



National Research Council
INSTITUTE OF MARINE SCIENCE

FABIO TRINCARDI

direttore@ismar.cnr.it
f.trincardi@ismar.cnr.it

VENICE 8th October 2013, GEBCO Meeting



About 11.000 people, turnover of 1,1 billion euro,
109 Institutes, 7 Departments

Earth System Science (TA)

Bio-agro food sciences

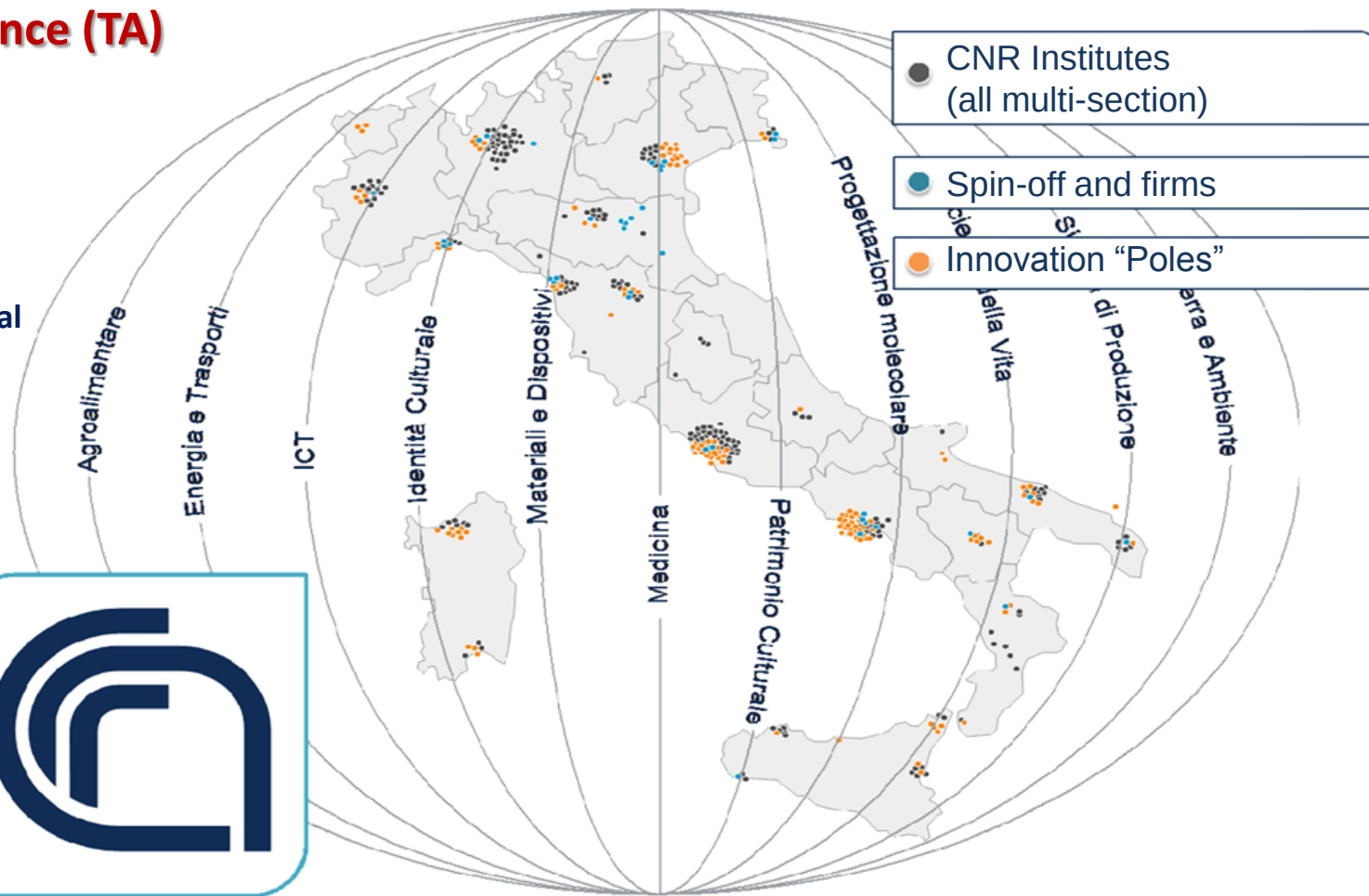
Engineering, ICT,
Energy and Transport

Social Science and Cultural
Heritage

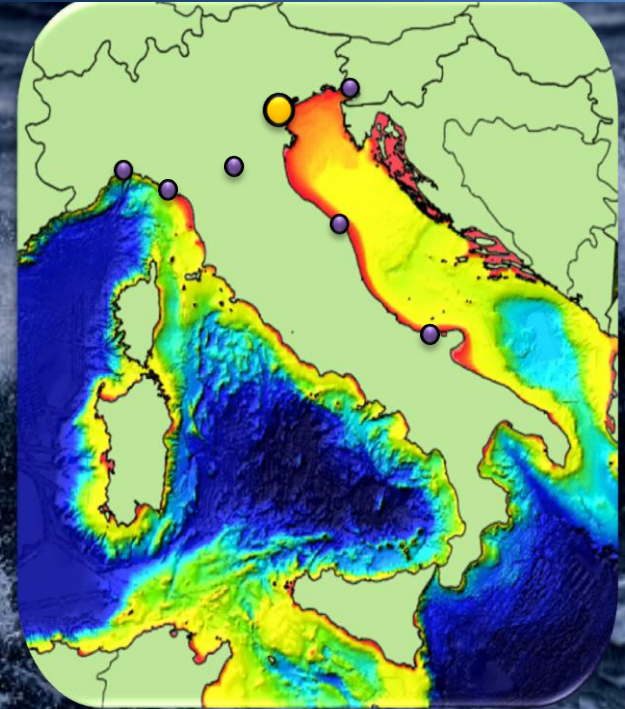
Biomedicine

Chemistry and Material
Technologies

Physics and Matter
Technologies



- Public Research Institute
- Headquarter in Venice and 6 regional sections
- 180 people
- About 60 people in training (PhD, postdoctoral)
- About 150 ISI publications each year



ISMAR was evaluated as the **excellence institute** of the Earth System Science Department of CNR

- **VENEZIA**
- **GENOVA**
- **TRIESTE**
- **LA SPEZIA**
- **BOLOGNA**
- **ANCONA**
- **LESINA**



ARSENALE



ISMAR
Istituto di Scienze Marine

2010

1946

ISMAR
Istituto di Scienze Marine

RIVA 7 MARTIRI



Consiglio Nazionale delle Ricerche
Istituto di Scienze Marine
Sede di Venezia

Riva dei 7 Martiri

Biblioteca dell' Istituto di Studi Adriatici



ISMAR activities

Physical and Chemical Oceanography

(Venezia, Ancona, Bologna, Trieste, La Spezia)

Geology e Geophysics

(Bologna, Venezia)

Coastal Systems And Human Impacts

(All locations)

Climate and Paleoclimate

(Bologna, Venezia, Trieste, La Spezia)

Ecosystems and Biogeochemistry

(Ancona, Venezia, Lesina)

Fisheries and Aquaculture

(Ancona, Lesina)

Technology

(Genova, Ancona, Bologna, La Spezia)





ISMAR's mission is to increase the knowledge of natural processes and help to solve society's problems:

- **Natural processes**
(geological, oceanographic, biological), dispersion of sediments and pollutants, ecosystems, productivity of the seas, natural hazards.
- **Mechanisms / effects of global change**
heating and ocean circulation, acidification, sea level change and coastal erosion, hydrodynamic processes (including polar regions)
- **Human impacts**
current and pre-industrial pollution, impacts on the coasts and in the deep sea, alien species

