



IRCP



South Pacific

Newsletter of the Institute for Coral Reefs in the Pacific

N°5 - February 2018



Established in 2009 by France's École Pratique des Hautes Études (EPHE), the Institute for Coral Reefs in the Pacific (IRCP) delivers cutting edge coral reef research to those with the capacity to make a positive difference for communities in the Pacific Islands and beyond.

Dear colleagues and collaborators,

2017 was an important year for the IRCP as it organized the 10th International workshop "Indo-Pacific Fish Conference" (IPFC) at Tahiti in October 2017 thanks to the governments of French Polynesia and of France, and the 50 other partners (the list on the website of the event: <https://ipfc10.criobe.pf/>). The IPFC is an international conference held every four years, which has been attracting world-class scientists and delegates from around the globe since its inception in 1981. Many people attended the event at the Cultural Center (venue of the conference) at Tahiti. Many side events took place during the week at the venue: the conference itself, one Children-day, three large public lectures, and television & radio broadcasts.

For 33 years the conference has facilitated international collaboration among scientists and managers in the field of ichthyology in the Indo-Pacific, the largest marine biogeographic area on the planet. The participants came from different countries of the Indo-Pacific, but also from all around the world (United Arab Emirates, Argentina, American Samoa, Australia, Belgium, Brazil, Bahamas, Canada, Switzerland, Chile, China, Germany, Fiji, France and its over-seas territories [French Polynesia, New-Caledonia, La Réunion, Mayotte], Great Britain, Hong Kong, Kenya, Korea, Monaco, Malaysia, New Zealand, Panama, Philippines, Portugal, Palau, Russia, Saudi Arabia, Sweden, Taiwan, USA, Western Samoa, South Africa).

It was a great honor to host the event for this 10th edition. We look forward to see you all at the next one in Auckland in four years!

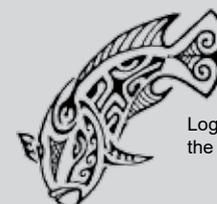
I wish you all the best for the coming year!
David Lecchini, Associated Director of IRCP



10th IPFC themes

- 1/ Origin, Evolution, Taxonomy and Bio/Phylogeography of Indo-Pacific Fishes
- 2/ Fisheries and Aquaculture in Indo-Pacific
- 3/ Recent advances in the study of coral reef fishes
- 4/ Biology, Ecology, Ethology and Conservation of Sharks, Rays and Top-predators
- 5/ Freshwater, Diadromous, Cryptobenthic, Mesophotic and Deep-Sea Fishes, an essential knowledge to better manage the global biodiversity in the Indo-Pacific
- 6/ Fish facing local and global threats and potential solutions;
- 7/ Long Term Monitoring in Indo-Pacific Fishes
- 8/ The future of fish and human interactions

During the IPFC, 3 plenary lectures, 398 lectures and 56 posters were given in the four rooms of the Venue. **More than 550 participants from more than 30 countries attended those presentations, 200 school kids were invited during the Children-day and participated to 6 workshops on coral reefs. 1120 persons in total took part in the amazing event!**



Logo of the IPFC10

For more info and pictures: <https://ipfc10.criobe.pf/>

IRCP GRANTS

In 2011, IRCP launched a competitive early-career grants program for Masters, PhD and Post Doctoral Researchers under 35 years of age. The grant is designed to attract up-and-coming coral reef researchers to French Polynesia, where they will conduct research and share their expertise within the Pacific Island community.

In 2017, one of the four IRCP grants was given to Jack O'Connors, Researcher at the Ecology and Evolution of Fishes Lab, University of Melbourne, Australia. Jack, a specialist of behavioural ecology, came at Moorea twice in 2017 to work on an innovative project : "A Hard Day's Night: How artificial light at night is changing the structure and function of coastal marine ecosystems". Little is known on how this disruption to the natural day-night cycle is affecting the health of marine organisms and ecosystems, which also use lunar cues for triggering spawning and recruitment. First results show avoidance of habitats with artificial light and increased mortality when exposed to predators.



Pictures on different lights, artificial (a, b, c) or not (d), influencing life on coastal areas

A long-term research opportunity!

The IRCP grants give a real opportunity to create strong collaborations between the awardees and researchers from CRIOBE. Since the grant's inception in 2011, having awarded 24 grants, , 50% still work with the CRIOBE and some return more than once at the center. For example, 2014 IRCP grant recipient Jodie Rummer Associate Professor at James Cook University, is now involved in a long-term study on sharks in Moorea with researchers from CRIOBE.

Her goal, the same since the beginning : to better understand how well shark juveniles can cope with climate change. Since her projects inception it has continued to grow and now includes a team of three persons working with her today on the *Physioshark Project*: a PhD student, a field assistant and a community manager. Together they monitor eleven potential nursery areas for baby sharks around Moorea, to learn more about the daily conditions baby sharks encounter, including their ability to tolerate changes in temperature, and their ability to effectively use oxygen from their habitat to survive. These data will help predict whether Moorea's baby sharks can tolerate the changes in conditions expected to occur with climate change, and whether these animals need increased protection against other stresses they encounter.



