

# A science committed to a sustainable future

Overview of the Activity Report

# 2018

SUSTAINABLE  
DEVELOPMENT  
GOALS



French National Research  
Institute for Sustainable  
Development



Institut de Recherche  
pour le Développement  
FRANCE



**6**  
Improving  
human  
health



**8**  
Protecting  
biodiversity



**10**  
Understanding  
global changes,  
quantifying hazards  
and mitigating risks



**12**  
Sustainable  
management of  
Ocean resources



**14**  
Understanding  
societies in the  
tropical and Medi-  
terranean regions



**16**  
Enhance the impact of  
research in countries  
of the Global South



**18**  
IRD across  
the world



**20**  
Dynamics  
and Communities



On the eve of its 75<sup>th</sup> anniversary, we are proud to assert IRD's specific identity and added value within the national and global landscape of scientific research for sustainable development. As illustrated by this 2018 activity report, our Institute continues its positive development, underpinned by the objectives determined as part of its **Strategic direction plan (POS)** for 2030, laid out for 2016-2020 in the **Objectives and performance contract (COP)** signed with its line ministries.

In 2018, the Institute focused in particular on raising the international profile of the scientific partnership with its colleagues from countries in the intertropical and Mediterranean zone, notably in **Africa**, during the **14<sup>th</sup> meeting of the Conference of the Parties to the Convention on biological diversity** in Egypt in November, and the **24<sup>th</sup> UN climate change conference (COP24)** in Katowice, Poland, in December.

IRD acted as a driving force to ensure "sustainability science", to which its researchers and their partners fully contribute, has a voice in the global debate and, whenever possible, in decisions relating to **Sustainable Development Goals (SDG)**, including

within alliances such as AllEnvi, which I **have been chairing** since July of last year.

Furthermore, a number of large-scale projects were undertaken by the Institute in 2018 to renew its mechanisms, including the gradual implementation of **interdisciplinary partnership scientific programmes (PSIP)** based on major sustainable development issues, the diversification of its partnership tools with a focus on **LMI** and **JEAI** calls for projects, the introduction of South-North and South-South exchanges and, more importantly, the creation of **international research groups-Global South (GDRI-Sud)**.

The network of representatives has now been consolidated, and we made every effort, whenever possible, to share representational functions with some of the major partners of the French higher education and research system (CIRAD, CNRS, MNHN, universities) and to jointly develop research programmes with partners from countries where we operate, notably via the establishment of joint Scientific and Strategic Steering Committees (CP2S).

Support for the scientific partnership with developing countries resulted in actions designed to consolidate its presence and recognition in the next 2021-2027 European framework programme, and raise its partners' awareness of new guidelines in terms of open science. In keeping with its values and missions, IRD sought to redefine its commercial exploitation policy and devise a new intellectual property policy.

The necessary modernisation of research support functions continued, by improving our ability to secure funding for research programmes from donors, foundations and development assistance administrations.

The increased provision of services to joint research units by regional delegations in mainland France became a reality with the gradual devolution of research support functions. Finally, the development of a new multi-annual real estate strategy scheme (SPSI) and a new 2019-2023 digital master plan (SDN) will enhance the coherence of our action while helping us launch ambitious initiatives.

**P' Jean-Paul Moatti**  
Chairman and CEO of IRD

**2,050**

agents, including  
851 researchers and  
1,199 engineers and technicians

**29%**

of agents working  
outside mainland France

**72**

research units

**38**

representatives abroad,  
in overseas France and  
in international and  
European institutions

**1,429**

references for articles published in  
2017 by IRD researchers in the  
*Web of Science*, of which 62%  
were co-publications with a partner  
from the Global South.



# 2018

## Highlights



For further information



**IRD participated in COP24**



**Second international conference of the WIN network in Singapore: combating insecticide resistant mosquitoes**



**Birthplace of African rice domestication identified in Mali**



**Second SDG summer school in Marseille**



**The IRD celebrates the International Year of the Reef**



**ICE MEMORY :  
new Russian expeditions**



**Ebola epidemic in the Democratic Republic of the Congo:  
mobilisation of Franco-Congolese scientific cooperation**



**Toulouse hosts the first conference dedicated to young African researchers in Europe**



**Hepatitis B: a new strategy for eliminating mother-to-child transmission**



**IRD joins the Phytobiome international alliance**



# Improving human health



For further information

Research conducted within the “Health and Societies” (SAS) Department is driven by strong synergy between the considerable international expertise of its teams and partners, and top-level technical platforms in France and in the South.

