Università di Trieste
Corso di Laurea in Geologia

Anno accademico 2020 - 2021

Geologia Marina

Parte I

Modulo 2.1 Navi Oceanografiche e metodi acustici

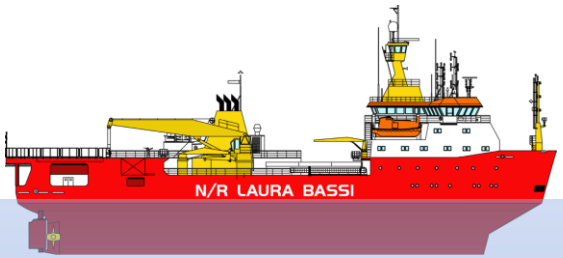
Docente
Fabrizio Zgur

atmosfera

idrosfera

biosfera

litosfera



Misure meteorologiche

Correntometria

OCEANOGRAFIA

Proprietà fisiche e caratteristiche biogeochimiche e biologiche

BIOLOGIA MARINA

GEOFISICA

GEOLOGIA MARINA

Morfobatimetria

Campionamenti

Profilazione Acustica

Sismica

basamento

Metodi del potenziale

moho

ICEBREAKER

Oceans, polar areas, ice covered areas.
Long endurance.
100-120 m,
6000-12000 tons

Polarstern (DE)

RV Laura Bassi (IT)

Araon(KOR)

GLOBAL

Oceans, not ice covered polar areas.
Long endurance.
60-80 m
2000-3000 tons

S.de Gamboa (ES)

OGS Explora(IT)

Celtic Explorer (IR)

REGIONAL

Seldom in ocean waters, Mediterran, Black Sea
Short endurance.
40-50 m
1000 tons max

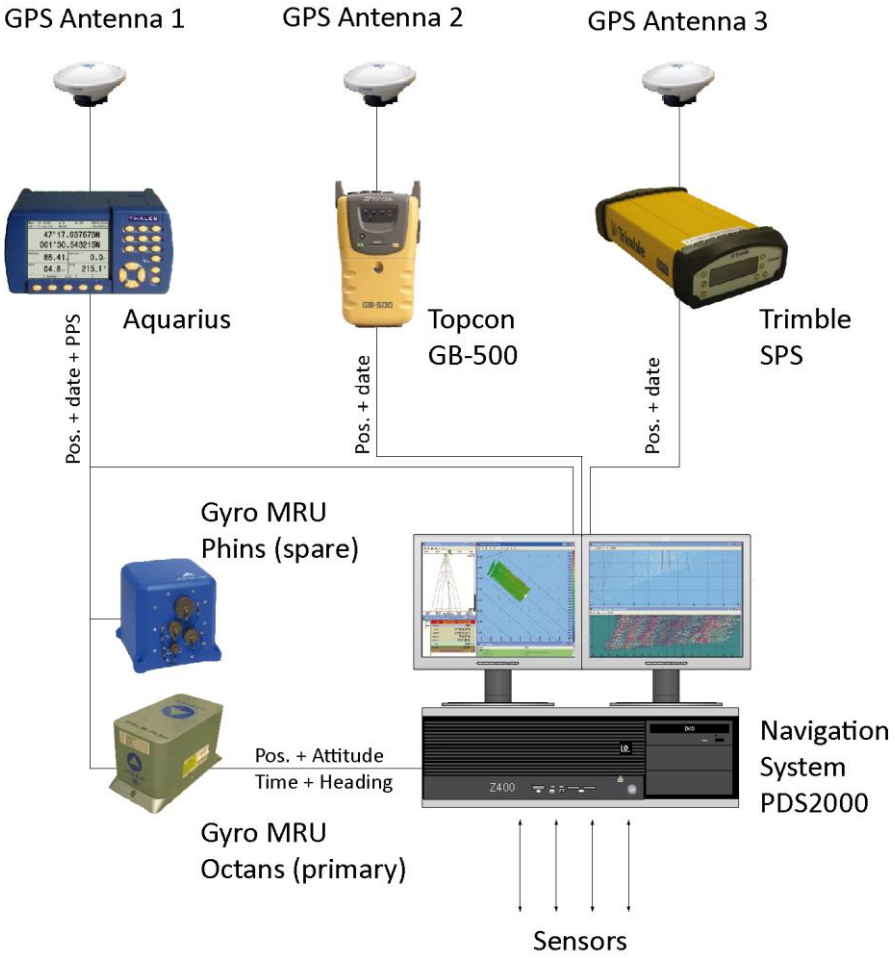
Atlantic Explorer (UK)

