



# Mediterranean thermohaline properties as derived from Argo data

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# Outline

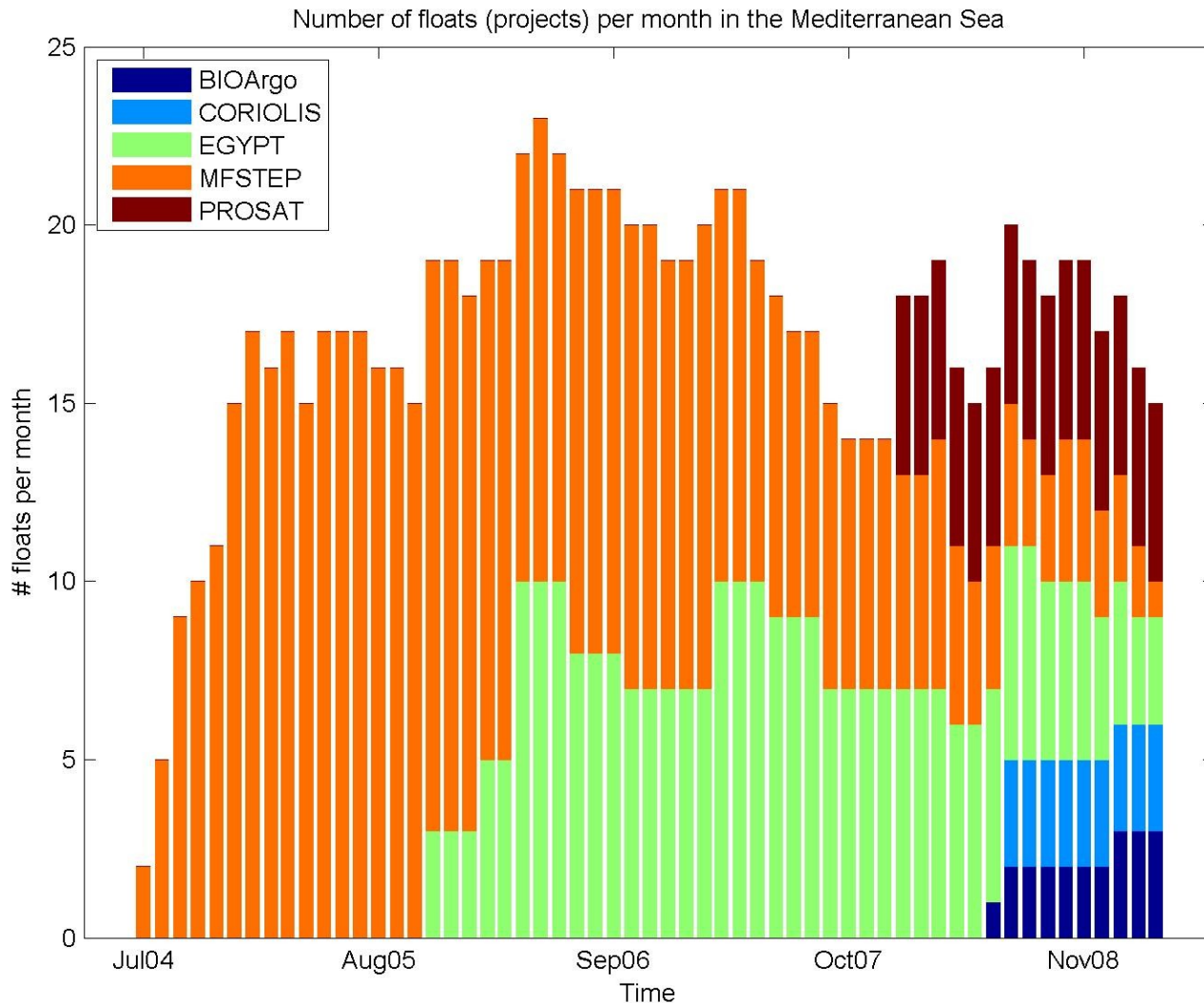
- Mediterranean Argo data (2004-2009)
- Spatial structure of temperature and salinity in the Mediterranean
- Temporal variability of temperature and salinity in selected Mediterranean basins
- Conclusions



