Aida Alvera Azcárate

1 Personal data

Born in Spain, 11 September 1977

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2 Academic data

– January 2012-present: Researcher at the University of Liège.

– November 2007-January 2012: Chargé de Recherches FRS-FNRS (Fonds de la Recherche Scientifique) at the University of Liège.

– October 2004-October 2007: Research Associate at the College of Marine Science, University of South Florida.

– September 2001-September 2004: PhD in Oceanography, University of Liège, Belgium. Thesis entitled: 'Forecast verification of a 3D model of the Mediterranean Sea. Analysis of model results and observations using wavelets and Empirical Orthogonal Functions'. Realized in the frame of the SOFT project (Satellite-based Ocean ForecasTing system, EC EVK3-2000-000561).

– September 2000-September 2001: Master in Oceanology: "Modelling of the Marine Environment" (DEA en Modélisation de l'Environnement Marin), University of Liège (Belgium) and New University of Lisbon (Portugal). Mark: Very Good (très bien).

- Practical Work: 'Determination of Tidal Components Period in the Bahamas Sea'
  - DEA's dissertation: 'Modelling Macroalgae Productivity at a Tidal Cycle Time Scale'

– 1995-2000: MSc in Marine Sciences (University of Las Palmas de Gran Canaria, Spain). Student's record: Average mark, 2.52; last two years, 2.9 (1-Pass, 2-Notable, 3-First Class, 4-Maximum Mark). Range: third highest qualification of the year 2000 class.

3 Research Interests

– Reconstruction methods for missing data in oceanographic data sets, DINEOF (Data INterpolating Empirical Orthogonal Functions), Optimal Interpolation.

– Implementation and validation of 3D hydrodynamic models.

– Data analysis using EOF decomposition and Wavelet Transforms, in particular to analyse complex model dynamics.

– Multiple-platform, multivariate data analysis for their use in broad oceanographic applications, such as modelling, search and rescue, ecological studies...

4 Award

– Charles Lagrange Quadrennial Price of the Belgian Academy of Sciences (2012)

5 Editor

– Associate editor of Remote Sensing of Environment

– Associate editor of Ocean Dynamics

– Guest editor of the Special Issue "Multiparametric observation and analysis of the sea", Ocean Dynamics (2011).

– Guest editor of the Special Issue "Remote sensing of colour, temperature and salinity. New challenges and opportunities", Remote Sensing of Environment (vol 146, pp. 1-234, 2014)

6   Organization of conferences

– Organizer of the "Ocean Remote Sensing" session at the European Geophysical Union General Assembly (since 2011)

– Scientific organizer of the 44th edition of the International Liège Colloquium: Remote sensing of colour, temperature and salinity - new challenges and opportunities (2012), with Kevin Ruddick.

– Scientific organizer of the 42th edition of the International Liège Colloquium: Multiparametric observation and analysis of the Sea (2010), with Pierre-Marie Poulain.

7   Peer Review Referee

– Reviewer for: Atmósfera, Canadian Journal of Remote Sensing, Climatic Change, Continental Shelf Research, Geophysical Research Letters, Journal of Climate, Journal of Geophysical Research, International Journal of Oceanography, Journal of Atmospheric and Oceanic Technology, Journal of Oceanography, Ocean Dynamics, Ocean Modelling, Ocean Science, Remote Sensing of Environment, Remote Sensing Letters, Scientia Marina.

– Reviewer for the National Science Foundation (NSF, USA).

8   Research projects

– Coordinator

  • **HiSea** - High resolution merged satellite Sea surface temperature fields, Belgian Science Policy (2011 - 2012)

  • **BESST** - Inter-sensor Bias Estimation in Sea Surface Temperature, Belgian Science Policy (2012 - 2014)

  • **DINEOF-on-web** - Creation of a web-based interface for DINEOF, Belgian Science Policy (2013 - 2014)

  • **Improving Sea Surface Salinity Estimates through Multivariate and Multisensor Analyses**, European Space Agency (2014 - 2016)

  • **Evaluation of Ocean Syntheses** - EU COST Action (2014 - 2017)

– Principal Investigator

  • **GEOCOLOUR** - Preparation for Geostationary Ocean Colour, Belgian Science Policy (2011 - 2013)

