

OCEANIC STATION

Name:	E2M3A
Type:	Surface buoy
Location (lat-long):	Southern Adriatic Pit (Adriatic Sea - Mediterranean Sea) 41.5053 – 18.0860
Environment:	Open Sea
Operational history:	2010 – present (pCO ₂ and pH since 2014)
Scientific purpose:	The E2-M3A observatory is positioned in the centre of the cyclonic gyre where deep convection process takes places, involving both the atmosphere and the ocean dynamics and forming new dense and oxygenated waters, thus triggering both the physical and the biological pump. The automatic monitoring of the carbonate system set up on the E2-M3A buoy allows a better understanding of the processes influencing the carbonate system in the southern Adriatic, specially during the winter cooling, when dense waters are formed. The aim of the carbonate system automatic monitoring is to understand the transfer process of the CO ₂ when winter cooled waters sink forming the Adriatic Dense Water (ADW) which flow through Otranto strait, contributing to the Eastern Mediterranean Deep Water (EMDW). Measuring the role of the physical and biological CO ₂ transfer will allow understanding the propagation of the acidification processes in deep waters.
Station description:	Two independent mooring lines compose the configuration of the E2-M3A system. The first of them (primary mooring line - A) hosts the surface buoy instrumented with meteo station and radiometers aimed to collect air-sea interaction measurements sensor for physical (temperature and salinity) and biochemical (oxygen, partial CO ₂ and pH) parameters deployed in the mixed layer, telemetry and services. The surface buoy collects the acquired data and transmits them in real time to the on-line server. The secondary mooring line (B) hosts an instrumental chain with sensors at several different depths aims at measure physical and chemical parameters from the sea floor to the intermediate layer.
Measured ICOS core parameters:	Sea temperature, salinity, pCO ₂ , pH, dissolved oxygen.
Measured ICOS desirable parameters:	Atmospheric pressure, wind speed and direction, air temperature, chlorophyll-a.

Other measured parameters:

Relative humidity and solar radiation (at the surface), sea temperature, salinity, dissolved oxygen at different depth along the water column

Website/data portal:

<http://nettuno.ogs.trieste.it/e3-m3a>

Responsible organization:

OGS Section of Oceanography – ExO Group

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The configuration of instrumentation on the E2M3A

