

Interactive Web Data Delivery System

providing open and free access to Ireland's marine data via the internet

Gráinne O'Shea







http://www.infomar.ie

Outline

INFOMAR

Integrated Mapping for the Sustainable Development of Ireland's Marine Resource

Data Access: Interactive Web Data Delivery System (IWDDS)

- Why? Provide digital data for free download
- Solution? Software & Hardware
- What? Data that can be downloaded
- How? You can download data
- Success? Who uses the data?
- Cost?
- Future Plans?
- Summary

Why? Provide free digital data

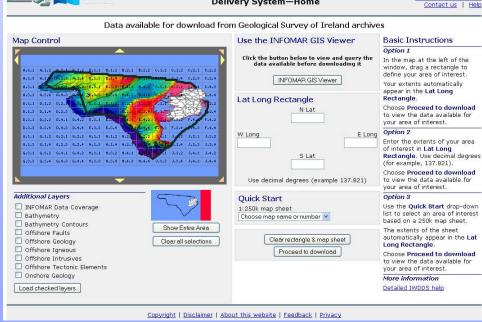
INFOMAR Integrated Mapping for the Sustainable Development

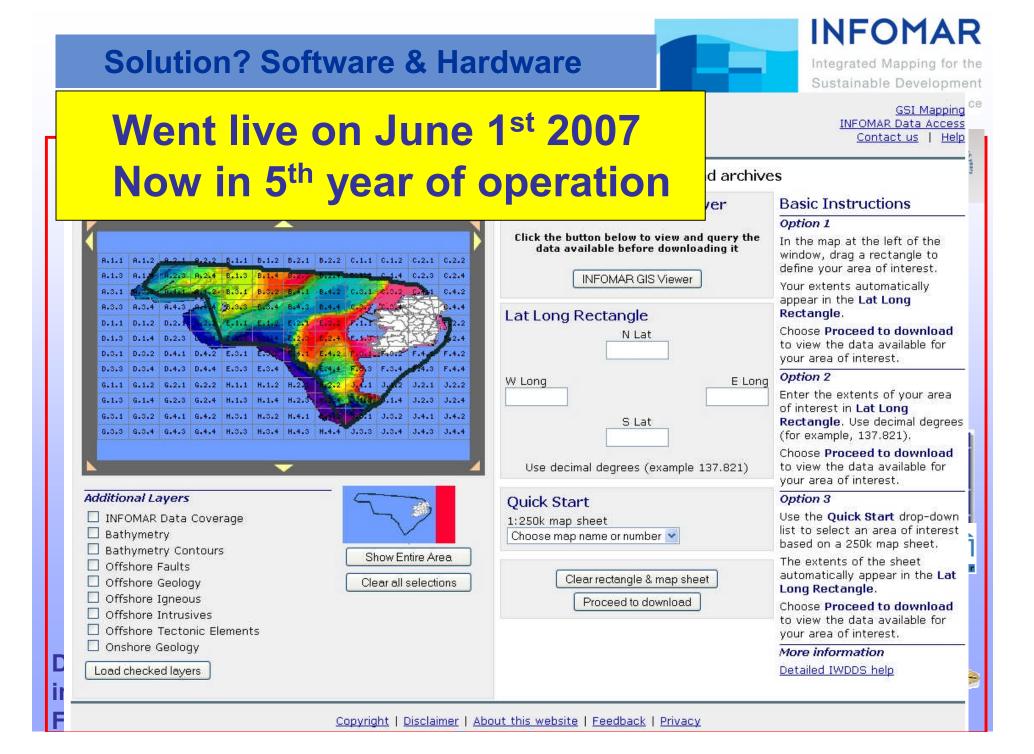
Sustainable Development of Ireland's Marine Resource

- October 2006 INFOMAR put out a tender for a web-based data delivery system which would:
 - promote and attract interest in Irish marine datasets
 - support easy and intuitive access to interested parties world-wide.
- Government Decision 21th February 2007 New Policy on Free & Open Access to Geological Survey of Ireland (GSI) Data
- Seabed (INSS & INFOMAR) data in their available formats to be available (via the Internet) by 30 June 2007.
- All other GSI digital data, in their available digital formats, to be available over the Internet by the end of 2007.

Solution? Intrepid JetStream

- Intrepid Geophysics of Australia (www.intrepid-geophysics.com)
- JetStream is a web data serving solution based on a variety of Open Data Access Protocols.
- Simple and quick to setup, use and maintain
- A client uses a standard web-browser to search, select and download data.
 Interactive Web Data Delivery System-Home





INFOMAR Integrated Mapping for the Sustainable Development of Ireland's Marine Resource

The **JetCat catalog** is at the heart of the JetStream System:

all interactive client-queries interrogate the catalog rather than the binary datasets

Very simple data structure ...

