

The African Coordinating Mechanism for Biodiversity Information Management/Biodiversity Informatics: Strengthening Science, Technology, and Innovation in Africa

Fatima Parker-Allie

27 November 2024









GBIF-AFRICA REGIONAL ENGAGEMENT STRATEGY AND BUSINESS CASE



FUNDING PROPOSAL TOWARDS THE ESTABLISHMENT OF THE AFRICA COORDINATING MECHANISM









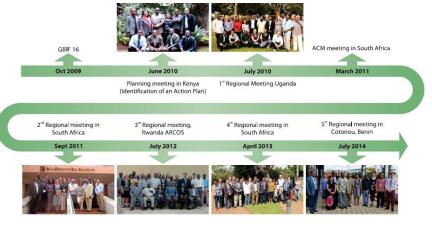






Background: GBIF In Africa

- The need for improved regional coordination was identified by Gov Board and in 2010 GBIF Africa first convened in Entebbe, Uganda (Entebbe Report).
- Through a series of regional meetings, the region has developed a series of action plans, with outcomes in three priority areas i.e. regional engagement, content mobilization and capacity enhancement.
- In 2015, at a GBIF-GB side meeting in Madagascar, a *Communiqué* was drafted requesting that SANBI-GBIF lead the establishment of the ACM, which is the ultimate vision for a formal regional structure for BIM (identified in 2010), to foster the implementation of the GBIF strategic plan (2017-2021), in Africa. It was identified that SANBI-GBIF would coordinate this initiative, with the role of the ACM Convener.
- In 2017 a small task team also came together to develop this business case and this funding proposal was endorsed by all the Node Managers and HOD of GBIF-Africa.











ACM - GBIF-Africa Regional Engagement Strategy & Business Case

- 1. INTRODUCTION
- 2. PURPOSE
- 3. BACKGROUND & POLICY CONTEXT
- 4. PAST AND CURRENT BIODIVERSITY AND BIODIVERSITY INFORMATICS INITIATIVES OF GBIF-AFRICA
- 5. THE GLOBAL BIODIVERSITY INFORMATION FACILITY IN AFRICA
- 6. AFRICAN REGIONAL BIODIVERSITY INFORMATION COORDINATION MECHANISM

 Structure and function
- 7. THE KEY ACHIEVEMENTS OF GBIF-AFRICA
- 8. SCIENCE REVIEW AND PRIORITY THEMATIC AREAS
- 9. THE WAY FORWARD (Strategic objectives and goals; alignments to GBIF SO's)
 - Table 1: Log-frame and Implementation Plan for the African Coordinating Mechanism
 - Table 2. Budget to support the operationalisation of the ACM (approx. 25m over 3 years)
 - Table 3: GBIF-Africa regional action plan 2016-2018 developed during the 2016 GBIF-Africa Meeting













GBIF-AFRICA REGIONAL ENGAGEMENT STRATEGY



FUNDING PROPOSAL: TOWARDS THE ESTABLISHMENT OF THE AFRICA COORDINATING MECHANISM 2018-2023

Fatima Parker-Allie, Kristal Maze and GBIF-Africa Nodes

30 July 2018

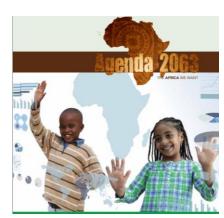


Purpose of the ACM

- The GBIF-Africa Regional Engagement Strategy and Business Case /funding proposal has been developed to guide the efforts of the GBIF-Africa Nodes and strategic partners, in the region in support of national and regional priorities for biodiversity information management
- It provides a framework for the implementation of **biodiversity Informatics priorities** in the African region, as opportunities for collaboration on the continent are growing, due to an increase in emerging economies and investment on the continent.
- The ACM aims to support programmes and organizations across the continent to promote and implement the compilation, standardisation, digitisation, dissemination and use of biodiversity data and information







