GONZALO S. SALDÍAS
Assistant Professor
Faculty of Sciences, Department of Physics
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EDUCATION

Ph.D. – Ocean, Earth, and Atmospheric Sciences (conc. in Physical Oceanography) *2017*
Oregon State University, USA
Thesis: Optics, structure, and variability of the offshore Columbia River plume
Advisor: R. Kipp Shearman

M.Sc. – Oceanography *2011*
Universidad de Concepción, Chile
Thesis: Spatio-temporal variability of river plumes off central Chile from high-resolution satellite measurements
Advisors: Marcus Sobarzo, John Largier

B.Sc. – Marine Sciences (conc. in Oceanography) *2006*
Universidad Católica de la Santísima Concepción, Chile
First graduated in the class
Thesis: High-frequency hydrographic and spectrofluorometric observations in Concepción Bay, central Chile
Advisor: Ramón Ahumada Bermúdez

RESEARCH EXPERIENCE AND ACADEMIC EMPLOYMENT

Director Master in Physical Sciences *2020–2021*
Faculty of Sciences, Universidad del Bío-Bío, Concepción, Chile

Assistant Professor *2018–present*
Faculty of Sciences, Universidad del Bío-Bío, Concepción, Chile

Principal Investigator *2024–present*
Research Center for Oceanographic Research COPAS COASTAL, Concepción, Chile

Associate Investigator *2021–2024*
Research Center for Oceanographic Research COPAS COASTAL, Concepción, Chile

Adjunct Investigator *2020–present*
Millenium Institute Coastal Social-Ecological Research Institute (SECOS), Chile

Postdoctoral Fellow *2018–2020*
Department of Earth, Ocean, and Atmospheric Sciences, University of British Columbia, Canada

Associate Investigator *2016–2025*
FONDAP Research Center Dynamics of High Latitude Marine Ecosystems (IDEAL), Valdivia, Chile

Young Investigator *2018–2020*
Millennium Nucleus Center for the Study of Multiple Drivers Over Socio-Ecological Marine Systems (MUSELS), Concepción, Chile

Graduate Research Assistant *2011–2017*
College of Earth, Ocean, and Atmospheric Sciences, Oregon State University, USA

Graduate Researcher *2008–2011*
Department of Oceanography, Universidad de Concepción, Chile

RESEARCH INTERESTS

Coastal physical oceanography with emphasis on wind- and buoyancy-driven flows, flow over topography (i.e. submarine canyons), physical-biological coupling, and mesoscale/submesoscale fronts; eastern boundary currents; ocean optics and remote sensing; and Land-Ocean interaction with emphasis on river discharges and plumes.

FELLOWSHIPS$^{(F)}$ AND AWARDS$^{(A)}$

Ciencia de Frontera 2022-2024 (Chilean Academy of Sciences)$^{(A)}$	*2022*
Initiation in Marine Sciences, Chile$^{(A)}$	*2019*
Wayne V. Burt Award for Academic Excellence$^{(A)}$	*2017*
CEOAS Teaching Assistant Excellence Award$^{(A)}$	*2017*
NSERC Banting Postdoctoral Fellowship – Canada$^{(F)}$	*2017*
Fulbright$^{(F)}$	*2010*
Becas Chile$^{(F)}$	*2009*
Partnership for Observation of the Global Ocean – POGO$^{(F)}$	*2009*
South American Climate Change consortium – SACC-IAI$^{(F)}$	*2009*
National Commission for Scientific and Technological Research – CONICYT$^{(F)}$	*2008*
Premio Universidad UCSC$^{(A)}$	*2007*
Premio Rendimiento Académico$^{(A)}$	*2006*

FUNDED PROPOSALS

- **Estructura y variabilidad de alta frecuencia de frentes termohalinos en la zona de canales y fiordos entre el Estrecho de Magallanes y el Canal Beagle**. CIMAR 27 Fiordos CONA C27F, 2024 (Principal Investigator).
- **Impacto de la turbulencia/estratificación en la distribución de las masas de agua y sus propiedades físicoquímicas (oxigeno, nutrientes y gases de efecto invernadero) en los fiordos y canales australes (52.5º 56.2º S)**. CIMAR 27 Fiordos CONA C27F, 2024 (Co-Investigator).
- **A modeling study of the influence of the Biobio Canyon on physical and biogeochemical processes off central Chile**. ECOS-ANID ECOS230019 2023, 2024-2026 (Principal Investigator).
- **Variabilidad meridional en el contenido de agua dulce, flujo geostrófico, y estructura termohalina en el océano costero de la Patagonia Chilena: implicancias en la formación de agregaciones de zooplancton**. CIMAR 29 Fiordos CONA C29F 24-05, 2024 (Principal Investigator).
- **Impactos del cambio de uso de suelo en cinco grandes cuencas fluviales del centro-sur de Chile sobre variabilidad espacio-temporal de la materia orgánica disuelta coloreada (CDOM) en la zona costera adyacente evaluado mediante teledetección**. Fondecyt de Postdoctorado 2024 3240540, 2024-2027 (Sponsoring Investigator).
- **The missing peace of the puzzle: Exploring the role of submarine canyons in the functioning of the coastal upwelling ecosystem off central–southern Chile**. ANID Acceso a embarcaciones para investigación científica 2022 AUB2200011, 2023 (Principal Investigator).
- **The fate of freshwater in the surfzone: assesing the roles of the short and long wave forcings**. Fondecyt Regular 1231494, 2022-2027 (Co-Investigator).
- **Bio-optical gradients along the river–estuary–coastal ocean continuum of northern Patagonia**. Fondecyt Regular 1230420, 2022-2026 (Co-Investigator).

