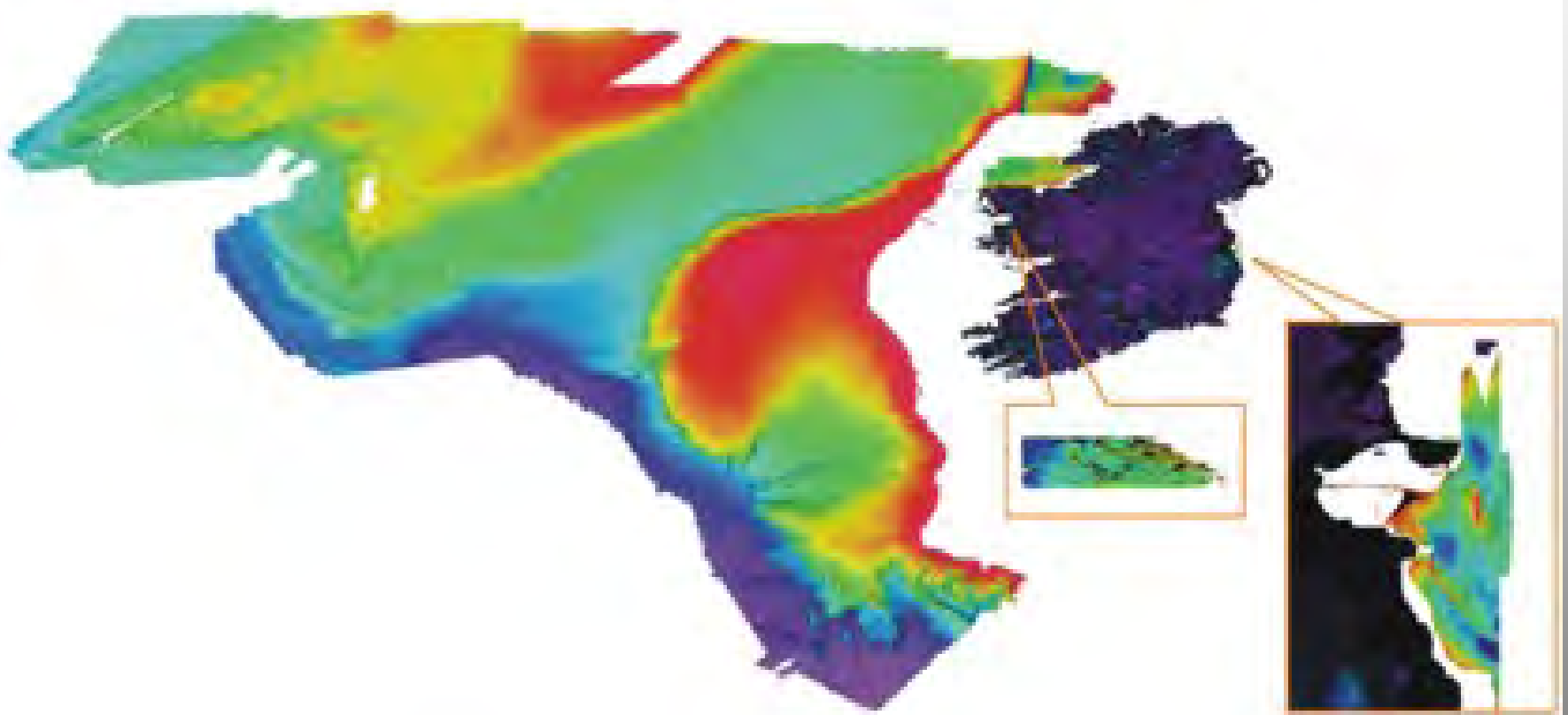


**Integrated Mapping Survey for Sustainable Development of Irelands Marine
Resources**

INFOMAR Update

by

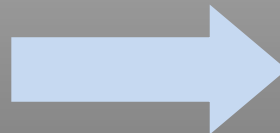
Sean Cullen
Geological Survey of Ireland



ISDE as an Irish National Geoportal?

