

Curriculum Vitae

Jorge E. Capella Hernández

Date of Revision

February 2008

Present Title and Address

Research Consultant in Physical Oceanography and Ocean Modeling
Urb. Marbella, Círculo B-10
Aguadilla, PR 00603
787-882-0649, 787-590-9426 cell.
jcapella@caribe.net

Citizenship Puerto Rico, USA

Degrees

Ph.D. (Physical Oceanography & Modeling), Texas A&M University, 1989
M.S. (Marine Sciences – Physical Oceanography), University of Puerto Rico, 1983
B.S., Magna Cum Laude (Biology; Physics and Chemistry minors), University of Puerto Rico, 1978

Postdoctoral Appointment

UCAR Postdoctoral Fellowship in Ocean Modeling, Mesoscale Air-Sea Interaction Group (currently known as the Center for Ocean-Atmosphere Prediction Studies), Florida State University, Tallahassee, FL, Oct. 1989 - Oct. 1991.

Professional Societies

American Geophysical Union
Oceanography Society

Active Advisory Committee Membership

Scientific and Statistical Committee of the Caribbean Fisheries Management Council
Research Advisory Committee for the Jobos Bay National Estuarine Research Reserve
Caribbean Regional Association (CaRA) of the IOOS – Point of Contact and regional coordinator for Data Management and Communication (DMAC) and Modeling and Analysis Steering Team (MAST)

Experience

Oceanographic Consulting Experience

2007 – present	CaRA Modeling Coordinator
1992 – present	Numerous currents, tides, and waves monitoring studies in the PR-USVI region. Some of these studies include analytical or numerical modeling of plumes or other type of discharge.
1992– present	Oceanographic consultant to various coastal development projects, both public and private.

Jan. 2001 – May 2004 Numerous current meter (ADCP) deployments and data analyses in regards to 301H compliance studies at several regional wastewater treatment plants around Puerto Rico.

1983 – 1985 Mixing zone modeling studies for several regional wastewater treatment plants around Puerto Rico.

Academic Experience

Feb. 2003 – present Special Research Appointment, University of Puerto Rico, Mayagüez, PR

Jul. 1996 – Jul. 2002 Associate Professor, Department of Marine Sciences, University of Puerto Rico, Mayagüez, PR

Aug. 1993 - Jun. 1996 Assistant Professor, Department of Marine Sciences, University of Puerto Rico, Mayagüez, PR

Sep. 1992 - Jul. 1993 Assistant Administrator and Research Associate, University of Puerto Rico Sea Grant College Program, Mayagüez, PR

Oct. 1991 - Jul. 1992 Research Associate, Mesoscale Air-Sea Interaction Group, Florida State University, Tallahassee, FL

Jun. 1983 - Aug. 1985 Scientific Associate III, Center for Energy and Environment Research of the University of Puerto Rico, Mayagüez, PR

Jan. 1980 - May 1983 Marine Technician, Center for Energy and Environment Research of the University of Puerto Rico, Mayagüez, PR

Courses Taught

UPR-Mayagüez Geophysical Fluid Dynamics I and II
Mathematical Modeling of Marine Systems
Oceanografía Física
Laboratorio de Oceanografía Física
Modelaje en Oceanografía y Meteorología
a Través de la Computadora
Problemas Especiales en Oceanografía Física
Corrientes Marinas
Seminario Graduado

Florida State University Time Series Analysis, Mathematical Modeling

Texas A&M University Physical Oceanography Laboratory

IAU-Aguadilla (1983-85) Undergraduate level Physics, Biology, Algebra

Graduate Students (Chairman of Graduate Committee)

Department of Marine Sciences, Physical Oceanography (except where noted)

PhD: Juan Carlos Órtiz (5/03)
Victor Huérfano (05/03)
Francisco Pagán (5/02, co-chairman)
Edwin Alfonso (5/02)
Hugo Peláez (8/01)
Wilson Segura (8/00)
Jose L. Hernández (5/00)
Marvi Teixeira (5/99)

Guido Peña (5/96)

MS:

Marcos Sastre (9/00)

Jo-Ann Rosario (8/00)

Luis Fernando Bejarano (Physics)

José Luis Hernández (Physics)

Member in numerous graduate student committees from 1992-present.