- **Cuál es el rol de los cañones submarinos en la formación y persistencia de hotspots de eufáusidos en el sistema de surgencia costera de Chile centro-sur?**. Fondecyt de Postdoctorado 2023 3230183, 2023-2026 (Sponsoring Investigator).
- **Revisiting coastal upwelling and cross-shore transport off central-southern Chile: The impact of submarine canyons**. Fondecyt Regular 1220167, 2022-2026 (Principal Investigator).
- **Environmental impact of the desalination plants in Arid Zones of Chile: use of the algae as an early-warning indicator of pollution**. Fondecyt Regular 1221545, 2022-2025 (Co-Investigator).
- **Submesoscale frontal dynamics of a river-influenced continental shelf off central Chile**. Fondecyt Regular 1190805, 2019-2022 (Principal Investigator).
- **Explorando la oceanografía de islas y bahías y su incidencia en la recurrencia de Floraciones Algales Nocivas en la región de Magallanes y Antártica Chilena (EXOFAN Magallanes)**. PIA Concurso Nacional de Asignación de tiempo de Buque Oceanográfico AGS-61 Cabo de Hornos 2020 (Co-Investigator).
- **Abundancia y distribución de moluscos, crustaceos y peces costeros de importancia comercial y su relación con la variabilidad de precipitaciones y caudal de ríos en Chile**. Fondo de Investigación Pesquera y de Acuicultura (FIPA) 2019-22 (Co-Investigator).
- **Cabo de Hornos: Plataforma para la Prospección Glaciar-Oceánica de Floraciones Algales Nocivas en la Region de Magallanes y Antártica Chilena (PROFAN Magallanes)**. PIA Concurso Nacional de Asignación de tiempo de Buque Oceanográfico AGS-61 Cabo de Hornos 2019 (Co-Investigator).
- **RIO: Ríos Influenciando al Océano**. Programa Nacional de Divulgación y Valoración de la Ciencia y la Tecnología (EXPLORA) 2019-2020 (Co-Investigator).
- **The impact of numerous submarine canyons on upwelling of deep/slope water onto the continental shelf**. NSERC-Canada 2018-2019 (Principal Investigator).

PUBLICATIONS

(72) Macarena Díaz-Astudillo, Manuel Castillo, Pedro A. Figueroa, Leonardo R. Castro, Ramiro Riquelme-Bugueño, Iván Pérez-Santos, Oscar Pizarro, and Gonzalo S. Saldías. (2025). **Cross-canyon variability in zooplankton backscattering strength in a river-influenced upwelling area**. *Ocean Science*, accepted.

(71) Sergio A. Navarrete, Andrés E. González, Juan Faúndez, Loretto Contreras-Porcia, Alejandra Núñez, Jorge Rivas, Sofia Chacano, Laura Farías, and Gonzalo S. Saldías, Fabián J. Tapia. (2025). **Growth rates and response to nutrient variability in the green tide forming alga Ulva stenophylloides from Algarrobo Bay, Chile**. *Marine Environmental Research*, doi:10.1016/j.marenvres.2025.107338.

(70) Pedro A. Figueroa, Gonzalo S. Saldías, Susan E. Allen. (2025). **The influence of a submarine canyon on the wind-driven downwelling circulation over the continental shelf**. *Ocean Science*, doi:10.5194/os-21-643-2025.

(69) Yosvany García-Santos, Diego A. Narváez, Martin Jacqués-Coper, Gonzalo S. Saldías, Deniz Bozkurt, Benjamin M. Alessio. (2025). **Dominant Wind Patterns Under the Influence of Atmospheric Rivers: Implications for Coastal Upwelling off Central-Southern Chile**. *Journal of Geophysical Research: Oceans*, doi:10.1029/2024JC021444.

(68) Andrea Corredor-Acosta, Alexander Galán, Gonzalo S. Saldías, Jorge I. Mardones, Johanna Medellín-Mora, Máximo Frangopulos, Takuhei Shiozaki, Naomi Harada, Humberto E. González, José L. Iriarte. (2025). **Oceanic phytoplankton structure off western Patagonia during the austral summer: Implications for harmful algal blooms**. *Progress in Oceanography*, doi:10.1016/j.pocean.2024.103409.

(67) Carlos Lara, Raúl P. Flores, Valentina Córdova, Richard Muñoz, Sebastián I. Vásquez, Gonzalo S. Saldías, Iván Pérez-Santos, Antonio Ruíz-Verdú, Bernardo R. Broitman, Amália M. S. Detoni, Isabel Caballero. (2025). **Spatio-temporal variability of remote sensing reflectance from MODIS imagery for water quality assessment: A case study of Northern Patagonia, Chile**. *Advances in Space Research*, doi:10.1016/j.asr.2024.11.014.

(66) Odette A. Vergara, Josse Contreras-Rojas, Richard Muñoz, Luis Bermedo, Marcus Sobarzo, Gonzalo S. Saldías, Cristian Chandía, Aldo Hernández, Marco Salamanca, Eduardo Hernández-Miranda. (2024). **Seasonal hydrographic changes along the Gulf of Arauco (37° S) coast**. *Gayana*, 88, 154–171.

(65) Odette A. Vergara, Pedro A. Figueroa, Cristian Salas, Sebastián I. Vásquez, Richard Muñoz, Gonzalo S. Saldías. (2024). **The influence of the Biobio Canyon on the circulation and coastal upwelling/downwelling off central Chile**. *Continental Shelf Research*, doi:10.1016/j.csr.2024.105335.

(64) Elizabeth D. Curra-Sánchez, Aline de M. Valerio, Carlos Lara, Wirmer García-Tuñon, Bernardo R. Broitman, Gonzalo S. Saldías, Jorge Nimptsch, Cristian A. Vargas. (2024). **CDOM dynamics in two coastal zones influenced by contrasting land uses in northern Patagonia**. *Estuarine, Coastal and Shelf Science*, doi:10.1016/j.ecss.2024.108897.

(63) Camilo Rodríguez-Villegas, Iván Pérez-Santos, Patricio A. Díaz, Ángela M. Baldrich, Matthew R. Lee, Gonzalo S. Saldías, Guido Mancilla-Gutiérrez, Cynthia Urrutia, Claudio R. Navarro, Daniel A. Varela, Lauren Ross, and Rosa I. Figueroa. (2024). **Deep Turbulence as a Novel Main Driver for Multi-Specific Toxic Algal Blooms: The Case of an Anoxic and Heavy Metal-Polluted Submarine Canyon That Harbors Toxic Dinoflagellate Resting Cysts**. *Microorganisms*, doi:10.3390/microorganisms12102015.