Functions of the ACM

- 1. Formulate **policy** on biodiversity information and data management in Africa and recommend its implementation by GBIF members in Africa;
- 2. Coordinate regional activities relating to biodiversity informatics;
- 3. Facilitate acquisition, storage and dissemination of biodiversity data and information in Africa and worldwide;
- 4. Promote **application of biodiversity data** for the purpose of research, conservation, policy formulation, and decision making in Africa;
- 5. Develop **strategic relations** with relevant African and International Institutions and initiatives like AMCOST,CBD,EU to address biodiversity informatics issues;
- **6. Mobilize funds** for support and promotion of biodiversity informatics in Africa;
- 7. Promote and coordinate human and institutional **capacity development** in the field of biodiversity informatics;
- 8. Develop and implement an Africa research agenda on biodiversity informatics









Strategic Objectives

Six strategic priority areas to advance the African biodiversity informatics efforts

Strengthen capacity to mobilise foundational data & fill knowledge gaps



Deliver
data across
the datasciencepolicy
interface



Build institutional capacity in data management

Leverage science, technology and innovation to achieve the SDG's

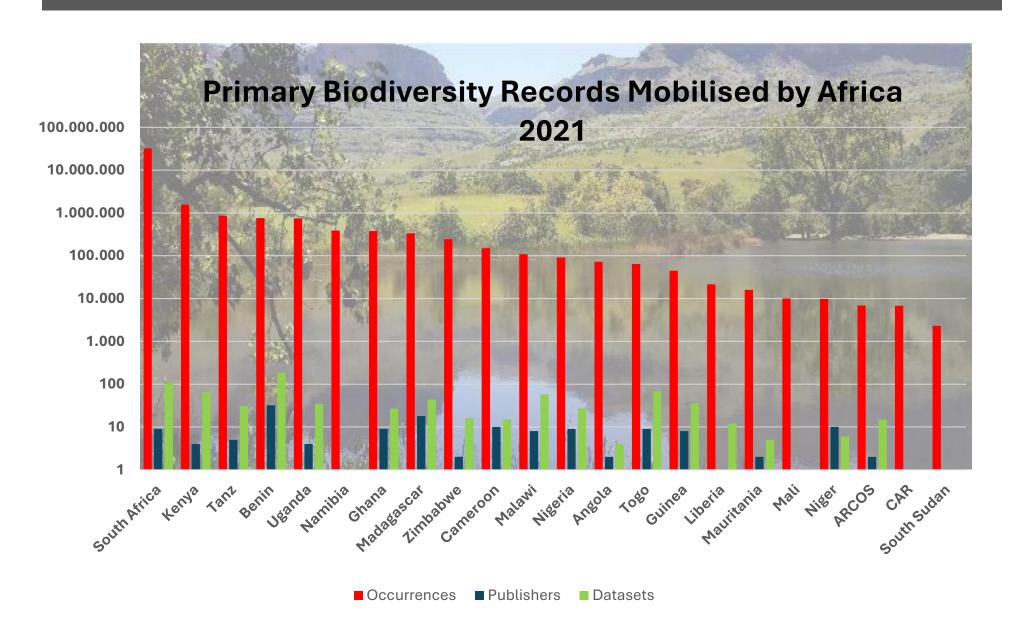
SKILLS DEVELOPMENT

LONG-TERM PARTNERSHIPS

MOVING INFORMATION UP THE CHAIN

Strengthen regional engagement

African
platform for
biodiversity
informatics
partnerships



Science Review and Research Priorities

Science Review of literature citing GBIF - Biodiversity in Africa





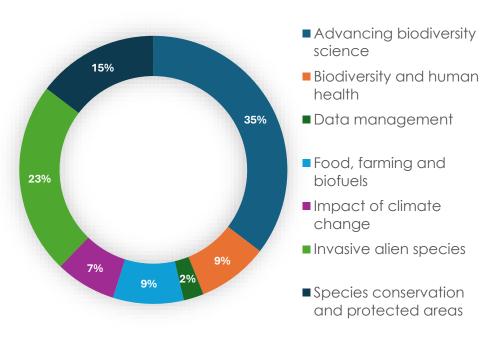
Invasive alien species: Building national watch lists for invasive alien species

Public health: Mapping the niche of Ebola host animals



Food security: Conserving genetic diversity of crops in West Africa

Thematic Use of GBIF Mediated Data for African Biodiversity*



Capacity Development and Regional Engagements

Through BID and CESP many countries have uploaded data to GBIF, developed data portals, products i.e. national checklists, & published academic and data papers (GBIF science review).

