

COAST MAP NEWS

GIS for the marine and coastal sectors

Welcome

to the first issue of Coast Map News¹, a newsletter about marine and coastal data and information. By providing an overview of current issues and latest developments in this area, Coast Map News aims to raise awareness and stimulate discussion towards the integrated system that has been recognised as essential if we are to achieve sustainable management. We would welcome suggestions for contributions that help achieve these goals. Contact details are on the back page. ■

¹ www.cefas.co.uk/coastmap



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INTEGRATING MARINE AND COASTAL INFORMATION

In June 1999, MAFF (now DEFRA) funded a workshop "Integrated mapping of the UK marine and coastal zone - the way forward". This aimed to identify what actions were required to ensure that managers of the UK's marine and coastal zone have the required information in order to make decisions that will protect the environment and ensure sustainable development. A copy of the workshop report may be downloaded from the CEFAS website².

The workshop concluded that there were a number of inadequacies in the availability of, and access to, marine and coastal data and information. As a result, we risk poor or delayed decision making because of lack of appropriate and timely information, and a waste of resources through duplication of effort and lack of base data at reasonable cost. Ultimately, it advised that unless urgent action was taken to address a number of issues (see box overleaf) the UK's role as a trading nation might be impaired. Many other studies, carried out at regional, national and European level, have also highlighted the need for better access to marine and coastal information (see, for example, the article on the back page). ▶

² www.cefas.co.uk/coastmap

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CEFAS & DATA MANAGEMENT

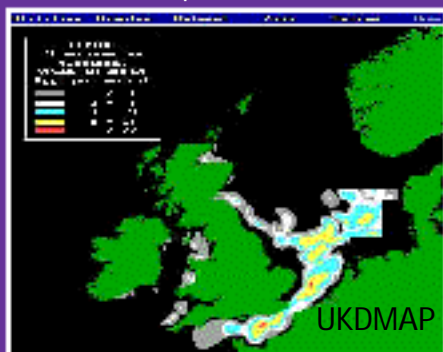
The Centre for Environment, Fisheries and Aquaculture Science (CEFAS) is an Executive Agency of the UK Government's Department for Environment, Food and Rural Affairs (DEFRA), formerly the Ministry of Agriculture, Fisheries and Food (MAFF). Founded in 1902, it was formerly known as the Directorate of Fisheries Research (DFR). It is now an internationally recognised centre of excellence for research, assessment and advice on fisheries management and environment protection.

CEFAS is therefore both a producer and a user of a wide variety of marine data and information. It has played a leading role in many initiatives to improve the management of this valuable resource. In the 1980s, it produced the MAFF-funded Atlas of the Seas



around the British Isles and was a key player in setting up the consortium that resulted in UKDMAP. UKDMAP was a low cost PC-based digital alternative to the printed atlas and made no claim to be a functional Geographic Information System (GIS). However, it did start to address a need that has still not been met in full - that is, to provide a wide range of information for all UK waters in a common format.

With increasing interest in integrated management for sustainable development, CEFAS believes that the UKDMAP concept needs to be resurrected using the



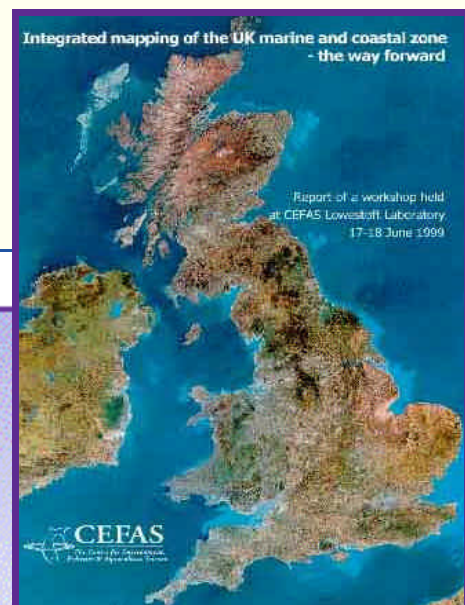
latest technology. CoastMap News aims to keep you up to date with any developments in this area.

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The workshop's findings were presented to the UK's Inter-Agency Committee for Marine Science and Technology (IACMST), which recognised the need to address these issues, via its Marine Environment Data Action Group (MEDAG). This has also resulted in significant progress in a number of areas, most notable of which is the project to develop integrated base maps of the coastal zone which is reported in the article on page 3. MEDAG has updated its website³ and included summary information about sources of coastal data and information. This will be further developed if funding can be found to expand the existing marine environmental data co-ordination activity into the coastal zone.

