

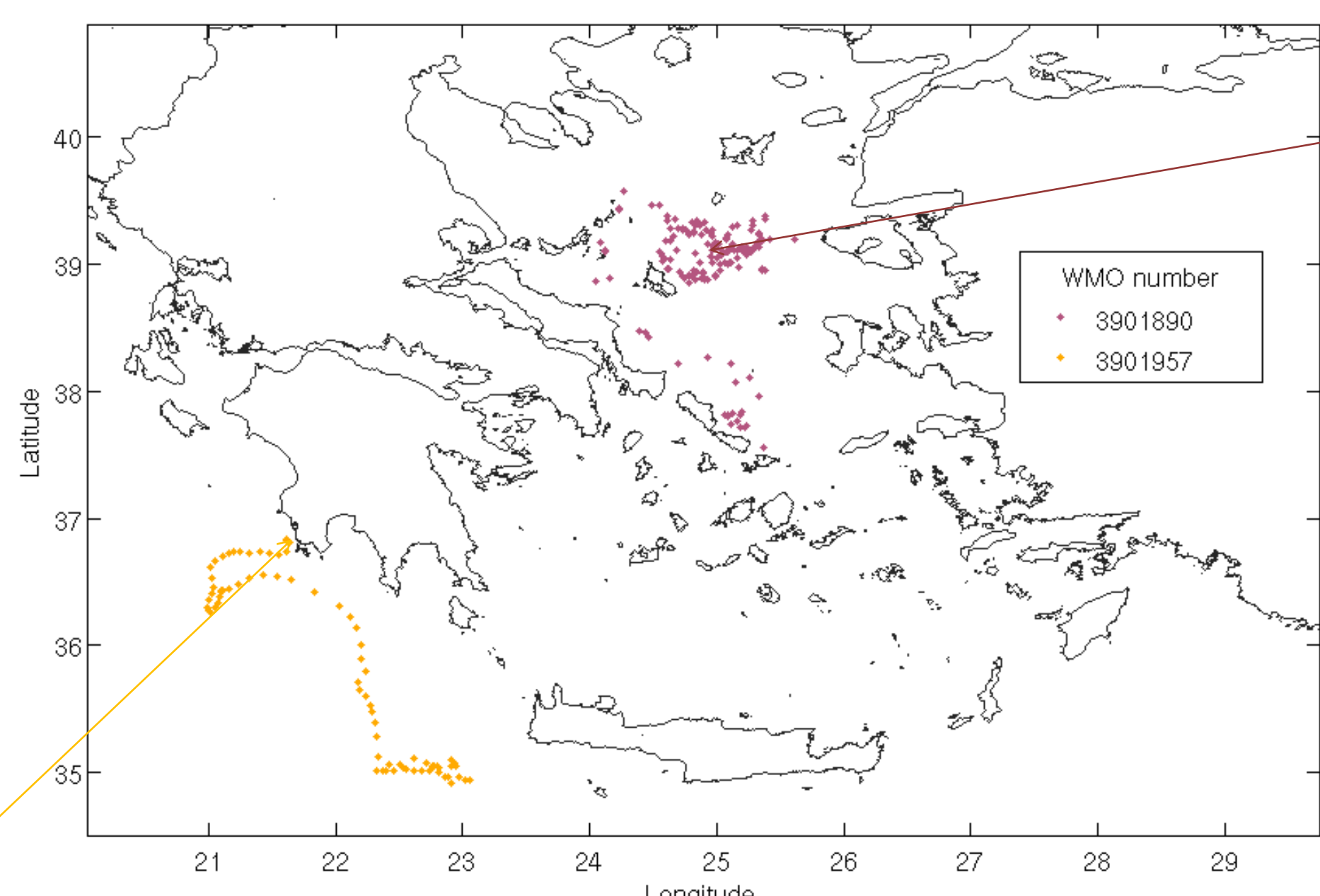
Argo missions and synergies with other platforms in marginal seas: The north Aegean and south Ionian test cases

Dimitris Kassis & Gerasimos Korres

Hellenic Centre for Marine Research - Institute of Oceanography

Being one of the strategic targets of Euro-Argo ERIC, the monitoring of marginal seas has accentuated during the last five years. In-line with this agenda, single Argo missions or synergetic deployments with additional monitoring platforms have been carried out that focus on areas of specific oceanographic interest. In this work the preliminary results and outcomes of two such missions from two Argo floats purchased under the MOCCA project (www.euro-argo.eu/EU-Projects/MOCCA-2015-2020) and deployed by the Greek Argo RI in the north Aegean and south Ionian areas are presented.

