

08<sup>th</sup> SAIHC Meeting  
6-7 September 2011  
Walvis Bay, Namibia

## NATIONAL REPORT NORWAY



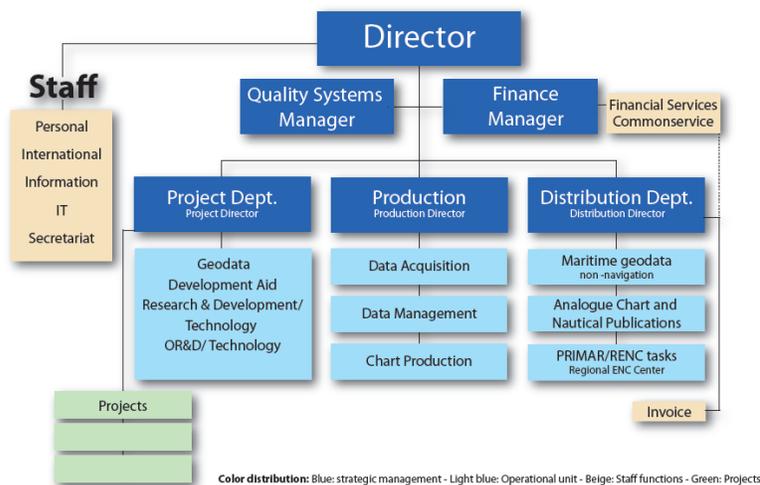
The Norwegian Hydrographic Service (NHS)

### 1. Hydrographic office

The IHO Yearbook was updated August 2010.

#### Administrative information:

No substantial organizational changes has taken place last two years. A new Director, Commander Evert Flier, was appointed in August 2010.



The total budget for 2011 is NOK 217 mill., included expected annual sales revenue of NOK 59 mill.

### 2. Hydrographic Surveys

The internal survey capacity has been used in national waters in the Northern Seas only.

The Institute of Marine Research (IMR), Norway, is operating the research vessel “Dr. Fridtjof Nansen” on behalf of UN/FAO and the Norwegian Agency for Development Co-operation (NORAD). The vessel has done some multibeam surveying in African waters

both in 2010 and 2011. The major part has been in the continental slope of Ghana, but also outside Angola and a few other countries. All data is handed over to national representatives.



Picture of R/V “Dr. Fridtjof Nansen”

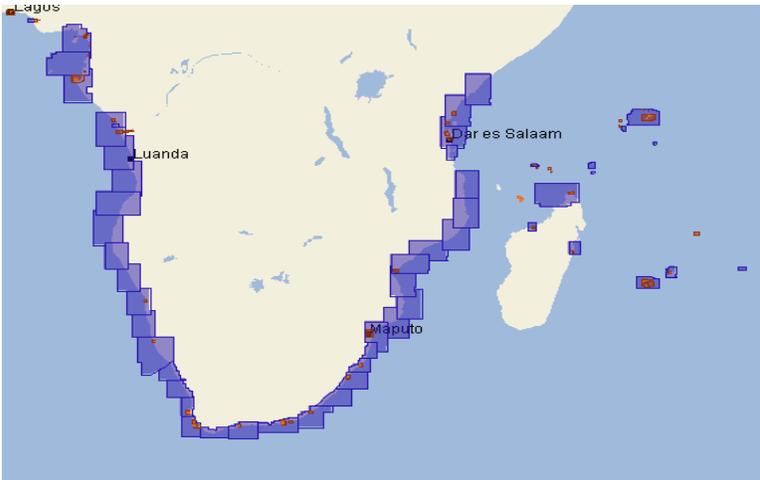
### 3. Charts and Publications

Last print of chart 516 (Bovet Island) was 9/97. Just a few charts are sold per year.

#### PRIMAR

PRIMAR International ENC service, operated by the Norwegian Hydrographic Service, now includes approx 10400 ENCs from more than 35 countries.

The coverage of the coastal, approaches and harbour ENC along the Southern Africa and Islands is shown below.



