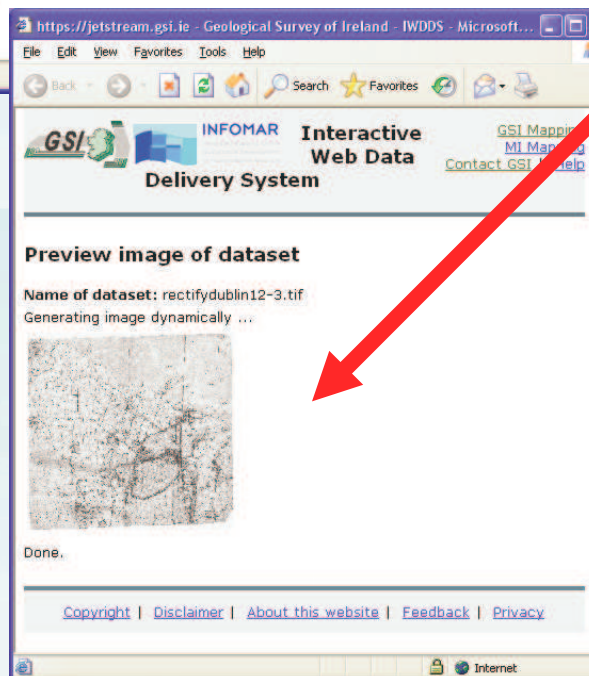
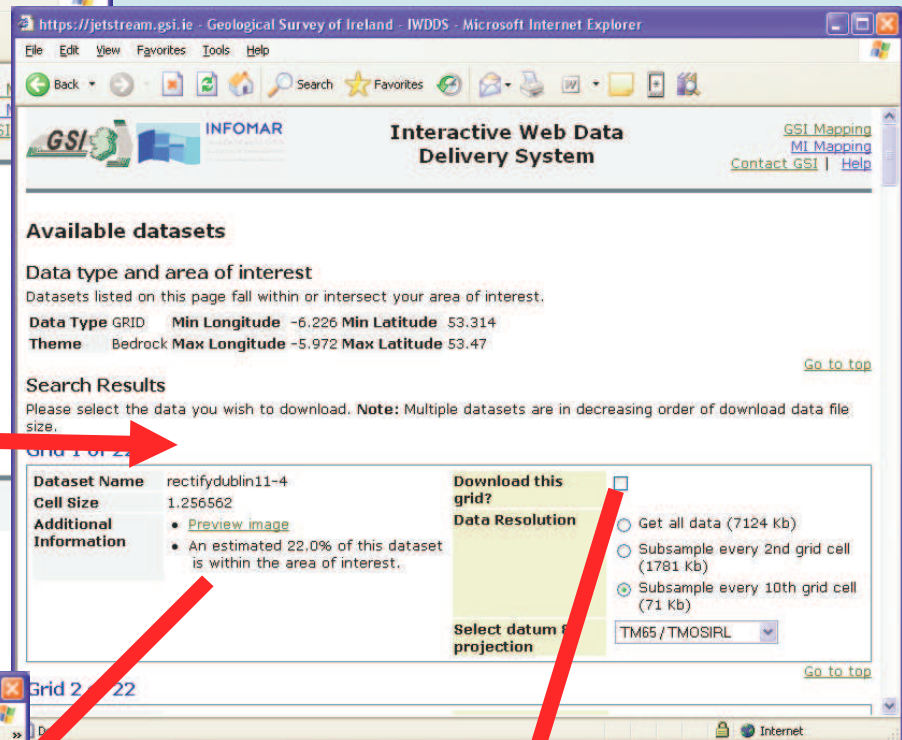
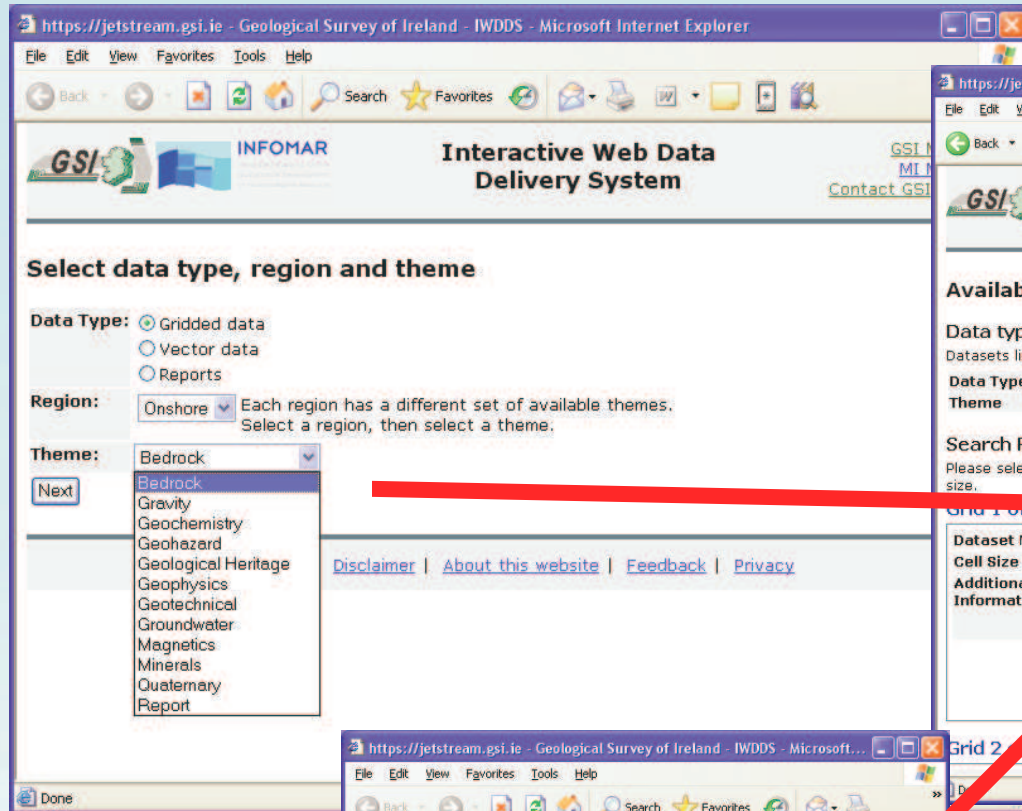
www.gsi.ie/mapping