– Participation

  • **EAGLES** East African Great Lake Ecosystem Sensitivity to changes, Belgian Science Policy (2011 - 2014)
  • **RECOLOUR** (Reconstruction of colour scenes), in the frame of the research programme for Earth Observation "STEREO II", Belgian Science Policy, 2006-2008: I assisted D. Sirjacobs in the reconstruction of missing data in sea surface temperature, chlorophyll and total suspended matter at the North Sea and Mediterranean Sea using DINEOF.
  • **CARIACO** (Carbon Retention In A Colored Ocean), National Science Foundation, 2006-2007: I implemented and validated a three-dimensional hydrodynamic model of the Cariaco basin (in Venezuela).
  • **HYCOM** (Hybrid Cordinate Ocean Model), 2005-2007: I worked on the generation of cloud-free temperature data fields for heat-flux correction of three-dimensional hydrodynamic models.
  • **SEACOOS** (SouthEast U.S. Atlantic Coastal Ocean Observing System) 2004-2007: Generation of cloud-free products (temperature, chlorophyll) for visualization in the SEACOOS portal and heat-flux correction of three-dimensional hydrodynamic models.
  • **SOFT** (Satellite-based Ocean ForecasTing system), European Commission, 2001-2004: I worked as a PhD student on the validation of various implementations of a hydrodynamic ocean model.

9 Teaching

– Data acquisition and analysis in oceanography. Second year of the Master in Oceanography at the University of Liège, since 2008.

– Documentation in oceanography -databases-. Second year of the Master in Oceanography at the University of Liège, since 2010.

– Oceanographic data visualization and handling using Ocean Data View. First year of the Master in Oceanography at the University of Liège, since 2008.

– Introduction to Physical Oceanography to the winner students from the competition "Concours Corsica" organized by the University of Liège (Calvi, 27 September to 3 October 2009; 26 September to 2 October 2010; 22 to 29 September 2012).

10   Invited seminars and courses

– "HiSea - High resolution merged satellite sea surface temperature fields.", 25 May 2011, Oudenburg, Ostend (Belgium).

– Co-author of an invited presentation "Ensemble-based assimilation of high-frequency radar surface currents in regional ocean models" at the 2010 AGU, The Meeting of the Americas

– Invited talk "Reconstruction of missing satellite data using DINEOF (Data Interpolating Empirical Orthogonal Functions)" at NURC (NATO Underwater Research Center) on 13 May 2010, La Spezia, Italy.

– Co-author on an invited conference "Climatological analysis of irregularly distributed data using Data Interpolating Variational Analysis (DIVA)" at the 2010 Ocean Sciences meeting, from the American Geophysical Society (AGU), 22-26 February 2010, Portland (Oregon), USA.

– Invited talk "Reconstruction of missing satellite data using DINEOF". 1 February 2010, at the Instituto Superior Tecnico from the Technical University of Lisbon, Portugal.

– Invited conference entitled "Oceanography in the Cariaco Basin: study of the present to understand the past", 5 November 2008, at the University of the Basque Country, Spain.

– DINEOF seminar in the University of the Basque Country, Bilbao, Spain, 4-5 November 2008.

– DINEOF seminar in the SESAME summer school "Statistical Analysis of Biological data and Times-Series", from 21 July to 1 August 2008 in Varna, Bulgaria.

11   Publications

[1] **A. Alvera-Azcárate**, D. Sirjacobs, A. Barth, and J.-M. Beckers. Outlier detection in satellite data using spatial coherence. *Remote Sensing of Environment*, 119:84–91, 2012.

[2] **A. Alvera-Azcárate**, C. Troupin, A. Barth, and J.-M. Beckers. Comparison between satellite and in situ sea surface temperature data in the Western Mediterranean Sea. *Ocean Dynamics*, 61:767–778, 2011. doi: 10.1007/s10236-011-0403-x. doi:10.1007/s10236-011-0403-x.

[3] **A. Alvera-Azcárate**, A. Barth, R. H. Weisberg, J. J. Castañeda, L. Vandenbulcke, and J.-M. Beckers. Thermocline characterization in the Cariaco basin: a modelling study of the thermocline annual variation and its relation with winds and chlorophyll-a concentration. *Continental Shelf Research*, 31:73–84, 2011.

[4] **A. Alvera-Azcárate**, A. Barth, D. Sirjacobs, F. Lenartz, and J.-M. Beckers. Data Interpolating Empirical Orthogonal Functions (DINEOF): a tool for geophysical data analyses. *Mediterranean Marine Science*, 12:5–11, 2011. Special Issue for the IMDIS 2008 conference.

