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Juan Carlos Villaseñor-Derbez

DEGREES

- 2022 Ph.D. Environmental Science and Management. University of California, Santa Barbara
- 2017 Master of Environmental Science and Management. University of California, Santa Barbara
- 2015 B.Sc. Oceanography, *Honors*. Universidad Autónoma de Baja California (Mexico)

ACADEMIC APPOINTMENTS

- 2022 - 2024 Postdoctoral Scholar. Oceans Department, Doerr School of Sustainability, Stanford University
- 2020 - 2022 Graduate Student Researcher. Environmental Markets Lab, University of California, Santa Barbara
- 2019 - 2020 Graduate Student Researcher. National Center for Ecological Analysis and Synthesis

AREAS OF INTEREST

Marine conservation; Coupled natural-human systems; Environmental markets; Marine policy design and evaluation; Climate change adaptation

PEER-REVIEWED PUBLICATIONS

Published (*co-first authorship; •student author)

- 2024 **Villaseñor-Derbez, J.C.**, Costello C. & Plantinga A. A Market for 30x30 in the Ocean. *Science*, Vol 384, Issue 6701 DOI: 10.1126/science.adl4019
- 2023 Arafeh-Dalmau *et al.*, Integrating climate adaptation and transboundary management: guidelines for designing climate-smart marine protected areas. *One Earth*. DOI: 10.1016/j.oneear.2023.10.002
- Villaseñor-Derbez, J. C.**, Fulton, S., Hernández-Velasco, A., & Amador, I. Biomass accrual benefits of community-based marine protected areas out-weight their operational costs. *Frontiers in Marine Science*, 10, 1180920. DOI: 10.3389/fmars.2023.1180920
- Pearson H.C., Savoca M.S., Costa D.P., Lomas M.W., Molina R., Pershing A.J., Smith C.R., **Villaseñor-Derbez J.C.**, Wing S.R., Roman J. Whales in the Carbon Cycle: Can Recovery Remove Carbon Dioxide? *Trends in Ecology and Evolution*. DOI: 10.1016/j.tree.2022.10.012
- 2022 Wintergalen E., Oyanedel R., **Villaseñor-Derbez, J.C.**, Fulton S., Molina R. Opportunities and challenges for livelihood resilience in urban and rural Mexican small-scale fisheries. *Ecology and Society*. DOI: 10.5751/ES-13471-270346