- a flat table; can be ASCII, Access, Oracle table, ...
- one record per dataset
- a small number of essential fields ...
 - » Lat/Long limits of the dataset
 - » URL address of the dataset
 - » Data-type and 'theme'

| _ | - additional | | | | | | | |
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| rectifycarlow10a - 1.2.tif | -6.55707 | -6.48274 | 52.8185 | 52.84906 | VGS84 | Bedrock | GRID | 3227 | http://localhoi | ctifycarlow10a - 1 | Unkne Unknov TM65 / TMOSI | FalseColour | Unknowr 1.232014 | Unknown | 24/09/2007 |
| IGH_Karst.shp | -9.94516 | -6.03929 | 51.8421 | 54.82496 | VGS84 | Geological Heritage | VECTOR | | http://localhol | sh Geological Heritage Karst Loca | Unkne Unknov TM65 / TMOSI | POINT | Unknowr Unknown | Unknown | 25/09/2007 |
| INFOMAR LiDAR Survey Galway | la-9.32811 | -8.84751 | 53.082 | 53.34828 | VGS84 | GOOGLE | File | 2661 | http://localhol | FOMAR LiDAR Survey Galway Ba | Unkno Unknov WGS84 | POINT | Unknowr Unknown | Unknown | 04/02/2010 |
| absolute_Gravity_100.grd | -11.5174 | -10.4577 | 51.6999 | 52.20174 | VGS84 | Gravity | GRID | 40 | http://localho2 | 005 CE05_04 Gravity absolute_Gra | Unkne Unknov WGS84 / NUTN | PseudoColou | Unknowr 100 | Unknown | 28/09/2007 |
| gravity_zone2.gdb | -10.6735 | -6.69433 | 54.1923 | 56.26638 | VGS84 | Gravity | VECTOR | 99711 | i http://localhol | GW_2003_2004 Gravity zone2 Dat | Unkn Unknov WGS84 / NUTN | LINE | Unknowr Unknown | Unknown | 28/09/2007 |
| Zone_3_Full_Bouguer_Gravity_1ki | 126.579 | -4.547 | 45.742 | 59.242 | VGS84 | GravityArcGIS | File | 134 | http://localho2 | one_3_Full_Bouguer_Gravity_1km | Unkne Unknov WGS84 | urllink | Unknowr Unknown | Unknown | 14/05/2010 |
| LIDAR_2003_Clew_Bay_5m_UTM | L-9.95927 | -9.54169 | 53.7549 | 53.89646 | VGS84 | Lidar | VECTOR | 17684 | http://localhol | DAR_2003_Clew_Bay_5m_UTM_L | Unkno Unknov WGS84 / UTM | POINT | Unknowr Unknown | Unknown | 20/05/2011 |
| Survey_Polygon_2003_2011_WG | | | | | | Offshore Shapefiles | VECTOR | | | urvey_Polygon_2003_2011_WGS8 | | POLYGON | Unknowr Unknown | Unknown | 26/10/2011 |
| CV_07_02_Bantry_Dunmanus_Cd | L 10 1075 | 6.00404 | E0 6651 | 50 00015 | VGS84 | Doport | File | 53 | http://localho/ | 07_02_Bantry_Dunmanus_Cork | UnkncUnknovWGS84 | urllink | Unknowr Unknown | Unknown | 13/09/2010 |

What? Data available to download

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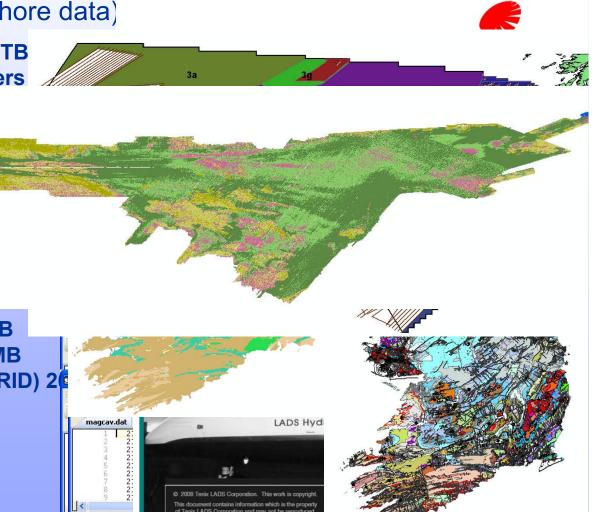
Integrated Mapping for the Sustainable Development of Ireland's Marine Resource

Presently, **1.5 TB** of GSI data covering Ireland both onshore and offshore acquired at a cost of €32m is available free to download

or Help, press F1

1.2 TB is INFOMAR (offshore data)

Bathymetry (ASCII, GRID) 0.99TB
Six inch Bedrock Geotiff Rasters
Backscatter (ASCII, GRID)
Offshore Geotiff Rasters 4
Bathymetric Lidar (ASCII,
Offshore Geophysics – Gr (ASCII, GRID) 6.5GB
Google .kmz 2.6GB
Fledermaus .scene 2.33GE
Onshore geophysics (ASC
Reports 1.7GB
ESRI Shapefiles onshore 1.4GB
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Seabed classification (ESRI GRID) 2