[5] **A. Alvera-Azcárate**, A. Barth, D. Sirjacobs, and J.-M. Beckers. Enhancing temporal correlations in EOF expansions for the reconstruction of missing data using DINEOF. *Ocean Science*, 5:475–485, 2009.

[6] **A. Alvera-Azcárate**, A. Barth, and R. H. Weisberg. A nested model of the Cariaco Basin (Venezuela): description of the basin interior hydrography and interactions with the open ocean. *Ocean Dynamics*, 59:97–120, 2009. doi: 10.1007/s10236-008-0169-y. doi:10.1007/s10236-008-0169-y.

[7] **A. Alvera-Azcárate**, A. Barth, and R. H. Weisberg. The surface circulation of the Caribbean Sea and the Gulf of Mexico as inferred from satellite altimetry. *Journal of Physical Oceanography*, 39:640–657, 2009. doi: 10.1175/2008JPO3765.1.

[8] **A. Alvera-Azcárate**, A. Barth, J.-M. Beckers, and R. H. Weisberg. Multivariate reconstruction of missing data in sea surface temperature, chlorophyll and wind satellite fields. *Journal of Geophysical Research*, 112:C03008, 2007. doi:10.1029/2006JC003660.

[9] **A. Alvera-Azcárate**, A. Barth, Z. Ben Bouallègue, M. Rixen, and J.-M. Beckers. Forecast Verification of a 3D model of the Ligurian Sea. The use of Discrete Wavelet Transforms and EOFs in the Skill Assessment of Spatial Forecasts. *Journal of Marine Systems.*, 65:460–483, 2006. doi: 10.1016/j.jmarsys.2005.09.015.

[10] **A. Alvera-Azcárate**, A. Barth, M. Rixen, and J.-M. Beckers. Reconstruction of incomplete oceanographic data sets using Empirical Orthogonal Functions. Application to the Adriatic Sea surface temperature. *Ocean Modelling.*, 9:325–346, 2005. doi: 10.1016/j.ocemod.2004.08.001. doi:10.1016/j.ocemod.2004.08.001.

[11] **A. Alvera-Azcárate**, J. G. Ferreira, and J. P. Nunes. Modelling eutrophication in mesotidal and macrotidal estuaries. The role of intertidal seaweeds. *Estuarine Coastal and Shelf Science*, 57:715–724, 2003.

[12] A. Barth, J.-M. Beckers, C. Troupin, **A. Alvera-Azcárate**, and L. Vanden-bulcke. divand-1.0: n-dimensional variational data analysis for ocean observations. *Geoscientific Model Development Discussions*, 6(3):4009–4051, 2013. doi: 10.5194/gmdd-6-4009-2013. URL `http://www.geosci-model-dev-discuss.net/6/4009/2013/`.

[13] A. Barth, **A. Alvera-Azcárate**, J.-M. Beckers, and J. Staneva. Correcting surface winds by assimilating High-Frequency Radar surface currents in the German Bight. *Ocean Dynamics*, 61(5):599–610, 2011. doi: 10.1007/s10236-010-0369-0. doi:10.1007/s10236-010-0369-0.

[14] A. Barth, **A. Alvera-Azcárate**, C. Troupin, M. Ouberdous, and J.-M. Beckers. A web interface for griding arbitrarily distributed in situ data based on Data-Interpolating Variational Analysis (Diva). *Advances in Geosciences*, 28:29–37, 2010.

[15] A. Barth, **A. Alvera-Azcárate**, J. Staneva, A. Port, K.-W. Gurgel, J.-M. Beckers, and E. Stanev. Ensemble smoother for optimizing tidal boundary conditions by assimilation of High-Frequency Radar surface currents. Application to the German Bight. *Ocean Science*, 6:161–178, 2010.

[16] A. Barth, **A. Alvera-Azcárate**, J.-M. Beckers, R. H. Weisberg, L. Vandenbulcke, F. Lenartz, and M. Rixen. Dynamically constrained ensemble perturbations - application to tides on the West Florida Shelf. *Ocean Science*, 5(3):259–270, 2009.

[17] A. Barth, **A. Alvera-Azcárate**, and R. H. Weisberg. Assimilation of High-Frequency Radar Currents in a Nested Model of the West Florida Shelf. *Journal of Geophysical Research*, 113:C08033, 2008. doi: 10.1029/2007JC004585.