- Villaseñor-Derbez, J.C.** Amador-Castro, I., Hernández-Velasco, A., Torre, J., & Fulton S. Two decades of community-based marine conservation provide the foundations for future action. *Frontiers in Marine Science*. DOI: 10.3389/fmars.2022.893104
- Wilson M. W., Lawson J. M., Rivera-Hechem M. I., **Villaseñor-Derbez J. C.**, Gaines, S. D. Evaluating Conditions for Moored Fish Aggregating Device Fisheries Development in the Caribbean and Bermuda. (In Press). *Frontiers in Marine Science*. DOI: 10.3389/fmars.2022.827068
- 2021 *Millage K.D., **Villaseñor-Derbez, J.C.**, Bradley D., Burgess M., Lenihan H., Costello C. (2021). Self-Financed Marine Protected Areas. *Environmental Research Letters* DOI: 10.1088/1748-9326/ac3439
- Tuholske C., Halpern B., Blasco G., **Villaseñor-Derbez J.C.**, Frazier M., Caylor K.K. (2021). Mapping global inputs and impacts from human sewage in coastal ecosystems. *PLoS ONE* DOI: 10.1371/journal.pone.0258898
- Ramírez-Valdez A., Rowell T. J., Dale K., Craig M., Allen L., **Villaseñor-Derbez J.C.**, Cisneros-Montemayor A., Hernández-Velasco A., Torre J., Hofmeister J., Erisman B. (2021) Asymmetry across international borders: Research, fishery and management trends and economic value of the giant sea bass (*Stereolepis gigas*). *Fish & Fisheries*. DOI: 10.1111/faf.12594
- Lynham J., Nikolaev A., Raynor, J., Vilela T., **Villaseñor-Derbez J.C.** (2021). Reply to "Catch rate composition affects assessment of protected area impacts". *Nature Communications*. DOI: 10.1038/s41467-021-21608-3
- 2020 Wilson M. W., Lawson J. M., Rivera-Hechem M. I., **Villaseñor-Derbez J. C.**, Gaines, S. D. (2020). Status and trends of moored fish aggregating device (MFAD) fisheries in the Caribbean and Bermuda. *Marine Policy*. DOI: 10.1016/j.marpol.2020.104148
- Lynham J., Nikolaev A., Raynor, J., Vilela T., **Villaseñor-Derbez J.C.** (2020). Economic Impact of Two of the Largest Protected Areas on Earth. *Nature Communications*. DOI: 10.1038/s41467-020-14588-3
- Villaseñor-Derbez J.C.**, Lynham J., Costello C. (2020). Environmental Market Design for Large-Scale Marine Conservation. *Nature Sustainability*. DOI: 10.1038/s41893-019-0459-z
- 2019 **Villaseñor-Derbez J.C.**, Aceves-Bueno E., Fulton S., Suarez-Castillo A., Hernández-Velasco A., Torre J., Micheli F. (2019). An interdisciplinary evaluation of community-based TURF-reserves. *PLoS ONE*. DOI: 10.1371/journal.pone.0221660
- O'Hara C. **Villaseñor-Derbez., J.C.**, Ralph G., Halpern B. (2019). Mapping status and conservation of global at-risk marine biodiversity. *Conservation Letters*. DOI: 10.1111/conl.12651
- Villaseñor-Derbez J.C.**, and Fitzgerald S. (2019). Spatial variation in allometric growth of invasive lionfish has management implications. *PeerJ*. DOI: 10.7717/peerj.6667
- 2018 • Reulbach, A. and **Villaseñor-Derbez J.C** (2018). Local Variation in the Diet of Invasive Lionfish. *Journal of Environmental Science and Sustainable Design*, 2
- Peake, J., Bogdanoff A.K., Layman C.A., Castillo B., Chapman J., Dahl K., Patterson W., Eddy C., Ellis R., Faletti M., Higgs N., Johnston M., Muñoz R., Sandel V., **Villaseñor-Derbez J.C.**, Morris Jr. J.A. (2018). Feeding ecology of invasive lionfish (*Pterois volitans* and *Pterois miles*) in the temperate and tropical western Atlantic. *Biological Invasions*. DOI: 10.1007/s10530-018-1720-5

Villaseñor-Derbez J.C. Faro C., Wright M., Martínez J., Fitzgerald S., Fulton S., Mancha-Cisneros M.M., McDonald G., Micheli F., Suárez A., Torre J., Costello C. (2018). A user-friendly tool to evaluate the effectiveness of no-take marine reserves. *PLoS ONE*. DOI: 10.1371/journal.pone.0191821

- 2016 Hernández-Velasco A.J., Fernández-Rivera Melo F.J., Melo-Merino, S.M. **Villaseñor-Derbez, J.C.** (2016). Occurrence of *Holacanthus clarionensis* (Pomacanthidae), *Stegastes leucurus*, and *S. acapulcoensis* (Pomacentridae) at Isla Magdalena B.C.S., Mexico. *Marine Biodiversity Records*. DOI: 10.1186/s41200-016-0062-1
- 2015 Ramírez-Valdez A., Dominguez-Guerrero I., Palacios-Salgado D.S., Cota-Nieto J.J., Hinojosa-Arango G., Correa-Sandoval F., Reyes-Bonilla H., **Villaseñor-Derbez J.C.**, Hernandez A., Aburto-Oropeza, O. (2015). The nearshore fishes of the Cedros archipelago and their biogeographic affinities, northeastern Pacific. *CalCOFI Reports*
- Dreyfus M., Mejía-Trejo A., **Villaseñor-Derbez J.C.** (2015). Analysis of null sets (no catch) made by the Mexican tuna seine fleet (2000-2013). *Ciencias Marinas*. DOI: 10.7773/cm.v41i2.2471
- 2014 **Villaseñor-Derbez J.C.** & Herrera-Pérez R. (2014). Brief description of prey selectivity and ontogenetic changes in the diet of the invasive lionfish *Pterois volitans* (Actinopterygii, Scorpaenidae) in the Mexican Caribbean. *Pan-American Journal of Aquatic Sciences*, 8(2):131-135