# Float data



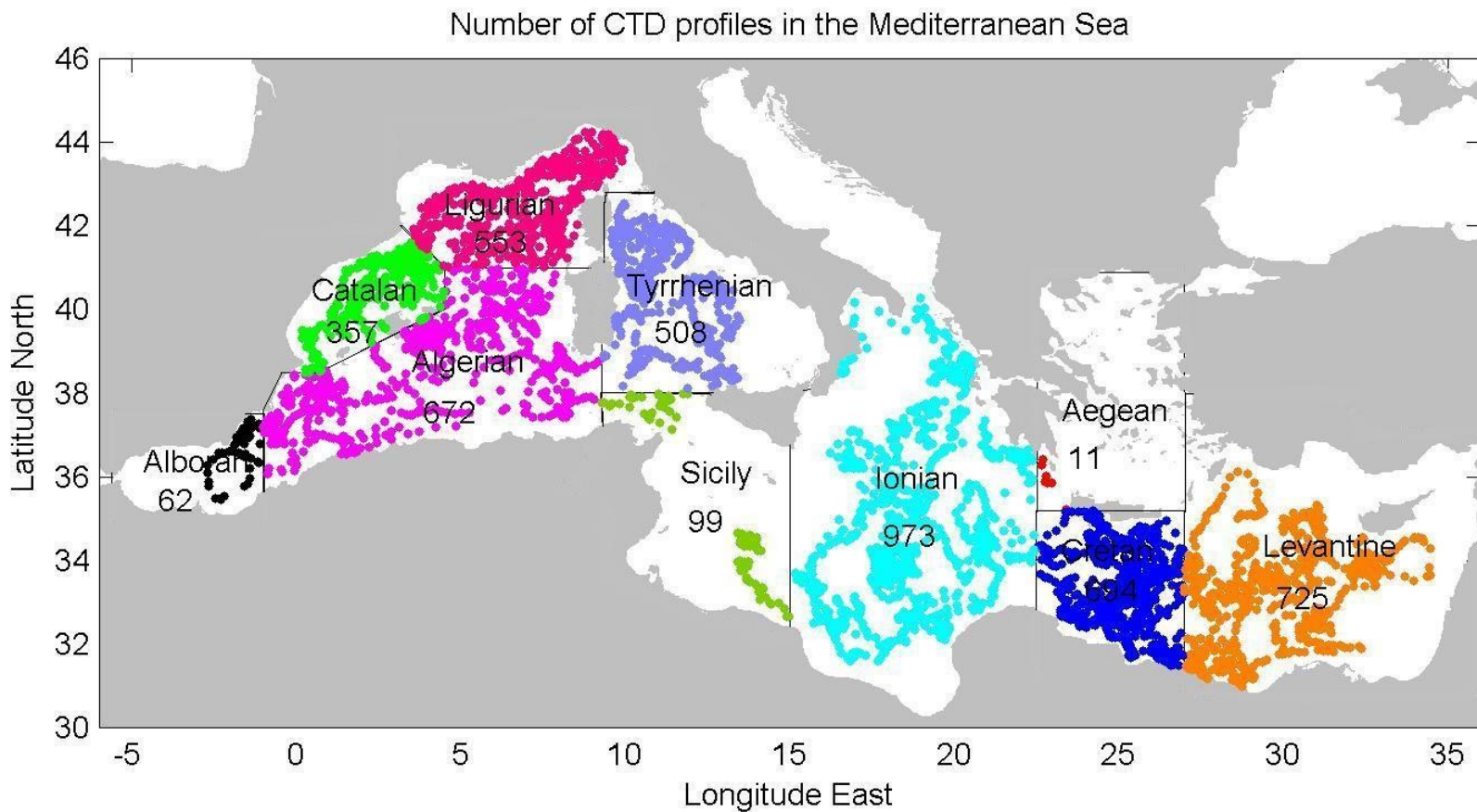
## Temporal distribution of Argo floats from July 2004 to March 2009



# Float data



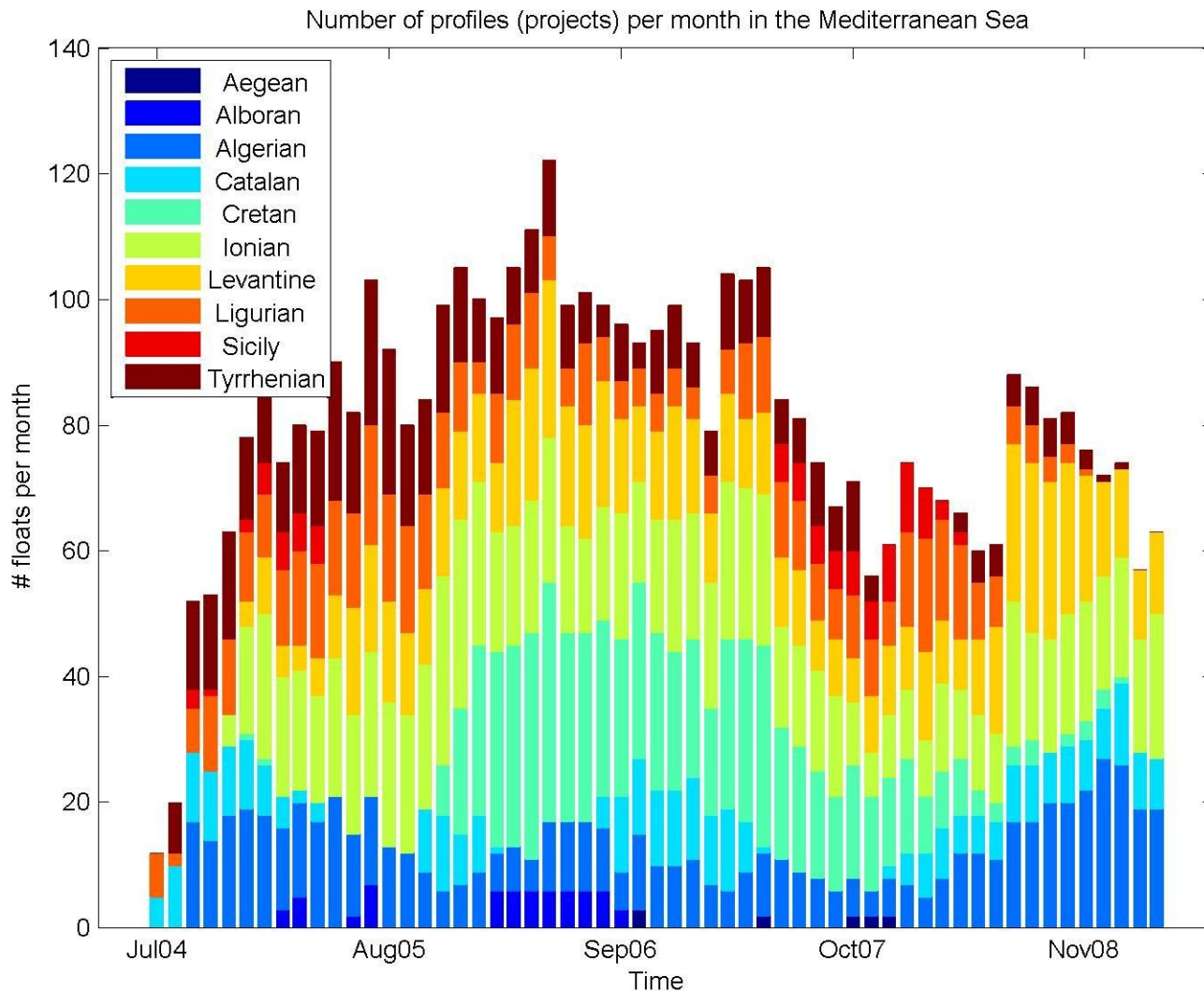
Spatial distribution of float CTD profiles from July 2004 to March 2009 (4681 profiles)