(62) Nicole Castillo, Juan Diego Gaitán-Espitia, Julian F. Quintero-Galvis, Gonzalo S. Saldías, Sebastián I. Martel, Marco A. Lardies, Andrés Mesas, Iván E. Pérez-Santos, Stefan Gelcich, Cristian A. Vargas. (2024). **Small-scale geographic differences in multiple-driver environmental variability can modulate contrasting phenotypic plasticity despite high levels of gene flow**. *Science of The Total Environment*, doi:10.1016/j.scitotenv.2024.176772.

(61) Macarena Díaz-Astudillo, Ramiro Riquelme-Bugueño, Gonzalo S. Saldías, Jaime Letelier. (2024). **Mesoscale and climate environmental variability drive krill community changes in the Humboldt Current System**. *Journal of Marine Systems*, doi:10.1016/j.jmarsys.2024.103998.

(60) Luis Bustos-Espinoza, Patricio Torres-Ramírez, Sergio Figueroa, Pablo González, Marcelo Pavez, Rodolfo Jerez, Gonzalo S. Saldías, Claudio Espinoza, Alexander Galán. (2024). **Biogeochemical response of the pelagic system of Concepción Bay, Chile, to a new regime of atmospheric and oceanographic variability**. *Geosciences*, doi:10.3390/geosciences14050125.

(59) Gonzalo S. Saldías, Pedro A. Figueroa, David Carrasco, Diego A. Narváez, Iván Pérez-Santos, Carlos Lara. (2024). **Satellite-derived variability of sea surface salinity and geostrophic currents off Western Patagonia**. *Remote Sensing*, doi:10.3390/rs16091482.

(58) Javiera Mutizabal-Aros, María Eliana Ramírez, Pilar A. Haye, Andrés Meynard, Benjamín Pinilla-Rojas, Alejandra Núñez Gallego, Nicolás Latorre-Padilla, Francesca V. Search, Fabian J. Tapia,

Gonzalo S. Saldías, Sergio A. Navarrete, Loretto Contreras-Porcia. (2024). **Morphological and Molecular Identification of Ulva spp. (Ulvophyceae; Chlorophyta) from Algarrobo Bay, Chile: Understanding the composition of Green Tides**. *Plants*, doi:10.3390/plants13091258.

(57) Alonso Roco, Raúl P. Flores, Megan E. Williams, Gonzalo S. Saldías. (2024). **Observations of river-wave interactions at a small-scale river mouth**. *Coastal Engineering*, doi:10.1016/j.coastaleng.2024.104456.

(56) Richard Muñoz, Odette A. Vergara, Pedro A. Figueroa, Piero Mardones, Marcus Sobarzo, Gonzalo S. Saldías. (2023). **On the phenology of coastal upwelling off central-southern Chile**. *Dynamics of Atmospheres and Oceans*, doi:10.1016/j.dynatmoce.2023.101405.

(55) Julio Salcedo-Castro, Antonio Olita, Freddy Saavedra, Gonzalo S. Saldías, Raúl Cruz-Gómez, Cristian D. De la Torre Martínez. (2023). **Modeling the interannual variability of Maipo and Rapel river plumes off central Chile**. *Ocean Science*, doi:10.5194/os-19-1687-2023.

(54) Pamela Linford, Iván Pérez–Santos, Ivonne Montes, Boris Dewitte, Susana Buchan, Diego Narváez, Gonzalo S. Saldías, Elias Pinilla, Rene Garreaud, Patricio A Díaz, Camila Schwerter, Mario Cáceres-Soto, Paulina Montero, Camilo Rodríguez-Villegas. (2023). **Recent deoxygenation of Patagonian fjords subsurface waters connected to the Peru-Chile Undercurrent and Equatorial Subsurface Water Variability**. *Global Biogeochemical Cycles*, doi:10.1029/2022GB007688.

(53) Richard Muñoz, Carlos Lara, Johny Arteaga, Sebastián I. Vásquez, Gonzalo S. Saldías, Raúl P. Flores, Junyu He, Bernardo R. Broitman, Bernard Cazelles. (2023). **Temporal synchrony in satellite-derived ocean parameters in the Inner Sea of Chiloé, northern Patagonia, Chile**. *Remote Sensing*, doi:10.3390/rs15082182.

(52) Cristian Rojas, Gonzalo S. Saldías, Raúl P. Flores, Sebastián I. Vásquez, Cristian Salas, Cristian Vargas. (2023). **A modeling study of hydrographic and flow variability along the river-influenced coastal ocean off central Chile**. *Ocean Modelling*, doi:10.1016/j.ocemod.2022.102155.

(51) Christian M. Ibáñez, Gaston A. Bazzino, María de los Angeles Gallardo, Gonzalo S. Saldías, Rui Rosa, Sergio A. Carrasco. (2023). **Historical mass strandings of jumbo squid (Dosidicus gigas) in the Eastern Pacific Ocean: patterns and possible causes**. *Marine Biology*, doi:10.1007/s00227-022-04164-2.

(50) Simone Baldanzi, Gonzalo S. Saldías, Cristian Vargas, Francesca Porri. (2022). **Long term environmental variability shapes the epigenetic profiles in females and eggs of the kelp crab Taliepus dentatus along a latitudinal cline in the coast of Chile**. *Scientific Reports*, doi:10.1038/s41598-022-23165-1.

(49) Camilo Rodríguez–Villegas, Rosa I. Figueroa, Iván Pérez–Santos, Carlos Molinet, Gonzalo S. Saldías, Sergio Rosales, Gonzalo Álvarez, Pamela Linford, Patricio A Díaz. (2022). **Continental shelf off northern Patagonia: A potential risk zone for the onset of Alexandrium catenella toxic bloom?**. *Marine Pollution Bulletin*, doi:10.1016/j.marpolbul.2022.114103.

(48) Macarena Días-Astudillo, Ramiro Riquelme-Bugueño, Kim S. Bernard, Gonzalo S. Saldías, Reinaldo Rivera, Jaime Letelier. (2022). **Disentangling species-specific krill responses to local oceanography and predator's biomass: the case of the Humboldt krill and the Peruvian anchovy**. *Frontiers in Marine Science*, doi:10.3389/fmars.2022.979984.

