

BANSIC2018

Principal Investigator
Dr. Bernardo Patti
Institute for coastal marine environment (CNR-IAMC)



RV G. Dallaporta
category: Regional
gross register tonnage (GT): 285
length overall (m): 35.3
breadth (m): 7.7
depth (m): 4.1
draft (m): 3.0
service speed (kn): 11.5

Cruise Location
Strait of Sicily
Ionian Sea
Tyrrhenian Sea

Disciplines
Oceanography
Biological Resources
Marine ecology and monitoring

Activities
Plankton sampling
Water sampling
Pretreatment and analysis of water samples
Hydro-acoustic data collection

Main Equipment
BONGO 40, 60 90 and Multi Plankton Sampler
CTD SBE911plus and Rosette
Echosounder SIMRAD EK 60 with 3 GPT and 3 split beam transducers 38, 120 e 200 kHz

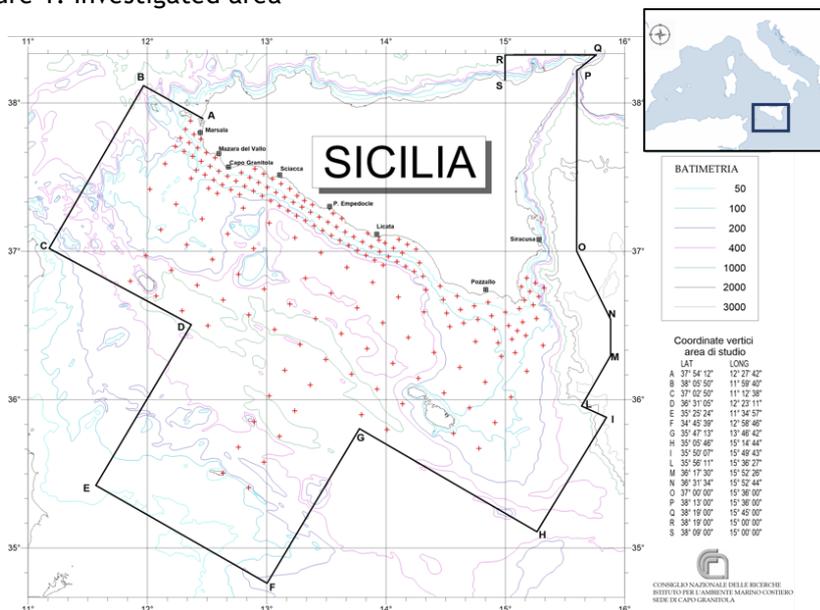
Scientific collaboration
University of Palermo - Department of Earth and Marine Sciences; IBIM - CNR; ISPRA; INGV; INFN

One important output of the marine sciences research is the production of information useful for providing scientific advice in support of the sustainable exploitation of the renewable biological marine resources. Our basic knowledge on the physical, chemical, geological, biological processes and the overall ecosystem structure of the ocean greatly improved in the last decades. However, our ability to forecast the behavior of marine ecosystems in relation to the joined action of anthropic (fishing activities) and natural (climate change) forcings is still quite rudimentary. In this framework, the international oceanographic scientific community promotes the use of multidisciplinary approaches as a tool for the study of the functioning of marine ecosystems. In particular, our attention is focused on mesoscale physical processes at sea able to affect fish population abundance and distribution, such as horizontal eddies. It has been pointed out that these quasi-circular features, usually on a scale of tens of km across, are important because they can transport, entrap and disperse chemicals, particulate matter, small organisms etc.

In this context, the survey is mainly aimed at the prosecution of a long term ecological series in the Strait of Sicily started in 1998, regarding ichthyoplankton abundance and distribution in relation to physical forcings. In addition, the work plan of the survey includes the contemporary collection of hydro-acoustic data for the characterization of the sea bottom and fish school detection in the studied area. Finally, the effects of anthropogenic impact on the marine environment are evaluated by studying the ecosystems and their evolution in industrial areas and genomics/metagenomics studies are supported by data collection in areas of interest. All the environmental data will be collected continuously during day- and night-time along all the transects shown in the map (Fig.1).

The planned activities are carried out in the context of national and international projects and are included within the more general framework of the "ecosystem approach to fisheries management", to support the sustainable management of renewable resources of the sea.

Figure 1: Investigated area



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Cuttitta, A., Torri, M., Zarrad, R., Zgozi, S., Jarbou, O., Quinci, E.M., Hamza, M., Abdulfatah, E., Haddoud, D., El Turki, A., Ramadan, A., Missaoui, H., Mifsud, R., Bonomo, S., Mazzola, S., Patti, B. (2017). Linking surface hydrodynamics to planktonic ecosystem: the case study of the ichthyoplanktonic assemblages in the Central Mediterranean Sea. *Hydrobiologia*, pp. 1-24. In Press. DOI: 10.1007/s10750-017-3483-x

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