RESEARCH IN THE OCEANS

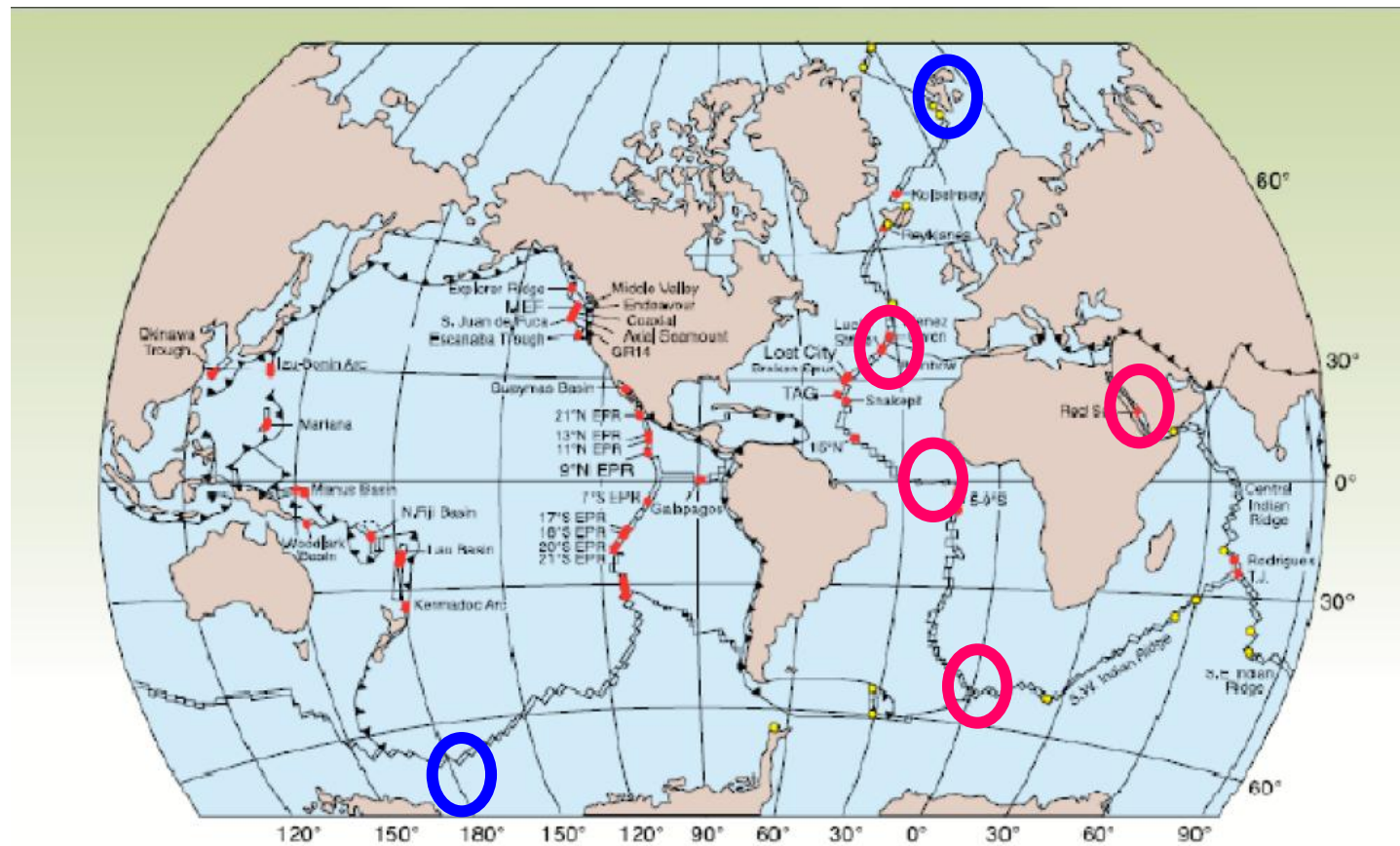
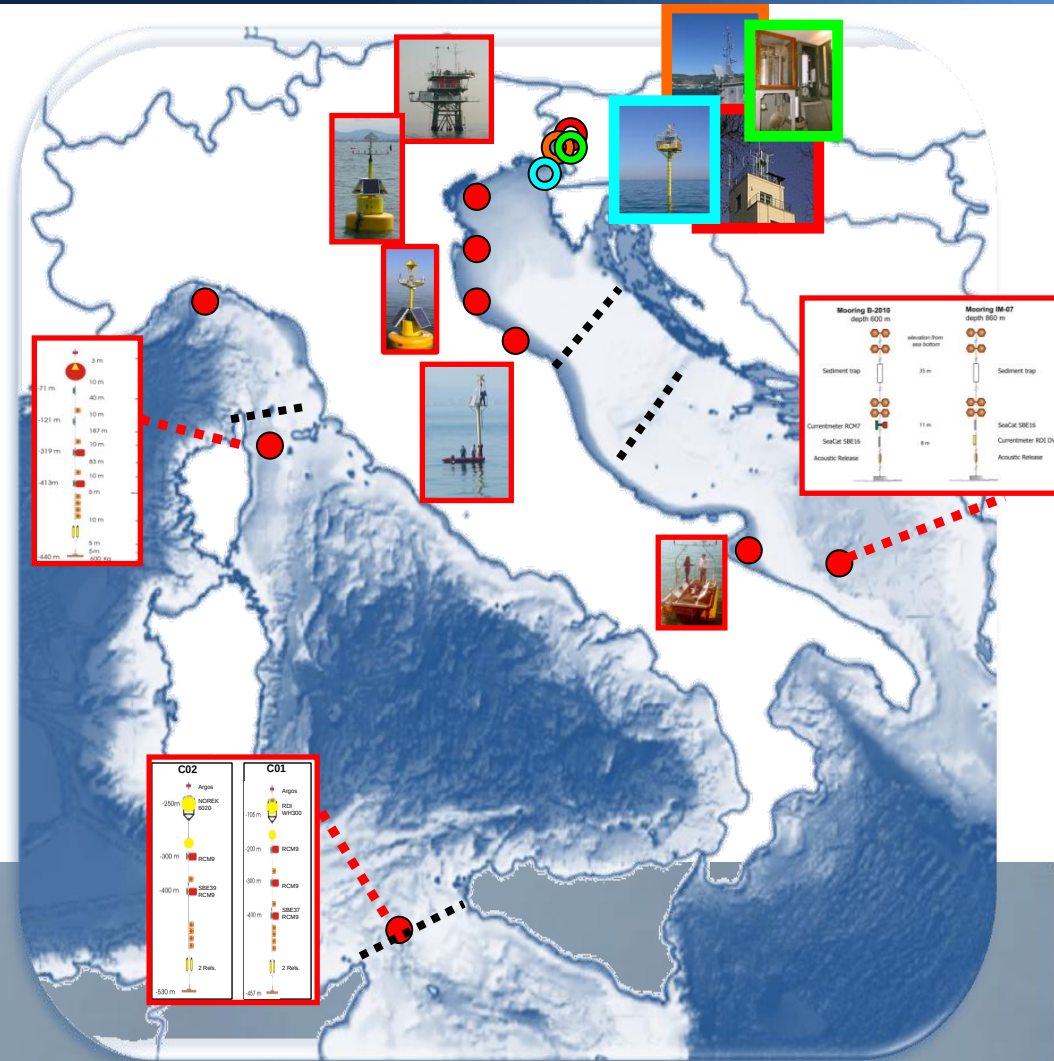
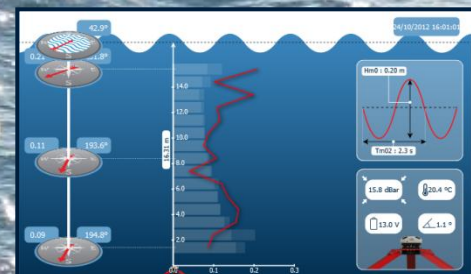
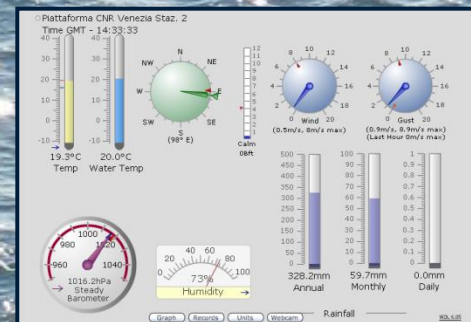