(47) Jurleys P. Vellojin, Gonzalo S. Saldías, Susan E. Allen, Rodrigo Torres, Maximiliano Vergara, Marcus Sobarzo, Mike DeGrandpre, Jose Luis Iriarte. (2022). **Understanding the implications of hydrographic processes on the dynamics of the carbonate system in a Sub-Antarctic marine-terminating glacier-fjord (53°S)**. *Frontiers in Marine Science*, doi:10.3389/fmars.2022.643811.

(46) Marcus Sobarzo, Camila Soto-Riquelme, Raúl P. Flores, Gonzalo S. Saldías. (2022). **Synoptic flow variability in a river-influenced inner shelf off central Chile**. *Journal of Marine Science and Engineering*, doi:10.3390/jmse10040501.

(45) Saurav Sahu, Susan E. Allen, Gonzalo S. Saldías, Jody M. Klymak, Li Zhai. (2022). **Spatial and temporal origins of the La Perouse low oxygen pool: A combined Lagrangian approach**. *Journal of Geophysical Research: Oceans*, doi:10.1029/2021JC018135.

(44) Raúl P. Flores, Carlos Lara, Gonzalo S. Saldías, Sebastián I. Vásquez, Alonso Roco. (2022). **Spatio-temporal variability of turbid freshwater plumes in the Inner Sea of Chiloé, northern Patagonia**. *Journal of Marine Systems*, doi:10.1016/j.jmarsys.2022.103709

(43) Bernardo R. Broitman, Carlos Lara, Raúl P. Flores, Gonzalo S. Saldías, Andrea Piñones, Andre Pinochet, Alexander Galán, Sergio A. Navarrete. (2022). **Environmental variability and larval supply to wild and cultured shellfish populations**. *Aquaculture*, doi:10.1016/j.aquaculture.2021.737639.

(42) Elizabeth D. Curra-Sánchez, Carlos Lara, Marcela Cornejo-D'Ottone, Jorge Nimptsch, Mauricio Aguayo, Bernardo R. Broitman,Gonzalo S. Saldías, Cristian A. Vargas. (2022). **Contrasting land-uses in two small river basins impact the Coloured Dissolved Organic Matter (CDOM) concentration and carbonate system along a river-coastal ocean continuum**. *Science of the Total Environment*, doi:10.1016/j.scitotenv.2021.150435.

(41) Macarena Díaz-Astudillo, Gonzalo S. Saldías, Jaime Letelier, Ramiro Riquelme-Bugueño. (2021). **Spatial and interannual variability in the distribution of euphausiid life stages in the permanent upwelling system off northern Chile**. *ICES Journal of Marine Science*, doi:10.1093/icesjms/fsab241.

(40) Gonzalo S. Saldías, Karina Ramos-Musalem, Susan E. Allen. (2021). **Circulation and upwelling induced by coastal trapped waves over a submarine canyon in an idealized eastern boundary margin**. *Geophysical Research Letters*, doi:10.1029/2021GL093548.

(39) Carlos Lara, Gonzalo S. Saldías, Bernard Cazelles, Marcelo M. Rivadeneira, Richard Muñoz, Alexander Galán, Álvaro L. Paredes, Pablo Fierro, Bernardo R. Broitman. (2021). **Climatic regulation of vegetation phenology in protected areas along western South America**. *Remote Sensing*, doi:10.3390/rs13132590.

(38) Alexander Galán, Gonzalo S. Saldías, Andrea Corredor-Acosta, Richard Muñoz, Carlos Lara, Jose Luis Iriarte. (2021). **Argo float reveals biogeochemical characteristics along the freshwater gradient off western Patagonia**. *Frontiers in Marine Science*, doi:10.3389/fmars.2021.613265.

(37) Ramiro A. Riquelme-Bugueño, Tomás Luppi, Gonzalo S. Saldías, Marcelo E. Lagos, Mauricio Urbina, Marco A. Retamal. (2021). **Annual cycle of growth and population structure of the estuarine crab Hemigrapsus Crenulatus (Brachyura: Varunidae) off central Chile**. *Journal of the Marine Biological Association of the United Kingdom*, doi:10.1017/S0025315421000333.

(36) Zeneida Wong, Gonzalo S. Saldías, John Largier, P. Ted Strub, Marcus Sobarzo. (2021). **Surface thermal structure and variability of upwelling shadows in the Gulf of Arauco, Chile**. *Journal of Geophysical Research: Oceans*, doi:10.1029/2020JC016194.

(35) Gonzalo S. Saldías, Wilber Hernández, Carlos Lara, Richard Muñoz, Cristian Rojas, Sebastián Vásquez, Iván Pérez-Santos, Luis Soto-Mardones. (2021). **Seasonal variability of SST fronts in the Inner Sea of Chiloé and its adjacent coastal ocean**. *Remote Sensing*, doi:10.3390/rs13020181.

(34) Caren Barceló, Richard D. Brodeur, Lorenzo Ciannelli, Elizabeth A. Daly, Craig M. Risien, Gonzalo S. Saldías, Jameal F. Samhouri. (2021). **Time-varying epipelagic community seascapes:**

Assessing and predicting species composition in the northeastern Pacific ocean. *Frontiers in Marine Science*, doi:10.3389/fmars.2021.586677.

(33) Sebastián Vásquez, María Belen de la Torre, Gonzalo S. Saldías, Aldo Montecinos. (2021). **Meridional changes in satellite Chlorophyll and Fluorescence in optically-complex coastal waters of northern Patagonia**. *Remote Sensing*, doi:10.3390/rs1010000.

(32) Pablo Fierro, Claudio Valdovinos, Carlos Lara, Gonzalo S. Saldías. (2021). **Influence of intensive agriculture on benthic macroinvertebrate assemblages and water quality in the Aconcagua River basin (Central Chile)**. *Water*, doi:10.3390/w13040492.

(31) Gonzalo S. Saldías, Susan E. Allen. (2020). **The influence of a submarine canyon on the circulation and cross-shore exchanges around an upwelling front**. *Journal of Physical Oceanography*, 50, 1677-1698, doi:10.1175/JPO-D-19-0130.1.

