BEST PRACTICES
FOR MOBILIZING POLICY-RELEVANT DATA

Examples from sub-Saharan Africa, the Caribbean and the Pacific

BID | Biodiversity Information for Development

ABOUT THE BID PROGRAMME

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The Biodiversity Information for Development (BID) programme is a European Union-funded programme led by GBIF, the Global Biodiversity Information Facility. Initiated in 2015, the programme has funded a total of 63 projects to date, each led by organizations based in the nations and overseas territories within the African, Caribbean and Pacific Group of States (ACP). The BID programme to date comprises 50 projects in Africa, 8 in the Caribbean and 5 in the Pacific.

The programme's objective is to improve management of natural capital for human well-being, through the increased application of biodiversity information as evidence for decision-making, achieved through:

- Enhanced capacity for effective mobilization and use of biodiversity information in project countries

- Enhanced availability of information resources and best practice guidance for mobilization and application of biodiversity information for key policy needs

The following examples from BID-funded projects highlight some guiding principles and best practices for successful data mobilization for use in conservation policy. The lessons learned in these projects can assist those seeking to implement similar projects successfully both within and outside these same regions.

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INTRODUCTION

Integrating data within decision-making processes happens at varying scales and registers, from the development of high-level biodiversity policies to the day-to-day decisions required to conserve, manage and use local resources. In an ideal scenario, data forms the basis for these decisions, with continued data collection through time providing evidence that enables the refinement of plans and policies that reflect trends in biodiversity in a given area.

To date, the BID programme has mobilized data that often provides an initial baseline for poorly represented geographic areas and taxonomic groups. Given the time lag between data mobilization and use, we have chosen to explore projects that highlight the potential of biodiversity data to influence future management plans and policies.

Together, the following projects highlight some common challenges that emerged within the BID programme and how the project teams chose to address them. In addition to representing each of BID's three regions, the projects represent the programme's variety and diversity, working at different scales and within different institutional settings. Organizations considering similar activities may draw lessons from them for their own efforts to mobilize data to support decision-making.

(*left*) Specimens at University of the West Indies Zoology Museum, St Augustine, Trinidad. Photo GBIF Secretariat | Maheva Bagard Laursen flic.kr/p/2gphYVG (*right*) Scarlet ibis () Caroni Bird Sanctuary, Trinidad. Photo GBIF Secretariat | Mélianie Raymond flic.kr/p/2gpmBCc

ENGAGING DECISION-MAKERS

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Data will only be used if it is relevant. To increase its relevance, it should respond to the needs and requirements of those making decisions. Establishing communication with data users before commencing data mobilization activities can ensure that data needs are defined from the outset. This engagement with policy-makers can leverage existing mechanisms like national biodiversity committees or CBD focal points, and the interaction should be sustained throughout the duration of mobilization activities.

IMPROVE ACCESSIBILITY OF BIODIVERSITY DATA THROUGH DIGITIZING AND PARTNERSHIPS

Lead Institution
National Herbarium of Suriname (BBS)

Project Partners
- National Zoological Society of Suriname
- Amazon Conservation Team Suriname (ACT-S)
- Foundation for National Rice Research (SNRI/ADRON)

Knowledge on past and present plant distributions in Suriname is limited. The complicated logistics of survey work and a previous lack of digitization efforts have kept the country's plant data generally inaccessible.

Led by the National Herbarium of Suriname, this project brought together all Surinamese institutions that held occurrence data on plant species. The initial focus was to create a database for invasive and alien species, non-timber forest products, weeds and commercial tree species for Suriname, however this was expanded to include all specimens within the herbarium. The project team worked closely with national policy makers through an existing coordination mechanism on plant genetic resources. This group recognized how useful the project's precise and accurate data was for guiding national-level planning processes.

The project's freely accessible data has provided a more up-to-date view of the state of plant biodiversity in Suriname and will be used to update national biodiversity reporting to the UN Convention on Biological Diversity. In addition, the National Institute for Environment and Development, with its mandate to develop a national legal framework for environmental policy and management, recognized the importance of the data in developing the Environmental Atlas of Suriname (https://www.gonini.org). Data from the project has been used to develop a more up-to-date vegetation data layer for Suriname to guide national spatial planning processes.

ENGAGING DATA HOLDERS

Ensuring buy-in from a wide range of data-holding institutions is critical in mobilizing relevant data. Institutions may be unwilling or unable to share data for a number of reasons. Engaging such data holders demands a clear articulation of the benefits of sharing data as well as the availability of tools for facilitating data mobilization that help guide these new data publishers' efforts.

REGIONAL AND NATIONAL ALIEN AND INVASIVE SPECIES DATA AND INFORMATION MOBILIZATION AND CAPACITY BUILDING IN THE PACIFIC

Lead Institution
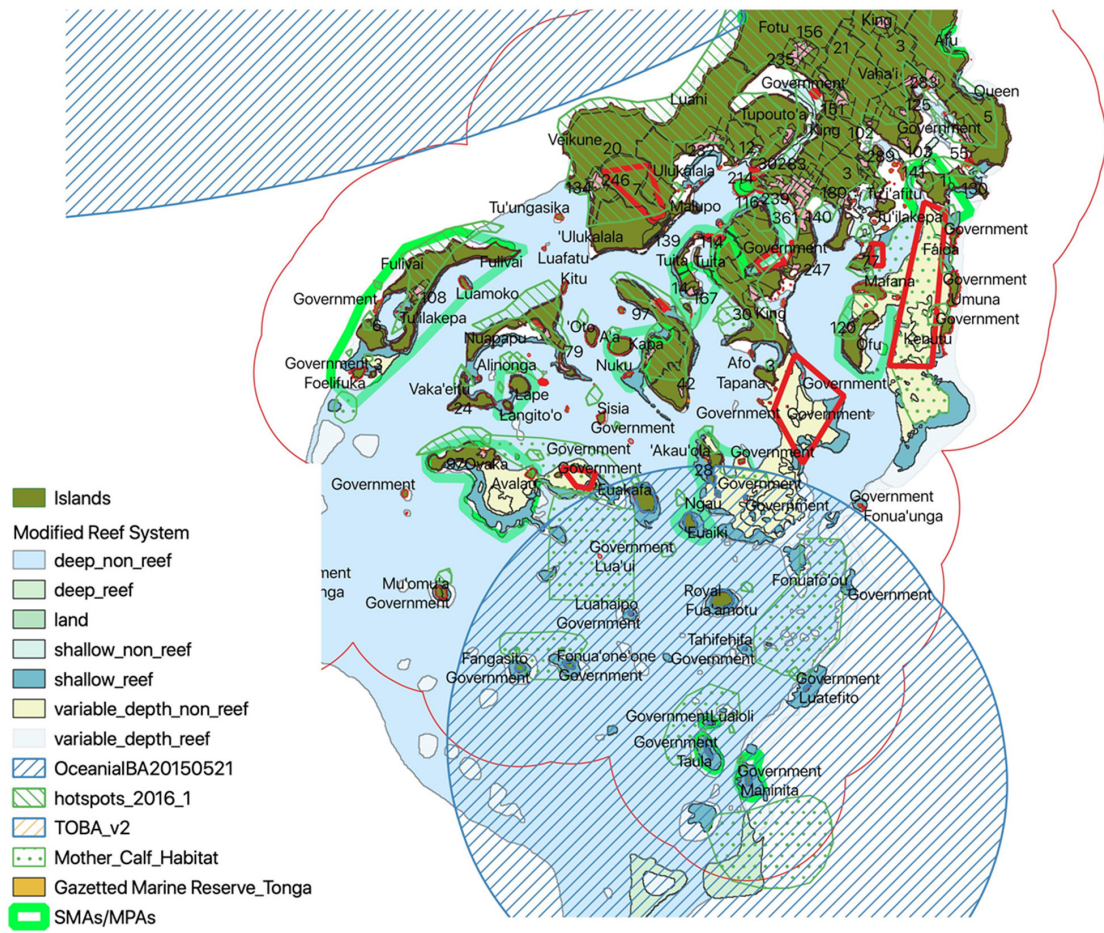Secretariat of the Pacific Regional Environment Programme (SPREP)

Project Partners
- Oceania Regional office of International Union for Conservation of Nature
- Pacific Community (Fiji)
- Conservation International-New Caledonia
- Biosecurity Vanuatu, Ecological Solutions (Solomon Islands)
- Solomon Islands Ministry of Environment, Climate Change, Disaster Management & Meteorology
- Nature Fiji
- National Agriculture Quarantine and Inspection Service (PNG)
- Palau Conservation Society
- Yap Department of Agriculture,
- Kosrae Department of Resources and Economic Affairs
- Tonga Department of Environment
- MEIDECC, Division of Environment and Conservation (DEC) –Ministry of Resources and Environment (Samoa)
- Government of Pitcairn Islands
- Natural Resources Division, Cook
- Islands National Environment Service,
- Niue Department of Environment
- Wallis and Futuna Service de l'Environnement
- Biodiversity Data Management LTD/ IUCN SSC Invasive Species Specialist Group

Alien and invasive species (A&IS) are arguably the greatest threat to Pacific Island biodiversity. Approximately three quarters of globally threatened species found in the region face threats from A&IS. Capacity and resources for managing A&IS data are generally limited, but these constraints are even more restrictive among the fragmented network of the Pacific Island Countries and Territories (PICTs)—making it imperative to promote collaboration between the region's diverse data-holding organizations.

This project team identified new data holders and invasive-relevant datasets through a series of national workshops and targeted missions to PICTs where they had limited interactions in the past. To facilitate the process, data-holding institutions received a template for data digitization produced by the IUCN Invasive Species Specialist Group. The project has produced a bilingual publication—*Share Pacific Invasive Species Data using the Global Biodiversity Information Facility*—to support future data mobilization efforts in the region.

The project recruited 22 new publishing agencies that together published 52 new datasets containing 20,585 new species occurrence records. In addition to serving as a primary resource for the next review of Pacific island states' National Invasive Species Strategy and Action Plans (NISSAP) and National Biodiversity Strategy and Action Plans (NBSAP), this A&IS data is guiding decisions on top-priority islands for rat eradication programs in Tonga.

Data use for decision-making workshop, 2018, Auckland, New Zealand.
Photo GBIF Secretariat | Mélianie Raymond flic.kr/p/LZg8wg

STRENGTHENING COLLABORATION

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Data mobilization for use is a multi-institutional process bringing together organizations that may or may not have worked together before and who bring different perspectives, experiences and resources to the table. Developing a clear framework for collaboration ensures that organizations have a clear understanding of the project's shared goals and objectives as well as the expectations for each institution as activities move forward.

SENEGALESE NATIONAL INFORMATION SYSTEM ON BIODIVERSITY— SENBIO-INFOS

Lead Institution
Institut des Sciences de l'Environnement (ISE)

Project Partners
- Direction des Parcs Nationaux (DPN)
- Sénégal Centre de Suivi Ecologique Direction des Eaux et Forêts, Chasse et Conservation des Sols
- Institut Fondamental d'Afrique Noire (IFAN)
- Direction des Aires Marines Communautaires Protégées (DAMCP)
- Université Cheikh Anta Diop (UCAD)

Senegal's 2015 National Biodiversity Strategic Action Plan (NBSAP) estimates that the country has approximately 4,330 animal species and 3,641 plant species within a diverse set of ecosystems. Organizations collecting data on this biodiversity have tended to work independently of one another, with little coordination and, in some cases, not digitizing the data that they possess and collect. This project sought to create a national information system -SENBIO-INFOS -that would bring these different organizations and make the data they possess accessible to all.

A key aspect of this work was getting consensus and buy-in from relevant organizations by producing a charter for a national biodiversity information system. At an initial partners' meeting, the team asked organizations to agree on a charter covering the key principles for SENBIO-INFOS, including the role of participating organizations, project governance, data mobilization priorities, capacity building and communication between organizations. This charter marked the first step towards the centralization of national data processing while promoting scientific cooperation between different stakeholders.

SENBIO-INFOS has mobilized 54,137 records for Senegal to date, making it the most authoritative source of the country's primary biodiversity data. The platform provides decision-makers, for the first time, a single point of entry to information on Senegal's biodiversity, and its data has been integrated into CBD national reporting through the Clearing House Mechanism.

I invite you to adopt the collaborative charter that will be proposed to you so that, finally, intellectual productions on biodiversity come out of the drawers and are taken into account in the various conservation initiatives.

—**Souleymane Diallo**
Senegal Ministry of Environment and Sustainable Development

Burningbush (*Combretum microphyllum*). Photo by Troos van der Merwe via iNaturalist, licensed under CC BY-NC 4.0. https://www.gbif.org/occurrence/2429265696

CAPACITY BUILDING

Data mobilization and use require some level of institutional investment in both IT infrastructure and human resources. When organizations may have limited computing capacity, gaps in key computing and science skills or limited experience with data management, planned activities require an approach to address these gaps over both the short and the long term. Partners from outside the project can often support team members and bring in expertise and support to address these deficits.

MOBILIZING PRIMARY BIODIVERSITY DATA FOR MOZAMBICAN SPECIES OF CONSERVATION CONCERN

Lead Institution
Instituto de Investigação Agrária de Moçambique (IIAM)

Project Partners
- Entomoteca –Ministério de Agricultura e Segurança Alimentar (MASA)
- Universidade Eduardo Mondlane Museu de História Natural (MHN)
- Instituto de Investigação Pesqueira (IIP)
- Biodiversity Network of Mozambique (BioNoMo) initiative: SECOSUD II Project
- South African National Biodiversity Institute (SANBI)
- South African Aquatic Biodiversity Institute (SAIAB)
- Royal Botanic Gardens, Kew, UK

Mozambique is one of the world's poorest countries, and a large proportion of its population relies on natural resources for their livelihoods. The government has committed to poverty reduction through sustainable development, including the integration of biodiversity within decision-making processes. Existing priorities focus on unique species and those important to livelihoods, so the project aimed to mobilize data on endemic and near-endemic species of plants, birds, reptiles, amphibians, insects and fish.

The national herbarium offered technical capacity for hosting an instance of the Integrated Publishing Toolkit (IPT), a tool that GBIF network members often use to publish and share biodiversity datasets. Contributing project partners were then registered on that platform, allowing the project to build capacity in three key areas: taxonomy, data publishing and IUCN Red Listing.

To promote exchange of taxonomic knowledge, the team partnered with the South African National Biodiversity Institute (SANBI) to engage experts in both countries and build capacity in Mozambique. The GBIF training curriculum developed under the BID programme provided the framework for a series of workshops with data holding institutions, and the Royal Botanic Gardens, Kew, provided additional training in IUCN Red Listing through its Tropical Important Plants Areas initiative.

To date, the project has digitized more than 130,000 new occurrence records for Mozambique and made them available both through GBIF and for national decision-makers via the BioNoMo portal.

EFFECTIVE COMMUNICATION

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Raw data is typically insufficient to influence or inform policy. Data needs to be aggregated and transformed to transmit clear messages to decision-makers. Being able to transform underlying data into a range of policy-specific communication tools such as maps, charts, policy briefs and other materials can help build the trust relationships required to ensure the level of understanding required for data to be integrated within decision-making.

INCREASING CAPACITY FOR CONSERVATION OF THREATENED FISH SPECIES THROUGH DATA MOBILIZATION AND TRAINING

Lead Institution
National Fisheries Resources Research Institute (NaFIRRI), Uganda

Project Partner
Makerere University

A recent IUCN assessment of African freshwater biodiversity listed 21 per cent of all freshwater species as threatened. When compared with the imperilment status of organisms within other biological realms, freshwater species clearly face the greatest threats.
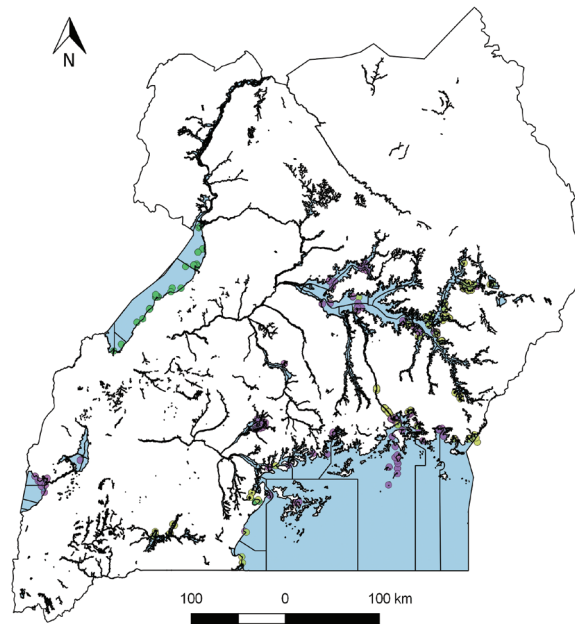
While Uganda has an extensive range of sustainable management policies for water, wetlands and fisheries, large gaps in existing information make it difficult to arrive at evidence-based decisions. Seemingly simple questions like "Which species are found in this lake?" are still difficult to answer definitively, hampering decision-making for freshwater conservation.

Through this project, Uganda's national resource research institute published more than 10,000 fish records from the country's fish collections while initiating a national capacity building programme for data mobilization. The project's data established important benchmarks on the state of knowledge about Ugandan fish through a range of national species distribution maps and recommendations in a policy brief that targeted key decision-making processes.

As a result, the national Ministry of the Environment nominated NaFIRRI to take the lead in benchmarking aquatic biodiversity data for monitoring targets in the National Biodiversity Strategy and Action Plan (NBSAP) and to identify areas for additional baseline data collection and long-term monitoring. In addition, experts will use the data to update the Red List status of species in Uganda, to identify and delineate Key Biodiversity Areas and to enrich the National Biodiversity Data Bank with data on aquatic and freshwater biodiversity taxa.
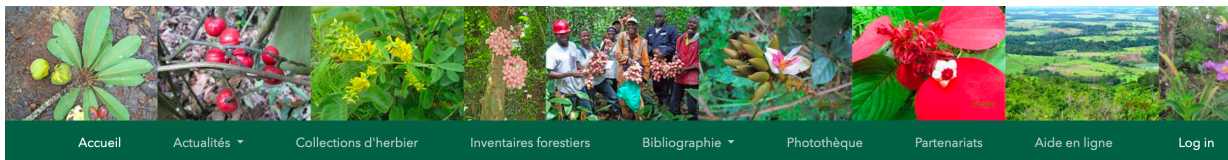
(above) Undescribed fish species belonging to the Neochromis complex, Upper Victoria Nile. Photo 2016 Vianny Natugonza via JRS Biodiversity Foundation.

Near threatened and threatened species

- CE
- EN
- NT
- VU

Local map for decision-makers displays record locations of imperiled fish species by IUCN Red List status assessment.

Plateforme de l'Herbier National du Gabon

Création

L'Herbier du Gabon a été créé en 1984 comme Herbier de référence au sein de l'Institut de Pharmacopée et de Médecine Traditionnelle (**IPHAMETRA**), l'un des instituts du Centre National de Recherche Scientifique et Technique (**CENAREST**). Il est devenu l'Herbier National du Gabon (**HNG**) compte tenu de son grand nombre de collections. Le nombre de plantes récoltées au Gabon est estimé à 100 000. Mais parmi les 65 000 données informatisées et répertoriées dans une base de données, près de 50 000 spécimens sont physiquement présents à l'Herbier National du Gabon et leur gestion se fait au quotidien. Des Ptéridophytes aux plantes à fleurs, une grande diversité du monde végétal est représentée à l'Herbier National du Gabon. Plus de 5 000 espèces de plantes vasculaires réparties dans 186 familles environ sont connues au Gabon.
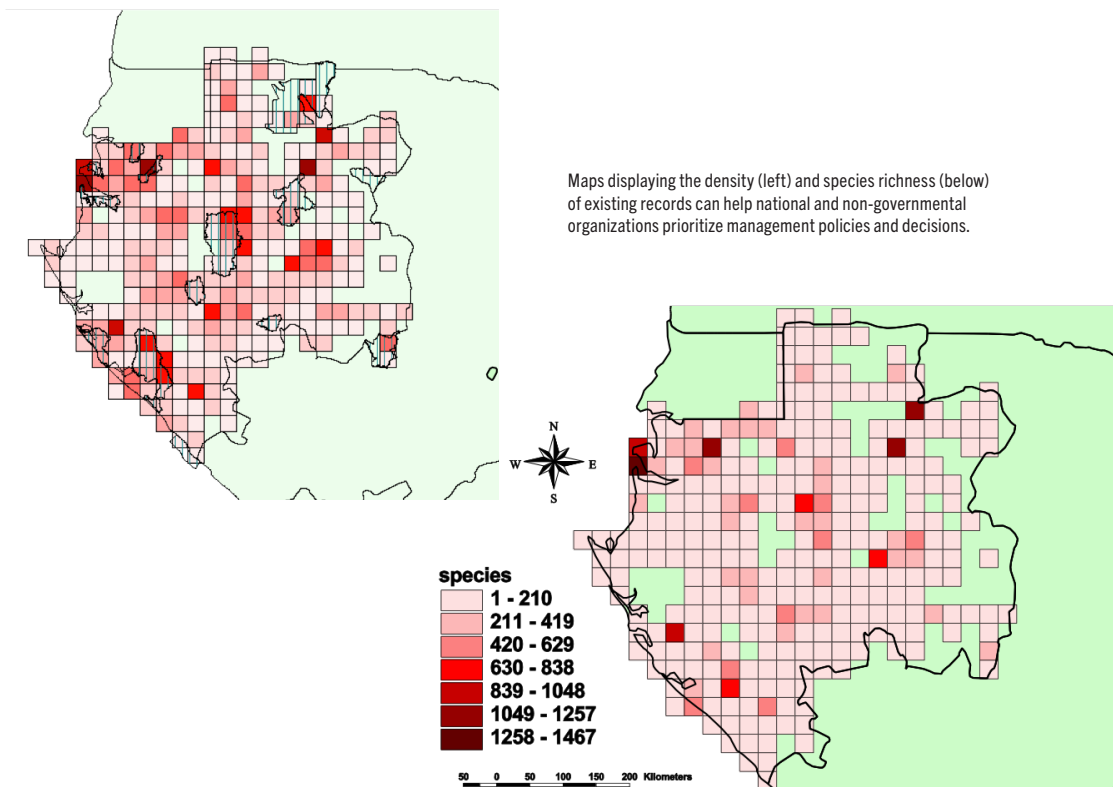
Les missions

- Récolte botanique à l'échelle nationale
- Conservation des collections de plantes
- Assistance à l'identification des plantes
- Mettre des collections à la disposition de la recherche et l'enseignement
- Fournir des informations sur les espèces rares et menacées
- Identifier les foyers de la biodiversité végétale au Gabon
- Aider les *OG* et *ONG* à développer des stratégies rassurantes dans le domaine de la conservation de la biodiversité végétale

À la une !

Le Gabon est biologiquement l'un des pays les plus riches de l'Afrique tropicale, comportant plusieurs chaînes de montagne où la diversité floristique est prétendue être très élevée. De tous les paysages CARPE, ceux de Monte Alen-Monts ....

La suite

Maps displaying the density (left) and species richness (below) of existing records can help national and non-governmental organizations prioritize management policies and decisions.

species
1 - 210
211 - 419
420 - 629
630 - 838
839 - 1048
1049 - 1257
1258 - 1467

50 0 50 100 150 200 Kilometers

ENSURING SUSTAINABILITY

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The continuation of data mobilization activities after the project funding expires requires the acknowledgement of the value of those activities by those with the resources to continue investing to support the publishing infrastructure and human resourcing. If data is relevant, then it is easier to make the case for the continued institutional support, whether as a lead institution or as part of wider collaborations. This can only be done through communication with relevant data user communities.

SUPPORT FOR DATA COLLECTION OF PLANT BIODIVERSITY IN GABON

Lead Institution
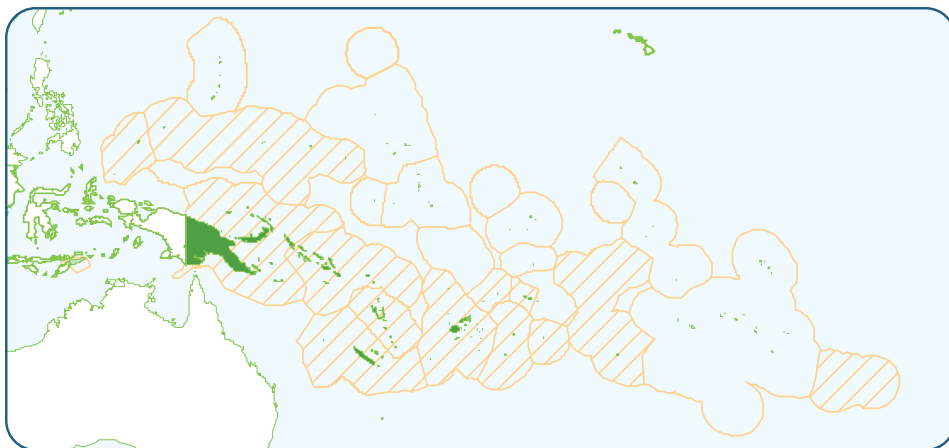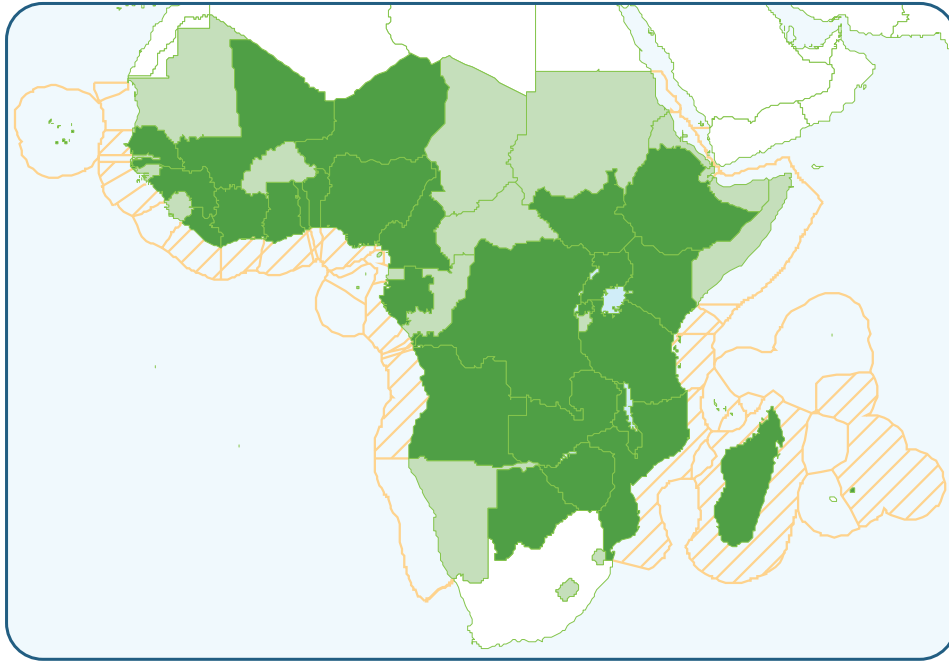Herbier National du Gabon

Project Partners
- Institut de Recherche en Ecologie Tropicale (IRET)
- Agence Nationale des Parcs Nationaux (ANPN)
- Université des Sciences et Techniques de Masuku
- Ecole Nationale des Eaux et Forêts (ENEF)
- Botanic Garden Meise
- Naturalis
- Missouri Botanical Garden
- Université Paris-Sud

Forests occupy 88 per cent of Gabon's nearly 270,000 square kilometers, and the best estimates of the country's floral diversity indicate the presence of between 7,000 and 7,500 species, with 13 per cent of the flora being endemic. With its database of nearly 70,000 specimens, the National Herbarium of Gabon maintains the country's most important national floristic biodiversity collection. Other data on plant biodiversity is dispersed in various other governmental institutions and universities.

This project mobilized additional data on the floristic diversity of Gabon, combining specimen information with forest inventory data and research data. The 58,193 newly digitized records representing 5,447 species are available through GBIF and the *Plateforme de l'Herbier National du Gabon* (http://herbiergabon.fr/gabon/collection), making it the most authoritative database on the Gabonese flora— as well as a powerful support tool for addressing the country's conservation needs.

This data will feed directly into two parallel national initiatives following on from BID: *Cadre d'Investissement du Gabon pour l'Initiative pour la Forêt de l'Afrique Centrale* (CAFI) and Biodiversity Assessment for Spatial Prioritisation in Africa (BASPA) project. CAFI will use the database to help identify areas of High Conservation Value and guide land-use planning, while BASPA will assess the conservation status of species using the IUCN Red List Categories and Criteria.

ENGAGING DECISION-MAKERS
SURINAME

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