

## **Maria Antonietta Capotondi**

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### **EDUCATION:**

- Ph.D. Physical Oceanography, MIT-WHOI Joint Program, Cambridge, MA, 1993
- B.S. Physics, University of Pisa, Pisa, Italy, 1981

### **PROFESSIONAL EXPERIENCE:**

#### University of Colorado/CIRES and NOAA/PSL, Boulder, CO

- Research Scientist III, May 2016 – present
- Research Scientist II, October 1998 – present

#### University of Colorado/Program in Atmospheric and Oceanic Sciences (PAOS), Boulder, CO

- Research Associate (50% appointment), May 1996 – October

#### National Center for Atmospheric Research, Climate and Global Dynamics Division, Boulder, CO

- Visiting Scientist (50% appointment) May 1996 – October 1998
- Visiting Scientist, May 1995 – May 1996

#### National Center for Atmospheric Research, Advanced Study Program, Boulder, CO

- Postdoctoral Research. Scientist, April 1993 – April 1995
- Graduate Research Assistant, April 1990 – April 1992

#### Massachusetts Institute of Technology, Cambridge, MA

- 9/87–2/93: Graduate Research Assistant, September 1987 – February 1993

#### IBM, Kingston, NY

- Postdoctoral Fellow, May 1985 – May 1986

#### Company Snamprogetti, Fano, Italy

- 1/83–8/87: Physical Oceanographer, January 1983 – August 1987

### **Teaching**

- Invited Student speaker, Scripps Institution of Oceanography, La Jolla, CA, January 2021(virtual, postponed from May 2020)
- Lecturer, 3<sup>rd</sup> Summer School on “Theory, Mechanisms and Hierarchical Modeling of Climate Dynamics: Tropical Oceans, ENSO, and their Teleconnections” August 3-14, 2020, Trieste, Italy (postponed to 2021 or 2022).
- Lecturer, Joint UNESCO/IOC and Ocean Dynamics and Climate (ODC) center Summer School on “Climate Dynamics and Air-Sea Interaction”, Qingdao, China, 17-28 June, 2019

- Lecturer, Program on Climate Change Summer Institute, Friday Harbor, WA, 11 September, 2013.

### **Student Mentoring and Ph.D. Committee Member**

- Mentor, “Mentoring Physical Oceanography Women to Increase Retention” (MPOWIR) Program (2016-present)
- Postdoctoral Co-Adviser, Dr. Nicola Maher, CIRES Visiting Fellow (2020-2022)
- Ph.D. Student Co-Adviser, Jacopo Sala, ATOC (2020-2023)

### **Student Ph.D. Committees:**

- Shayne McGregor, Macquarie University, Sydney, Australia (PhD 2009)
- Samantha Stevenson, University of Colorado, Boulder, CO (PhD 2011)
- Kobi Mosquera, University of Toulouse, Toulouse, France (PhD 2012)
- Pamela Grothe, Georgia Institute of Technology, Atlanta, GA (PhD 2017)
- Giovanni Liguori, Georgia Institute of Technology, Atlanta, GA (PhD 2018)
- Aude Carreric, University of Toulouse, Toulouse, France (PhD 2019)
- Danielle Lemmon, University of Colorado, Boulder, CO (PhD 2020)
- Youngji Joh, Georgia Institute of Technology, Atlanta, GA (PhD 2020)

### **Leadership**

- Co-Chair, World Climate Research Program CLIVAR Pacific Region Panel (2019-present)
- Co-Chair, PICES/CLIVAR Working Group on “Climate and Ecosystem Predictability” (2017-present)
- Lead, NOAA/CPO/MAPP Marine Prediction Task Force (2017-2020)
- Co-Chair, US CLIVAR Working Group on “ENSO Diversity” (2012-2016)

### **Service to National and International Communities**

- Member, World Climate Research Program (WCRP) committee for the development of a scientific plan for the WCRP Lighthouse Activities (LHAs) (2020-)
- Member, American Meteorological Society (AMS) Climate Variability and Change (CVC) committee (2020-2023).