# Float data



Temporal distribution of float CTD profiles from July 2004 to March 2009



2nd Euro-Argo Users' Workshop T



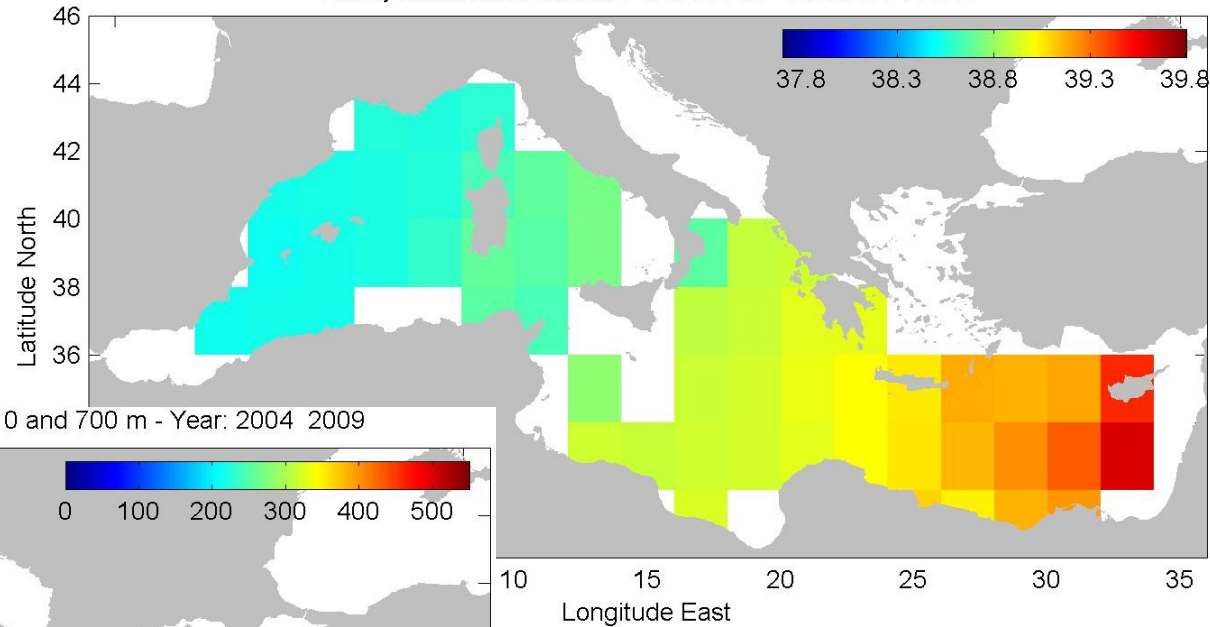
# Salinity and temperature in Med



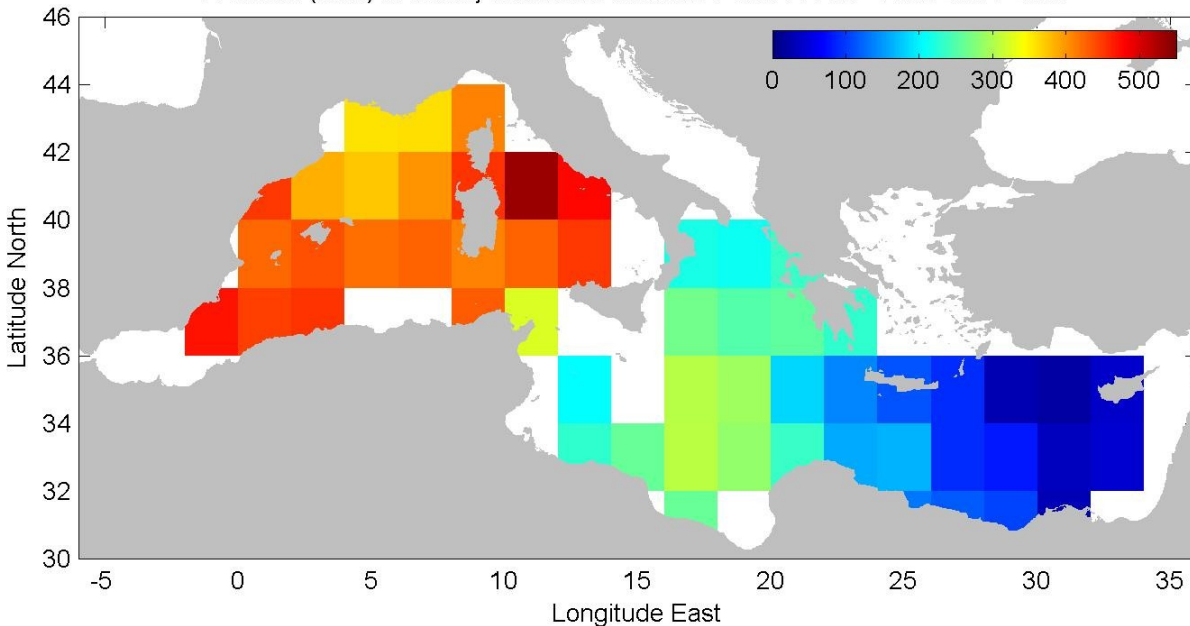
Salinity maximum from July 2004 to March 2009



