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Minister Grau and Undersecretariat Salas lead the ceremony for the start of operations of fisheries and oceanographic research vessel "Dra. Barbieri"

The vessel, whose first trip will be in May for crustacean research, will be operated by Fisheries Development Institute (IFOP) and has the capacity to accommodate eight scientists and eleven crew members.

VALPARAÍSO, Tuesday, April 16th, 2024.- With a ceremony at Navy Shelter Molo in Valparaíso, Chilean Government – through Fisheries and Aquaculture Undersecretariat (Subpesca) – officially gave the start point to start the work of brand new fisheries and oceanographic research vessel Dra. Barbieri. The vessel, which totaled a fiscal investment of just over US\$14.5 million, will collect scientific data along the entire Chilean coast, including in inland waters, from the Canal Chacao to Golfo de Penas.



The event was headed by Minister of Economy, Development and Tourism, Nicolás Grau, and Fisheries and Aquaculture Undersecretariat, Julio Salas. Also present at the activity were Carolina Gainza Science Undersecretariat, Fisheries Commission Chamber's president Jorge Brito, deputy Cristhian Moreira from fishing commission; First Naval Zone head, Rear Admiral Roberto Zegers; Maritime Interests and Aquatic Environment director, Rear Admiral Nelson Saavedra; IFOP's executive director, Gonzalo Pereira Puchy, plus representatives from IFOP, Sernapesca, Indespa, Subpesca, Asenav and the Navy. In



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Graphic design
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the instance, of course, doctor in Oceanography, María Ángela Barbieri, also participated.

In this context, Minister Grau pointed out that “perhaps one of the most important innovations that we have made during this Government was the Sustainable Productive Development program’s creation, where we have worked with the Ministry of Science, together with other ministries, to invest more in science, technology, knowledge and innovation, oriented to challenges that we have as a country, environmental challenges, productive challenges. This vessel precisely has that element at its center, the importance of creating capabilities that allow us to have scientific knowledge to make better public policy decisions.”

In his side, Undersecretariat Salas emphasized that “the more and better quality research is done in Chile, the better public policies can be promoted for fishing activity development” and explained that “one of the new Fishing Law pillars is its scientific pillar reinforcement in decision-making (...) that fisheries management decisions do not depend on current authorities whim, but rather have a scientific basis with the best science available, and obviously that means having “better instruments that allow these investigations to be carried out.”

A specific example of this is that Subpesca periodically reports fisheries status”and it would be impossible to report on it if we did not have research programs that allow us to monitor resources status” added the undersecretariat.

Meanwhile, Carolina Gainza Science Undersecretariat, highlighted the privilege of having the coast that this country has, a “navigable laboratory” for which it is necessary to “continue developing this type of research vessels because we have a great coast (...) This research not only

has to look at what we can do with it in terms of productive resources, but also how we take care of it. The research that is carried out on this ship has that sea’s sustainability view.”

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Meanwhile, the Undersecretary of Science, Carolina Gainza, highlighted the privilege of having the coast that this country has, a “navigable laboratory” for which it is necessary to “continue developing this type of research vessels because we have a great coast (...) This research not only has to look at what we can do with it in terms of productive resources, but also how we take care of it. The research that is carried out on this ship has that view of the sustainability of the sea.”

High level research

Dr. María Ángela Barbieri had words to highlight that Chile is part of the great Humboldt ecosystem, one of the most prosperous in the world, and that in climatic change times “having a ship like this, where we can see everything that happens from the surface to the bottom of the sea, we see existing resources, phytoplankton, zooplankton, all kinds of fish, but also all environmental variables, and with an information processing and acquisition system that allows us to do work practically in “real time, it’s wonderful.”

“Dr. Barbieri” was built in Valdivia by ASENAV shipyard, reaching 30.8 meters long (length), 9 meters wide (beam) and measuring up to 3.9 meters high (depth). One of its main characteristics is its 3 meters draft. Therefore, it becomes a scientific vessel capable of navigating in shallow waters along the entire country coast.

This vessel, whose first trip will be for crustacean research during May, will be operated by Fisheries Development Institute (IFOP) and has the capacity to accommodate eight scientists and eleven crew members. In addition, it has a system that reduces noise radiated into the water, to avoid marine habitat interference. Likewise, since



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its propulsion system is diesel-electric, it generates fewer emissions, therefore, it is environmentally friendly.