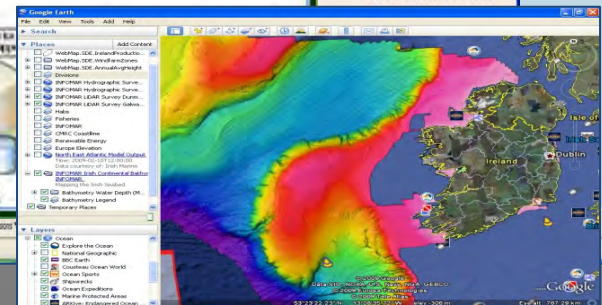
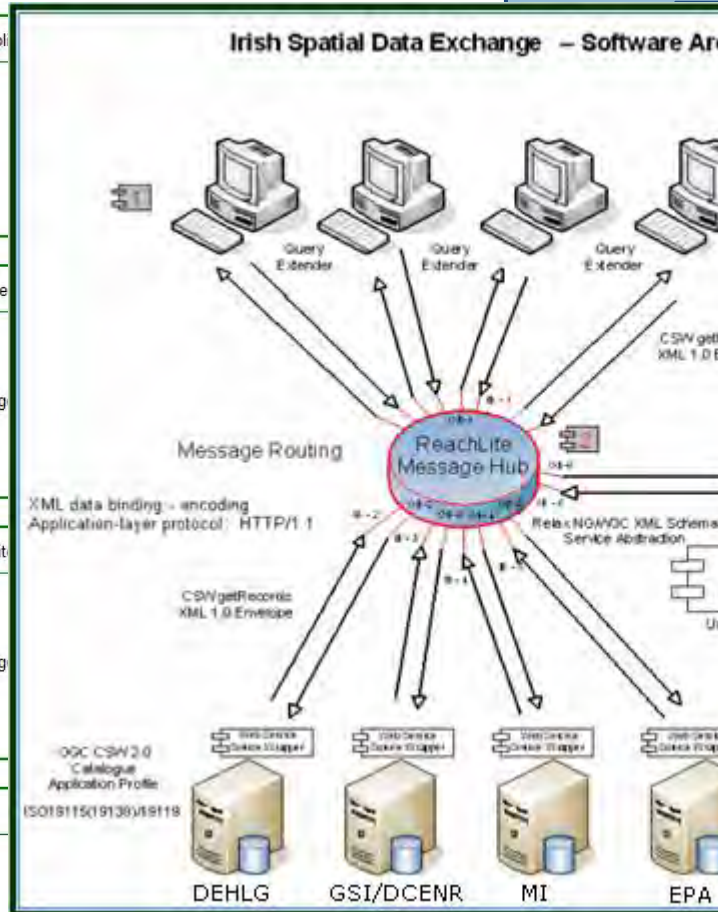
The Irish Spatial Data Exchange (ISDE) ...

- is based on the INSPIRE approach, and ...
- with some updates can provide the basis for a national geoportal
- INSPIRE is happening, only 24 months to go!
- **ISDE is a good starting point**



The ISDE System

change x	Irish Spatial Data Exchange	http://irlogi.ie/userfiles/File/...
Title	2. Fisheries Biological Sampl	
Data Type	offlineData	
Modified	2008-05-02 14:45:40	
Source	Marine Institute Show/Hide Full Details	
Title	3. NIAH architectural heritage	
Data Type	offlineData	
Modified	2008-09-09 14:26:24	
Source	Dept. of Environment, Heritag Local Government Show/Hide Full Details	
Title	4. National Inventory of Archi	
Data Type	downloadableData	
Modified	2008-09-11 18:01:11	
Source	Dept. of Environment, Heritag Local Government Show/Hide Full Details	
Title	5. Bedrock Lexicon	
Data Type	liveData	
Modified	2008-10-10 11:10:39	
Source	DCENR Show/Hide Full Details	



What do Data Holders need to do?