Both floats' performance is being monitored by the Greek Argo operational team with the help of the Euro-Argo "at sea monitoring" tool (www.ifremer.fr/argoMonitoring). Regarding data quality, the profiles are checked by the Coriolis GDAC Automatic QC procedure. A further quality assessment of both floats' datasets has been processed with additional checks and visual inspection.



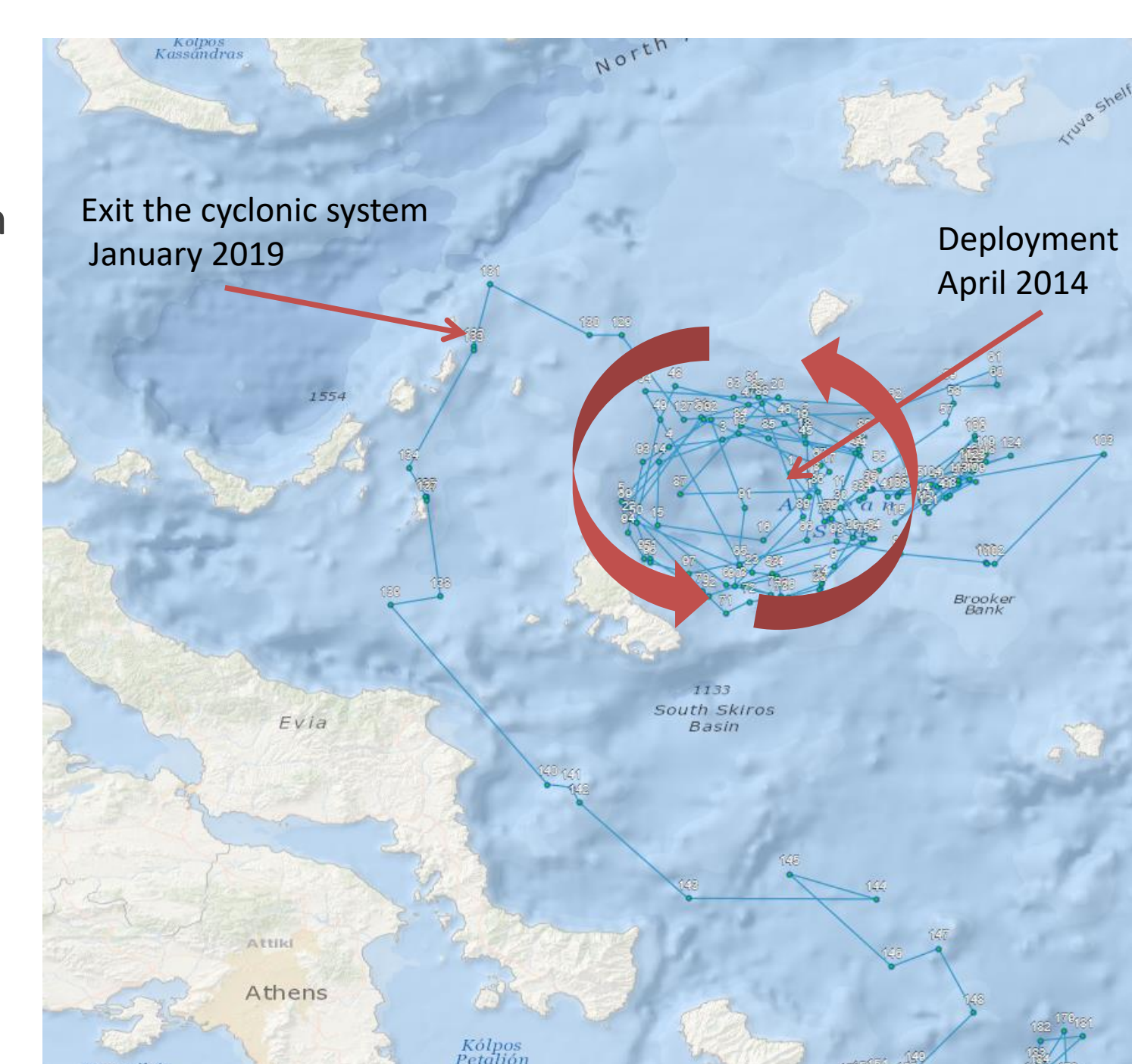
Profiles acquired by the two floats during April 2017 – May 2019