Coast Map News will endeavour to keep you up to date on the above issues. ■

³ www.oceannet.org



Integrated mapping of the UK marine and coastal zone - the way forward

Priorities for Action identified at the MAFF/CEFAS Workshop in June 1999

- Priority 1 - Raise the profile
- Priority 2 - Invest to save
- Priority 3 - Establish a co-ordination mechanism
- Priority 4 - Provide better access to information
- Priority 5 - Establish core data sets
- Priority 6 - Carry out appropriate research

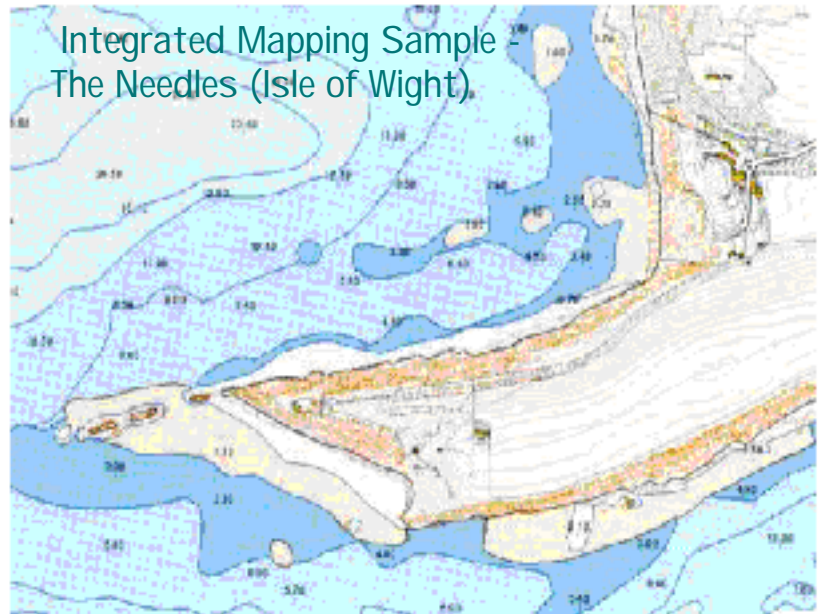
MAPPING THE LAND-SEA INTERFACE

Although users of coastal zone information are diverse and require an equally diverse range of datasets, one thing that most of them have in common is the need for suitable base maps on which to overlay their data. They currently have to choose between terrestrial or hydrographic base maps. These can't be combined as they use different co-ordinate systems and incompatible vertical datum points, lack a common coastline and do not have a nationally agreed high and low water mark. Therefore, one of the most consistent themes to emerge from the integrated mapping workshop reported on page 1-2 was the need for authoritative digital base maps combining information about the sea bed and the water column, coastal habitats and adjacent land, and including definitive high and low water marks.

In 1993, the Ordnance Survey and UK Hydrographic Office produced a prototype, for part of The Solent, of a printed 1:25,000 Coastal Zone Series. This project was not pursued due to perceived lack of demand and failure to secure further funding. It was clearly ahead of its time as, by 1999, participants at the workshop felt that this prototype was an excellent model. They concluded that similar maps in digital (vector) format, and ideally down to

1:10,000, should meet the needs of most users.

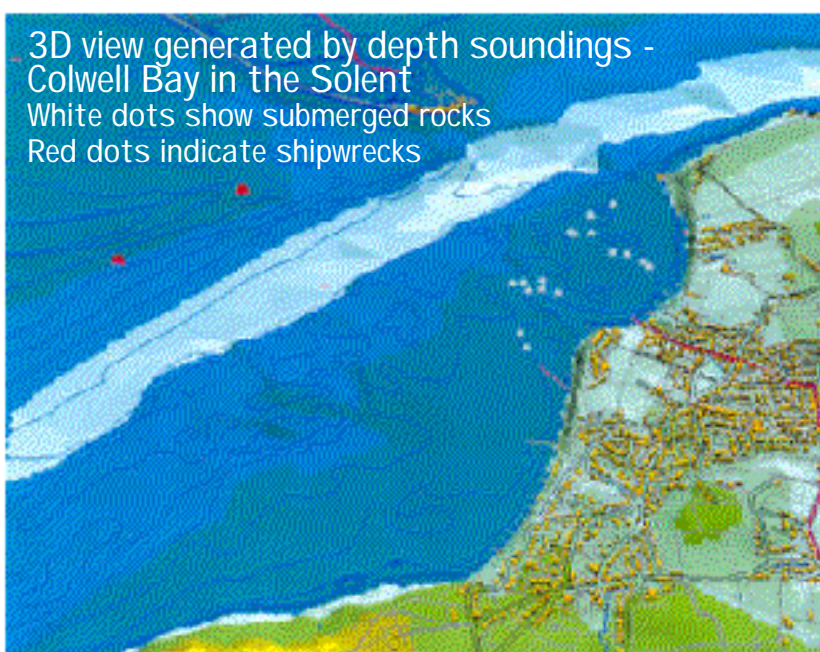
A meeting to discuss the workshop's findings was held in February 2000 under the auspices of the Inter-Agency Committee for Marine Science and Technology (IACMST). Participants included key players from Ordnance Survey, the UK Hydrographic Office and the British Geological Survey, who agreed to put in an expression of interest for funding out of the Treasury's Invest to



