

DR. MERCEDES POZO BUIL

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RESEARCH INTERESTS

Eastern Boundary Upwelling Systems. Ocean modelling. Hypoxia and ocean acidification. Subsurface ocean variability. Large-scale changes in water masses and circulation.

EDUCATION

Ph.D., Earth & Atmospheric Sciences <i>School of Earth & Atmospheric Sciences, Georgia Institute of Technology. Atlanta</i>	2012 – 2017
M.S., Physical Oceanography <i>University of Cádiz, Cádiz, Spain</i>	2008 – 2009
B.S., Environmental Sciences <i>University of Cádiz, Cádiz, Spain</i>	2006 – 2008
B.S., Marine Sciences <i>University of Cádiz, Cádiz, Spain</i>	2002 – 2006

RESEARCH EXPERIENCE

Associate Project Scientist , <i>University of California Santa Cruz</i>	2024 – present
Assistant Project Scientist , <i>University of California Santa Cruz</i>	2020 – 2024
Postdoctoral Scholar , <i>University of California Santa Cruz</i>	2018 – 2020
Graduate Research Assistant , <i>School of Earth & Atmospheric Sciences, Georgia Institute of Technology.</i>	2012 – 2017
Graduate Research Assistant , <i>Marine and Environmental Sciences, University of Cadiz, Spain. Topic: “Implementation of a Regional Ocean Modeling System (ROMS) to simulate the Mediterranean Outflow in the Gulf of Cadiz.”</i>	2009 – 2012
R&D projects , <i>Marine and Environmental Sciences, University of Cadiz, Spain. “Europe Project: Improvement in Teaching and Learning Materials for Environmental Impact Assessment.”</i>	2006

PUBLICATIONS

[39] Muhling, B., Zwolinski, J., Kuriyama, P., Auth, T., Brodeur, R., Jiménez Rosenberg, S. ., Aceves-Medina, G., Gasti, J., Jacox, M., **Pozo Buil, M.**, Fiechter, J., Quezada Escalona, F. and Tommasi, D. 2025. Marine Heatwaves and Climate-Driven Warming Impact Availability of Sardine Subpopulations to Northeast Pacific Fishing Ports. *Fisheries Oceanography* e12730. <https://doi.org/10.1111/fog.12730>

[38] Frawley, T., Provost, M., Bellquist, L., Ben-Aderet, N., Blondin, H., Brodie, S., **Pozo Buil, M.**, Jacox, M., Bograd, S., Hazen, E., McGonigal, H., Ramey, K. 2025. A collaborative climate vulnerability assessment of California marine fishery species. *PLOS Climate*. 4(2): e0000574. <https://doi.org/10.1371/journal.pclm.0000574>

[37] Liu, O.R., Kaplan, I.C., Hernvann, P.-Y., Fulton, E.A., Haltuch, M.A., Harvey, C.J., Marshall, K.N., Muhling, B., Norman, K., **Pozo Buil, M.**, Rovellini, A. and Samhuri, J.F. 2025. Climate Change

Influences via Species Distribution Shifts and Century-Scale Warming in an End-To-End California Current Ecosystem Model. *Global Change Biology*, 31: e70021. <https://doi.org/10.1111/gcb.70021>

[36] Mogen S., Lovenduski, N., Yeager, S., Capotondi A., Jacox, M., Bograd S., Di Lorenzo, E., Hazen, E., **Pozo Buil, M.**, Kim, W., Rosenbloom, N., 2024 Multi-month forecasts of marine heatwaves and ocean acidification extremes. *Nature Geoscience*. 17, 1261–1267
<https://doi.org/10.1038/s41561-024-01593-0>

[35] Jacox, M., Bograd, S., Fiechter, J., **Pozo Buil, M.**, Alexander, M., Amaya, D., Cordero-Quiros, N., Ding, H., Rykaczewski, R., 2024. Linking upwelling dynamics and subsurface nutrients to projected productivity changes in the California Current System. *Geophysical Research Letters*. 51, e2023GL108096, <https://doi.org/10.1029/2023GL108096>

[34] Jorgensen, E., Hazen, E., Jacox, M., **Pozo Buil, M.**, Schroeder, I., Bograd, S., 2024. Physical and Biogeochemical Phenology of Coastal Upwelling in the California Current System. *Geophysical Research Letters*. <https://doi.org/10.1029/2024GL108194>