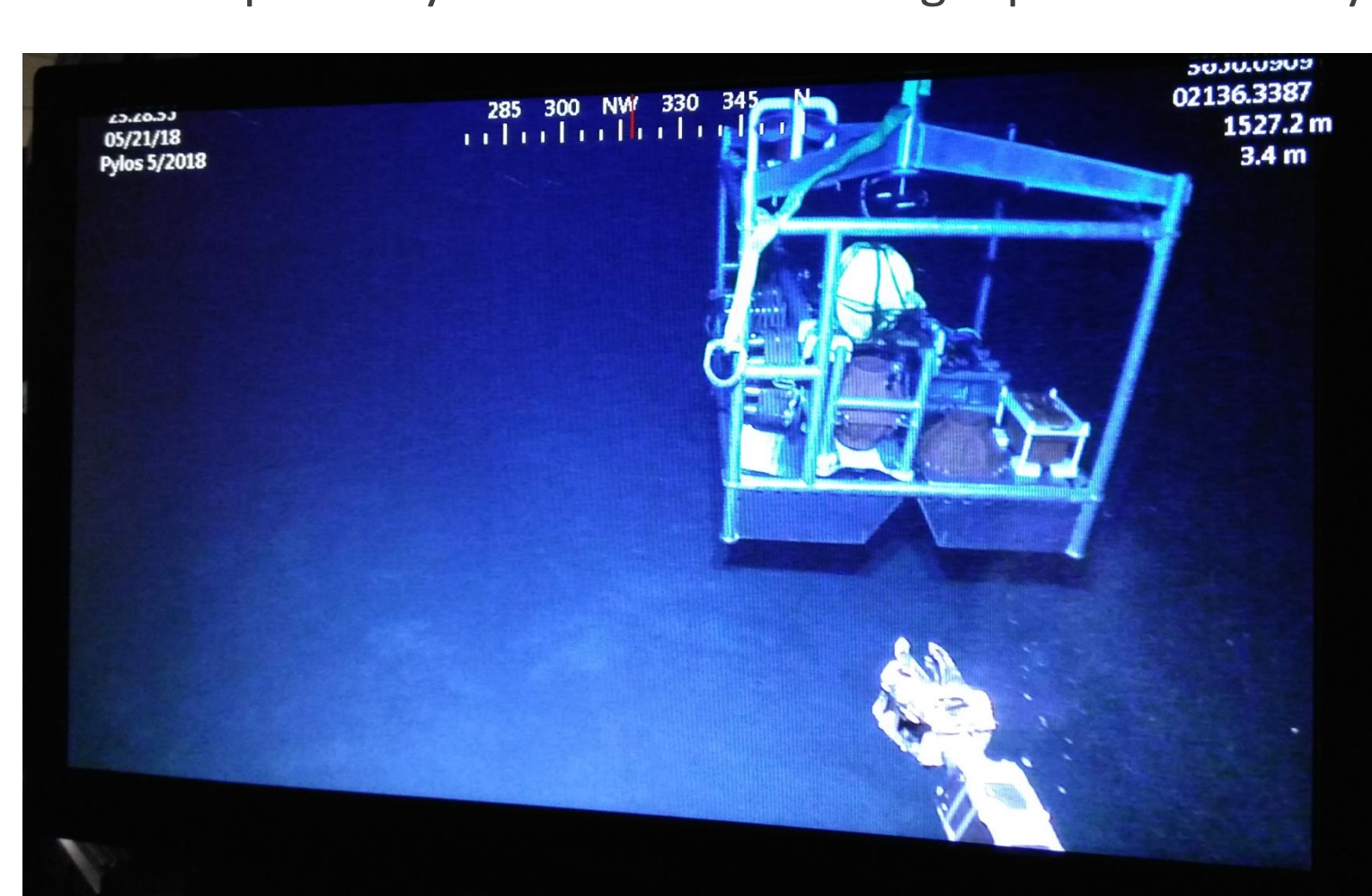
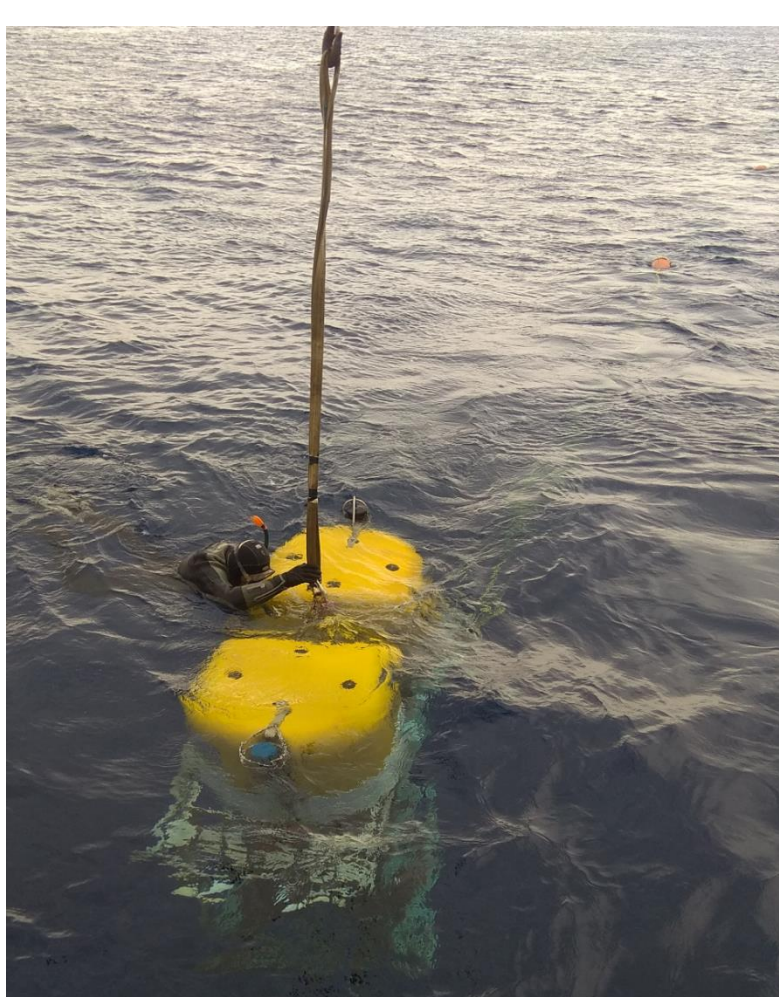
Deployment of the 3901890 float in the north Aegean