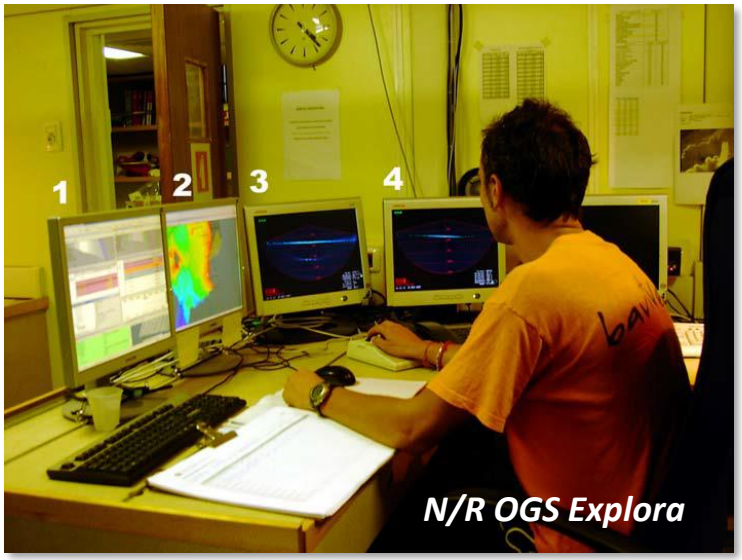
Wega (DE)

Minerva 1 (IT)

RESEARCH VESSELS

POSITIONING AND NAVIGATION





Real time position monitoring

Comandante

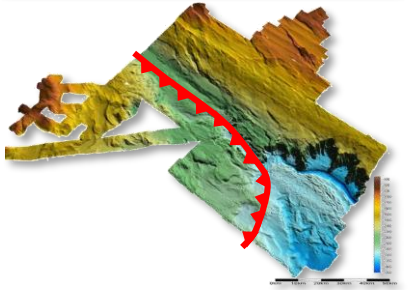
Capo missione / Resp. scientifico

Personale Marittimo
18 unità

- Coperta
- Macchina
- Cucina

Personale Tecnico Scientifico
fino a 24 unità

- Navigazione
- Acquisizione dati
- Elaborazione dati

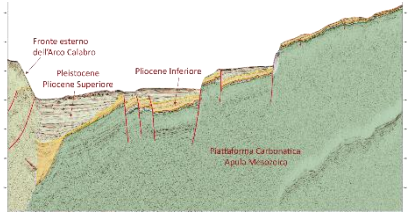


Operazioni H24

(domeniche e festività incluse)

