



Scientific Program LAPECO – 2025

3rd International Congress on Physical of Estuarine and Coastal Ocean

The preliminary program may change in the coming days depending on participant confirmations.

Lunes 24 Noviembre

Hora	Actividad
08.00 – 16.00	Curso pre-congreso de corta duración y cupos limitados: Tema por confirmar Lugar: Auditorio Centro i-mar, Universidad de Los Lagos, sede Puerto Montt. (Camino a Chiquihue Km. 6)
15.00 – 18.00	Acreditación Hotel Wyndham Puerto Varas Pettra
15.00 – 18.30	Montaje de póster – Montaje Auspiciadores (Exposición permanente durante todo el congreso)
18.30 – 20.00	Ice breaking en Hotel Wyndham Puerto Varas Pettra

Martes 25 Noviembre

Hora	Actividad
08.30 – 18.00	Acreditación full
09.00 – 10.45	Ceremonia de inauguración - Hotel Wyndham Puerto Varas Pettra - Palabras de bienvenida Autoridades - Rector Universidad de Los Lagos. - Gerente INTESAL. - Alcalde Puerto Varas. Introducción a LAPECO 2025. Chairman Dr. Iván Pérez-Santos
10.00 – 10.45	Charla magistral 1 Dr. Richard Pawlowicz, Universidad de British Columbia, Canadá
11.00 – 11.30	Café de pausa - Pósters
Sesión Estuarine Dynamics 1 Moderador:	
11.30 – 11.45	Operational modeling of storm tides to support coastal flood warnings in Baixada Santista and the Estuarine System of Santos, São Vicente and Bertioga (SP, Brazil) Matheus Souza Ruiz, Universidade Santa Cecília, Brazil.
11.45 – 12.00	Dynamics of the Río de la Plata Salinity Front: Spatiotemporal Variability and Drivers Mónica Fossati, Universidad de la República, Uruguay.
12.00 – 12.15	Tidal and Wind Forcing Effects on Residence Time in a Low-Inflow Estuary: A 3D Modeling Approach in La Paz Lagoon, Mexico Felivalentín Lamas Torres, Instituto Politécnico Nacional, México.
12.15 – 12.30	Seasonal and Synodic Variability in the Physical Properties of the São José Estuary, Brazil Luis Carlos Oliveira do Lago, Federal University of Rio Grande, Brasil.
12.30 – 12.45	Spatial evolution of turbulence and mixing along the estuary-shelf gradient in a highly stratified system Debora Queiroz Gadelha de Barros, Federal University of Rio Grande, Brasil.
12.45 – 13.00	Tetrahedral Framework for the Tetraforcing Semiencloded Basin Dynamics Juan Torres-Cordoba, Universidad de Florida, USA.
13.00 – 14.30	Libre



Sesión Climate influence	
Moderador:	
14.30 – 14.45	Interacción océano-atmósfera en el Pacífico Oriental: influencia de anticiclones subtropicales en la surgencia y el transporte de la PCUC Pamela Muñoz Linford, COPAS Coastal, Universidad de Concepción, Chile.
14.45 – 15.00	Extreme River Discharges in Patos Lagoon: Hydrodynamic Effects and Flooding Risks Kristhal Doto, Federal University of Rio Grande, Brasil.
15.00 – 15.15	Patos Lagoon Digital Twin – An innovative concept for assessing and mitigating risks of extreme flood events in southern Brazil Elisa Helena Leão Fernandes, Federal University of Rio Grande, Brasil.
15.15 – 15.30	Wave transformation processes: roughness and sea level influence in Tamandaré reef, Brazil. Luiza Paschoal Stein, University of São Paulo, Brasil.
15.30 – 15.45	Coupled wave-current modelling of dispersion in an endangered Caribbean coral reef lagoon Cecilia Enriquez, Universidad Nacional Autónoma de México, México.
15.45 – 16.00	Internal waves induced by the M2 tidal component in the Ballenas Channel. Liesvy Valladares Alfonso, Instituto Politécnico Nacional, México.
16.00 – 16.30	Café de pausa - Posters
Sesión Estuarine Dynamics 2	
Moderador	
16.30 – 16.45	Observations of turbulent kinetic energy production and dissipation in the Río de La Plata Estuary Eliana Morquio, Universidad de la República, Uruguay.
16.45 – 17.00	Variaciones espaciales y temporales de la intrusión salina en estuarios del pacífico de Panamá. Ian Deago, Universidad Tecnológica de Panamá, Panamá.
17.00 – 17.15	Spatial and seasonal variability of suspended sediments in the Río de la Plata estuary based on numerical models and in situ observations Diego Moreira, Centro de Investigaciones del Mar y la Atmósfera, Argentina.
17.15 – 17.30	Ocean-Dominated Surface and Groundwater Hydrological Dynamics in a Semiarid Coastal Wetland of Central Chile Lino Yovan, Pontificia Universidad Católica de Chile, Chile.
17.30 – 17.45	UAV-Based Remote Sensing Algorithm for Hydrodynamic and Water Quality Monitoring in the Río de la Plata Estuary Facundo Noel Galletta Oroña, Universidad de la República, Uruguay.
17.45 – 18.00	Disminución del efecto Niño costero 2017 en la variabilidad de las condiciones oceanográficas y estratificación en la ensenada de Huanchaco, Trujillo, La Libertad, Perú. Jorge Martín Quispe Sánchez, Instituto del Mar del Perú.
18.00 – 19.30	Cóctel de bienvenida