In progress

Revise and Resubmit

Villaseñor-Derbez, J.C. Arafeh-Dalmau, N., & Micheli F. Impacts of marine heatwaves on small-scale fisheries

Lynham J & **Villaseñor-Derbez, J.C.** Global Evidence of Spillover Benefits from Large-Scale Marine Protected Areas. *Science*

•Kumagai J.A. et al. Mixed evidence for protected areas increasing resilience to marine heatwaves in kelp forests along California

In Review

Englander G, Zhang , **Villaseñor-Derbez J.C.**, Jiang Q, Hu M, Deschenes O and Costello C. Input Subsidies and the Destruction of Natural Capital: Chinese Distant Water Fishing. *JAERE* (NBER DOI 10.3386/w31008)

Arafeh-Dalmau N. , Villaseñor-Derbez J.C., Schoeman D.S., Mora-Soto A., Bell T.W. , Butler C.L. , Costa M., Dunga L.V. , Houskeeper H.F. , Lager C. , Pantano C., Laínez del Pozo D. , Sink K.J., Micheli F., Cavanaugh K.C. Global kelp forests: threats from marine heatwaves and conservation status. *Nature Communications*

In preparation

Villaseñor-Derbez J.C., Lynham J, Garibay-Tousant I, Narchi. N.E., O'Connor R., Olguín-Jacobson C., DeLeo G.A., Torre J., Arafeh-Dalmau N., Fulton S., Woodson C.B., Micheli F. Are Climate Resilient Fishing Communities More Resilient in General? Lessons from historical environmental variation and the COVID-19 Pandemic

Villaseñor-Derbez J.C. Fernández R. Fulton S., Hernandez-Velasco A. Herández T. Woodson C.B. Cardenas J.C. Lynham J., DeLeo G.A. Torea J., Micheli F. Harnessing digital technologies to scale the study of adaptation in small-scale fisheries

Villaseñor-Derbez J.C., Torre J., Micheli F. Vessel monitoring systems reveal the unequal economic and environmental impacts of COVID-19 lockdown on fisheries.

Villaseñor-Derbez, J.C. et al, A synthesis of transferability of adaptive response in small-scale fisheries: Lessons from Latin-American

Villaseñor-Derbez J.C., Costello C., Deschenes O. Subsidizing the tragedy of the commons: Evidence from fuel subsidies in Mexican industrial fisheries

Villaseñor-Derbez J.C., Millage K.D., Bordignon M. First report of total albinism in *Rhamdia guatemalensis* (Günther, 1864) from a cenote in the Yucatan Peninsula, Mexico

Molina R., **Villaseñor-Derbez J.C.**, McDonald G., McDermott G. I am the captain now: The global economic toll of piracy on maritime shipping

Villaseñor-Derbez, J.C. Molina R. and Savoca M. The carbon costs of human-induced whale mortality

Molina R., González-Poblete E., **Villaseñor-Derbez J.C.** Indirect fleet competition and optimal control of multi-trophic fisheries

GRANTS & AWARDS

Research Grants

- 2021 Environmental Solutions Research Grant (\$20,000). Schmidt Family Foundation. Incentives for Equitable and Cost-effective Marine Conservation
- Dissertation Fellowship (\$25,000). UC Institute on Global Conflict and Cooperation. Designing Conservation Markets for International Cooperation
- 2020 H. William Kuni Research Award (\$14,950). Economic and Ecological responses to global economic shutdowns in coral reef communities. With Erin Winslow and Nathaniel Grimes
- 2019 Mohamed bin Zayed Species Conservation Fund (\$11,500). Unveiling the Ecology of Giant Sea Bass (*Stereolepis gigas*). With Arturo Ramírez-Valdez and Kyla Blincow
- 2018 H. William Kuni Research Award (\$15,000). The proliferation of Fish Aggregating Devices (FADs) in the Caribbean Sea. With Molly Wilson, Julia Lawson, and Ignacia Rivera
- 2017 PADI Foundation Research Grant (\$6,600). Natural history of the giant sea bass (*Stereolepis gigas*) in Mexican waters. With Arturo Ramírez-Valdez and Paula Sgarlatta.