Grant Awards

Jun. 2006 – Dec. 2006	La Parguera Bioluminescent Bay Circulation Study. In collaboration with Dr. Juan G. González-Lagoa.
June 2003 – Dec 2006	Caribbean Sea eddies, Office of Naval Research, Co-PI with J. López, J. Corredor and J. Morell, RUM.
June 2002 – May 2004	Physical oceanographic studies of open ocean cage aquaculture operations off Culebra Island, Sea Grant, with D. Allston and A. Cabarcas, RUM.
Oct. 1999 – present	Physical oceanography component of AFI environmental compliance studies at the PRASA submarine outfalls at Arecibo and Aguada, Humacao, Bayamon and Carolina, with Dr. Reni García, RUM.
June 1999 - May. 2001	Tropical Atmospheric Science Center- Physical Oceanography Component, NASA, additional two year extension of NASA NCCW-56, with Prof. Aurelio Mercado.
May 1997 - Apr. 1999	Tropical Atmospheric Science Center- Physical Oceanography Component, NASA, two year total \$121,500, two year extension of NASA NCCW-56, with Prof. Aurelio Mercado.
Aug. 1996 - Jul. 1999	Caribbean-Atlantic Exchange Through Mona Passage, DEPSCoR (Department of Defense - EPSCoR via the Office of Naval Research), three years, \$491,800, with Prof. Aurelio Mercado.
Aug. 1996 - Jul. 2000	The Mayagüez Bay Marine Ecosystem: assessment of community responses to a water quality restoration initiative, Environmental Protection Agency - Mayagez Wastewater Treatment Company, four years, \$500,000 (\$100,000 for physical oceanography), with Dr. Jorge R. García and Dr. Roy Armstrong.
Aug. 1996 - Jul 1998	Larval Dispersion off La Parguera: A Modeling Study, UPR Sea Grant, two years, \$20,200.
Mar. 1996 - Oct. 1996	OTEC Oceanographic Studies, Ocean Energy Resources, Inc. / GenOtec, one year, \$31,254, with Prof. Aurelio Mercado, Dr. Jorge Corredor, and Mr. Julio Morell.
Aug. 1995 - Jul. 1997	Cross-Shelf Distribution Patterns of Larval Fishes in a Caribbean Coral Reef Environment and in Adjacent Oceanic Waters, University of Puerto Rico Sea Grant Program, two year total \$97,086, UPRSR-R/FA-07-4-94, with Dr. Jorge R. García.
Oct. 1994 - Sept. 1995	Internal Wave Generation in Mona Channel, RUM Art & Sciences, Seed Money, \$1,750.

- May 1994 - Apr. 1997 Development of a Center for Tropical Atmospheric Science - Physical Oceanography Component, NASA, three year total \$200,400, NASA NCCW-56, with Prof. Aurelio Mercado.
- Feb. 1994 - Jan. 1996 Non-Linear Internal Wave Forcing of Large Amplitude Coastal Seiches Along the Caribbean Coast of Puerto Rico, Office of Naval Research, two year total \$136,567, N00014-94-1-0502//P00001, with Prof. Aurelio Mercado, Dr. Manuel Hernández, and Dr. Graham Giese.
- Nov. 1993 - Oct. 1994 Aggregations of Blue Marlin (*Makaira Nigricans*) off the West Coast of Puerto Rico: Oceanographic Characteristics at “El Pichincho”, University of Puerto Rico Sea Grant Program, Seed Money, \$4,000, UPRSG-PD-124, with Mr. Julio Morel and Dr. Jorge Corredor.
- Sep. 1993 - Aug. 1994 Funding Request for Geophysical Fluid Dynamics Visualization Facility, Office of Naval Research, \$69,929, ONR N00014-93-1-1295, with Prof. Aurelio Mercado.

Fellowships, Assistantships and Appointments

- Oct. 1989 - Oct. 1991 UCAR Postdoctoral Fellowship in Ocean Modeling, Mesoscale Air-Sea Interaction Group, Florida State University, Tallahassee, FL
- Sep. 1988 - Sep. 1989 Graduate Research Assistant, Texas A&M University, College Station, TX
- Sep. 1985 - Aug. 1988 Minority Merit Fellowship, Texas A&M University, College Station, TX
- Jun. 1982 - May 1983 Participant in the Graduate Laboratory Participation Program, sponsored by the Department of Energy
- Aug. 1978 - Dec. 1979 Graduate Assistant Research, University of Puerto Rico, Mayagüez, PR
- Summer, 1977 Participant in the Student Research Program, sponsored by the Department of Energy

Papers to be Submitted and Under Review

- Capella, J.E. (2007) Coastal currents and tides along the west coast of Puerto Rico. To be submitted to the *Caribbean Journal of Science*.
- Capella, J.E. (2007) Coastal currents and tides off La Parguera, Puerto Rico. To be submitted to the *Caribbean Journal of Science*.
- Capella, J.E. (2008) *Las Mareas y las Corrientes Marinas de Puerto Rico*. Book in preparation.