How? Download Data

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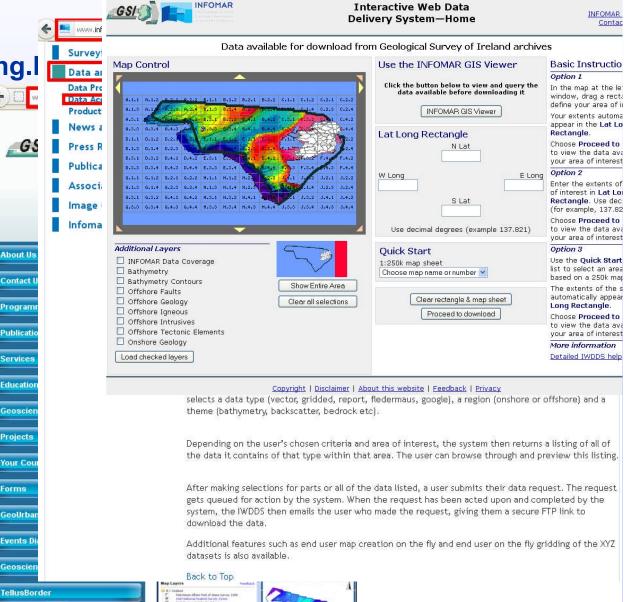
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GSI Website http://www.gsi.ie/mapping.l

INFOMAR Website http://www.infomar.ie/d

About Us **Directly on IWDDS w** Contact https://jetstream.gsi.ie/ Program



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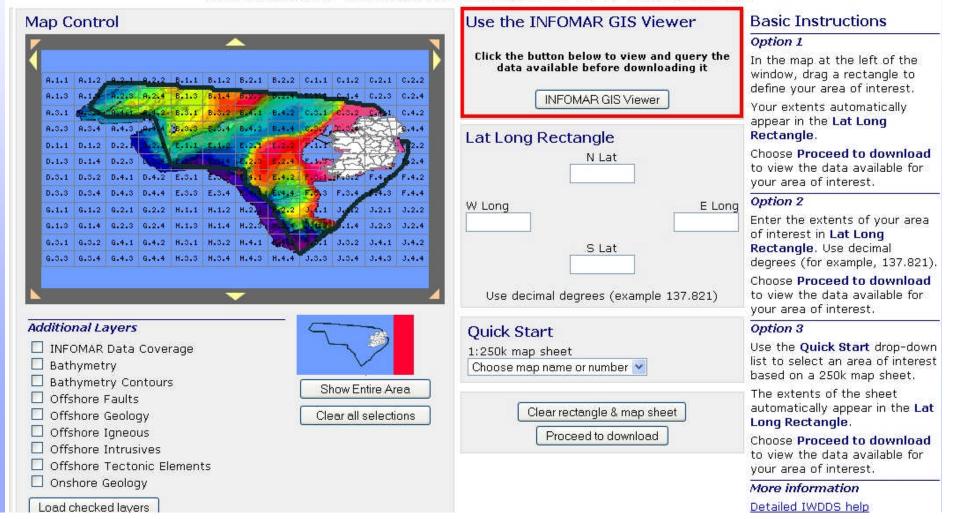
Select your area of interest



Interactive Web Data Delivery System—Home

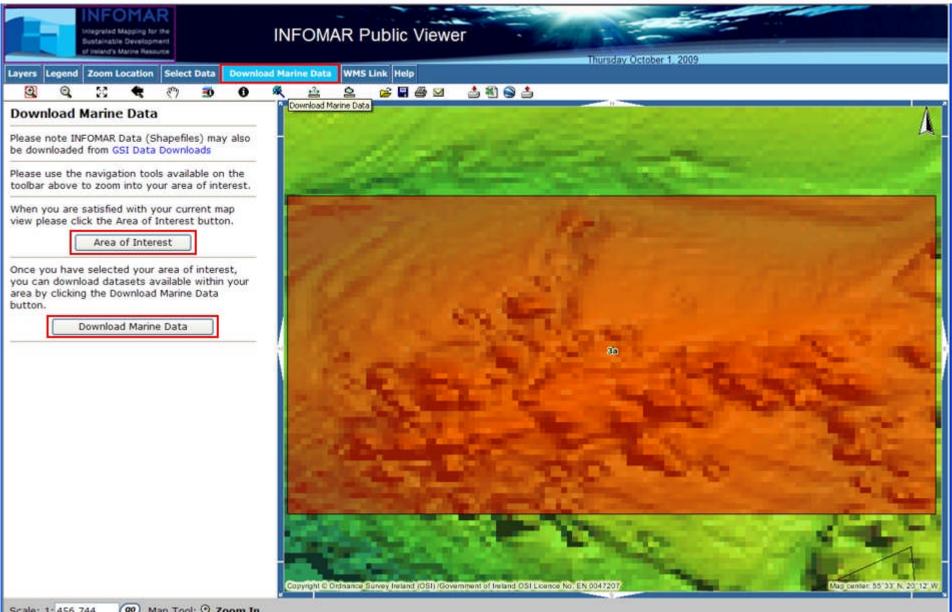
GSI Mapping INFOMAR Data Access Contact us | Help

Data available for download from Geological Survey of Ireland archives



Data Access – IWDDS – Step 1 **INFOMAR Webmapping Viewer**

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Select data type, region and theme