Faced with this challenge, IFOP's director, Gonzalo Pereira, highlighted that the vessel – which joins “Abate Molina” ship – represents an advance “both in terms of resources and oceanographic research and environment” and that they assumed “the challenge of being the vessel operators with great satisfaction and responsibility” for which they have been training with Subpesca officials. Along these lines, Pereira highlighted that Barbieri's crew will be a “good balance between experience and youth” when considering a captain with an experienced career and a first female pilot, as well as students who graduated from crew schools in Valparaíso after an agreement they maintain with aims promoting professions linked to the sea.

IFOP leads meeting of the Pacific Alliance, held in Puerto Varas

On April 9th and 12th, the Network of Fisheries and Aquaculture Research Institutions of the Pacific Alliance (IIPA-AP Network) meeting was held at Cabañas del Lago Hotel in Puerto Varas, organized by Fisheries Development Institute (IFOP).

IIPA Network was born in 2017 in the context of Pacific Alliance Fisheries and Aquaculture Technical Group's Work Plan established that year, whose creation was agreed at the XI Pacific Alliance Summit in July 2016, with the objective of building a joint strategy for marketing of fishery products in member countries.

The network is made up of Fisheries Development Institute (IFOP) from Chile, Mexican Sustainable Fisheries and Aquaculture Research Institute (IMIPAS) from Mexico, Sea Institute from Peru (IMARPE) and José Benito Vives de Andrés Marine and Coastal Research Institute (INVE-MAR) from Colombia. The Fisheries Research and Development National Institute (INIDEP) from Argentina and United Nations Food and Agriculture Organization (FAO) have also participated as observer institutions.



On this occasion, IFOP's focal points, INVE-MAR, IMARPE, INIDEP and FAO participated; without prejudice to the fact that IMIPAS expressed its consent to hold the meeting. After two days of work, a proposal for a 2024-2025 Work Plan was prepared, which will be reviewed by all member countries and approved once it has their approval. A field visit was also made to IFOP base located in Heihue town, where a tour of the facilities was taken. Cultivos Marinos Cholche was also visited where the experience of small-scale aquaculturist Justo García was learned in the polyculture of oysters, scallops, mussels and seaweed.

Gonzalo Pereira Puchy, IFOP's Executive Director, referred to the meeting, for us as IFOP it is a great honor to be the organizers of this international meeting, which brings together countries that work for a common objective around responsible, sustainable fishing, with an ecosystemic approach that allows cooperation on scientific issues in fishing and aquaculture. In addition, this year IFOP celebrates 60 years since its creation and this meeting serves to confirm our commitment to excellent research at a national and international level.





Claudio Maggi, IFOP Board of Directors President, explained that it is very important to have collaborative instances, such as this Pacific Alliance meeting where representatives from Colombia, Mexico, Peru, Argentina and Chile participate, because it allows us to address shared issues, such as; climatic change effects, seas pollution, a learning community is built, in species stock management techniques, biomass evaluation, in an environment that in the end affects us all because we share the Pacific Ocean, and I am very happy to see IFOP leading this Network, in this beautiful Puerto Varas city, we as Corfo are always supporting IFOP's work, especially in international relations and research capabilities development.

Daniela Díaz Guizado, in charge of IFOP's cooperation and international relations, expressed that Pacific Alliance fisheries and aquaculture research institutions coordination through this network has made it possible to generate instances where experiences are shared and challenges and needs are highlighted. of each country on topics of common interest. Besides,

Mario Rueda, from INVEMAR, said we have been part of the Network since its creation, and this event is important, due to previous years planned activities follow-up and becomes relevant for us because we are going to receive coordination from IFOP. , will now move to INVEMAR in Colombia, for us it is key to streng-

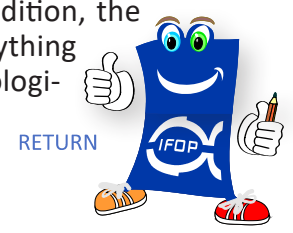
then actions between different countries and continue on this collaborative agenda to strengthen research in applied science for society and our countries benefit.

Soledad Tapia Sernapesca National Director, first of all, congratulate IFOP, because this year it is turning 60 years old, but also for its leadership shown in the Pacific Alliance, in which IFOP has shown us today in presentations that it has made a series of advances, which are very important for fishing institutions, for example for us as Sernapesca, because they provided us with scientific information, for decision making, which is aligned with Subpesca, which makes the standard and then the service has to implement it and see if it is being fulfilled, which is why it is very important to collect data and all these strategic alliances that IFOP is leading.

