

Annex A
Campaigns 06/16

INTERNATIONAL AFFAIRS / SURVEY / BNS BELGICA / UK TTW/ 17/07 - 19/07/ 2006.

1. **A. Participating naval unit:** BNS BELGICA (A 962)
B. Ship's characteristics: length 51m / beam 10m / draught 4.6m / masthead height 28.6m / Displacement 1200 T
2. **Waters to be passed:** UK TTW
3. **Waters :**
A. Entrance UK TTW : 17 Jul PM near HARWICH
B. Leaving UK TTW : 19 Jul AM near HARWICH
4. **Anchorage in UK TW:** in case of adverse weather or technical problems
5. **Visit to harbour (harbour / period / character):** nihil
6. **Commanding officer:** CDR Lieven GOUSSAERT (Jun 06)
7. **Crew:**
A. Total crew: 30
B. Officers: 2
C. Crew: 13
D. Civilian scientists: 15
8. **Reason for visit:** nil
Reason for stay in TW : MONITORING / SAMPLING
9. **Communication requirements :**
A.1. Frequencies: 2461K3, 4158K8, 6239K0, 8330K4
A.2. Frequencies: 2072k1, 4113k9, 8752k2
B.1. Transmission mode: F1B
B.2. Transmission mode: J3E
C. Effective output: 400 Watt
D. International call sign: OSCAR ROMEO GOLF QUEBEC
E. Receiver station: OSN
10. **Organic aircraft:** nil
11. **Logistic requirements:** nil
12. **Summary of survey:** See para 9 of NPRC (annexe B)

NOTIFICATION OF PROPOSED RESEARCH CRUISE

GENERAL
ORGANISATION
PART A

1. Name of research ship **BELGICA** Cruise N° **2006/16**
2. Dates of cruise From **17 July** to **19 July 2006**
3. Operating Authority **Belgian Navy under contract for Belgian Ministry of Science Policy Management Unit of the North Sea Mathematical Model "M.U.M.M.", 3° & 23° Linierregimentsplein, 8400 Oostende
Tel, 32(0)59 70 01 31, Facsimile 32(0)59 70 49 35
Email : bmccost@mumm.ac.be**
4. Owner **Belgian state represented by Minister for Science Policy**
5. Particulars of ship

Name	Belgica
Nationality	Belgian
Overall length	51 meters
Maximum draught	4,5 meters
Nett tonnage	232 NRT
Propulsion	Diesel
Call Sign	ORGQ
Telephone	INMARSAT 00870 76 218 73 27
Facsimile	INMARSAT 00870 32 052 18 12
Email	belgica@mumm.ac.be
6. Crew

Name of master	L GOUSSAERT, LTZ 1ste klasse
N° of Crew	15
7. Scientific Personnel

Name and address of scientist in charge :

**Dr Kevin Ruddick
Belgian Royal Institute of Natural Sciences
Management Unit of the North Sea Mathematical Models
"M.U.M.M."
Gulledelle 100 B-1200 Brussels
Telephone : 02/773 21 31 ; facsimile : 02/770 69 72; email : k.ruddick@mumm.ac.be**

N° of scientists **15**

(A nominal roll of all personnel other than nationals of the applicant (flag) state is required)

Rosa Astoreca (Chile)	Dr. Kevin Ruddick (UK)	Elsa Breton (FR)
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8. Geographical area in which ship will operate (with reference in latitude and longitude).
**Belgian, French, Dutch and UK Continental Shelves
Box with corners at N 50°30', E 1°00 and N 62°00, E 3°30'**
9. Brief description of purpose of cruise

Belgian national funded research project within the Research programme for earth observation STEREO: "Study and management of coastal regions"

Project "BEL-COLOUR": Optical Remote Sensing of coastal waters

10. Port of Call. Dates. Reasons.

Zeebrugge 17.07 / 19.07 Departure-Arrival

11. Any special logistic requirements at ports of call (other than water, fuel provisions, etc.)

N.A.

NOTIFICATION OF PROPOSED RESEARCH CRUISE

DETAIL PART B

1. Name of research ship **BELGICA** Cruise N° **2006/16**
2. Date of cruise From **17 July** To **18 July 2006**
3. Purpose of research and general methods. (If the research work is being taken on behalf of a research institution of a third state, it is the responsibility of that state to obtain prior permission; it is essential that written confirmation that this has been done is obtained and quoted in this application.)

The BEL-COLOUR project, funded by the Belgian Federal Science Policy Office (previous OSTC), aims at Improving the theoretical basis and software tools for applications of suspended matter and chlorophyll-based satellite data products in coastal waters. In addition to algorithm work and Image processing BEL-COLOUR participates in seaborne cruises for the purposes of calibration of algorithms and for validation of the end products.