[18] A. Barth, **A. Alvera-Azcárate**, and R. H. Weisberg. A Nested Model Study of the Loop Current Generated Variability and its Impact on the West Florida Shelf. *Journal of Geophysical Research*, 113:C05009, 2008. doi: 10.1029/2007JC004492. doi:10.1029/2007JC004492.

[19] A. Barth, **A. Alvera-Azcárate**, and R. H. Weisberg. Benefit of nesting a regional model into a large-scale ocean model instead of climatology. Application to the West Florida Shelf. *Continental Shelf Research*, 28:561–573, 2008. doi: 10.1016/j.csr.2007.11.004. 10.1016/j.csr.2007.11.004.

[20] A. Barth, J.-M. Beckers, **A. Alvera-Azcárate**, and R. H. Weisberg. Filtering inertia-gravity waves from the initial conditions of the linear shallow water equations. *Ocean Modelling*, 19:204–218, 2007. doi: 10.1016/j.ocemod.2007.06.007.

[21] A. Barth, **A. Alvera-Azcárate**, J.-M. Beckers, M. Rixen, and L. Vandenbulcke. Multi-grid state vector for data assimilation in a two-way nested model of the Ligurian Sea. *Journal of Marine Systems*, 65:41–59, 2007. doi: 10.1016/j.jmarsys.2005.07.006.

[22] A. Barth, **A. Alvera-Azcárate**, J.-M. Beckers, and M. Rixen. Coupling a two-way nested primitive equation model and a statistical SST predictor of the Ligurian Sea via data assimilation. *Ocean Modelling*, 13:255–270, 2006. doi: 10.1016/j.ocemod.2006.02. 003.

[23] A. Barth, **A. Alvera-Azcárate**, M Rixen, and J.-M. Beckers. Two-way nested model of mesoscale circulation features in the Ligurian Sea. *Progress in Oceanography*, 66: 171–189, 2005. doi: 10.1016/j.pocean.2004.07.017.

[24] J.-M. Beckers, A. Barth, C. Troupin, and **A. Alvera-Azcárate**. Approximate and efficient methods to assess error fields in spatial gridding with Diva (Data Interpolating Variational Analysis). *Journal of Atmospheric and Oceanic Technology*, 2013.

[25] J.-M. Beckers, A. Barth, and **A. Alvera-Azcárate**. DINEOF reconstruction of clouded images including error maps. Application to the Sea Surface Temperature around Corsican Island. *Ocean Science*, 2(2):183–199, 2006.

[26] U. Ganzedo, O. Erdaide, A. Trujillo-Santana, **A. Alvera-Azcárate**, and J.J. Castro. Reconstruction of spatiotemporal capture data by means of orthogonal functions: the case of skipjack tuna (katsuwonus pelamis) in the central-east atlantic. *Scientia Marina*, 2013. In press.

[27] U. Ganzedo, **A. Alvera-Azcárate**, G. Esnaola, A. Ezcurra, and J. Sáenz. Reconstruction of Sea Surface Temperature by means of DINEOF. A case study during the fishing season in the Bay of Biscay. *International Journal of Remote Sensing*, 32(4):933–950, 2011.

[28] J. A. Herrera-Melián, J. M. Dona-Rodriguez, E. Tello Rendón, A. Soler Vila, M. Brunet Quetglas, **A. Alvera Azcárate**, and L. Pascual Pariente. Solar photocatalytic destruction of p-nitrophenol: A pedagogical use of lab wastes. *Journal of Chemical Education*, 78(6):775, 2001.

[29] B. Nechad, **A. Alvera-Azcárate**, K. Ruddick, and N. Greenwood. Reconstruction of MODIS total suspended matter time series maps by DINEOF and validation with autonomous platform data. *Ocean Dynamics*, 61(8):1205–1214, 2011. doi:10.1007/s10236-011-0425-4.

[30] C. Raick, **A. Alvera-Azcárate**, A. Barth, J.-M. Brankart, K. Soetaert, and M. Grégoire. Application of a SEEK filter to a 1d biogeochemical model of the Ligurian sea: twin experiments and real in situ data assimilation. *Journal of Marine Systems*, 65:561–583, 2007.