[33] Samhour, J.F., Feist, B.E., Jacox, M., Liu, O.R., Richerson, K., Steiner, E., Wallace, J., Andrews, K., Barnett, L., Beaudreau, A.H., Bellquist, L., **Pozo Buil, M.**, Haltuch, M.A., Harley, A., Harvey, C.J., Kaplan, I.C., Norman, K., Phillips, A., Rasmuson, L.K., Ward, E.J., Whitmire, C., Selden, R.L., 2024. Stay or go? Geographic variation in risks due to climate change for fishing fleets that adapt in-place or adapt on-the-move. *PLOS Clim* 3(2): e0000285. <https://doi.org/10.1371/journal.pclm.0000285>

[32] **Pozo Buil, M.**, Fiechter, J., Jacox M., Bograd, S., Alexander, M., 2023. Evaluation of bias correction methods for dynamical downscaled future projections of the California Current Upwelling System. *Earth and Space Science*. 10, e2023EA003121. <https://doi.org/10.1029/2023EA003121>

[31] Lezama-Ochoa, N., Brodie, S., Welch, H., Jacox, M. G., **Pozo Buil, M.**, Fiechter, J., Cimino, M., Muhling, B., Dewar, H., Becker, E. A., Forney, K. A., Costa, D., Benson, S. R., Farchadi, N., Braun, C., Lewison, R., Bograd, S., & Hazen, E. L., 2023. Divergent responses of highly migratory species to climate change in the California Current. *Diversity and Distributions*, 00, 1–14. <https://doi.org/10.1111/ddi.13800>

[30] Brodie S., **Pozo Buil, M.**, Welch, H., Bograd, S., Hazen, E., Santora, J., Seary, R., Schroeder, I., Jacox M., 2023. Ecological forecasts for marine resource management during climate extremes. *Nature Communications*. 14, 7701. <https://doi.org/10.1038/s41467-023-43188-0>

[29] Jacox, M., **Pozo Buil, M.**, Brodie, S., Alexander, M., Amaya, D., Bograd, S., Edwards, C., Fiechter, J., Hazen, E., Hervieux, G., Tommasi, D., 2023. Downscaled seasonal forecasts for the California Current System: Skill assessment and prospects for living marine resource applications. *PLOS Climate*. *PLOS Climate* 2(10): e0000245. <https://doi.org/10.1371/journal.pclm.0000245>

[28] Mogen, S., Lovenduski, N., Yeager, S., Keppler, L., Sharp, J., Bograd, S., Cordero-Quiros, N., Di Lorenzo, E., Hazen, E., Jacox, M., **Pozo Buil, M.**, 2023. Skillful predictions of multiple marine stressors in the surface and subsurface ocean. *Earth's Future*. 11, e2023EF003605. doi.org/10.1029/2023EF003605

[27] Shi, H., **Pozo Buil, M.**, Bograd, S., Garcia-Reyes, M., Jacox, M., Black, B., Sydeman, W., Rykaczewski, R., 2023. Future change of summer hypoxia in coastal California Current. *Frontiers Marine Sciences*. [doi: 10.3389/fmars.2023.1205536](https://doi.org/10.3389/fmars.2023.1205536)