Select data type, region and theme

| Data Type: | ArcGIS G | RIDS V | ort options. |
|----------------------|--|---|--|
| Region: | Contraction of the Association o | ArcGIS 🔽 | |
| Theme: More | Bathyme Bathyme Bathyme Bathyme | try Merged Survey ArcGIS GRID (eg CV02_01 & CV08_01 Donegal/Sligo). | |
| - | 1 | | |
| Example | S (Magnetic Seabed | os ArcGIS GRID Classification ArcGIS GRID | Example |
| ArcGIS GRIDS | 1.000 - 2 | Shapefiles GIS GRID (eg Waterford Sm.zip) | Zipped 5 to 20m ArcGIS GRIDs. No clipping or projection conversions possible |
| ArcGIS GRIDS | Offshore ArcGIS | Magnetics ArcGIS GRID (eg Zone 3 Total Magnetic Intensity (TMI) 1km_wqs84_m_tmi_z3_1kmw.zjp) | Zipped ArcGIS GRIDs. No clipping or projection conversions possible |
| ArcGIS GRIDS | Offshore ArcGIS | Gravity ArcGIS GRID (eg Zone_3_Simple_Bouguer_Gravity_1km_wgs84.zip) | Zipped ArcGIS GRIDs. No clipping or projection conversions possible |
| ArcGIS GRIDS | Offshore ArcGIS | Bathymetry Survey Leg ArcGIS GRID (eg CV_09_01 Shannon) | Zipped High Resolution (5m) ArcGIS GRIDs. No clipping or projection conversions possible |
| Offshore Geotiffs | Offshore Geotiffs | Bathymetry Shaded Relief GeoTiffs | Zipped 2m & 5m Bathymetry Shaded Relief GeoTiffs.No clipping or projection conversions possible |
| Offshore Geotiffs | Offshore Geotiffs | Backscatter GeoTiffs | Zipped 2m & 5m Backscatter Shaded Relief GeoTiffs. No clipping or projection conversions possible |
| Vector datasets | Offshore | Bathymetry (Survey Leg) | Bathymetry (Survey Leg) eg CV_09_01 Shannon 5M ascii file |
| ArcGIS GRIDS | Offshore ArcGIS | Bathymetry Entire Area ArcGIS GRID | Zipped 100m, 250m & 500m ArcGIS GRIDs. No clipping or projection conversions possible |
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| ArcGIS GRIDS | Offshore ArcGIS | LIDAR ArcGIS GRID | Zipped High Resolution (6m) ArcGIS GRIDs eg Galway Bay. No clipping or projection conversions po |
| Vector datasets | Offshore | Lidar | Lidar XYZ ascii file |
| Vector datasets | Offshore | Bathymetry | Bathymetry XYZ ascii file |
| Gridded dataset | Offshore | Bathymetry | Bathymetry 500m grid .ers |
| Vector datasets | Onshore | Groundwater | Groundwater Shapefiles .shp |
| Gridded datasets | Onshore | Magnetics | First vertical derivative of TMI .ers |
| Gridded datasets | Onshore | Bedrock | 6 inch geotiff map of geology as images .tif |
| Gridded datasets | Offshore | Gravity | Gravity grid .ers |
| Report | | | Survey Leg Reports. |

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Select Data



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Available datasets

| Search Results | Min Longitude -10 Min Latitude Leg Max Longitude -8.77 Max Latitude sh to download. Note: Multiple datasets a | 53.607 | data file size. | |
|--|---|-------------------------|-----------------|------------------|
| Download all datasets? 🔽 Report 1 of 7 | | | | |
| Report Name CV_ Additional Information | 09_01_Shannon_5m_wgs84.zip • <u>View report</u> | Download this report? 🔽 | Size (31423 Kb) | |
| Report 2 of 7 | | | | <u>Go to top</u> |
| Report Name CV_ Additional Information | 09_01_Shannon_5m_UTM29N.zip • <u>View report</u> | Download this report? 🔽 | Size (15475 Kb) | |
| Report 3 of 7 | | | | <u>Go to top</u> |
| Report Name CV_ Additional Information | 08_02_Aran_5m_WGS84.zip • <u>View report</u> | Download this report? 🔽 | Size (1516 Kb) | |
| Report 4 of 7 | | | | <u>Go to top</u> |
| Report Name CV_ Additional Information | 08_02_Galway_Gap_5m_WGS84.zip • <u>View report</u> | Download this report? 🔽 | Size (432 Kb) | |
| Report 5 of 7 | | | | <u>Go to top</u> |
| | 07_01_Galway_Bay_5m_WGS84.zip • <u>View report</u> | Download this report? 🔽 | Size (91534 Kb) | |
| Report 6 of 7 | | | | <u>Go to top</u> |
| Report Name CV_ Additional Information | 07_01_Galway_Bay_5m_UTM29N.zip • <u>View report</u> | Download this report? 🔽 | Size (36305 Kb) | |
| Report 7 of 7 | | | | <u>Go to top</u> |
| | R_07_Galway_Bay_5m_WGS84.zip • <u>View report</u> | Download this report? 🔽 | Size (6778 Kb) | |
| | | | | <u>Go to top</u> |

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New User Registration

Please enter your details.

We use this information for licencing and for monitoring product usage, strictly according to our Privacy Policy .