More info : @physioshark (Instagram), Physioshark Project (Facebook)

Applications for IRCP GRANTS

Four grants are available each year to early career French and International scientists (<35 yrs) for research on French Polynesia's coral reefs. Candidates must submit an application form to the IRCP scientific committee which details their plans for research project in French Polynesia. **Each grant of 4500 euros supports travel, accommodation and research expenses.**

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Partnerships , workshops and Citizen Science

Partnership and Workshops

Thanks to a partnership with the French Pacific Fund, four workshops were organized in French Polynesia in 2017/2018:

- Improve stewardship and human well-being of communal resources in coral reef social-ecological systems: Linking hybrid governance and social-ecological resilience in a changing world
- Sustainable use of fish for animal-based ecotourism in the Indo-Pacific: How to reinforce mutual benefits?
- Ciguatera fish poisoning in the Indo-Pacific region: incidence, toxin dynamics, impacts on socio-ecosystems, and risk management
- Women in Marine Sciences in the Indo-Pacific



Women in Marine Sciences in the Indo-Pacific

Organized by Jodie Rummer, from James Cook University and Cecile Berthe, from CRIOBE, this workshop was held during the IPFC10 in Tahiti and aimed to increase the possibility for early career female scientists to participate in the international conference. Thanks to the Fonds Pacifique and the ASFB, five grants were given to female scientists. In Total 13 women gave a presentation in the crowded Muriavai room at the IPFC Venue, the occasion to present a career overview with highlights of their research. *«A particular event for which I want to thank again all the women who participated, our sponsors and the WAN society that welcome us at the Pearl Museum at the end of the workshop»*. Cécile Berthe



Citizen Science «Un Oeil sur le Corail»



Coral reefs are the wealth of French Polynesia and as barrier reefs represent over 2,000 km². The major bleaching events of 2016 and 2017 have shown that the effects of global warming were highly variable throughout the world and across French Polynesia.

To understand the responses of French Polynesian coral reefs to disturbances (natural or anthropogenic), the IRCP launched a participatory science program named "Un Oeil sur le Corail" (An Eye on Corals) in January 2017. This program allows anyone - users of coral reefs, divers, fishermen, tourists, associations, scientists, reserve guards, boaters, various stakeholders - to report bleaching events, predator invasions or proliferation of coral diseases observed throughout the reefs of French Polynesia.

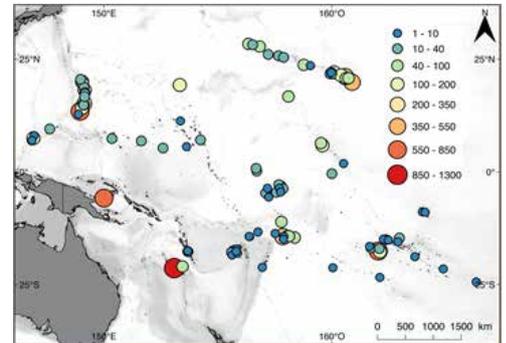
<http://www.ircp.pf/participez/>

Long-Term Monitoring of Coral Reefs in the South Pacific

As the coordinator of the Pacific node of the Global Coral Reef Monitoring Network (GCRMN, a network of the International Coral Reef Initiative - ICRI) the IRCP is writing the report *Status and Trends of Coral Reefs of the Pacific*, through collaboration with CRILOBE, UN Environment, SPREP and numerous technical partners, and with the support of the Government of France, the Government of Sweden and the US Department of State.

Shedding light on past trends and current status of coral reefs is essential for establishing appropriate long-term management practices, the sustainability of coral reefs and local communities and in support of development efforts of countries and territories of the Pacific. This report is the result of a regional collaborative effort initiated in 2015 to address this information gap, by compiling and analysing long-term coral reef biophysical data in order to assess status and trends of coral reefs at country and ocean-basin scales.

Time series data were compiled for countries and territories from the Republic of Palau in the west, to the Pitcairn Islands in the east, including the southernmost islands of French Polynesia and the northernmost islands of Hawaii (Figure 1). To obtain this data, we contacted more than 200 people in all Pacific nations or associated continental countries (e.g. France, USA). Data providers were from a broad range of institutions, including governmental agencies, universities, non-governmental organizations, and private companies, and also included independent researchers and consultants. This is the first Pacific-wide compilation of data of its kind, and all data were provided on a voluntary basis. This powerful resource has enabled an in-depth analysis on the status and trends of Pacific coral reefs.



Sampling effort per island for substrate monitoring: circle size and colour represent the number of surveys at each island.

Highlight 2017 - 2018

SPREP - IRCP Collaboration



The Institute and the Secretariat of the Pacific Regional Environment Programme (SPREP) signed

at the beginning of 2018, a Memorandum of understanding, whose main objective is to provide a new framework of co-operation between both organisations on coastal and marine research, monitoring and conservation for the next five years.



COP23 in Bonn

The annual UN conference on Climate Change was held in Germany in November. Serge Planes, Director of the IRCP, gave a talk about the status

of coral reefs in the Pacific. There is little doubt anymore that coral reefs are among the most threatened ecosystem and they will change dramatically in the future. But we need to anticipate the change in the goods and services they provide us.

The Third International Year of the Reef

At the 31st General Meeting (November 2016 in Paris, France), the International Coral Reef Initiative (ICRI) declared 2018 as the third International Year of the Reef and encourages to:

- Strengthen awareness globally about the value of, and threats to, coral reefs and associated ecosystems;
- Promote partnerships between governments, the private sector, academia and civil society on the management of coral reefs;
- Identify and implement effective management strategies for conservation, increased resiliency and sustainable use of these ecosystems and promote best practices; and
- Share information on best practices in relation to sustainable coral reef management.

ICRI encourages its members to support and participate in planning for IYOR 2018, and to facilitate the development of national level IYOR activities. For more information, contact the ICRI Secretariat.



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