Fellowships and scholarships

- 2017 Doctoral Fellowship (\$61,194). UC Mexus. Complimentary funding to complete a Ph.D in Environmental Sciences
- Latin American Fisheries Fellowship (\$57,400). University of California, Santa Barbara. Complimentary funding to complete a Ph.D in Environmental Sciences
- International Student's Doctoral Fellowship (\$146,619). Consejo Nacional de Ciencia y Tecnología (CONACYT). Four years of funding to complete a 5-year Ph.D in Environmental Sciences

2015 Latin American Fisheries Fellowship (\$42,000). University of California, Santa Barbara. Complimentary funding to complete a Master's in Environmental Science and Management

CONACyT International Student's Master's Fellowship (\$64,946). Mexican Government. Funding to complete a Master's in Environmental Science and Management

Awards and recognitions

2019 Best presentation. Integrated Marine Biosphere Research. Awarded best presentation at the Future Oceans Conference

Honorable Mention. Integrated Marine Biosphere Research. Runner-up for best student project at the IMBeR ClimEco6 Summer School

2014 Pedro Mercado Sánchez National Oceanography Award. Asociación Mexicana de Oceanólogos. For the best undergraduate research project presented at the XVIII National Oceanography Conference

Honorable Mention. Consejo Nacional de Ciencia y Tecnología (CONACyT). Runner-up for best student paper at the 2nd State Meeting of Young Researchers

Distinguished Student of the Oceanography program. Facultad de Ciencias Marinas, Universidad Autónoma de Baja California. Ranked first in academic performance for the overall major in 2014

2013 Best presentation. Consejo Nacional de Ciencia y Tecnología (CONACyT). For the best student paper at the 1st State Meeting of Young Researchers

Best presentation. Facultad de Ciencias Marinas, Universidad Autónoma de Baja California. Best undergraduate presentation at the XXI Student Conference

2012 Honorable mention. Facultad de Ciencias Marinas, Universidad Autónoma de Baja California. 2nd Place for the best undergraduate presentation at the XX Student Conference

Distinguished Student of the Oceanography program. Facultad de Ciencias Marinas, Universidad Autónoma de Baja California. Ranked first in academic performance for the overall major in 2012

MENTORING

Master's Group Theses Mentored (Client in parentheses)

2020 Students: Peyton Moore, Ruben Sanchez-Ramirez, Dylan Glave, Elliott Matthews
Project: Marine Extractive Reserve performance in Brazil
Client: World Wildlife Fund Brazil
Faculty Advisor: Steve Gaines

2019 Students: Caio Della Colleta Vianna, Eva Marrero, Kirby Bartlett, Anna Calle, Sandra Fogg
Project: Assessing Brazil's Marine Aquaculture Potential
Client: World Wildlife Fund Brazil
Faculty Advisor: Hunter Lenihan

2018 Students: Edaysi Bucio, Seleni Cruz, Vienna Saccomanno, Juliette Verstaen, Valeria Tamayo
Project: Economic quantification of delaying management in the Midriff Islands, Mexico
Client: Comunidad y Biodiversidad A.C.
Faculty Advisor: Hunter Lenihan

Students: Mario Colon, Daniel Elkin, Lauren Kaapcke, Madison Meltzer, Casey Moorhead
Project: Insurance instruments to leverage natural infrastructure for climate change resilience
Client: The Nature Conservancy
Faculty Advisor: Ashley Larsen & Samantha Stevenson

2017 Students: Fabio Castagnino, Roxanne Diaz, Denise Garcia, Sarah Salem, Camila Vargas
Project: Creating Effective Marine Reserves
Client: Fundación Claudia y Roberto Hernández
Faculty Advisor: Steve Gaines

High school students (Placement)

2018 Alex Reulbach. Small-scale variation in the diet of invasive lionfish. (Marine Biology, UNC)

Alisha Naidu. Ontogenetic habitat shifts in invasive lionfish. (Computer Science, Williams College)

Joseph Sausville. Optimal marine reserve design to maximize economic and conservation benefits.