Capacity dev. has not only focused on work based training but also development of curricula at Universities. Countries such as SA, Benin and Ghana are looking at the development of Centres for BDI, and Benin has implemented an MSc degree in BDI (JRS funds).

Efforts to develop a BDI curriculum has also been fruitful, with a recent paper as an outcome of GBIF Nodes discussions being accepted by Biodiversity Data Journal.

A number of **consortiums** have developed on the continent which is a result of ongoing coordination & leadership enabled by GBIF, JRS, SANBI-GBIF, BID & GBIF Nodes.





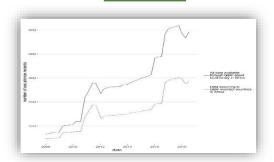
Towards a Post-Graduate Level Curriculum for Biodiversity Informatics. Perspectives from the Global Biodiversity Information Facility (GBIF) Community

Biodiversity Data Journal : Forum Pape

Fatima Parker-Allie[‡], Francisco Pando[§], Anders Telenius^I, Jean C. Ganglo[§], Danny Vélez[‡], Mark John Gibbons[®], Alberto Talavan[®], Melianie Raymond[®], Laura Russell^{®,A,V}, Gautam Talukdar[‡], Manuel Vargas[§], Raoufou Radji[§], Hanna Koivula[©], André Heughebaert [®], Dag Endresen^{§,§}*, Daniel Amariles-García^A, Takeshi Osawa[®]

The achievements of the GBIF-Africa Partnership

Data



More than

30 MILLION

Primary biodiversity data records mobilised by regional members

Funding

The GBIF-Africa Nodes have leveraged more than

US\$ 9 MILLION

in funding since 2014



- 10 Voting country participants
- **1 1** Associate country participants
- 4 Participant organisations

Capacity Building



Continuous regional engagements since

2010

Approximate 50 BID & 11 CESP projects enabling training and capacity development

Mass Digitization (Conveyor Belt approaches) for Africa

- GB-2017-Site visit to the Museum of Finland, including the DSI.
- SANBI-GBIF is leading an initiative to explore the concept of Mass Digitization for the GBIF Africa community with Bioshare Digitization (Digitarium).
- Real gamechanger for the continent, collective value and benefit as herbaria and museum collections are digitized
- Members from East, West and Southern African Countries have expressed an interest in the concept of mass digitization using conveyor belt technologies.
- SA has now established this technology at SANBI and this is available at the Pretoria Herbarium, and will move to Cape Town an KZN.





Table 1: Log-frame and Implementation Plan for the African Coordinating Mechanism

Key Performance Areas	Goals	Activities	Outputs	Outcomes	Indicators and targets	Time frame
Strategic Objective 1: Strengthen capacity to mobilise foundational data to fill the data and knowledge gaps (taxonomic, ecological, geographic and environmental) in support of education, research and analysis that is necessary for decision making for sustainable development						
a. Allocation of funding for the mobilization of foundational data to fill data and knowledge gaps to support of education,	a. Funding provided for mobilization of foundational data to fill data and knowledge gaps.	Distribution of call for proposals	Proposals received	Funds disbursed, received and increased data mobilization activities in the region	At least 5 National projects funded annually At least two regional projects funded annually	2018: 5 national projects funded for completion in 2019 2018: 2 regional projects funded for completion in 2020
research and analysis that is necessary for decision making for		Establishment of project steering committee to oversee the projects	Operational Steering Committee in place	Good governance of projects	ToR developed to ensure a committee with a range of taxonomic expertise	2018-2020

Action Plan

The ACM will enable the implementation of the **holistic action plan** that will foster a dynamic, capacitated network in biodiversity informatics able to generate, publish and use biodiversity data for sustainable development.

egional Presence

The need for regional coordinating offices has been placed on the GBIF agenda for the first time, since adopting a regional approach, at the 2019 GBIF Governing Board. This was highlighted in the 20 year review

Secure Funding

Through the ACM explore funding avenues with governments and other funding agencies that has a strong focus on promoting science, technology and innovation.

Catalytic Projects

The conceptualisation and development of catalytic projects, like mass digitization, to enable activities to support the implementation of the ACM

ommunity of Practice

The ACM will explore a broader community of practice for biodiversity informatics initiatives. The aim is to enhance the use of data in of support science, technology, innovation and conservation outcomes.