- [26] Liu, O. R., Ward, E. J., Anderson, S. C., Andrews, K. S., Barnett, L. A. K., Brodie, S., Carroll, G., Fiechter, J., Haltuch, M. A., Harvey, C. J., Hazen, E. L., Hernvann, P.-Y., Jacox, M., Kaplan, I. C., Matson, S., Norman, K., **Pozo Buil, M.**, Selden, R. L., Shelton, A., and Samhuri, J. F., 2023. Species redistribution creates unequal outcomes for multispecies fisheries under projected climate change. *Science Advances*, 9(33), eadg5468. [doi.org/doi:10.1126/sciadv.adg5468](https://doi.org/10.1126/sciadv.adg5468)
- [25] Smith, J., **Pozo Buil, M.**, Muhling, B., Tommasi, D., Brodie, S., Frawley, T., Fiechter, J., Koenigstein, S., Cornell, A., Alexander, M., Bograd, S., Cordero-Quirós, N., Crowder, L., Curchitser, E., Green, S., Hardy, N., Haynie, A., Hazen, E., Holsman, K., Le Fol, G., Lezama-Ochoa, N., Rykaczewski, R., Stock, C., Stohs, S., Sweeney, J., Welch, H., and Jacox, M., 2023. Projecting climate change impacts from physics to fisheries: a view from three California Current fisheries. *Progress in Oceanography*. 211, 102973. doi.org/10.1016/j.pocean.2023.102973
- [24] Karp, M., Brodie, S., Smith, J., Richerson, K., Selden, R., Liu, O., Muhling, B., Samhuri, J., Barnett, L., Hazen, E., Ovando, D., Fiechter, J., Jacox, M., and **Pozo Buil, M.**, 2023, Projecting species distributions using fishery dependent data, *Fish and Fisheries*, [doi:10.1111/faf.12711](https://doi.org/10.1111/faf.12711).
- [23] Bograd, S., Jacox, M., Hazen, E., Lovecchio, E., Montes, I., **Pozo Buil, M.**, Shannon, L., Sydeman, W. J., and Rykaczewski, R. R., 2023. Climate change impacts on eastern boundary upwelling systems, *Annual Reviews of Marine Science*, [doi:10.1146/annurev-marine-032122-021945](https://doi.org/10.1146/annurev-marine-032122-021945).
- [22] **Pozo Buil, M.**, Ianiri, H., Carroll, S. L., & Trayler, R., 2022. ClimateWEST: A climate science activity. In S. Seagroves, A. Barnes, A. J. Metevier, J. Porter, & L. Hunter (Eds.), *Leaders in effective and inclusive STEM: Twenty years of the Institute for Scientist & Engineer Educators* (pp. 291–304). UC Santa Cruz: Institute for Scientist & Engineer Educators. <https://escholarship.org/uc/item/7ch3f7zz>
- [21] Santiago, N., Gee, C., Howard, S., Macho, J., and **Pozo Buil, M.**, 2022. Utilizing equitable and inclusive design principles to promote STEM identity of community college transfer students. In S. Seagroves, A. Barnes, A. J. Metevier, J. Porter, & L. Hunter (Eds.), *Leaders in effective and inclusive STEM: Twenty years of the Institute for Scientist & Engineer Educators* (pp. 291–304). UC Santa Cruz: Institute for Scientist & Engineer Educators. <https://escholarship.org/uc/item/2kz8h9s7>
- [20] Cordero-Quirós, N., Jacox, M., **Pozo Buil, M.**, Bograd, S., 2022. Future changes in eddy kinetic energy in the California Current System from dynamically downscaled climate projections. *Geophysical Research Letters*. doi.org/10.1029/2022GL099042.
- [19] Koenigstein, S., Jacox, M., **Pozo Buil, M.**, Fiechter, J., Muhling, B., Brodie, S., Kuriyama, P., Auth, T., Hazen, E., Bograd, S., 2022. Population projections of Pacific sardine driven by ocean warming and changing food availability in the California Current. *Fish and Fisheries*. [doi/10.1093/icesjms/fsac191](https://doi.org/10.1093/icesjms/fsac191)
- [18] Koehn, L., Nelson L., Samhuri, J. F., Norman, K., Jacox, M., Cullen, A., Fiechter, J., **Pozo Buil, M.**, Levin, P. S., 2022. Social-ecological vulnerability of fishing communities to climate change: a U.S. West Coast case study, *PLOS ONE*, [doi:10.1371/journal.pone.0272120](https://doi.org/10.1371/journal.pone.0272120).
- [17] Brodie, S, Smith, J., Muhling, B., Barnett, L., Carroll, G., Fiedler, P., Bograd, S., Hazen, E., Jacox, M., Andrews, K., Barnes, C., Crozier, L., Fiechter, J., Fredston, A., Haltuch, M., Harvey, C., Holmes, Karp, M., Liu, O., Malick, M., **Pozo Buil, M.**, Richerson, K., Rooper, C., Samhuri, J., Seary, R., Selden, R., Thompson, A., Tommasi, D., Ward, E., and Kaplan, I. 2022, Recommendations for quantifying and reducing uncertainty in climate projections of species distributions, *Global Change Biology*, [doi:10.1111/gcb.16371](https://doi.org/10.1111/gcb.16371)