Figure 1. Known sites of hydrothermal venting along mid-ocean ridges, in back-arc basins, rifted arcs, and at submerged island-arc volcanoes (red), and areas of activity as indicated by mid-water chemical anomalies (yellow). EPR= East Pacific Rise. TAG= Trans Atlantic Geotraverse, MEF = Main Endeavour Field, and GR-14 = Sea Cliff hydrothermal field on the northern Gorda Ridge. Figure after Baker et al., 1995; German and Von Damm, 2004; Harrington et al., 2005; Koschinsky et al., 2006

OBSERVATIONAL NETWORK

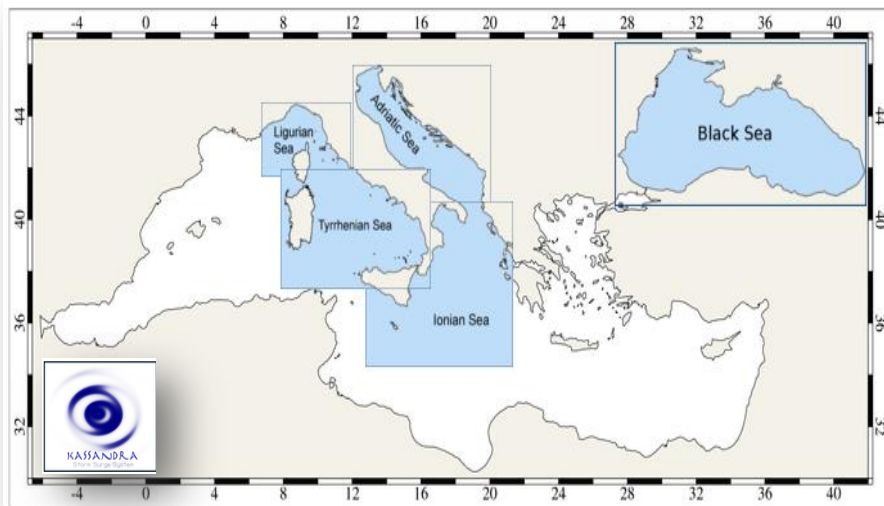
- Buoys, platforms, moorings and other fixed sites
- Repeated hydrological transects
- Fishery Observing System
- LTER stations (North Adriatic, Antarctica, Venice Lagoon)



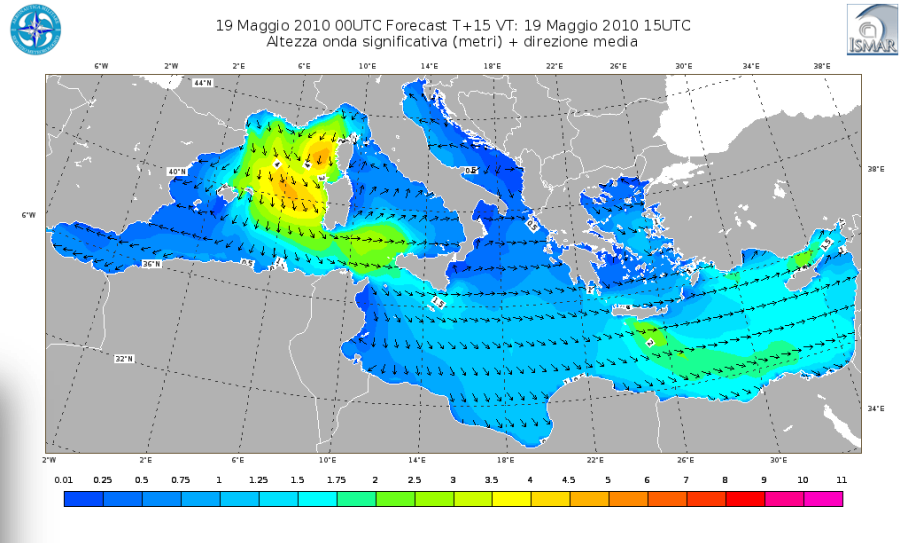


ISMAR Forecasting systems

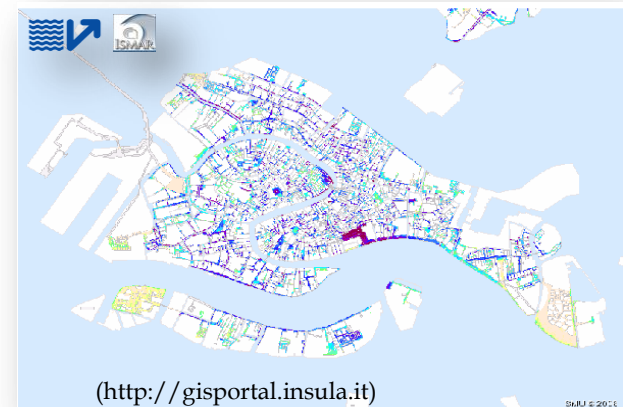
KASSANDRA WAVES, SEA LEVEL, CURRENTS



NETTUNO WAVE FORECASTING



ISMAR -CENTRO MAREE HIGH WATERS IN VENICE



Some challenges of the coming years ...

Geological mapping and historical evolution of the coastal area (and human impacts)

Study of the oceanographic processes and the impact on the seabed (coast, continental shelf and deep sea)

Oceanographic forecasting models (waves, tides, currents)

Observing sites, long time physical and ecological series

Human impacts on seafloor and water column (from the lagoons to the ocean)

Definition of the geological hazards: identification of structures (3D Seismic Geomorphology), fluids emissions



National Research Council
INSTITUTE OF MARINE SCIENCE



www.ismar.cnr.it

RAPID ENVIRONMENTAL ASSESSMENTS



