

PhD. María Isabel Toledo takes over as Head of IFOP Board of PhD. Jaime Letelier from IFOP participates in "Oceanographic

Anomalies and Pelagic Stranding in Biobío" seminar **INIDEP** and IFOP Chile signed an agreement that promotes 2 marine resources research and sustainable management in both

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Recognized Researcher, Fisheries Engineer from the Pontificia Universidad Católica de Valparaíso (PUCV), she obtained her Master's Degree from Oregon University, USA, with a specialty in Fisheries and Wildlife. She has a Uiversidad de Chile PhD in Aquaculture. She is one of the first six women Fisheries Engineers in the country. In her work as Researcher and Professor at the PUCV, she created the Fish Culture and Feeding Laboratory for Aquaculture and the Fish Feeding Bioassays Laboratory.

In recent years, she has been director of 20 projects financed by FONDEF, FIA, CORFO and FIPA on issues related to artisanal fishing and aquaculture promotion, highlighting the development of artificial reef technology (AATN) and its productive use in the Management Areas (AMERBs) of artisanal fishermen's coves.

Dr. Toledo referred to her appointment "Certainly any new appointment is a challenge. IFOP is undoubtedly a very relevant actor in the national fisheries and aguaculture field, an institution in which I have many colleagues and former students working in it. By the way, I will make special efforts to meet the expectations of

Editorial committee Luis Parot D. / Executive Director Gabriela Gutiérrez V. / Journalist

Graphic design Mario Recabal M. / Senior graphic designer



those who supported me and elected me to serve as IFOP President of its Directors Board, an institution that I know and value their actions ".

Luis Parot Donoso IFOP Executive Director, explained "In a historic event for the first time since its foundation 57 years ago, the Presidency of the Board of Directors of the Institute for Fishing Deve-

lopment will be held by an outstanding professional woman."





PhD. Jaime Letelier from IFOP participates in "Oceanographic Anomalies and Pelagic Stranding in Biobío" seminar

ORGANIZED BY SUBPESCA AND SERNAPESCA

In IFOP's Oceanography and Environment Deapartment Head's presentation, entitled "Surgence and La Niña: Bad Combination", Dr. Letelier showed the Synoptic and Climatic Information Prototype system (Environmental and Bio-fisheries) visualization potential effects of climatic events and Climate Change on fishing and aquaculture activities monitoring. This system made it possible to obtain information on how La Niña is present in the Equatorial band and the coastal zone of Chile, especially in the area between Valparaíso and the Chacao channel.

The Researcher explained how La Niña produces a reinforcement of Pacific anticyclone, therefore, of winds that force upwelling, a local cooling that intensifies sea breeze and how both generate a greater intensity of local upwellings and more rising waters; deep with less oxygen content compressing coastal habitats and grounding in beaches and shoals entrance by local rivers mouth.

"Local upwellings intensification along the coast has produced coupling of events which occur from Punta Lavapie, Topocalma, Punta Nugurme and even Punta Curaumilla in Valparaíso's region in a kind of megasurgency in the central zone of Chile coast" stated Letelier.





INIDEP and IFOP Chile signed an agreement that promotes marine resources research and sustainable management in both countries

Fisheries Research and Development National Institute (INIDEP), Ministry of Agriculture Livestock and Fisheries decentralized body,, signed a new framework agreement for scientific-technical collaboration with Fisheries Development Institute (IFOP) Chile, which will promote opportunities to strengthen re-

search and sustainable management of marine and coastal-marine resources in both countries.

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INIDEP is the only institute in the country (Argentina) that comprehensively covers scientific, technological and economic aspects essential for national policy in the fishing field implementation and development. The mission and functions of this institution are to formulate, execute and control research projects in prospecting, evaluation and development of fisheries, aquaculture technologies, fishing gear, technological processes and in fishing economics, according to guidelines and priorities that In this sense, establish authority enforcement.

Fishing Development Institute (IFOP) Chile is a private law, non-profit corporation, whose mission is to develop and provide technical background and scientific bases for fisheries and aquaculture regulation, hydrobiological resources conservation and their ecosystems. It is the main advisory body of public fishing sector, developing studies which provide necessary scientific information for decisions to be adopted by the fishing sector regulatory body, the Undersecretariat of Fisheries and Aquaculture and of value for public policies production and evaluation.

In the document, INIDEP and IFOP share the mission of contributing to sustainable development of fisheries and aquaculture, and are aware of the importance of promoting and creating facilities for research and extension of fisheries and aquaculture, for mutual benefit. of the Argentine and Chilean institutions and societies.

Within budgetary limitations, with institutions articulation and collaboration, the capacity to develop joint projects that have as a priority axis studying to have technical and scientific tools for fisheries and aquaculture regulation and conservation of hydrobiological resources and their ecosystems will be enhanced.