Save Budget. This led to a successful bid for a £450,000 government grant to help launch the Integrated Coastal Zone Mapping (ICZMap) project⁴.

ICZMap is seen as a potential first step towards a common and versatile digital map framework for more than 10,000 km of coast. The grant specifically covers work in a pilot area from Shoreham in West Sussex to Lyme Regis in Dorset and will initially focus on the zone from 20 km offshore to 5 km inland. It will merge data from each of the three organisations into a range of integrated products. A key feature of ICZMap will be electronic supply, reflecting the increasing use of mapping data in computerised geographical information systems. Full data for the pilot region are expected to be available by April 2003, while priority areas to follow nationwide would include major estuaries and coasts most at risk from erosion and flooding. ■

⁴ www.ordsvy.gov.uk/media/newsreleases/2001/april/mapcoast.htm



INFORMATION HARMONISATION WITHIN MARINE AND COASTAL SOCIETIES IN EUROPE

The marine and coastal zone is of intense strategic importance to all coastal nations and requires careful management in order to ensure its environmental and economical sustainability. However, as the EU Demonstration Programme on Integrated Coastal Zone Management (ICZM) found, there are a number of inadequacies in the current approach. The EU has now developed a strategy for ICZM (5) based on these findings. This includes recognition that decision-makers need access to appropriate data and relevant information about both the terrestrial and marine components of the coastal zone. The Demonstration Programme pointed to the need for an integrated system that takes account of the complementary roles at each administrative level (local > regional > national > international), with each level providing information that is:



- 6 relevant to management needs;
- 6 adequately accurate/precise;
- 6 consistent and comparable;
- 6 integrated or integrate-able;
- 6 accessible.

Although there are numerous European and national initiatives aimed at generating and improving access to marine and coastal data and information, lack of harmonisation or use of common standards limits the extent to which they can be integrated. In an attempt to begin addressing these issues, the team responsible for developing CoastBase (6), invited key players from relevant projects or organisations to a workshop in Brussels on 17th May 2001.



Anne Burrill (EC), Pascal Colotte (EC), Hugo Neising (Coastbase) Photo: Gert Bultman

The complexity in solving these problems was highlighted when the workshop attempted to come up with recommendations for an agreed standard for metadata (data about data). Should the goal be to achieve harmonisation on the European or global level? Should it be addressed by a top-down or bottom-up approach? Is harmonisation needed for just high level (discovery) metadata or for all levels? What are the different levels and what terms should be used to describe them? Of the numerous existing standards does any single one predominate across Europe?

The workshop concluded that the best way to start addressing these problems was to establish a European registry of marine and coastal metadata. This should help to identify similarities and differences between existing standards and determine if any of them predominate. A sub-group of workshop participants agreed to develop this into a firm proposal for submission under the EU 6th Framework Programme. Coast Map News aims to keep you up to date with progress in this area.

5 <http://europa.eu.int/comm/environment/iczm/home.htm>

6 <http://www.coastbase.org>



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DATA PROTECTION
The CEFAS mailing list database for
Coast Map News is not sold or other-
wise distributed outside CEFAS

in the next issue:

; OceanNet - The UK Marine Environmental Data Network

Plus feedback from two forthcoming events:

; AGI workshop on coastal zone management at GIS 2001
Earls Court, London, 18 September 2001 - www.gisexpo.com

; Coastal & Marine Management - Solutions for Integration
SOAS University of London, 30 October 2001 - www.coastms.co.uk