Giancarlo Helar Morón Correa, Ph.D.

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Research interests

Stock assessment models, community ecology, statistical modeling, fisheries management spatial ecology, individual-based models.

Education

2018 – 2022 **Ph.D., Ocean, Earth, and Atmospheric Sciences.** Oregon State University.
Thesis title: *Incorporating the impacts of Climate Variability on Growth in Fish Population Dynamics Models*
Minor: *Statistics*

2015 – 2017 **M.Sc. (c) Applied Mathematics.** San Marcos National University.
Thesis title: *A functional approach to study cohort spatial distribution of the Peruvian anchovy (Engraulis ringens)*

2009 – 2013 **B.Sc. Biological Sciences.** San Marcos National University.
Thesis title: *Spatio-temporal analysis of the epipelagic biodiversity in the Peruvian sea*

Employment History

2023 – present **Researcher.** AZTI.
Research in assessment models applied to tuna stocks in the North Atlantic and Indian Ocean.

2022 – 2023 **Postdoctoral Researcher.** University of Washington.
Research in state-space assessment models. Expand the features of the Woods Hole Assessment Model to include size-specific data and model time-variability in somatic growth.

2018 – 2022 **Graduate Research Assistant.** Oregon State University.
Population dynamics of the Pacific cod in the eastern Bering Sea using stock assessment models and indivual-based models.

2014 – 2018 **Researcher.** Marine Institute of Peru.
Population dynamics and stock assessment of small pelagic fishes, especially the Peruvian anchovy.

Teaching Experience

2020 – present **Quantitative ecology.** Cousteau Consultant Group.
Main instructor in several courses in statistical modeling applied to marine ecology. Population dynamics models.

2020 **Data Fisheries Oceanography.** Oregon State University.
Teaching Assistant. Statistical methods using oceanographic data.

2017 – 2018 **Biomathematics.** San Marcos National University.
Lectures on species competition and predator-prey dynamics

Publications

Journal Articles

1. **Correa, G. M.**, Hurst, T. P., Stockhausen, W. T., Ciannelli, L., Kristiansen, T., & Pilcher, D. J. (2024a). Modeling the larval growth and survival of pacific cod (*Gadus macrocephalus*) in the eastern bering sea. *Progress in Oceanography*, *225*, 103282. doi:10.1016/j.pocean.2024.103282

2. **Correa, G. M.**, Hurst, T. P., Stockhausen, W. T., Ciannelli, L., Kristiansen, T., & Pilcher, D. J. (2024b). Modelling the multiple action pathways of projected climate change on the pacific cod (gadus macrocephalus) early life stages. *Progress in Oceanography*, *227*, 103313. doi:https://doi.org/10.1016/j.pocean.2024.103313

3. Goethel, D. R., Berger, A. M., Hoyle, S. D., Lynch, P. D., Barceló, C., Deroba, J., … **Correa, G. M.** et al. (2024). 'Drivin' with your eyes closed': Results from an international, blinded simulation experiment to evaluate spatial stock assessments. *Fish and Fisheries*, *25*(3), 471–490. doi:10.1111/faf.12819

4. Steinke, K., Bernard, K., Reiss, C., Walsh, J., **Correa, G. M.**, & Stammerjohn, S. (2024). Factors impacting the timing of reproductive development in female antarctic krill at the northwestern antarctic peninsula. *Frontiers in Marine Sciences*, *11*. doi:10.3389/fmars.2024.1383175

5. **Correa, G. M.**, Monnahan, C., Sullivan, J., Thorson, J., & Punt, A. (2023). Modeling time-varying growth in state-space stock assessments. *ICES Journal of Marine Sciences*, *80*(7), 2036–2049. doi:10.1093/icesjms/fsad133

6. Stevenson, D., Kotwicki, S., Thorson, J. T., **Correa, G. M.**, & Buckley, T. T. (2022). The influence of age and cohort on the distribution of walleye pollock (*Gadus chalcogrammus*) in the eastern bering sea. *Canadian Journal of Fisheries and Aquatic Sciences*, *79*(11), 1934–1949. doi:10.1139/cjfas-2021-0300

7. **Correa, G. M.**, McGilliard, C., Lorenzo, C., & Claudio, F. (2021). Spatial and temporal variability in somatic growth in fisheries stock assessment models: Evaluating the consequences of misspecification. *ICES Journal of Marine Sciences*, *78*(5), 1900–1908. doi:10.1093/icesjms/fsab096