Salinity maximum between 0 and 700 m - Year: 2004 2009



Pressure (dbar) at salinity maximum between 0 and 700 m - Year: 2004 2009



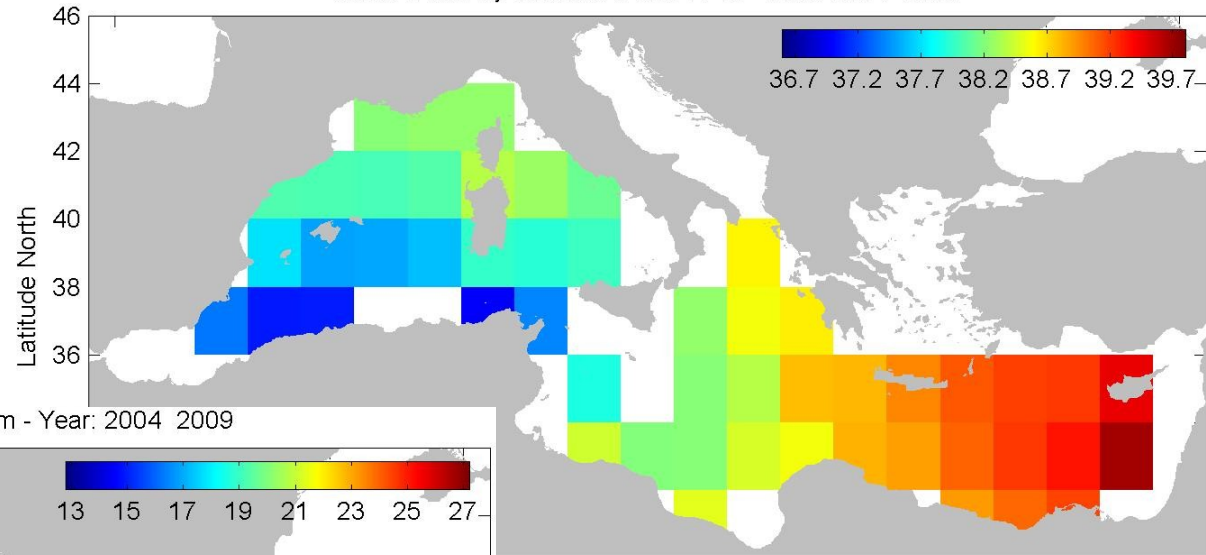
# Salinity and temperature in Med



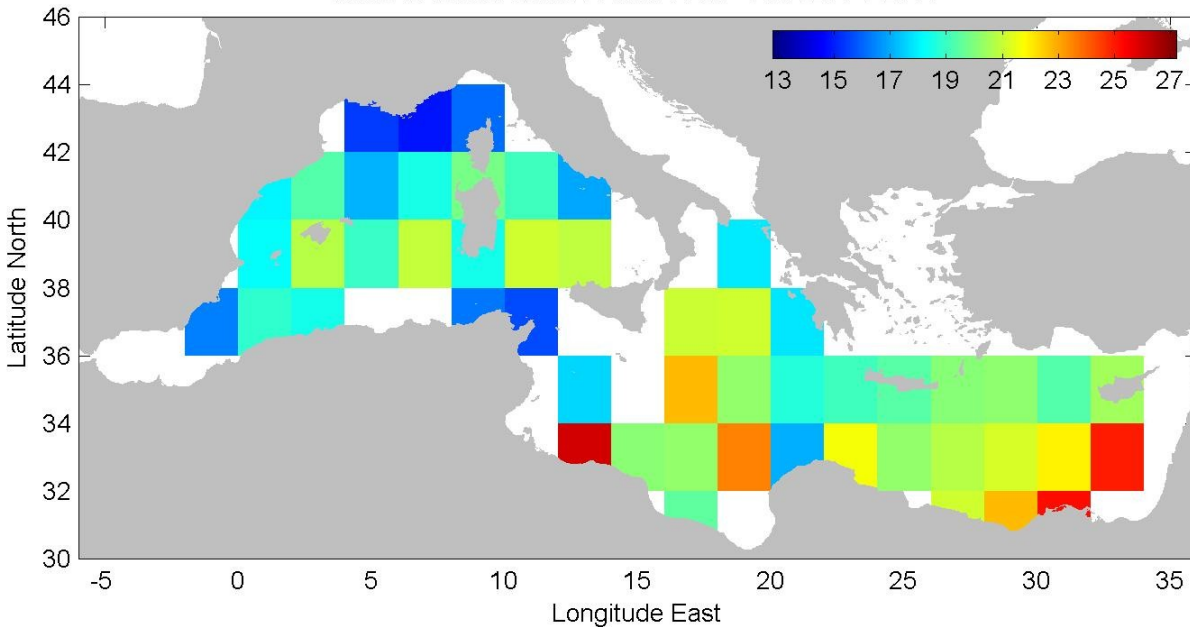
Salinity and temperature at 0 m from July 2004 to March 2009