Activities are closely linked to the pressing issues of global health and the impact of global changes (climate, demographic, environmental and societal changes). They also take into account the need to reorganise health systems and their funding, as well as the challenges posed by new health threats or phenomena such as resistance to anti-infective agents and insecticides. These are a key part of the global health strategy in France, and require a one health approach based on strong interdisciplinary interactions.

Health/environment interactions in the broad sense (biodiversity, climate change, food system) and political and social systems are a cross-cutting and federating theme for the research carried out by the units. This systemic approach is at the heart of two international research groups in the South (GDRI-South) certified in 2018, as well as new seminal, interdisciplinary partnership programmes (PSIP), managed by the department.

10

joint research units

2

international joint units

2

associated units

6

joint international laboratories

11

young teams associated with the IRD

2

international research groups-South

## And in the future?

In 2019, the department will continue its action by staying focused on its three research priorities:

- ◆ Understand, prevent, control and eliminate infectious tropical diseases
- ◆ Study the multiple facets of epidemiological transitions
- ◆ Health systems, players, policies

Interdisciplinary cooperation with other IRD scientific departments is growing: in accordance with the roadmap of the “Global Changes & Emerging Infectious Risks” PSIP drawn up in 2018, an initial wide-reaching activity was scheduled in 2019, with the organisation of multidisciplinary training in epidemic response in Guinea (Conakry); other capacity building actions are under consideration.

In addition, 2019 will see the launch of the “Food systems for the sustainable development and well-being of populations” PSIP. Finally, with the implementation of a community of practice on interventional research, a topic that IRD has been advocating for 2 years, a reflection and the construction of a research group are emerging on the subject of the “impact of the environment on health”, particularly in terms of contaminants.

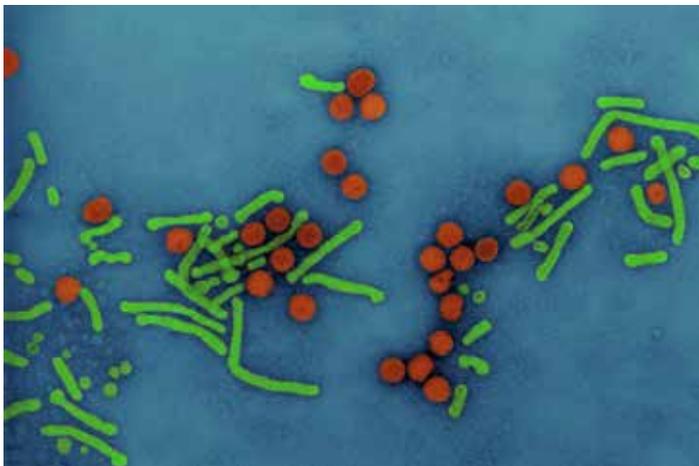
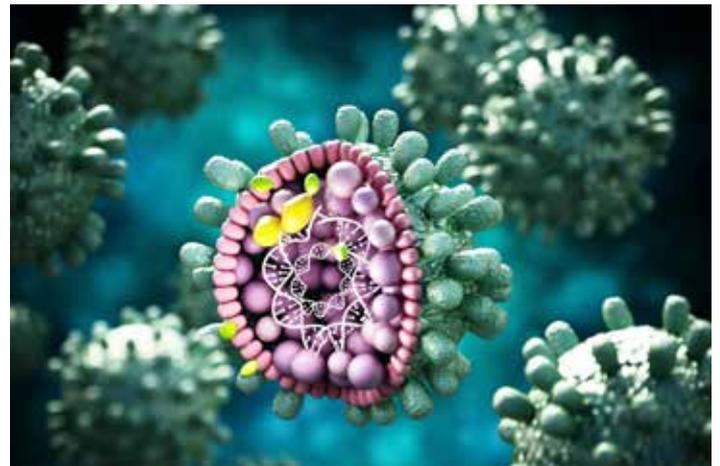


## HIV prevention in Africa

Pre-exposure prophylaxis (PrEP) in men who have sex with men (MSM) was introduced in 2018 in 4 African countries via the cohMSM-PrEP cohort financed by Expertise France and the ANRS.