IFOP Board of Directors, visits Dr. Barbieri Scientific Vessel

Today, April 25th, in Valparaíso's port, IFOP's Board of Directors visited Dra. Barbieri, new scientific vessel with the aim of meeting the crew and observing its latest technology equipment, IFOP authorities toured the modern facilities, fishing laboratories, dry and wet, accommodations for the researchers and crew, engine room, dining rooms, kitchen.

Claudio Maggi, IFOP Board of Directors President, explained today we had the opportunity to see the new ship, its equipment, facilities, spaces, and it is truly a pride for all the members of the Council to be able to be here and understand that with this IFOP, and the country They gain greater research capacity, but this is also the result of the national engineering design, it is a feeling of great joy. In addition, the spaces, the equipment, everything is of a very advanced technologi-



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cal level, it is a ship that works based on digital technologies, automated technologies that are very efficient in energy terms. We also shared with part of the crew, it was very pleasant to meet those who are going to work. In this scientific ship, we are very optimistic, with this IFOP gains a lot in terms of fisheries research and that is good for the country.

Claudia Torrijos, IFOP Advisor, referred to the visit, “the ship is wonderful”, very modern, she also highlighted that there is a female pilot, which is very important for equity in this area of science and technology and we hope that this scientific vessel Dr. Barbieri, becomes a reference for fisheries research in our country and to be able to project this work to international spaces and in this way that IFOP continues to be a reference for marine sciences in our country and in South America.

Gonzalo Pereira, IFOP Executive Director, added this is one of the milestones in the process of incorporating this new research platform into IFOP, on this occasion it is the Board of Directors members who can visit this new vessel, which will be in charge of IFOP in its operation, but which belongs to the State of Chile and that the directors can also get to know it and take part in this great step. The vessel is a great tool that helps us carry out fishing research with state-of-the-art technology. There are all the comforts so that both the crew and the researchers can work and it should be noted that we have the pilot Aylin on board who has joined our institution in this very important work.

Two professionals from Fisheries Development Institute, IFOP dedicated to marine animal research, will present scientific dialogues during this month of the sea in 2024 cycle of “Scientific Culture Fridays” – Fonck Museum VCC, financed by Ministry of Cultures, Arts and Heritage through its Support for Collaborating Cultural Organizations Program.

“Scientific Culture Fridays” in May at Fonck Museum invite you to celebrate, discuss and learn about the sea, the oceans, their ecosystems and species, through 2 talks that will take place on May 3rd and 10th, 2024. at 6:00 p.m. in the museum premises, located at 4 Norte 784, corner with 1 Oriente, Viña del Mar. It should be noted that all VCCs have an Interpreter in Chilean Sign Language.

In Chile the Month of the Sea, is celebrated every May, is a period in which emphasis is placed on the Pacific Ocean’s relevance for the population and country’s growth. That is why there will be a Fisheries Development Institute (IFOP) researcher who will lead these two interesting dialogues in which we will be able to learn about biology, ecology, conservation, different types of



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fish, sharks, and some incredible seabirds: petrels and albatrosses.

In this initiative, financed by the Ministry of Cultures, Arts and Heritage through its Support for Collaborating Cultural Organizations Program, these talks will be held, a space for conversation that invites us to learn more about these marine animals, their ecosystems and the dangers they face due to human impact.

Sharks of Chile and the world: one of the oldest animals on the planet

On Friday, May 3rd, 2024, a VCC session will be led by Naití Morales Serrano, Marine Biologist, PhD in Ecology and Applied Biology and IFOP researcher. She has dedicated her career to sharks and rays research in Chile, investigating their biodiversity, reproductive biology, feeding behavior, and migratory patterns. All with the objective of obtaining relevant knowledge that can be used to generate better fishing regulations and to establish management and conservation plans.

She invites us to know, discover and learn more about species of sharks that we can find in the Chilean sea.

Seabirds that are sentinels of the sea, progress and challenges for their conservation

On Friday, May 10th, 2024, it will be Luis Adasme Martínez turn, IFOP Researcher, Master in Aquatic Resources Management and official member of Chile for Conservation of Albatrosses and Petrels Agreement (ACAP).

This marine sciences professional has extensive experience in research work and data analy-

sis in fisheries in the south southern part of the country. Since 2010, his work has been oriented towards research in fisheries biology and population dynamics of demersal fish, with interest in problems associated with the bycatch of seabirds in an ecosystemic-based environment. A call to discuss and learn about these high sea birds and their conservation.