The organizations agreed to promote and strengthen research and community extension processes in the marine and marine-coastal areas of countries; to generate knowledge about marine resources and



their environment for sustainable management and improve decision-making; to promote joint work in processes, phenomena and events of relevance to the ecosystems in which fisheries and aquaculture develop.

The document also raised the need to establish an information process, coordination and monitoring results of actions, programs or projects that are executed and to develop joint mechanisms that make preparation and publication of documents, books, magazines, brochures, studies or similar, possible using the information product of joint efforts.

Source: INIDEP

Participate in the Project Seminar: "Strengthening Chilean Fishing and Aquaculture Sector to Climate Change Adaptation Capacity"

IT WILL HAVE PROMINENT PANELISTS IN-TERVENTIONS, IT WILL BE VIRTUALLY HELD ON MARCH 18TH, 2021, BETWEEN 09:00 AND 17:00.

The Seminar: "Project achievements and opportunities for its projection", organized by Fisheries and Aquaculture Undersecretariat, the Ministry of the Environment and the United Nations Food and Agriculture Organization, with Fisheries Development Institute collaboration, is developed within "Strengthening the Adaptation Capacity of the Chilean Fisheries and Aquaculture Sector to Climate Change" project framework, co-financed by Global Environment Facility (GEF), which began in April of 2017 and today it is in its closing phase.

Eve Crowley, FAO Representative in Chile, referred to the workshop, "the professionals who led different initiatives will present the process achievements and learnings carried out at national, regional and community levels, this instance also intends to show project's results , to promote a collaborative approach dialogue conducive to the search for actions and commitments that ensure the sustainability of the im-

plemented tasks, which will allow in the future, to have a resilient





artisanal fishing sector, less vulnerable and better prepared to face challenges and take advantage of opportunities posed by this changing scenario in which we are immersed ".

The objective of the Seminar is:

- Make known and value project's main results and learnings, highlighting its pioneering character from the voice and experience of its professionals.
- To generate a public disclosure instance, promoting a scenario that ensures implemented initiatives sustainability within the the project's framework.
- To strengthen knowledge of the initiative by key relevant actors, particularly those that are critical for its subsequent scaling up and replicability.

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IFOP researchers interesting and innovative scientific article was published by International Journal of Fish Diseases

Within "Evaluation and monitoring of the Sanitary situation of wild and feral fish in fresh water and sea" Research Program framework, executed by IFOP Hydrobiological Health Department, a scientific article entitled "HORI-ZONTAL TRANSMISSION OF PISCIRICKETTSIA has recently been published SALMONIS FROM WILD SUB-ANTARCTIC NOTOTHENIOID FISH ELEGINOPS MACLOVINUS TO RAINBOW TROUT (ONCORHYNCHUS MYKISS) UNDER EXPERIMEN-TAL CONDITIONS ".

This study objective was to evaluate bidirectional transmission of pathogenic bacterium Piscirickettsia salmonis between specimens of native species snook (E. maclovinus) and rainbow trout (O. mykiss), using cohabitation as a model of experimental challenge.

Juan Carlos Quintanilla, IFOP-Puerto Montt semi-senior researcher, and research's author, explained that "obtained results from this study demonstrated horizontal transmission of P. salmonis from a native fish (not salmonid) such as E. maclovinus, to susceptible salmonid species, rainbow trout, in which clinical disease occurred. In this way, the study provides evidence of native species possible role in piscirickettsiosis epidemiology in the salmon farming industry, and of possible role that these could play as a reservoir and / or biological vector in the disease transmission and persistence of P. salmonis in the environment, as is E. maclovinus. The latter should be the focus of further study.

Furthermore, considering populations coexistence of these two species in Chilean salmon industry cultivation centers, studies addressing native species E. maclovinus populations and migratory characteristics it will be necessary to understand and estimate the impact of maintenance and eventual Spread of piscirickettsiosis among salmonid farms.

Finally, the author of the study thanked researchers from Hydrobiological Health Department and





its leadership, who collaborated in the preparation of the scientific article.

Link to the article : https://doi.org/10.1111/ jfd.13360

For more information, contact the following email: juancarlos.quintanilla@ifop.cl

Successful Fisheries and Aquaculture Climate Change Workshop

AMONG ITS PARTICIPANTS, FAO AUTHORI-TIES, EVE CROWLEY, FISHERIES AND AQUA-CULTURE UNDERSECRETARIAT, ALICIA GA-LLARDO, ENVIRONMENT UNDERSECRETA-RIAT, FROM IFOP JAVIER NARANJO AND DR. JAIME LETELIER

On March 18th, a successful and interesting schedule was carried out, within the framework of the Project that the Fisheries and Aquaculture Undersecretariat and Environment's Ministry have been executing since 2017, called: "Strengthening adaptation capacity of Chilean fisheries and aquaculture sector to climate change ", which is co-financed with contributions from the Global Environment Fund and implemented by the United NationsFood and Agriculture Organization.