TEACHING

Guest Lecturer

2022 BIO 301 – Frontiers in Marine Biology. The economics of marine conservation (67 students; Virtual)

2020 ESM 206 – Data Analysis and Statistics: “Package-less” coding: Coding in base R (100+ students)

EEMB 168 – Conservation Ecology: Marine Conservation in Practice (100+ students)

2018 ESM 244 – Adv. Data Analysis and Statistics: The development cycle of web-based apps (~70 students)

Teaching Assistant for graduate-level courses

2020 ESM 206 – Introduction to Environmental Data Science & Statistics with Dr. Allison Horst (100+ students)

ESM 201 – Ecology of Managed Ecosystems with Dr. David Tilman (86 students)

2019 ESM 201 – Ecology of Managed Ecosystems with Dr. David Tilman (82 students)

Data Science Workshops

2021 EcoDataScience Workshop: GNU make and Makefiles for continuous development (and reproducibility)

2019 EcoDataScience Workshop: Collaborative workflows with git and GitHub

LAFF workshop: Coding ecological models in R

2017 EcoDataScience Workshop: Introduction to R Markdown

Other Workshops

2022 Use of the CostApp to budget for marine conservation interventions

2019 Evaluation and budgeting of Marine Reserves in Mexico

2018 Empirical valuation of Marine Reserves effectiveness

2017 A general approach and tool to evaluate the effectiveness of no-take marine reserves
Empirical valuation of Marine Reserves effectiveness

2015 REEFCheck California monitoring techniques

Other teaching and mentoring activities

2019 Instructor. Family Ultimate Science Exploration, UCSB

Guest Lecturer. Laguna Blanca high school. How can economics help conserve the environment?

2017 Instructor. Colegio Puerto Aventuras (Mexico). Introduction to computer programming in R

ACADEMIC SERVICE

Referee Activity

Ecological Modeling, Frontiers in Marine Science, Gulf and Caribbean Research, Bulletin of Marine Science, Nature Sustainability, Marine Policy, Earth System Governance; Ecology & Society

Committees

2020 Faculty Search. Assistant Professor in Environmental Data Science. Bren School of Environmental Science & Management, UCSB

2019 Dean's Advisory Council. Bren School of Environmental Science & Management, UCSB

2018 PhD Symposium organization committee. Bren School of Environmental Science & Management, UCSB

2014 Student Conference Organizer. Facultad de Ciencias Marinas, UABC

2013 Student Council. Facultad de Ciencias Marinas, UABC

Working groups and panels

2021 Data Science communities in Santa Barbara. Master of Environmental Data Science Program, UCSB

2019 Palau's National Marine Sanctuary: Managing Ocean Change and Supporting Food Security. NCEAS

2017 Marine Spatial Planning in Baja California: Connecting MPA networks in a transboundary context. COBI

Defining Socioeconomic indicators for to evaluate marine protected areas. COBI / TNC

2016 Defining Ecological indicators for to evaluate marine protected areas. COBI / TNC

PRESENTATIONS (*Indicates awarded)

2022 Distributional impacts of marine protected areas. Harnessing Data and Tech for Ocean Health and Sustainability Conference

Economic impacts of environmental variation in small-scale fisheries. HMS seminar series