Figuring out the oceans mysteries through sharks and seabirds



Thanks to “Scientific Culture Fridays ” during May at Fonck Museum, it will be possible to understand the oceans mysteries, of which it is estimated that humanity has studied less than 5%.

“Most sharks are considered clumsy predators, since being at the food chain top they regulate their prey’s abundance and distribution, so their persistence is of vital importance for ecosystems health. Their populationse rapid deterioration, mainly due to their habitat ‘s destruction and, above all, overfishing, added to sharks vulnerable nature (few offspring, long gestation periods and late maturation) have caused a decline of up to 70%. in some shark populations.”, commented Naití Morales.

Meanwhile, Luis Adasme, pointed out that “my interest in studying seabirds was born many years ago. First, these large seabirds such as albatrosses always caught my attention. I remember that the first scientific name I learned when I was just a teenager was that of *Diomedea exulans* the wande-



ring albatross or traveling albatross, where the story of that name comes from Greek mythology.”

Fonck Museum is part of Cultural Organizations Collaborating Support Program for Ministry of Cultures, Arts and Heritage, which seeks to strengthen and provide continuity to private and non-profit cultural institutions and organizations. This program is also part of Organizations and Cultural Infrastructure of the Ministry of Cultures, Arts and Heritage Financing System for that integrates, articulates and coordinates in a transversal way plans, programs and funds aimed at organizations promotion and support, cultural infrastructure, and artistic mediation. All this with a decentralized vocation, participatory mechanisms, and networks and associations creation promotion.

Navy Meteorological Service extended its weather stations network along the coast

During 2024 and within the framework of close collaboration with Fisheries Development Institute (IFOP), Navy Meteorological Service has installed two new automatic weather stations in Punta Ángeles lighthouses, in Valparaíso region and Punta Carranza, in Maule region.

Faced with a growing demand for meteorological data and to understand climatic change effects in Chile, the Navy Meteorological Service (SERVIMET), in cooperation with related institutions, has carried out initiatives aimed at extending the network of automatic meteorological stations along the coast. .

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stations in the Punta Ángeles lighthouses, in the region of Valparaíso and Punta Carranza, in the Maule region.

This instrumentation, provided by IFOP, will allow monitoring meteorological conditions at characteristic points of the central zone coastal sector, as part of Alert, Prediction and Observation System (S.A.P.O.) for fisheries resilience in a climatic change scenario, which It was implemented as part of “Climatic Change Strengthening Adaptation in Chilean Fishing and Aquaculture Sector Capacity”, national project mandated by Fisheries and Aquaculture Undersecretariat.

For their part, Meteorological Center staff dependent on Valparaíso’s Maritime Government, carried out two automatic meteorological stations installation on “Valparaíso III” Floating Dock in collaboration with SOCIBER and at Recreational Yacht Club, with the purpose of having port city bay representative data.

Likewise, Cofradía Náutica del Pacífico Yacht Club, located in Alga-



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robo, joined the monitoring network, facilitating the meteorological station connection installed in its facilities next to the coastline.

In this way, Navy Meteorological Service website (meteoarmada.directemar.cl), has increased queries of data measured in real time, providing important support for planning and decision making, both for maritime users, as for the Local Maritime Authority.

With this shared data, we contribute to better risk management in the face of adverse weather conditions and make obtained records useful for technical, scientific and student institutions. Also, by providing more information that is more understandable when studying climate and its changes, adjusting to the demands of an increasingly globalized world.

Fuente noticia Armada de Chile

II International Seminar on Marine Resources Management with an Ecosystemic Approach in Times of Climatic Change: Progress, Challenges and Actions

Between November 12th and 14th, the Second International Seminar on Marine Resources Management with an Ecosystemic Approach in Climatic Change Times will be held: Progress, Challenges and Actions. It is organized by Fisheries Development Institute (IFOP), and the Marine Sciences Chilean Society (SCHCM), and will take place in the Honor Hall of Pontificia Universidad Católica de Valparaíso (PUCV) within the framework of IFOP's 60th Anniversary Commemoration.



II SEMINARIO INTERNACIONAL

Manejo de recursos marinos con enfoque ecosistémico en tiempos de cambio climático:

Let us remember that ecosystemic approach is key: it not only seeks to conserve or increase an ecosystemic capacity to produce benefits in the future, but also works to fairly distribute these benefits and costs among society.

Marine resources are vital for economy, food and ecological balance of our planet. However, in a climatic change scenario, these resources face unprecedented challenges. Rising temperatures, ocean acidification and rising sea levels are directly affecting marine ecosystems and the species that depend on them.