Reviewed Publications

- Alston, D.E., A. Cabarcas-Núñez, H. Quintero-Fonseca, J.E. Capella and R. Cortes-Maldonado (2003) Public policies, current laws and socioeconomic factors affecting sustainable cage culture in Puerto Rican waters. Pages 65-72 in C.J. Bridger and B.A. Costa-Pierce, editors. *Open Ocean Aquaculture: From Research to Commercial Reality*. The World Aquaculture Society, Baton Rouge, Louisiana, United States.
- Barnier, B., J.E. Capella and J.J. O'Brien (1994) Driving a primitive equation Indian Ocean model with satellite scatterometer winds: The impact of the band-like sampling. *Journal of Geophysical Research*, **99**, No. C7, 14,187-14,196.
- Capella, J.E., E.E. Hofmann, R.M. Ross and L.B. Quetin (1992) Models of the early life history of *Euphausia superba*. Part II: Lagrangian calculations. *Deep Sea Research*, **39 7/8**, 1201-1220.
- Capella, J.E., R.M. Ross, L.B. Quetin and E.E. Hofmann (1992) A note on the thermal structure of the upper ocean in the Bransfield Strait - South Shetland Islands region. *Deep Sea Research*, **39 7/8**, 1221-1229.
- Capella, J.E. (1983) *The Generation of Mesoscale Hydrodynamic Phenomena by the Grappler and Whiting Seamounts, Southeast of Puerto Rico*. M.S. Thesis, University of Puerto Rico, Mayagüez, Puerto Rico, 112 pp. Also published as Center for Energy and Environmental Research Report CEER-M-162, University of Puerto Rico - U.S. Department of Energy.
- Capella, J.E., D.E. Alston, A. Cabarcas-Núñez, H. Quintero-Fonseca and R. Cortes-Maldonado (2003) Oceanographic considerations for offshore aquaculture on the Puerto Rico-U.S. Virgin Islands platform. Pages 247-261 in C.J. Bridger and B.A. Costa-Pierce, editors. *Open Ocean Aquaculture: From Research to Commercial Reality*. The World Aquaculture Society, Baton Rouge, Louisiana, United States.
- Corredor, J.E., J.M. Morell, J.M. López, J.E. Capella and R. A. Armstrong (2004) Cyclonic eddy entrains Orinoco River Plume in Eastern Caribbean, *EOS*, **85(20)**, 197-208.
- Fornshell, J.A. and J. Capella (1984) Lagrangian current measurements in the northeastern Caribbean Sea. *Proceeding of Oceans, IEEE*, September 10-12, 731-735.
- Hoffman, E.E., J.E. Capella, R.M. Ross and L.B. Quetin (1992) Models of the early like history of *Euphausia superba*. Part I: Time and temperature dependence during the descent ascent cycle. *Deep Sea Research*, **39 7/8**, 1182-1220.
- Morell, J.M., J. Capella, A. Mercado, J. Bauza, and J.E. Corredor (2001) Nitrous Oxide Fluxes in Caribbean and Tropical Atlantic waters: evidence for production in the mixed layer. *Marine Chemistry* 74:131-143
- Morelock, J., J. Capella, J. Garcia, and M. Barreto (2000) Puerto Rico. In *Seas at the Millenium: An Environmental Evaluation*, Volume I, Chapter 36, edited by C. Sheppard, Pergamon Press, 539-549, ISBN: 0-08-043207-7.

Quintero-Fonseca, H., E. Ojeda, A. Cabarcas-Núñez, D.E. Alston and J.E. Capella (2003) Public policies, current laws and socioeconomic factors affecting sustainable cage culture in Puerto Rican waters. Pages 65-72 in C.J. Bridger and B.A. Costa-Pierce, editors. *Open Ocean Aquaculture: From Research to Commercial Reality*. The World Aquaculture Society, Baton Rouge, Louisiana, United States.

Texeira, M. and J. Capella (1996) Time-frequency and time-scale analysis applied to soliton detection in the Caribbean Sea. *Proceedings of the IEEE-SP International Symposium on Time-Frequency and Time-Scale Analysis*, June 18-21, Paris, France, 353-356.

Abstracts, Posters and Other Publications

Alfonso, E. and J.E. Capella (2002) Evidence of neap tidal forcing as a factor for the occurrence of large-amplitude coastal seiches, 2002 EPSCOR Meeting, Hyatt Dorado. Poster.

Alfonso, E. and J.E. Capella (2002) Internal Tide-Induced Variations in Primary Productivity and Optical Properties in the Mona Passage, Puerto Rico. *American Geophysical Union*, 2002 Ocean Sciences Meeting, (abs.).