For us to accept your registration, you must complete all items marked with an asterisk *.

| Licensee Specify name of your organisation. If contracting as an individual, insert your name | * | |
|---|---|---|
| Title | | |
| First Name | * | |
| Last Name | * | |
| Address line 1 | | |
| Address line 2 | | |
| Suburb/Locality: | * | |
| State | * | |
| Post Code | * | |
| Country | * | Ireland |
| Telephone | | |
| Fax | | |
| Email Address | * | |
| Sector | * | Government General Public Education Private Industry Research Other (please specify) |
| Industry | * | Agriculture, Forestry and Fisheries Communications Defence |

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Receive Email & Download Data

| 🖼 Interactive Web Data Delivery System - Message (Plain Text) | |
|--|------------------------------------|
| Elle Edit View Insert Format Iools Actions Help | |
| 🔀 Reply 🖓 Reply to All 🖓 Forward 🛃 🦓 🧏 🔻 🎯 🦉 🗙 🔸 🔹 🔹 🖈 🗚 🗐 🥫 | |
| From: jetstream@gsi.ie | Sent: Mon 21/09/2009 13:10 |
| To: Grainne.NiShe Cc: | |
| Subject: Interactive Web Data Delivery System | |
| This is an automated message to notify you that the processing of your requested datasets | using the Interactive Web Data 🛛 📩 |
| Delivery System has been completed. | |
| Area of interest: File Download | |
| Minimum longitude -20.687 Maximum longitude -19.733 | |
| Minimum latitude 55.18793 Do you want to open or save this file? Maximum latitude 55.91708 | |
| Name: out/250070500456002374 zip | |
| The data are of type GRID a Type: WinZip File, 113MB | |
| The data are from the follo bathy supergrid 005 | |
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| You can download the file f Open Save Cancel | ler?event=D&id=2995 |
| These downloads are intende | rmation Systems or Image |
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| If you are having trouble d While files from the Internet can be useful, some files can potentially harm your computer. If you do not trust the source, do not open or | tact the Interactive Web Data |
| Delivery System Administrat save this file. What's the risk? | Sact the interactive web pata |
| Phone: +00353 1 6782798 E-mail: jetstream@gsi.ie | J |
| A licence agreement is enclosed within the zip file. Please keep this licence with the do | m looded deterring |
| A ficence agreement is enclosed within the zip file. Please keep this ficence with the do | whiteaueu uatasets. |

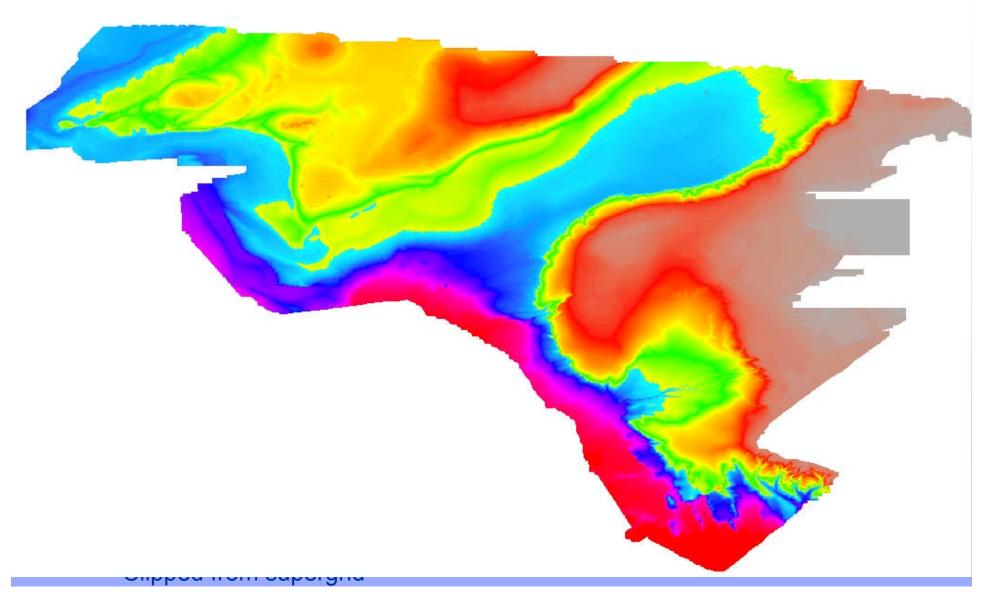
If you have not recently requested data from the Interactive Web Data Delivery System and believe that you should not have received this e-mail, please notify jetstream@gsi.ie

IWDDS – Grid Option - Supergrid

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A single grid of all our bathymetry data – gaps filled with Gebco data