Mean of salinity between 0 and 10 m - Year: 2004 2009



Mean of theta between 0 and 10 m - Year: 2004 2009

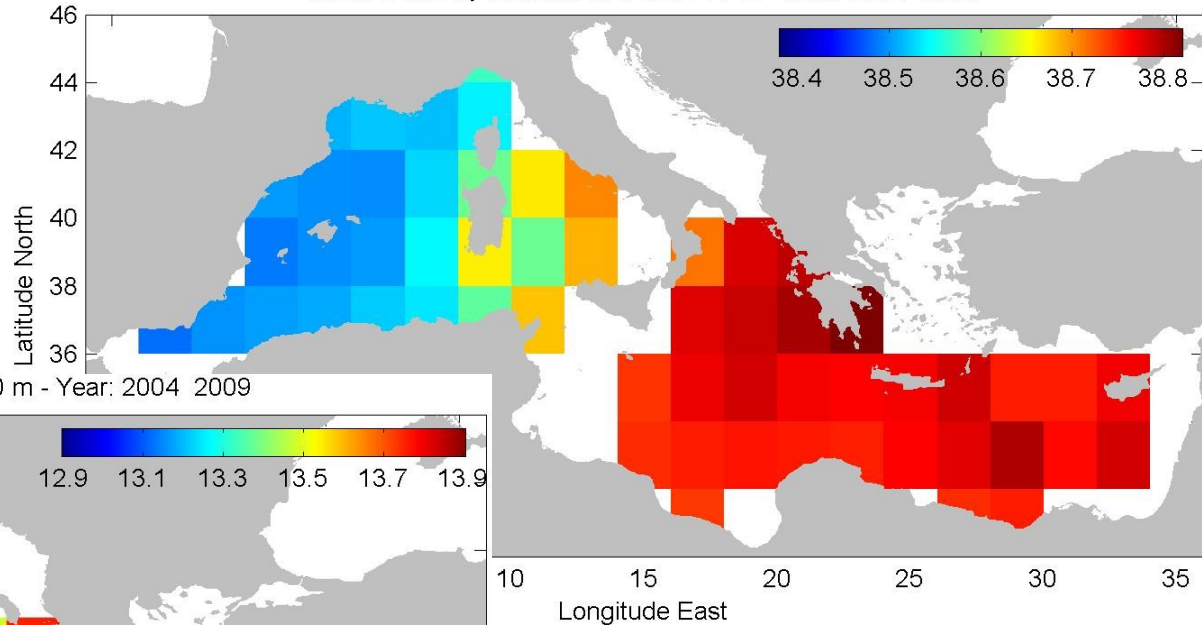


# Salinity and temperature in Med

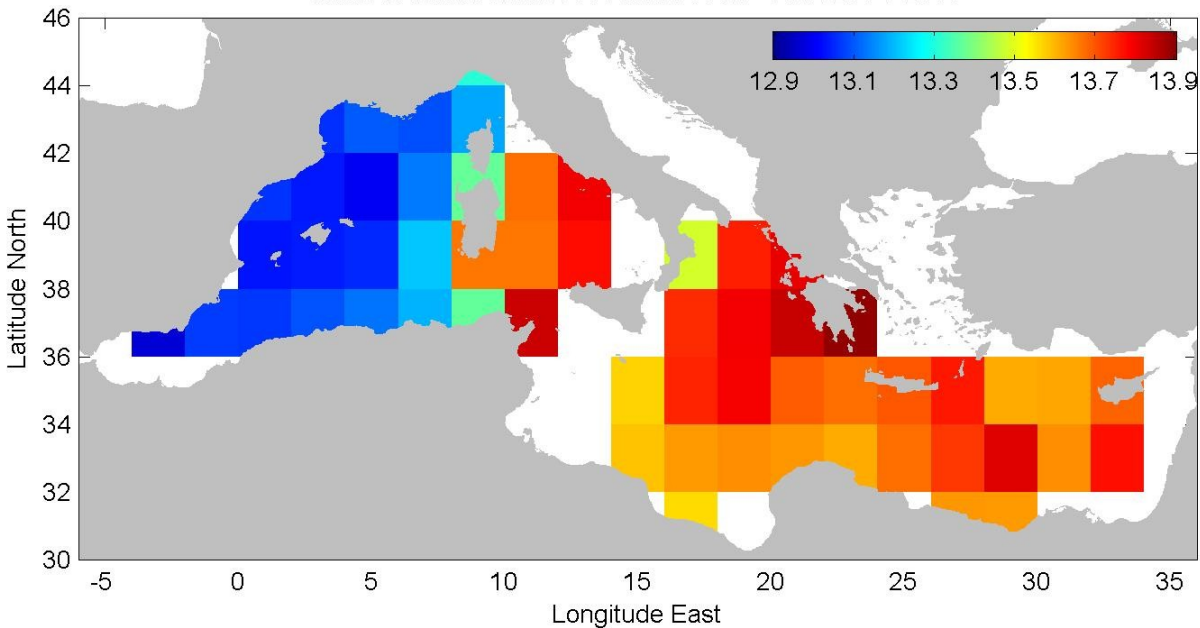


## Salinity and temperature at 700 m from July 2004 to March 2009

Mean of salinity between 691 and 710 m - Year: 2004 2009



Mean of theta between 691 and 710 m - Year: 2004 2009