- 2019 Status and trends of moored fish aggregating device (MFAD) fisheries in the Caribbean and Bermuda. *72nd GCFI*
- *Change in behavior and effort redistribution after implementation of Large Scale Marine Protected Areas. *Future Oceans2*
- 2018 Effectiveness of community-based marine reserves in small-scale fisheries. *3rd World Small-Scale Fisheries Conference*
- 2017 A general approach and tool to evaluate the effectiveness of no take marine reserves. *28th International Congress for Conservation Biology*.
- 2014 Because size matters: Differences in size structure of exploited and unexploited fish populations along the coasts of Baja California, Mexico. *XIV National Ichthyology Meeting and III Latin-American Ichthyology Symposium*.
- Biogeographic relationships of fish communities associated to Kelp Forests off the coasts of Baja California, Mexico. *XIV National Ichthyology Meeting and III Latin-American Ichthyology Symposium*.
- *Effects of recreational fisheries over sizes and biomasses of fish associated to Kelp Forests. *2nd State Meeting of Young Researchers*.
- *Latitudinal distribution of sizes of fish associated to Kelp Forests off the coasts of Baja California, Mexico. *XVIII National Oceanography Conference*.
- *Latitudinal distribution of sizes of fish associated to Kelp Forests off the coasts of Baja California, Mexico. *XXII Student Conference at the Marine Sciences School and 1st National Student Conference on Marine and Environmental Sciences*.
- Description of feeding habits and ontogenetic changes in the invasive lionfish *Pterois volitans* (Linnaeus, 1758) diet off the coasts of Playa del Carmen, Quintana Roo. *1st Student Conference of Biological Sciences*.
- 2013 Community relationships of fish associated to Kelp Forests off the coasts of Baja California, Mexico. *1st State Meeting of Young Researchers*
- Community relationships of fish associated to Kelp Forests off the coasts of Baja California, Mexico. *XXI Student Conference at the Marine Sciences School*
- 2012 Contribution to knowledge of diet and biometrics of the invasive lionfish [*Pterois volitans* (Linnaeus 1758)] off the coasts of Playa del Carmen, Quintana Roo, Mexico. *XIII National Ichthyology Meeting and 1st Latin-American Ichthyology Symposium*
- *Contribution to knowledge of diet and biometrics of the invasive lionfish [*Pterois volitans* (Linnaeus 1758)] off the coasts of Playa del Carmen, Quintana Roo, Mexico. *XX Student Conference at the Marine Sciences School*

COMMENTARIES, POPULAR WRITING & SCIENCE COMMUNICATION_____

(Not all peer-reviewed; All written or available in Spanish)

- 2021 Sumaila U.R. et al. WTO must ban harmful fisheries subsidies. (2021) Letter to *Science*. 374(6567):544
DOI: 10.1126/science.abm1680
- 2020 Villaseñor-Derbez, J.C. El Pez León invasor en el Caribe Mexicano. (2020). *Biodiversitas* 149: 2- 6

- 2018 Hernández-Velasco A., Beas-Luna, R., **Villaseñor-Derbez, J.C.**, Domínguez-Guerrero I., Precoma de la Mora, M., Gómez, A. (2018). Los Bosques Sumergidos de México. *Biodiversitas* 137: 2 - 6
- 2017 Ramírez-Valdez A., Sgarlatta M.P., **Villaseñor-Derbez J.C.**, Rowell T.J., Erisman B., Hernández A. (2017). Buscando al gigante de los bosques de kelp en las aguas de Baja California: el mero gigante. *Mediterraneus*. DOI 10.13140/RG.2.2.17855.82082
- 2016 Dreyfus, M., Robles, H., **Villaseñor-Derbez, J.C.** (2016). Distribución espacial de tallas del atún aleta amarilla (*Thunnus albacares*) capturado por la flota atunera mexicana durante el 2001 y 2014. *El Vigía*, 20(43), 5:8.
- 2015 **Villaseñor-Derbez J.C.**, Hernández-Velasco, A., Erauskin, M., Fulton, S., Cota-Nieto, J.J., Torre-Cosío, J., Herzka-Llona, S., Aburto-Oropeza, A. (2015). Effects of short-term marine reserves on grouper and bass populations. *DataMares*. DOI: 10.13022/M33K52
- Hernández-Velasco, A., **Villaseñor-Derbez, J.C.**, Suárez Castillo, A., Torre Cosío, A., Espinoza, A. (2015). Isla Natividad en la Reserva del Vizcaíno. *Espacio Profundo*, 136: 34-40.
- Robles H., Dreyfus M., **Villaseñor-Derbez J.C.** (2015). Descargas de la flota atunera mexicana en el Pacífico Oriental en 2014 y su comparación con el período 1992-2013. *El Vigía*, 19(42), 3:5.
- 2014 Ramírez Valdez A., Montaña Moctezuma G., Torres Moye G., **Villaseñor Derbez J.C.**, Aburto-Oropeza O. (2014). Counting fish in the Kelp forests of Baja California. *DataMares*. <http://dx.doi.org/10.13022/M3BC7X>

NON-ACADEMIC APPOINTMENTS

2021-2022 - Independent Consultant

- Bioeconomic estimation and simulation of costs and benefits of select community-based marine reserves
- Review of 20 year of community-based marine conservation in Mexico
- Evaluation of fisheries subsidies in small-scale fisheries

2018-2019 - Independent Consultant

- Web-app development to calculate operational costs of implementing community-based marine reserves.
- Prepared materials and taught a course on app functionality to environmental managers, NGO members, and government officials.