- Identify your INSPIRE datasets
- Metadata
 - Start create Metadata now for Annex I & II
 - Setup a CSW-compliant catalogue
- Data
 - Set up WMS 1.3 data services
 - Review data specs for Annex I datasets



INFOMAR

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



IWDDS – digital data download site

- **Interactive Web Data Delivery System**
- Allows large datasets to be queried and downloaded
 - “Clip, Zip and Ship”
- Developed to deliver INFOMAR marine datasets
 - bathymetry etc.
- Adapted to include ‘onshore’ GSI data, vector & raster data
 - 6” sheets etc.
- 7Tb of disk on server in HEAnet

IWDDS usage stats after 26 months operation

Origin	Users
Irish	505
English	103
USA	21
French	12
Dutch	12
Canadians	9
Australians	8
Swedish	8
Spanish	5
Belgians	4
Italians	4
Norwegians	3
Germans	2
Polish	1
Monaco	1
Israeli	1
	699

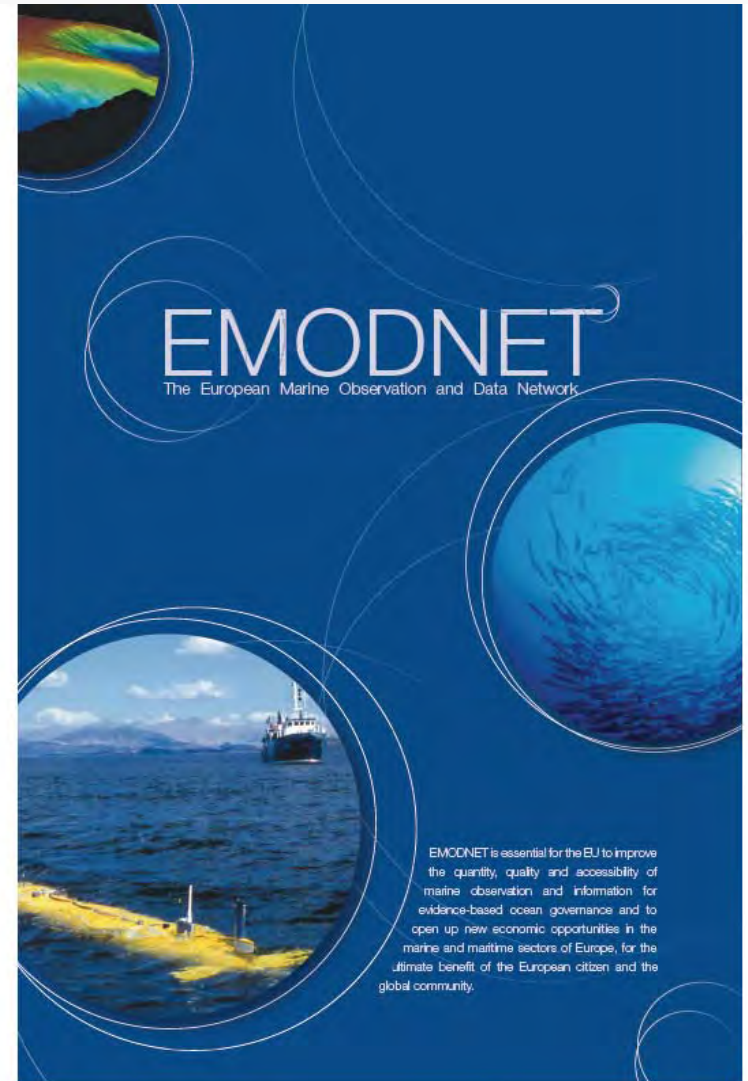
Discipline	User breakdown
Environment	207
Research	133
Education	100
General Public	54
Government	51
Energy & Water	30
Planning & Development	27
Agriculture, Forestry & Fish	19
GIS	15
Tourism & Recreation	15
Minerals & Exploration	14
Oil & Petroleum Exploration	13
Transportation	9
Health & Community Services	5
Communications	4
Emergency Services	3
	699