Plancia

Navigazione



RESEARCH VESSELS

WATER PROPERTIES AND ACOUSTIC PROFILING

water sampling and CTD

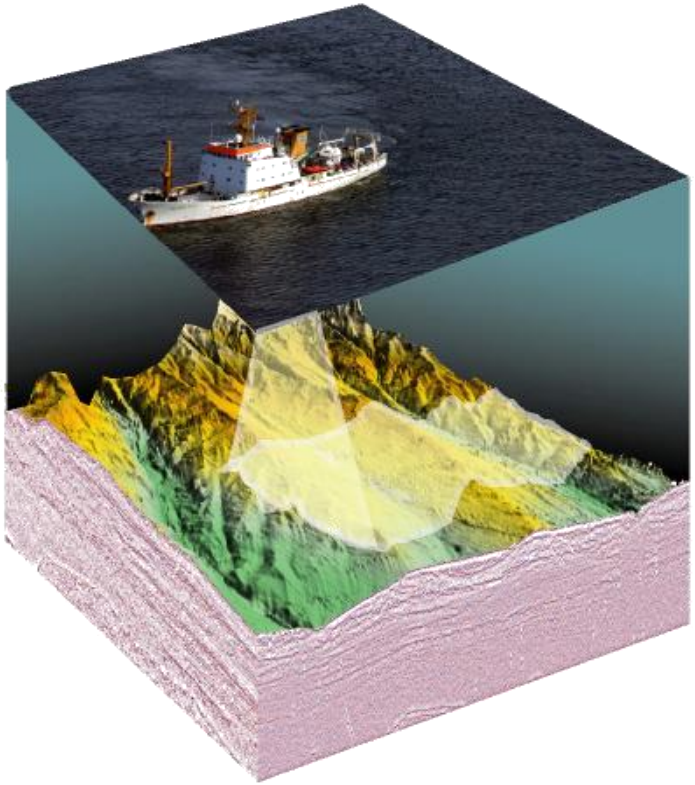
acoustic doppler current profiler

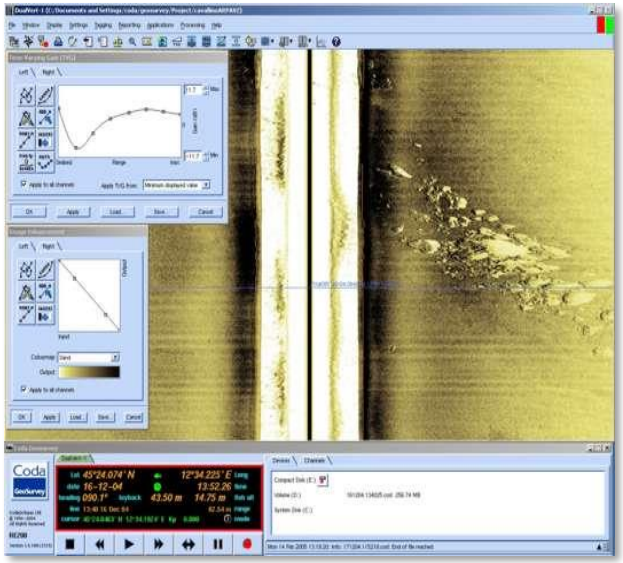
thermosalinograph

RESEARCH VESSELS

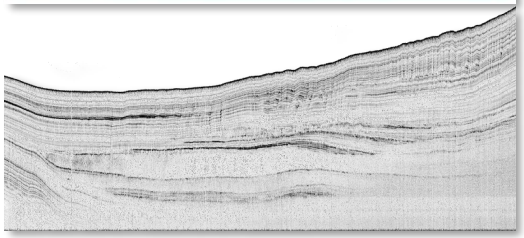
GEOPHYSICS

Morphobathymetry

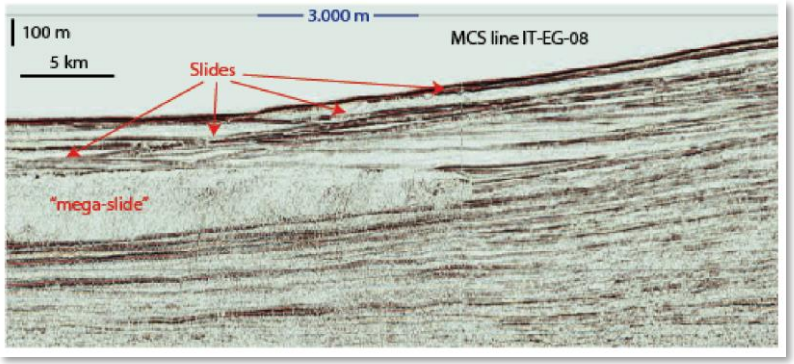




Side Scan sonar



Sub Bottom Profiling



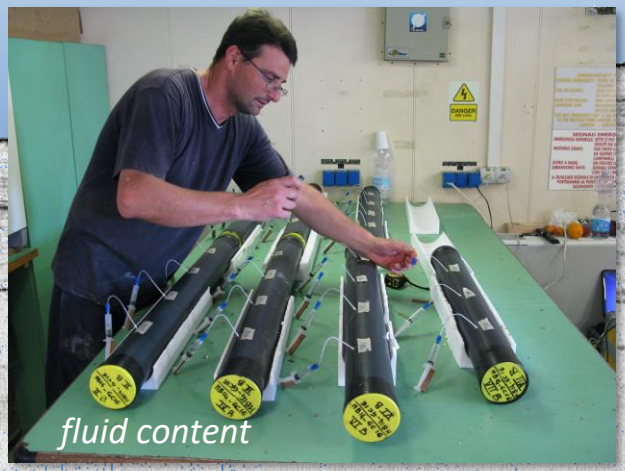
Seismic

RESEARCH VESSELS

SEDIMENT SAMPLING AND SEDIMENT PROPERTIES


gravity cores

sample description



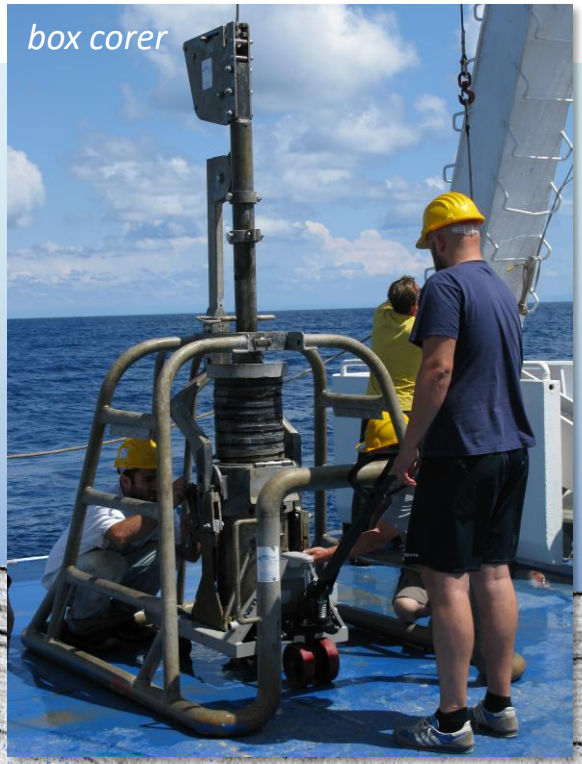
fluid content

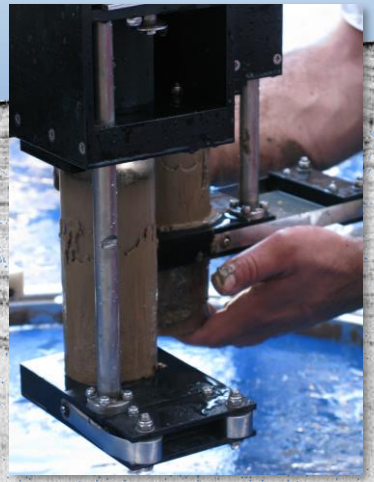

magnetic properties

RESEARCH VESSELS

SEDIMENT SAMPLING AND SEDIMENT PROPERTIES

STUDY OF BENTHIC COMMUNITIES





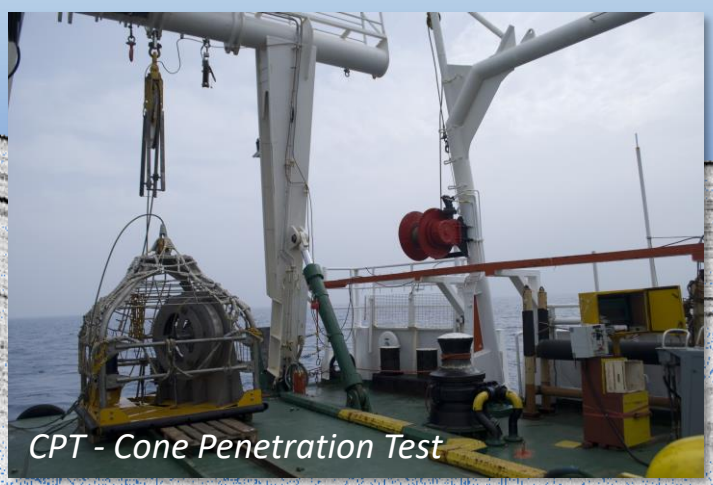