For more information, see [www.primar.org](http://www.primar.org)

### **Print On Demand (POD)**

The NHS initiated in 2007 a project with the objective of establishing a Print on Demand service, with technical solution based on the dKart Office technology. Jeppesen has produced a product generator for POD files, delivered august 2010. 28 charts were offered in a test period September 2010. From January 2011 our Main Chart series (143 charts) is offered as POD charts. The printing can take place at several locations throughout the world. So far the service has been very well received by our distributors and users.

### **4. MSI**

MSI is outside the responsibility of NHS

### **5. C-55**

The last update of C-55 was sent to IHB in November 2010.

### **6. Capacity building**

Together with South Africa we participated in a Technical visit to Malawi in June 2011. A report is prepared.

Norway is supporting the 8<sup>th</sup> SAIHC meeting by sponsoring the travel and accommodation for 3 delegates.

Norway participated in the CBSC meetings in 2010 and 2011.

### **7. Oceanographic activities**

A project to establish a model of the Mean Sea Level (MSL) with reference to the ellipsoid for coastal/inshore waters had its first survey campaign in the summer 2010. This resulted in GPS measurement along with observation from tide gauges from 20 different locations, each series consist of about 2 months of observations. The analysis of these time series has started with the purpose of getting better knowledge about how such measurements should be done (distribution and distance between the sites used). For open sea areas the MSL is derived from satellite measurements and we have for several years done surveying with reference to the ellipsoid.

### **8. Other activities**

As examples of (partly) MSDI related activity, description of two projects are included below. Even though these projects take place outside the SAIHC region they illustrate how traditional hydrographic work is integrated with other fields of research.

### **The BLAST project**

Bringing Land and Sea Together (BLAST) is the title of the transnational partnership

between 16 organisations from six countries in the North Sea region. The Norwegian Hydrographic Service is Lead Partner. The overall aim of the project is to improve maritime safety and coastal zone planning and management – all in the context of climate change. It sets out to harmonise and integrate terrestrial and marine geographical datasets to create a consistent database, and develop planning and visualising tools for the new generation of marine information systems. The project started in October 2009. BLAST is funded by the European Union as part of the Interreg IVB North Sea Region Programme, which aims to help organizations to co-ordinate regional projects. The three-year project will be completed in 2012. The project's homepage is <http://www.blast-project.eu/>

## The MAREANO Programme

**Background:** MAREANO is a multidisciplinary marine mapping and documentation programme aiming at providing the foundation for ecosystem based sustainable management of the Norwegian coastal and sea areas. The primary focus has been The Management plan for the Barents Sea (see figure 7 below). The aim is to bridge the knowledge gap in poorly mapped but very sensitive areas. High quality multibeam bathymetry is regarded as a premise for further geological and biological investigations. The NHS is responsible for bathymetric data acquisition, and effective data management and distribution of survey data, derived products and services. An important facet of the programme is the web-based geodata distribution, and distributed data management as part of a National Spatial Geodata Infrastructure (NSDI)