IWDDDS

<https://jetstream.gsi.ie/iwdds/index.html>





IWDDS

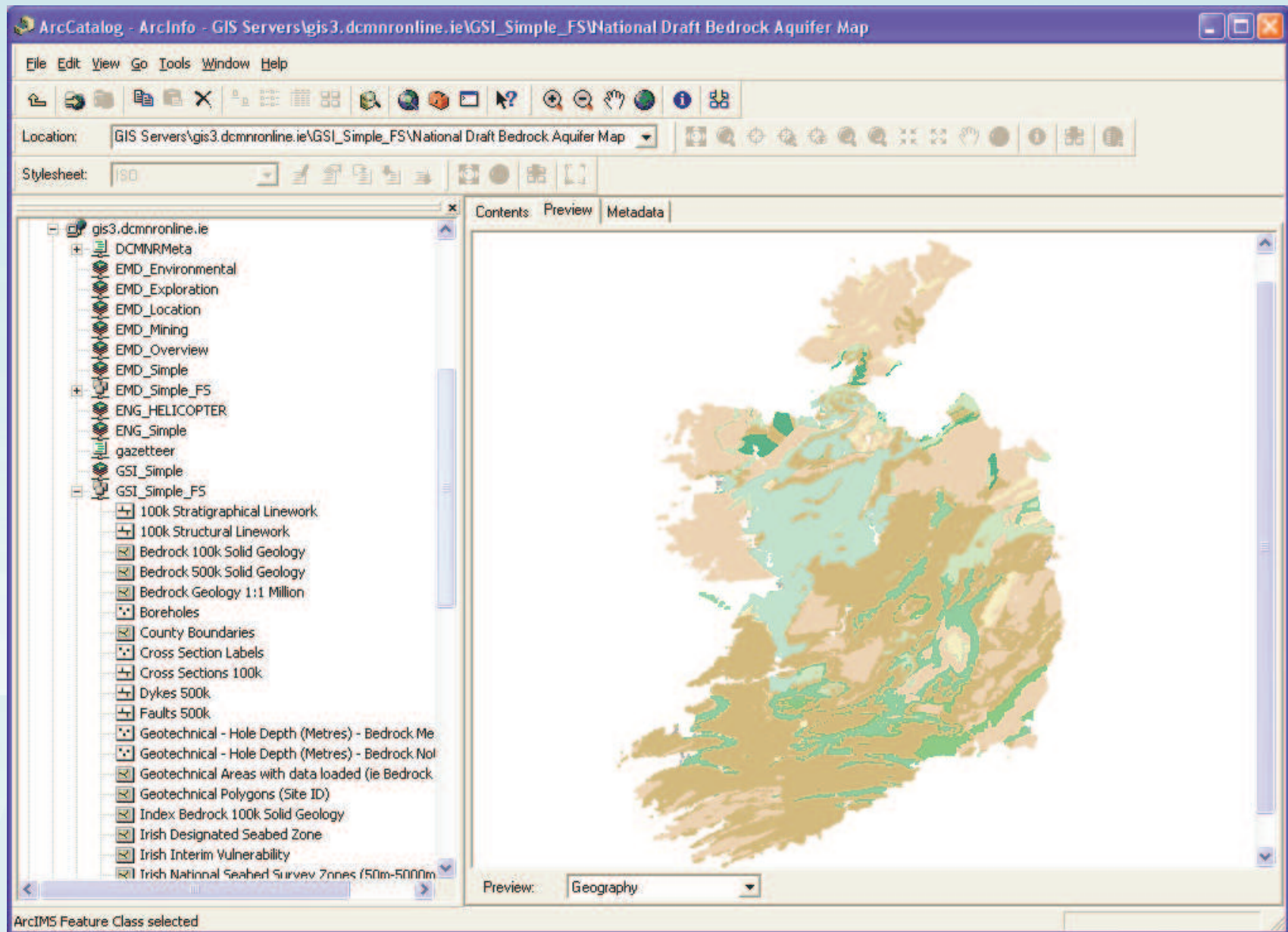
- Select;
 - Area of interest
 - Select region (onshore, offshore)
 - Data type (gridded, vector, reports)
 - Data theme (Bedrock, Minerals, Bathymetry..)
 - Preview data as thumbnail
 - Re-sample or re-project?
- Register email, acknowledge copyright
 - Receive email with ftp link to zip file