Ecosystemic management plays a fundamental role in facing climatic change, as it focuses on conservation and sustainable use of natural resources in the context of entire ecosystems. In the case of marine resources, ecosystemic management provides a comprehensive approach to addressing the impacts of climate change.

In this context, marine resources sustainable management is undergoing a paradigm shift, slowly evolving from mono-specific management to Management with an Ecosystemic Approach (MEE). In effect, it is being considered to apply MEE within the objectives of management of activities associated with fishing and crop resources to achieve sustainable activities, which provide sources of food, jobs, socioeconomic yields and a good state of the environment.

Currently this concept has not been easy to understand or put into practice both in ecological, environmental, social and even political spheres. Due to this, it is necessary to build



IFOP celebrates Book's Day

As part of the celebration of Fisheries Development Institute 60 years, the specialized Library commemorated International Book Day on April 23rd with an exhibition at Valparaíso headquarters of “small scientific explosive books” that contained 17 marine species with the purpose of providing oceanic culture.

Along with this, “Free Books” activity was carried out where nearly 200 fiction and non-fiction literature resources were displayed for the Institute’s workers to use with the purpose of encouraging them and their families to read.

discussion spaces where it is shown how and implement MEE effectively for aquatic resources management. This proposed discussion space that is to be built is particularly relevant and timely when considering the deteriorating state of many fisheries and farming systems, growing evidence of the impacts of climatic change, and the oceans pollution. The discussion about how to implement the MEE is not trivial, given the multiplicity of visions that exist in this regard and the need to define and propose clear and timely public policies. However, scientific and technological advances that have had great development in recent years must be taken advantage of, allowing the monitoring of marine and fishing systems to be improved and thereby obtaining a better approximation of the state of the ecosystems.

For its part, the South Pacific Permanent Commission (CPPS) has carried out actions to incorporate MEE through associations with United Nations Food and Agriculture Organization (FAO) and research centers that have led the issue. at regional level. Highlights include workshop “Ecosystemic Approach in Fisheries as an Instrument to Support Decision-Making Process, Phase I” (Lima, Peru, June 12-14, 2018) and the workshop “Ecosystemic Approach in Fisheries as an Instrument to Support Decision-Making Process.” Decision Making, Phase II” (Santiago, Chile, June 18-20, 2019). While Chile has organized, among others, the “International Seminar on Management of aquatic resources with an ecosystemic approach: progress, gaps and perspectives” (December 1-3/2020): Following this same line, this year 2024, will carry out the II International Seminar on marine resource management with an ecosystemic approach in times of climatic change: Advances, challenges and actions, in Valparaíso city, between November 12th and 14th, 2024, which includes keynote talks from different areas that encompass MEE. Additionally, spaces for discussion will be opened for the implementation of this management in Chile’s marine resources management.



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Getting ready for La Niña, progress and challenges to measure its impact on agri-food systems

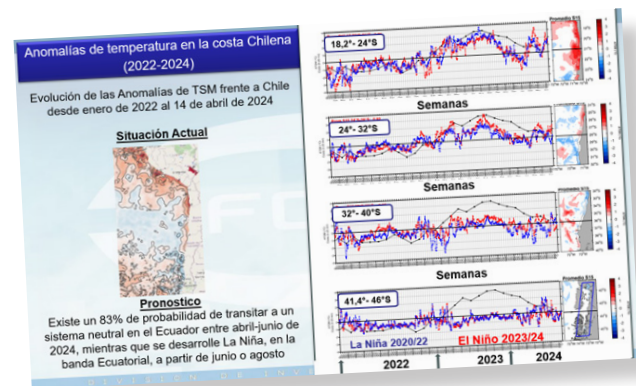
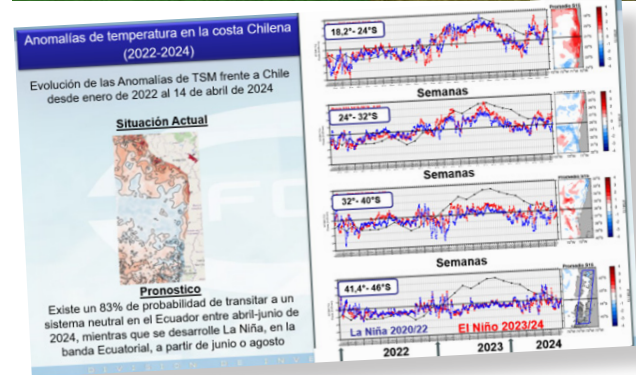
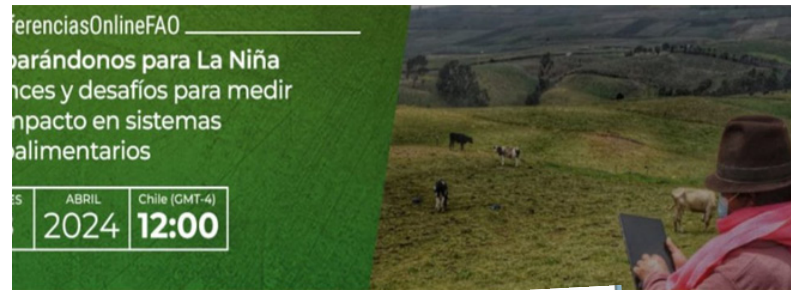
On April 18th, 2024, FAO Regional Office for Latin America and the Caribbean organized the Event “Getting ready for La Niña, advances and challenges to measure its impact on agri-food systems”, in which international experts presented and more than 500 people attended virtually from all over the world and invited Dr. Jaime Letelier IFOP oceanography and environment department’s head to speak.