- Member, US CLIVAR Process Study and Model Improvement (PSMI) Panel, (2019-2022).
- Member, CIRES Member Council (2016-present)
- Member, CLIVAR Pacific Regional Panel (2016-2019).
- Member, US CLIVAR Phenomena, Observations and Synthesis Panel (2010-2015)
- Reviewer, Journal of Climate, Journal of Geophysical Research (Oceans), Geophysical Research Letters, Journal of Physical Oceanography, Nature Climate Change, Nature Communications, Nature Geoscience, Scientific Reports, Science, Environmental Research Letters, Atmospheric Science Letters, U.S. Department of Energy, National Science Foundation, NOAA Climate Program Office, French National Research Agency (ANR)

### **Organizational Activities**

- Proposer, and co-Organizer, Special collection on “Advancing prediction of coastal marine ecosystems” in AGU Geophysical Research Letters and Journal of Geophysical Research – Oceans, June 2020-May 2021.
- Co-Convener, “El Niño Southern Oscillation in a Changing Climate” AGU Fall Meeting, December 1-17, 2020 (Virtual).
- Co-organizer, 3<sup>rd</sup> Summer School on “Theory, Mechanisms and Hierarchical Modeling of Climate Dynamics: Tropical Oceans, ENSO, and their Teleconnections” August 3-14, 2020, Trieste, Italy (postponed to 2021 or 2022).
- Co-Convener, Session on “ENSO: Dynamics, Predictability and Modelling”, EGU 2020
- Co-Convener, Session A054, “Decadal Climate Variability: Mechanisms, Predictability and Prediction”, AGU Fall Meeting 2019, San Francisco, CA.
- Co-Organizer, Special Issue on “North Pacific Climate and Ecosystem Predictability on Seasonal-to-Decadal timescales” in *Frontiers in Marine Science*.
- Co-Organizer, 14<sup>th</sup> CLIVAR Pacific Region Panel Meeting in conjunction with PICES meeting, Victoria, BC, Canada, October 19, 2019
- Organizer, Joint Workshop between CLIVAR Pacific Region Panel and PICES Working Group 40 on “Climate and Ecosystem Predictability”, Victoria, BC, Canada, October 20, 2019.
- Co-Organizer, Workshop on “Towards an Integrated Approach to Understanding Ecosystem Predictability in the North Pacific”, Qingdao, China, June 20-22.
- Co-Organizer, Workshop on “Atmospheric Convection and Air-Sea Interactions over the Tropical Oceans”, May 7-9, Boulder, CO.

- Co-Convener, “ENSO: Dynamics, Predictability and Modelling”, EGU 2019.
- Co-Organizer, CLIVAR Pacific Regional Panel workshop on “Tropical Pacific Decadal Variability”, Paris, France, April 1-5, 2019.
- Co-Organizer, IV International Conference on El Niño Southern Oscillation (ENSO), Guayaquil, Ecuador, October 16-18, 2018.
- Co-Convener, “El Niño Southern Oscillation (ENSO) Diversity, Predictability, and Impacts”, Ocean Sciences Meeting 2018, Portland OR.
- Co-Convener, Open session on Ocean Circulation, European Geophysical Union general Assembly 2017, Vienna, Austria.
- Co-Convener, “ENSO dynamics, observations, and Predictability, AGU Fall Meeting 2016, San Francisco, CA.
- Co-Convener, Open session on Ocean Circulation, European Geophysical Union general Assembly 2016, Vienna, Austria.
- Convener, session on “El Niño Southern Oscillation (ENSO) diversity in a changing climate”, Ocean Sciences meeting 2016, New Orleans, LA.
- Organizer, US CLIVAR workshop on ENSO Diversity, February 6-8, 2013 Boulder, CO
- Convener, Session on “The El Niño/Southern Oscillation continuum”, AGU Fall Meeting 2012

### **Proposal Review Panels**

- NASA Physical Oceanography (2018)
- DOE Regional Global Climate Modeling (2017)
- NOAA/CPO Modeling, Analysis, Prediction and Projections (2016)
- NSF Physical Oceanography (2015)
- DOE Regional Global Climate Modeling (2014)
- DOE Regional Global Climate Modeling (2010)

### **Editorship**

- Guest Editor, Special Issue on “North Pacific Climate and Ecosystem Predictability on Seasonal-to-Decadal timescales” in *Frontiers in Marine Science*, 21 March 2020 – 16 January 2021.
- Guest Editor, Special Collection on ENSO Diversity in *Climate Dynamics*, October 1, 2015-March 31, 2016.