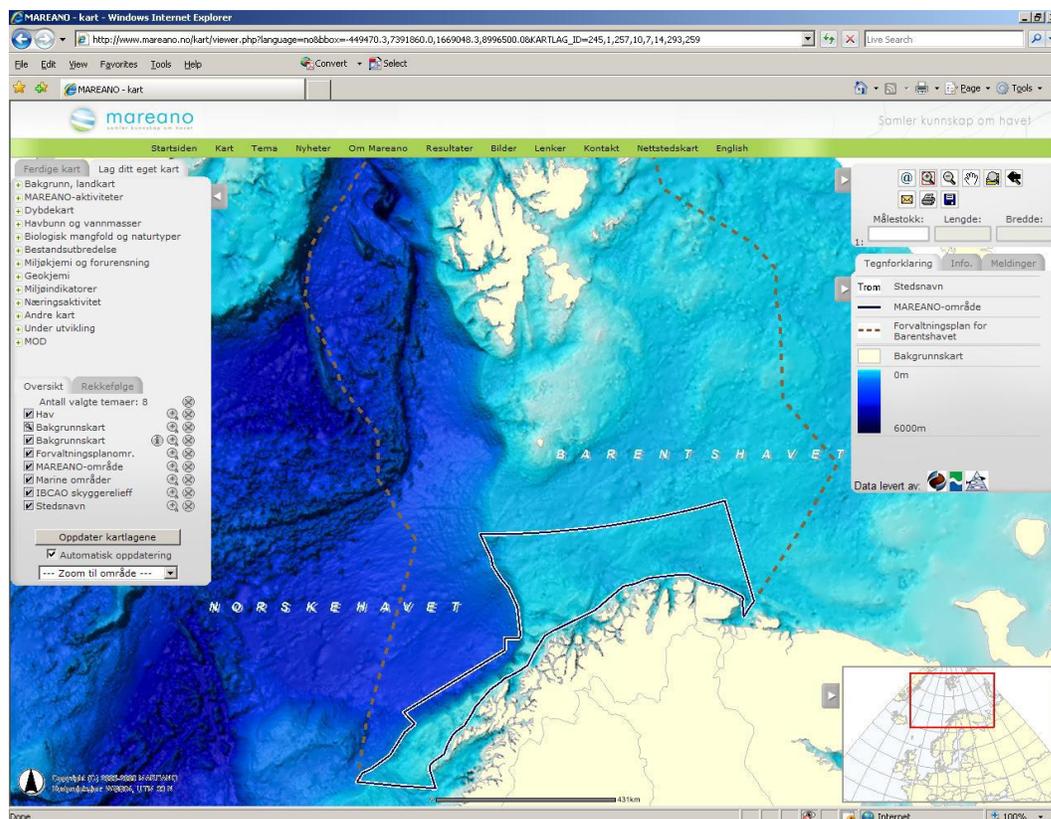


Figure 7. The solid lines indicate the *MAREANO* project area. The stippled lines encircle the area for *The Management plan for the Barents Sea*

**Organization:** The NHS is a programme partner with the Institute of Marine Research (IMR, programme management) and the Geological Survey of Norway (NGU).

**Results 2010:** The MAREANO programme received NOK 51.5 mill in total through earmarked funding. NHS received NOK 20.6 mill. 7 069 km<sup>2</sup> was surveyed in 2010 and 8 060 km<sup>2</sup> was received from Statoil (measured in 2003). See overview of surveyed areas in figure 8 below.

