



**A science committed  
to a sustainable future**

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Report  
2017



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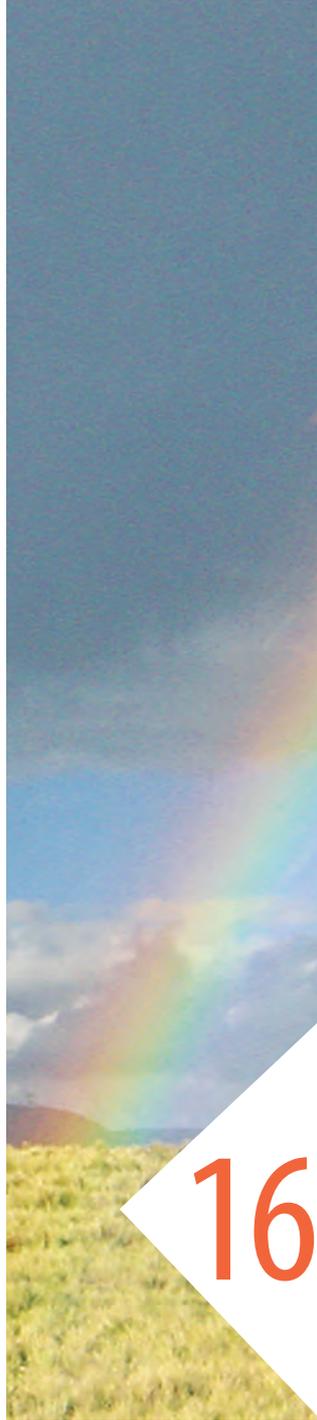
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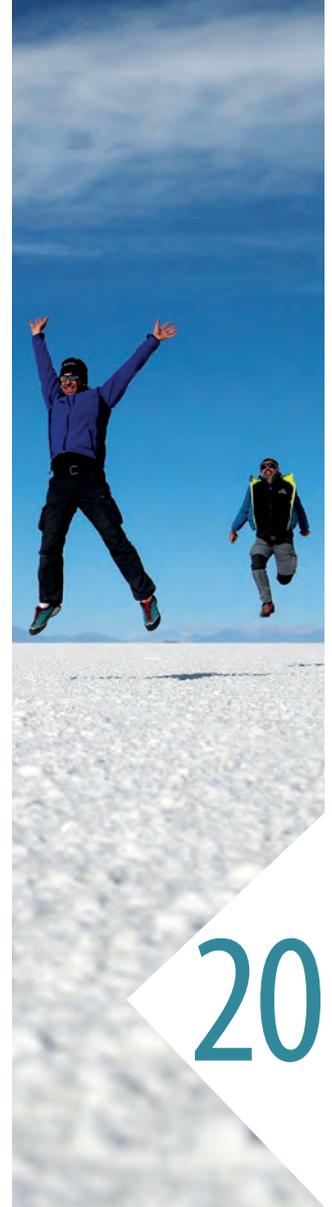
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# Editorial



2017 consolidated IRD's positive trajectory. Our two governing ministries have recognised this trajectory through the performance contract (COP) adopted in spring. An operational breakdown of the Strategic Direction Plan (POS) adopted in July 2016, this document specifies the Institute's scientific strategy, particularly around ten seminal, interdisciplinary partnership programmes (PSIPs). IRD consolidates its position in the international development agenda and **its critical and constructive approach to the Sustainable Development Goals (SDGs)** adopted by the United Nations, for 2030. It places innovation and research promotion at the heart of its missions. Finally, it confirms its policy for deconcentration and the strengthening of the management functions of its head office.

Throughout 2017, IRD has been a committed contributor at the interface between science and international debate on the implementation of the SDGs. Our active participation in COP13 (Conference of the Parties to the United Nations Convention) on desertification (Ordos, China), in COP23 on climate change (Bonn, Germany) –and on these occasions in promoting the 4p1000 initiative, in the 19<sup>th</sup> international conference on AIDS and sexually transmitted infections in Africa

(ICASA in Abidjan, Ivory Coast), and in the third session of the United Nations environment assembly (UNEA-3 in Nairobi, Kenya) illustrated this. Further examples include the publication, on the Institute's initiative, of the first French-language critical analysis work on the SDGs, *Un défi pour la planète* (A Challenge for the Planet), and our role in the collective work *L'Océan à découvert* (The Ocean Revealed), as well as in the AllEnvi alliance scientific meetings, devoted for the first time to the SDGs.

This position finds its roots in our long-standing engagement in research areas in countries of the tropical and Mediterranean zone. In 2017, IRD celebrated 60 years in Tunisia, 50 years in Peru, 20 years of the PIRATA programme in the tropical Atlantic, and 20 years of the Hubert-Curien partnership PROTEA, for exchanges with South African scientific communities.