4. Attach chart(s) showing (on an appropriate scale) the geographical area of the intended work, positions of intended stations, tracks of survey lines, positions of moored / seabed equipment.

Sea chart in Annex 1

5. Types of samples required, e.g. Geological / Water / Plankton / Fish / Radioactivity / Isotope
water
and methods by which samples will be obtained (including dredging/coring/drilling).

**Niskin bottle, In situ measurements (SCTD, Secchi disk...),
spectroradiometric measurements (above water)**

6. Details of moored equipment : **N.A.**

Dates Laying	Recovery	Description	Latitude	Longitude
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7. Explosives : **N.A.**

- | | |
|-------------------------------------|-----------------------------|
| (a) Type and Trade Name | (b) chemical content |
| (c) Dept of trade class and stowage | (d) Size |
| (e) Depth of detonation | (f) Frequency of detonation |
| (g) Dates of detonation | |

8. Details and reference of

- a) Any relevant previous/future cruises

Project BEL-COLOUR : Belgica cruise 2002/07, 2002/09, 2002, 2002/14, 2003/06, 2003/16, 2003/19 and 2003/22, 2004/10b, 2004/16, 2005/08, 2005/16, 2005/1 9

- b) Any previous published research data relating to the proposed cruise (attach separate sheet if necessary)

See Annex 2

9. Names and addresses of scientist of the coastal state in whose waters the proposed cruise takes place with whom previous contact has been made.

BELCOLOUR - NL

Dr Steef Peters, Instituut voor Milieuvraagstukken, Vrije Universiteit Amsterdam, De Boelelaan 1115, 1081 HV, Amsterdam, Netherlands

Tel: ++31 20 444 9555, Fax: +31 20 444 9553, Email: Steef.Peters@vm.vu.nl

BELCOLOUR - FR

~~Dr Pierre Yves Deschamps, Laboratoire d'Optique Atmosphérique, Université de Lille 1, F-59655 Villeneuve d'Ascq, France - Tél.: 33 320436607; Fax: 33 320434342; E-mail: pyd@lea.univ-lille1.fr~~

Dr Hubert Loisel, Laboratoire ELICO, UMR -CNRS/ULCO 8013, Malsom de la Recherche en Environnement Naturel, 32 Avenue Foch, 62930 Wimereux, France

email: loisel@mreh2.univ-littoral.fr Tél : 03 20 33 61 89; Fax : 03 21 99 64 01

BELCOLOUR - UK

Dr. Gavin Tilstone, Remote Sensing Group, Plymouth Marine Laboratory, Prospect Place, West Hoe, PLYMOUTH PL1 3DH, UK, Tel : +44 1752 633 406; facsimile +44 1752 633 101; email : ghti@pml.ac.uk

10. State :

- (a) Whether visits to the ship in port by scientists of the coastal state concerned will be acceptable.

YES

- (b) Whether it will be acceptable to carry on board an observer from the coastal state for any part of the cruise and dates and ports of embarkation / disembarkation.

Yes, Zeebrugge Cfr. part A § 10

- (c) When research data from intended cruise is likely to be made available to the coastal state and if so by what means. (If the final report is likely to be delayed beyond 12 months, interim progress reports are required.

- Cruise report available within 2 months (on request)
- Reflectance, chlorophyll and suspended matter data will be made available on request to scientists of the coastal state within one year.