(30) Cristian A. Vargas, Rene Garreaud, Ricardo Barra, Felipe Vásquez-Lavin, Gonzalo S. Saldías, Oscar Parra. (2020). **Environmental costs of water transfers**. *Nature Sustainability*, doi:10.1038/s41893-020-0526-5.

(29) Gonzalo S. Saldías, P. Ted Strub, R. Kipp Shearman. (2020). **Spatio-temporal variability and ENSO modulation of turbid freshwater plumes along the Oregon coast**. *Estuarine, Coastal and Shelf Science*, 243, 106880, doi:10.1016/j.ecss.2020.106880.

(28) Julio Salcedo-Castro, Gonzalo S. Saldías, Freddy Saavedra, David Donoso. (2020). **Climatology of Maipo and Rapel River plumes off central Chile from numerical simulations**. *Regional Studies in Marine Science*, doi:10.1016/j.rsma.2020.101389.

(27) Andrea Corredor-Acosta, Náyade Cortés-Chong, Alberto Acosta, Matias Pizarro-Koch, Andrés Vargas, Johanna Medellín-Mora, Gonzalo S. Saldías, Valentina Echeverry-Guerra, Jairo Gutiérrez-Fuentes, Stella Betancur-Turizo. (2020). **Spatio-temporal variability of Chlorophyll-a and environmental variables in the Panama Bight**. *Remote Sensing*, 12, 2150 doi:10.3390/rs12132150.

(26) Gonzalo S. Saldías, Carlos Lara. (2020). **Satellite-derived sea surface temperature fronts in a river-influenced coastal upwelling area off central-southern Chile**. *Regional Studies in Marine Science*, 37, 101322, doi:10.1016/j.rsma.2020.101322.

(25) Luisa Saavedra, Gonzalo S. Saldías, Bernardo Broitman, Cristian A. Vargas. (2020). **Carbonate chemistry dynamics in shellfish farming areas along the Chilean coast: Natural ranges and biological implications**. *ICES Journal of Marine Science*, doi:10.1093/icesjms/fsaa127.

(24) Aldo Hernández, Fabián J. Tapia, Gonzalo S. Saldías, Renato Quiñones. (2020). **Coastal geomorphology and oceanographic features shape subtidal benthic communities in management areas of central Chile**. *Aquatic Conservation: Marine and Freshwater Ecosystems*, doi:10.1002/aqc.3415.

(23) Alexander Galán, Marnie Jo Zirbel, Gonzalo S. Saldías, Francis Chan, Ricardo Letelier. (2020). **The role of upwelling intermittence in the development of hypoxia and nitrogen loss over the Oregon shelf**. *Journal of Marine Systems*, 207, 103342, doi:10.1016/j.jmarsys.2020.103342.

(22) Carlos Lara, Bernard Cazelles, Gonzalo S. Saldías, Raúl P. Flores, Alvaro L. Paredes, Bernardo R. Broitman. (2019). **Coupled biospheric synchrony of the coastal temperate ecosystem in northern Patagonia: A remote sensing analysis**. *Remote Sensing*, 11, 2092, doi:10.3390/rs11182092.

(21) Gonzalo S. Saldías, Marcus Sobarzo, Renato Quiñones. (2019). **Freshwater structure and its seasonal variability off western Patagonia**. *Progress in Oceanography*, 174, 143-153.

(20) Carlos Lara, Gonzalo S. Saldías, Bernard Cazelles, Pilar A. Haye, Marcelo M. Rivadeneira, Bernardo R. Broitman. (2019). **Coastal biophysical processes and the biogeography of rocky intertidal species along the south-eastern Pacific**. *Journal of Biogeography*, 46: 420-431.

(19) Fernanda Henderikx Freitas, Gonzalo S. Saldías, Miguel Goñi, R. Kipp Shearman, and Angelicque E. White. (2018). **Temporal and spatial dynamics of physical and biological properties along the Endurance Array of the California Current Ecosystem**. *Oceanography*, 31, 80–89.

(18) Carlos Lara, Gonzalo S. Saldías, Álvaro L. Paredes, Bernard Cazelles, Bernardo R. Broitman. (2018). **Temporal variability of MODIS phenological indices in the temperate rainforest of northern Patagonia**. *Remote Sensing*, 10, 956, doi:10.3390/rs10060956.

(17) Renato Mendes, Gonzalo S. Saldías, Maite deCastro, Moncho Gómez-Gesteira, Nuno Vaz, and João M. Dias. (2017). **Seasonal and interannual variability of the Douro turbid river plume, northwestern Iberian Peninsula**. *Remote Sensing of Environment*, 194, 401–411.

(16) Alexander Galan, Bo Thamdrup, Gonzalo S. Saldías, and Laura Farias. (2017). **Vertical segregation among pathways mediating nitrogen-loss (N_2 and N_2O) through the strong oxygen gradient in a coastal upwelling ecosystem**. *Biogeosciences*, 14, 4795–4813.

(15) Carlos Lara, Gonzalo S. Saldías, Toby K. Westberry, Michael J. Behrenfeld, and Bernardo R. Broitman. (2017). **First assessment of MODIS satellite ocean color products (OC3 and nFLH) in the Inner Sea of Chiloé, northern Patagonia**. *Latin American Journal of Aquatic Research*, 45, 822–827.

(14) Sebastián J.A. Osores, Nelson A. Lagos, Luis Prado, Valeska San Martín, Patricio H. Manríquez, Cristian A. Vargas, Rodrigo Torres, Jorge M. Navarro, M. Josefina Poupin, Gonzalo S. Saldías, and Marco A. Lardies. (2017). **Plasticity and inter-population variability in physiological and life-history traits of the mussel *Mytilus chilensis*: A reciprocal transplant experiment**. *Journal of Experimental Marine Biology and Ecology*, 490, 1–12.

(13) Gonzalo S. Saldías, John L. Largier, Renato Mendes, Iván Pérez-Santos, Cristian A. Vargas, and Marcus Sobarzo. (2016). **Satellite-measured interannual variability of turbid river plumes off central–southern Chile: Spatial patterns and the influence of climate variability**. *Progress in Oceanography*, 146, 212-222.