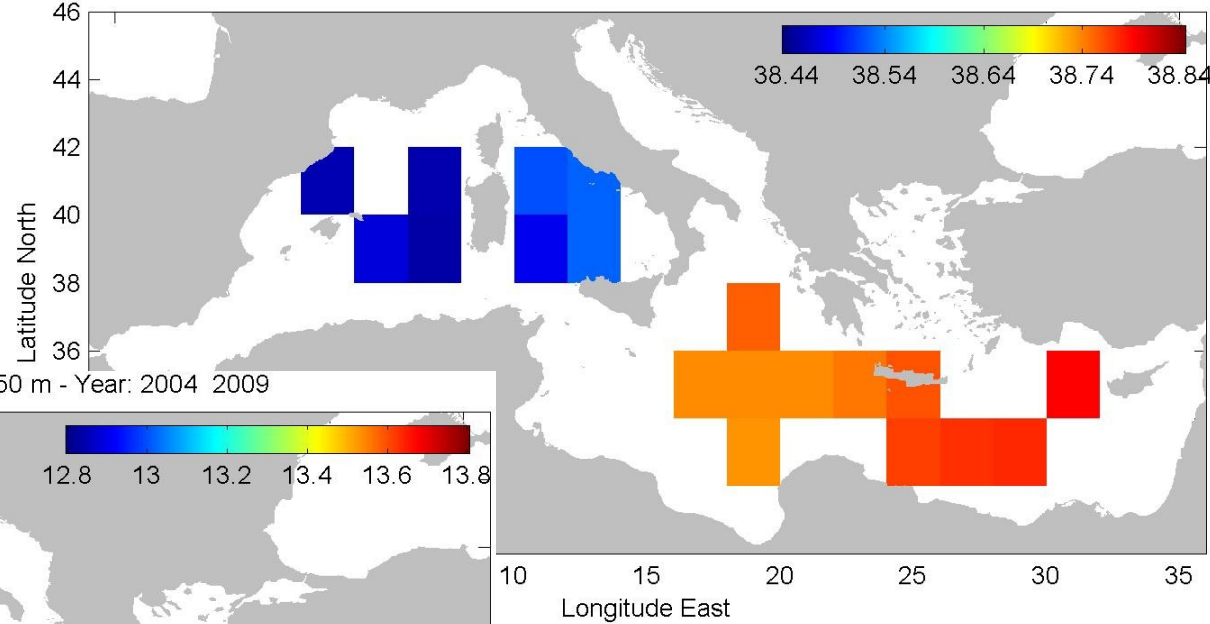
# Salinity and temperature in Med



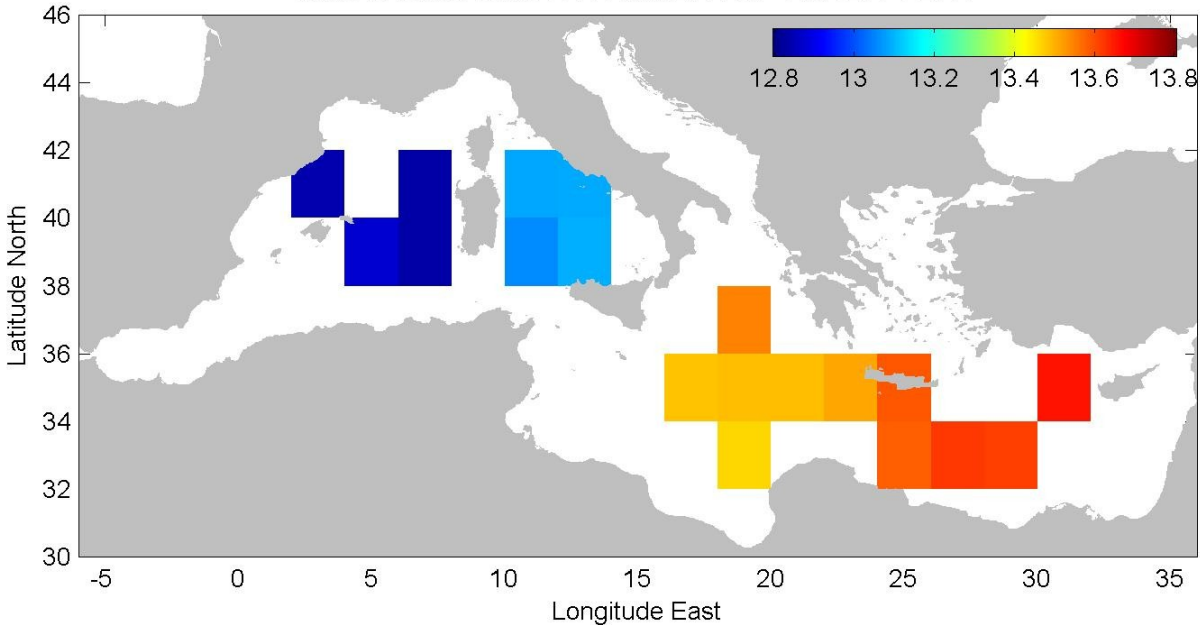
## Salinity and temperature at 2000 m from July 2004 to March 2009



Mean of salinity between 1951 and 2050 m - Year: 2004 2009



Mean of theta between 1951 and 2050 m - Year: 2004 2009



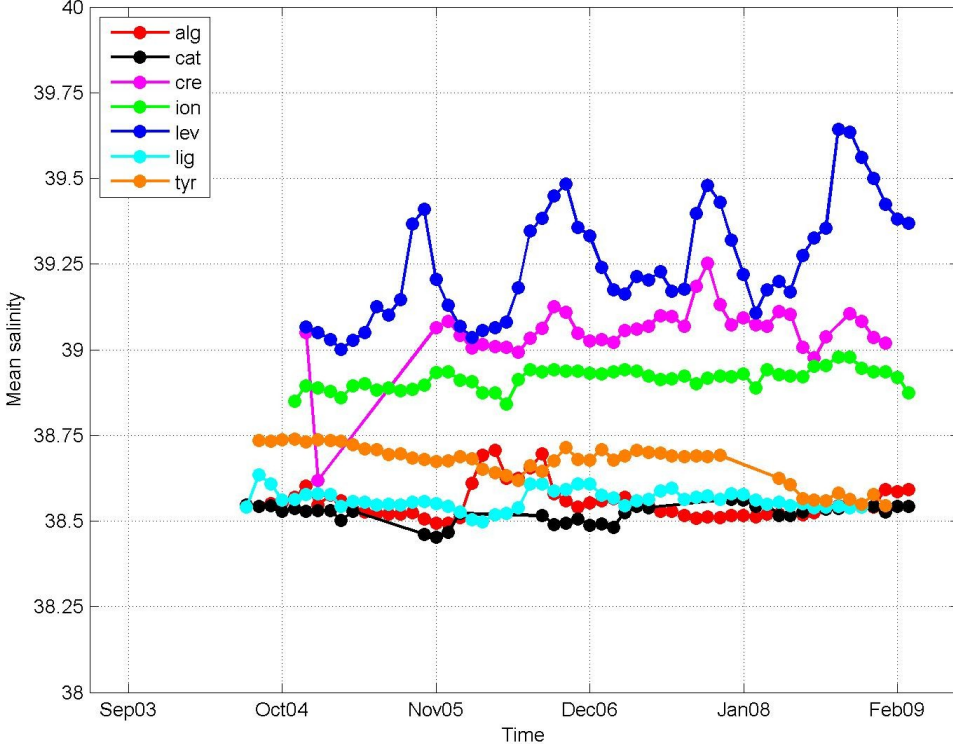
# Salinity and temperature in Med's basins