[31] J. Richir, N. Luy, G. Lepoint, E. Rozet, A. Alvera Azcarate, and S. Gobert. Experimental in situ exposure of the seagrass posidonia oceanica (l.) delile to 15 trace elements. *Aquatic Toxicology*, 140-141:157–173, 2013.

[32] D. Sirjacobs, **A. Alvera-Azcárate**, A. Barth, G. Lacroix, Y. Park, B. Nechad, K. Ruddick, and J.-M. Beckers. Cloud filling of ocean color and sea surface temperature remote sensing products over the southern north sea by the data interpolating empirical orthogonal functions methodology. *Journal of Sea Research*, 65(1):114–130, 2011.

[33] C. Troupin, A. Barth, D. Sirjacobs, M. Ouberdous, J.-M. Brankart, P. Brasseur, M. Rixen, **A. Alvera-Azcárate**, M. Belounis, A. Capet, F. Lenartz, M.-E. Toussaint, and J.-M. Beckers. Generation of analysis and consistent error fields using the data interpolating variational analysis (diva). *Ocean Modelling*, 2012. doi: 10.1016/j.ocemod.2012.05.002. URL `http://hdl.handle.net/2268/125731`.

[34] L. Vandenbulcke, A. Barth, M. Rixen, **A. Alvera-Azcárate**, Z. Ben Bouallegue, and J.-M. Beckers. Study of the combined effects of data assimilation and grid nesting in ocean models. Application to the Gulf of Lions. *Ocean Science*, 2(2):213–222, 2006.

[35] L. Vandenbulcke, M. Rixen, J.-M. Beckers, **A. Alvera-Azcárate**, and A. Barth. An analysis of the error space of a high-resolution implementation of the GHER hydrodynamic model in the Mediterranean Sea. *Ocean Modelling*, 24(1-2):46–64, 2008.

[36] R. H. Weisberg, A. Barth, **A. Alvera-Azcárate**, and L. Zheng. A Coordinated Coastal Ocean Observing and Modeling System for the West Florida Continental Shelf. *Harmful Algae*, 8(4):585–597, 2009. doi: 10.1016/j.hal.2008.11.003.

12   Presentations

[1] **A. Alvera-Azcárate**, A. Barth, Q. Vanhellemont, K. Ruddick, and J.-M. Beckers. Derivation of high resolution TSM data by merging geostationary and polar-orbiting satellite data in the North Sea. ESA Living Planet Symposium, Edinburgh, 2013.

[2] **A. Alvera-Azcárate**, A. Barth, Q. Vanhellemont, K. Ruddick, and J.-M. Beckers. Integration of Total Suspended Matter data from geostationary and polar-orbiting satellites over the North Sea using DINEOF. In *Geophysical Research Abstracts*, volume 15. EGU General Assembly, 2013.

[3] **A. Alvera-Azcárate**, G. Neukermans, A. Barth, K. Ruddick, and J.-M. Beckers. Reconstruction of Total Suspended Matter data over the North Sea using DINEOF: use of the Gaussian anamorphosis transformation. 44th International Liège Colloquium on Ocean Dynamics, 2012.

[4] **A. Alvera-Azcárate**, C. Troupin, A. Barth, and J.-M. Beckers. An EOF-based technique to compute merged high resolution sea surface temperature fields. 44th International Liège Colloquium on Ocean Dynamics, 2012.

[5] **A. Alvera-Azcárate**, A. Barth, M. E. Toussaint, and J.-M. Beckers. HiSea: High resolution merged satellite sea surface temperature fields. Oudenburg, Belgium, 2011. Belgian Science Policy (BELSPO).

[6] **A. Alvera-Azcárate**, A. Barth, and J.-M. Beckers. Satellite and in situ sea surface temperature comparison and merging in the Mediterranean Sea. European Space Agency, Frascati, Italy, 2011. Third International Workshop on Advances in the Use of Historical Marine Climate Data (MARCDAT-III).

[7] **A. Alvera-Azcárate**, A. Barth, and J.-M. Beckers. Merging satellite and in situ sea surface temperature data using DINEOF. In *Geophysical Research Abstracts*, volume 13. 7th EGU General Assembly, 2011.

[8] **A. Alvera-Azcárate**, A. Barth, R. H. Weisberg, J. J. Castañeda, L. Vandenbulcke, and J.-M. Beckers. Cariaco basin dynamics: Study of the thermocline depth variability and its relation with open ocean conditions. Foz do Iguaçu, Brazil, 2010. AGU Meeting of the Americas.