(12) Marcus Sobarzo, Gonzalo S. Saldías, Fabian J. Tapia, Luis Bravo, Carlos Moffat, and John L. Largier. (2016). **On subsurface cooling associated with the Biobio River Canyon (Chile)**. *Journal of Geophysical Research: Oceans*, 121, 4568–4584, doi:10.1002/2016JC011796.

(11) Gonzalo S. Saldías, R. Kipp Shearman, John A. Barth, and Nicholas Tufillaro. (2016). **Optics of the offshore Columbia River plume from glider observations and satellite imagery**. *Journal of Geophysical Research: Oceans*, 121, 2367–2384, doi:10.1002/2015JC011431.

(10) Cristian A. Vargas, Paulina Y. Contreras, Claudia A. Pérez, Marcus Sobarzo, Gonzalo S. Saldías, and Joe Salisbury. (2016). **Influences of riverine and upwelling waters on the coastal carbonate system off Central Chile, and their ocean acidification implications**. *Journal of Geophysical Research: Biogeosciences*, 121, 1468–1483, doi:10.1002/2015JG003213.

(9) Claudia A. Pérez, Nelson A. Lagos, Gonzalo S. Saldías, George Waldbusser, and Cristian A. Vargas. (2016). **River discharges impact physiological traits and carbon sources for shell carbonate in the intertidal mussel *Perumytilus purpuratus***. *Limnology and Oceanography*, 61: 969–983, doi:10.1002/lno.10265.

(8) Carlos Lara, Gonzalo S. Saldías, Fabian J. Tapia, José Luis Iriarte, and Bernardo Broitman. (2016). **Interannual variability in temporal patterns of Chlorophyll–a and their potential influence on the supply of mussel larvae to inner waters in northern Patagonia (41–44°S)**. *Journal of Marine Systems*, 155, 11-18.

(7) Claudia A. Pérez, Michael DeGrandpre, Nelson Lagos, Gonzalo S. Saldías, Emma-Karin Cascales, and Cristian A. Vargas. (2015). **Influence of climate and land use in carbon biogeochemistry in lower reaches of rivers in Central-Southern Chile: implications for the carbonate system in river-influenced rockyshore environments**. *Journal of Geophysical Research: Biogeosciences*, 120, 673–692, doi:10.1002/2014JG002699.

(6) Cristian A. Vargas, Nancy L. Arriagada, Marcus Sobarzo, Paulina Y. Contreras, and Gonzalo S. Saldías. (2013). **Bacterial production across a river to ocean continuum in central Chile: implications for organic matter cycling**. *Aquatic Microbial Ecology*, 68, 195-213.

(5) Gonzalo S. Saldías, Marcus Sobarzo, John Largier, Carlos Moffat, and Ricardo Letelier. (2012). **Seasonal variability of turbid river plumes off central Chile based on high-resolution MODIS imagery**. *Remote Sensing of Environment*, 123, 220-233.

(4) Héctor A. Levipan, Wilfredo O. Alarcón, and Gonzalo S. Saldías. (2012). **Fingerprinting analysis of the prokaryote community along a marine–freshwater transect in central–southern Chile**. *Annals of Microbiology*, 62, 1121-1140.

(3) Ramón Ahumada, Anny Rudolph, Elizabeth González, Gary Fones, Gonzalo Saldías, and Ramón Ahumada-Rudolph. (2011). **Dissolved trace metals in the water column of Reloncaví Fjord, Chile**. *Latin American Journal of Aquatic Research*, 39, 567-574.

(2) Luis A. Montecinos, José A. Cisterna, Cristian W. Cáceres, and Gonzalo S. Saldías. (2009). **Equilibrio ácido-base durante la exposición aérea del molusco bivalvo *Perumytilus purpuratus* (Lamarck, 1819) (Bivalvia: Mytilidae)**. *Revista de Biología Marina y Oceanografía*, 44, 181-187.

(1) José A. Cisterna, Gonzalo S. Saldías, and Cristian W. Cáceres. (2008). **Efecto de la hipoxia en la conducta de forrajeo de *Cancer setosus* (Molina, 1782) (Crustacea: Decapoda) alimentado con *Mytilus chilensis* (Hupé, 1854)**. *Revista de Biología Marina y Oceanografía*, 43, 419-423.

TEACHING EXPERIENCE

- Instructor, **Geophysical Fluid Dynamics** *2024*
  Master in Physical Sciences, Universidad del Bío-Bío, Chile
- Instructor, **Programming and Geophysical Data Analysis** *2024*
  Master in Physical Sciences, Universidad del Bío-Bío, Chile
- Instructor, **Dynamical Oceanography I** *2023*
  Master in Physical Sciences, Universidad del Bío-Bío, Chile
- Instructor, **Programming and Geophysical Data Analysis** *2023*
  PhD in Engineering, Universidad del Bío-Bío, Chile
- Instructor, **Science for the Engineering** *2023*
  PhD in Engineering, Universidad del Bío-Bío, Chile
- Instructor, **Programming and Geophysical Data Analysis** *2023*
  Master in Physical Sciences, Universidad del Bío-Bío, Chile

