

RV BELGICA ST0528a - CRUISE REPORT

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Institute: UG - Renard Centre of Marine Geology
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GEOLOGY - Cruise 05/28

Period: 16-18/11/2005

1. Belgica Cruise ST2005/28
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1. BELGICA CRUISE ST2005-28a

1.	Cruise number	2005-28
2.	Date / hour	Zeebrugge TD: 16/11, 11h10 Zeebrugge TA: 16/11, 15h00 Zeebrugge TD, 17/11, 11h02 Zeebrugge TA: 17/11, 15h47 Zeebrugge TD: 17/11, 07h15 Zeebrugge TA: 18/11, 11h35
3.	Responsible scientist	Dr. Vera VAN LANCKER Isabelle DU FOUR (assistant chief scientist) (UG-RCMG)
	Participating institutions	UG-RCMG, UG-MARBIO

2. PARTICIPANTS

		16-11-2005	17-11-2005	18-11-2005
UG-RCMG	Vera VAN LANCKER	X	X	X
	Samuel DELEU	X	X	X
	Isabelle DU FOUR	X	X	X
	Kristien SCHELFAUT	X	X	X
UG-MARBIO	Marijn RABAUT	X	X	X
	Annick Verween	X		
	Guy Desmet		X	X
Marelac	Ana Maria ALVAREZ	X		
	Itiziar ATIENZA	X		
	Teodoro CASSOLA	X		
	Olga CORTIZO	X		
	Nathalie DE HAUWERE	X		
	Mieke EGGERMONT	X		
	Cibran REY	X		
	Simon FEYS		X	
	Katja GUILIINI		X	
	Greet MEULEPAS		X	
	Cleo PANDELAERS		X	
	Ellen PAPE		X	
	Frederik ROOSE			X
	Rasha SABEEL			X
	Alanda SAVAT			X
	Lien STEENHUYSE			X
	Sofie VANDEMAELE			X
Pieter VAN DEN DRIESSCHE			X	
Noemie WOUTERS			X	
TOTAL		13	11	13

3. PROGRAM OBJECTIVES

The intention of the campaign was to train students in the framework of the MSc program Marelac (Marine and Lacustrine Sciences, course “Tools in Oceanography”) of Ghent University.

It was the purpose that the training would be given with respect of gathering data that are relevant for the Belspo project Marebasse and the InterregIIIb project MESH. However, the weather didn't allow to procure the planned measurements.

MAREBASSE project (RCMG/MUMM/MARBIO/MAGELAS):

The -Marebasse- research project is essentially meant to set-up an integrated assessment framework for marine aggregates. This framework is regarded important to answer management/policy questions on how a sustainable exploitation of marine resources should be viewed and what approaches should be envisaged. This implies that essentially an increase of knowledge is necessary on the level of the sediments themselves and their distribution, but also on the dynamical environment. The project is structured around a three-tiered approach encompassing three spatial scales: broad-based, regional and site-specific. Fieldwork programmes are the focal point of the regional and site-specific research, however with a coupling towards the broad-based approach.

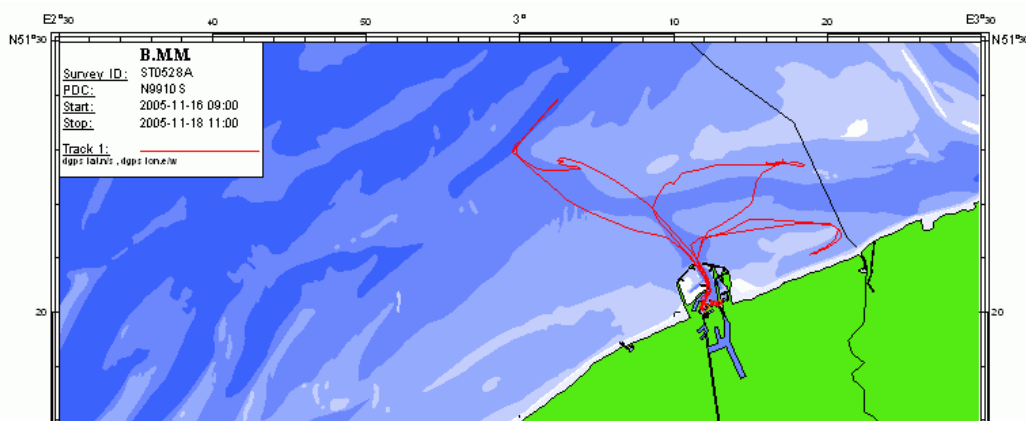
MESH (Development of a framework for Mapping European Seabed Habitats) (RCMG)