The first float, (WMO 3901890) was deployed in April 2017. It has already acquired 185 profiles in the coastal areas of northwest and central Aegean providing interesting information on the alternation of the dominant water masses, the thermohaline variability, and the circulation patterns in the region.

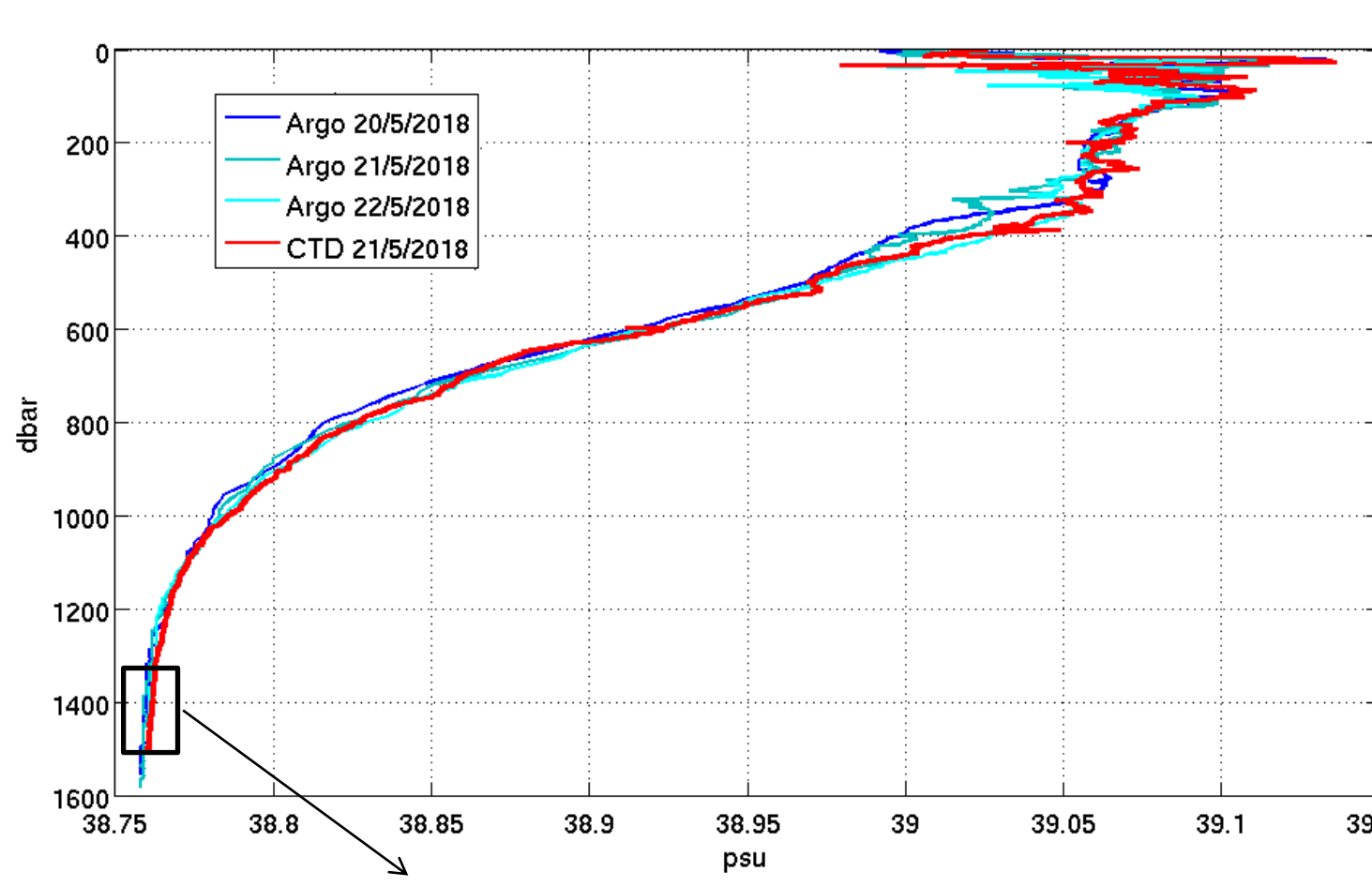
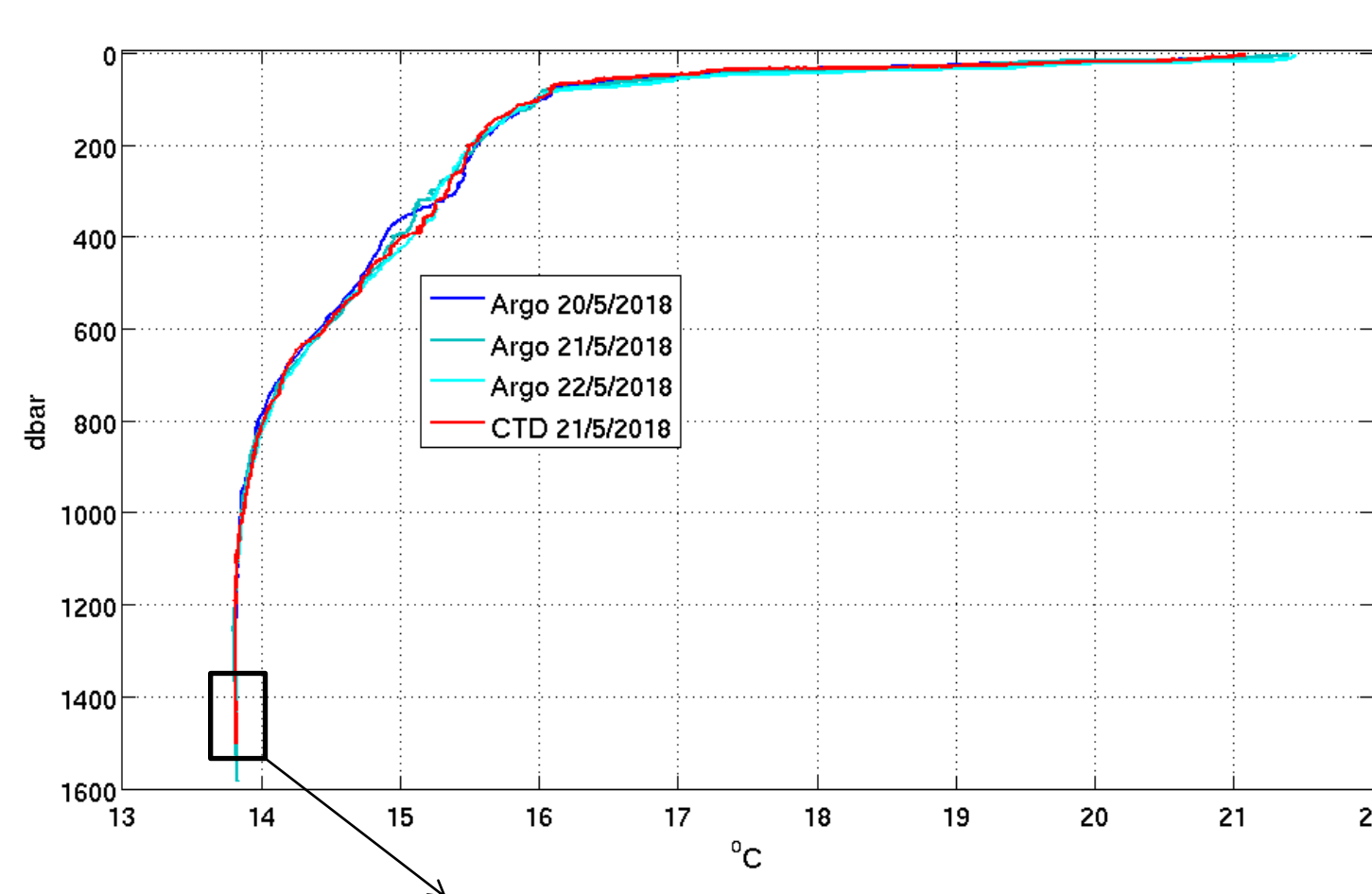


