

8th EGO Meeting and International Glider Workshop

Presented by
UG² / EGO

May 21–23, 2019
Rutgers University, New Jersey

Sustained intense monitoring of the deep convective area in the Northwestern Mediterranean

Félix Margirier | Sorbonne Université LOCEAN IPSL CNRS

Co-Authors

Félix Margirier; Pierre Testor; Anthony Bosse; Loïc Houpert; Laurent Mortier; Emma Heslop; Katia Mallil; Laurent Coppola and Xavier Durrieu de Madron

Abstract (Oral Presentation)

Thanks to the intense and sustained observational effort in the Northwestern Mediterranean over the past 15 years, notably with gliders (as well as ship cruises, profiling floats, mooring lines, XBTs...), the intermittence of the deep convective events is assessed through the respective roles of oceanic preconditioning and atmospheric heatfluxes. The thorough monitoring of the region shows warming and salinifying trends in all layers, and after four consecutive years without deep convection allowing the warmer and more saline Levantine Intermediate Water to invade the basin, winters 2017/2018 (minor event reaching 1850m) and 2018/2019 (to be assessed!) show its return. On top of the intensity of the atmospheric heatfluxes, the change in deep stratification seems to play an important role and the convective character of the preceding year is shown to be a key factor. A twilight zone in the intensity of the heatfluxes triggering deep convection is thus inferred, demonstrating the key role of ocean preconditioning.