

Report on 18th EMSAGG meeting

EMSAGG would like to thank the Polish Geological Institute for hosting the 18th meeting in their offices in Gdansk. The group discussed the latest European research results and proposals, and agreed a future program of activities.

MESH – Mapping European Seabed Habitats

TNO is one of 12 partners from the UK, Ireland, the Netherlands, Belgium and France contributing to EU INTERREG IIIB project MESH, a three year international marine habitat-mapping programme which began in spring 2004. A habitat is defined as the physical seabed environment in relation to biological abundance and diversity. The MESH partnership draws together scientific and technical habitat-mapping skills, expertise in data collation and its management, and proven practical experience in the use of seabed-habitat maps for environmental management within national regulatory frameworks.

MESH produces seabed-habitat maps for north-west Europe and develops international standards and protocols for seabed-mapping studies. The end products are a meta-database of mapping studies, a web-delivered geographic information system (GIS) showing the habitat maps, guidance for marine-habitat mapping including protocols and standards, a report describing case histories of habitat mapping, a stakeholder database and an international conference with published proceedings.

Through trans-national cooperation, the MESH project will provide the first consistent seabed-habitat maps for north-west Europe. Underlying studies are inevitably of variable quality and, more importantly, will not cover the entire study area. Habitat models are being developed to predict the distribution of habitats in unsampled and poorly sampled areas from more widely available geological, geophysical and hydrographic data. TNO contributes to MESH by generating new and updating existing digital format maps depicting bathymetry, slope, generalised bedforms, and seabed sediments of the Dutch continental shelf. These maps and the underlying data are linked to biological databases to establish relationships among various seabed parameters. Using these relationships, TNO and other partners are generating marine landscape maps depicting habitat distribution.

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- Eastern English Channel Marine Habitat Map
- PGI's work on the Vistula Delta Plain
- Belgium's latest figures

