



## MFS-VOS TOP ongoing

MFS-VOS program is now in the middle of the Targeted Operational Period. XBT data collection, on behalf of MFSTEP, started on May 2004 along two tracks: Limassol-P.Said (managed by DFMR) and Genova-Palermo (managed by CNR-ISMAR-SP). It continued in August. the Tyrrhenian Sea and at the end of August the MFSTEP – TOP phases started for the VOS program.

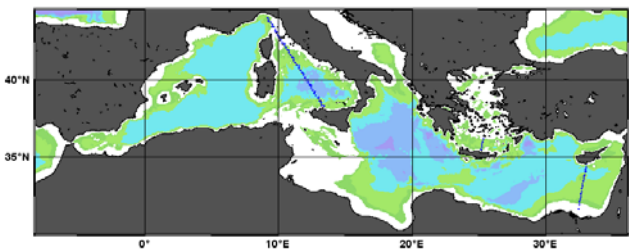


Figure 1 XBT data collected in May 2004

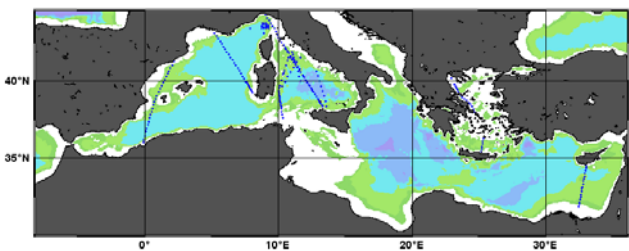


Figure 2 XBT data collected in August – September 2004

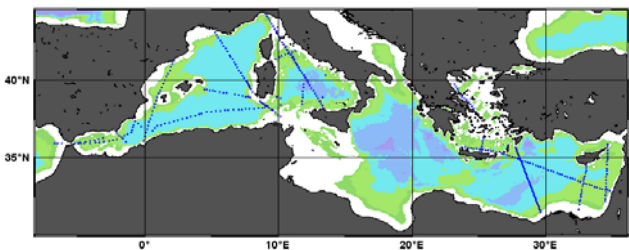


Figure 3 XBT data collected in October 2004

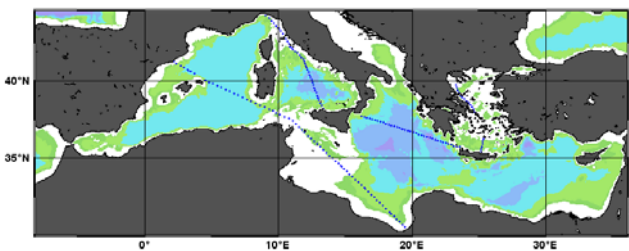


Figure 4 XBT data collected from 1 to 23 November 2004.

Up to now, more than 800 profiles have been delivered to the Mediterranean forecasting systems during 2004.

## MFS-VOS from 1999.

The operational collection of XBTs in the Mediterranean started on September 1999 in the framework of the MFS-mother program and continued during the ADRICOSM-daughter program. From 1999 to the end of 2003 about 5702 temperature profiles have been delivered by MFS-VOS. In some cases it was possible to collect data in marine areas which are sensitive to climate changes. This is the case of the Adriatic transect managed by OGS. Data were acquired quasi-continuously from September 1999 to October 2003. The data have provided, inter alia, evidence of the interannual variability of the Mediterranean waters' characteristics.

## Transmission tools: from ARGOS to Globalstar

During the years, important improvements have been done in data collection and data management. But a significant improvement has been operated in data transmission. Initially only some significant points extracted from the temperature profiles were transmitted by mean of **ARGOS in real time**. In order to have the full resolution profiles, the data transmission system was changed with the use of **GSM and Internet systems**. The data were transmitted in **near-real time**, e.g. with a delay of about 12 – 20 hours from data collection. During a cruise of opportunity in the western Mediterranean the full resolution profiles were transmitted by means of the **Globalstar** system (October 2004, thanks to the efforts of M.



Borghini from CNR-ISMAR-SP), realizing a vision that was foreseen at the end of the MFS Pilot Project. With the use of **Globalstar**, the data transmission is again in **real time** and **free of 'geographical constraints'**. The operational use of Globalstar will be tested in forecoming months.

## Collaboration

Institutions and responsables of the MFS-VOS data collection system are:

**IOLR, Isaac Gertman: track Haifa – Messina**

**DFMR, George Zodiatis: track Limassol – P. Said**

**METU-IMS, Emin Ozsoy: track Alexandria – Rhodes**

**HCMR, Christos Tziavos: Heraklion – Thessaloniki**

**CNR ISMAR SP, Carlo Galli: Genova – Palermo**

**CNRS LOB COM, C. Millot and T. Gervais: Marseille – Tunis**

**CSIC CEAB, Antonio Cruzado: Barcelona – Arzew; Barcelona – Marsa El Brega**

data management:

**ENEA, Franco Reseghetti**

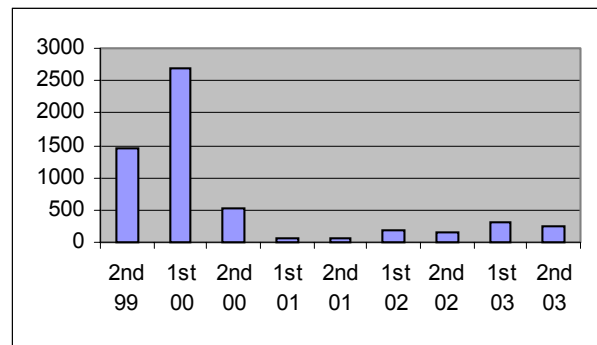


Figure 5. Number of XBTs launched in the framework of MFS-VOS per semestre from 1999 to 2003.

### Information on MFSTEP:

[www.bo.ingv.it/mfstep/](http://www.bo.ingv.it/mfstep/)

### Access to real time data:

<http://vosdata.santateresa.enea.it:54321/mfs/>