This pioneering initiative in the country has managed to attract the attention of a multiplicity of actors from different sectors. Thus, more than 350 participants from different latitudes, both from Chile and abroad, gathered to witness the event, in which 18 prominent panelists announced different initiatives implemented at the national, regional and local levels and its main results . .



The opening was headed by Javier Naranjo Environment Undersecretariat, who highlighted figures and facts from the projectś results, through which it has been possible to reduce vulnerability and increase artisanal fishing sector and smallscale aquaculture adaptive capacity. In addition, it provided very encouraging information on main climate action initiatives promoted by the government, such as Framework Law on Climate Change, progress in the NDC commitments, development of 4 National Action Plans on Climate Change, ARCLIM Climate Risk Atlas, Long-Term Climate Strategy, t National Adaptation Plan update, Financial Strategy against Climate Change, among others.



FAO Representative, Mrs. Eve Crowley indicated that, "this project in support of chilean institutional capacity and coastal inhabitants awareness regarding sustainable fishing and aquaculture, seeks to generate resilient communities, capable of overcoming upcoming challenges, promoting and enhancing different adaptation practices to face climate change ensuring food of coastal communities and their livelihoods ".

Among the project achievements, the panelists highlighted the creation of 7 Interinstitutional Working Groups (GTI); an Interoperable Information System Design that systematizes fishing, aquaculture and climate change variables; More than 300 public officials and decision makers and more than 140 actors of artisanal fishing and smallscale aquaculture trained in adaptation to climate change; A participatory environmental monitoring training program; and a deployment of more than 20 experimental initiatives to explore new adaptation practices in pilot coves coastal communities: Riquelme, Tongoy, Coliumo and El Manzano-Hualaihué, which include: experimental crops

of woolly, cholga, Japanese oyster , chicorea de mar y pelillo; and a pro-





gram to improve mussel seed uptake; elaboration of diverse added value products from resources landed in pilot sites; elaboration of tourism strategies of special interests, use accompanying fauna practices; design of dynamic thematic maps that incorporate climate change effects on fisheries and aquaculture; a Program that grants recognition to fishing coves and aquaculture farms in the process of adaptation to climate change, through granting an identity stamp, among others.

At the end of the Seminar, which, beyond disseminating project results, had the purpose of awakening interest and achieving ownership by strategic partners that are essential for its subsequent scaling up and replication, Alicia Gallardo Fisheries and Aquaculture Undersecretariat, recognized and valued obtained results in three components of the project, which indicated that "they are aligned and contribute to policies, programs and projects promoted by SUBPESCA and other public institutions." In her in-depth speech, she stressed that it is essential to listen to women and men working in fisheries and aquaculture to learn their perspectives, nourish ourselves from their experiences and pay attention to their needs. "We must strengthen territorial governance in the creeks and help to consolidate their community spaces and these challenges must be faced with policies and multidisciplinary work where bridges are established between public sector to resolve communities concrete demands; We must continue working on gender



equity and advance in the application of fishing and aquaculture ecosystemic approach; Coastal communities are urgently demanding to improve social infrastructure and productive support.

In the field of climate change, fishermen and aquaculturists of the four pilot coves of the project are demanding access facilitation to data and information, they want to understand what is happening. And, without a doubt, the results that we have seen today can contribute to the Caleta Inteligente (smart cove) initiative that we have been designing and that we will announce very soon. From this initiative we will address the reduction of the digital gap in coastal communities, we will advance in processes digitization , we will promote heritage resources care, we will continue supporting diversification initiatives such as special interest tourism and the recognition of the fundamental role of women in the coves.

Dr. Jaime Letelier, Oceanography and Environment Department head, presented the results of one of the subprojects "Interoperable Information System, which systematizes and integrates fishing, aquaculture and climate change data".

Among the main results it showed the agreements reached with SERNAPESCA and DIRECTEMAR, the cooperation with Universidad de Concepción, visualization of data obtained by fishermen from the 4 pilot coves as well as the daily satellite image visualization system and the annual trends of indicators. environmental and bio-fisheries along the coast of Chile.

Dr. Letelier highlighted that the system provides free daily satellite images of Temperature and Chlorophyll, reducing the information gap available to artisanal fishermen between Ecuador and the Magallanes region. On the other hand, he explained how the temperature anomalies allow to follow the influence of climatic events such as El Niño and La Niña, the Hot Spot or Climate Change, which at the same time as the Climate Change monitoring indicators allow the Fisheries authority to have indicators for decision-making in the medium and long term.

This platformhe potential is being considered as a relevant component within the system "System of Alert, Prediction and Observation for fisheries resilient to climate change in the Humboldt Current" that the Environmental Defense Fund (EDF) is coordinating and in which the Sea Institute of Peru (IMARPE) and Ecuador Fisheries National Institute (INP).

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