EMODNET

European Marine and Observation and Data Network

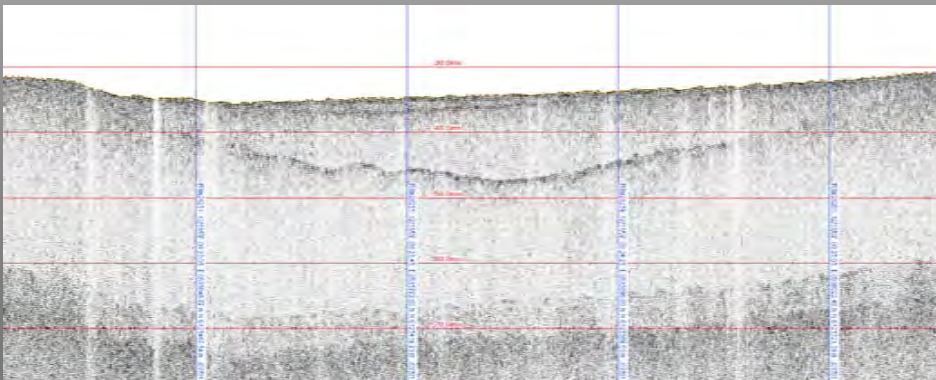
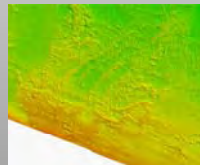
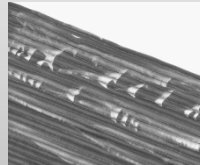
Funded by DG Mare

- Developing EU wide thematic marine maps
- Assemble fragmented marine data into interoperable and publicly available data streams for complete maritime basins.
- 14 Partners
- Geology Module, led by BGS, UK
- Hydrography Module, led by Maris, NL
- Multibeam Atlas, led by Maris, NL



EMODNET – Geology Module

- Co-ordinated by BGS (Alan Stevenson)
- 3-year project
- 925,000 euro budget (full costs)
- Products feed into habitat mapping module

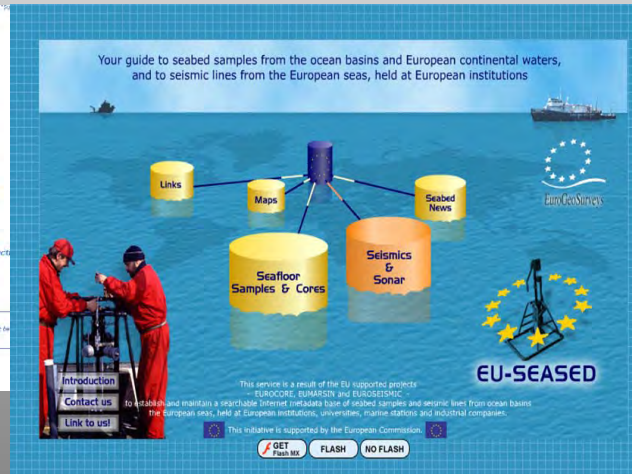
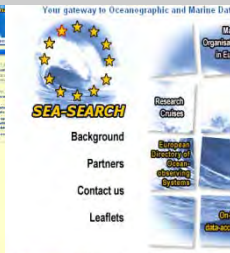
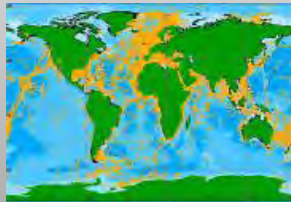


- GIS LAYERS
- Sea-bed sediments
- Sea-floor geology
- Boundaries and faults
- Rate of coastal erosion or sedimentation
- Geological events and event probabilities (landslides, earthquake epicentres)
- Seismic profiles
- Minerals (including aggregates, oil and gas).
- Available via an internet portal
- Data layers added to One-Geology Europe

GEO-SEAS

Pan-European Infrastructure for Management of Marine and Ocean Geological and Geophysical Data

A network of interconnected marine data centres
Including demonstration products & best practice



FP7 Infrastructure Fund

- European network of 28 partners from 17 coastal countries
- 24 geological/geophysical data centres (4 institutes with additional expertise)
- Total budget over €3m, over 3 years (Started May 2009)