- Guest Editor, US CLIVAR *Variations*, Special Issue on ENSO Diversity, Summer 2013.

### Proposals Awarded

- 2021-2024, Co-Principal Investigator, NASA Physical Oceanography Program, “*Variability, Trends, and Spatial Distribution of Pacific Ocean Heat Content from Large-Scale Satellite and in-situ Observations*”, PI: Donata Giglio, University of Colorado, ATOC.
- 2020-2023, Principal Investigator, NOAA/CPO/MAPP, “*Mechanisms of US West Coast Climate Variability and Change in Observations and Models*”,
- 2020-2023, Principal Investigator, NOAA/CPO/CVP, “*Oceanic Mechanisms of Tropical Pacific Climate Variability Involving the Subtropical-Tropical Cells (STCs)*”.
- 2020-2021, Principal Investigator, CIRES IRP, “*Can Linear Inverse Models (LIMs) Predict Ocean Biogeochemistry?*”.
- 2017-2020, Co-Principal Investigator, NOAA/CPO/MAPP, “*Understanding and Quantifying the Predictability of Marine Ecosystem Drivers in the California Current System*”, PI: Art Miller, Scripps.
- 2015-2018, Principal Investigator, NASA Physical Oceanography Program, “*Precursors and dynamics of ENSO events from 25 years of climate-quality satellite ocean observations*”.
- 2008-2010, Principal Investigator, NSF, “*Collaborative research: Climate Variability and change in the U.S. GLOBEC regions as simulated by the IPCC climate models: Ecosystem implications*”.
- 2009-2011, Principal Investigator, NSF, “*Tropical Pacific decadal variability and its impacts on the atmosphere in climate models*”.
- 2007-2008, Principal Investigator, NOAA Climate and Global Change Program [Drought in Coupled Models (DRICOMP) program], “*Decade-long droughts in the western U.S. and their connection with tropical Pacific decadal variability*”.
- 2005-2008, Principal Investigator, NSF, “*Collaborative research: Dynamics of ocean climate changes in the Gulf of Alaska*”.
- 2001-2003, Principal Investigator, NOAA Climate and Global Change Program, “*Mechanisms of decadal variability in the tropical Pacific*”.

### Peer-Reviewed Publications

Meehl, G. A., H. Teng, **A. Capotondi**, and A. Hu, 2020: The role on Interannual ENSO Events in Decadal Timescale Transitions of the Interdecadal Pacific Oscillation, *Clim. Dyn.*, submitted.