- Instructor, **Classical Mechanics** *2022*
  Faculty of Engineering, Universidad del Bío-Bío, Chile
- Instructor, **Programming and Geophysical Data Analysis** *2021*
  Master in Physical Sciences, Universidad del Bío-Bío, Chile
- Instructor, **Lab. Physics II** *2021*
  Faculty of Engineering, Universidad del Bío-Bío, Chile
- Instructor, **Research Seminar** *2020*
  Master in Physical Sciences, Universidad del Bío-Bío, Chile
- Instructor, **Dynamical Oceanography II** *2020*
  Master in Physical Sciences, Universidad del Bío-Bío, Chile
- Instructor, **Dynamical Oceanography I** *2020*
  Master in Physical Sciences, Universidad del Bío-Bío, Chile
- Instructor, **Classical Mechanics** *2018*
  Faculty of Engineering, Universidad del Bío-Bío, Chile
- Instructor, **Dynamical Oceanography II** *2018*
  Master in Physical Sciences, Universidad del Bío-Bío, Chile
- Teaching Assistant, **Coastal Oceanography** *2017*
  Instructor: Tuba Ozkan-Haller – Oregon State University, USA
- Teaching Assistant, **Polar Oceanography** *2017*
  Instructor: Kim Bernard – Oregon State University, USA
- Teaching Assistant, **Exploring the Deep: Geography of the World's Oceans** *2017*
  Instructors: Randy Keller – Oregon State University, USA
- Teaching Assistant and Guest Lecturer, **Coastal and Estuarine Oceanography** *2016*
  Instructor: Jack Barth – Oregon State University, USA
- Teaching Assistant, **Polar Oceanography** *2016*
  Instructor: Kim Bernard – Oregon State University, USA
- Teaching Assistant, **Coastal Oceanography** *2016*
  Instructor: Ed Dever – Oregon State University, USA
- Teaching Assistant, **Physical-Biological Coupling in the Coastal Ocean** *2009*
  Instructors: Carlos Moffat and Fabian Tapia – Universidad de Concepción, Chile
- Teaching Assistant, **Oceanography** *2009*
  Instructor: Marcus Sobarzo – Universidad de Concepción, Chile
- Teaching Assistant, **Coastal Physical Oceanography** *2008*
  Instructor: Marcus Sobarzo – Universidad de Concepción, Chile
- Teaching Assistant, **Biological Oceanography** *2006*
  Instructor: Ramón Ahumada – Universidad Católica de la Santísima Concepción, Chile
- Teaching Assistant, **General Oceanography** *2005*
  Instructor: Dagoberto Arcos – Universidad Católica de la Santísima Concepción, Chile

JOURNAL$^{(J)}$ AND PROPOSAL$^{(P)}$ REVIEWER

NSF Grant, USA$^{(P)}$	*2025*
IFREMER doctoral propositions, France$^{(P)}$	*2020*
NERC Standard Grants UK$^{(P)}$	*2020*
Fondecyt-Iniciación Chile$^{(P)}$	*2019*
Postdoctorado Institucional PUCV$^{(P)}$	*2019*
Nature Communications	*2023*
Journal of Physical Oceanography	*2023, 2024*
Journal of Geophysical Research: Oceans	*2024*
Frontiers in Marine Science	*2021*
Journal of Marine Systems	*2020, 2021*
Estuarine, Coastal and Shelf Science	*2020*
Geophysical Research Letters	*2019*
Advances in Space Research	*2019*
Ocean Dynamics	*2019*
Sensors	*2019*
Ocean Modelling	*2018*
Estuaries and Coasts	*2018*
Journal of Geophysical Research: Biogeosciences	*2017*
Marine and Freshwater Research	*2017*
Progress in Oceanography	*2016*
Continental Shelf Research	*2013, 2015*
Latin American Journal of Aquatic Research	*2015, 2020*
Remote Sensing of Environment	*2014, 2021*
Remote Sensing	*2014, 2019, 2020*
Revista Chilena de Historia Natural	*2022*

THESIS COMMITTEE MEMBER AND ADVISOR

- Dr. Macarena Diaz, Universidad del Bío-Bío, Chile — *Apr 2023-present*
  Advisor, Postdoctoral Fellow – Fondecyt.
- Dr. Elizabeth Curra, Universidad del Bío-Bío, Chile — *Apr 2023-present*
  Advisor, Postdoctoral Fellow – Fondecyt.
- Dr. Odette Vergara, Universidad del Bío-Bío, Chile — *Dec 2022-Dec 2023*
  Advisor, Postdoctoral Fellow – UBB.
- Mr. Pedro Figueroa, Universidad del Bío-Bío, Chile — *2023-June 2024*
  Supervisor, Research Assistant.
- Mr. Richard Muñoz, Universidad de Concepción, Chile — *2022-present*
  Advisor - PhD in Oceanography.
- Ms. Sophia Nativí, Universidad del Bío-Bío, Chile — *2023-present*
  Advisor - Masters in Physical Sciences.
- Ms. Sofia Palacios, Universidad de Concepción, Chile — *2024-present*
  Advisor - Bachellor in Geophysics.
- Mr. Sebastián Díaz, Universidad de Concepción, Chile — *2023-present*
  Advisor - Bachellor in Geophysics.

- Mr. Cristian Rojas, Universidad del Bío-Bío, Chile *2020-2022*
  Advisor - Masters in Physical Sciences.
- Dr. Andrea Corredor, Universidad del Bío-Bío, Chile *2019-2022*
  Advisor, Postdoctoral Fellow – FONDAP IDEAL.
- Mr. Richard Muñoz, Universidad del Bío-Bío, Chile *July 2020-2021*
  Supervisor, Research Assistant.
- Dr. Carlos Lara, Universidad del Bío-Bío, Chile *Dec 2019-Nov 2020*
  Advisor, Postdoctoral Fellow.
- Ms. Carolina Mendoza, Universidad de Concepción, Chile *2021-present*
  Co-advisor - Master in Oceanography
- Mr. Pedro Figueroa, Universidad de Concepción, Chile *2020-2022*
  External Evaluator - Master in Oceanography
- Ms. Josselyn Contreras, Universidad de Concepción, Chile *2020-present*
  External Evaluator - Master in Oceanography
- Mr. Richard Muñoz, Universidad de Concepción, Chile *2019-present*
  External Evaluator - Masters in Oceanography
- Ms. Macarena Diaz, Universidad de Concepción, Chile *2019-present*
  External Evaluator - Ph.D. in Oceanography
- Mr. Saurav Sahu, University of British Columbia, Canada *2019-2020*
  Internal Evaluator - Masters in Oceanography
- Mr. Wilber Hernandez, Universidad del Bío-Bío, Chile *2018-2020*
  Advisor - Masters in Physical Sciences
- Ms. Susana Coquidan, Universidad del Bío-Bío, Chile *2018-2020*
  Internal Evaluator - Masters in Physical Sciences
- Mr. Richard Muñoz, Universidad de Concepción, Chile *2015-2017*
  External Evaluator - Bachelor in Marine Biology