Integrated Mapping – Programme 1

Tenix Lads LiDAR

Celtic Voyager

IMAR Connemara

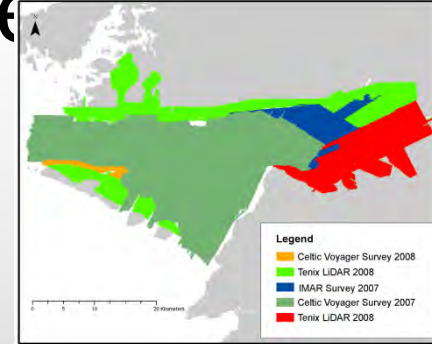
Celtic Voyager

GEO

Attenuation Study

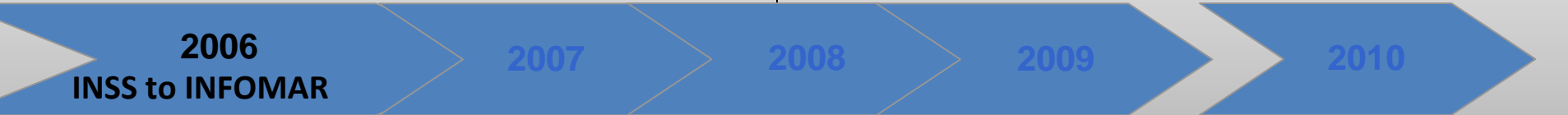
CE NPWS/MI/GSI

Celtic Voyager



Tenix LADS LiDAR

Celtic Explorer VC



2006
INSS to INFOMAR

2007

2008

2009

2010

- Inshore Prioritised
- Operations realignment
- Infrastructure

- PWC Report
- Approval to 2013

- Recruitment Embargo

- Gaps
- Outreach
- Collaboration
- Value Added Survey

EM3002D ('07)



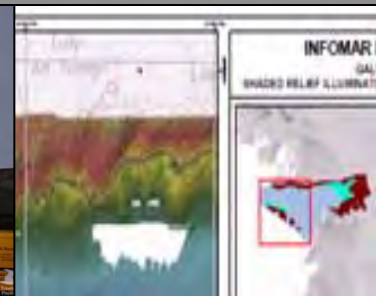
RV Geo ('08)



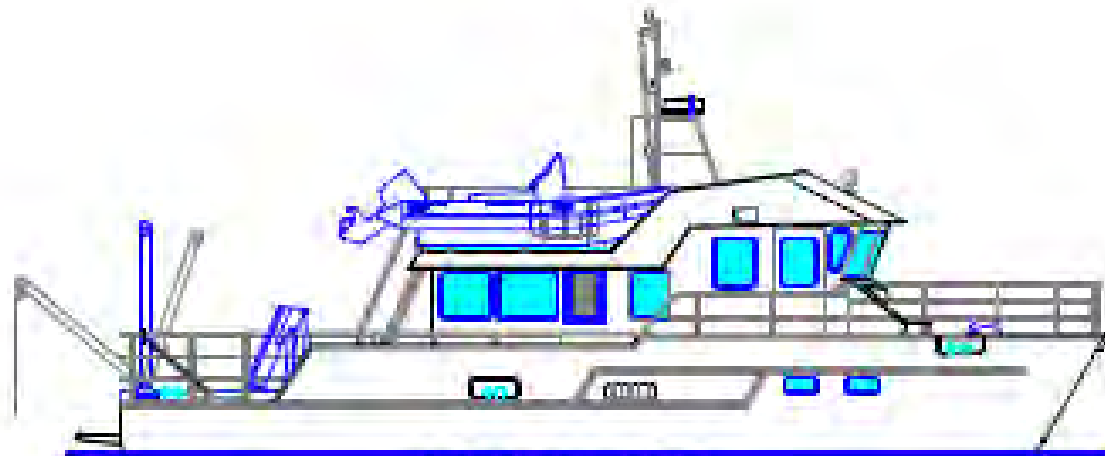
ROV Holland ('09)