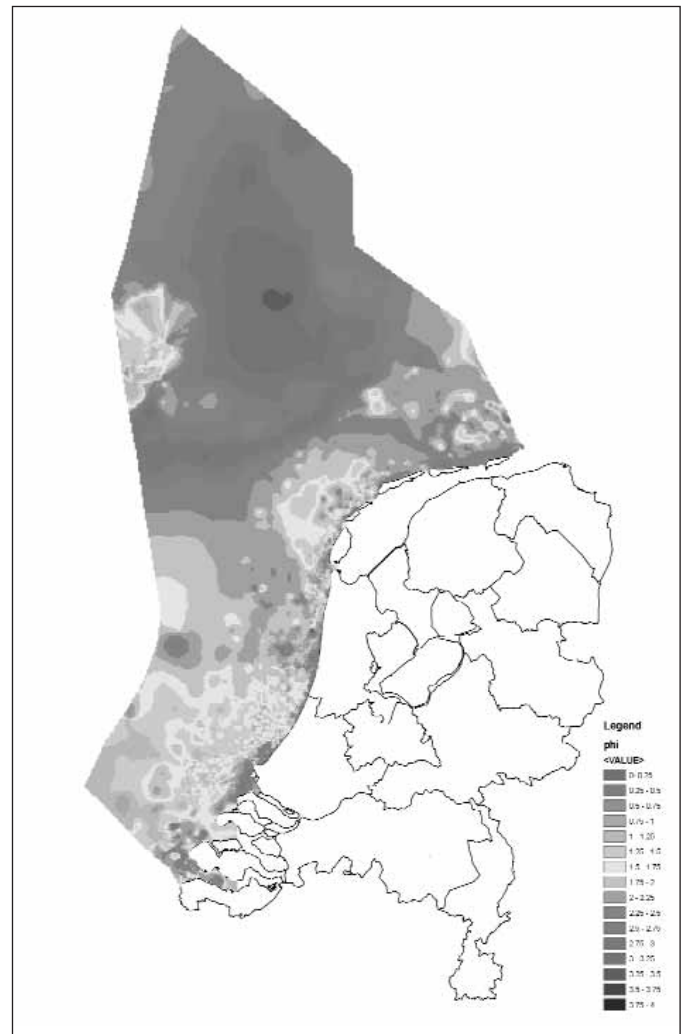


Figure 1. Updated grain-size map for the Netherlands continental shelf

Several of the activities undertaken as part of MESH have direct relevance to EMSAGG members. Most importantly, the EU Marine Strategy will add to the extent to which the environmental impact of marine aggregate extraction is to be considered. Habitat maps produced in MESH will provide an appropriate starting point for future impact assessments. Secondly, the project has generated significant upgrading of marine geological databases and map products, including the addition of confidence assessments: better information is now available for pre-prospecting and for planning offshore activities.

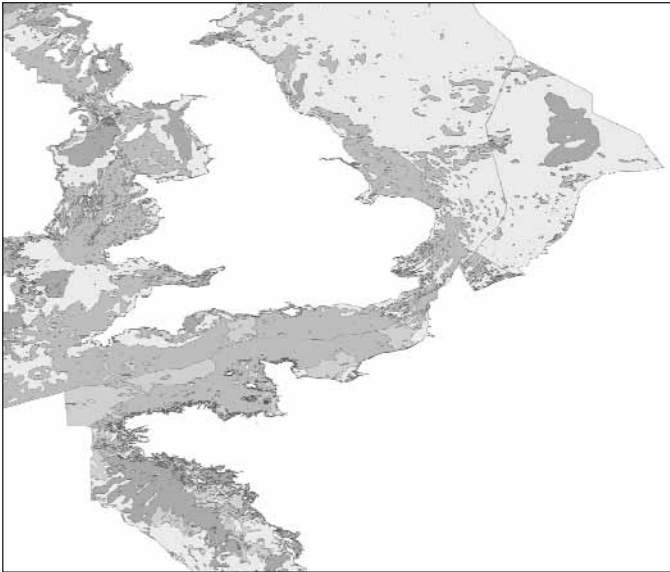


Figure 2. Seabed sediment map for north-west Europe

For further information about the MESH project, including attendance of the final conference in Dublin (March 14-15, 2007), email:

info@searchmesh.net

Dr Jan van Dalssen

TNO

Sandscript...

Why not check out EMSAGG's website for updates on latest news, events and publications at www.ciria.org/emsagg

Eastern English Channel marine habitat map

The project aims to produce a regional scale habitat map of an extensive area of the Eastern English Channel. This includes a smaller area where it is proposed to extract aggregate from the sea bed. The map will be primarily based on new survey data and an interdisciplinary approach, integrating geological, geophysical and biological data and interpretations; existing data will also be incorporated.

The exploitation of aggregate resources within an area of the Eastern English Channel known as the "East Channel Region" (ECR) requires an extension and enhancement of datasets collected by the aggregate industry within the ECR to place it in into the broader context of the Eastern English Channel. The mapping and interpretation of sea bed habitats planned in this project covers a broader 7200km² area of the Eastern English Channel.

Initially a review of all the relevant scientific data for the Eastern English Channel has been undertaken. New surveys have been conducted using modern high-resolution geophysical systems, including multi-beam, digital sidescan and sub-bottom profiling; over 4500 line km has been completed. The interpretations from these new data and existing data held by BGS and, where provided, by the aggregate industry are being ground truthed with sampling and video collected during two biological and sediment surveys.

New and existing geological, geophysical and biological data will be integrated to provide a comprehensive interpretation of the distribution of marine species and habitats within the project area. The map output will also assist in providing additional information on the distribution of any sensitive species or habitats. Any relationships or correlations between the physical environment and associated fauna will also be investigated and assessed.