[9] **A. Alvera-Azcárate**, A. Barth, C. Troupin, and J.-M. Beckers. Error assessment of sea surface temperature satellite data relative to in situ data: effect of spatial and temporal coverage. 42nd International Liège Colloquium on Ocean Dynamics, 2010.

[10] **A. Alvera-Azcárate**, A. Barth, C. Troupin, and J.-M. Beckers. Comparison between in situ and satellite surface temperature in the Western Mediterranean Sea. In *Geophysical Research Abstracts*, volume 12. 6th EGU General Assembly, 2010.

[11] **A. Alvera-Azcárate**, A. Barth, and J.-M. Beckers. Reconstruction of missing data in satellite and in situ data sets with DINEOF (Data Interpolating Empirical Orthogonal Functions). Edimburg, UK, 2010. IMSC.

[12] **A. Alvera-Azcárate**, A. Barth, D. Sirjacobs, and J.-M. Beckers. Cloud-free satellite data for operational applications using dineof. Portland (Oregon), USA, 2010. Ocean Sciences.

[13] **A. Alvera-Azcárate**, A. Barth, D. Sirjacobs, and J.-M. Beckers. Reconstruction of missing data in satellite data sets using DINEOF with constraints to reduce spurious high-frequency variations in the temporal EOFs. In *Geophysical Research Abstracts*, volume 11. 6th EGU General Assembly, 2009.

[14] **A. Alvera-Azcárate**, A. Barth, and R. H. Weisberg. Surface circulation of the Caribbean Sea and Gulf of Mexico using 13 years of satellite altimetry data. In *Geophysical Research Abstracts*, volume 11. 6th EGU General Assembly, 2009.

[15] **A. Alvera-Azcárate**, A. Barth, D. Sirjacobs, and J.-M. Beckers. Using monovariate and multivariate EOFs to reconstruct missing data with DINEOF. In *GODAE Final Symposium*, 2008. 12-15 November 2008, Nice (France).

[16] **A. Alvera-Azcárate**, A. Barth, and R. H. Weisberg. Downscaling of the global HY-COM to the Cariaco basin (Venezuela) using ROMS. In *GODAE Final Symposium*, 2008. 12-15 November 2008, Nice (France).

[17] **A. Alvera-Azcárate**, A. Barth, and J.-M. Beckers. Thermocline characterization on modeled and observed temperature profiles: a technique for model error evaluation. In *Geophysical Research Abstracts*, volume 10, 2008. Abstract EGU2008-A-03926, Viena (Austria) .

[18] **A. Alvera-Azcárate**, A. Barth, D. Sirjacobs, and J.-M. Beckers. Data Interpolating Empirical Orthogonal Functions (DINEOF), a tool for geophysical data analyses. In *International Marine Data and Information Systems, IMDIS*, 2008. 31 March to 2 April 2008, Athens (Greece) .

[19] **A. Alvera-Azcárate**, A. Barth, J. I. Virmani, and R. H. Weisberg. A Nested Model of the Cariaco Basin: Study of the Hydrography and Interactions with the Open Ocean. In *Eos Trans. AGU*, volume 88(52), 2007. Fall Meeting Supplement, San Francisco (USA), Abstract OS43C-03.

[20] **A. Alvera-Azcárate**, A. Barth, and R. H. Weisberg. A nested hydrodynamic model of the Cariaco Basin (Venezuela): study of the basin interactions with the Caribbean Sea. In *Gordon Research Conference*, 2007. Coastal Ocean Modeling. June 7-12, 2009. Colby-Sawyer College, New London, NH (USA).

[21] **A. Alvera-Azcárate**, A. Barth, J. I. Virmani, and R. H. Weisberg. IAS Mesoscale Surface Circulation Observed Through Satellite Altimetry and its Influence in a Small Scale, Coastal Domain, Studied with a ROMS Model of the Cariaco Basin. In *Eos Trans. AGU*, volume 88(23), 2007. Joint Assembly Supplement, Acapulco (Mexico), Abstract OS51D-04 .

[22] **A. Alvera-Azcárate**, A. Barth, R. W. Helber, R. He, and R. H. Weisberg. Mapped fields of surface geostrophic currents based on altimetry, and fields of sea surface winds, cloud-free sea surface temperature and chlorophyll concentration using monovariate OI and a multivariate EOF technique. Honolulu (Hawaii), USA, 2006. Ocean Sciences.