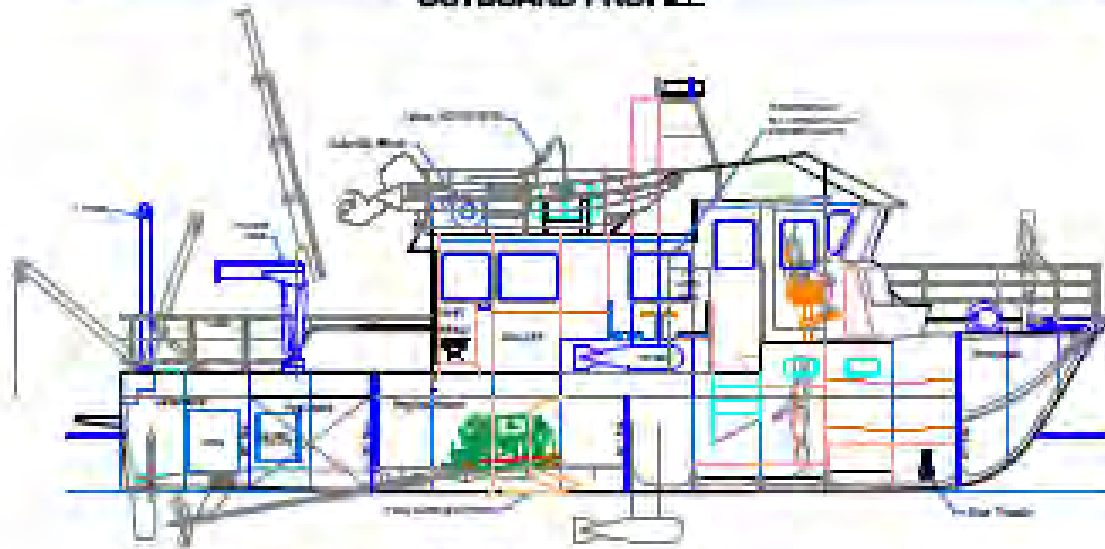
RV Keary ('09)



R/V KEARY



OUTBOARD PROFILE



INBOARD PROFILE

RV Keary now on route from Cape Town, South Africa

LEADING PARTICULARS

Length (OA)	15.5 m
Length (Hull)	14.6 m
Beam (Moulded)	5.6 m
Draft	1.5 m
Engines	Cummins QSC 8.3-500 INT
Rating	368 kW/2600 rpm
Speed (90% power)	22 kn
Fuel	2000 lt
Hull type	Asymmetrical catamaran
Construction	Marine Grade Aluminium