SELECTED PRESENTATIONS

- **The impact of submarine canyons on circulation and dynamcis over the continental shelf: An overview with a focus on the Chilean continental margin.** Keynote Speaker, INCISE (International Network for Submarine Canyon Investigation and Scientific Exchange) meeting, June 2025 – Barcelona, Spain
- **The influence of a submarine canyon on the wind-driven downwelling circulation over the continental shelf.** Talk, EGU General Assembly, April 2024 – Vienna, Austria
- **Circulation and upwelling induced by coastal trapped waves over a submarine canyon in an idealized eastern boundary margin.** Talk, Open Science Conference on Eastern Boundary Upwelling Systems (EBUS): Past, Present and Future, September 2022 – Lima, Perú
- **Cambio Climático y descargas de agua dulce.** Talk, Webinar Coastal Ecosystems and Climate Change, August 2020 – Concepción, Chile

- **Oceanografía costera y la influencia climática en procesos costeros relevantes para la sociedad.** Talk, Online Workshop Ciencia i2030, August 2020 – Concepción, Chile
- **The influence of a submarine canyon on the circulation and cross-shore exchanges around an upwelling front.** Talk, Physical Oceanography Seminar, June 2019, Institute of Ocean Sciences – Sidney, Canada
- **Freshwater structure and its seasonal variability off western Patagonia.** Talk, International conference: Global change at basin and fjord scale and future water management challenges in Patagonia, November 2018, Regional Museum of Coyhaique – Coyhaique, Chile
- **Optics, structure and variability of the offshore Columbia River plume.** Talk, Physical Oceanography Seminar, July 2018, Department of Earth, Ocean, and Atmospheric Sciences, University of British Columbia – Vancouver, Canada
- **On subsurface cooling associated with the Biobio River canyon (Chile) – Modeling upwelling induced by CTWs over a submarine canyon.** Talk, Canadian Meteorological and Oceanographic Society's 52nd Congress and the annual meeting 2018 – Halifax, Canada
- **On the freshwater input into the coastal ocean of major Eastern Ocean Boundaries: General aspects and new insights for the region off western Patagonia.** Talk, Faculty of Sciences Seminar, December 2017, Universidad Austral de Chile – Valdivia, Chile
- **How important are turbid river plumes in the coastal ocean off central-southern Chile? – key aspects on synoptic, seasonal, and interannual variability.** Talk, V Conference of Physical Oceanography, Meteorology and Climate 2017 – Concepción, Chile
- **Interannual variability and climate modulation of turbid river plumes along the Oregon coast.** Talk, Eastern Pacific Ocean Conference 2017 – Fallen Leaf Lake, South Lake Tahoe, California, USA
- **Satellite-measured interannual variability of turbid river plumes off central-southern Chile: Spatial patterns and the climate variability.** Poster, Eastern Pacific Ocean Conference 2017 – Fallen Leaf Lake, South Lake Tahoe, California, USA
- **Spatial variability of wintertime freshwater conditions off Oregon.** Talk, Association for the Sciences of Limnology and Oceanography 2017 – Honolulu, Hawaii, USA
- **Structure and variability of the offshore Columbia River plume based on long-term glider observations.** Talk, Association for the Sciences of Limnology and Oceanography 2017 – Honolulu, Hawaii, USA
- **OSU Underwater Glider Program: Long-term monitoring of Oregon's Coastal Ocean.** Talk, Marine Technology Summit 2016 – Newport, Oregon, USA
- **Optics of the offshore Columbia River plume from glider observations and satellite imagery.** Poster, Ocean Sciences Meeting 2016 – New Orleans, Louisiana, USA
- **Seaglider observations reveal dominant cross-shore scales of variability in the oxygen minimum zone and surface mixed layer off northern Chile.** Poster, IV Conference of Physical Oceanography, Meteorology and Climate 2015 – Valparaíso, Chile
- **Optics of the offshore Columbia River plume in spring-summer.** Poster, Ocean Optics Conference 2014 – Portland, Maine, USA
- **Seasonal variability of turbid river plumes off central Chile from hydrographic and high-resolution satellite data.** Talk, National Conference of Marine Sciences 2011 – Viña del Mar, Chile

VOLUNTEER AND SERVICE ACTIVITIES

Co-chair EPOC session *River and tidal plumes in Eastern Boundary Current Systems: Dynamics, variability, and biogeochemical impacts in the coastal ocean* – South Lake Tahoe, CA, USA. *2017*
Outreach about Underwater Gliders – Juntos Family Day, OSU, Corvallis, USA. *2017*
Outreach about Underwater Gliders – OSU Board of Trustees Meeting, Corvallis, USA. *2017*
Promotion and Tenure Student Committee – CEOAS, OSU, USA. *2015*
Outreach about Underwater Gliders – Marine Science Day, Newport, USA. *2013*

AT-SEA EXPERIENCE

Small boat research cruises off Itata River. *2020-2021*
Small boat research cruises off Maipo River. *2021*
Small boat research cruises in Seno Reloncaví, Inner Sea of Chiloé. *2020*
Small boat research cruises off Itata River, central Chile. *2020*
R/V Oceanus – Research cruises off Oregon, USA. *2016-2017*
R/V Roger Revelle – Research cruise in the South China Sea. *2013*
R/V Elakha – Research cruises off Oregon for glider deployment and recovery. *2012-2014*
Small boat research cruise in Willapa Bay. *2010*
Small boat research cruise in the fjord area adjacent to the glacier Jorge Montt. *2010*
L/P Galilea II – Fondecyt research cruises in the coastal ocean off Concepción. *2007-2009*
L/C Kay-Kay – PIMEX research cruises in the coastal ocean off Concepción. *2007-2009*
L/P Maule – Research cruises in Concepción Bay. *2007*
B/P Hualpen – Oceanic fishery research cruise off central Chile. *2006*
L/C Tobago – Teaching cruises in Concepción Bay. *2004-2006*

COMPUTATIONAL SKILLS

Matlab, Python, SeaDAS (SeaWIFS Data Analysis System), ROMS (Regional Ocean Modeling System), and LaTeX