Web Services

- Allows desktop users and web developers to access the data directly
- WMS or WFS (image of data or vector data – non editable!!)
- Open Source compliant
 - Users of any GIS software can access

Web Services

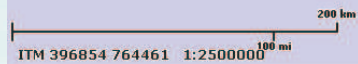
- Open Standards, so can be consumed by all OGC compliant viewers, not just ESRI products.
- OGC compliant web services
 - WMS (Web Mapping Service – raster image)
 - http://spatial.dcenr.gov.ie/wmsconnector/com.esri.wms.Esrimap/GSI_Simple?
 - WFS (Web Feature Services – **vector data**)
 - Metadata Catalogue Services Developed using **Open Source Geonetworks**

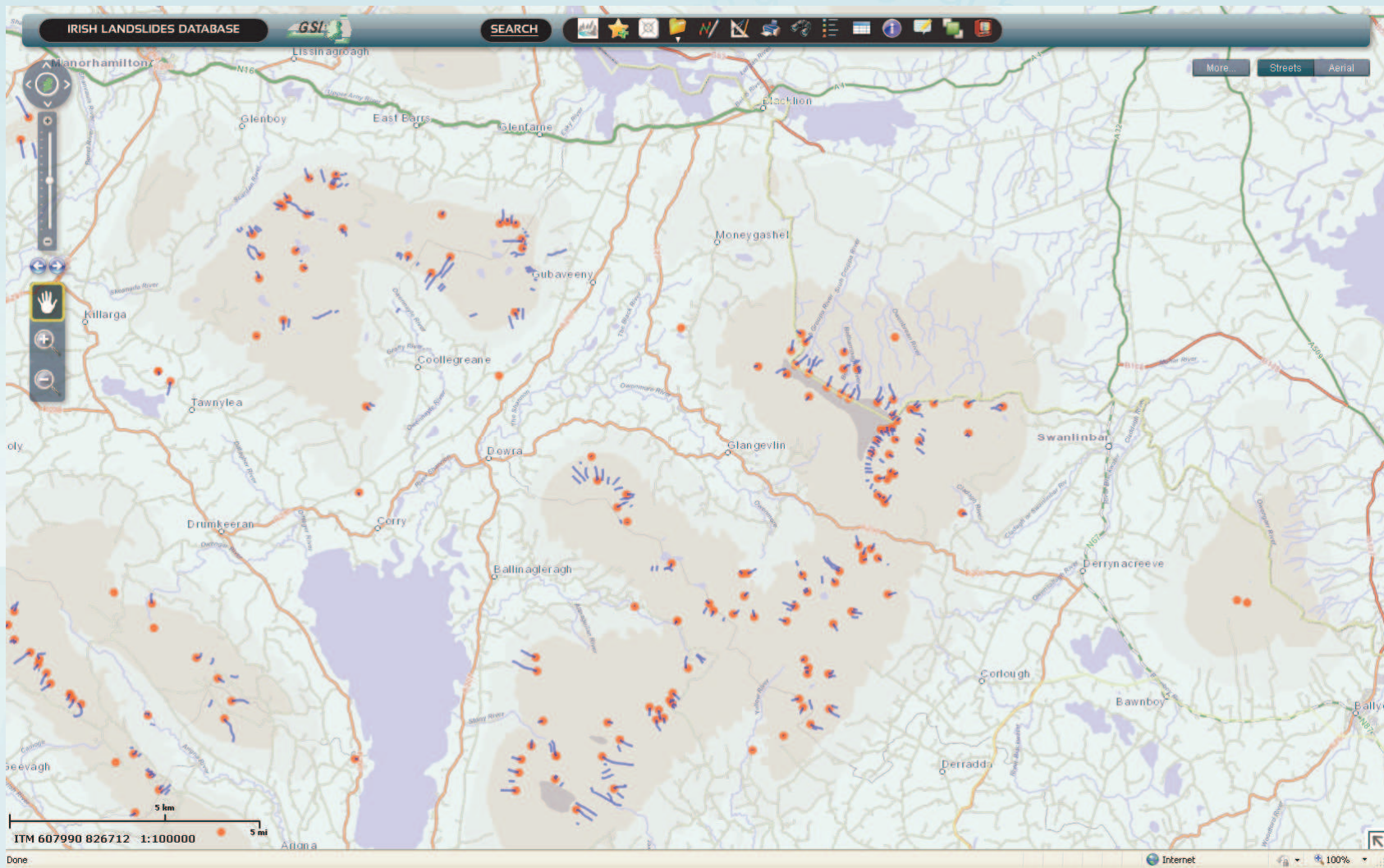


In Development

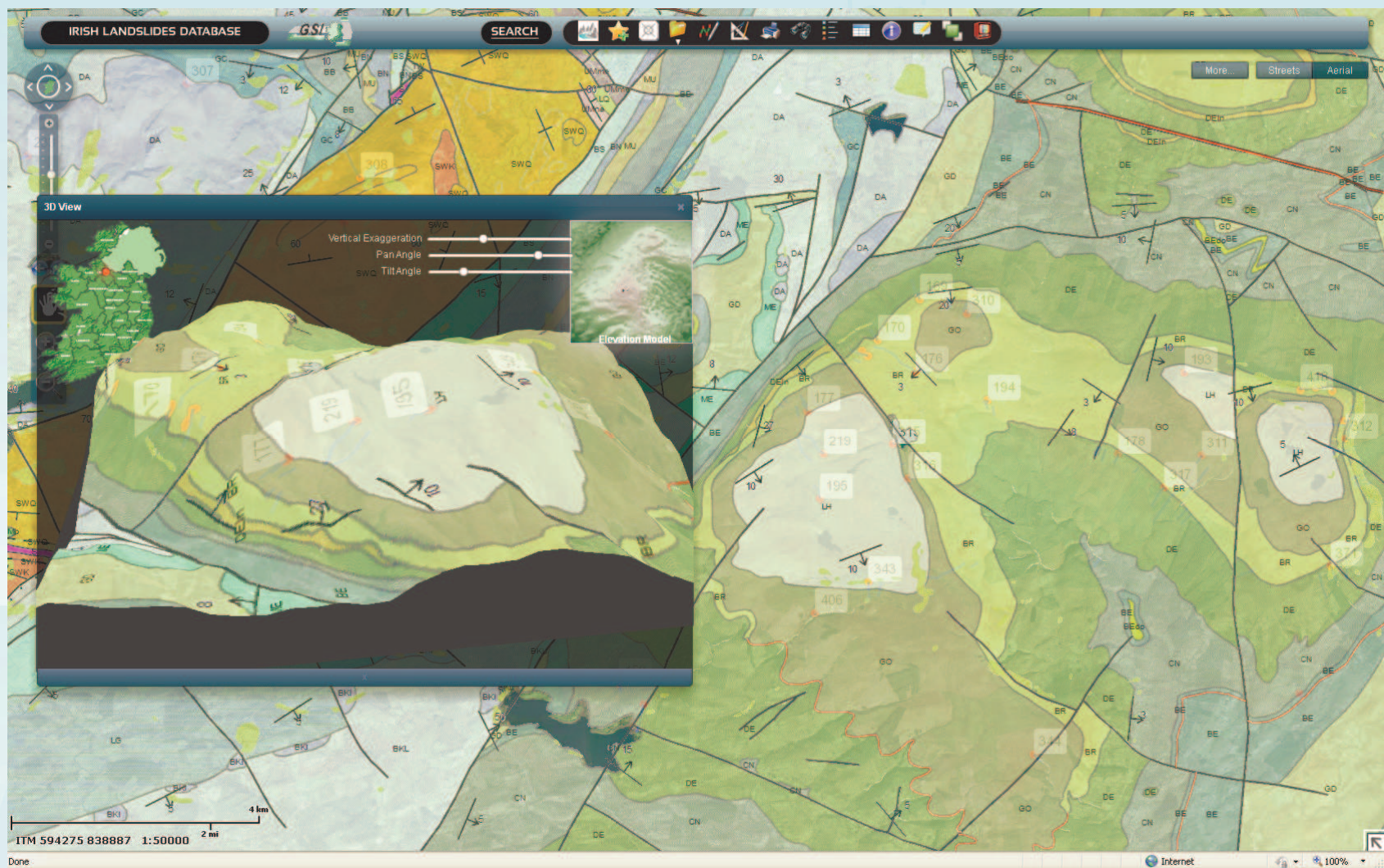
- New Viewers
- Digital Archive
- National Data Portal
- 3D modelling and web visualisation











Geotechnical Database

- Prototype webmapping/database upgrade using MAPSTORE
- Staff digitise borehole locations and subsurface info
 - Depth to rock
 - Nature of overburden (sand, gravel, till etc.)
- Customers can query database and get local ground conditions ahead of site survey or construction
 - Saves companies money

GeoTech Reports

Current Report: 2160



GeoTech Reports

Macken Street, Dublin 2

Go

Advanced Search

Add..