- [16] Jacox, M., Alexander, M., Amaya, D., Becker, E., Bograd, S., Brodie, S., Hazen, E., **Pozo Buil, M.**, and Tommasi, D., 2022. Global seasonal forecasts of marine heatwaves. *Nature*. 604, 486-490, [doi:10.1038/s41586-022-04573-9](https://doi.org/10.1038/s41586-022-04573-9)
- [15] Mogen, S., Lovenduski, N., Dallmann, A., Gregor, L., Sutton, A., Bograd, S., Cordero Quiros, N., Di Lorenzo, E., Hazen, E., Jacox, M., **Pozo Buil, M.**, and Yeager S., 2022. Ocean biogeochemical signatures of the North Pacific Blob. *Geophysical Research Letters*, [doi:10.1029/2021GL096938](https://doi.org/10.1029/2021GL096938)
- [14] Smith, J. A., **Pozo Buil, M.**, Fiechter, J., Tommasi, D., and Jacox, M., 2022. Projected novelty in the climate envelope of the California Current at multiple spatial-temporal scales. *PLOS Climate*, 1(4): e0000022, <https://doi.org/10.1371/journal.pclm.0000022>
- [13] **Pozo Buil, M.**, Jacox, M., Fiechter, J., Alexander, M., Bograd, S., Curchitser E., Edwards C., Rykaczewski, R., Stock, C., 2021. A dynamically downscaled ensemble of future projections for the California Current System. *Frontiers Marine Sciences*, <https://doi.org/10.3389/fmars.2021.612874>
- [12] Fiechter, J., **Pozo Buil, M.**, Jacox, M., Alexander, M., Rose, K., 2021. Projected shifts in 21st century sardine distribution and catch in the California Current. *Frontiers Marine Sciences*, <https://doi.org/10.3389/fmars.2021.685241>
- [11] Kearney, K. A., Bograd, S., Drenkard, E., Gomez, F., Haltuch, M., Hermann, A., Jacox, M., Kaplan, I., Koenigstein, S., Luo, J., Masi, M., Muhling, B., **Pozo Buil, M.**, and Woodworth-Jefcoats P., 2021, Using global-scale earth system models for regional fisheries applications, *Frontiers Marine Sciences*, <https://doi.org/10.3389/fmars.2021.622206>
- [10] Drenkard, E., Stock, C., Adcroft, A., Alexander, M., Balaji, V., Bograd, S., Butenschon, M., Cheng, W., Curchitser, E., Di Lorenzo, E., Dixon, K., Dussin, R., Haynie, A., Harrison, M., Hermann, A., Hollowed, A., Holsman, K., Holt, J., Jacox, M., Jang, C., Kearney, K., Muhling, B., **Pozo Buil, M.**, Ross, A., Britt Sando, A., Tommasi, D., and Wang M., 2021, Next-generation regional ocean projections for living marine resource management in a changing climate, *ICES Journal of Marine Science*. fsab100, <https://doi.org/10.1093/icesjms/fsab100>
- [9] Brodie, S., Abrahms, B., Bograd, S.J., Carroll, G., Hazen, E.L., Muhling, B., **Pozo Buil, M.**, Smith, J. A, Welch, H., Jacox, M., 2021. Exploring timescales of predictability in species distributions. *Ecography*. <https://doi.org/10.1111/ecog.05504>
- [8] Smith, J. A., Muhling, B., Sweeney, J., Tommasi, D., **Pozo Buil, M.**, Fiechter, J., & Jacox, M. G., 2021. The potential impact of a shifting Pacific sardine distribution on U.S. West Coast landings. *Fisheries Oceanography*. <https://doi.org/10.1111/fog.12529>
- [7] Evans N., Schroeder I., **Pozo Buil, M.**, Jacox M., Bograd S., 2020. Drivers of Subsurface Deoxygenation in the Southern California Current System. *Geophysical Research Letters*, 47, e2020GL089274, <https://doi.org/10.1029/2020GL089274>
- [6] Jacox M., ..., **Pozo Buil, M.**, et al., 2020. Seasonal-to-interannual prediction of U.S. coastal marine ecosystems: Forecast methods, mechanisms of predictability, and priority developments *Progress in Oceanography*, <https://doi.org/10.1016/j.pocean.2020.102307>

- [5] Capotondi A., ..., **Pozo Buil M.**, et al., 2019. Observational Needs Supporting Marine Ecosystems Modeling and Forecasting: Insights from U.S. Coastal Applications. *Frontiers in Marine Science*, 6, 623. <https://doi.org/10.3389/fmars.2019.00623>
- [4] Wong-Villacres, M, Ehsan U., Salomon A., **Pozo Buil, M.**, 2017. Design Guidelines for Parent-School Technologies to Support the Ecology of Parental Engagement. *2017 ACM Interaction Design & Children conference*, Conference paper, <https://doi.org/10.1145/3078072.3079748>
- [3] **Pozo Buil, M.** and Di Lorenzo, E., 2017. Decadal predictability of coastal hypoxia in the Northeast Pacific. *Geophysical Research Letters*, 44, 4204–4213, <https://doi.org/10.1002/2017GL072931>
- [2] **Pozo Buil, M.** and Di Lorenzo, E., 2015. Decadal changes in Gulf of Alaska upwelling source waters. *Geophysical Research Letters*, 42: 1488–1495, <https://doi.org/10.1002/2015GL063191>
- [1] Bograd, S. J., **Pozo Buil, M.**, Di Lorenzo, E., Castro G. C., Schroeder I., Goericke R., Anderson C., Benitez-Nelson, C. and Whitney, F., 2015. Changes in source waters to the southern California Bight. *Deep Sea Research Part II: Topical Studies in Oceanography*, 112, 42-52, <https://doi.org/10.1016/j.dsr2.2014.04.009>