MESH is an EU Interreg IIIb-funded international marine habitat mapping programme aiming at the development of international standards and protocols for seabed mapping. Partnership: Joint Nature Conservation Committee (JNCC, coordination) (UK); Ghent University (B); IFREMER (FR); Marine Institute (IRL); Alterra-Texel (NL); TNO Environment, Energy and Process Innovation (NL); Centre for Environment, Fisheries and Aquaculture Science (CEFAS) (UK); Department for Agriculture and Rural Development, Northern Ireland (DARD) (UK); English Nature (UK); Envision Mapping Ltd (UK); National Museums and Galleries of Wales (NMGW) (UK); Natural Environment Research Council (British Geological Survey) (BGS) (UK)

4) MEASUREMENTS

Measurements originally planned in the Sierra Ventana region (see planning). Weather circumstances didn't allow to take samples nor to perform measurements for a scientific purpose. As such, areas were chosen in function of their sheltering capacity against the ruling weather conditions.

Samples were taken in the Appelzak Swale (16/11), south of the Vlakte Van de Raan (17/11) and some in the Sierra Venta a region (18/11).



Trackplot ST0528

5. OPERATIONS

All times are given in local time.

Wednesday, November 16th

09h00 Embarkation of UG-RCMG and UG-MARBIO personnel

09h00 Embarkation of first group of students

Weather circumstances were largely unfavourable (7-8 Bf NW winds). In consent with the Commander, it was still decided to sail off and to demonstrate some sampling tools.

11h10 Sail off from Zeebrugge

Transit to the Appelzak to take shelter for the NW winds

12h10 – 13h30 Demonstration of water sampling (Niskin) and water column profiling with the Seacat

Demonstration of sampling tools (Van Veen / Reineck boxcorer)

Transit to Zeebrugge

15h00 Arrival at Zeebrugge

Demonstration and explanation of various instrumentation aboard RV Belgica: bridge (multibeam, single-beam, navigation/positioning, computer room (ODAS, ADCP, Water column profiling...), different labs, sampling and water column tools.

18h30 Disembarkation of first group of students

Thursday, November 17th

8h00 Embarkation of second group of students

11h02 Sail off from Zeebrugge

Weather circumstances were largely unfavourable (5-6 Bf NW winds). In consent with the Commander, it was still decided to sail off and to demonstrate some sampling tools.

Transit to an area south of the Vlakte Van de Raan to take shelter from the NW winds

12h18-12h50 Demonstration of sampling tools (Van Veen / Reineck boxcorer)
Demonstration of water sampling (Niskin) and water column profiling with the Seacat

13h10 Beam trawling
13h25 end of beam trawling

Transit to Zeebrugge

15h47 Arrival at Zeebrugge

Demonstration and explanation of various instrumentation aboard RV Belgica: bridge (multibeam, single-beam, navigation/positioning, computer room (ODAS, ADCP, Water column profiling...), different labs, sampling and water column tools.

18h30	Disembarkation of second group of students
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20h30	Embarkation of third group of students
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Demonstration and explanation of various instrumentation aboard RV Belgica: bridge (multibeam, single-beam, navigation/positioning, computer room (ODAS, ADCP, Water column profiling...), different labs, sampling and water column tools.