8. **Correa, G. M.**, Ciannelli, L., Kotwicki, S., Barnett, L., & Fuentes, C. (2020). Improved estimation of age composition by accounting for spatiotemporal variability in somatic growth. *Canadian Journal of Fisheries and Aquatic Sciences*, *77*(11), 1810–1821. doi:10.1139/cjfas-2020-0166

9. **Correa, G. M.**, Galloso, P., Gutierrez, D., & Torrejón-Magallanes, J. (2019). Temporal changes in mesoscale aggregations and spatial distribution scenarios of the peruvian anchovy (*Engraulis ringens*). *Deep Sea Research Part II: Topical Studies in Oceanography*, *159*, 75–83. doi:10.1016/j.dsr2.2018.11.009

Thesis

1. Correa, G. M. (2022). *Incorporating the impacts of climate variability on growth in fish population dynamics models* (Doctoral dissertation, College of Earth, Ocean, and Atmospheric Sciences, Oregon State University, Corvallis, OR, USA).

2. Correa, G. M. (2017). *Análisis espacio temporal de la biodiversidad en el ambiente epipelágico del mar peruano* (BSc thesis, School of Biological Sciences, San Marcos National University, Lima, Peru).

Reports

1. **Correa, G. M.**, Merino, G., Santiago, J., & Urtizberea, A. (2023). *Responses of tuna stocks to temporal closures in the Indian Ocean* (tech. rep. No. IOTC-2023-WGFAD05-13). Indian Ocean Tuna Comission.

2. Monnahan, C., Dorn, M., **Correa, G. M.**, Deary, A., Ferriss, B., Levine, M., … Zador, S. (2022). *Assessment of the walleye pollock in the Gulf of Alaska*. NOAA Fisheries. Seattle, WA, USA.

3. **Correa, G. M.**, & Wetzel, C. (2021). *Catch only projection for canary rockfish (Sebastes pinniger) in 2021*. Pacific Fisheries Management Council. Portland, OR, USA.

4 **Correa, G. M.**, Wetzel, C., & Hamel, O. (2021). *Catch only projection for arrowtooth flounder (Atheresthes stomias) in 2021*. Pacific Fisheries Management Council. Portland, OR, USA.

5 Kapur, M., Qi, L., **Correa, G. M.**, Haltuch, M., Gertseva, V., & Hamel, O. (2021). *Draft: Status of sablefish (Anoplopoma fimbria) along the us west coast in 2021*. Pacific Fisheries Management Council. Portland, OR, USA.

Oral Presentations

2023 **ICES Annual Science Conference**
Best practices for modelling time-varying growth in state-space stock assessments.

2022 **Think Tank - University of Washington**
Responding to climate-driven changes in growth in the modern stock assessment models.

Good Practices in Stock Assessment Modeling - CAPAM
Accounting for temporal variability in somatic growth improves state-space assessment model for walleye pollock in the Gulf of Alaska.

5th International Symposium on the Ocean in a High CO2 World.
Modeling the multiple action pathways of projected climate change on the Pacific cod (*Gadus macrocephalus*) early life stages.

ESSAS Annual Meeting.
Modeling the multiple action pathways of projected climate change on the Pacific cod (*Gadus macrocephalus*) early life stages.

Ocean Sciences Meeting.
Modeling the Multiple Action Pathways of the effects of climate change on the Pacific cod (*Gadus macrocephalus*) larval growth and survival.

2021 **World Fisheries Congress.**
Accounting for spatial and temporal variability in somatic growth improves age composition and stock assessment estimates.

2020 **UW: Quantitative Seminar Series.**
Impacts of temporal and spatial variability in somatic growth on fish stock assessment models.

Ocean Sciences Meeting.
Accounting for spatiotemporal variability in somatic growth in age composition data estimation for stock assessment models.

2018 **PICES International Symposium: Understanding changes in transitional areas of the Pacific.**
Identifying biogeographical transition zones and nekton assemblages in the northern Humboldt Current System.

2017 **ICES/PICES International Symposium: Drivers of dynamics of small pelagic fish resources.**
Effects of ENSO phases on Peruvian anchovy aggregation patterns.

Skills

Languages	Spanish (native), English (advanced), Italian (intermediate)
Coding	R, Rmarkdown, LaTeX, TMB, Java, ADMB
Web Dev	Shiny, Quarto, Markdown

Awards

2021 **Butler Family Scholarship**, Oregon State University.

References

Available on request