## Prevention and management of hepatitis B in Senegal

The AmBASS project was set up in the Niakhar region of Senegal to better understand the extent and consequences of the Hepatitis-B infection on the living conditions of the populations, and to come up with adequate and effective prevention and management policies.



## Liver cancer: the Peruvian exception

Scientists from the PHARMADEV unit and physicians are attempting to decipher the ins and outs of the atypical epidemiology of liver cancer in Peru, where young people are particularly affected by the disease.

## Launch of the Deworm3 programme on intestinal worms

The purpose of this project is to examine the possibility of stopping the transmission of 3 intestinal worms (roundworms, hookworms and whipworms) by modifying the WHO's strategy which advocates the mass treatment of school-age children.





# Protecting biodiversity



For further information

The scientific questions raised by the "Ecology, biodiversity and continental ecosystem functioning" (ECOBIO) department primarily address the functional role of biodiversity in tropical and Mediterranean ecosystems.

In 2018, research conducted by the Department cast light on:

- ◆ The knowledge, management and preservation of biodiversity
- ◆ The functioning of continental ecosystems and the services they provide to communities
- ◆ The adaptation of natural and cultivated ecosystems to global changes (in land use and climate)
- ◆ Relationships between soil-water-biodiversity-climate compartments
- ◆ The study of the phytobiome (symbioses, emergence and control of crop pests and diseases)

As part of the "Preservation and Promotion of Biodiversity" PSIP, a "Biodiversity and Globalisation/Global Changes" workshop was organised in Montpellier on 19 and 20 December 2018. IRD also participated in COP 14 on biodiversity.

A number of activities were undertaken as part of the "Continental Carbon Sequestration" PSIP: technical support for the French delegation to COP 13 UNCCD, revision of the "land degradation and restoration assessment" for IPBES 6 and participation in COP 24 UNFCCC.

13

joint research units

7

joint international laboratories

6

young teams associated with the IRD

2

international research groups-South

## And in the future?

IRD will be particularly involved in two major biodiversity related events in 2019:

- ◆ The "Pacific Biodiversity" symposium (24-25 June 2019 in Nouméa), following the 7<sup>th</sup> IPBES conference held in France from 29 April to 4 May 2019.
- ◆ The Third Jack R. Harlan International Symposium Dedicated to the Origins of Agriculture and the Domestication, Evolution, and Utilization of Genetic Resources, to be held in Montpellier from 3 to 7 June 2019



## Genetic diversity in millet

Having sequenced the millet genome, an international consortium involving French researchers from IRD, Indian, Chinese researchers and numerous laboratories from the North and South, studied different wild and cultivated varieties.

## Andean dams versus Amazonian biodiversity

A scientific study warns of the multiplication of large-scale hydroelectric dams on the Andean tributaries of the Amazon.



## Cultivate land for carbon

Soils from cultivated areas in tropical regions constitute largely underused carbon sinks.

## Nitrogen-fixing symbioses reveal themselves

Recent research has revealed the origin and evolution of symbiotic relationships between certain plants and soil bacteria in order to use atmospheric nitrogen.





# Understanding global changes, quantifying hazards and mitigating risks



For further information

The IRD research teams in the DISCO Department (Internal and Surface Dynamics of Continents) study the functioning of the Earth's system via its physical and biogeochemical dynamics, subject to global changes (climatic, economic and demographic) which can take situations beyond tipping points.

Research focuses on two main seminal areas: observation and modelling of the continents' physical environments, and the interactions between changes to the physical environments and socio-economic dynamics. The scientific goals are the understanding of global changes and above all climate change, the quantification of hazards, risk mitigation for populations, and the prospects for new resources.

In 2018, the department's research teams placed particular emphasis on the following topics:

- ◆ Évolution climatique, impacts, vulnérabilité et adaptabilité
- ◆ Climate change, impacts, vulnerability and adaptability
- ◆ Hydrological cycles, extreme phenomena, erosion, coastal zone
- ◆ Hazards, vulnerability, resilience
- ◆ Contaminants and environment
- ◆ Critical zone
- ◆ Mineral resources, dispersion and speciation
- ◆ Water-agriculture (food security)-energy nexus

11

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3

joint service units

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international research groups-South

## And in the future?

IRD will continue its support actions for the co-ordination and structuring of the Earth system physical and biogeochemical sciences community:

- ◆ Support for initiatives from the "Hazards, Risks and Climate Services" PSIP and "GEODHE" PSIP kick-off workshops
- ◆ Presentation of the report on the assessment and forecast of IRD's hydrology discipline
- ◆ Launch of the first joint CNRS-IRD call for projects on "Natural Risks". By building on past research, the objective of this call for projects is to encourage the development of interdisciplinary research by supporting research projects at the crossroads of environmental, engineering sciences, mathematics and statistics, and social, economic and behavioural sciences
- ◆ Incentive for setting up large-scale international projects co-developed with partners, including through co-financing, *via* the increased use of the Institute's seed fund
- ◆ Development of joint initiatives with AFD in the research domain

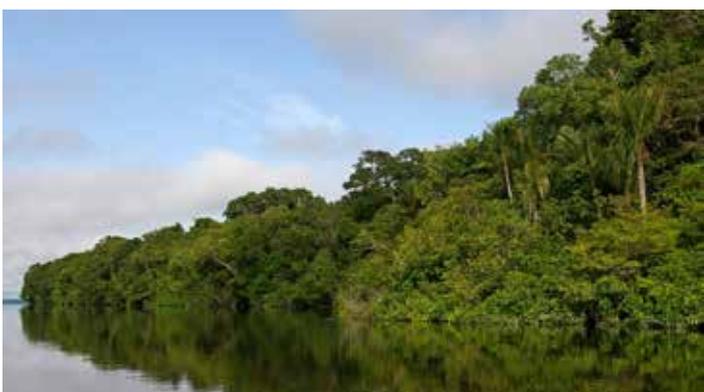


## IPCC report

On 8 October, the experts of the Intergovernmental Panel on Climate Change (IPCC) issued a special report to which Arona Diedhiou contributed. The IRD researcher worked on the differences between the effects of a 1.5°C and 2°C rise in temperature, and how to limit its impact.

## Roots in search of water

Why are there differences in the growth of a dozen tree species in an Indian forest? Their rooting depth and ability to overcome exceptional droughts.



## Amazon groundwater quantified at last!

As the Amazon basin is difficult to access, the condition of its water table remained virtually unknown. The mystery was solved thanks to an assessment made by an international team linked to several IRD units and led by LEGOS researchers.

## Chile, a history of erosion

Chile is an ideal study site for geologists, due to its exceptional climate gradient. Over the past few hundred years, climate but also human activities have severely impacted soils in this country. French and Chilean scientists have been working hand in hand on this issue for 25 years.



## Towards the intensification of extreme rainfall events in southern Europe

For the first time, a team including an IRD researcher studied the impact of climate change on extreme rainfall patterns in the entire Mediterranean region.



# Sustainable management of Ocean resources



For further information

The “Oceans, climate and resources” Department (OCEANS) addresses research issues regarding ocean development in an integrated manner, with a focus on the processes which affect the intertropical zone. Oceans are at the heart of the sustainable development agenda, with two of the 17 sustainable development goals: SDG 13 on action to combat climate change and its impacts and SDG 14 on the oceans, seas and marine resources.

Research within the department focuses on two major scientific areas: Understanding the role of the tropical ocean in the current climate dynamics, and studying the evolution of marine ecosystems and their exploitation in a context of global change.

In 2018, researchers placed particular emphasis on the following scientific topics:

- ◆ Warming, Acidification, Deoxygenation, Carbon Sequestration
- ◆ Connections with the atmosphere and continental surfaces
- ◆ Functioning of deep-sea, coastal and shore ecosystems and their multiscale variability (time and space)
- ◆ Exploitation of resources while protecting biodiversity
- ◆ Breaking points: Acidification, deoxygenation, temperature, overfishing
- ◆ Contamination and the impact of pollutions

The department also continued to support observation and modelling systems at the interface between physics, ecological, economic and social sciences.



## And in the future?

As a priority in 2019, IRD will continue to support projects combining environmental, societal and economic concerns with marine resource conservation and exploitation objectives in high-sea, coastal areas and small, developing island nations. The Department will back studies on interactions and retroactions between climate, the ocean, its ecosystems and governance methods in Exclusive Economic Zones and beyond national jurisdictions. It will contribute to building scenarios for the evolution of socio-ecosystems in a context of global change.

