R/V MARIA S. MERIAN

Cruise MSM72

Heraklion – Cádiz

02.03.2018 – 03.04.2018

1st Weekly Report: 04.03.2018

The last few decades have seen dramatic changes in the hydrography and biogeochemistry of the Mediterranean Sea. The complex bathymetry, the highly variable spatial and temporal scales of atmospheric forcing and internal processes contribute to generate complex and unsteady circulation patterns and significant variability in biogeochemical systems. Part of this variability can be influenced by anthropogenic contributions. Consequently, there is a need to document its details as well as to understand ongoing trends in order to better relate the observed processes and to possibly predict the consequences of these changes. The main goal of the cruise is to contribute to the understanding of long-term changes and trends in physical and biogeochemical parameters, such as the anthropogenic carbon uptake and to still evaluate the hydrographical situation after the major climatological shifts in the eastern and western part of the basin, known as the Eastern and Western Mediterranean Transients.

On cruise MSM72, multidisciplinary measurements will be conducted on a mainly zonal section along the whole Mediterranean Sea, contributing to the global repeat hydrography program GO-SHIP and adhering to the GO-SHIP requirements.

In view of the territorial ambiguities in parts of the work area, which became clear shortly before the start of the cruise, the station plan was modified and adapted. Alternatively, our new plan (see figure 1) now uses the time we have gained to measure on a finer grid distance; instead of about 30nm between the CTD stations, we shortened the distance to about 15 nm which allow us better to study the physical and biogeochemical processes on an eddy resolving scale. That makes the loss not to investigate the source area of Levantine Intermediate Water a bit more bearable and guarantees that the cruise can still lead to a scientific success.

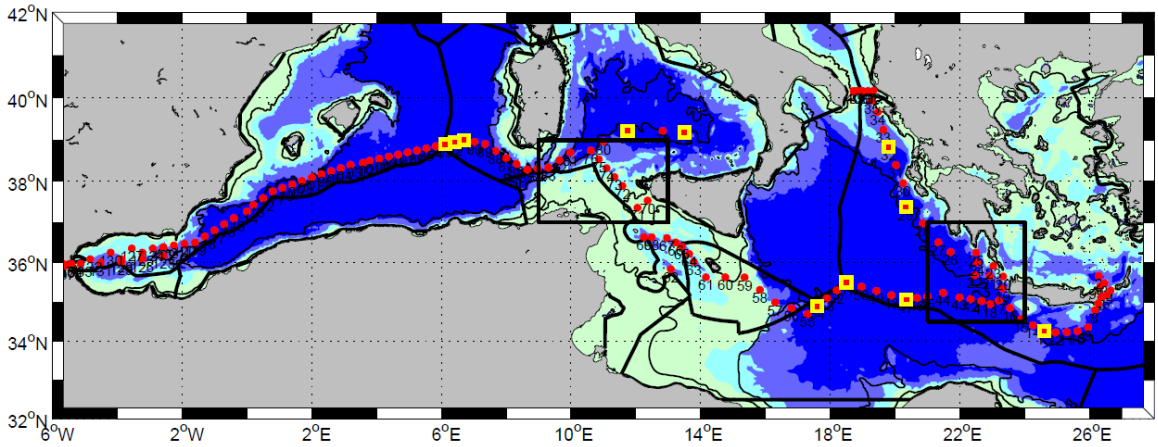
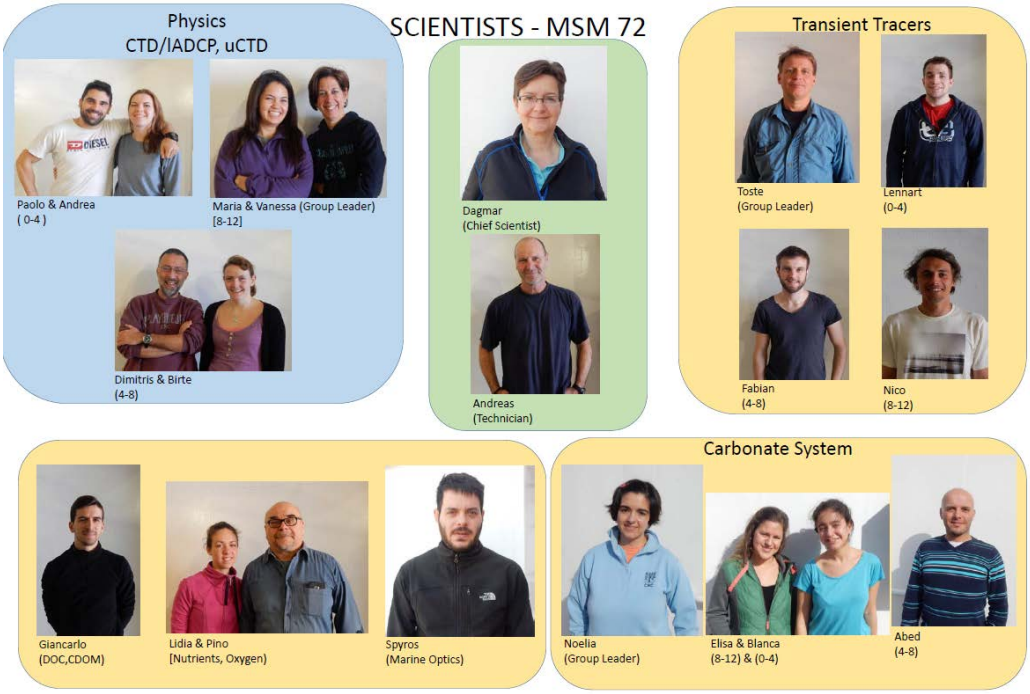


Fig. 1: New station map of cruise MSM72. Ret dots mark CTD stations. Yellow squares are possible positions of deployment of floats or drifters. Black squares are areas where we intend to follow an eddy by shipboard ADCP and by underway CTD. Black lines indicate EEZ boundaries

The scientific crew embarked at around 9:00 am on March 1st. The ship then left the port of Heraklion at 9:30 in the evening to bunker fuel in Kali Limenes the next morning. In the early afternoon of March 2nd we finally started our transfer to our first CTD station in the coastal area northeast of Crete. During transfer and during bunkering we already unpacked our equipment and started to install the instruments. However, some of us had to stay in bed because of a cold with a feverish course. We received our mandatory safety

briefing shortly after embarking and a safety exercise on the next day in which we also had to board the lifeboat. Everything went well and the scientific crew started to feel comfortable on board. On March 2nd at 10:30 pm we began with the station work.



Our scientific crew is really international. We are 20 persons from 6 different countries: Germany, Sweden, Spain, Italy, Greek and Lebanon. This is fascinating and enriching, but also sometimes a challenge. We will see how we move forward in the next five weeks.

Greetings on behalf of all participants

Dagmar Hainbucher

On sea at position 34° 14’ N / 25° 18’ E