ID	Report Title	Address
3389	Housing Development - Gas Monitoring	Street, Dublin :
2160	Macken Street Bridge	Macken Street, Dublin 2, Co. Dublin
493	Dublin Corporation Flats	t, Dublin 2
441	Flats Complex	

InvestigationID	LocationID	LocationName	Started	Comment
81349	104817	MB12	01-JUL-99	Riverbed
81348	104816	MB11	01-JUL-99	Riverbed
81347	104815	MB10	01-JUL-99	Riverbed
81346	104814	MB9	01-JUL-99	Riverbed
81345	104813	MB8	01-JUL-99	Riverbed
81344	104812	MB7	01-JUL-99	Riverbed
81343	104811	MB6	01-JUL-99	Riverbed
81342	104810	MB5	01-JUL-99	Riverbed
81341	104809	MB4	01-JUL-99	Riverbed
81340	104808	MB3A	01-JUL-99	Riverbed

2 | Next



GSI Digital Archive

KONFIG - User: public Role: GSI Read Only

File Edit View Favorites Tools Help

Address http://dnr.gsi.ie/arcgis/arcserver/isp

Help Info GSI Read Only

GSI Projects Shopping Cart Logout

Search Folder

Public Access's Work Area

- Current Tasks
- Working Copies
- Enterprise Folder
 - ATC Item Folder
 - OF07037
- Geological Survey of Ireland
 - Bedrock Field Sheets
 - Carlow
 - Cavan
 - Clare
 - Cork
 - Down
 - Dublin
 - Donegal
 - Galway
 - Kerry
 - Kildare
 - Kilkenny
 - Laois
 - Letcham
 - Limerick
 - Louth
 - Mayo
 - Meath
 - Monaghan
 - Offaly
 - Rockingham
 - Sligo
 - Tipperary
 - Wexford
 - Wick

EDIT AREA

Format Items

Title	File(s)	File size	Create Date	Barcode	Con
CA01	Item ID, File Name, Format, Primary	3.35 MB (3512296 bytes)	31-Jan-2003 22:44	001548	Carl
			28:44		
			Jan-2003 22:47	001547	Carl
			Jan-2003 22:40	004334	Carl
			Jan-2003 22:43	004333	Carl
			Jan-2003 22:45	004332	Carl
			Jan-2003 30:07	004329	Carl
			Jan-2003 30:04	004330	Carl
			Jan-2003 30:06	004331	Carl
			Jan-2003 29:50	004328	Carl
			Jan-2003 30:14	004326	Carl
			Jan-2003 30:02	004327	Carl
			Jan-2003 29:30	004322	Carl

Microsoft Office Document Imaging

18256 MB 004322.tif TIFF Yes

Local Intranet

FDXT AREA

[GIS Search](#) | [Searching...](#) | [All Items](#) | [Mine Records](#) | [Unpublished Reports](#)

Search for data

Downloaded from <http://www.jstor.org/stable/2346392> by University of Toronto on Tue, 20 Jun 2017 12:05:35 UTC



Search Folder GSI

EDIT AREA

GSI Search Searching... All Items Mine Records Unpublished Reports

<input type="checkbox"/>	Title	File(s)										File size	County
<input type="checkbox"/>		Item ID	File Name	Format	View Count	File Location	Primary	Checkin	Remove	File Exists	Valid ID		
<input type="checkbox"/>	MA0398 INV/M/CU/MLA Curran Mining District, Co. Mayo - sleeve	127543	MM0002957.tif	TIFF	1		Yes	No	No	Yes	66	282.27 KBytes (289042 bytes)	Mayo
<input type="checkbox"/>	Assorted	120593	MR000280.tif	TIFF	2		Yes	No	No	Yes	66	1.81 MBytes (1897999 bytes)	Mayo
<input type="checkbox"/>	Beading	120584	MR000277.tif	TIFF	1		Yes	No	No	Yes	66	112.90 KBytes (115610 bytes)	Mayo
<input type="checkbox"/>	Curran	120585	MR000278.tif	TIFF	1		Yes	No	No	Yes	66	23.96 MBytes (25122859 bytes)	Mayo
<input type="checkbox"/>	Georgetown/Horse Island, Shushanah	120582	MR000276.tif	TIFF	2		Yes	No	No	Yes	66	1.35 MBytes (1412487 bytes)	Mayo
<input type="checkbox"/>	Plan of Curran Mining District by Edmund Spargo	127545	MM0002958.tif	TIFF	2		Yes	No	No	Yes	66	17.45 MBytes (18299668 bytes)	Mayo
<input type="checkbox"/>	Sheddy Mines: Fanning of area, mine section	127548	MM0002959.tif	TIFF	4		Yes	No	No	Yes	66	32.55 MBytes (34131899 bytes)	Mayo
<input type="checkbox"/>	Stratmore	120591	MR000279.tif	TIFF	0		Yes	No	No	Yes	66	267.63 KBytes (276458 bytes)	Mayo

National GIS data portal

- Metadata based central portal
- MI, EPA, DOECLG, OSI, LAs, PRAI etc.