- Power, S., M. Lengaigne, **A. Capotondi**, et al., 2020: A review of decadal climate variability in the tropical Pacific: Characteristics, causes, predictability and prospects. *Science*, in review.
- Meehl, G. A., J. H. Richter, H. Teng, **A. Capotondi**, et al., 2020: Initialized Earth system prediction from subseasonal to decadal timescales. *Nature Reviews Earth and Environment*, revised.
- Xu, T., M. Newman, **A. Capotondi**, and E. Di Lorenzo, 2020: The Continuum of the Northeast Pacific Marine Heatwaves and their Relationship to the Tropical Pacific, *Geophys. Res. Lett.*, revised
- Zeller, M., S. McGregor, E. van Sebille, and **A. Capotondi**, 2020: Subtropical-tropical pathways of spiciness anomalies and their impact on equatorial Pacific temperature. *Clim. Dyn.*, accepted.
- Amaya, D., M. A. Alexander, **A. Capotondi**, C. Deser, K. Karnauskas, A. J. Miller, and N. Mantua, 2020: Are Long-Term Changes in Mixed Layer Depth Influencing North Pacific Marine Heatwaves?, *Bull. Amer. Meteor. Soc.*, accepted.
- Fredriksen, H.-B., J. Berner, A. Subramanian and **A. Capotondi**, 2020: How Does El Nino Southern Oscillation Change under Global Warming – A First Look at CMIP6. *Geophys. Res. Lett.*, <https://doi.org/10.1029/2020GL090640>
- Capotondi, A.**, C. Deser, A. S. Phillips, Y. Okumura, and S. M. Larson, 2020: ENSO and Pacific Decadal Variability in the Community Earth System Model version 2. *JAMES*, <https://doi.org/10.1029/2019MS002022>.
- Capotondi, A.**, A. T. Wittenberg, J.-S. Kug, K. Takahashi, and M. McPhaden, 2020: ENSO Diversity. *AGU Monograph “El Niño Southern Oscillation in a changing climate”*, M. McPhaden, A. Santoso, and W. Cai Editors, <https://doi.org/10.1002/9781119548164.ch4>.
- Guilyardi, E., **A. Capotondi**, M. Lengaigne, S. Thual, and A. T. Wittenberg, 2020: ENSO modelling: History, progress and challenges. *AGU Monograph “El Niño Southern Oscillation in a changing climate”*, M. McPhaden, A. Santoso, and W. Cai Editors, <https://doi.org/10.1002/9781119548164.ch9>
- Jacox, M. G., M.A. Alexander, S. Siedlecki, K. Chen, Y.-O. Kwon, S. Brodie, I. Ortiz, D. Tommasi, M. Widlansky, D. Barrie, **A. Capotondi**, et al., 2020: Seasonal-to-interannual prediction of U.S. coastal marine ecosystems: Forecast methods, mechanisms of predictability, and priority developments. *Progress in Oceanography*, **183**, 102307.
- Grothe, P.R., K.M. Cobb, G. Liguori, E. Di Lorenzo, **A. Capotondi**, et al., 2019: Enhanced El Niño Southern Oscillation variability in recent decades. *Geophys. Res. Lett.*, <https://doi.org/10.1029/2019GL083906>.
- Carreric, A., B. Dewitte, W. Cai, **A. Capotondi**, K. Takahashi, S.-W. Yeh, G. Wang, and V. Guemas, 2019: Change in strong Eastern Pacific El Niño events dynamics in the warming climate. *Clim. Dyn.*, doi:10.1007/s00382-019-05036-0.
- Hagos, S., G. R. Foltz, C. Zhang, E. Thompson, H. Seo, S. Chen, **A. Capotondi**, K. A. Reed, C. DeMott, and A. Protat, 2019: Atmospheric convection and air-sea interactions over the tropical oceans: Scientific progress, challenges and opportunities. *Bull. Amer. Meteor. Soc.*, doi:10.1175/BAMS-D-19-0261.1

- Capotondi, A.**, et al., 2019: Observational needs supporting marine ecosystems modeling and forecasting: From the global ocean to regional and coastal systems. *Front. Mar. Sci.*, **6**:623, doi:10.3389/fmars.2019.00623.
- Capotondi, A.**, P. D. Sardeshmukh, E. Di Lorenzo, A. Subramanian and A. J. Miller, 2019: Predictability of US West Coast ocean temperatures is not solely due to ENSO. *Nature Scientific Reports*, **9**, doi:10.1038/s41598-019-47400-4.
- Cordero-Quiros, N., A. J. Miller, J. Luo, A. Subramanian, and **A. Capotondi**, 2019: Composite physical-biological El Niño and La Niña conditions in the California Current System in CESM1-POP2-BEC. *Ocean Modelling*, doi:10.1016/j.ocemod.2019.101439.
- Bianucci, M., **A. Capotondi**, R. Mannella, and S. Merlini, 2018: Linear or nonlinear modeling for ENSO dynamics? *Atmosphere*, **9**, 435, doi:10.3390/atmos9110435.
- Bianucci, M., **A. Capotondi**, S. Merlini, and R. Mannella, 2018: Estimate of the average timing for strong El Niño events using the Recharge Oscillator Model with a Multiplicative Perturbation. *Chaos*, **28**, doi:10.1063/1.5030413.
- Capotondi, A.**, P. D. Sardeshmukh, and L. Ricciardulli, 2018: The nature of the stochastic wind forcing of ENSO. *J. Climate*, **31**, 8081-8099.
- Timmermann, A., S.-I. An, J.-S. Kug, F.-F. Jin, W. Cai, **A. Capotondi**, et al., 2018: El Niño-Southern Oscillation Complexity, *Nature*, **559**, 535-545.
- Turi, G., M. Alexander, N. S. Lovenduski, **A. Capotondi**, J. Scott, C. Stock, J. Dunne, J. John, and M. Jacox, 2018: Response of O<sub>2</sub> and pH to ENSO in the California Current System in a high resolution global climate model. *Ocean Sci.*, **14**, 69-86, <https://doi.org/10.5194/os-14-69-2018>.
- Capotondi, A.** and P. Sardeshmukh, 2017: Is El Niño *really* changing? *Geophys. Res. Lett.*, **44**, doi:10.1002/2017GL074515.
- Journal Highlights:** “This elegantly simple analysis shows that changes in key El Niño properties observed after the late 1970s, including the variance of surface and subsurface fields and the El Niño spectral characteristics, did not occur “by chance” but were linked to significant changes in the system dynamics as represented in the dominant structures associated with the evolution of El Niño events from their initial to mature stages. “
- Stevenson, S., **Capotondi, A.**, J. Fasullo, and B. Otto-Bliesner, 2017: Forced changes to twentieth-century ENSO diversity in a last Millennium context. *Clim. Dyn.*, DOI:10.1007/s00382-017-3573-5.
- Capotondi, A.**, and P. D. Sardeshmukh, 2015: Optimal precursors of different types of ENSO events. *Geophys. Res. Lett.*, **42** (42), 9952-9960, doi:10.1002/2015GL066171.
- Bonfils, C., B. D. Santer, T. J. Phillips, K. Marvel, L.-Y. R. Leung, C. Doutriaux, and **A. Capotondi**, 2015: Relative contributions of mean-state shifts and ENSO-driven variability to precipitation changes in a warming climate. *J. Climate*, **28**, 9997-10013, doi:10.1175/JCLI-D-15-0341.1.