Miércoles 26 Noviembre- Ciencia aplicada a la industria

08.00 – 11.00	Accreditation and Industry Day pass
09.00 – 09.45	Charla magistral 2 “Dynamics in the Chilean Inland Sea: main drivers in the context of worldwide estuaries” Dr. Arnoldo Valle-Levinson, Universidad de Florida, USA.
10.00 – 10.15	Deoxygenation in a Subantarctic Glacial System: Zonation and Processes in the Almirante Montt Gulf (Chile) Gabriel Soto, Instituto de Fomento Pesquero, Chile.
10.15 – 10.30	Surface Deoxygenation in the Fjords of Northern Patagonia: A Long-Term Analysis Based on Oceanographic Buoy Data.



	Francisca Gutierrez, Universidad de Concepción, Chile
10.30 – 10.45	Meridional Transport Variability and Climate Forcing off Chilean Patagonia (1993–2022) Octavio Mercado Peña, COPAS Coastal, Universidad de Concepción Chile
10.45 – 11.00	Atmospheric Rivers as Drivers of Shear and Energy Variability in Puyuhuapi Fjord Lenna Ortiz, Centro de Investigación en Ecosistemas de la Patagonia, Chile.
11.00 – 11.30	Café de pausa – Póster
11.30 – 11.45	Nueva evidencia sobre la dinámica estacional del Agua Modal Subantártica y su rol en la formación de aguas modificadas sobre la plataforma de la Patagonia sur Pamela Muñoz Linford, COPAS Coastal, Universidad de Concepción Chile
11.45 – 12.00	Decrease of deep ventilation contributing to deoxygenation in North Patagonian fjords and channels: Guafo mouth study case. Camila paz sola hidalgo, Universidad de Valparaíso, Chile.
12.00 – 12.15	Extreme temperatures events in the semi-enclosed inner seas of Northern Chilean Patagonia Cécile PUJOL, Universidad de Liege, Bélgica.
12.15 – 12.30	Wave-current interactions in Chacao Channel Maricarmen Guerra Paris, Universidad de Concepción, Chile.
12.30 – 12.45	Circulation, mixing, and barotropic tidal energy in a regional interior sea, Northern Patagonia. Francesca Search, Universidad de Valparaíso.
12.45 – 13.00	Circulation in the Guafo Mouth: The gateway to northern Patagonia. Lauren Ross, Universidad de Maine, USA.
13.00 – 14.30	Libre
14.30 – 14.45	Variability of the Magellan Plume using hydrodynamic modeling Leandro Suarez, Meric Chile.
14.45 – 15.00	Winds and tides play with drifters in Corcovado Gulf, northern Patagonian Fjords. Sebastian Orlando Duran Torres, Fundación Huinay, Chile.
15.00 – 15.15	Dinámica de los seiches internos en el Fiordo Reloncaví: un estudio numérico CROCO/WRF. Sergio Andrés Bahamóndez Palza, Universidad de Concepción, Chile.
15.15 – 15.30	Short-term Spatial and Temporal Variability of Small River Plumes in Patagonian Fjords: a multiscale integration between remote sensing and in situ data. María Andreina Arias Albornoz, Universidad Católica de Chile, Chile.
15.30 – 16.00	Café de pausa – Póster
16.00 – 16.15	Tide, Wind, and Freshwater Influences on Patagonian Fjord and Plume Dynamics. Megan Williams, Universidad Católica de Chile, Chile.
16.15 – 16.30	Structure and variability of freshwater conditions off Chilean Patagonia from a high-resolution curvilinear ocean model. Osvaldo Artal Arrieta, Universidad de la Frontera, Chile.
16.30 – 16.45	Variabilidad mensual de las propiedades físicas y químicas del fiordo Comau. Alvaro Jorquera, Nazca, Chile.
16.45 – 17.00	Autonomous Profiling Acoustics for Exploring Bio-Physical Interactions in Fjord Ecosystems Julek Chawarski, ASL Environmental Sciences, Canadá.
17.00 – 18.00	Panel de discusión: Levantado brechas de la industria para generación de ciencia aplicada
18.00 – 20.00	Seafoods tasting and networking



Jueves 27 Noviembre

Hora	Actividad
09.00 – 09.45	Charla magistral 3 Dr. Marcus Sobarzo, Universidad de Concepción, Chile.
	Sesión Estuarine Dynamics 3 Moderador:
10.00 – 10.15	Transverse structure of exchange flows around a mid-estuary coastal constriction Jorge Armando Laurel Castillo, Consultor independiente, México.
10.15 – 10.30	Por confirmar
10.30 – 10.45	Tidal forcing dominates instantaneous and residual currents in a tropical estuarine system. José Mauro Vargas Hernández, Universidad Nacional, Costa Rica.
10.45 – 11.00	Disentangling the Physical Forcings Influencing Exchange Flow in a Complex Fjord System. Elías Pinilla, Universidad de Maine, USA.
11.00 – 11.30	Café de pausa - Póster
	Sesión Shelf Dynamics 1 - Moderador:
11.30 – 11.45	Circulation controls on a wide and shallow continental shelf with diverse forcing. Ismael de Jesús Mariño Tapia
11.45 – 12.00	A modeling study of the influence of an atmospheric river event on circulation and Hydrographic conditions in the Gulf of Arauco, central Chile Gonzalo Saldías, Universidad del Biobío, Chile.
12.00 – 12.15	Coastal trapped wave along the Chilean continental margin and their interaction with a long submarine canyon Sophia Pierina Nativí Merchán, Universidad del Biobío, Chile.
12.15 – 12.30	Marine heat waves, sea temperature, and the octopus population, in a shallow-tropical sea Jorge Alejandro Kurczyn Robledo, Universidad Nacional de México, México.
12.30 – 12.45	Horizontal small-scales features on the inner shelf adjacent to the mouth of Patos Lagoon Melissa Garcia Balhejos, / Federal University of Rio Grande, Brazil.
12.45 – 13.00	Exploring the hydrodynamic structure of the Magdalena River plume in the Caribbean Sea Oscar Alvarez-Silva, Universidad del Norte, Colombia.
13.00 – 14.30	Libre
	Sesión Shelf dynamics 2 - Moderador
14.30 – 14.45	Impact of Atmospheric Rivers on Coastal Oceanographic Conditions off central-southern Chile Yosvany Garcia Santos, Universidad de Concepción, Chile.
14.45 – 15.00	Implementation of Operational Models along the Chilean Coast Diego Narváez, COPAS Coastal, Universidad de Concepción, Chile.
15.00 – 15.15	Numerical assessment of tidal stream energy in the Brazilian Equatorial Shelf Alessandro Lopes Aguiar, Universidade do Estado do Rio de Janeiro, Brasil.
15.15 – 15.30	Diapycnal Mixing and Double Diffusion in the Oxygen Minimum Zone off Central Chile - Observational Evidence from Underwater Gliders. Salma Juliette Espinoza Rivera, Universidad de Concepción, Chile.
15.30 – 15.45	Nonlinear Proudman Resonance Problem Under Moving Atmospheric Pressure System Chunyan Li, Louisiana State University, USA.
15.45 – 16.00	Interactions between polymer properties, density-driven stratification and the distribution of microplastics in the water column Clara Silveira Bainy, Universidade Federal do Rio Grande, Brasil.
16.00 – 16.30	Café de pausa - Póster
	Sesión Biophysical processes



Moderador:	
16.30 – 16.45	Exploring Lagrangian circulation as a bottom-up control of the Antarctic marine ecosystem. Andrea Piñones, Universidad Austral de Chile, Chile.
16.45 – 17.00	Hydrographic Variability and Pelagic Species Distribution in Northern Chilean Patagonia: Insights from Combined In-situ and Modeled Data (2014–2025) Cristián Alfredo Henríquez-Pastene, IFOP.
17.00 – 17.15	River freshwater and nutrient releases impact on biological production in central-southern Chile using biophysical simulations Odette Alejandra Vergara Soto, Universidad de Concepción.
17.15 – 17.30	An atypical population of <i>Dinophysis acuminata</i> in Northwest Patagonia: The strange case of the San Rafael Lagoon Glacier Patricio A. Díaz, Centro i-imar, Universidad de Los Lagos
17.30 – 17.45	High-resolution temporal dynamics of diatoms in a large and well-mixed tropical estuary Paula Birocchi, Universidad de Sao Paulo, Brasil.
17.45 – 18.00	Cross-canyon variability in zooplankton backscattering strength in a river-influenced upwelling area Macarena Díaz Astudillo, COPAS Coastal, Universidad de Concepción, Chile.

Viernes 28 Nov

Sesión Estuarine Dynamics 4	
Moderador:	
09.00 – 09.15	Geometry Shapes the Flow: Asymmetric Dynamics in Narrow Channels and Their Impact on Estuarine Connectivity. Zeneida Elizabeth Wong Chang, Universidad de Concepción, Chile.
09.15 – 09.30	Catabatic Winds Drives Reversals of Subtidal Estuarine Circulation Under Hot and Dry Conditions. Braulio Juarez, Universidad Autónoma de Baja California, México.
09.30 – 09.45	Unprecedented ADCP-based characterization of tsunami–tide–river coupling in the Valdivia River for the 2025 Kamchatka tsunami. Nicolás Donoso Castro, INNOVEX, Chile.
09.45 – 10.00	Influence of artificial river-mouth openings on tidal wave propagation in a small estuary. Camila Bastías Rojas, Universidad de Concepción, Chile.
10.00 – 10.15	Effects of sediments on exchange flow in a macrotidal and turbid estuary. Cristian Rojas, Universidad de Maine, USA.
10.15 – 10.30	River-wave interactions at small-scale river mouths Raúl Flores Audibert, Universidad Técnica Federico Santa María, Chile.
10.30 – 11.00	Café de pausa - Póster
Sesión Morphodynamics and Sediment dynamics	
Moderador:	
11.00 – 11.15	Preliminary Analysis of Coastal Morphological Changes in La Paz Lagoon Using Satellite Imagery Leonardo Tenorio Fernández, Instituto Politécnico Nacional, México
11.15 – 11.30	Surf Zone Bathymetry Inversion via Assimilation of Deep Learning-based Wave Breaking Energy Dissipation Estimates from Optical Data Francisco Javier Sáez Rosales, CIGIDEN, Chile.
11.30 – 11.45	Estimation of wave forcings from remote measurements: case study of the Maipo river mouth Sebastián Véliz Cuéllar, Universidad Técnica Federico Santa María, Chile.
11.45 – 12.00	Evolution of tides in relation to morphology and river discharge changes



	Aldo Sottolichio, Université de Bordeaux, Francia.
12.00 – 12.15	Inner shelf hydrodynamics and mud dynamics adjacent to the Patos Lagoon mouth Carlos Schettini, Universidade Federal do Rio Grande, Brazil.
12.15 – 12.30	Spatial and temporal variability of suspended particulate matter on Brazil's Southern inner shelf Ornella Bertholdo Calloni, Universidade Federal do Rio Grande, Brazil.
12.30 – 13.00	• Ceremonia de clausura • LAPECO AWARDS
12.30 – 14.00	Libre
14.30 – 20.00	(*) Tour oficial: Parque Nacional Vicente Pérez Rosales 

(*) Opcional

Posters Session

Authors	Title of abstract
Daniel Andrés Olivares Norambuena	Development and Assessment of a Curvilinear Ocean Model for the coastal ocean off Chilean Patagonia
Osvaldo Artal Arrieta	Structure and variability of freshwater conditions off Chilean Patagonia from a high-resolution curvilinear ocean model
Andres Garcia-Ruiz	Critical environmental factors in the physical deterioration of structural timber in estuarine environments - Insights from a global literature review
Valentina Besoain	Exploración de la dinámica del oxígeno superficial en el fiordo de Reloncaví mediante modelos aditivos generalizados (GAM) durante el otoño de 2024
Facundo Noel Galletta Oroña	UAV-Based Remote Sensing Algorithm for Hydrodynamic and Water Quality Monitoring in the Río de la Plata Estuary
Valentina Iturra Rosales	Modelación numérica de la conectividad y surgencia en el fiordo Puyuhuapi durante la primavera de 2024: una aproximación a la dinámica de floraciones algales nocivas.
Pedro Paulo de	Intertidal Hydrodynamics in Urindeua Bay on the Eastern Amazon



Freitas	Coast, Brazil.
Claudia Morales-Garrido	Fire and Ice: Dynamics oceanography in North Patagonia in Falkor too (SOI)
Joan Manuel Higuera Sepúlveda	Observational and analytical study of the residual and tidal circulation in a deep estuarine system of complex bathymetry
Jorge Armando Laurel Castillo	Transverse structure of exchange flows around a mid-estuary coastal constriction
Pedro Paulo de Freitas	Spatiotemporal variability of the M2 tide along the Amazon Coast, Brazil
Danilo Augusto Silva	Stratification as a trap: the role of river-induced stratification on carbon retention and dispersal
Joao Pedro Mancio de Amorim	Kinematics and dynamics of a low-salinity filament in the Brazil Current region
Aidan Parfett	The influence of semidiurnal internal tides on the circulation and upwelling in a submarine canyon
Kristhal Doto	Plastic debris transport in the Patos Lagoon during the 2024 extreme flood event
Vanessa Alejandra Carril Pardo	The influence of a submarine canyon and wind stress curl on the circulation and dynamics over the continental shelf
Lauanne Oliveira Pimentel	Perceptions of Coastal Zone and Estuary - A Comparison between Urban Population and Local Community in the Extreme South of Santa Catarina, Brazil
Alejandro Ríos Santana	Searching for Optimal Salt-Marsh Restoration Sites in the Guadalquivir Estuary (Spain)
Naity Paola Alejandra Rodríguez Benavides	Forzantes Oceanográficas y su impacto en las tensiones estructurales de un sistema de cultivo en el mar interior de Chiloé, Región de Los Lagos, Chile.
CECILIA ENRIQUEZ	Coupled wave-current modelling of dispersion in an endangered Caribbean coral reef lagoon
Maria Schliermann	Spatial Variability of glacial freshwater sources along Patagonian and Fuegian Fjords
Jorge Martín Quispe Sánchez	Disminución del efecto Niño costero 2017 en la variabilidad de las condiciones oceanográficas y estratificación en la ensenada de Huanchaco, Trujillo, La Libertad, Perú.
Darinka Andrea Pecarevic Estay	Tidal and subtidal flows in a shallow-short channel of the northern Patagonian Fjord
Michelle Jackson	Evaluating Estuarine Salinity Using Numerical Modeling and Threshold-Based Analysis
Poliana Teresa Leiva Garay	Submesoscale Variability in the Surface Ocean off Central Chile Based on Sea Surface Temperature Observations
Maria Schliermann	Spatial Variability of glacial freshwater sources along Patagonian and Fuegian Fjords
Idania Coromoto Briceño de Urbaneja	Coastal Erosion in the Maule Region: A Call for Resilient Management
Camilo Rodríguez Villegas	Submarine canyon-coast dynamic in northern Chilean Patagonia: how resting cyst advection and resuspension can create new risks



	to the onset of <i>Alexandrium catenella</i> toxic bloom for oceanic stakeholders
Gabriel Pereira de Oliveira	Erosion from Mud Pellets in Beach Environments
Anneke ten Doeschate	Resolving double-diffusive mixing with microstructure sensors in coastal and ocean waters
Rodrigo Cienfuegos Carrasco	On the characterization of infragravity waves penetrating an Intermittently Open/Closed Estuary: Laguna C�huil in Central Chile
Rodolfo Adri�n G�mez Sep�lveda	Tidal Deformation and Hydrodynamics Interactions in a Multi-River Estuary
Leonardo Ferreira Caminha	Environmental effects of the closure of the Linguado Channel: a focus on the physical-chemical parameters of the water
Camilo Rodr�guez Villegas	Dinoflagellate cyst assemblages' distribution in mussel seed-bank hotspot in Northwestern Patagonia: Effect of physico-chemical interactions on lipophilic toxic-producers
Angela Mar�a Baldrich	Influence of seasonal environmental variability on bloom dynamics of toxic phytoplankton at a harmful algal bloom hot-spot in northwestern Patagonia
Katherine Daza	Hydrodynamic links to abundance of whales and birds in a hypersaline coastal lagoon
Humberto Javier Godoy Arteaga	Factores oceanogr�ficos y clim�ticos implicados en el desarrollo de una intensa floraci�n de <i>Heterosigma akashiwo</i> en la Patagonia Noroccidental
Ra�l Candelario Cruz G�mez	Experimentos de laboratorio sobre la separaci�n de corrientes costeras y la formaci�n de v�rtices frente a Cabo Corrientes y Bah�a de Banderas, M�xico
Stacy Anushka Ballyram	Fuentes de variabilidad de las aguas del Fiordo Comau (42�22.767 S, 72�25.534 W), Patagonia norte, Chile
Danilo Augusto Silva	Microplastic export from a heavily urbanized estuary and its impact on a coastal marine reserve
Francesca Search	Circulation and hydrographic conditions in an upwelling-influenced bay of central Chile
Martina Raquel Monasterio Sandoval	Barotropic tide dynamics in the Strait of Magellan: understanding propagation, reflection, and resonance through its basins and constrictions
Camila Paz Sola Hidalgo	Decrease of deep ventilation contributing to deoxygenation in North Patagonian fjords and channels: Guafo mouth study case.
Luiza Paschoal Stein	Persistent wind forcing overrides wave and tidal controls circulation on coral reef circulation: the shallow Tamandar� reef, Brazil.
Stendert Laan	3D Shelf Sea Modeling: Applications in Europe and the U.S. with Relevance to Latin America
Claudia Morales-Garrido	Analysis of the temporal variability of dissolved oxygen in two bays in central Chile
Pamela Mu�oz Linford	Nueva evidencia sobre la din�mica estacional del Agua Modal Subant�rtica y su rol en la formaci�n de aguas modificadas sobre la plataforma de la Patagonia sur



Sebastian Andrés Díaz Ceballos	On the influence of a long submarine canyon on the circulation and cross-shore transport over an idealized continental shelf
Daniilo Augusto Silva	Salinity Maximum (Smax) intrusions driving mechanisms on a mid-latitude continental shelf
Karina Ramos Musalem	Tidal rectification and exchange at the neck of Punta Banda Canyon: a tides-only modeling framework
Maibelin Castillo Alvarez	Sea surface temperature variability in Jardines de la Reina National Park (Southeastern Cuban shelf)
Fabián Enrique Salgado Oporto	Cambios Oceanográficos en la Patagonia Chilena
Marcus Sobarzo	Rapid response of the Concepcion Bay to winter storms
Arnoldo Valle-Levinson	Interannual variability of daily sea-level maxima
Catalina Aguirre	Impact-based extreme-wave intensity scale for high-resolution coastal forecasting
Claire Ormart	Cross-shelf transport response to wind stress variability over the head of the
Julie Angus	Advancing Multi-Domain Uncrewed Observing Systems for Scalable Ocean
Nicolás Cisternas	Temporal variability scales of the Gulf of Arauco currents in response to wind and tides