Metadata

- Live Catalogue with c.120 records
- Final edits still to be done

GeoNetwork - The portal to spatial data and information - Windows Internet Explorer

http://spatial.dcenr.gov.ie/geonetwork/srv/en/main.home

File Edit View Favorites Tools Help

GeoNetwork - The portal to spatial data and information

Open Map Viewer

~ Any -

Search

Reset Advanced Options

CATEGORIES

- Applications
- Audio/Video
- Case studies, best practices
- Conference proceedings
- Datasets
- Directories
- Interactive resources
- Maps & graphics
- Other information resources
- Photo

RECENT CHANGES GeoRSS

- Bedrock Outcrops
- Bedrock Boreholes
- Bedrock geology 500k
- 1inch Index
- Bedrock Geology 100k
- Landslide Database
- Ground Motion Hazards (GMES) TerraFirma Overall
- ERBD_Vul_IMS07
- Structural linework100k
- Stratigraphic linework 100k

Abstract This data represents a seamless bedrock geological dataset encompassing Republic of Ireland and parts of Northern Ireland. The seamless geological dataset was created from the GSI Bedrock 1:...

Keywords Bedrock Geology of Ireland, 1:100,000 Seamless, bedrock, geology, Stratigraphy,, Structural geology, GSI, Rock Units, Geology, Geology

[Metadata](#) [Download](#)

BEDROCK BOREHOLES

Abstract A national database of bedrock boreholes including locational and stratigraphic information where known.

Keywords Boreholes, Borehole location, Stratigraphic, Geology

[Metadata](#) [Download](#)

GROUND MOTION HAZARDS (GMES) TERRAFIRMA OVERALL

Abstract This data set consists of digital 'Ground motion hazards' data of Dublin and Cork provided by TerraFirma project. The project is utilising existing archives of Synthetic aperture radar inter...

Keywords Geology, TerraFirma, ESA, PSInSAR, urban subsidence, Radar monitoring, landslides, 'Ground motion hazards', Mining, Landslides, Seismic activity, Volcanic deformation, Cork, Dublin.

[Metadata](#)

BEDROCK OUTCROPS

Abstract Bedrock outcrop polygons, derived from digitising outcrop locations from scanned 19th Century GSI field maps. The data was derived from mapping at a scale of 1:10,560 (6 inches to one mile)....

Keywords Bedrock geology, Bedrock outcrop, Rock near the surface, Geology

[Metadata](#)

BEDROCK GEOLOGY 500K

Abstract This data represents a seamless bedrock geological dataset encompassing Rep of Ireland and parts of Northern Ireland at the 500,000 scale.(The full dataset comprises 3 key shape files: BED50...

Keywords Geology, bedrock geology, structural geology, 1:500,000 bedrock, geology, GSI, RockUnits, Unitnames., Geology, Geology

[Metadata](#) [Download](#)

MULTIBEAM BATHYMETRY

Abstract Bathymetry data acquired using Multibeam sonars during the Irish National Seabed Survey (INSS). These data cover the extent of the Irish designated waters. Keywords: Irish National Seabed Su...

Keywords Irish National Seabed Survey, INSS, Geological Survey of Ireland, seabed, bathymetry, MultiBeam Data., Marine Geophysics, Geology

[Metadata](#)

(4 items remaining)