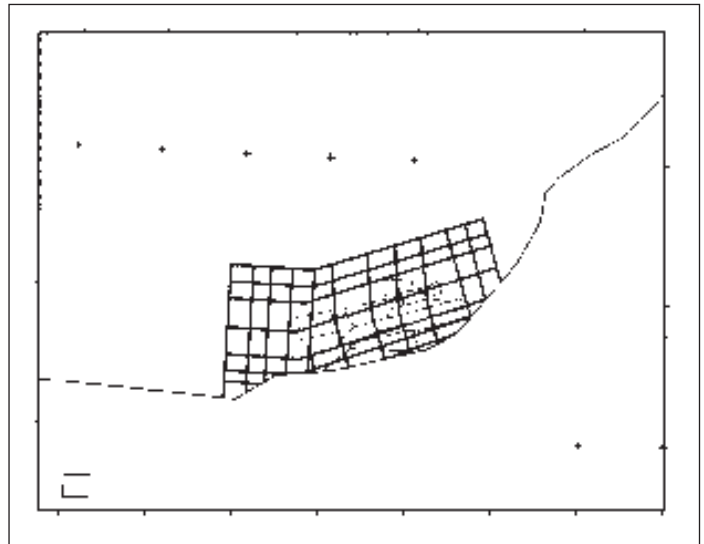


Figure 3. Survey area

The data, interpretations and maps produced by the project will support the integrated management of sea bed resources in the area and provide a better basis for marine spatial planning, now and in the future and will also help resolve conflicts regarding seafloor use. The products and knowledge derived from the project will be disseminated directly to stakeholders via the web, reports, scientific

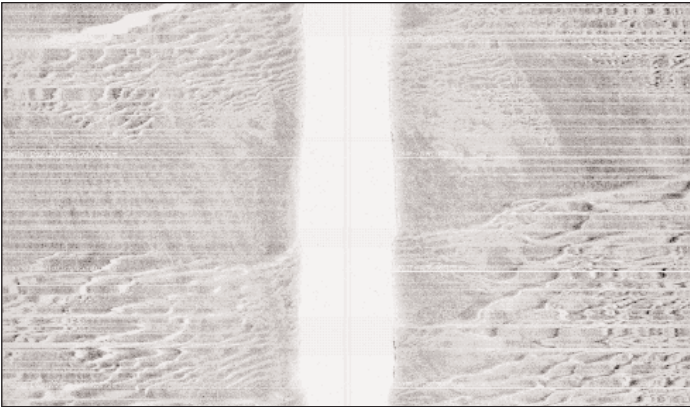


Figure 4. Sidescan Sonar of sand waves and megaripples

Ceri James and Dave Limpenny
British Geological Survey
Cefas, JNCC & MES Ltd

PGI investigate the Vistula Delta Plain - geology and evolution

Vistula Delta Plain is situated north of Poland. It covers an area of around 2500 km² and is developed inside a lagoon cut off from the Gulf of Gdansk by the narrow Vistula Barrier. The delta stretches at an altitude ranging from about 10 m asl where the Vistula branches into two main streams, to -1,8 m bsl. in its north-eastern part.

