MARIONA CLARET

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Date and place of birth: April 23, 1984, Barcelona, Spain.

Education

01/07–05/12. PhD in Oceanography, Joint Program University of Las Palmas de Gran Canaria and Institut de Ciències del Mar (ICM), CSIC, Spain.
Dissertation: "Potential vorticity conserving flows and vortex-wave interaction: The role of vertical velocity and isopycnal diffusion on plankton heterogeneity".
Advisors: Álvaro Viúdez and Yvette H. Spitz.

01/07–12/08. DEA (Diploma of Advanced Studies – equivalent to a MSc degree in the former Spanish education system).
Dissertation: "Vertical velocity in submesoscale vortex-wave interaction and its impact on biological dynamics".
Advisor: Álvaro Viúdez.

09/02–09/06. BSc in Biology, University of Barcelona, Spain.

Employment

01/13–present. Postdoctoral Investigator at Woods Hole Oceanographic Inst.

09/12–12/12. Research Assistant at ICM-CSIC.

05/07–02/11. Predoctoral fellow at ICM-CSIC (B.O.E. 27/04/07).

01/07–03/07. Predoctoral fellow at ICM-CSIC (D.O.G.C. núm. 4762 16/11/06).

09/06–12/06. CSIC research fellow for last year undergraduate students (B.O.E. 24/08/05).

Refereed articles

Claret, M., and A. Viúdez, 2010: "Vertical Velocity in the interaction between inertia–gravity waves and submesoscale baroclinic vortical structures", *J. Geophys. Res.*, 115, C12060, doi:10.1029/2009JC005921.

Viúdez, A., and **M. Claret**, 2009: "Numerical simulations of submesoscale balanced vertical velocity forcing unsteady nutrient-phytoplankton-zooplankton distributions", *J. Geophys. Res*., 114, C04023, doi:10.1029/2008JC005172.

Claret, M., R. Rodríguez-Marroyo, and J.L. Pelegrí, 2012: "Salinity intrusion and convective mixing in the Atlantic Equatorial Undercurrent", *Scientia Marina, 76S1: 117-129.*

Emelianov, M., **M. Claret**, E. Fraile-Nuez, M. Pastor, I. Laiz, J. Salvador, J.L. Pelegrí, and A. Turiel, 2012: "Detection of a weak meddy-like anomaly from high-resolution satellite SST maps", *Scientia Marina, 76S1: 229-234.*

Manuscripts in review process

Claret, M., A. Viúdez, and Y. H. Spitz: "Phytoplankton enhancement by oceanic dipoles", submitted.

Claret, M., A. Viúdez, and Y. H. Spitz: "Plankton resonant response to light and nutrients in mesoscale vortices", submitted.

Conference presentations and talks

Claret, M., and A. Viúdez, 2012: A spiral inertia-gravity wave caused by a nonlinear vortex-wave interaction. II Encuentro de Oceanografía Física, Madrid. Oral communication.

Claret, M., R. Rodríguez-Marroyo, and J. L. Pelegrí, 2010: Advective salt transport by the Atlantic Equatorial Undercurrent. Encuentro Español de Oceanografía Física, Barcelona. Poster communication.

Claret, M., Y. H. Spitz, and A. Viúdez, 2010: Spatio-temporal characteristics of the biological response to the submesoscale non-linear vortex-wave interaction. Ocean Sciences Meeting, Portland, OR, USA. Poster communication.

Claret, M., and A. Viúdez, 2008: Lost in biological modeling. College of Earth, Atmospheric, and Oceanic Sciences (CEOAS), Oregon State University, Corvallis, OR, USA. Oral communication.

Claret, M., and A. Viúdez, 2007: Interaction between baroclinic vortices and inertial waves. International Symposium in Marine Sciences, Valencia. Poster communication.

Projects

LatMix DRI (2009–2012): Scalable Lateral Mixing and Coherent Turbulence: Submesoscale routes to lateral mixing in the ocean.

MOC^2 (2009–2011): Memoria Oceánica del Clima: flujo de aguas intermedias en el Atlántico Austral y su transformación en aguas superficiales en el Atlántico Ecuatorial. Reference number: CTM2008-06438-C02-01.

TIC-MOC (2012–2014): Tipping Corners in the Meridional Overturning Circulation. Reference number: CTM2011-28867.

Research visits and courses

08/08–11/08 and 09/09–03/10. Work on biological-physical coupling at CEOAS, Oregon State University, Corvallis, OR, USA.

06/09. SESAME 2nd Summer school on coupled ecological modeling. Msida, Malta.

Field experience

05/04/10–16/05/10. Investigation of the formation pathways of superficial waters in the Equatorial Atlantic. R/V BIO *Hespérides*.

24/08/08–02/09/08. Planktonic thin layers sampling at the Oregonian Coast using a ROV-based system. R/V *Wecoma.*

18/05/08–28/05/08. Characterization of meddies in the Gulf of Cádiz. R/V *García del Cid.*

Tasks: CTD and XBT data gathering, Doppler velocity data filtering, and use of oceanographic databases.

Outreach activities

Claret, M., trans. to Catalan of Chapter 5 of *Teaching Physical Concepts in Oceanography: An inquiry-based approach* by Karp-Boss, Lee, E. Boss, H. Weller, J. Loftin, and J. Albright, 2009. Oceanography Volume 22, Number 3 Supplement.

Department of Physical Oceanography, ICM-CSIC, 2008: How the oceans move? 6ª Feria de Investigación en Directo '08. Conferences on the popularization of science. Barcelona. Oral and poster communications.

Merits and Awards

10/10. Award for PhD Students to the manuscript entitled *Vertical velocity in the interaction between inertia–gravity waves and submesoscale baroclinic vortical structures.* L'Observatori Català de l'Oceà (LIM-UPC, ICM-CSIC, CIIRC).

05/07. End of Career Outstanding Student Award. University of Barcelona.

Reviewer for journal *Ciencias Marinas*.

Other skills

Spanish and Catalan as mother tongues. Good written and spoken English. French basics.

Advanced user skills on WINDOWS, LINUX, Fortran, C, LaTeX, IDL, and Vis5d. Basics on MPI parallel programming and MATLAB.