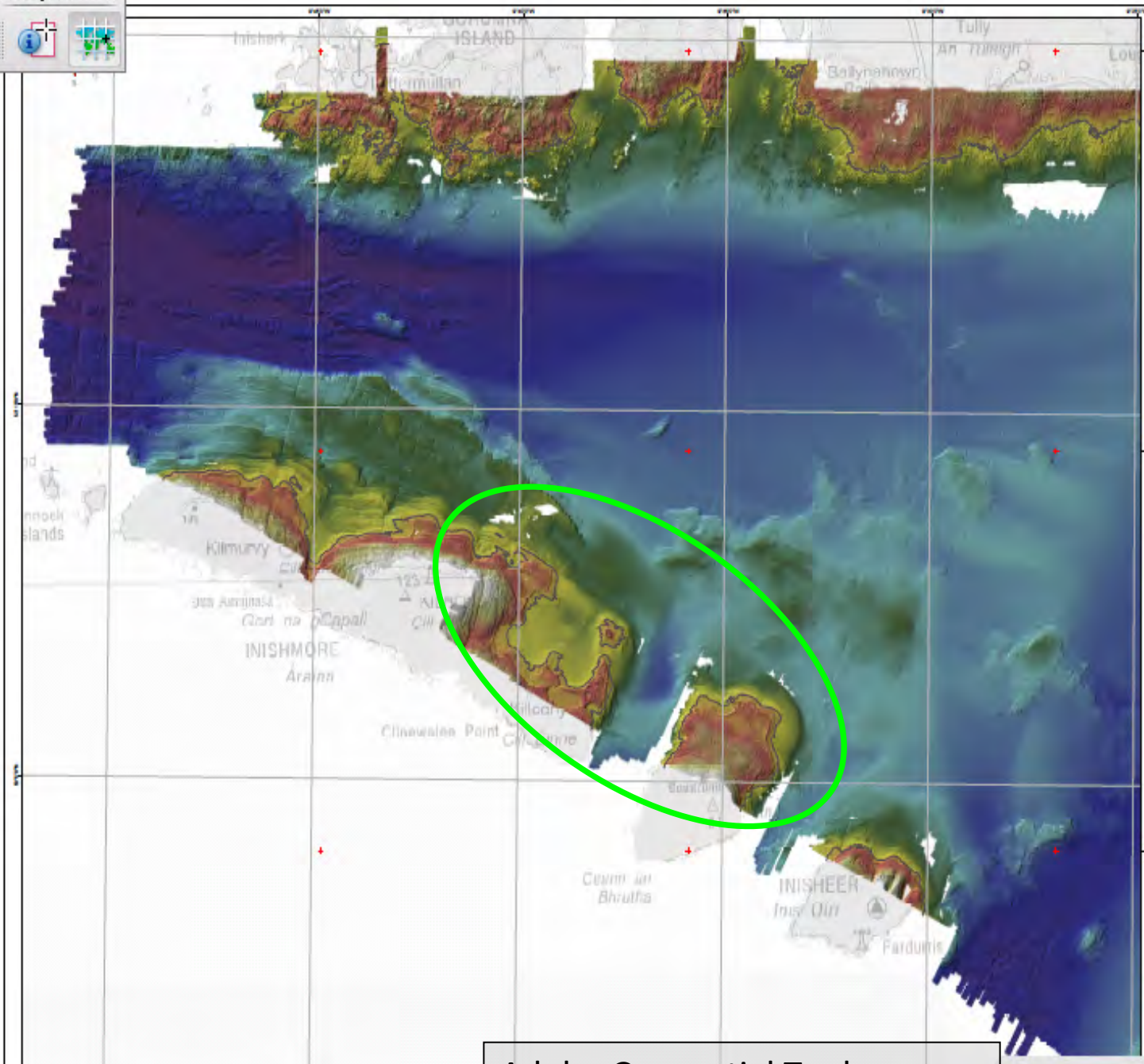








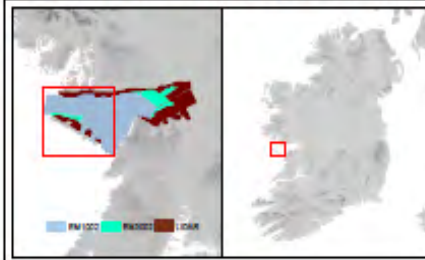




INFOMAR PROGRAMME

GALWAY BAY

SHADED RELIEF ILLUMINATION NORTH WEST 1:50,000 (1 of 3)



DATA ACQUISITION NOTES

1. 100 000 data (multibeam) acquired during Survey CVT_01 (2007)
2. 50000 data (multibeam) acquired during Survey CVT_01 (2008) and Survey INT_01 (2007)
3. USAR data (altimetry) acquired during Survey L06_01 (2008) and Survey L06_01 (2009)
4. Acquired survey data and log reports can be found at [www.infomar.ie](#)

GEOGRAPHIC CONTROL

Reference: WGS 84
Projection: Universal Transverse Mercator, Zone 28 N, OM 0° W

HORIZONTAL CONTROL

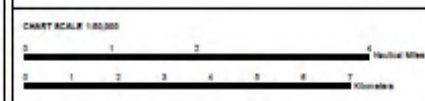
MAINE INSTITUTE VERBES (I)
Primary Positioning System: Pigeon Point 2000/00 receiver, Pigeon Point HP antenna
Secondary Positioning System: Beidou Receiver 200 using Pigeon Point Spd DGPS service

SEA VERBES (I)
Primary Positioning System: Chirp DGPS System

LCAR SYSTEMS (I)
Digital Surveying System: Trimble L960 Wx 6 Antenna System (2008 and 2009)
Primary Positioning System: Antech 2002A DGPS receiver with INCOGPS correction from Pigeon Point (2008 and 2009)
Secondary Positioning System: Antech PNA (2008)

VERTICAL CONTROL

Source data is referred to Lowest Astronomical Tide



Disclaimer

This chart is purely representational and is designed for general information and strategic planning only. Classification is based on data available to the OS at the time of compilation. The accuracy of the data used, or interpretations made, is neither stated nor implied. Evaluation of specific sites will normally require further and more detailed assessments and will frequently require site investigations.