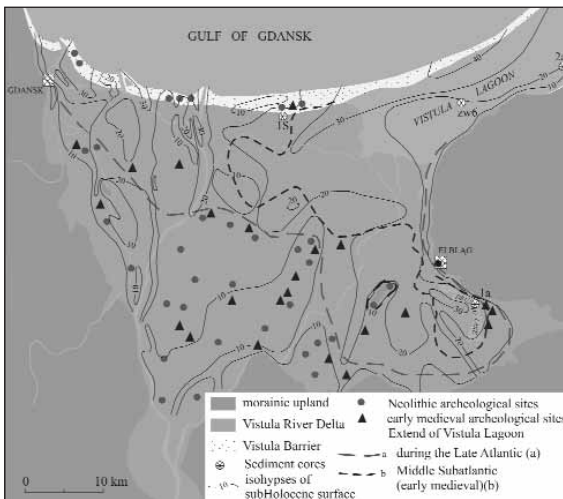


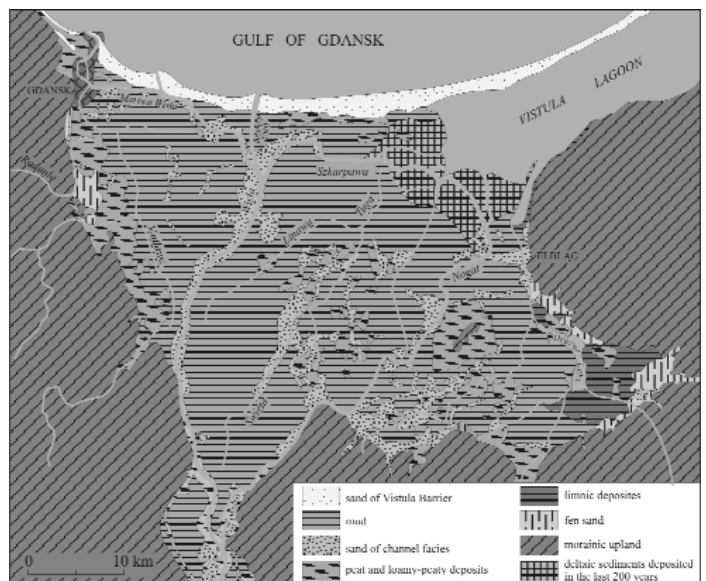
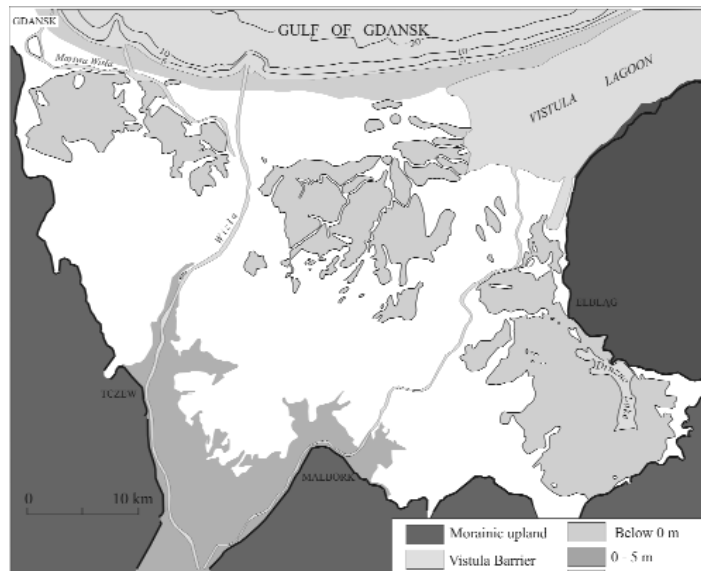
Figure 5. Vistula Delta Plain

In the Pleistocene this region was covered by an ice-sheet several times and its residue is a fairly thick layer of Pleistocene deposits. The relief of the sub-Holocene surface in the Vistula Delta Plain is almost entirely erosive; primary glacial relief may be found in only a few places. The lowest erosive surface lies at more than 30 m below sea level, while the slightly denudated, glacial surface is found on several

“glacial islands” reaching a few metres above the present surface of the delta plain. The sub-Holocene relief amplitude is about 40 m. Erosive topography is visible as narrow depressions trending in a roughly meridional direction. They begin where the delta area starts and extend northwards to the coast. They are Vistula river palaeochannels and originated at various times during late Glacial and Holocene development of Vistula valley and delta.

Sandscript...