GRANTS

- Connectivity and Predictability in the Gulf of Alaska and California Current Large Marine Ecosystem*. PIs: **M. Pozo Buil (lead PI)**, N. Lovenduski, A. Capotondi. NOAA-OAR-CPO-2024-2008005. Budget: \$750,003. **Awarded** 2024-2027
- Collaborative Research: Integrating Eulerian and Lagrangian Approaches towards Developing Fisheries Management Applications for the Large Marine Ecosystems of the Northeast Pacific*. PIs: P. Stabeno (lead PI), W. Cheng, J. Garwood, **M. Pozo Buil (PI)**. NOAA-OAR-CPO-2024-2008005. Budget: \$1,045,436. **Awarded** 2024-2027
- Ensuring resilience and adaptive capacity of California Current System fisheries under climate-driven ecosystem shifts*. PIs: B. Muhling (lead PI), D. Tommasi, **M. Pozo Buil (PI)**. I. Kaplan. NOAA-OAR-CPO-2023-2007440. Budget: \$1,196,438. **Awarded** 2024-2027
- Identifying climate change refugia in coastal and pelagic ocean habitats*. PIs: M. Provost (lead), **M. Pozo Buil (PI)**, B. Muhling. CA Governor's Office of Planning and Research. Budget: \$286,674. **Awarded** 2023-2025
- Understanding the variability and projecting future changes of biogeochemistry in the California Current Upwelling System*. PIs: **M. Pozo Buil (lead PI)**, M. Jacox, D. Tommasi, J. Fiechter, S. Bograd, R. Rykaczewski. NOAA-OAR-CPO-2020-2006076. Budget: \$509,937. **Awarded** 2020-2023
- Mechanisms of interannual- to decadal-scale predictability for ocean physics and biogeochemistry in the California Current System*. PIs: **M. Pozo Buil (lead PI)**, N. Lovenduski, E. Di Lorenzo, M. Jacox, S. Bograd, E. Hazen. NOAA-OAR-CPO-2019-2005530. Budget: \$863,201. **Awarded** 2020-2023

ACADEMIC PRESENTATIONS

Oral presentation: Oral presentation: *Predictability in the California Current Coastal Ecosystem*. Oceans Department Seminar, Stanford University. April 2025. **INVITED**

Oral presentation: *The Impact of Bias Correction for Dynamical Downscaled Projections for the California Current System*. FishMIP regional modelers meeting. February 2025. **INVITED**

Oral presentation: *Predictability in the California Current Ecosystem*. Ocean Predict Symposium (OP'24). France. November 2024.

Oral presentation: *Shaping the Future of the California Current: Insights from Seasonal Forecasts to Climate Projections*. Moss Landing Marine Laboratories Seminar Series. San Jose State University. October 2024. **INVITED**

Oral presentation: *Source water masses as a driver of ecosystem structure in the northern California Current*. Physics of Oceans and Atmospheres seminar. 70th Annual Eastern Pacific Ocean Conference, Oregon, U.S. September 2024.

Oral presentation: *Source water masses as a driver of ecosystem structure in the northern California Current*. Physics of Oceans and Atmospheres seminar. Oregon State University. April 2024. **INVITED**

Oral presentation: *Impact of the Bias Correction for Dynamical Downscaled Forecasts and Projections for the California Current System*. University of California, Los Angeles. April 2024. **INVITED**

Oral presentation: *Future high-resolution projections for the California Current Ecosystem*. A Resilient Pacific: Building Connections, Envisioning Solution. Stanford Conference. March 2024

Oral presentation: *Impact of the Bias Correction Method for Dynamical Downscaled Projections for the California Current System*. Ocean Sciences Meeting. New Orleans, U.S. February 2024

Oral presentation: *Evaluation of different dynamical downscaling methods for future projections of the California Current Upwelling*. 69th Annual Eastern Pacific Ocean Conference, California, U.S. September 2023.