to collect undisturbed seafloor samples

RESEARCH VESSELS

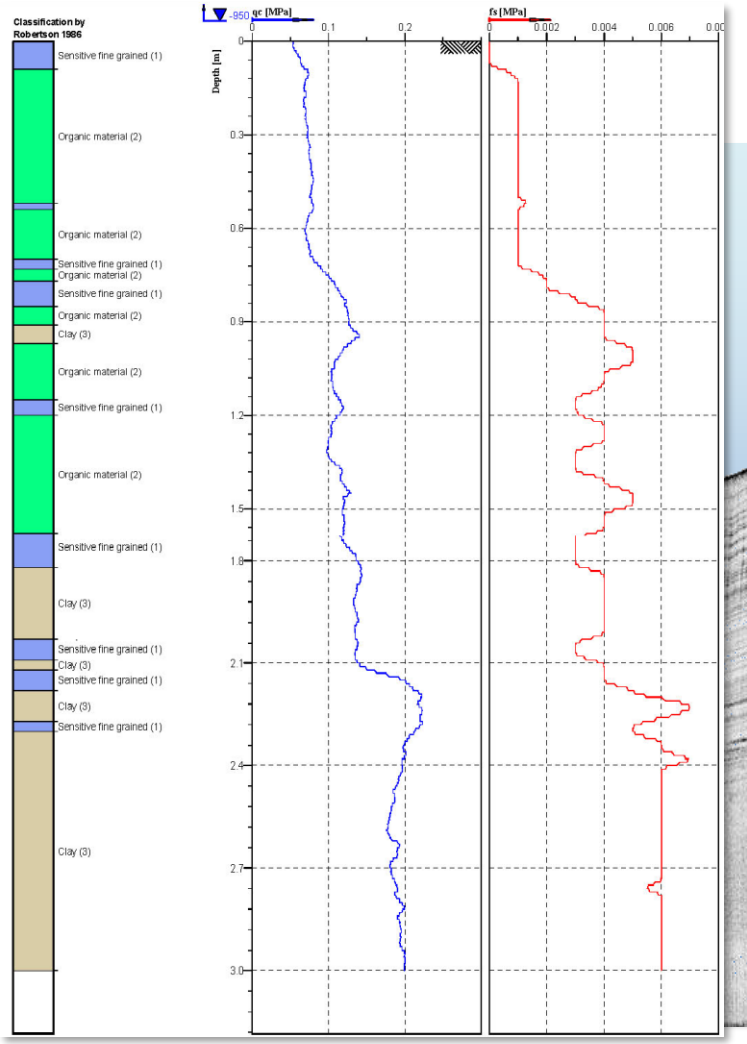
SEDIMENT SAMPLING AND SEDIMENT PROPERTIES

The cone penetration test (CPT) is a simple technique which can be used for compaction studies in soft clay and fine-to-coarse grained sand.

The equipment consists of mechanical, electrical, electronic and hydraulic units, and a coiling system. Data on tip resistance and sleeve friction are collected, which in turn provide the friction ratio, that is used for the textural classification of soils/sediments. Tip resistance and sleeve friction give an idea about the sediment density, which further helps in proper planning and design in shallow marine areas. The CPT is accurate and time dependent rather than vibrocoring.



CPT - Cone Penetration Test