COST Action 638 - Investigating and managing the impacts of marine sand and gravel extraction and use, has approval. More details will feature in the next bulletin. For more information please see www.cost.esf.org



Figures 6 and 7. Vistula Delta Plain

From a lithostratigraphic point of view the Holocene deposits in this area comprise of mineral, mineral-organogenous and organogenous sediments (Mojski 1983). The mineral ones include mainly vari-grained sands and sands with gravels. The mineral-organogenous sediments are composed of silts and clays with organic matter. The organogenous sediments include gyttjas, peats and lagoonal deposits. According to 14th century datings the lagoonal deposits of the Vistula River Delta are younger than 6.3 ka B.P.

Vistula Delta Plain, like other world deltas (eg the Nile, Ganges and Brahmaputra) were colonised quite early in history owing to the exceptional fertility of the land, despite hostile conditions and frequent dangers to prosperity or even life.

Joanna Zachowicz
Polish Geological Institute

Latest news from Belgium

Following a slight increase in the extraction of marine aggregates in 2003, a decrease to 1.52 and 1.38 million m³ was noted respectively for 2004 and 2005. This decrease was also translated in the decrease in the volume of extracted aggregates offloaded in foreign ports.

The concentration extraction activities on the Kwintebank, of which 95 per cent of the extracted aggregates originated until 2000, has further decreased to 65 per cent in 2005.

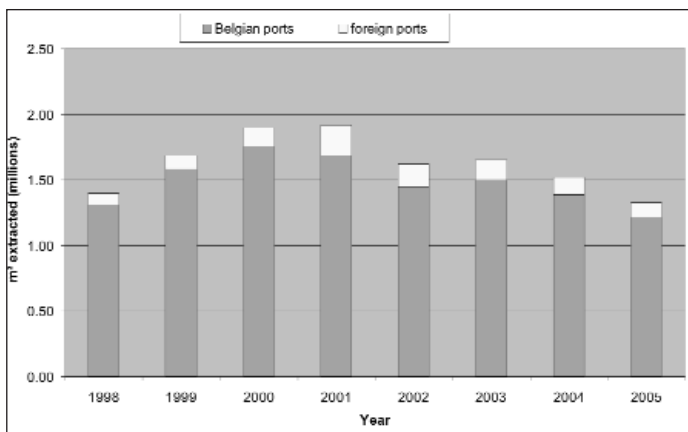


Figure 8. Extraction figures for Belgium

An update in the legal framework of the extraction of marine aggregates was made, resulting in two new royal decrees:

- the royal decree of 1 September 2004 on the conditions, the geographical delimitation and the appropriation procedure for concessions on the exploration and exploitation of mineral and other non-living resources in the territorial sea and on the continental shelf

- the royal decree of 1 September 2004 on the rules concerning the environmental assessment in application of the law of 13 June 1969 on the exploration and exploitation of the non-living resources of the territorial sea and the continental shelf.

These decrees were published on 7 October 2004 in the Belgian State Journal in Dutch and French and can be found on the following website: <http://www.just.fgov.be/>

More information on the legislation can be obtained from:

FPS Economy, SME's, Self-employed and Energy
GD Quality and Safety
Service Continental Shelf
North Gate III
Koning Albert II-laan 16
B-1000 Brussels
Belgium

Or email: patrik.schotte@mineco.fgov.be

Notice

National property consultants Smiths Gore are to play a leading part in a major environmental impact survey affecting the North West region. The project will focus on the quantities, movements and disposal of the 11 mt of construction, demolition and excavation waste (CDEW) generated in the region. All operators who deal with CDEW (including marine dredgings) in the region will be contacted in January. Any operators can contact Caroline Kendal at Smiths Gore on 01978 364718 or caroline.kendal@smithsgore.co.uk

The project is being funded by over 20 waste authorities and managed by Cheshire County Council.

Forthcoming events...

International dredging days

CEDA – African Section
1-3 November 2006 Tangiers, Morocco
(see www.dredging.org for more info)

Coastal futures

Towards a future Maritime Policy for the European Union: A European vision for the oceans and seas
12 October 2006, London UK
(see www.coastms.co.uk for information and post conference outputs).

If you have an event you would like to feature here please email: emsagg@ciria.org