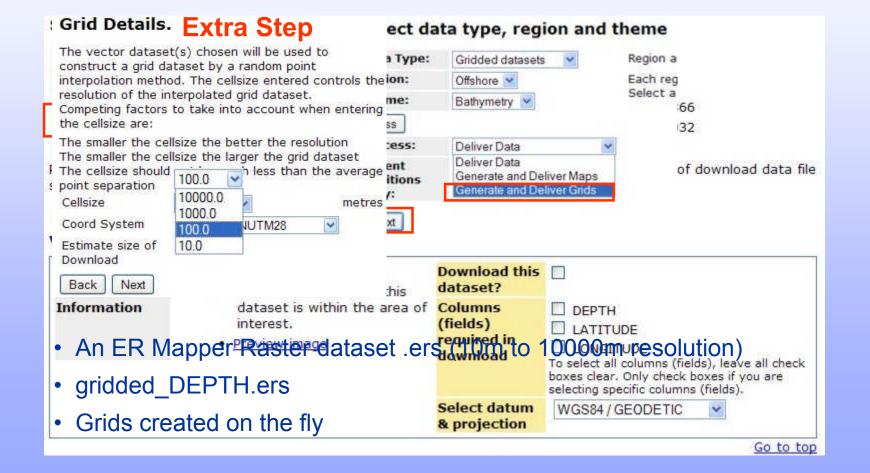


IWDDS – Grid on the fly

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Select Gridded datasets – Offshore – Bathymetry – More – Generate & Deliver Grids



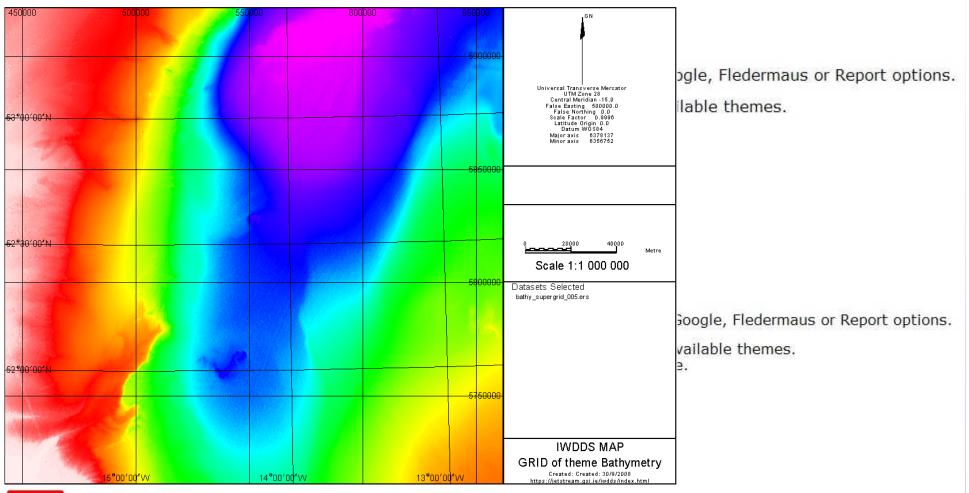
IWDDS – Create Map

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Select Gridded datasets – Offshore – Bathymetry –

More – Generate & Deliver Maps





Success? The Statistics

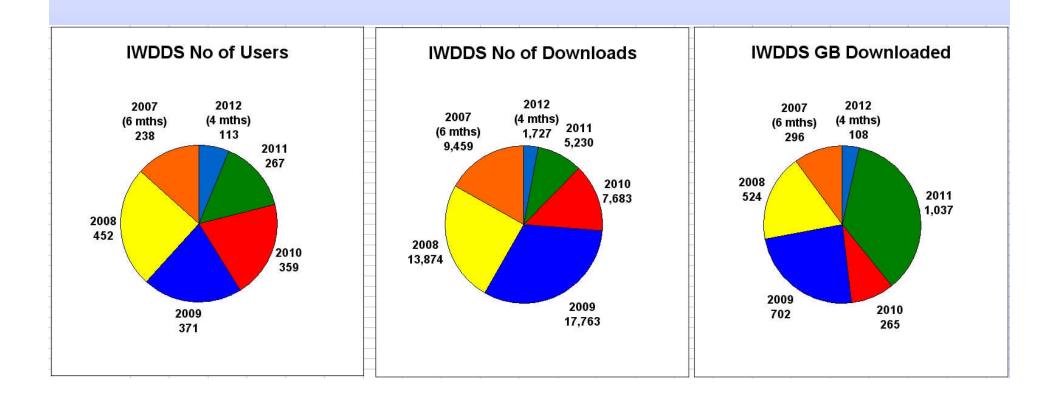


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of Ireland's Marine Resource

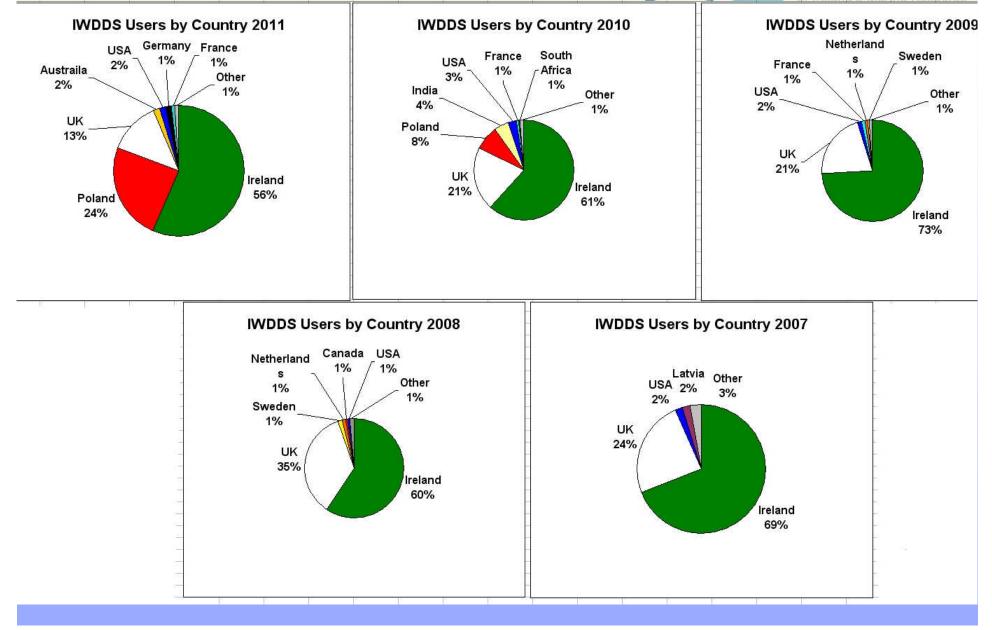
Over the last 5 years Users Downloads Size (terabyte)