The trajectory performed by the 3901890 float in a cyclonic pattern of North Aegean until January 2019

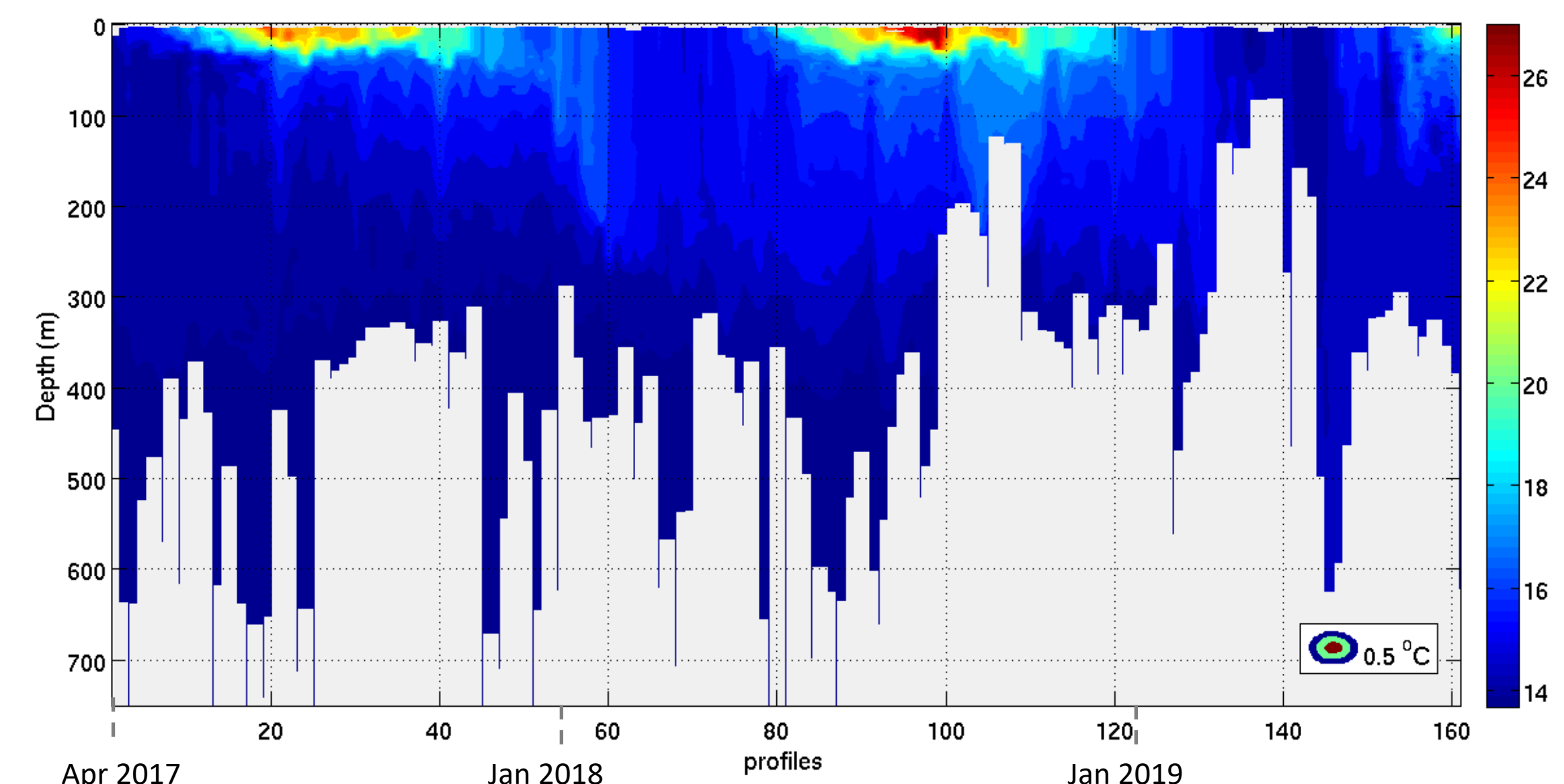
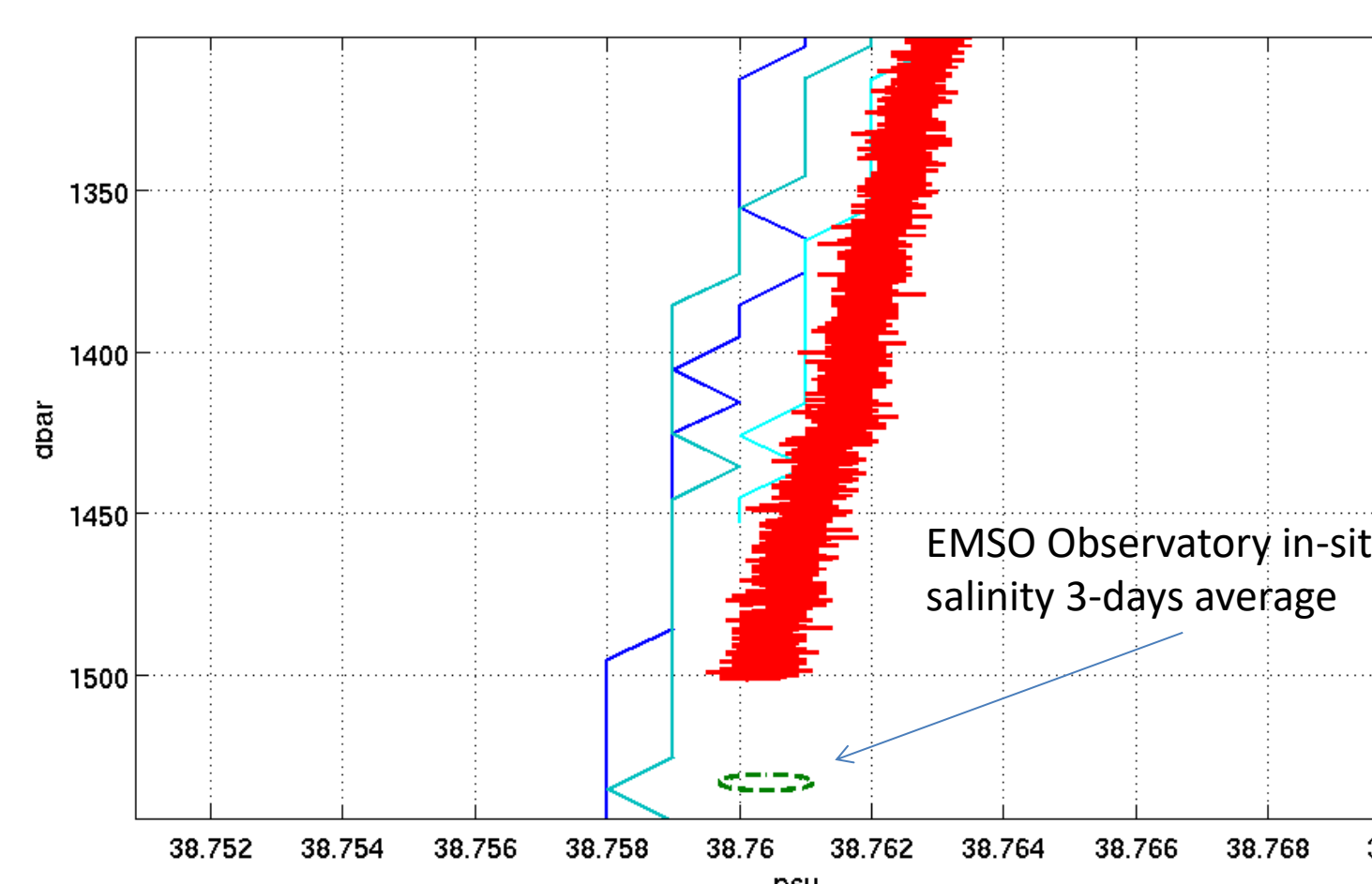
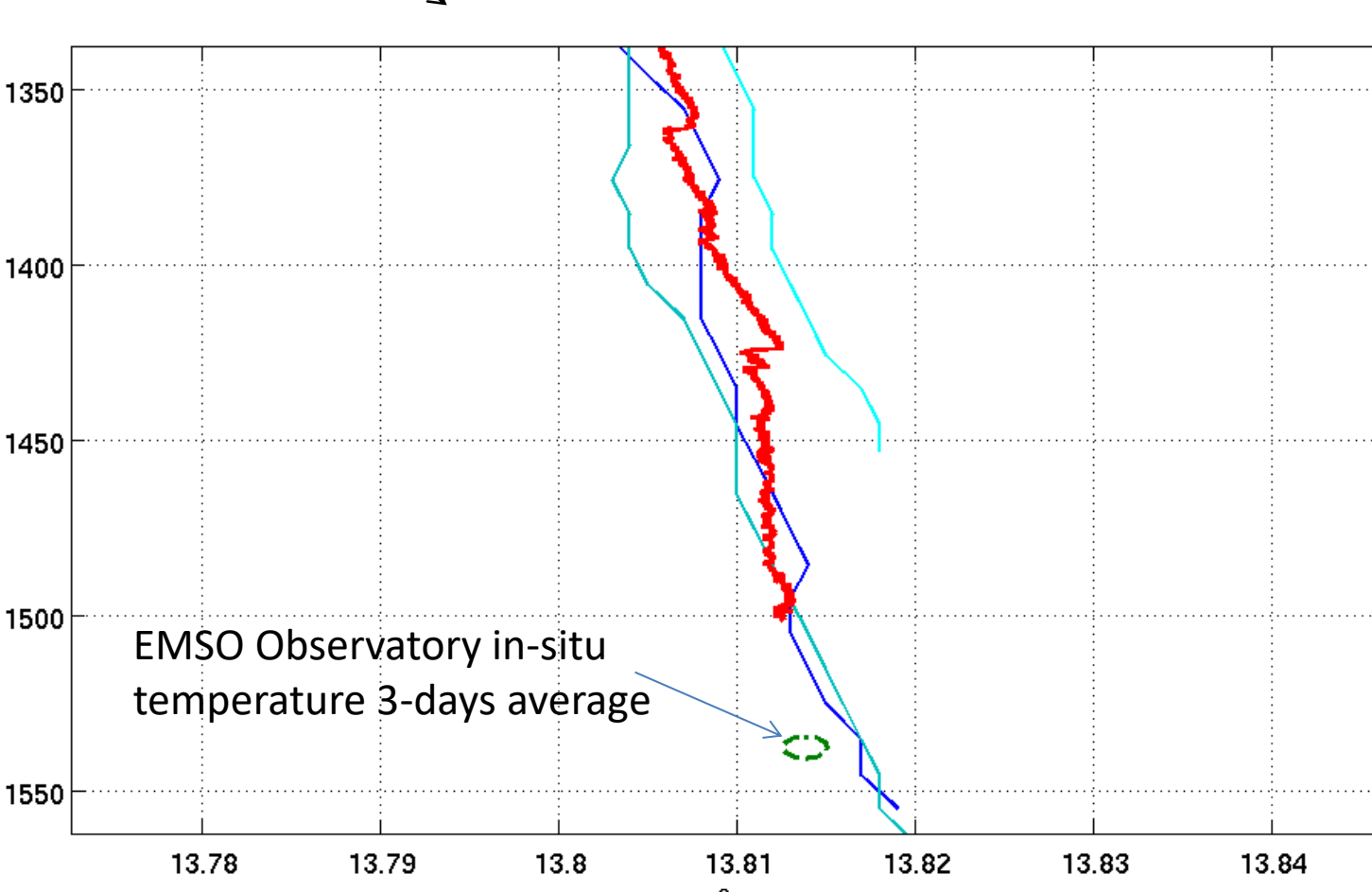