These examples illustrate our long-term contribution to strengthening the capacities of our partners in developing countries, who now have internationally recognised scientific competence and competitiveness. The essential issue, for science and the effective implementation of the SDGs, remains the long-term continuation of effective research structures. In this respect, IRD supports the idea of adapting the successful model of the European Research Council (ERC) to the African context. The Abidjan Appeal, launched by the African scientific community on the occasion of the 5<sup>th</sup> African Union-European Union summit (AU-EU) in November 2017, in favour of an African Research Council (ARC), provides hope of significant progress on this issue from 2018. The latest CICD (inter-ministerial committee on international cooperation and development) sets the ARC as an objective of French public development aid policy.

Our evolution towards a wider, differentiated and optimised network of representation must accompany the existing dynamics in higher education and research systems in our partner countries, and embody a truly equitable partnership with these systems. A new generation of researchers has thus entered IRD representative roles. They embody a model that makes this redefined responsibility a key step towards greater collective responsibility in a scientific career. Their experiences converge with those of more experienced representatives, who have successfully maintained or relaunched significant scientific investment of their activities.

The national and international impact of the Institute depends on its capacity to combine high scientific standards, as shown for example by the success of three candidates supported by our joint research units in the first wave of the "Make our planet great again" appeal, for France to welcome climate researchers, with its original capacity to transfer and apply the results of research to benefit sustainable development.

In agreement with our supervisory authorities, in 2017 we began reforming our value-generation policy, in order to move progressively away from an exclusively economic approach to extracting value from our research. Our capacity to apply our science in service of "sustainable solutions" requires close proximity with researchers, combining of knowledge and skills, increasing openness of our laboratories to society, and the development of more partnerships with social and economic players. Therefore, in addition to industrial partnerships and projects to support start-ups emerging from research, we have developed new tools for exchange, such as the "Campus of Innovation for the Planet".

Initiatives like ePOP, the first development programme based on an island citizen network for observation, information and exchange run by young people and conducted in partnership with Radio France International (RFI), show our creativity in terms of scientific culture.

**Pr. Jean-Paul Moatti**  
Chairman and CEO of IRD



agents including  
**833** researchers and  
**1,180** engineers and  
technicians



of agents working outside  
mainland France



research units



references for articles  
published in **2017**  
by IRD researchers in  
the Web of Science,

of which



were co-publications  
with a partner from  
the South

# IMPROVING HUMAN HEALTH

The research conducted in the "Health and Societies" (SAS) department is closely connected with the priority issues of world health, the impact of global changes (climate, demographic, environmental), the necessary revision of health systems and their funding, and the challenges posed by the new health threats or phenomena such as resistance to anti-infectives 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.

Research surrounding health/environment interactions in the broad sense (biodiversity, climate change, food system) and political and social systems is therefore a cross-cutting and federating area for the different disciplines represented in the department.

261

staff members

9

joint research units

2

international joint units

6

international joint laboratories

10

young teams associated with IRD

## And in the future?

Three research priorities:

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

Interdisciplinarity is being strengthened around these themes, through regular interaction with researchers from the other scientific departments of IRD.

The progressive implementation of the Seminal, Interdisciplinary Partnership Programme (PSIP) "Global changes and emerging infectious risks", which aims on the one hand to strengthen surveillance and reaction capacities regarding epidemic threats, and on the other to better understand the conditions for the emergence of infectious diseases, is one illustration of this.

The department is also continuing its action to create a public health interventional research network within the Institute.

## First mass sequencing of the mosquito genome in natural populations

The work of a scientific consortium lifts the veil on the malaria-carrying mosquito genome. Its high genetic polymorphism sheds light on the rapid development and propagation of insecticide resistance. It could also complicate genetic combat strategies.



For further information



## Ebola survivors: life after the infection

The long-term clinical and social consequences of Ebola infection are unknown. IRD and Inserm, with the infectious diseases department of the Donka University Hospital in Conakry (Guinea), organised medical monitoring of people who had survived the infection, as part of a large research cohort. This study allowed the researchers to define what they now call post-Ebola syndrome.

For further information



## A new treatment strategy for onchocerciasis

An international study co-ordinated by IRD and the Research centre for filariases and other tropical diseases (CRFiLMT, Cameroon), shows the efficacy of a new mass treatment strategy for onchocerciasis in central Africa. Referred to as "test and treat", it is based on a rapid diagnosis thanks to a device connected to a mobile phone, the LoaScope. These results offer hope that this neglected tropical illness can be eradicated.