1,800 (unique 1,199) 55,736 2.86



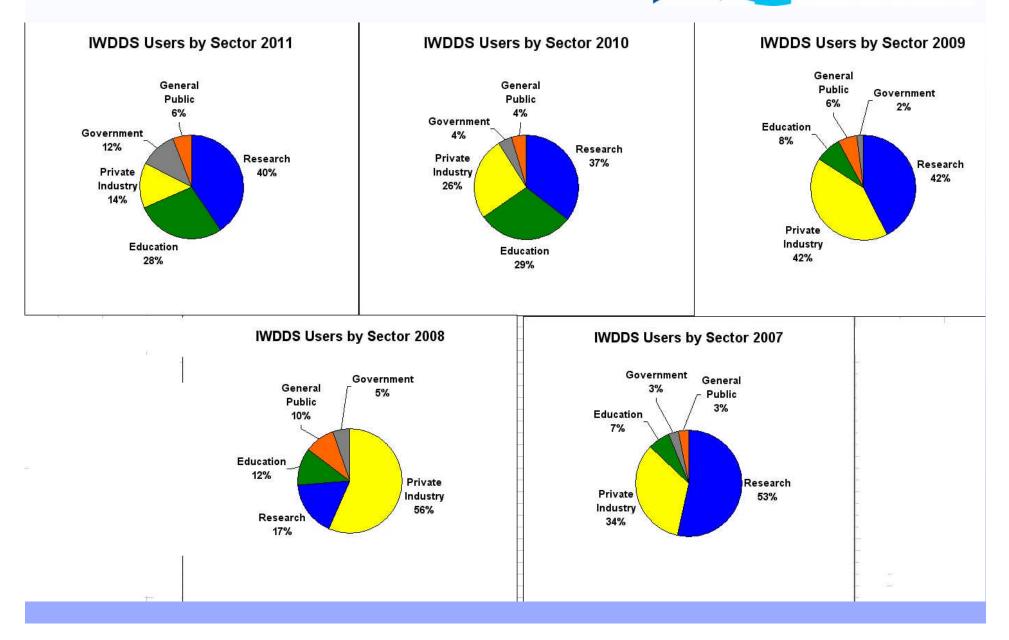
Success? Who uses the data?

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Success? Sector

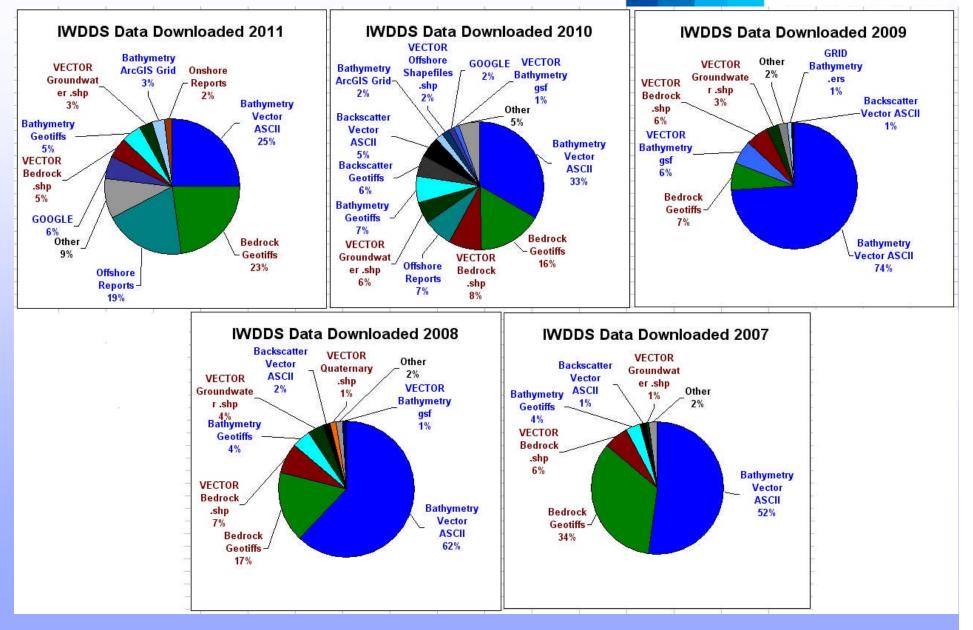
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Success? Data Types downloaded