- Capotondi, A.**, and co-Authors, 2015: Understanding ENSO Diversity. *Bull. Amer. Meteor. Soc.*, **96**, 921-938, doi:10.1175/BAMS-D-13-00117.1. **Hot paper** (top 0.1%) on Web of Science as of 3/13/2017.
- Capotondi, A.**, 2013: ENSO diversity in the NCAR CCSM4 climate model. *J. Geophys. Res. Oceans*, **118**, 4755-4770, doi:10.1002/jgrc.20335.
- Capotondi, A.**, M. A. Alexander, N. A. Bond, E. N. Curchitser, and J. D. Scott, 2012: Enhanced upper ocean stratification with climate change in the CMIP3 models. *J. Geophys. Res.*, **117**, C04031, doi:10.1029/2011JC007409.
- Hare, J.A., J.P. Manderson, J.A. Nye, M.A. Alexander, P.J. Auster, D.L. Borggaard, A. **Capotondi**, K.B. Damon-Randall, E. Heupel, I. Mateo, L. O'Brien, D.E. Richardson, C.A. Stock, and S.T. Biegel, 2012: Cusk (*Brosme brosme*) and climate change: assessing the threat to a candidate marine fish species under the US Endangered Species Act. *ICES J. of Marine Science*, **69**(10), 1753-1768.
- Deser, C., A. S. Phillips, R. A. Tomas, Y. Okumura, M. A. Alexander, **A. Capotondi**, J. D. Scott, Y. -O. Kwon, and M. Ohba, 2012. ENSO and Pacific Decadal Variability in Community Climate System Model Version 4. *J. Climate*, **25**, 2622-2651.
- Capotondi, A.**, and M. A. Alexander, 2010: Relationship between precipitation in the Great Plains of the United States and global SSTs: Insights from the IPCC-AR4 models, *J. Climate*, **23**, 2941-2958.
- Capotondi, A.**, 2010: ENSO ocean dynamics: Simulation by coupled general circulation models. In "Climate Dynamics: Why does climate vary?", AGU monograph Series, D.-Z. Sun and F. Bryan Editors, pp. 105-122.
- Penland, C., D.-Z. Sun, and **A. Capotondi**, 2010: A brief introduction to El Niño and La Niña. In "Climate Dynamics: Why does climate vary?", AGU monograph Series, D.-Z. Sun and F. Bryan Editors, pp. 53-64.
- Capotondi, A.**, V. Combes, A. A. Alexander, E. Di Lorenzo, and A. J. Miller, 2009: Low-frequency variability in the Gulf of Alaska from coarse and eddy-permitting ocean models, *J. Geophys. Res.*, **114**, C01017, doi:10.1029.
- Guilyardi, E., A. Wittenberg, A. Fedorov, M. Collins, C. Wang, **A. Capotondi**, G. J. van Oldenborgh, and T. Stockdale, 2009: Understanding El Niño in ocean-atmosphere general circulation models: Progress and challenges. *Bull. Amer. Met. Soc.*, **90**, 325-340.
- Capotondi, A.**, 2008: Can the mean structure of the tropical pycnocline affect ENSO period in coupled climate models? *Ocean Modelling*, **20**, 157-169.
- Alexander, M., **A. Capotondi**, A. Miller, F. Chai, R. Brodeur and C. Deser, 2008: Decadal variability in the Northeast Pacific in a physical-ecosystem model: The role of mixed layer depth and trophic interactions. *J. Geophys. Res., - Oceans*, **113**, C02017, doi:10.1029/2007JC004359
- Trites, A., A. J. Miller, H. D. G. Mascner, M. A. Alexander, S. J. Bograd, J. A. Calder, A. **Capotondi**, K. O. Koyle, E. Di Lorenzo, B. P. Finney, L. Fritz, E. J. Greg, C. E. Grosch, S. R.