Oral presentation: *Predictability in the California Current Coastal Ecosystem*. Gordon Research Conference: Coastal Ocean Physics and its Connections to Marine Ecosystems. Smithfield, RI, June 2023. **INVITED**

Oral presentation: *Multiyear Oxygen Variability in Source Water Contributions to the California Current System*. Effects of Climate Change on the World's Ocean (ECCWO5). Norway, April 2023.

Oral presentation: *Future Changes in the California Current Ecosystem*. Future Coastal Ocean Climates FLAME Workshop. Liverpool, U.K., February 2023.

Oral presentation: *Ecosystem Applications of Downscaled Climate Projections for the California Current System*. NOAA Fisheries Ecology Division seminar series. Santa Cruz, November 2022. **INVITED**

Oral presentation: *Future Changes in the California Current Ecosystem*. Eastern Boundary Upwelling System Conference. Lima, Peru, September 2022.

Oral presentation: *Future Changes in the California Current Ecosystem*. Ocean Knowledge Seminar. Universidad de Ingeniería y Tecnología. Lima, Peru, September 2022. **INVITED**

Oral presentation: *ClimateWEST: A climate science activity*. Advancing Inclusive Leaders in STEM: 20 Years of the Professional Development Program (PDP) Conference. Hilo, Hawai'i, May 2022.

Oral presentation: *BECI Future Changes in the California Current Ecosystem*. National Center for Ecological Analysis and Synthesis, University of California, Santa Barbara. April 2022. **INVITED**

Oral presentation: *Future Changes in the California Current Ecosystem*. National Center for Ecological Analysis and Synthesis, University of California, Santa Barbara. March 2022. **INVITED**.

Oral presentation: *Future Changes in the California Current Ecosystem*. Banse Early Career Scientist Seminar Series, University of Washington. February 2022. **INVITED**.

Oral presentation: *Proyecciones climáticas de alta resolución para el afloramiento de la corriente de California*. Charlas informales rápidas de clima y oceanografía. University of Cadiz, Spain. January 2022. **INVITED**.

Oral presentation: *A dynamically downscaled ensemble of future projections for the California Current System*. Interdisciplinary Marine Science Seminar Series at the Virginia Institute of Marine Sciences. November 2020. **INVITED**.

Oral presentation: *Dynamically downscaled climate projections for the California Current Upwelling System*. EBUS webinar. June 2020. **INVITED**.

Oral presentation: *Dynamically downscaled climate projections for the California Current Upwelling System*. Ocean Sciences Meeting. San Diego, California, U.S. February 2020.

Oral presentation: *Future Changes of the coastal waters in the California Current System*. PICES 2019 Annual Meeting. Victoria, Canada. October 2019.

Oral presentation: *Forecasting California Current System Variability on Decadal to Centennial Timescales*. UC Santa Cruz, Ocean Sciences Seminars. May 2019. **INVITED**.

Oral presentation: *Subsurface Dynamics Leading to Decadal Predictability in the California Upwelling System*. 2018 PICES International Symposium: The Climate Change Effects on the World Oceans. Washington D.C, U.S. June 2018.

Oral presentation: *Subsurface Dynamics Leading to Decadal Predictability in Upwelling Systems of the North Pacific*. Ocean Sciences Meeting. Portland, Oregon, U.S. February 2018.

Oral presentation: *Exploring the Deterministic Dynamics of the Subsurface Anomalies in the North Pacific using an Ensemble Modeling Approach*. 64th Annual Eastern Pacific Ocean Conference, California, U.S. September 2017.

Oral presentation: *Natural vs. Anthropogenic controls on Coastal Hypoxia along the U.S. West Coast*. International Long-Term Ecological Research (ILTER) Network 1st Open Science Meeting. Kruger National Park, South Africa. October 2016.

Oral presentation: *Deterministic Dynamics of the North Pacific Ocean Subsurface Anomalies: a Physical Basis for Decadal Predictability*. 63rd Annual Eastern Pacific Ocean Conference, Oregon, U.S. September 2016.

Poster presentation: *Decadal predictability of hypoxia along the U.S. West Coast*. Poster presentation. Ocean Sciences Meeting. New Orleans, Louisiana, U.S. February 2016.

Oral presentation: *The Warm BLOB: generation, propagation and persistence dynamics between 2013-2015*. 62nd Annual Eastern Pacific Ocean Conference, California, U.S. September 2015.