[23] **A. Alvera-Azcárate**, A. Barth, R. He, R. W. Helber, J. Law, and R. H. Weisberg. Derivation of high-resolution ocean surface fields for regional and coastal models. New Orleans (USA), 2005. AGU Spring Meeting.

[24] **A. Alvera-Azcárate**, A. Barth, M. Rixen, and J.-M. Beckers. Reconstruction of incomplete satellite images in the Adriatic Sea. Study of an upwelling in the Albanian coast. In *VLIZ publication*, Brugge (Belgium), 2004. Young Scientists' Day, Flanders Marine Institute.

[25] **A. Alvera-Azcárate**, A. Barth, M. Rixen, and J.-M. Beckers. Reconstruction of missing data in geophysical fields. resolution of moving patterns. Nice (France), April 2004. EGU General Assembly.

[26] **A. Alvera-Azcárate**, A. Barth, M. Rixen, and J.-M. Beckers. Gappy data in oceanographic data sets. reconstruction of sst avhrr cloudy images of the adriatic sea. Liège (Belgium), May 2004. Liège Colloquium.

[27] **A. Alvera-Azcárate**, A. Barth, M. Rixen, and J.-M. Beckers. Missing data reconstruction of a SST cloudy data set of the Adriatic Sea using Empirical Orthogonal Functions. Barcelona (Spain), June 2004. 37th CIESM Congress.

[28] **A. Alvera-Azcárate**, A. Barth, M. Rixen, and J.-M. Beckers. Study of the impact of satellite data assimilation into a hydrodynamical model of the ligurian sea. Comparison between sst fields and sst satellite-based predicted fields. Paris (France), 2004. 35th Scientific Assembly of the Committee on Space Research (COSPAR).

[29] **A. Alvera-Azcárate**, A. Barth, M. Rixen, and J.-M. Beckers. Recovering missing data in satellite images. An application to adriatic sst and comparison with in situ data. Paris (France), 2004. 35th Scientific Assembly of the Committee on Space Research, COSPAR.

[30] **A. Alvera-Azcárate**, A. Barth, Z. Ben Bouallègue, L. Vandenbulcke, M. Rixen, and J.-M. Beckers. Field forecast verification in the Mediterranean Sea. Discrete wavelet transforms of an assimilation experiment in a two-way nested model of the Ligurian Sea. In *VLIZ publication*, Brugge (Belgium), 2004. Young Scientists' Day, Flanders Marine Institute.

[31] **A. Alvera-Azcárate**, A. Barth, M. Rixen, and J.-M. Beckers. Forecast verification in the ligurian sea. multiresolution analysis and study of the thermocline. Nice (France), April 2004. EGU General Assembly.

[32] **A. Alvera-Azcárate**, A. Barth, Z. Ben Bouallègue, L. Vandenbulcke, M. Rixen, and J.-M. Beckers. Forecast verification of a 3D model of the ligurian sea. the use of discrete wavelet transforms in the skill assessment of spatial forecasts. Liège (Belgium), May 2004. Liège Colloquium.

[33] **A. Alvera-Azcárate**, A. Barth, Z. Ben Bouallègue, L. Vandenbulcke, M. Rixen, and J.-M. Beckers. Wavelets in the forecast verification of an assimilation experiment in the Ligurian Sea. Barcelona (Spain), June 2004. 37th CIESM Congress.

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13   Miscellaneous

– Member of the management committee of the SMOS-MODE (SMOS Mission Oceanographic Data Exploitation) COST action (European Cooperation in Science and Technology)

– Member of the JCOMM (Joint Technical Commission for Oceanography and Marine Meteorology) Cross cutting Task Team on Satellite Data Requirements group

– DINEOF operational reconstruction of the Western Mediterranean SST (`http://gher-diva.phys.ulg.ac.be/DINEOF`) an automated daily reconstruction of the most recent satellite data available for the Mediterranean. Also for the Canary-Madeira region (`http://gher-diva.phys.ulg.ac.be/DINEOF/dineof_allCAN.html`).

– Member of the European Geophysical Union (EGU) and The Oceanography Society (TOS)

– Programming (FORTRAN 77, Fortran 90, Matlab, Octave, C++, Korn/Bash Shell, Perl), Linux/UNIX programming environment.

– Languages: Spanish (mother tongue), English, French, German, Portuguese.