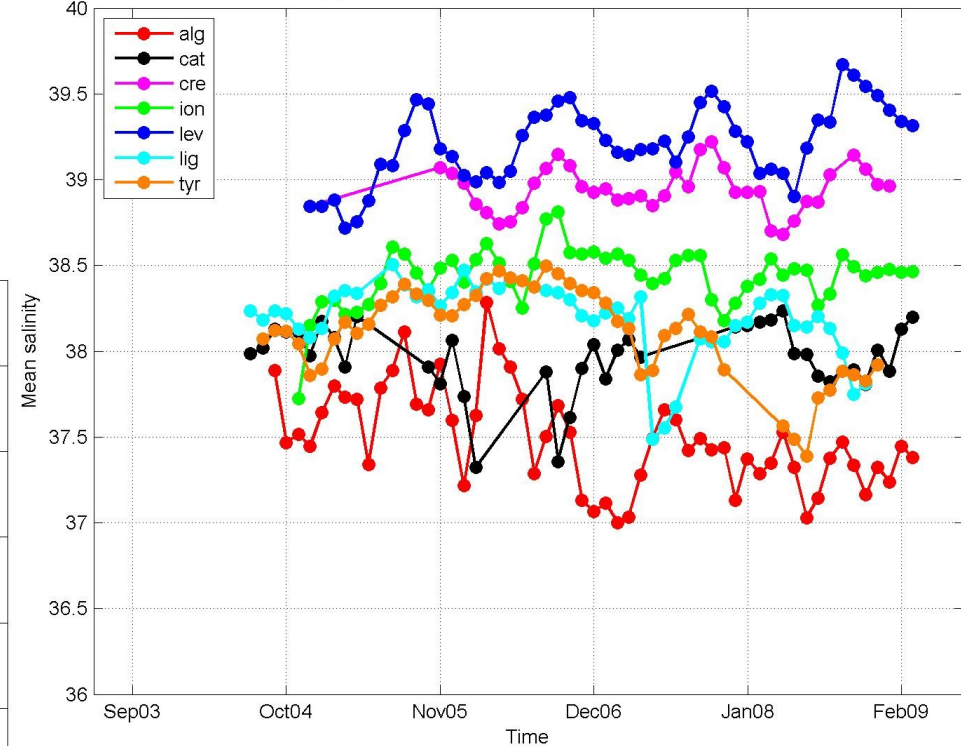
Salinity maximum and at 0 m from July 2004 to March 2009



Mean salinity per month at the salinity maximum in the Mediterranean Sea



Mean salinity per month between 0 and 10 m in the Mediterranean Sea



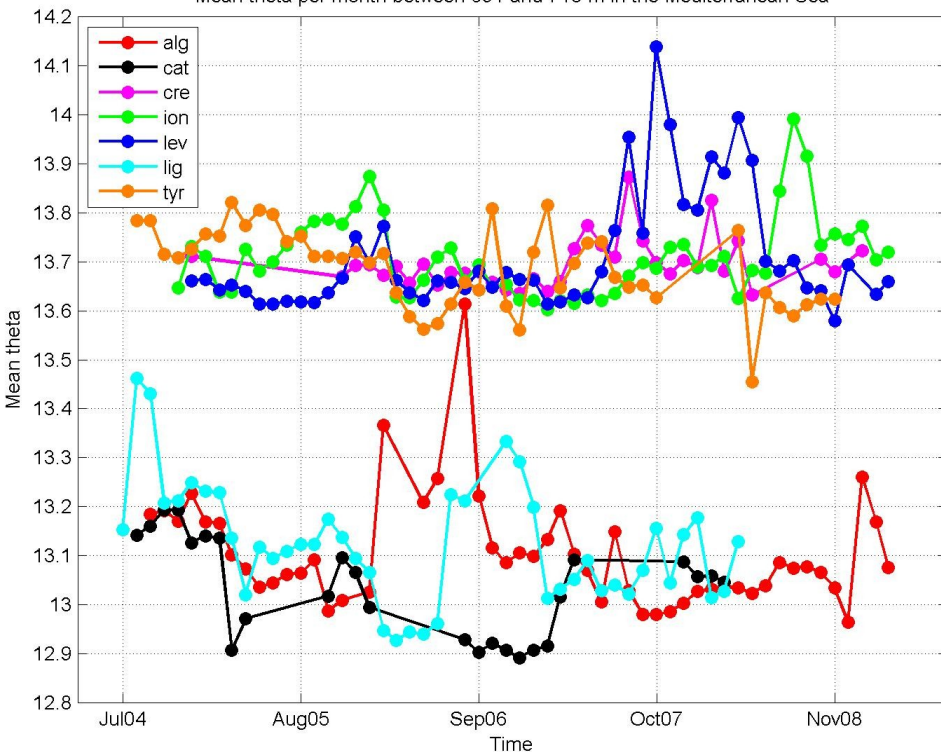
# Salinity and temperature in Med's basins



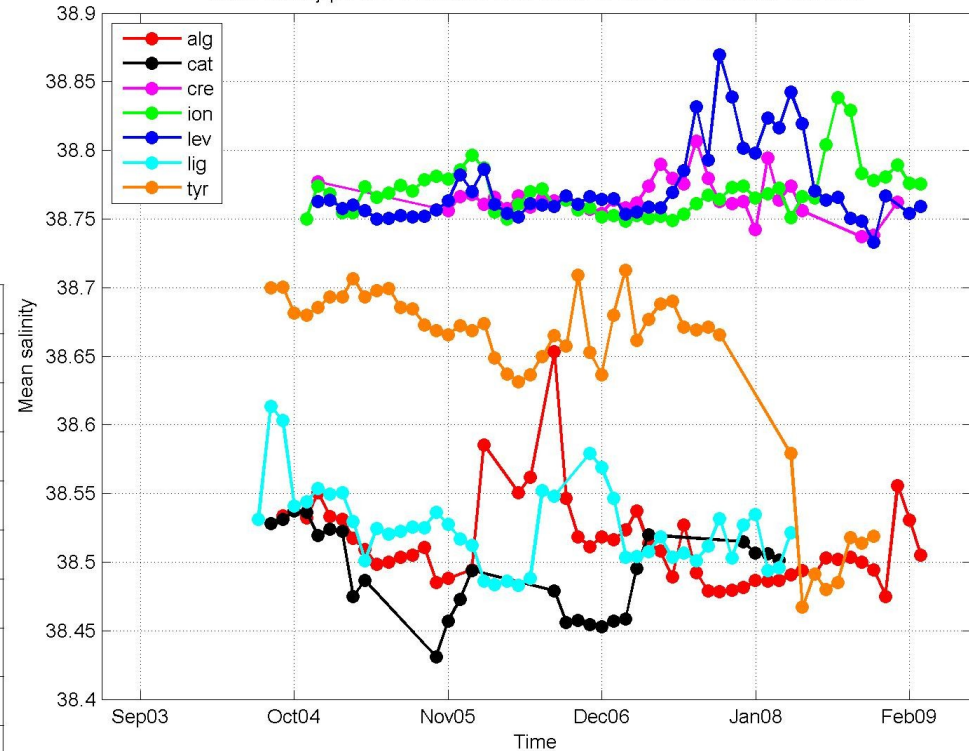
## Salinity and temperature at 700 m from July 2004 to March 2009