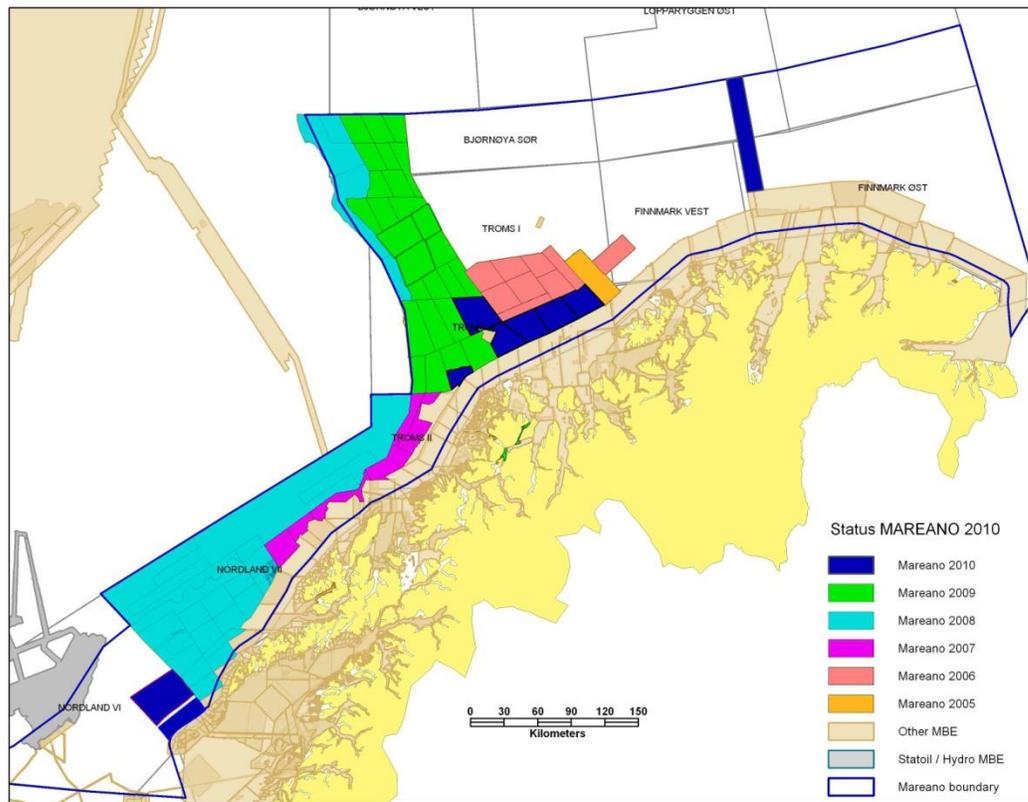


Figure 8. An overview of the surveyed area each year for the period 2005 - 2010

**Data distribution:** All our multibeam data north of Lofoten has been modeled in grids of various resolutions, and visualized through shaded relief maps as a Web Map Service included in the map services on the MAREANO webpage. Further overview bathymetry map services have been produced, also showing the coverage of all surveys in the NHS data management system. Further information and results is available on [www.mareno.no](http://www.mareno.no). This website is a portal for knowledge dissemination mainly through effective map services and documentation aimed at both government decision-makers and the general public. The web service is a joint effort among the programme partners, but the project is managed by the Institute of Marine Research.

**NSDI:** According to the MAREANO data policy all geodata from the MAREANO programme will be published in the Norwegian spatial data infrastructure; *Norge Digitalt (Norway digital)*

MAREANO will be a major undertaking for the NHS in the years to come, and is mainly aimed at non-navigational purposes. The MAREANO concept is planned to be used also for the Management Plan for the Norwegian Sea.

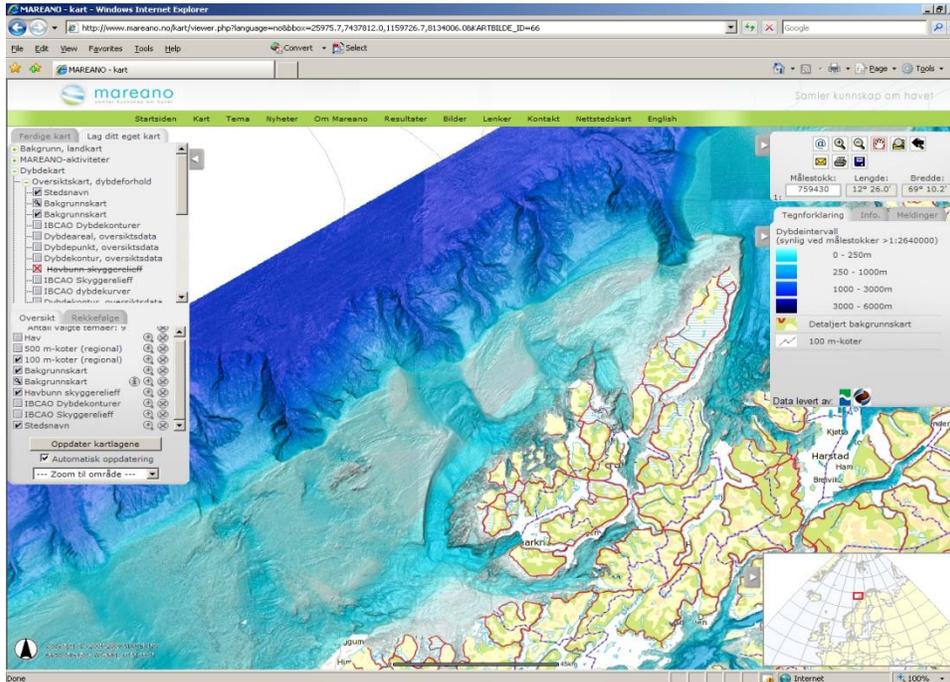


Figure 9. An example from the WMS shadow relief map service showing spectacular submarine canyons and slide scars on the edge of the most narrow part of the Norwegian shelf north of Lofoten and west of Andøya (screenshot from map service on [www.mareano.no](http://www.mareano.no))