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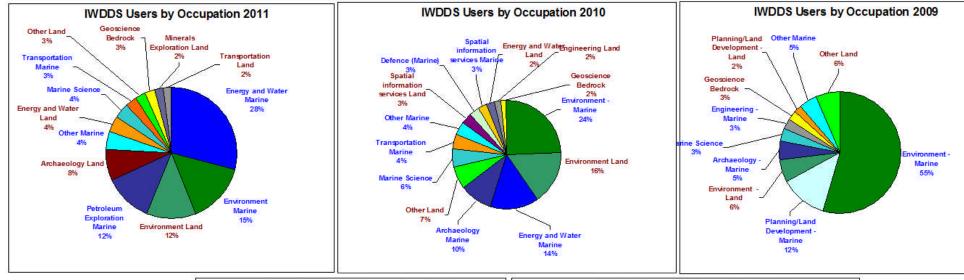
Integrated Mapping for the Sustainable Development

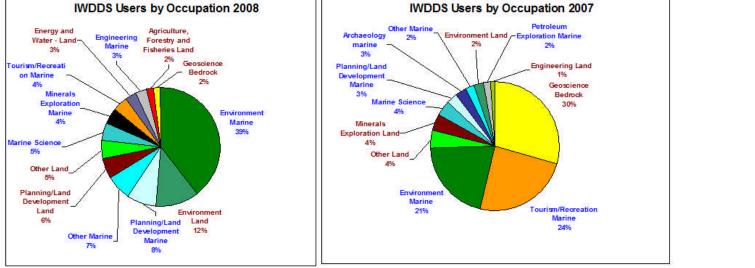


Success? Occupation



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Cost



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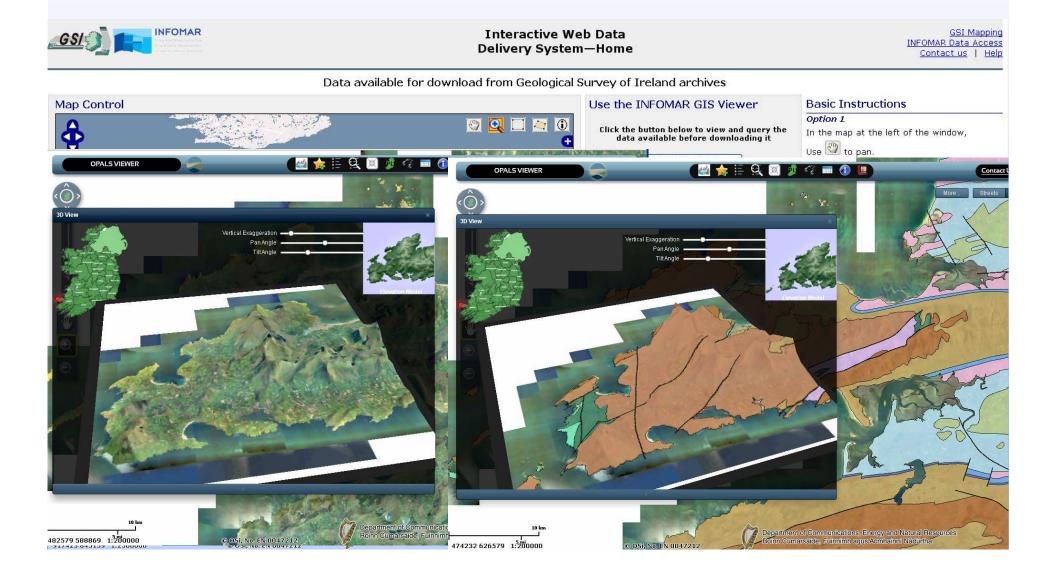
- €12,000 pa for hosting in the HEAnet
- €130,000 for hardware and DBMS from Origina (Unitech)
- €210,000 for application development from Intrepid
- €100,000 for phase 2 enhancements from Intrepid

Total €452,000

• €????? A considerable amount of sweat equity from the INFOMAR project team

Future Plans

New Openlayers interface
 will work on iPad & iPhone



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Summary

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Integrated Mapping for the Sustainable Development of Ireland's Marine Resource

Data Access: Interactive Web Data Delivery System (IWDDS)

- Why? Provide digital data for free download Ministerial Decision – 21/02/07- New Policy on Open & Free Access to Geological Survey of Ireland (GSI) Data
- Solution? Software & Hardware
 Intrepid Geophysics JetStream was chosen as the web data serving solution
- What? Data that can be downloaded

Bathymetry, Backscatter, Gravity, Magnetics, Bedrock, Groundwater..ASCII, GRIDS, Geotiffs, Shapefiles, Google..

How? You can download data

Using a standard web browser – select your area of interest, data type, theme, select datasets and you will be emailed a link to download a zip file.

Success? Who uses the data?

Users 1,800 (unique 1,199) Downloads 55,736 Size (terabyte)2.86

• **Cost? Over the last 5 years** €452,000

Future Plans?

Openlayers, additional datasets and formats, linkup to 3D visualisation of data



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Hopefully Italy will have more luck in Euro 2012 than Ireland (we still hope to beat Italy on Monday)