2018-2019 - Independent Consultant

- Prepared materials and taught three courses on marine reserve evaluation methods to environmental managers and NGO members.

2017-2018 - Independent Consultant

- Performed a national evaluation of marine reserves in Mexico with case studies from the Gulf of California, Pacific and Caribbean.

2015 - 2016 - Data analyst. Mexican Tuna Purse Seine Fleet Research Trust

- Assembled and maintained a spatio-temporal database of landings by the Mexican tuna purse seine fleet
- Conducted spatiotemporal analysis of catch and length distributions to inform management

- 2015 - 2015 - Field Assistant & Data Manager. Comunidad y Biodiversidad (COBI)
- Coordinated fieldwork to evaluate voluntarily established marine reserves along Baja California
 - Produced 3 brochures, 1 interactive visualization and a peer-reviewed article on occurrences of tropical fish in temperate regions
- 2013 - 2013 - Research Intern. Fundación para el Estudio y Conservación de Condrictios, SQUALUS
- Performed stomach content analysis, trophic ecology, and age-and-growth analysis of sharks and rays
 - Produced two reports highlighting main findings
- 2013 - 2013 - On-board scientific observer. Fisheries Ecology Lab, CICESE
- Performed research on white shark and caged diving interactions in Guadalupe Island, Mexico
 - Used standardized etology charts to record white shark behavior
- 2012 - 2012 - Oceanographic Cruise Research Intern. Oceanography Department, CICESE
- Responsible for performing midwater zooplankton trawls and CTD / ADCP casts
- 2011 – 2015 - Research Assistant. Kelp Forest Ecology Research Group, UABC
- Underwater ecological surveys to identify fish species in Kelp forests
 - Developed software to standardize the input of information
 - Analyzed data to produce reports and publications of main findings

DATA SCIENCE SKILLS

Leadership activities

EcoDataScience: Organize workshops and maintain website; Group of 250+ members: eco-data-science.github.io

ERRE – A blog about “Rstats”, in Spanish: erre-esp.org

Software development

startR: An R-package for internal workflow management: emlab-ucsb.github.io/startR/

CostApp V2.0: A web-based app to estimate costs of marine conservation interventions: innovacionazul.shinyapps.io/AppCosteo/

CostApp: A web-based app to estimate costs of marine-reserve implementation: innovacionazul.shinyapps.io/AppCosteo/

MAREA: The Marine Reserve Evaluation App; A web-based app to evaluate conservation interventions: innovacionazul.shinyapps.io/MAREA

GPSelector: A web-based tool to optimize the allocation of students to group projects at the Bren School of Environmental Science & Management: jcvd.shinyapps.io/GPSelector/

R and RStudio - Numerical simulation, Geospatial computing, Machine learning, Big Data pipelines, Package development, Shiny framework, R Markdown, Unit Testing, Continuous Development and Integration

Git & GitHub - See: <https://github.com/jcvdav/>

Google Cloud Platform - BigQuery (Standard SQL), ComputeEngine, CloudStorage

OTHER SKILLS & TRAINING

Languages

- Spanish (Native)
- English (Fluent; TOEFL iBT: 102; graduate school completed in English)
- French (Basic; DELF A2 certification)

SCUBA certifications

- AAWS Scientific Diver
- PADI Open Water Diver
- PADI Advanced Open Water Diver
- PADI Rescue Diver
- FCM-UABC Scientific Diver
- TDI Side mount Diver
- GUE Fundamentals (Tec pass)

PROFESSIONAL REFERENCES

Dr. Christopher Costello (PhD Advisor)
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Bren School of Environmental Science and
Management
University of California, Santa Barbara

Dr. Steve Gaines
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Bren School of Environmental Science and
Management
University of California, Santa Barbara

Dr. Fiorenza Micheli (Postdoc Advisor)
micheli@stanford.edu
Doerr School of Sustainability
Stanford University

Dr. John Lynham
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Department of Economics
University of Hawai'i at Manoa