As such, the momentum created by the “Vulnerability of coastal zones in a context of global change” PSIP in 2017 has been building over the past few months in West Africa’s coastal areas. In 2019, as part of this PSIP, IRD will strive to support and advance interdisciplinary scientific collaboration with our African and international partners, based on already extensive knowledge in this field at regional level, with a view to better informing the decision-making process in a context of global change. For the other regions of the intertropical zone also faced with serious coastal issues, in 2019 the PSIP will analyse the actions to be undertaken in order to address local needs and situations, while taking an overall look to fully understand this global and interdisciplinary issue.



## Effectiveness of marine reserves compromised by human contact

Researchers studied 1,800 coral reefs, 106 of which were located in 20 marine reserves.

## IRD celebrates the 3<sup>rd</sup> International Year of the Reef

On this occasion, IRD enabled the general public to discover partnered research on this essential theme, during events organised in mainland and Overseas France.



## El Niño and weather hazards

The modelling of 2015 and 2016 El Niño events highlights the importance of unpredictable high-frequency winds.

## Variability and convergence at the heart of the oceans

While gigantic eddies trap floating particles at the heart of each ocean basin in subtropical regions, other currents link the Southern Indian Ocean to the South Pacific.





# Understanding societies in the tropical and Mediterranean regions



For further information

The primary objective of the IRD's "Societies and globalisation" (SOC) department is to understand contemporary societies in the tropical and Mediterranean regions while analysing the dynamics which underlie them. Research conducted takes an interdisciplinary approach to social challenges, with a view to demonstrating their implications and relevance for countries in both the South and the North. The various research programmes strive to understand the dynamics at work in the diverse array of societies. They all have in-depth knowledge of the field and apply their approach at several levels.

In 2018, the Department supported a number of structural actions. This includes support for society-environment observatories such as the Observatory of Small Mammals Indicative of Environmental Changes - case of the Senegal Delta (ObsMICE), as well as summer schools in Asia (Social Sciences Winter school in Pondicherry; Manusatra/ Monsoon university, Cambodia; "WANASEA" summer school, Vietnam) or Africa (BiogrAfrique in Uganda; Tany Voa in Madagascar; a summer school in Morocco). Many of them could be made permanent – in conjunction with local partners and/or the French higher education and research system.

The department also supported the development of a digital library collecting scientific journals published in Europe in the 19th and 20th centuries as part of a colonial, or even post-colonial context.

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## And in the future?

IRD will continue to play an active role in raising students' awareness of the major issues of societies in the tropical and Mediterranean regions, notably via the implementation of the Master's degree in Migration studies at the Côte d'Azur University and the "Decision-Making Aid and Impact Assessment of Public Policies" Master's degree project initiated by IRD, the Paris Dauphine University and ENSAE Dakar. This project was approved by the technical committee of the Franco-Senegalese campus, supported by President Emmanuel Macron and his Senegalese counterpart, Macky Sall.



## The challenge of universal health coverage

Are policy guidelines for the implementation of universal health coverage, notably for the poorest, known and applied by health professionals? Possible answers from Burkina Faso.

## Discrimination and abnormally high death rate in young girls in India

Research by demographers reveal the magnitude of the abnormally high rate linked to gender discrimination against young girls in some regions of India.



## Publication of the **NIAKHAR MÉMOIRES ET PERSPECTIVES. Recherches pluridisciplinaires sur le changement en Afrique** book

The Niakhar observatory is the oldest population observatory still in operation in Africa. It has been used in the health, demographic, social, economic and environmental monitoring of more than two generations.

## 5<sup>th</sup> Meetings of African Studies in France (REAF)

IRD participated in the organisation of this event held in Marseille from 9 to 12 July 2018. The theme of these meetings was: *Afriques enchantées, Afriques en chantiers* (Magical Africas, Africas under construction).





# Enhance the impact of research in countries of the Global South

For further information 

For IRD, enhancing the impact of research in Global South countries is consistent with an equitable scientific partnership based on the co-development of programmes and a spirit of responsibility and accountability towards developing countries. Its commitment to a responsible innovation process is fuelled by increased awareness of the Institute's contribution to the emergence of "common" goods, inasmuch as the Institute's researchers have been involved in the preservation of local "commons" in the Global South (forests, water resources, soils, biodiversity hot spots) and in the creation of numerous "information commons" for a long time. Consequently, responsible innovation and commons theory encourage IRD to adopt an approach that promotes differentiated solutions adapted to local contexts for its commercial exploitation activities. In terms of training, the objective is also to develop actions in conjunction with partners, with a view to training future researchers in key sustainable development topics, and contributing to the creation of networks of research lecturers and researchers in the Global South.