Friday, November 18th

07h15 Sail off from Zeebrugge

Weather circumstances were still unfavourable (4-5 NNW-N winds).

Transit to the Sierra Ventana region

08h20 Demonstration of sampling tools (Van Veen / Reineck boxcorer)

Demonstration of water sampling (Niskin) and water column profiling with the Seacat

09h01 Beam trawling

09h19 end of beam trawling

09h33 Demonstration of multibeam registrations (2-3 Bf)

10h30 End of multibeam

Transit to Zeebrugge

11h35 Arrival at Zeebrugge

Disembarkment of students, scientific personnel

- End of campaign ST0528a -

6. LABORATORY SPACE USED

BRIDGE:	Multibeam operations
WET LAB:	Samplings
CHEMISTRY LAB:	Filtration of water samples
MICROBIOLOGY LAB:	Storage of instruments (sampling equipment, sound velocity probe)
BIOCHEMISTRY LAB:	Storage of instruments
FISHERIES LAB:	

7. INFRASTRUCTURE USED

Continuous measurements

- Thermosalinograph SCTD-SBE21
- Turner fluorometer
- Sea water pump

Navigation / Meteorology / Bathymetry

- Friedrichs meteo
- DGPS Thales Aquarius
- Atlas Deso 20
- Tss 320B heave compensator
- RoxAnn bottom discriminator (*not working*)
- Kongsberg-Simrad EM1002S multibeam
- Sound velocity probe

Water sampling and in situ sampling

- Seabird SeaCAT system (SCTD-SBE19, OBS)
- Niskin bottle

Sediment sampling

- Reineck corer (MUMM)
- Van Veen grab

Biological sampling

- Rincing table (UG-MARBIO)
- 3 m Beam Trawl (MUMM)

Laboratories equipment

- Milli-Q water purification system with provision tank
- Freezer and refrigerator for the storage of the samples
- Filtration set
- Oven
- ph meter

8. ANALYSIS CARRIED OUT ON BOARD

Sieving of samples for macrobenthos and water filtering
 Sorting of biological species after the beam trawling

9. AUTOMATIC DATA ACQUISITION

Parameters that were acquired:

N°	Parameters	Acquisition rate 0.5 sec	Acquisition rate 10 sec
13	PT/ST SPEED		*
14	DEPTH SPEED		*
15	FO/AF SPEED		*
16	REL. WINDDIR		*
17	REL. WINDSPD		*
19	HUMIDITY_HR		*
20	ATM PRESSURE		*
24	SEATEMP_1		*
30	SOL-RAD		*
34	AIRTEMP.DRY		*

35	AIRTEMP.WET		*
36	SHIP HEADING	*	*
120	IN-WIND DIR		*
121	IN-WINDSPD		*
122	IN-WINDSPD.BF		*
123	CUMUL.DIST	*	*
182	HUMIDITY_DW		*
184	TSS DEPTH-L	*	*
185	TSS DEPTH-H	*	*
186	TSS HEAVE	*	*
191	SBE21 TEMP.	*	*
192	SBE21 SALIN.	*	*
193	SBE21 SIGTH.	*	*
195	TURNER FLUO.	*	*
197	DGPS LAT.N/S	*	*
198	DGPS LONG.E/W	*	*
199	DGPS HG_MSL	*	*
200	DGPS UTCTIME	*	*
201	DGPS SPEED	*	*
202	DGPS COURSE	*	*
203	DGPS QUALITY	*	*
214	MGN DGPS LAT	*	*
215	MGN DGPS LON	*	*
219	ROXANN DEPTH	*	*
220	ROXANN ROUGH	*	*
221	ROXAN HARD	*	*

10. REMARKS ON THE MEASUREMENT INSTRUMENTS AND ON THE OPERATIONAL COURSE OF THE CAMPAIGN

The officers and crew of the Belgica are greatly acknowledged for their cooperation, in particular for their their assistance in providing information to the students. MUMM is thanked for the logistics support.