Internet 100%

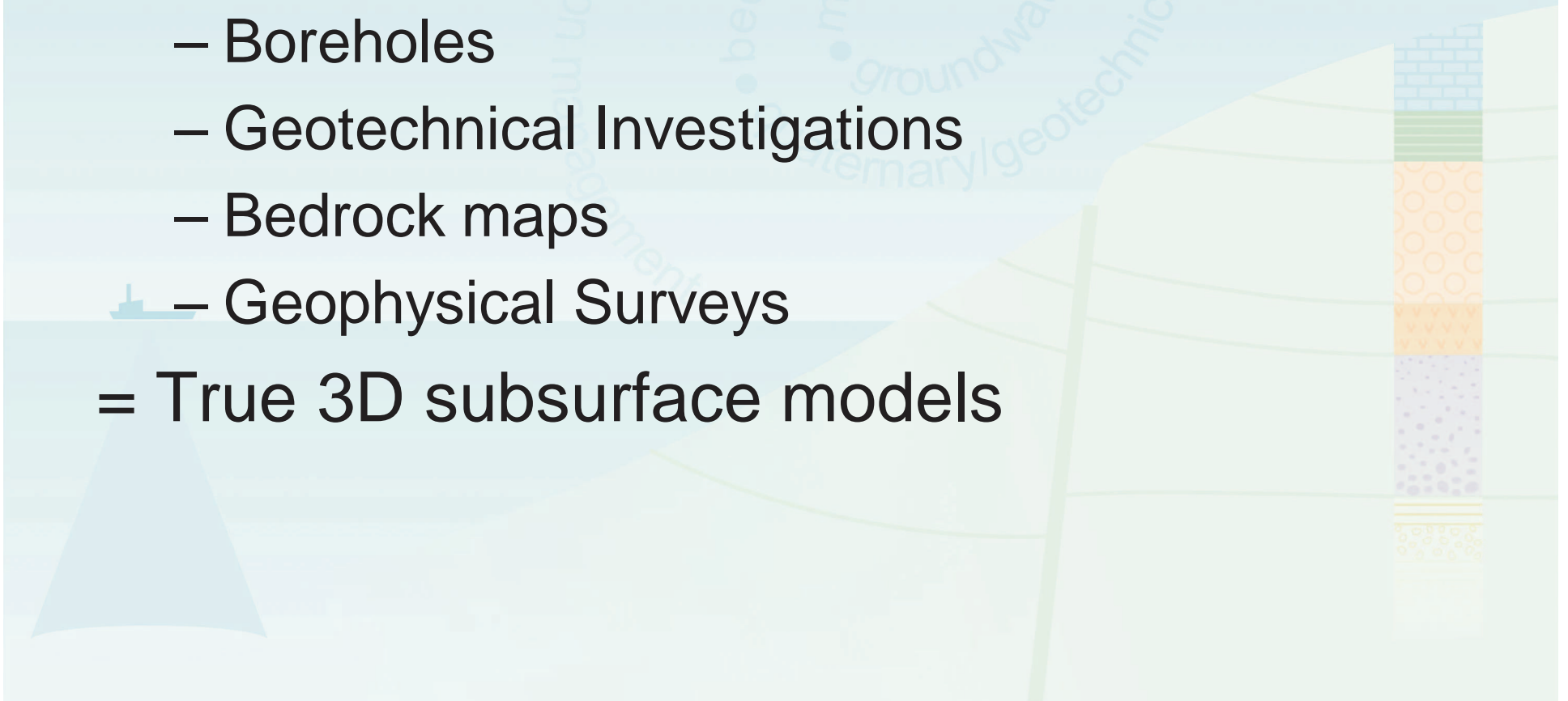
Live Demo

www.isde.ie



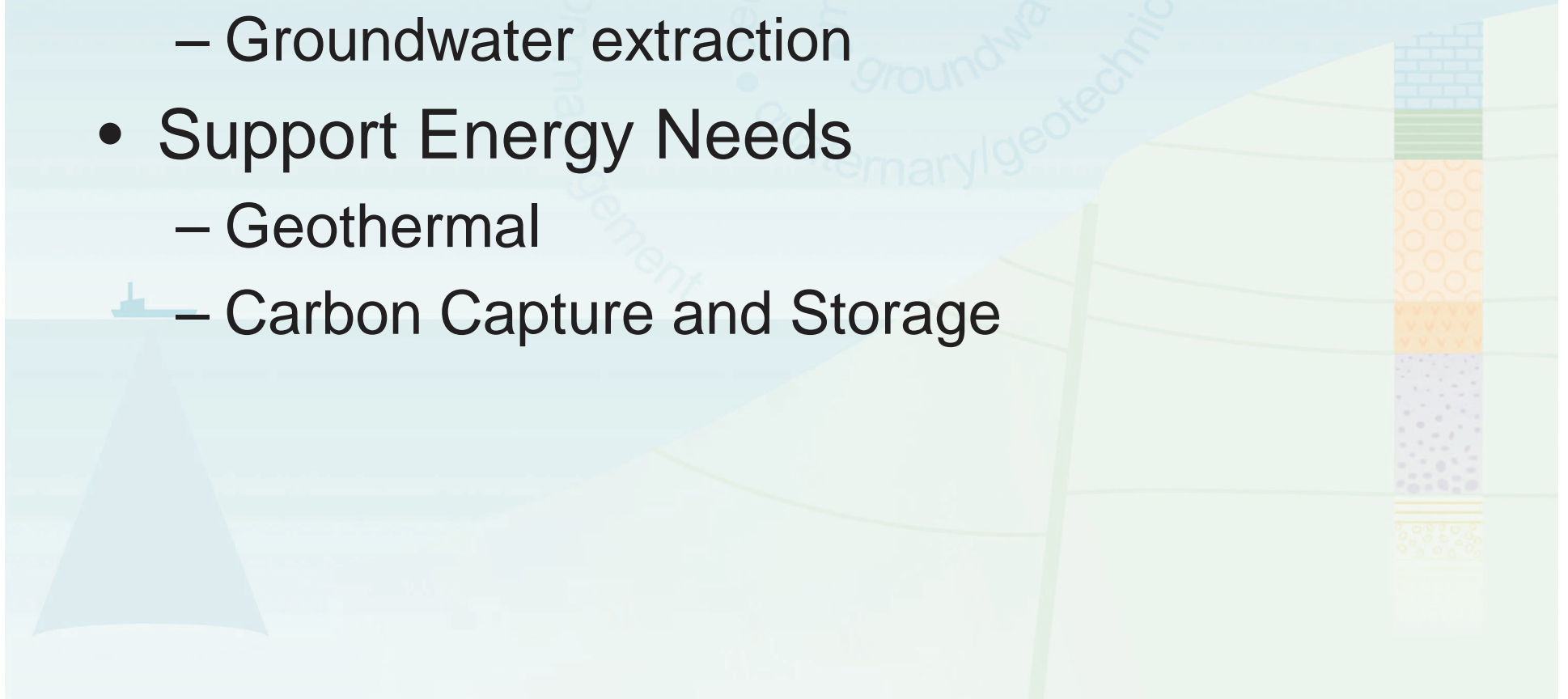
3D modelling

- Integrated datasets
 - DEM
 - Boreholes
 - Geotechnical Investigations
 - Bedrock maps
 - Geophysical Surveys
- = True 3D subsurface models



Why 3D models?