## Promotion, innovation

In addition to the commercial exploitation objective, the ambition of the promotion and innovation department is to strengthen research's contribution to society and the link with businesses and the economic world.

## Strengthening higher education and research systems through training

Capacity-building is a cross-cutting task, involving all of the Institute's scientific activities, based on the belief that development entails recognised scientific communities, open to social challenges.



## Innovation Campuses

In rapidly evolving societies, and to deal with the urgency and increasing complexity of challenges, scientific research and innovation have a key role to play to inform decisions and invent solutions which satisfy local needs.

## Le projet CoLAB

IRD, MakeSense and Bond'innov, with the support of the Ministry for Europe and Foreign Affairs, joined forces to create CoLAB, the first multi-actor collaboration laboratory for responsible innovation.





# IRD across the world



For further information

## IRD's contribution to the international agenda

### The science of sustainability to support development

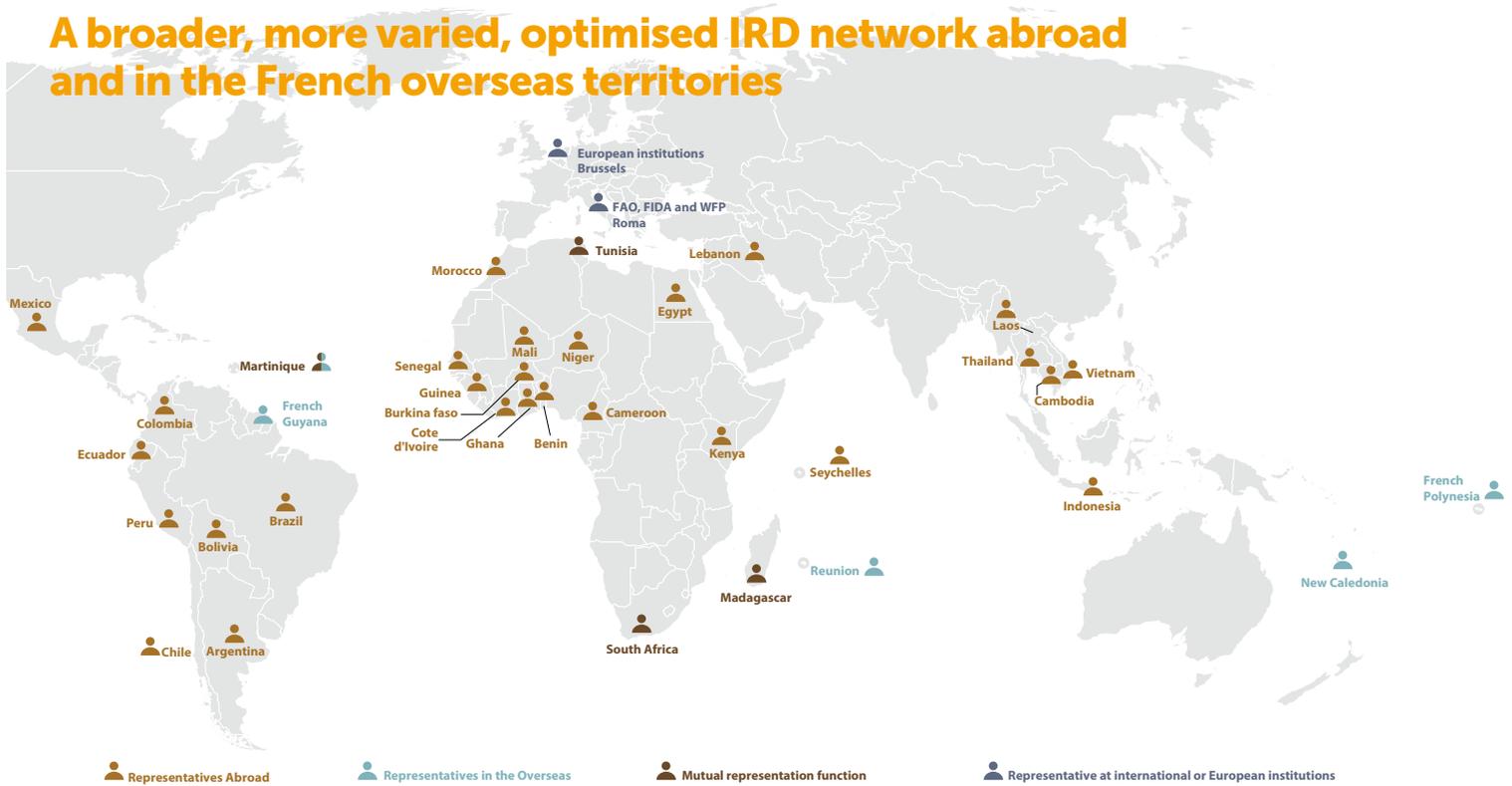
**In 2018, relationships with the World Bank were strengthened.** IRD supported the applications of several African partners as part of the 3rd call for African centres of excellence (ACE IMPACT) funded by the World Bank and AFD. In partnership with CIRAD and CNRS, IRD is a partner to 16 of the 44 African centres of excellence in West Africa. Via its "Vulnerability of coastal zones in a context of global change" PSIP (interdisciplinary partnership scientific programme), IRD participated in the launch workshop for the WACA (West African Coastal Areas) management programme from the World Bank (Dakar, Senegal). IRD and its partners also took part in the "Blue economy" conference in Nairobi (Kenya), during which their works on marine planning, the environmental impacts of illegal fishing and the climate/ocean relationship were presented.