Alfonso, E., J.E. Capella, A. Dieppa and J. M. López (2001) Are internal waves altering the ocean carbon cycle?. EPSCOR Annual Meeting, Dorado, Puerto Rico. April 20-22, 2001, Poster.

Barnier, B., J. Capella and J.J. O'Brien (1992) Use of scatterometer winds to force ocean general circulation models. *EOS*, **73**, p. 273 (abs).

Capella, J.E. and E. Alfonso (2002) Coastal Seiches, Internal Tide Generation, and Diapycnal Mixing off Puerto Rico. *American Geophysical Union*, 2002 Ocean Sciences Meeting, (abs.).

Capella, J.E. (1999) Hurricane Georges and its effect on the currents in Mona Passage. *EOS, Transactions, American Geophysical Union 1999 Spring Meeting*, **80**(17), p. S188 (abs.).

Capella, J.E. (1996) Circulation along the Atlantic-Caribbean boundary near Puerto Rico. *EOS, Transactions, American Geophysical Union 1996 Ocean Sciences Meeting*, **76**(3), p. OS143 (abs.).

Capella, J.E. (1995) Intra-american Response to Changes in North Atlantic Upper Layer Transport. Invited talk at the AGU Chapman Conference on Circulation of the Intra-Americas Sea, January 22-26, 1995, La Parguera, Puerto Rico (abs).

Capella, J.E. (1995) An ocean circulation model for Caribbean Sea air-sea studies. First Mini-Gordon Conference, Sponsored by Puerto Rico NASA-EPSCoR, February 24-25, 1995, Ponce, Puerto Rico (abs).

Capella, J.E. (1994) Model simulations of Tropical Atlantic mesoscale eddies impinging on the southeastern Caribbean Antilles. *EOS*, **75**, p.66 (abs).

Capella, J.E. (1991) Numerical modeling in the western Tropical Atlantic Ocean. The Second Annual Westrax Meeting, Miami, Florida (abs).

Capella, J.E. (1990) A model of the advection of the eggs and larvae of the Antarctic krill (*Euphausia superba*). *EOS*, **71**, p. 184 (abs).

Capella, J.E. (1988) A physical-biological study of recruitment of the Antarctic Krill, *Euphausia superba*. *EOS*, **69**, p. 1101 (abs).

Fornshell, J.A. and J. Capella (1982) Lagrangian current measurements in the Caribbean Sea south of Puerto Rico. *EOS*, **63**, p. 1000 (abs).

- Fornshell, J.A. and J. Capella (1982) Temporal variability in conservative physical properties off Punta Tuna, Puerto Rico. *EOS*, **63**, p. 108 (abs).
- Fornshell, J.A., J.M. López and J. Capella (1981) Eddy observations south of Puerto Rico. *EOS*, **62**, p. 305 (abs).
- Fornshell, J.A., J.M. López and J. Capella (1981) Circulation patterns in the Caribbean Sea South of Puerto Rico. *EOS*, **62**, p. 934 (abs).
- Hernández, J.L. and J.E. Capella (1999) Oceanic mixed-layer depth and thermal inertia in the eastern Caribbean Sea: applicability of a simple model. *EOS, Transactions, American Geophysical Union 1999 Spring Meeting*, **80**(17), p. S188 (abs.).
- Hofmann, E.E. and J.E. Capella (1990) A model of the descent-ascent behavior of the eggs and larvae of the Antarctic krill, *Euphausia superba*. *EOS*, **71**, p. 184 (abs).
- López, J.M., P.M. Yoshioka, J.G. González, J.E. Capella, J.A. Fornshell and J.A. Ramírez-Barbot (1981) The structure of the ocean off Punta Tuna, Puerto Rico in relation to OTEC. Proceedings of the Eight Ocean Energy Conference, 563-573.
- López, J.M. and J. Capella (1983) Seasonal patterns in mixed layer variability in the northeastern Caribbean Sea, south of Puerto Rico. *EOS*, **64**, p.1056 (abs).
- Owen, G.P., J.E. Capella, W. Watson and J. López (1986) Mesoscale turbulence effects on larval fish distributions near Grappler Bank, a Puerto Rican Fishing ground. *EOS*. **67**, p. 988 (abs).
- Rosario, J. and J.E. Capella (1999) Tidal current characteristics across Mona Passage. *EOS, Transactions, American Geophysical Union 1999 Spring Meeting*, **80**(17), p. S188 (abs.).
- Segura, W. and J.E. Capella (1999) Low frequency transport components in Mona Passage. *EOS, Transactions, American Geophysical Union 1999 Spring Meeting*, **80**(17), p. S188 (abs.).