Deployment of the 3901957 float along with the Hellenic EMSO platform in the south Ionian

The second float (WMO 3901957) was deployed in May 2018, 15 km offshore south-west Peloponnese coast, along with the deployment of the EMSO - Hellenic Arc seabed cabled observatory. The float was configured to perform daily profiles down to 1600 m depth sampling the deep oceanic environment next to the multidisciplinary sea-bed platform. The results of such joint monitoring have shown to be in good agreement with both temperature and salinity records amongst the two platforms. Moreover, this mission has been the first step towards a close collaboration between Euro-Argo and EMSO, the two largest Research Infrastructures regarding ocean monitoring. Such collaboration advances the monitoring capacity of both physical and biogeochemical processes ranging from the sea surface to the seabed.



Comparison of the in-situ temperature and salinity profiles recorded by the 3901957 float, R/V CTD cast and Seabed platform timeseries data during the first days of the joint deployments



Potential temperature and salinity fields recorded by the 3901890 float in the North Aegean until June 2019

The Argo expansion in marginal seas and coastal areas can provide enhanced information that are crucial for operational forecasting, climate monitoring, and ecosystem functioning assessment. Furthermore it acts as a strengthening force towards synergies and combined activities between Argo and other oceanographic communities. Such are the exploitation of Argo data for the national obligations towards the European Directive for Marine Strategy (MSFD) and the establishment of links with large European Research Infrastructures such as the European Multidisciplinary Seafloor and water column Observatory (EMSO -ERIC).

Acknowledgements

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The Argo Program is part of the Global Ocean Observing System

The deployments were performed by the Greek Argo Research Infrastructure team using the R/V AEGAEON