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## **OCARINA (Ocean coupled to the atmosphere: instrumented research on an auxiliary ship)**

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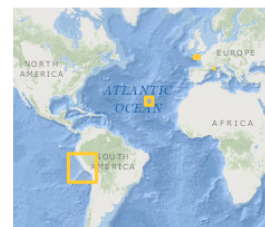
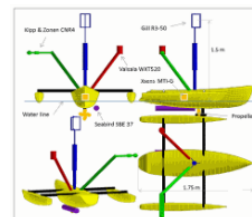
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# OCARINA (Ocean coupled to the atmosphere: instrumented research on an auxiliary ship)

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Abstract	Remote-controlled trimaran Ocarina (Océan couplé à l'atmosphère : recherche instrumentée sur navire annexe / Ocean coupled to the atmosphere: instrumented research on an auxiliary ship). The OCARINA platform (Ocean Coupled to the Atmosphere, Research on the Interface on the Annex Ship) is a surface naval drone specifically developed to measure turbulent and radiative exchanges at the ocean/atmosphere interface. Designed and produced at LATMOS in 2009, the initial version of OCARINA has evolved through campaigns and collaborations with DT-INSU, ENSTA-Paris, Ifremer, LOCEAN, and IRPHE.

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DATA



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References

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**Keyword(s)** air\_sea, fluxes, turbulence, wave\_boundary\_layer, wave\_follower, ocean\_surface, friction\_velocity, heat\_fluxes, surface\_radiation\_fluxes

**Abstract** Remote-controlled trimaran Ocarina (Océan couplé à l'atmosphère : recherche instrumentée sur navire annexe / Ocean coupled to the atmosphere: instrumented research on an auxiliary ship).  
 The OCARINA platform (Ocean Coupled to the Atmosphere, Research on the Interface on the Annex Ship) is a surface naval drone specifically developed to measure turbulent and radiative exchanges at the ocean/atmosphere interface.  
 Designed and produced at LATMOS in 2009, the initial version of OCARINA has evolved through campaigns and collaborations with DT-INSU, ENSTA-Paris, Ifremer, LOCEAN, and IRPHE.  
 The onboard instruments are an inertial unit, a GPS, a sonic anemometer, a probe for measuring rising and falling radiative flows in the infrared and in visible wavelengths, a submerged probe of the CT type, and a meteorological station.  
 The level 2 data provided are:

- the location, speed, heading and route followed
- the height and significant period of waves longer than two meters
- the water temperature (SST) at a depth of 30 cm
- surface salinity (SSS)
- the meteorological variables (wind in modulus and direction, temperature, humidity and pressure) at one meter high.
- solar and infrared fluxes up and down
- turbulent bulk flows ( $u^*$ ,  $H_s$  and  $LE$ ), and Monin-Obukhov's ratio ( $z/L$ )
- $u^*$  and  $Hsv$  (the turbulent buoyancy flux) estimated by the inertio dissipative method
- $u^*$  and  $Hsv$  estimated by covariance method

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**Sensor metadata**

- Seabird SBE37-SI, Xsens MTI-G, Gill R3-50, Vaisala WXT-520, Campbell CNR4
- PT100, Naveol NAV01H, Sif EM506 GPS, Campbell Irgason (EC100), Rotronic HC2S3, Vaisala PTB-110

**Data** [ERDDAP data access](#)

File	Size	Format	Processing	Access
<a href="#">Ocarina Data : netcdf files; hdf5 files</a>	3 GB	<a href="#">NC, NetCDF</a>	Processed data	<a href="#">Open access</a>

### References

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Bourras, D., R. Cambra, L. Marié, M.-N. Bouin, L. Baggio, H. Branger, H. Beghoura, G. Reverdin et al. (2019). Air-Sea Turbulent Fluxes From a Wave-Following Platform During Six Experiments at Sea. *JGR Oceans* (in revision).



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