Mean theta per month between 691 and 710 m in the Mediterranean Sea



Mean salinity per month between 691 and 710 m in the Mediterranean Sea



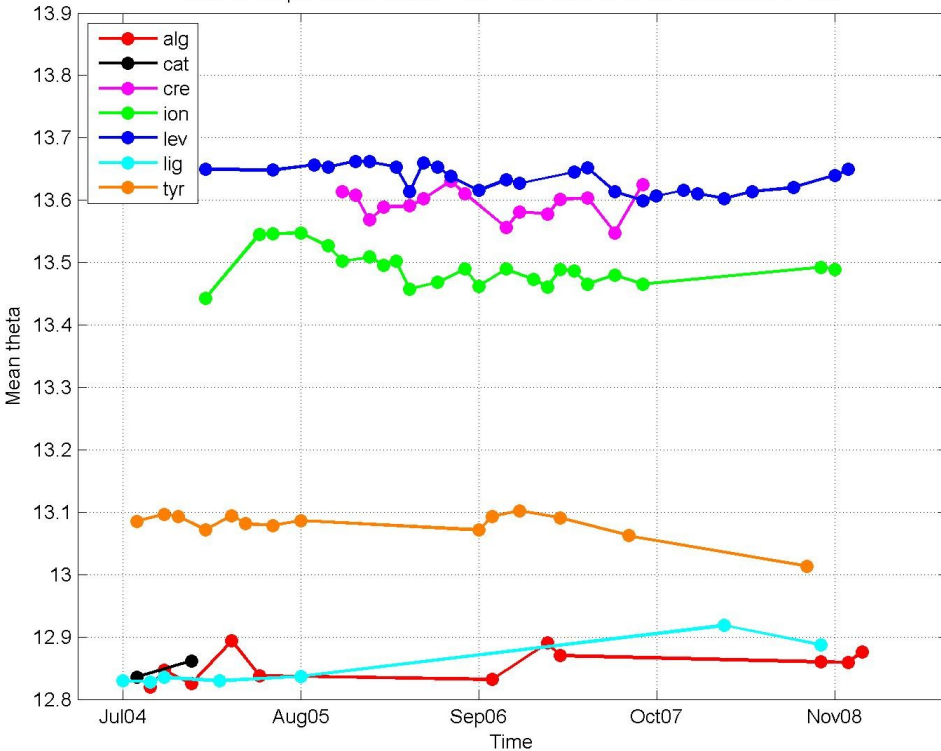
# Salinity and temperature in Med's basins



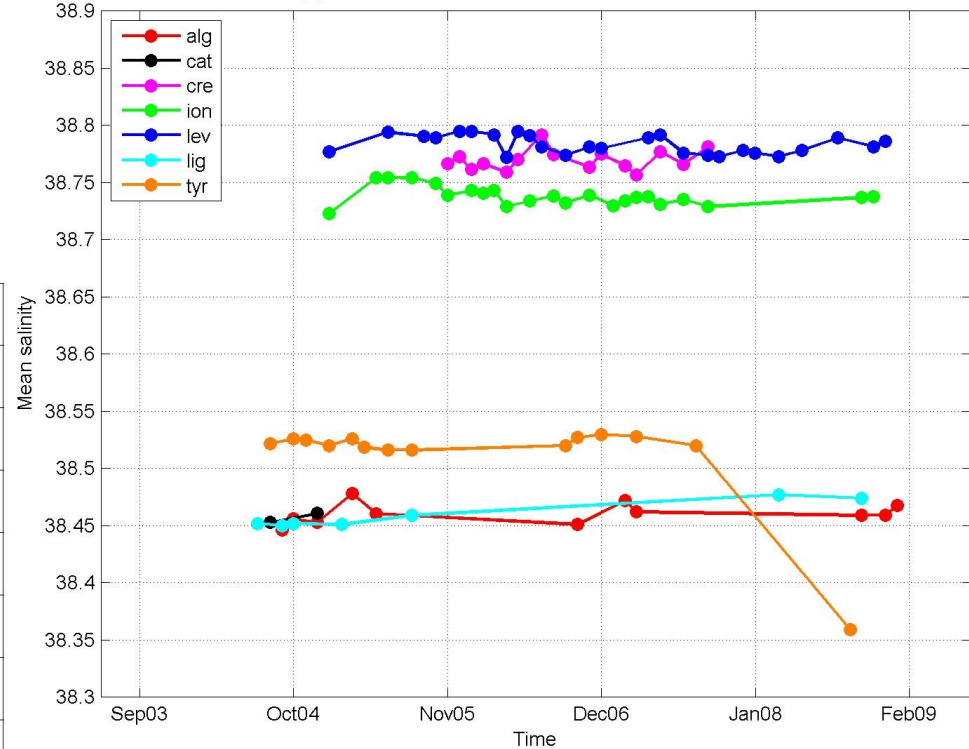
## Salinity and temperature at 2000 m from July 2004 to March 2009



Mean theta per month between 1951 and 2050 m in the Mediterranean Sea



Mean salinity per month between 1951 and 2050 m in the Mediterranean Sea



# Conclusions



- About 5000 float profiles from July 2004 and March 2009 in the Mediterranean
- Reconstructed the main spatial structures of salinity and temperature in the entire Mediterranean at 0, 700 m and at the salinity maximum
- Trend: the salinity maximum in the Levantine basin is increased from 2004 to 2009



# Future Works



- Salinity and temperature oscillations at 700 m in 2007 and 2008 in the Levantine basin: select and remove profiles inside structures strongly visible in SST/SLA → compute again statistics
- Analyze the Tyrrhenian profiles in 2008 → explain the sudden decrease in salinity





**Thanks for your attention!!**