NOT TO BE USED FOR NAVIGATION

Chart Reference
WPD_04_01_NW_01_01_01

Background Images
1:25,000 Road Data from Ordnance Survey Ireland License No. 01/000208 © Ordnance Survey
Map data derived from the Shuttle Radar Topography Mission 2000, led by NASA and NOAA

© COPYRIGHT, GEOLOGICAL SURVEY OF IRELAND AND MARINE INSTITUTE

REVISION	DATE	DESCRIPTION	DRAWN BY	PROCESSED BY	APPROVED BY
Revision 01	May 2008	Final	RENE	PERG	

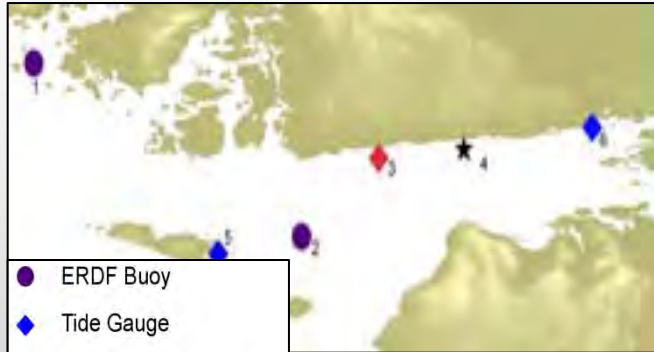


Adobe Geospatial Tool

Latitude:

Longitude:

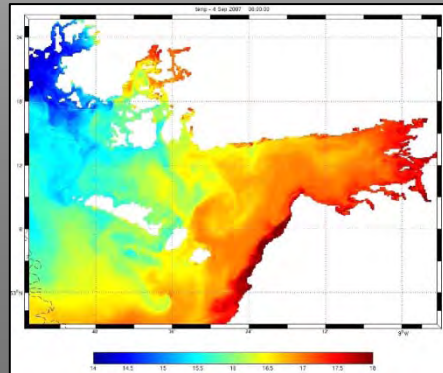
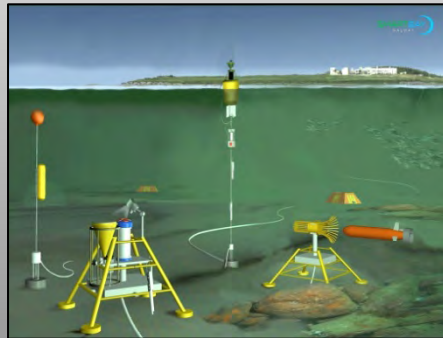
SMART BAY



- ERDF Buoy
- ◆ Tide Gauge
- ◆ OS/Inverin Bay Buoy
- ★ Ocean Energy Test Site



- 2 environmental monitoring buoys
- 1 directional wave monitoring instrument
- Data Acquisition System developed
- Hydrodynamic model developed
- IBM Partnership - a web portal prototype completed
- Intel and Irish Broadband Partnership - wireless communications



A screenshot of the SMARTBAY web portal interface. The page features the IBM logo and the SMARTBAY logo at the top. Below the navigation bar, there are several panels:

- Galway Port:** A photograph of a port area with cars and buildings.
- Galway Bay Map:** A satellite map of Galway Bay with a blue buoy icon overlaid on the water.
- Marine Institute Galway:** A photograph of a building.
- Smartbay Sentinel Network - Mace Hd:** A circular gauge showing wind direction and speed, with a timestamp of 28-05-09 14:39:32 UTC. Data includes Air Temp: 12.40 °C, Wind Speed: N/A, Max Wave Height: 1.33 m, Mean Wave Dir.: 230.70 deg, and Location: 53.3222 N, 10.0600 W.
- Tide Sensor Network:** A circular gauge showing tide level and other parameters, with a timestamp of 28-05-09 13:54:08 UTC. Data includes Tide Level: 1.11 m, Air Pressure: 1022.91 mb, Sea Temp: N/A, Moon Phase: New, Sunrise: 05:17, and Sunset: 21:48.
- Smartbay Sentinel Network - Mid Bay:** A circular gauge showing wind direction and speed, with a timestamp of 28-05-09 14:34:22 UTC. Data includes Air Temp: 12.40 °C, Wind Speed: 4.10 m/s, Max Wave Height: 1.40 m, Mean Wave Dir.: 220.60 deg, and Location: 53.1756 N, 9.5085 W.