**IRD tightens connections with partner United Nations agencies.** The Institute actively collaborated with the United Nations Environment Programme (UN Environment) for the creation of an interface between scientists, decision-makers and economic players, devoted to the protection of the environment (Science Business Policy Forum). In close collaboration with CIRAD and Agreenium, IRD participated in the renewal of the framework agreement between France and the Food and Agriculture Organization of the United Nations (FAO). An institutional meeting was held in Geneva with the World Meteorological Organisation (WMO), concerning climate and hydrological services (CREWS and Hydromet projects). A meeting was also organised with the WMO/WHO (World Health Organisation) Joint Office in Geneva, to explore the collaborations between IRD and these organisations, focusing on the climate-health connection.

**IRD mobilisation in favour of the international debate on sustainable development** in particular during the Cop 24 of the United Nations Framework Convention on Climate Change (UNFCCC), the Cop 14 biodiversity conference.

Through a strong mobilisation of its partners in Francophone Africa and the Future Earth network, IRD organised a multi-party consultation workshop in South Africa, on the SDGs in Africa, to coincide with the conference on "implementing transformations: the role of science and society in achieving the 2030 Agenda". The results of this consultation were presented in New York at the High-Level Political Forum (HLPF). The 2018 HLPF was also a moment of discussion concerning innovative and inclusive approaches in the multi-dimensional definition of poverty and the need to understand interactions between the SDGs.

## A broader, more varied, optimised IRD network abroad and in the French overseas territories



## Towards new partnerships

In 2018, the new partnerships and development funding mission sought to encourage exchanges between scientific and philanthropic networks, consolidate relationships with foundations close to IRD and with prospects, support governance, and guide researchers towards the collection of private funds. Funding from the foundations in 2018 totalled €1.5 million.



## Research for development in Europe

IRD's European advocacy work, co-ordinated by the European affairs service and facilitated by the presence of a representative based in Brussels, has strengthened IRD's visibility and its influence in the European institutions. Since 2014, IRD has won 39 research projects from Horizon 2020 calls, and 18 projects funded by the EuropeAid programme. In 2018, 25 new European projects were won, for a total sum of €7.2 million for IRD.



# Dynamics and Communities



For further information

## Supporting the new dynamics of the IRD community

2018 was marked by the consolidated devolution of support functions initiated in 2016: the management scope of regional delegations gradually increased, as it now covers to contracts and HR, before extending to promotion and innovation in the near future.

The improvement of the establishment's management tools continues, in keeping with the pooling and interoperability processes advocated by the Ministry of Higher Education, Research and Innovation.

Changes in our network of controllers were also a highlight of 2018, with the arrival of new controllers, staff operating under local law, to satisfy the objective determined as part of changes to the network of representatives abroad and Overseas. An initial training seminar was organised in Marseille by the HRD and ACP in October.

Studies and analyses carried out in 2018 by research support departments ensured better visibility in terms of the deployment of IRD's staff: 2011 – 2024 career path or analysis of the presence in the Global South presented to IRD's governing bodies.