- Hare, G. L. Hunt, J. Jahncke, N. B. Kachel, H.-J. Kim, and C. Ladd, 2007: Bottom-up forcing and the decline of the stellar sea lions in Alaska: Assessing the ocean-climate hypothesis. *Fisheries Oceanography*, **16**, 46-67.
- Capotondi, A.**, A. Wittenberg, and S. Masina, 2006: Spatial and temporal structure of tropical Pacific interannual variability in 20<sup>th</sup> century climate simulations. *Ocean Modeling*, **15**, 274-298.
- Alexander, M. A., J. Yin, G. Branstator, **A. Capotondi**, C. Cassou, R. Cullather, Y.-O. Kwon, J. Norris, J. Scott, and I. Wainer, 2006: Extratropical Atmosphere-Ocean variability in CCSM3. *J. Climate*, **19**, 2496-2525.
- Deser, C., **A. Capotondi**, R. Saravanan, and A. Phillips, 2006: Tropical Pacific and Atlantic climate variability in CCSM3. *J. Climate*, **19**, 2451-2481.
- Capotondi, A.**, M. A. Alexander, C. Deser, and M. McPhaden, 2005a: Anatomy and decadal evolution of the Pacific Subtropical-Tropical Cells (STCs). *J. Climate*, **18**, 3739-3758.
- Capotondi, A.**, M. A. Alexander, C. Deser, and A. J. Miller, 2005b: Low-frequency pycnocline variability in the northeast Pacific. *J. Phys. Oceanogr.*, **35**, 1403-1420.
- Miller, A. J., E. Di Lorenzo, D. J. Neilson, H.-J. Kim, **A. Capotondi**, M. A. Alexander, S. J. Bograd, F. B. Schwing, R. Mendelsohn, K. Hedstrom, and D. L. Musgrave, 2005c: Interdecadal changes in mesoscale eddy variance in the Gulf of Alaska circulation: Possible implications for the stellar sea lion decline. *Atmosphere-Ocean*, **43**, 231-240.
- Capotondi, A.**, M.A. Alexander, and C. Deser, 2003: Why are there Rossby wave maxima in the Pacific at 10°S and 13°N? *J. Phys. Oceanogr.*, **33**, 1549-1563.
- Capotondi, A.**, and M. A. Alexander, 2001: Rossby waves in the tropical North Pacific and their role in decadal thermocline variability. *J. Phys. Oceanogr.*, **31**, 3496-3515.
- Capotondi, A.**, 2000: Oceanic wave dynamics and interdecadal variability in a climate system model. *J. Geophys. Res.*, **105**, 1017-1036.
- Capotondi, A.**, and W. R. Holland, 1997: Decadal variability in an idealized ocean model and its sensitivity to surface boundary conditions. *J. Phys. Oceanogr.*, **27**, 1072-1093.
- Capotondi, A.**, and R. Saravanan, 1996: Sensitivity of the thermohaline circulation to surface buoyancy forcing in a two-dimensional ocean model. *J. Phys. Oceanogr.*, **26**, 1039-1058.
- Capotondi, A.**, P. Malanotte Rizzoli, and W. R. Holland, 1995a: Assimilation of altimeter data into a quasi-geostrophic model of the Gulf Stream System. Part I: Dynamical considerations. *J. Phys. Oceanogr.*, **25**, 1130-1152.
- Capotondi, A.**, W.R. Holland, and P. Malanotte Rizzoli, 1995b: Assimilation of altimeter data into a quasi-geostrophic model of the Gulf Stream System. Part II: Assimilation results. *J. Phys. Oceanogr.*, **25**, 1153-1173.
- Holland, W.R., **A. Capotondi**, and M. M. Holland, 1995c: Advances in ocean modeling for climate-change research. *Reviews of Geophysics*, **33**, 1411-1424.