Dr. Letelier presented the detrimental effects that “El Niño 2023/24” has brought on northern Chile fishing sector, as well as evidence that the event has not yet withdrawn from National coasts and how potentially “La Niña” Event “Forecast for 2024, it could affect national fishing resources.

Dr. Letelier highlighted Fisheries Development Institute’s commitment during its 60 years to carry out national fisheries annual diagnosis, always within the context of the ocean’s normal annual variability and its ecosystems and, as at present, within climatic change context, it has become necessary to reanalyze the historical record to understand the present and generate future diagnoses.

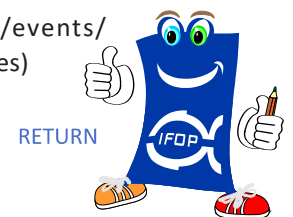
In addition, it showed the effort made to understand and prepare for these events through the S.A.P.O Initiative, in conjunction with Peru and Ecuador as well as GEF Humboldt 2 project where Binational working groups from Peru and Chile promote joint efforts to understand the impacts of the environment on fisheries.

“If we had a longer period towards a normal transition period (...) we should have a relatively expected ecological response (...) but this abrupt change probably generates a greater stressor and from that point of view we have uncertainty about how ecological systems will respond.,” said Jaime Letelier, Fisheries Development Institute (IFOP) Oceanography head at Government of Chile (Source t13).



“Getting ready for La Niña, progress and challenges to measure its impact on agri-food systems”

(<https://www.fao.org/americas/events/event-detail/preparing-for-la-nina/es>)



IFOP researchers present at a climatic changeworkshop

On Tuesday, April 2nd, in Coquimbo, the workshop “Climatic Change in Crustacean Fisheries and El Niño Current Effects” was held. The event was organized by Coquimbo Region’s Fishing Industrialists and Shipowners Association (AIP) and the National Fishing Society (Sonapesca)

The activity included presentations by authorities, researchers and professionals from Fishing Industrialists and Shipowners Association as well as Fisheries and Aquaculture Undersecretariat (Subpesca), National Fisheries Service (Sernapesca), Universidad Católica del Norte (UCN), Fisheries Development Institute (IFOP) and Arid Zones Advanced Studies Center (Ceaza), along with presentations by crews representatives and local fleet fishing captains

Dr. Juan Faúndez from IFOP presented on: Climatic Change: Concepts, monitoring and projections. It showed a summary of climatic change concepts, its main precursors and global warming effects on some Eastern South Pacific environmental variables, such as ENSO events (El Niño Southern Oscillation) acidification intensification and deoxygenation frequency and extension in the subsurface ocean. IFOP’s results on environmental monitoring associated with its monthly and satellite sampling were presented. Climatic Change Alert and Monitoring System (SAPO) platform developed by IFOP was presented, which allowed monitoring and premature determination of El Niño 2023 event formation. The importan-

ce of continuous observations through monitoring to capture and analyze environmental changes associated with climatic change.

Maximiliano Zilleruelo IFOP’s researcher, referred to “Monitoring of demersal crustacean fisheries, main monitoring programs results of these fisheries for 2014-2023 period,” and showed the monitoring program’s main objectives and main results. for this period, highlighting the historical series of landings, catch quotas, size of specimens, target catch and by-catch, for nylon shrimp, yellow shrimp and red shrimp in all its fishing units.



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