For further information



## Cholera epidemic in Haiti

With around 100 cases per week, Haiti has never been so close to eliminating the cholera epidemic. Seven years after the epidemic began, IRD is still engaged in this combat, in partnership with Unicef, *Assistance Publique - Hôpitaux de Marseille* (AP-HM), and the Pierre Louis Public Health Institute, in service of the Haitian authorities.

For further information



# PROTECTING BIODIVERSITY

The scientific questions raised by the "Ecology, Biodiversity and Continental Ecosystem Functioning" (ECOBIO) department primarily look at the role of living organisms and environments and their interactions in:

- ◆ The functioning of continental ecosystems and the services they provide to communities;
- ◆ The adaptation of ecosystems to global changes (uses and climates);
- ◆ The relationships between continental systems and the climate mechanisms
- ◆ The emergence and control of bioaggressors;
- ◆ The management and preservation of biodiversity

313

staff members

13

joint research units

7

international joint laboratories

8

young teams associated with IRD

## And in the future?

The Seminal, Interdisciplinary Partnership Programme (PSIP) "Preservation and promotion of biodiversity" will implement actions aiming to reinforce IRD's position and visibility, particularly during the 14<sup>th</sup> Conference of Parties (COP) regarding the Convention on Biodiversity, which will be held from 11 to 22 November 2018 in Egypt.

Launched in 2018, the International Joint Laboratory (IJL) BIO-INCA will develop collaborative research uniting the University of Los Andes in Bogota (Columbia), the Pontifical Catholic University of Ecuador, four IRD joint research units (EGCE, DIADE, AMAP and IPME) and Cirad (French Agricultural Research Centre for International Development). This project is part of multidisciplinary research to address the issues of preserving and promoting biodiversity and sustainable agriculture in the tropical Andes.

## The Andes: the watchtower of global warming

IRD researchers and their partners have shown that the long-term disappearance of the Andean glaciers could threaten the wetlands situated downstream, which are the ecological sentinels of climate change.

For further information



## Guano "boosted" corals

IRD scientists have revealed the little-known impact of bird droppings on the marine environment and corals.

Excrement of sea birds come nest on coast not only fertilizes ground ecosystems. For the first time, a study has just established their impact on marine environments.



For further information

## Molecular biology for better plant health

IRD researchers and their partners have conducted a study on the molecular decoding of interactions between wheat and bacteria, which opens the way to better plant health.

These results allow to understand better the infection process and to finalize new therapeutic strategies.



For further information

## Anthropized ecosystems and ecosystem services

The teams of the Paris Institute for Ecology and Environmental Sciences have published a framework for evaluating the ecosystem services of ecosystems modified by humans. This frame can in particular be useful to estimate various cultural practices, manage the part of forests and farmlands, develop more sustainable practices.



For further information

# UNDERSTANDING GLOBAL CHANGES, QUANTIFYING HAZARDS AND MITIGATING RISKS

The IRD research teams in the "Internal and Surface Dynamics of Continents" department (DISCO) 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. The DISCO department's work 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.

223

staff  
members

11

joint research  
units

3

international  
joint units

7

international  
joint  
laboratories

4

young teams  
associated  
with IRD

## 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 the Seminal, Interdisciplinary Partnership Programme (PSIP) "Climate hazards and services" and launch of the (PSIP) "Resource exploitation and environment"
- ◆ Consolidation of environmental observation measures in the Mediterranean zone and the intertropical zone, as part of the OZCAR (French network of Critical Zone Observatories: Research and Applications) national research infrastructure
- ◆ Collective reflection on the future of "hydrology" and "mineralogy-geochemistry of the environment" themes
- ◆ Support for dialogue between the scientific communities of the inner earth – continental surfaces domains, via a collective reflection workshop on couplings (relationships between short and long term biogeophysical processes of the critical zone).

## Vulnerability of intertropical coastal zones

The Academy of Sciences has published a special themed issue, devoted to the vulnerability of intertropical coastal zones. Directed by Isabelle Manighetti, a researcher at the Cote d'Azur Observatory and joint director of the Géoazur research laboratory, this issue involves many IRD researchers and partners.



For further information



## Ice Memory: full success of the expedition on the Illimani glacier in Bolivia

The second expedition of the Ice Memory project took place on the Illimani glacier (Bolivia), from 22 May to 18 June 2017. Two ice cores were extracted at an altitude of over 6,300 m. One of these cores will be analysed, and the other will become part of the first global core library containing glacier archives, from glaciers threatened by global warming, in Antarctica.

For further information 

## Crossed research on Chadian lakeside ecosystems

African wet zones establish "hot spot" of biodiversity which support and get of numerous ecosystematic services. A colloquium dedicated to the Chadian lakeside ecosystems took place to N'Djaména on April 25<sup>th</sup> and 26<sup>th</sup>, 2017. He joins within the framework of the activities of the project GELT (Big Chadian Lakeside Ecosystems), a French-Chadian research project holding for study the lakeside sites of Ounianga (region of Ennedi), Fitri (Batha) and Iro (Average Chari)

For further information 

## Eruption of the Mount Agung volcano

In early 2018, the Indonesian Volcanology and Geological Disasters Centre published a public report on the situation of the Mount Agung volcano in Bali, which has been erupting since the end of November 2017. The conclusions of this report, particularly the decision to reduce the evacuation range, owe much to the results of deformation models developed by François Beauducel, a researcher at the Paris Globe Physics Institute (IPGP), currently on secondment to IRD in Yogyakarta.



For further information 

# SUSTAINABLE MANAGEMENT OF OCEAN RESOURCES

The "Oceans: Climate and Resources" (OCEANS) department brings together IRD's oceanographers specialising in different disciplines: physicians, chemists, bio-geochemists, biologists, ecologists and fisheries scientists. It takes an integrated approach to addressing questions of research for development regarding the ocean, with a focus on the processes that affect the intertropical zone.

The research is organised into two main scientific areas:

- ◆ Understanding the role of the tropical ocean in the current terrestrial climate dynamics
- ◆ Studying the evolution of marine ecosystems and their exploitation in a context of global change

The issue: how do the physical and ecological changes in the ocean impact on populations in the Global South in particular?

The Oceans department also provides support for observation and modelling systems at the interface between the physical, ecological, economic and social sciences, and participation in the construction of scenarios in the framework of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services and the Intergovernmental Panel on Climate Change.



## And in the future?

The oceans are a key component in the 2030 Agenda for sustainable development. They are central to 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. As a priority, the OCEANS department will back integrated projects combining environmental concerns with societal and economic issues, with the aim of conserving and exploiting marine resources in high-sea and coastal areas and in small, developing island nations. It will promote studies on interactions and retroactions between the climate, the ocean, its ecosystems and governance methods in Exclusive Economic Zones and beyond national jurisdictions.

2018 is the International year of coral reefs. The Institute will be involved in several actions to educate populations about these ecosystems, their essential role in the marine environment and the impact of climate change.

The dynamic begun under the Seminal, Interdisciplinary Partnership Programme (PSIP) "Vulnerability of coastal zones in a context of global change" will continue, to identify and implement global approaches for shared geographic zones, support the reflection on the training component, and increase researcher participation in major international events on coastal issues.



## Upwelling and coastal fishing in Senegal

Senegal's coastal waters are made rich by an unusual coastal phenomenon, according to a study published in 2017. Research on the oceanic and atmospheric mechanisms involved provide the knowledge we need for sustainable management of this indispensable resource for Senegalese food security.



Pour en savoir plus



## Coral reefs and global changes

IRD researchers and their partners have studied the mechanisms for adaptation to extreme conditions (temperature, CO<sub>2</sub> and O<sub>2</sub> levels) developed by corals in Papua New Guinea and New Caledonia. They have also shown the negative impact of metal inputs in New Caledonia on the growth of corals. Finally, IRD has continued its work on the impact of the 2016 coral bleaching.

For further information



## Launch of the PADDLE European research project

The European Commission has announced funding for the international research project PADDLE, under the Horizon 2020 (H2020) programme. This project, co-ordinated by IRD, brings together a multidisciplinary team of around a hundred researchers, in a consortium of 18 partners from the North and South. Its aim: to create a platform for the analysis of the opportunities and risks of marine spatial planning in countries in the tropical zone.

For further information



## Global issues: marine protected areas in the spotlight

In an article published in July 2017 in *Nature Communications*, IRD researchers and their partners show the inadequacy of the global system of marine reserves for the larval reseeded needs primarily localised in the Global South. On the same theme, another international study has shown that marine reserves could alleviate climate change and encourage population adaptation.

For further information



# UNDERSTANDING SOCIETIES IN THE TROPICAL AND MEDITERRANEAN REGIONS

The "Societies and Globalisation" (SOC) department's main objective is to understand contemporary societies in the tropical and Mediterranean regions while analysing the dynamics that underlie them.

The research conducted takes an interdisciplinary approach to social challenges, with the aim of 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.

288

staff  
members

12

joint research  
units

2

international  
joint units

7

international  
joint  
laboratories

9

young teams  
associated  
with IRD

## And in the future?

The Department SOC will introduce the the Seminal, Interdisciplinary Partnership Programme (PSIP) "Migrations, mobility and circulation in a globalised world", and will continue the work begun in 2017 as part of the PSIP "Urban dynamics and sustainable development".

In 2018, the International joint laboratory (IJL) SENTINELA will begin its activities for the observation of the environment, climate and vector-borne diseases on the borders between Brazil, Colombia, Peru and French Guiana.

A special effort will be made to extend partnerships, particularly via international research groups (GDRI-South), the associated units, the *grandes écoles* and civil society organisations (e.g.: ATD Quart Monde).

With a view to strengthening capacities and spreading knowledge in the social sciences, the organisation of summer schools will continue, particularly in South Asia, Southeast Asia and Southern Africa.



## IRD coordinates the European SLAFNET project, devoted to the legacy of slavery

Funded by the European commission, SLAFNET brings together a multidisciplinary team of around 50 researchers, in a consortium of 13 partners from the North and South.



For further information



## Insecurity, sexual violence towards migrant women

According to the ANRS PARCOURS investigation, which studied the life trajectories of migrants from sub-Saharan Africa in France, sexual violence suffered on the French territory by migrant women multiplies their risk of HIV infection by 4.



For further information

## Launch of WANASEA project

this ERASMUS+ project aims at the capacity building in the field of higher education in South-East Asia by proposing a device of training and networking around a major contemporary stake: the water and its associated resources. The device is centered around a multidisciplinary approach favoring the academic opening towards the main operators of the economic and social development.



For further information

## An institute and a summer school devoted to studying migrations

IRD is a partner of the Migrations Convergence Institute which seeks multidisciplinary cooperation to coordinate research on this major contemporary problem and to provide specific training for future researchers. IRD has a very important role in studying migrations. This was demonstrated in particular in 2017 by the Organisation of the Summer School "Migrations and Globalisations: Beyond the migratory crises", organised by the MIGRINTER, CEPED and URMIS research units.



For further information

# IRD, INSPIRING CHANGE

In a changing, complex, unclear and threatened world, science must help not only to analyse problems, but also and above all to devise solutions, inspire change, and imagine sustainable development paths. Without the appropriate solutions, technologically relevant methods, frugal or societal innovations anchored in contexts, it will be impossible to achieve the sustainable development goals (SDGs).

By nature, IRD is a scientific organisation that works close to the ground, listening to sustainable development issues and the needs of research communities in the South. However, its sometimes participative research is not sufficiently integrated into co-creation and collective intelligence initiatives. The more science works with partners all along the research-innovation chain to collectively construct research issues and research-innovation processes, the more it will contribute to the solutions. This openness ensures alignment with priority needs and allows a faster and more relevant response to issues.

As stipulated by the COP (objectives and performance contract), it is essential today to make research more useful to society, and to do this, we need to support this process of opening science to society in both the North and the South. We must support research communities in the Global South, by stimulating creativity, supporting the construction of higher education and research systems connected with societal needs, and strengthening the connections between education, research and innovation.

Over  
300

IRD researchers contacted

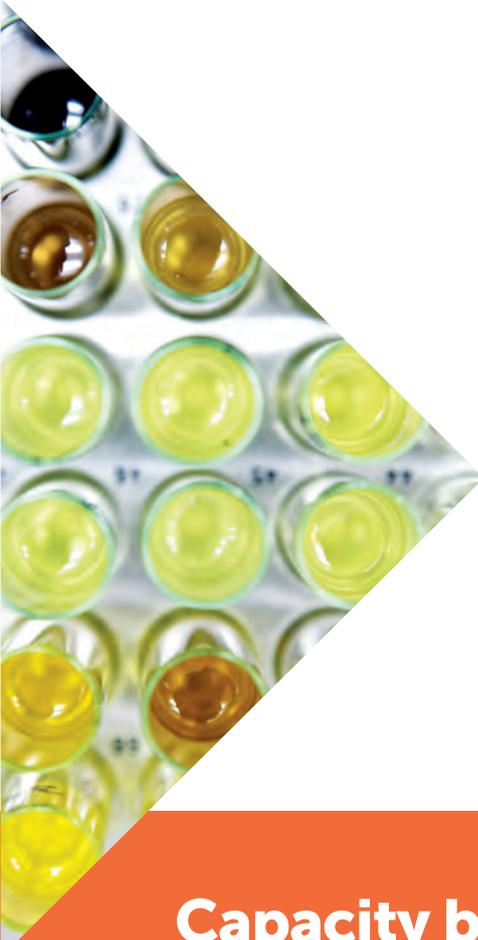
145

contracts signed  
(100 being processed)  
for a cumulative total of  
€4.4 million

Over  
100

creators of innovative  
businesses supported  
via measures established  
thanks to IRD





## Promoting research and innovation

In 2017, IRD implemented the new strategy to improve societal promotion of research as defined in IRD's COP (objectives and performance contract), in the following different dimensions:

- ◆ Defining a new intellectual property and economic promotion strategy for research
- ◆ Developing long-term public-private partnerships
- ◆ Making research more open to society, and strengthening relationships with innovation ecosystems, via tools or measures that encourage, facilitate and support co-creation.



For further information

## Capacity building

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

IRD contributes by emphasising the strengthening of education designed to improve transmission of knowledge in key domains of sustainable development, in order to make future researchers more useful in society, and improve their capacity to innovate.



For further information

## Expertise

Scientific expertise is a powerful accelerator for development, via the analyses, recommendations, concepts, etc. that it provides for political decision-makers, to inform their decisions.

In 2017, around 20 institutional assessments were conducted, involving up to 16 IRD and partner researchers, depending on the project.



For further information



# IRD ACROSS THE WORLD

The strong and permanent presence of IRD researchers in the laboratories of its partners in the Mediterranean area and the intertropical zone is a specific asset of IRD: it is one of the leading methods of its equitable partnership model with the South.

## IRD's contribution to the international agenda in 2017

IRD has strengthened its position as a contributor to debates on the global environment and sustainable development, by participating actively and encouraging its partners to participate in COP13 of the United Nations Convention to Combat Desertification (UNCCD), in COP23 of the United Nations framework convention on climate change (UNFCCC), in the second United Nations Forum on Science, Technology and Innovation (New-York, United States), in the United Nations high-level conference to support the implementation of SDG 14 regarding the oceans (New-York, United States) and in the third session of the United Nations Environment Assembly (UNEA-3 in Nairobi, Kenya). On this occasion, IRD took part in the first steering committee of the UN-Environment Science-Politics-Business Forum.

These spaces have allowed IRD to promote the results of its research, but also its partnership science approach and its capacities to apply science in service of "sustainable solutions". Through these actions, IRD has been able to lend its support to flagship international initiatives such as 4p1000 designed to increase the level of organic matter in soils. Beyond their mobilisation at the COPs and UNEA3, IRD has encouraged its partners to participate in work led by the World Bank on the impact of climate change on fishing in Sub-Saharan Africa, or in the 3<sup>rd</sup> AllEnvi Science Meetings devoted to the SDGs.

IRD and its partners have collaborated with the World Food Programme (WFP) in Niger, around a pilot study regarding the impact of climate change on livelihoods in rural environments.

IRD's contribution to these international debates has also been expressed in the form of a report. For the UNCCD Executive Secretariat, the Institute has conducted a study on the connections between land degradation, migration and radicalisation. It also wrote the chapter devoted to SDG2, "End hunger, achieve food security and improved nutrition, and promote sustainable agriculture" in the work initiated by the International Science Council *A Guide to SDG Interactions: from Science to Implementation*.

Finally, IRD supports the World Bank's African Centres of Excellence (CEA) project, by formalising its support to the existing centres of excellence (four agreements signed and five under discussion), and by supporting its African partners in eligible countries in responding to the next call.



For further information

### And in the future?

One of the priorities for 2018 will be supporting African partners for the World Bank's 3<sup>rd</sup> call for projects for African Centres of Excellence. In partnership with the AFD, the ANR, the CNRS and the Cirad, IRD will mobilise its expertise and its scientific network, to support applications from its partner countries for the creation of regional research, training and innovation centres for development in sub-Saharan Africa.

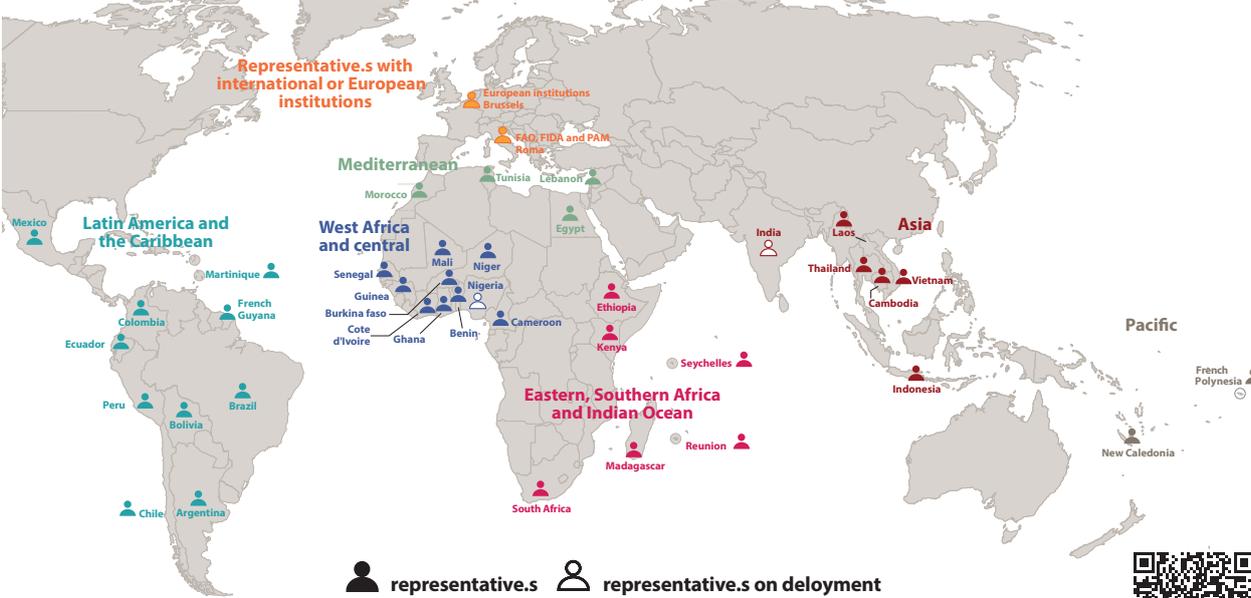
IRD will continue to be involved and mobilise its partners for the main international meetings: COP 24 to the UNFCCC (Poland, December 2018) and COP14 to the Convention on Biological Diversity (Egypt, November 2018, or the *High Level Policy Forum on Sustainable Development* (HPLF), and will support the implementation of the UNCCD. IRD will also be attentive to the implementation of the agreements signed with UNICEF in 2017 and the FAO in 2018.

Moreover, IRD will continue to position itself with its partners on projects funded by International Funds (Global Environment Facility, Green Climate Fund, Fund for Adaptation, etc.), on international initiatives (CREWS), and assessments conducted by international organisations.

# The IRD network abroad and in the French Overseas Territories

The evolution of the network of IRD representatives, of which effective implementation began at the end of 2016, has two priority objectives:

- ◆ To adapt the network to the new strategic directions defined in IRD's POS (Strategic Direction Plan), particularly the first mission of IRD, which is "to contribute through research to the emergence, strengthening and empowerment of scientific communities and higher education and research systems in the countries and territories in which it operates, while striving to respond to the requirements of the populations."
- ◆ To optimise the operation of this network in service of research for development



For further information

## Towards new partnerships

In April 2017, IRD set up the new partnerships and development funding mission, which aims to capitalise on experiences, monitor calls for tender, encourage exchanges between scientific and financial networks, consolidate and institutionalise relationships with the foundations, and support governance and researchers towards collecting private funds.

For further information

## Research for development in Europe

IRD's European strategy aims to promote the importance of research for development in helping formulate responses to the shared, global challenges confronting the European Union and developing countries, and in encouraging dedicated alliances and theme-based networks.

For further information

# DYNAMICS AND COMMUNITIES

## Supporting the new dynamics of the IRD community

The COP signed in 2017 implants the necessity of proposing a services offer worthy of the scientific excellence and high demands of the establishment's missions in IRD's global strategy in the long term. These services should provide precious assistance for the strategic management of the research, by putting in place simplified and innovative decision and monitoring processes. This transformation and adaptation effort for the means of organisation, action and presence is therefore an essential contribution to IRD's scientific and institutional ambitions.

In this way, IRD is participating in the national movement to modernise and simplify public administration.

In 2017, this was manifested in particular by the drive for reorganisation and rationalisation of its support functions, with a focus on deconcentration, which helps to ensure more effective support in proximity to the units. The introduction of regional delegations in mainland France has seen major progress with the installation of new regional services, in particular human resources (HR) and the establishment of new support processes. The newly created regional delegations are now involved in excellence initiatives, such as the I-Site Muse in Occitanie.

In 2017, the establishment continued giving priority to scientific employment, with the introduction of an eligibility stage for researcher recruitment competitions, but also the promotion of the professional careers of Institute agents. In particular, this includes a stabilisation plan for permanent roles. Priority was also given to supporting agents in improving their information and their working environment, with increased attention to quality of life. Further more, parity is one of the priorities of the Institute.

The main organisational and functional changes in the establishment are therefore accompanied by new initiatives such as the integration process for new representatives launched in 2017. In the domain of human resources, the deployment at the end of 2017 of RIFSEEP, the new State benchmark payment tool, is the result of sustained consultation between trade union and governance organisations to build an ambitious, fairer and more transparent facility.

The signing of the interministerial decree on the evolution of the IRE (Residence Allowances Abroad) scale, to be implemented in 2018, will allow a rapprochement with the other practices of public scientific and technical establishments. Above all, it will help to limit the excessive pay discrepancies compared to the average income in countries where we intervene, including compared to that of academic staff in these countries that we work with every day.

Modernisation also means strengthening support processes. In this regard, IRD worked in 2017 to strengthen its internal control, and proposed a new purchasing action plan.

The deployment of a financial strategy in line with IRD's ambitions has accompanied its development, driven by a strong desire for good budgetary governance, including in the optimisation of its heritage (sale of the Arue premises in Polynesia, for example).

There have also been concrete demonstrations of sharing and openness to other higher education and research partners in 2017, particularly a framework agreement concluded with the *Muséum national d'Histoire naturelle* (MNHN), which led to a joint representative being put in place in Madagascar.

Finally, one major evolution is the availability of new tools to agents, units and governance, to facilitate budget and HR arbitration, for example the introduction of the new DAM (Demand for Allocation of Means) tool, and above all IRD's move to SIFAC-EPST, within an extremely short timescale. This move not only allows us to implement Public Budgetary and Accounts Management (GBCP), but also provides us with a common tool for sharing practices with our partners.



For further information

# Renewed organisation, support for resources and quality of life at work

In 2017, the opening of a competitive recruitment campaign, giving priority to scientific employment. Also, 27 engineer and technician recruitment competitions (26 external and 1 reserved), the majority of these devoted to stability of long-term jobs (an initiative which began in 2016), but also to strengthening services in the context of deconcentration. The first actions under the new Psycho-Social risk Prevention Scheme (RPS) have been deployed: training actions have been provided, on local managerial practices and quality of life at work, etc.

For further information



## 2017 budget aligned with the new dynamics contained in the COP

Two big stakes marked out 2017: a consolidation of financial means devolved to research units and the deployment of SIFAC-EPST. At the end of the financial year, the amount of commitments fulfilled came to €221,570 million. As a result, the budget implementation balance shows a surplus of €15,716 million. The financial volume of the research contracts signed in 2017 has increased by 13% compared to 2016. This significant increase is a product of the establishment's efforts to consolidate its own resources.

For further information



## 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 actor 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.

For further information



## A new information system for new ambitions

In 2017, IRD worked at favoring the mutualization of solutions and the modernization of processes, building a real ecosystem around scientific data and around the management of scientific activity, endowing the information system of features of piloting and decision-making support, improving its safety, contributing to the reduction of the digital divide, developing and maintaining the means of communication, developing new practices, supporting users.

For further information



# DYNAMICS AND COMMUNITIES

## Encouraging knowledge sharing

In 2017, the SDGs were the priority for knowledge-spreading actions, with exhibitions, flagship events (Festival of Science, Festival of the Ocean), conferences and debates, workshops, film screenings and innovative educational initiatives targeting young people, in France, in the overseas collectivities and regions and in our partner countries in the Global South.

Two projects invited young people to participate in projects aiming to support informed, active and engaged citizenship in the fight against climate change. In total, over 500 secondary or high school pupils and students and around 30 teaching staff benefited from the ePOP and Climate under surveillance projects.



For further information

295

events around  
the world

3

new  
exhibitions

30

shorts and  
full-length films

15

published or  
co-published  
books

2000

new  
photos

## Scientific contributions

The number of articles published by IRD researchers reached 1,451 references in the Web of Science, of which 61% 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 4,449 publications, 44.5% of which are co-publications with a partner in developing countries.

9,820 hours of teaching have been dispensed around the world by IRD researchers, mostly at Masters level. Vietnam, Peru, Senegal, Bolivia, Morocco and Brazil are the countries where the volume of teaching, all levels included, has been highest. IRD researchers have also dispensed 2,130 hours of ongoing training, in 31 different countries. The theses of 1024 doctoral students have been guided or directed by IRD researchers. Over 400 of these are Africans. 122 IRD researchers have been involved in guiding, advising and/or designing the scientific content for already operational Masters programmes, and 10 in Masters programmes that are in development.



For further information

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# A crucial player in providing scientific advice on the major challenges of development

The French National Research Institute for Sustainable Development (IRD), an internationally recognised multi-disciplinary organisation, is a French public research establishment operating under the joint authority of the French Ministry for Higher Education, Research and Innovation and the French Ministry for Europe and Foreign Affairs.

It takes an original approach to research, expertise, training and knowledge-sharing for the benefit of countries and regions, making science and innovation key drivers in their development.

IRD's priorities join the implementation, associated with a critical analysis, of Sustainable Development Goals (SDGs) adopted in September, 2015 by United Nations with the ambition to direct development policies and to answer the big stakes bound to the global, environmental, economic, social and cultural changes which affect all of the planet. To this end, IRD favors interdisciplinary and intersectorial scientific approaches around the SDGs.

## SUSTAINABLE DEVELOPMENT GOALS



Consult our entire annual report on:



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