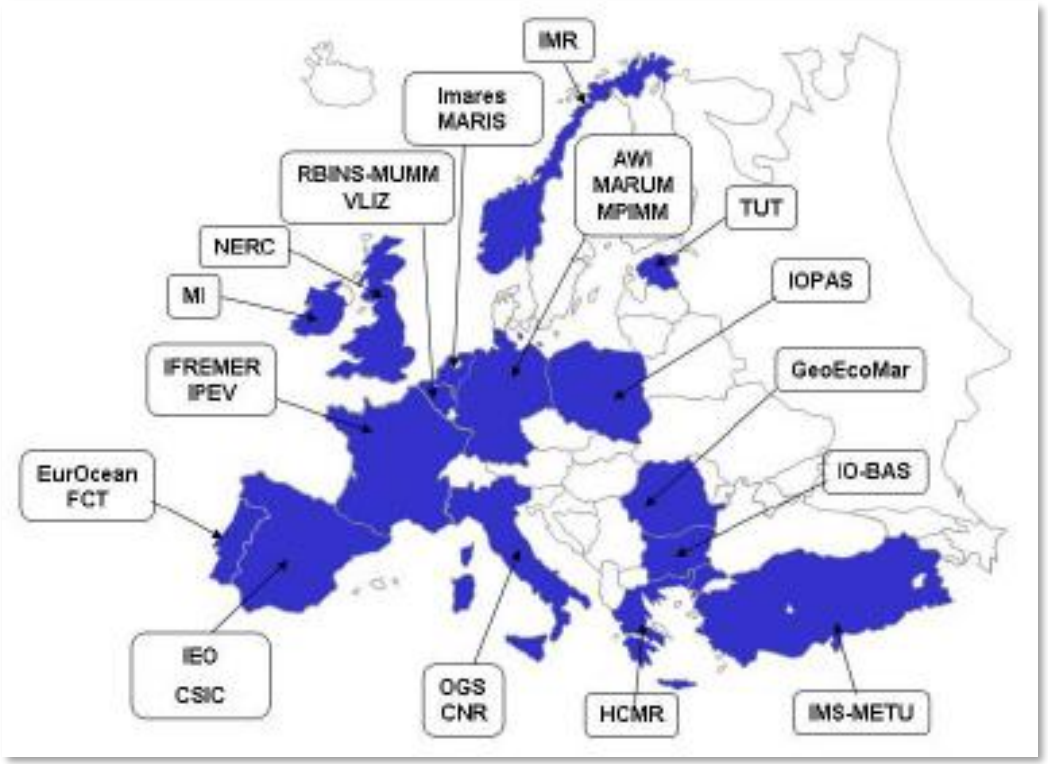
RESEARCH VESSELS

A EUROPEAN COMMON STRATEGY

Eurofleets Towards an Alliance of European Research Fleets

24 marine institutes, universities, foundations and SMEs, + 1 associated partner from 16 European countries, agree to propose together their research vessels, associated equipment, and their know how within the EUROFLEETS project.

EUROFLEETS Coordinator: Ifremer, France



OBJECTIVES

- define a common strategic vision for European research fleets and associated heavy equipment (e.g. underwater vehicles as ROV and AUV);
- use more efficiently the existing European Ocean/Global and Regional fleets, and develop their interoperability capacities;
- facilitate a wider sharing of knowledge and technologies across fields and between academia and industry;