PART C : SCIENTIFIC EQUIPMENT

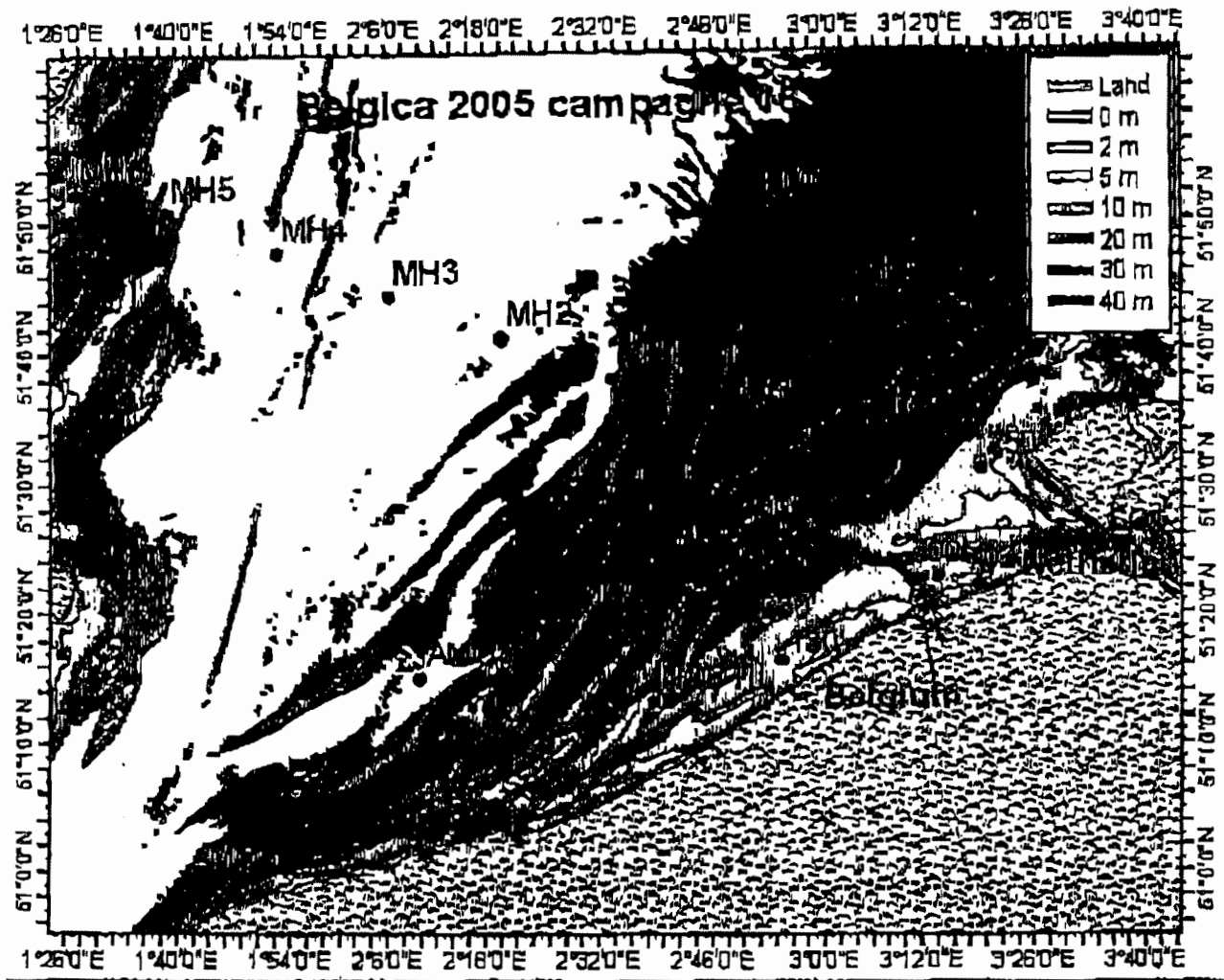
COASTAL STATE : UNITED KINGDOM

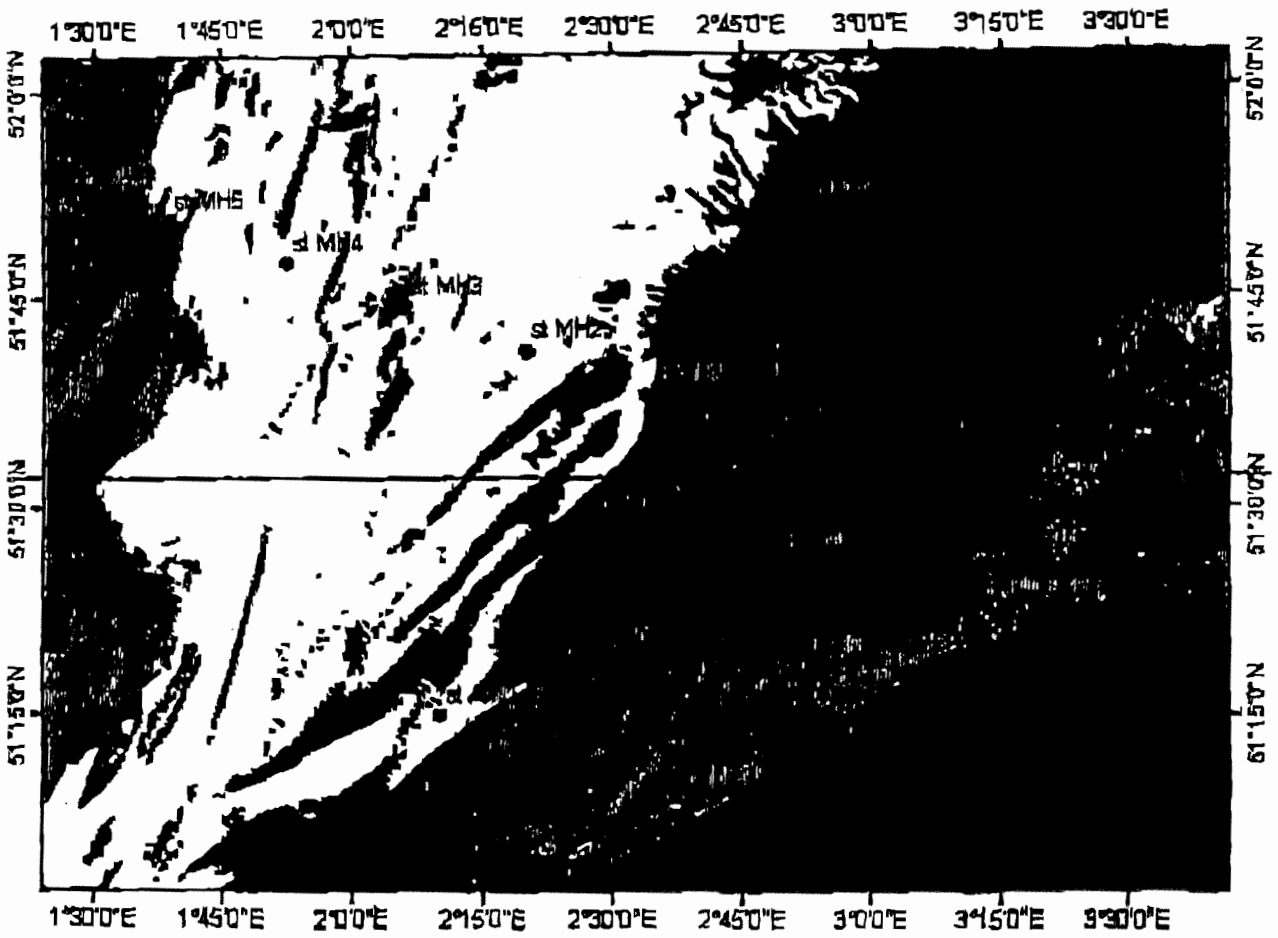
INDICATE "YES" OR "NO"

LIST SCIENTIFIC WORK BY FUNCTION				DISTANCE FROM COAST		
				WITHIN 12 NMS	BETWEEN 12-200 NMS	CONTINENTAL SHELF WORK ONLY) BEYOND 200 NM BUT WITHIN THE CONTINENTAL MARGIN
eg. MAGNETOMETRY : GRAVITY DIVING : SEISMICS: BATHYMETRY SEABED SAMPLING TRAWLING ECHO SOUNDING : WATER SAMPLING UW T.V. : MOORED INSTRUMENTS: TOWED INSTRUMENTS :	WATER COLUMN INCLUDING SEDIMENT SAMPLING OF THE SEABED	FISHERIES RESEARCH WITHIN FISHING LIMITS	RESEARCH CONCERNING THE NATURAL RESOURCES OF THE CONTINENTAL SHELF OR ITS PHYSICAL CHARACTERISTICS	WITHIN 12 NMS	BETWEEN 12-200 NMS	CONTINENTAL SHELF WORK ONLY) BEYOND 200 NM BUT WITHIN THE CONTINENTAL MARGIN
Nisk in water bottles	YES	NO	YES	YES	YES	NO
in situ measurements (SCTD, .. and optical properties)	YES	NO	YES	YES	YES	NO
spectroradiometer Trilos	YES	NO	NO	YES	YES	NO
Secchi disk	YES	NO	NO	YES	YES	NO

Annex 1

Chart - Belgica 2006/16





Annex 2. Références

- De Cauwer, V., K. Ruddick, Y. Park, B. Nechad, and M. Kyramarios, Optical remote sensing in support of eutrophication monitoring in the Southern North Sea. EARS&L eProceedings, 2004. 3(2): p. 208-221.
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- Ruddick, K.G, F. Ovidio, A.P. Vasilkov, C. Lancelot, and V. Rousseau, 1999. Optical remote sensing in support of eutrophication monitoring in Belgian waters. In "Operational remote sensing for sustainable development", edited by Vaughan and Molenaar, Balkema, Rotterdam, p445-452.
- Ruddick, K.G, F. Ovidio, D. Van Den Eynde and A.P. Vasilkov, 1998. The distribution and dynamics of suspended particulate matter in Belgian Coastal waters derived from AVHRR imagery. in "Proceedings of the 9th Conf. On Satellite Meteorology & Oceanography", 25-29 May 1998, Paris, vol. II, p. 626-629.

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