In addition to the fairness objective pursued by this reform, the scaling back of the foreign residence allowance rates applicable as of 1st February 2018 generates margins which may be used towards all instruments and mechanisms contributing to the research dynamic for development in the Global South.

Support agents took ownership of the Objectives and performance contract (COP) and its variations at mission level throughout 2018, thanks to the organisation of seminars based on regional delegations, allowing everyone to contribute to the attainment of the establishment's strategic objectives.

## And in the future?

2019, marked by the 75<sup>th</sup> anniversary of the Institute, will see the consolidation of the way research support functions are organised to benefit the units, as well as continued modernisation and simplification via the use of new tools: European HR certification, new online application, IRD Lab tool, providing better visibility of our research units' activity... and many other projects which will help modernise the Institute and simplify its management processes.

## **New organisation of the HR activity and projects of high importance**

In 2017, the Institute laid the groundwork for a new organisation based on the devolution principle, which notably impacted the Human Resources Division (HRD) in 2018.

In 2018, activity transfers to HR services of metropolitan regional delegations were completed/prepared. This organisation (including the creation of the HR communication function and a HR in the Global South mission) led to the implementation in 2018 of projects of high importance for the IRD community..

## **2018 budget confirms the new dynamics featured in the COP**

The Institute's COP features five guiding principles which underpin the establishment's fiscal policy. At the end of the financial year, the amount of commitments fulfilled came to €226.947 million. The budget implementation balance shows a loss of -€3.044 million.

## **Promoting IRD's activities and values**

IRD's communication strategy must respond to two major issues present in the 2016-2030 strategic direction plan (POS) and in the 2016-2020 objectives and performance contract (COP): recognition and awareness of the Institute and its work as a key and original player in science and development, and consolidation of a collective dimension to our work by facilitating cultural and institutional connections within Planet IRD. IRD's communication activities are structured around three strong development lines: facilitating dialogue and constructing communities, establishing IRD's identity, and improving understanding of IRD's work.

## **A new information system for new ambitions**

The transformation of the information system is part of the ambitions of IRD's COP, in line with its Strategic Direction Plan.

The objective of the approach initiated by IRD in 2018 is to define IRD's 10-year digital strategy and implement it operationally over 5 years via the implementation of a 2019-2023 Digital Master Plan.

IRD is accompanied by the *Agence de Mutualisation des Universités et des Établissements* (AMUE) and the *Reseau National de télécommunications pour la Technologie, l'Enseignement et la Recherche* (RENATER) who contribute their expertise in shared services and the management of complex IS projects.

## Scientific contributions

The number of articles published by IRD researchers reached 1,429 references in the *Web of Science*, 62% of which were co-publications with a partner from the South. Taking into account the perimeter of the joint research units in which IRD participates, this scientific production represents 5,009 publications, 36% of which are co-publications with a partner in developing countries.

Moreover, 11.3% of the documents published by IRD are in the top 10% for citations of publications in their domain, and 10.6% of the documents published by IRD with a signatory in the Global South are in the top 10% for citations of publications in their domain.

1.7% of the documents published by IRD are in the top 1% for citations of publications in their domain, and 1.7% of the documents published by IRD with a signatory in the Global South are in the top 1% for citations of publications in their domain.

For further information



## For an open and shared science

In 2018, actions aimed at the general public primarily focused on achieving sustainable development goals with, in mainland and Overseas France and our partner Global South countries, exhibitions, flagship events (Festival of Science, Festival of the Ocean), conferences and debates, workshops, film screenings and actions specifically targeted at young people.

For further information



## Assessment and consultancy

The "Assessment and Consultancy" mission was created within the Science Division at the end of 2018. IRD's assessment and consultancy activity builds upon research results for development, by assessing what is known, deficient, incomplete or uncharted. It comes into play before public policies are formulated, or in response to a question raised by a sponsor, which can be based on available knowledge.

For further information



## Interdisciplinary cooperation, intersectorality and Sustainability Science

Launched at the end of 2017, the interdisciplinary scientific partnership programmes (PSIP) continued to grow and benefited from the contribution of the Mission for the Promotion of interdisciplinary cooperation and intersectorality. In terms of the outreach of interdisciplinary activities, IRD attended many international events.

Meetings with international and regional institutions helped build partnerships to work on issues such as the vulnerability of West Africa's coastal areas or interactions between climate and health.

For further information



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