Oral presentation: *Decadal prediction of hypoxia along the U.S. West Coast*. ASLO Aquatic Sciences Meeting. Granada, Spain. February 2015.

Oral presentation: *Decadal prediction of hypoxia along the U.S. West Coast*. 61st Annual Eastern Pacific Ocean Conference. Oregon, U.S. September 2014.

Poster presentation: *Subsurface Ocean Climate Variability and controls on Northeast Pacific Upwelling*. Ocean Sciences Meeting. Hawaii, U.S. February 2014.

Poster presentation: *Using a Regional Ocean Model to simulate the Mediterranean Outflow Water Spreading in the Gulf of Cadiz*. Poster presentation. Marine Sciences International Symposium. Cadiz, Spain. February 2012.

HONORS, AWARDS, FELLOWSHIPS

NOAA National Marine Fisheries Service 2021 Team member of the year award. For exemplary leadership and research productivity in support of the NOAA Fisheries National Climate Science Strategy.

Future Earth and Global Young Academy Early Career Fund Fellowship to virtually attend the Sustainability Research & Innovation Congress 2021 (SRI2021), June 2021

Inclusive Inquiry STEM Education Certificate. Institute for Scientist and Engineer Educators. University of California, Santa Cruz, September 2019

Summer School Fellowship granted by ICTP-CLIVAR to attend Summer School on Oceanic Eastern Boundary Upwelling Systems. Trieste, Italy. July 2019

Fellowship granted by US CLIVAR to attend the Large Ensemble Workshop. Topic: "Fostering usage of large initial-condition ensembles with Earth System Models". Boulder, Colorado. July 2019

Travel Fellowship granted by the Mentoring Physical Oceanography Women to Increase Retention (MPOWIR) to attend Pattullo Conference. Virginia. October 2017.

Travel Fellowship granted by California Current Ecosystem LTER to attend International Long-Term Ecological Research Network 1st Open Science Meeting. Kruger National Park, South Africa. October 2016.

Summer School Fellowship, granted by Jet Propulsion Laboratory (JPL) Center for Climate Sciences at California Institute of Technology, Keck Institute for Space Studies. Topic: "Using Satellite Observations to Advance Climate Models". August 2016.

Advanced Level Teaching Certificate. Center for Teaching and Learning, Georgia Institute of Technology. Spring 2016.

Mobility Fellowship for Researchers, for short research stays in Georgia Institute of Technology, Atlanta, Georgia, U.S., granted by the Ministry of Education, Culture, and Sport, Spanish Government. Fall 2010 and 2011.

Ph.D. fellowship, by the Ministry of Education and Culture Spanish Government. 2009-2012.

Fellowship for Master's Degree Studies, granted by the Ministry of Education, Culture, and Sport, Spanish Government. 2008-2009.

Collaboration fellowship granted by Vice-Chancellor of Research, Technology Development and Innovation of the University of Cadiz to participate in a R&D project directed by Dr. Ignacio Hernández Carrero. 2006

Scholarship for Undergraduate Studies, granted by Ministry of Education and Science, Spanish Government. 2001-2002, 2003-2004, 2004-2005, 2005-2006, 2006-2007, 2007-2008

MENTORING EXPERIENCE

Supervising (S) and Mentoring (M)

- Ander López-Puertas (S, M, Graduate Student, University of Cadiz) 2025 -present
- Nerea Lezama-Ochoa (S, Assistant Project Scientist at UCSC) 2024 -present
- Jonas Holmes (M, Undergraduate student at UCSC) 2024 -present
- Alex Muscalus (M, Postdoctoral Scholar at WHOI, through SWMS program) 2020 - 2023
- Nathalí Cordero-Quirós. (M,S, Postdoctoral Scholar at UCSC) 2016
- Matt Barr (M, Undergraduate student at Georgia Institute of Technology) 2016
- Aishwarya Joshi (M, Undergraduate student at Georgia Institute of Technology)

Participant in the Equity-Minded Mentoring Workshop, *Center for Innovations in Teaching and Learning, University of California Santa Cruz* Summer 2021

- Identified and planned to implement concrete mentoring strategies with an “equity mindset” to support the success of mentees from backgrounds traditionally excluded from STEM.
- Developed a personal mentoring philosophy and identified tools to foster inclusive mentoring relationships.