- Support Infrastructure
 - Tunnels etc
 - Groundwater extraction
- Support Energy Needs
 - Geothermal
 - Carbon Capture and Storage



ozoVGS13D_newDublin_city_centreDublin_city_centre.gispr - (Non-faulted mode, version 2011)

Calculate Windows ? Help

3D Objects

Titles and grids

geological units

- ☒ Tsl
- ☒ Made
- ☒ A
- ☒ Mbs
- ☒ Mesc
- ☒ GLs1
- ☒ Tus1
- ☒ Rck
- ☒ Lense-1
- ☒ Lense-2

cross-sections

maps

folds

Explode, Video...

Exploded Video

☒ Explode model

EW-Displacement (%)

-100 0 100

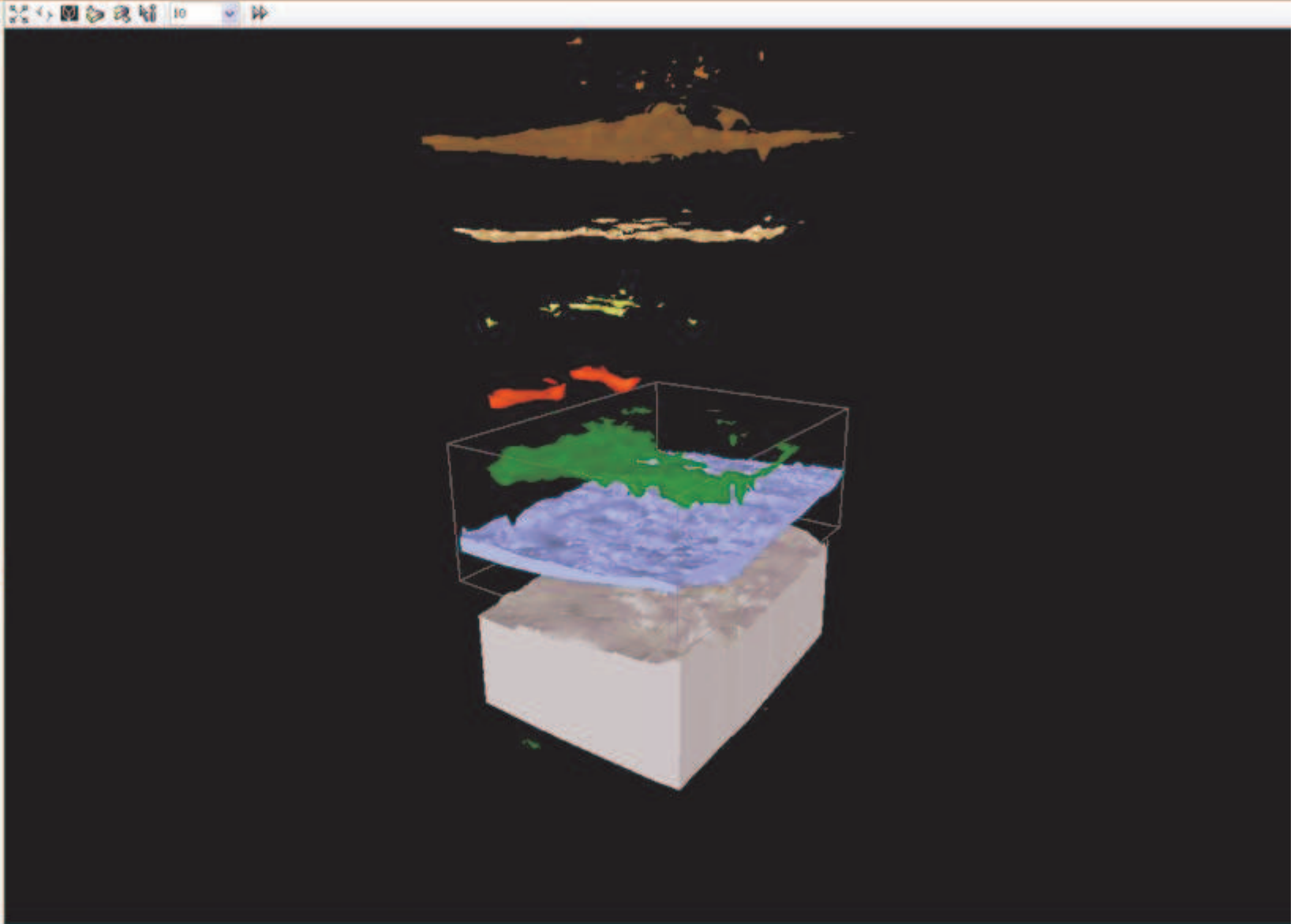
NS-Displacement (%)

-100 0 100

Z-Displacement (%)

0 50 100

Reset all to zero



3D Objects Titles and grids geological units cross-sections maps folds Explode, Video... Exploded Video ☒ Explode model EW-Displacement (%) -100 0 100 NS-Displacement (%) -100 0 100 Z-Displacement (%) 0 50 100 Reset all to zero

Done