Chassignet, E., W. R. Holland, and **A. Capotondi**, 1992: Impact of the altimeter orbit on the reproduction of oceanic rings – application to a regional model of the Gulf Stream. *Oceanologica Acta*, **15**, 479-490.

Signell, R. P., R. C. Beardsley, H. C. Graber, and **A. Capotondi**, 1990: Effect of wave-current interaction on wind-driven circulation in narrow, shallow embayments. *J. Geophys. Res.*, **95**, 9671-9678.

**Capotondi, A.**, V. Sonnad, and S. Chin, 1989: Parallel solution of the shallow-water equations using an explicit finite-difference algorithm. *Computer Physics Communications*, **52**, 195-205.

Clementi, E., D. Logan, V. Sonnad, Z. Christidis, and **A. Capotondi**, 1986: Solving engineering problems with a loosely coupled array of processors. *Computers in mechanical engineering*, **5**, 42-47.

#### **Invited Articles** (soft-reviewed)

Rykaczewski, R., and **Capotondi, A.**, 2020: Toward an integrated approach to understanding ecosystem predictability in the North Pacific. PICES Press, Vol. 28, N. 1, P. 51-53.

**Capotondi, A.**, K. B. Karnauskas, A. Miller, and A. Subramanian, 2017: ENSO diversity and its implications for US West Coast marine ecosystems. *US CLIVAR Variations*, **15**(1), 16-21.

**Capotondi, A.**, Y.-G. Ham, A. T. Wittenberg, and J.-S. Kug, 2015: Climate model biases and El Niño Southern Oscillation (ENSO) simulation. *US CLIVAR Variations*, **13**(1), 21-25.

**Capotondi, A.**, 2015: Atmospheric Science: Extreme La Niña events to increase. *Nature Climate Change*, **5** (2), 100-101. Note: News and Views, based on Cai, W., et al., *Nature Climate Change*, **5** (2), 132-137.

**Capotondi, A.**, and A. Wittenberg, 2013: ENSO diversity in climate models. *U.S. CLIVAR Variations*, **11**, 10-14.

**Capotondi, A.**, E. Guilyardi, and B. Kirtman, 2013: Challenges in understanding and modeling ENSO. *PAGES News*, **21**, 58-59.

#### **Selected Invited Presentations**

“*Observational Needs for Marine Ecosystems Modeling and Forecasting: From Coastal Systems to the Global Ocean*”, NOAA National Ocean Services Seminar series, webinar, March 19, 2020.

“*From the Appennines to the Rocky Mountains: The Adventures of an Oceanographer*” Fireside chat at the Eastern Pacific Ocean Circulation (EPOC) Annual Meeting, Fallen Leaf Lake, CA, September 29 – October 2, 2019.

“*Decadal Variability of ENSO*”, IV International Conference on El Niño Southern Oscillation: ENSO in a Warmer Climate, Guayaquil, Ecuador, November 16-18, 2018 (Keynote Presentation).

*“ENSO Diversity and its Teleconnections”*, US CLIVAR Workshop on “Forecasting ENSO Impacts on Marine Ecosystems”, La Jolla, CA, August 10-11, 2016.

*“The role of oceanic processes in Tropical Pacific Decadal Variability”*, National Academy of Sciences workshop on “Frontiers in decadal climate variability”, Woods Hole, MA, September 2-3, 2015.

*“ENSO Diversity”*, Program on Climate Change Summer Institute, Friday Harbor, WA, 11 September, 2013.