TEACHING EXPERIENCE

Participant in the Professional Development Program, *Institute for Scientist and Engineer Educators, University of California Santa Cruz* 2024

- Led, designed, created, and taught a climate variability 2 day-workshop for incoming transfer students at UCSC

Participant in the Professional Development Program, *Institute for Scientist and Engineer Educators, University of California Santa Cruz* 2019

- Led, designed, created, and taught a climate variability 2 day-workshop for incoming transfer students at UCSC

Participant in the Professional Development Program, *Institute for Scientist and Engineer Educators, University of California Santa Cruz* 2018

- Designed, created, and taught isotope proxy 2 day-workshop for incoming transfer students at UCSC

- Graduate Teaching Assistant**, *School of Earth & Atmospheric Sciences, Georgia Tech* Fall 2017
- Advance Environmental Data Analysis. Graduate course. Graded lab reports and exams. Tutoring.
- Course Instructor**, *Center for Academic Enrichment, Georgia Tech.* Fall 2017
- First-Year Seminar (Section *Earth & Atmospheric Sciences*).
 - First-Year Seminar (General Section). Assisted first-year students in transitioning successfully to Georgia Tech: study strategies, time management skills and learning strengths, resume and cover letter.
- Teaching Practicum**, *Georgia Tech*
- Introduction to Oceanography. Guest Instructor.
 - Designed and delivered six lessons: Heat Balance, Bathymetry, Seawater properties, Waves, Equatorial Circulation, and Fisheries. Prepared lesson material, homework, and questions for exams. Fall 2015
- Graduate Teaching Assistant**, *Georgia Tech* Spring 2014
- Introduction to Environmental Science.
 - Undergraduate course. Laboratory Instructor.
 - Led tutorial lessons. Graded lab reports and exams. Tutoring.

FIELD EXPERIENCE

- “*Economic Exclusive Zone of Spain 2006*”. (R/V Hespérides, 17 days). September 2006
Evaluation of the acoustic backscatter data recorded by multibeam sonar system.
- “*ARSA 0306*”. (R/V Cornide de Saavedra, 15 days). Biological and size sampling of demersal fish species. Statistical analysis of the sampling. March 2006

LEADERSHIP & SERVICE

- Session Primary Chair: Coupled physical-bio-geo-chemical regional and coastal prediction systems. Ocean Predict Symposium (OP'24). France. November 2024.
- Member of CLIVAR working group: Climate Data and Predictions for Coastal Solutions
- Session Primary Chair: *Physical and biogeochemical variability and changes in World's Upwelling Systems: Present and Future*. Ocean Sciences Meeting. February 2024
- Session Co-chair: *Mind the gap - Understanding and Predicting Future Coastal Ocean Climates*. Ocean Sciences Meeting. February 2024
- Session Co-chair: *Generating regional ocean forecasts and projections: best practices and tools*. 69th Eastern Pacific Ocean Conference. September 2023
- Dissertation committee member. Thesis: *Estudio de la evolución del clima futuro en la region del Mediterráneo con un modelo climático regionalmente acoplado*. Dr. Ivan Parras Berrocal. 2023
- Session Primary Chair: *Physical and Biogeochemical Changes in World's EBUS: Present and Future*, at the Eastern Boundary Upwelling Systems Conference. Lima, Peru, September 2022
- Session Primary Chair: *Eastern Boundary Upwelling Systems: present and future changes and their impacts on marine ecosystems* at the Ocean Sciences Meeting 2022
- Session Primary Chair: *Water Mass Variability in Eastern Boundary Upwelling Systems: Climate Drivers and Ecosystem Impact* at the Ocean Sciences Meeting 2020
- Co-Organizer of the 66th Eastern Pacific Ocean conference 2019 in Lake Tahoe, California

Session Co-chair: *Trends in the eastern North Pacific Ocean: beyond interannual variability* at 65th Eastern Pacific Ocean Conference 2018

Reviewer for AGU: GRL and JGR - Oceans, Ocean Modeling, and Frontiers

Society for Women in Marine Sciences (SWMS), member since 2020

Mentoring Physical Oceanography Women to Increase Retention (MPOWIR), member since 2016

Hands-on activities on the 4th Annual Latino College and STEM Fair (Gatech, Spring 2016).

Guest Speaker, Earth Systems theme in Radloff Middle School (Fall 2016).

Graduate Student Representative for student government GEAS (Gatech, 2015-2016)

SKILLS

Modeling experience: Regional Ocean Modelling System

Programming Languages: MatLAB, Fortran, Unix shell.

Climate data management programs: Climate Data Operators (CDO) and NetCDF Operators (NCO).

Statistical and Geographic Information Systems software: R, SPSS, ArcGIS.

Language: fluent in English and Spanish (native)