

## ACTIVITY OF EDUCATION ON MARINE SCIENCE AND TECHNOLOGY ON BOARD OF A VESSEL.

### EUROFLEETS TASK 6.5

#### TECHNICAL FACTSHEET

**1. NAME OF THE ACTIVITY:** Introduction to the research of the ocean and seabed on board of the caravel “Vera Cruz”



*Caravel “Vera Cruz”, from Aporvela.*

**2. VENUE OF THE ACTIVITY:** Tagus estuary, between the Area of Santa Apolónia and the 25 de Abril.



Organization:



Collaboration:





**3. DATES OF THE ACTIVITY:** 13-15 May 2013.

**4. RESPONSIBLE INSTITUTION:** FUNDAÇÃO EUROCEAN

**5. RESPONSIBLE INVESTIGATOR:** PROF. LUIS MENEZES PINHEIRO (UNIVERSITY OF AVEIRO).

**6. SCIENTIFIC SUPERVISION:**

PROF. LUIS MENEZES PINHEIRO, UNIVERSITY OF AVEIRO

PROF. ISABEL AMBAR, UNIVERSITY OF LISBON

**7. ORGANIZATION OF THE ACTIVITY:** UNIVERSITY OF AVEIRO (DEPARTMENT OF GEOSCIENCES AND ASSOCIATED LABORATORY CESAM) AND FUNDAÇÃO EUROCEAN

**8. COOPERATING INSTITUTIONS:** INSTITUTE OF OCEANOGRAPHY, UNIVERSITY OF LISBON E APORVELA.

**9. ACTIVITIES ON BOARD OF THE VESSEL:**

#### 9.1 Presentation of Key Concepts

- Safety Rules on board;
- Introduction to the history of the "Vera Cruz" Caravel and its importance in the Portuguese discoveries;
- The importance / necessity of Research vessels in Marine Science;
- Introductory concepts of Navigation and Positioning Systems;
- Importance of the study of the Seabed Geology and Sub-surface, in particular what concerns the study of mineral and energy resources, the plate tectonics and geological risks, and archaeological heritage;
- Importance of Physical Oceanography for the study of the physical properties of the ocean, in particular, currents, temperature and salinity, and their implications for ocean-atmosphere interaction;
- Explanation of the geophysical methods, mainly Side Scan Sonar and reflection profiles of High-Resolution seismic - Chirp Sonar;
- Presentation of the methods used in Physical Oceanography to measure the temperature and salinity of the water column (CTD) and currents (current meter).

Organization:



Collaboration:



### 9.2 Monitoring of data acquisition during cruise and observation of the equipment used:

- Real-time acquisition of profiles of side-scan sonar and high resolution seismic of reflection - Chirp Sonar.
- Acquisition in real-time of temperature and salinity profiles (CTD) and current profiles (current meter).

### 9.3 Educational quizzes

- In the Script of the visit was included a series of questions about the concepts and fundamental knowledge acquired aboard. These questions should be answered by the students on board and corrected later by Teachers of Schools.

## 10. PARTICIPANTS:

SCHOOL	Responsible teacher	Grade	Nº Students	Nº Professors	Date of the activity	Time
Escola Básica e Secundária de Lanheses, VIANA	Ricardo Carvalhido	7	31	3	13-May	14-18H
Escola Josefa de Óbidos, LISBOA	Duarte Sogalho	12 e 11	21	3	14- May	09-13H
Escola Secundária José Macedo Fragateiro, OVAR	António Gonçalves	10	29	2	14- May	14-18H
Escola EB72, Padre Bartolomeu de Gusmão, LISBOA	Jorge Ferreira	4	24	3	15- May	09-13H
Agrupamento Martim de Freitas, Escola B23, COIMBRA	Patrícia de Jesus	8	20	3	15- May	14-18H

Organization:



Collaboration:

