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Publication will portray Women of the Sea, Coast and Islands in Aysén Region

"Women of the sea, coast and islands of Aysén Region" is the given name to the first publication aimed at disseminating female participation in artisanal fishing sector from Melinka, on the north coast, to Caleta Tortel, in the southern region.

Recognizing women on the coast's importance history and activities. Fisheries Development Institute (IFOP) and the Artisanal Fisheries Women's Roundtable agreed to publish Women of the Sea, as part of a collaborative effort.

As the table's president Rodrigo Araya, Regional Presidential Delegate,, highlighted this initiative as part of the regional challenges and the importance of scientific research on the coast, to strengthen regional vision around the sector.



"In the government of our President Gabriel Boric, funding for science is going to increase progressively and Fisheries Development Institute is one of those institutions that will also receive more resources during coming years, therefore, we also have the possibility of leveraging resources from it, from the region, to be able to improve precisely needed information to make better decisions with our region's fisheries ", he indicated.

IFOP's executive director Gonzalo Pereira, indicated that the Institute



Editorial committee

Gonzalo Pereira P. / Executive Director
Gabriela Gutiérrez V. / Journalist

Graphic design

Mario Recabal M. / Senior graphic designer

has a staff of 18 workers in Aysén all of them linked to marine sciences, biology and marine biology, aimed at deepening as comprehensively as possible in the fishing and aquaculture field.

"It is the institution that carries out coastal marine research for fishing and aquaculture in the State of Chile. It is an institution that is linked to the public fishing system and its contribution, mainly, is to provide information, information generation and science for decision-making by the fishing authority, but it also does research work in different associations with universities, NGOs, international entities. In this case, this agreement signing is intended to produce a photobook that highlights women's work in artisanal fishing with photographs. And here is a personal merit of our regional chief, because photographs are by Alejandra Lafón", she explained.

The Photobook General Directorate will be in charge of Alejandra Lafón Vilugrón IFOP Aysén Headquarters 's Head who will be supported in her management by a technical team from the Institution and the Board.

"The agreement that we have just signed formalizes the cooperation we have through Artisanal Fisheries Women's Roundtable, to highlight the importance, to get to know coastal women. We who



JUANITA ALTAMIRANO

PUYUHUAPI



EDVIGES MONTEL

PUERTO AYSÉN



BLANCA TARUMAN

PUERTO CISNES

are permanently linked, from the research field and our ground's tasks we are visiting coves and seeing all these women who live in the sea, on the islands, on the coast, in our region. For this reason, we consider it super important to show them, that they know them, that we get to know each other in the region, that we have an immense sea. It is important to show these women's the sea faces who also belong to the region. They say that sometimes it is difficult to reach these places a little further away and we have some women who are active in artisanal fishing, in their activities that come together with gastronomy, with tourism, with children's care, with artisanal fishermen accompaniment ",

he concluded.

At the regional level, artisanal fishing is made up of more than 2,700 men equivalent to 77.6% and more than 800 women equivalent to 22.4%, mainly located in Melinka, Puerto Aguirre, Puerto Aysén, Puerto Cisnes, Caleta Andrade , Puerto Gala and Puerto Raúl Marín Balmaceda.

According to the FAO, fishing and aquaculture female's workforce has a numerical and qualitative importance greater than what statistics show and their work is generally not made visible.

News and photography source: Aysén Regional Presidential Delegation Press



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Japanese researchers visit IFOP Puerto Montt and Valparaíso

During September, within SATREPS MACH project framework (Algae Monitoring in Chile: Monitoring methods and prediction system of harmful algal blooms development for sustainable aquaculture and coastal fishing in Chile). A Chile-Japan international cooperation initiative financed by Japan International Cooperation Agency (JICA) and Japanese Science and Technology (JST), Dr. Mikihiko KAWAI from Kyoto University and Mr. Yuji MISU, coordinator of the project in Chile.

These visits aims on coordinating all computer aspects related to the project, which is in its final phase. In particular, aspects related to ordering generated data, Akashiwo server administration (red tide in Japanese) and project's website transfer to this server.

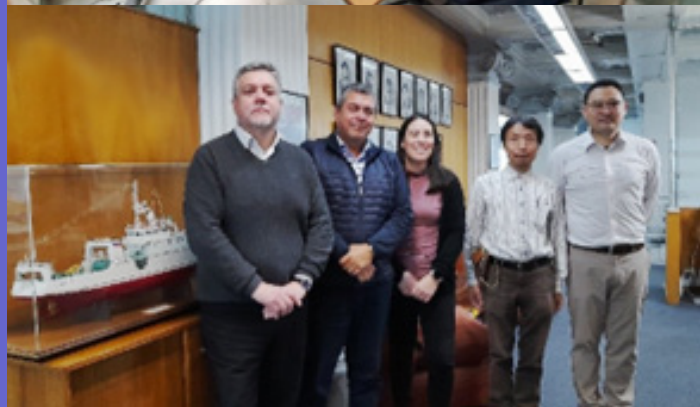
At Puerto Montt's headquarters, researchers met with the team from Aquaculture Research Division, led by Dr. Leonardo Guzmán, together with Dr. Oscar Espinoza head of for Harmful Algae Studies (CREAN) and at central headquarters with Jaime Gonzá-

lez, Information Technologies Department Head. In addition, the Executive Director received them with Daniela Díaz, Cooperation and International Affairs Head, to discuss this cooperation alliance between Chile and Japan continuity.

IFOP assumes Pacific Alliance Network Executive Secretariat of Fisheries and Aquaculture Research Institutions

On September 15th, the 2nd virtual meeting of the year 2022 of the Network of Fisheries and Aquaculture Research Institutions of the Pacific Alliance (IIPA/AP network) was held. This is a network that was born in the context of the 2017 Work Plan of the ad hoc group on Fisheries and Aquaculture of the Pacific Alliance and is made up of IFOP (Chile), INVEMAR (Colombia), INAPESCA (Mexico) and IMARPE (Peru). , and INIDEP (Argentina), SCIRO (Australia) and FAO have also participated as observer institutions, considering that the network is open to organizations or institutes that wish to participate. Its purpose is to constitute an integration instance to advance progressively towards the best generation of scientific knowledge in fishing and aquaculture for the sustainable management of these resources in the countries of the Pacific Alliance.

The meeting was organized by IFOP, which assumed the Executive Secretariat of the Network for the period 2022-2023 and had the objective of reactivating coordination between institutions and generating a proposal for a Work Plan for the remainder of the year 2022 and for the year 2023. It was attended by Colombia, Peru, Mexico,



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2da reunión virtual 2022

RED DE INSTITUCIONES DE INVESTIGACIÓN
PESQUERA Y ACUÍCOLA DE LA ALIANZA DEL PACÍFICO

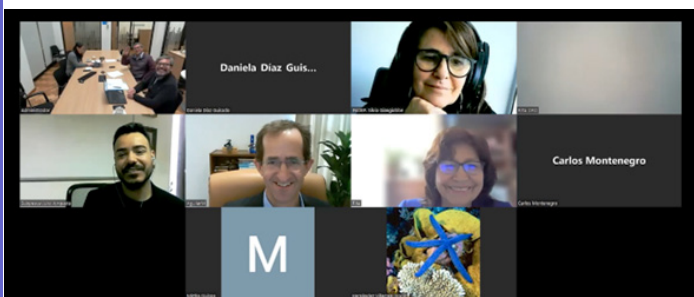


15 septiembre 2022

Argentina, and representatives of the FAO and the Undersecretary of Fisheries and Aquaculture. From IFOP, the Executive Director, Gonzalo Pereira, Dr. Carlos Montenegro, Head of Fisheries Assessment Department and Dr. Daniela Díaz, in charge of Cooperation and International Affairs, participated.

Dr. Daniela Díaz commented “among other commitments, it was agreed to work on development of an internship program that allows researchers to learn about and participate in the scientific work that is carried out in the different research institutions that make up the network. Likewise, the development of the next face-to-face meeting was agreed, which will be organized by INVEMAR, in Colombia.

The reactivation of this instance is very relevant since it allows strengthening cooperation between research institutions, identifying cross-cutting topics of interest that can be addressed jointly, thus facilitating and promoting the generation of scientific knowledge”.



IFOP Delegation exhibits at Eastern Rim Upwelling Systems International Conference (EBUS)

In Lima, Peru, between September 19th and 23rd Eastern Rim Upwelling Systems (EBUS): Past, Present and Future and Second International Humboldt Current System Conference will be held. <https://www.ebus-lima2022.com/es>

From IFOP Fisheries Development Institute, a delegation made up of 8 researchers is attending. They will show their Humboldt Current related work .

The contribution provided by the Binational Chile-Peru project “Catalysing Implementation of a Strategic Action Program for the Sustainable Management of Shared Living Marine Resources in the Humboldt Current System (HCS)” is appreciated.

About the presentations

Title: Geographical distribution of the Humboldt squid *Dosidicus gigas* .Present and future

Authors: Karen Belmar-Salinas, Felipe Torres, María Cecilia Pardo-Gandarillas and Christian Ibáñez

This work’s objective was to evaluate cuttlefish geographical range under different temperature scenarios according to the Representative Concentration Route (RCP) criteria . For this, a maximum entropy analysis was carried out to evaluate and project its future distribution, 1,500 occurrence data throughout the Pacific Ocean, as well as environmental variables related to sea surface temperature, current speed and salinity. Our results indicate that the geographic distribution of *D. gigas*

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would evolve towards colder latitudes due to changes in sea surface temperature, the variable that best explains this trend.

Title “Main environmental attributes influence on anchoveta fishery (*Engraulis ringens*) in northern Chile”

Author Graciela Perez

To determinate how prevailing environmental variables between 2003 – 2020 influence anchoveta fishery distribution in northern zone of Chile (18.3°S – 26°S), considering Humboldt current predominance, which favors a permanent coastal upwelling system that generates high seasonality in the region.

Title: Maturity of anchoveta *Engraulis ringens* from northern Chile: estimates for 2007-2020 period

Author: Eduardo Diaz

From pelagic fishery derived data in northern zone, during the last decade anchoveta population shows changes in its sizes composition. Antecedents indicate sustained decrease of average sizes in catches, with little presence of sizes from 14 cm and practically null incidence on 16 cm of total length, being the fishery sustained by small sizes specimens. In this context, the implication of demographic structure on reproductive behavior changes is analyzed, emphasizing on determining temporal variations in sexual maturity. For this purpose, the period 2007-2020 is analyzed.

Title: “Deep learning and production models with autoregressive and multivariate approach for jack mackerel fishery simulation associated with environmental conditions”

Authors: Francisco Plaza, Eleuterio Yáñez, Pierre Fréon Héctor Araya & Antonio Aranis

Modeling of jack mackerel (*Trachurus murphy*) fishery in Southern Eastern Pacific is carried out, integrating effort, catches and averages of the sea surface temperature in the area between 32°-42°S-71°-80°W under two approaches: the first through of production models, implemented in Climprod software, which consider annual data; The second approach considers deep learning models such as Convolutional Neural Networks (CNN) and Recurrent Long and Short Memory Networks (Long Short Term Memory Networks, LSTM), under a long memory autoregressive monthly perspective. The results provide simulations of resource's catches under different environmental scenarios that can be useful to establish short and long term predictions.

Title: “Vertical distribution of barnacle larvae diurnal variability through seasonal thermocline in Cartagena Bay, Chile”

Author: Jessica Bonicelli Proaño

This work evaluates and compares barnacle larvae vertical distribution between an exposed and a wind-protected location within Cartagena Bay, central Chile. The results show that vertical distribution is not uniform across different taxa or barnacle larval stages within the



bay and varies in response to environmental conditions.

Title: Benthic management plans in Chile Case studies

Authors: Carlos Techeira & Carlos Cortes

Benthic Management Plans operation in Chile has required evaluation methodologies implementation for these resources, historically unrelated to these processes development. Two case studies are presented, bivalves and macroalgae, which satisfy required advice with direct and indirect evaluation alternatives, for different states of information knowledge and availability

Presentación poster:

Title: Growth parameters variability in a benthic population with a wide spatial and environmental distribution: life cycle characterization effect

Authors: Carlos Techeira, Mauricio Ibarra & Carlos Cortes

Growth parameters determination for locust resource is presented, based on size studies for 100 Management Areas between Iquique and Valparaíso regions. A latitudinal gradient for maximum sizes, high local growth variability rates and clusters association with oceanographic environmental variables, collected with simultaneous occurrence of growth information for a period of 10 years, are described.



Title: Harmful microphytoplankton and microalgae assemblages spatio-temporal variability in central-southern Chile coastal waters (36° – 44°S).

Authors: Oscar Espinoza-González¹; Leonardo Guzman¹; Hector Tardon¹; Luis Norambuena¹; Emma Cascales¹; Cristina Hernández²; Karen Correa¹; Bianca Olivares¹; Loreto López¹; Carolina Soto¹

1 Center for Harmful Algae Studies (CREAN), Fisheries Development Institute (IFOP), Puerto Montt – Chile.

2 Regional Ministerial Secretariat of Health of the Los Lagos Region, Puerto Montt – Chile

This contribution evaluates phytoplankton assemblages dynamics and species that form Harmful Algal Blooms occurrence (HAB), through a four-year monthly monitoring (2018 – 2021) on Center-South of Chile Pacific coast. Main HAB events associated with *Alexandrium catenella* (summer 2018), *Dinophysis acuminata* (spring 2019) and *Pseudo-nitzschia* species (summer 2021) are described and the atmospheric-oceanographic conditions that promoted them are identified. The information obtained is relevant in HABs potential impact evaluation and management on public health and coastal resources management .

Title: Lagrangian dispersion studies in the great bay of Coquimbo (30°S)

Author: Catherine Gonzalez Galvez

A dispersion of larvae of various benthic species characterization in great Coquimbo bay is presented, through the application of certain computational tools related to the study of ocean circulation and larval transport, implementing an individual-based model (IBM), with aim of studying results convergence s of a set of simulations of this model.



Dr. Jaiber Solano from IFOP, exhibits at the 9th International Symposium on Aquatic Animal Health

HE PRESENTED PART OF FIPA PROJECT RESULTS "DEVELOPMENT OF A PROPOSAL FOR AN EPIDEMIOLOGICAL SURVEILLANCE PROGRAM BASED ON RISK FOR ORNAMENTAL FISH IN CHILE, BASED ON THEIR CHARACTERIZATION AND CURRENT HEALTH CONDITION"

Between September 5th and 8th, the 9th International Symposium on Aquatic Animal Health (ISAAH 9th) was held, organized by the School of Veterinary Medicine of Pontificia Universidad Catolica de Chile. This event is held every four years and for the first time it is being held in Chile.

The ISAAH brings together animal health researchers from around the world, with participation of scientific societies such as the American Fisheries Society, the Asian Fisheries Society – Fish Health Section, the European Association of Fish Pathologists, the International Association for Aquatic Animal Medicine and the Japanese Society of Fish Pathology.

On this occasion, the central theme of ISAAH9 was the improvement of aquatic animal health towards a One Health approach, also addressing issues associated with antimicrobial resistance in aquaculture, new tools applied in animal health, emerging diseases, among others.

During this event, Dr. Jaiber Solano Iguaran, Department of Hydrobiological Health of the Fisheries Development Institute senior researcher presented part of the FIPA project "Development of a proposal for a risk-



based epidemiological surveillance program for ornamental fish in Chile, based on their characterization and current health condition" the results, financed by the Undersecretary of Fisheries and Aquaculture (Subpesca, FIPA).

Dr. Solano presented the first report in Chile of two pathogenic agents, the Infectious Necrosis of Spleen and Kidney Virus (INBRV) and the parasite *Centrocestus formosanus*. These pathogens were found in samples of the species *Xiphophorus maculatus* (Platy), which represents one of the ornamental fish species of greatest interest in our country. These findings gave rise, so that in February of this year the National Fisheries and Aquaculture Service began an epidemiological investigation associated with imports of ornamental fish to our country.

Jaiber Solano is a Biologist, PhD in Sciences with a mention in Ecology and Evolution. His line of research focuses on the use of molecular tools to study diseases in hydrobiological organisms. In this way, Jaiber was directing the FIPA project, which was being developed between January 2020 and July 2022, and had the support of Subpesca and Sernapesca.



“Chilean Contribution to the Multinational Alert System for the Resilience of Fisheries in the Great Humboldt Current System”

Dr. Jaime Letelier Pino, head of IFOP Fisheries Research Division of Oceanography and Environment, presented “Chilean Contribution to the Multinational Alert System for the Resilience of Fisheries in the Great Humboldt Current System (S.A.P.O)”, at the “international conference on Eastern Rim Upwelling Systems (EBUS): Past, Present and Future & Second International Conference on the Humboldt Current System” held in Lima between September 19th and 23rd, 2022.

The exhibition was part of the shared session with leading scientists from the “Institute of the Sea of Peru”, the “Public Institute for Aquaculture and Fisheries Research” of Ecuador and the Environmental Defense Fund (EDF). Leading scientists from France, South Africa and the Canary Islands participated in the audience.

Dr. Letelier highlighted the importance of this joint initiative of Chilean Fisheries Institutes Peru and Ecuador, as well as their researchers, to improve the certainty of the models through the reanalysis of historical information and the acquisition of new data. with a climatic change perspective, as well as the importance of reaching fishermen, small-scale aquaculturists and especially decision makers in the fishing sector in the 3 countries with this information. This is a collaborative initiative that we hope will flourish and reach the authorities and be consolidated through permanent multinational support for the generation of scientific information to support decisions related to the sustainable development of fisheries.

In the session presented:



Instituto del Mar de Peru

Dr. Jorge Tam and collaborators: “Oceanic information system for characterization and forecasting of extreme events associated to climate change in the northern Humboldt current ecosystem.”

Public Institute for Aquaculture and Fisheries Research

Msc. Telmo de la Cuadra and collaborators: “Development of the warning, prediction and observation system (SAPO) in the Humboldt ecosystem off the coast of Ecuador.”

Fisheries Development Institute

Jaime Letelier and collaborators: “Chilean Contribution to the Observation, Prediction and Early Warning System of Climate Impacts on Fisheries of the Humboldt Current System (S.A.P.O.).”

Environmental Defense Fund (EDF)

Brad Parks y colaboradores: “An Early Warning, Prediction and Observation System (SAPO) for Fisheries Resilient to Climate Change in the Humboldt Current Large Marine Ecosystem.”



Chile, Colombia, Peru and Ecuador united in oceanographic research

From Antofagasta's Port Abate Molina scientific vessel set sail on September 23rd for a 45-day cruise that will cover between the northern limit of the country and 26°S and up to a distance of 100 nm from the coast. Within the framework of the XXV Joint Regional Cruise, coordinated by the South Pacific Permanent Commission (CPPS)

The cruise's execution is in charge of Oceanography and Environment Department (DOMA) of Fisheries Development Institute (IFOP) and the head of the cruise in its first half is the Oceanographer Hernán Reyes and in second place in charge it will be Dr. Jessica Bonicelli. This cruise will carry out an anchoveta resource survey in the area, for spawning stock evaluation, relevant information collected by IFOP for fishing management, and, on the other hand, in a scientific aspect, it will collect oceanographic information within the framework of the XXV regional cruise set coordinated by CPPS.

Hernán Reyes explained "The CPPS joint regional cruise objective where Colombia, Ecuador, Peru and Chile participate in a coordinated manner, is to obtain oceanographic and meteorological information in Southeast Pacific during the months of September and October. With this, a complete oceanographic conditions monitoring of an extensive maritime area is obtained within the framework of El Niño a regional process research that is in its cold La Niña phase. The results of this joint international and regional cruise, a report prepared by the four 4 countries, will be presented by the Chilean



delegate (IFOP) to the national representatives of each country that make up the ERFEN Regional Scientific Committee of the CPPS. This meeting is scheduled to take place next December in the city of Santiago de Chile".

Sixteen professionals, including researchers and technicians, participate in the bio-oceanographic cruise to carry out an intense sampling plan in physical, chemical and biological oceanography that will complete a total of 142 oceanographic stations and 799 anchovy egg sampling stations

Among oceanography activities, physical variables temperature and salinity up to a maximum depth of 1000 m sampling and water sampling at various depths for oxygen analysis, chlorophyll, nutrients and phytoplankton stand out. In the biological component, an intense sampling of zooplankton and phytoplankton is carried out. In a complementary way, an acoustic survey of pelagic resources and recording of meteorological data are carried out. Marine mammals sighting is also carried out, by personnel specially dedicated to it, during all the days of the cruise, when the sea conditions allow it. The final call of the R/V Abate Molina is expected on November 5th in Valparaíso.



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Working together: Analysis and proposals related to the harpoon swordfish fishery expanded workshop

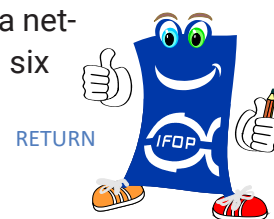
The workshop was held in Caldera port it was organized by the Chilean National Artisanal Fishermen Confederation (CONAPACH), the Interregional Pelagic Federation Changos del Norte and Northern Macrozone Artisanal Fishermen Organizations, this meeting was attended by more than 60 participants from the artisanal fishing sector, representatives of Fisheries Undersecretariat, Fisheries Development Institute, National Fisheries Service, Chilean Navy and regional authorities. The event began with welcome greetings from Mr. Miguel Avalos, Caldera's COOPESCADORRES president and via telematics, Mrs. Zoila Bustamante, CONAPACH president who pointed out this workshop's relevance. The same was expressed by Mr. Miguel Vargas, Atacama Region's Governor, Mrs. Brunilda González, Caldera's Mayor and greetings from Port of Caldera's Captain, regional representatives from Fisheries and Aquaculture Undersecretariat, National Fisheries and Aquaculture Service and Fisheries Development Institute.

The cycle of talks began with the presentation "Swordfish status of fishery in South Eastern Pacific Ocean", by researcher Patricio Barría, who pointed out that at national level this resource status is healthy. He also mentioned that a macro-scale swordfish stock assessment in the eastern South Pacific Ocean is being developed by the Inter-American Tropical Tuna Commission (IATTC). This research has had support and scientific cooperation of Chile and the coastal countries and incorporates information from deep-sea



fleets, Japan, Taiwan and the European Economic Community. The researcher Hernán Miranda spoke about "State and progress of Taltal and Caldera workshops reached commitments" and made a historical joint work review of all the work that has been carried out for more than a decade, between IFOP and fishermen's organizations. craft, with the purpose of making the harpoon fleet visible in swordfish fishery. He indicated that IFOP's work methodology is field implementation of "Working together" approach, developed by Elinor Ostrom, Nobel Prize winner in economics, who points out a way to avoid the "Tragedy of the common goods", as This is the case of fisheries. He mentioned that during 2018 an important milestone was reached by the Fisheries Administration consisting of the regularization of more than 120 artisanal vessels in the harpoon swordfish fishery and 754 vessels that participated in the cuttlefish fishery. Currently, the harpoon fleet that participates in swordfish fishing exceeds 1,000 enabled and active vessels along the coast from Arica to Valdivia.

Mr. Claudio Ramírez, of Sernapesca Atacama Director(s) spoke about the "National Albacora Fishery Regulation", in which he referred to the dimensions of the gillnet, made comparisons in which a network can contain an area of six





blocks of a city and operational difficulties that the Service has to carry out the inspection of the network fleet.

Another presentation was made by Mr. Juan Santibáñez, from Fisheries Undersecretariat and Aquaculture and verse on “Regulations to apply restrictions to imports according to the Protection of Marine Mammals of the United States Law”, he pointed out the importance of using devices to reduce, if not prevent, by-catch of marine mammals and cetaceans. In addition, he emphasized of artisanal fishing sector and the country opportunities for supporting this initiative since it would allow having the swordfish fishery certified in the future to have access to the North American market and avoid the closure of access to this market.

Finally, Javier Rivera from Fisheries Undersecretariat spoke about “The 20 support measures committed to artisanal fishing”, which are part of government program priorities. In addition, he mentioned that workshops with

the fishing sector at the local, regional and national levels should be initiated to advance in the elaboration of a new fishing law.

At the end of the workshop, there was an expanded conversation to analyze the proposals related to the harpoon swordfish fishery, in order to address in a participatory manner the sustainability strategies of the fishery in the national and international regulatory framework.

The main agreements of the workshop were the following:

IFOP must design and implement a sampling system at the local and regional level of the harpoon fleet to generate scientific information on swordfish fishery with the purpose of advising the National Fisheries Administration, fisheries development and providing regional technical assistance. and nationally oriented to food security.

At the international level, strengthen our participation in the Inter-American Tropical Tuna Commission (IATTC), strengthen its national sampling system for the swordfish fishery, regularly send the information that this organization requires, and strengthen its team of researchers.

On the other hand, the artisanal fishing sector commitment with the Monitoring of Highly Migratory Biological Fisheries Resources project consists of supporting IFOP staff, giving access to data collection at the docks and on board their vessels and active participation in new technologies incorporation (such as the use of “pingers”) to avoid marine mammals incidental capture .

Regarding inspection and control, the artisanal fishermen mentioned that harpoon fishing is a



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highly selective fishing system, with a low volume of landings, used ancestrally by native coastal peoples and currently by the communities of artisanal fishermen.

In relation to the fishing administration, the urgency of systematizing the national list of artisanal fishery and new hydrobiological species inclusion was mentioned; to implement in short term a system of vacancies replacement due to expiration and improve replacement of vessels regulations. In relation to fishing development, support artisanal fishermen cooperatives and their products commercialization lines, seed capital strengthening and technical assistance for entrepreneurs; provide support funding for caletas's management and support rural caletas production through new infrastructure development.

Finally, Fisheries and Aquaculture Undersecretariat invited all artisanal fishermen to participate in territorial dialogues that will take place from the last quarter of the current year, to discuss a new fishing law contents of.

IFOP and Sernapesca participate in international beach cleaning day

DIFFERENT AUTHORITIES ATTENDED THE EVENT, INCLUDING VALPARAÍSO'S REGION ECONOMY AND ENVIRONMENT MINISTERIAL SECRETARIAT (SEREMIS) AND VALPARAÍSO AND VIÑA DEL MAR MAYORS JORGE SHARP, AND MACARENA RIPAMONTI RESPECTIVELY

On September 29th and 30th, 2022, beach dissemination and cleaning activities

were carried out in Caleta Portales and Reñaca beach, with a large gathering attended by schools and general public. On this occasion, delegations from Chilean Navy, Municipalities, Universities, Environment Seremi, Agricultural and Livestock Service, National Fisheries and Aquaculture Service (SERNAPESCA), and the Fisheries Development Institute (IFOP) participated in the stand. The IFOP delegation participated in a stand together with SERNAPESCA officials with "Annex V-MARPOL 73/78" brochures delivery and "Color marine life" booklets for children. Sernapesca, for its part, explained to the schools the role and mission of the institution and its care for marine fauna. Sernapesca's Chungongo mascot was the center of attention for children and adults who, in a playful way, learned about the damage caused by the garbage that is thrown into the ocean.

Christian Inostroza, (Seremi) of Economy Ministerial Secretariat, Development and Tourism, from Valparaíso's region, expressed "we believe that this world beach cleaning day is essential to promote care of our natural resources awareness, it is essential that we are the first promoters of our beaches care since they are part of our city, therefore each of the services we have to promote and create awareness of not throwing garbage on our beaches"

Sernapesca regional director, Soledad Tapia, explained that we participate as National Fisheries and Aquaculture Service in cleaning beaches thanks to an invitation made by the Chilean Navy in relation to the international beach cleaning day, both in our country and in many others. countries,



For us as Sernapesca, it was very important that we shared with Fisheries Development Institute at a stand providing information to the public, we care a lot about raising awareness, informing about damage caused by garbage to marine fauna and for this reason we want to make a call for people to help clean the beaches and also make good use of all the waste they recycle, not to use plastics, since these mainly harm our marine fauna, for example; turtles confuse bags in the sea with jellyfish and feed on them, which can cause death, many seabirds also feed on plastics or microplastics, which is very harmful to them, so you can help us by being aware of the damage caused by garbage on the beaches”.

On IFOP’s behalf, Mr. Carlos Montenegro fisheries research division’s head, spoke about the work that IFOP has been doing on board artisanal and industrial vessels. He pointed out that Chile adopted an international regulation known as “Annex V-MARPOL 73/78”, which refers to on board garbage generation regulation, highlighting among them the prohibition of dumping of plastic into the sea in any of its shapes. In this regard, one of the specific objectives carried out by “pelagic discard project” points to the evaluation of the level of knowledge of the regulations, behavior of the crew on trips and the implementation that has been carried out in the ships. To do this, the scientific observers are entrusted with filling out forms during the fishing trip and subsequently disseminating the regulations to the crew members. Various graphic elements have been used as support, such as triptychs, posters and delivery of ecological bags with allusive messages. The evaluation of the study has indicated that



progress has been made over time, which is assumed to be the change in behavior that has probably been produced by the recommendations received by the crew. The continuity of these types of activities over time is necessary, since this is the only way to generate awareness for the care of the marine environment and avoid impacts on marine organisms and their habitat.

Side Event: From Science to Policy in Humboldt Current Fisheries

THE EVENT WILL TAKE PLACE ON SEPTEMBER 23RD AT UNIVERSIDAD PERUANA CAYETANO HEREDIA AND WILL INCLUDE NATIONAL AND INTERNATIONAL SPECIALISTS PARTICIPATION

What is the importance of science for Humboldt Current System in Chile and Peru management main fishery? What benefits can scientific tools provide for sustainable fisheries that are resilient to climatic change? These and other questions will be addressed in the event "From Science to Humboldt Current Fisheries Policy", organized jointly by Humboldt II project and Environmental Defense Fund NGO, within the framework of Eastern Rim Upwelling System Conference (EBUS): Present, Past and Future – Second International Humboldt Current System Conference.

The event will be held on Friday, September 23rd, at 5:00 p.m. at Universidad Peruana Cayetano Heredia, and aims to promote discussion and demonstrate the importance of the connection between advanced science

and public policies to achieve sustainable fisheries management. and resilient to climatic variations of the Humboldt Current. Likewise, it will be broadcast live through the Facebook of the National Fisheries Society <https://bit.ly/FBLIVESNP>.

The occasion will include the participation of Fisheries and Aquaculture Vice Minister from Peru, Mr. Gabriel Salazar Vega; Institute of the Sea of Peru Scientific Executive Director Mr. Renato Guevara Carrasco; Mrs. Cayetana Aljovin National Fisheries Society, President; Oceana NGO Scientific Director, Mr. Juan Carlos Riveros; Associate Vice President for Latin America, Ms. Erica Cunningham; Head of Chilean Fisheries Development Institute Fisheries Assessment Department; Mr. Carlos Montenegro; Mrs. Joyce Méndez, Specialists from Pelagic Fisheries Unit of Undersecretary of Fisheries and Aquaculture of Chile and Mr. Mauricio Braun, of the Center for Applied Research of the Sea of Chile, who together will reflect on the following topics:

- **How to move from science to action.** Highlighting long-term experience of Chile and Peru in managing anchoveta fishery, one of the most important single-species fisheries globally.
- **How to achieve science-based policy.** Emphasizing scientific institutions importance in development of protocols necessary for correct decision-making, taking examples and experience of anchoveta fishing sector.
- **How to translate scientific information for decision makers.** Bringing into discussion the need for adequate language in scientific reports and protocols for policy-makers to make the best decisions.



- **What benefits can scientific tools provide.** Science must allow the development of protocols and other tools for those responsible for fisheries policy to clearly assess the risks of the decision-making process.
- **How to achieve mutual trust between scientific and political communities.** Highlighting the importance of mechanisms to improve mutual understanding and trust of these communities in order to better understand each other's institutional culture.
- **How to guarantee transparency and information exchange.** Promoting the need to prepare timely and open reports to the scientific community and society, on the decision-making process.

The event is organized within the framework of Humboldt II Project activities, executed by Vice Ministry of Fisheries and Aquaculture of Peru (VMPA-PRODUCE) and Fisheries and Aquaculture Undersecretariat (SUBPES-

CA) and implemented by the United Nations Program for Development (UNDP), with co-financing from the Global Environment Facility (GEF).

Humboldt II initiative main objective is to facilitate ecosystem-based fisheries management and ecosystem restoration in the Humboldt Current System for the sustainable and resilient provision of goods and services from the shared living marine resources of Chile and Peru.

Evento Paralelo
De la Ciencia a la Política en las Pesquerías de la Corriente de Humboldt
 Conferencia sobre los Sistemas de Bordo Oriental (EBUS): Presente, Pasado y Futuro & Segunda Conferencia Internacional sobre el Sistema de Corrientes de Humboldt




PANELISTAS			MODERADORES		
	Gabriel Salazar Vega Viceministro de Pesca y Acuicultura Ministerio de la Producción Perú		Renato Guevara Carrasco Director Ejecutivo Científico del MAGPPE - Perú		Cayetana Ajojin Presidenta de la Sociedad Nacional de Pesquería - Perú
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	Joyce Mendez Analista pesquera en la Unidad de Pesquerías Pelágicas Chile		Mauricio Braun Investigador Centro de Investigación Aplicada del Mar (CIAM) Chile		Hector Soldi XXXXX Environmental Defense Fund Perú

Viernes 23 de setiembre
 17:00 a 18:30 horas Perú
 19:00 a 20:30 horas Chile
 Auditorio Hugo Lumbreras,
 Universidad Peruana Cayetano Heredia
 Av. Armendáriz 445, Miraflores, Lima.



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