Funders, National Institutions, Science Councils, Governments, Academia,

Become part of our Africa biodiversity informatics network

Invest in the Africa
Biodiversity informatics community

Share your data & Use the data

Share your knowledge and expertise to build capacity

Use the available technology, platforms and tools

Support the data revolution by ensuring that data supports open science and decision making at the national, regional and global policy levels.

Biodiversity Information for Development

Further efforts by GBIF has secured funds for the successful Biodiversity Information for Development initiative, funded by the European Commission, to support data mobilisation and use in Africa, Caribbean and the Pacific. SANBI-GBIF supports this through its leadership role on the EU Commission BID Steering Committee.

Planning for BID's next phase is underway, with secured funding, and aims to improve access and availability to biodiversity data and information for decision-makers in developing countries, enabling the effective implementation of multilateral agreements such as the <u>Kunming-Montreal Global Biodiversity Framework</u> (GBF). **Recognizing the challenge of implementing data mobilization projects successfully, BID emphasizes the role of capacity enhancement in helping funded projects achieve their goals.**

SANBI-GBIF has provided leadership and high-level support in forums such as the **G20** in support of the BID deliverables for the Brazilian Presidency, and this will be taken through to the 2025 South African Presidency.













Research and Innovation
Working Group
Issue Note

Expand data mobilization and human capacity development for policy-relevant biodiversity data

Expand Biodiversity Information for Development (BID) programme in megadiverse regions starting with the Amazon and Africa funded by EC and GEF



Update inventories of the world's herbaria and natural history museums

Coordinate regional, national, and local efforts to improve the Global Registry of Scientific Collections (GRSciColl)







The G20 or Group of 20 is an intergovernmental forum comprising 19 sovereign countries, the European Union, and the African Union. It works to address major issues related to the global economy, such as international financial stability, climate change mitigation & sustainable development.

The G20 Manuas Ministerial Declaration

The South African Delegation to G20, supported GBIF as a knowledge partner & will be taking this through to G20 in SA in 2025





G20 Research and Innovation Ministerial Meeting Manaus Declaration—September 19, 2024

We, the Research and Innovation Ministers and equivalents of the G20 members and invited countries, met in Manaus, Brazil, on 19 September 2024, to advance our discussion on the importance of international cooperation in research and innovation as a tool to address the major global challenges that we face, to reduce global inequalities and asymmetries in the access and production of science, technology, and innovation (STI), and to achieve the objectives of the 2030 Agenda for Sustainable Development of the United Nations and its Sustainable Development Goals (SDGs), under the theme "Open Innovation for a Just and Sustainable Development".

We acknowledge the importance of fostering research and innovation in the Amazon and other forests and in global marine and coastal environments to combat global crises and related challenges, including climate change; biodiversity loss and the loss and degradation of vital ecosystems like forests; and pollution; and to support sustainable development in general and the livelihoods of Indigenous Peoples and of local communities.

We recommend increasing the availability and cataloging of biodiversity data and information through open science platforms and the use of FAIR (Findable, Accessible, Interoperable, and Reusable) data principles, as well as principles and frameworks for ethical data governance, such as CARE (Collective benefits, Authority to control, Responsibility and Ethics), to strengthen research, innovation, and public policies to address biodiversity, sustainable and circular bioeconomies, health, seas and ocean, and climate, among other policy fields.

We affirm the potential of financial assistance and grants for research and innovation to harness synergies and maximize the impact of scientific and technological projects, including for biodiversity conservation and restoration of tropical forests. We appreciate the contributions from experts and academics gathered in the Amazon and Tropical Forest scientific seminar held in Manaus, on September 17 and 18

We also welcome the following deliverables:

- The G20 and Belmont Forum Partnership for Research and Innovation in the Amazon and Tropical Forests.
- The G20-GBIF facilitation process for species cataloging and expansion of open biodiversity databases.
- The G20 international seminar on challenges and opportunities for research and innovation in the Amazon and Tropical Forests.

We also take note of the following deliverables:

- The G20 overview of clean energy technologies to be targets of voluntary co-development, transfer, dissemination and diffusion of knowledge on mutually agreed terms, with the aim of lowering emissions and the achievement of the protection of the environment and of net-zero greenhouse gas emissions/carbon neutrality.
- The G20 compendium of national clean energy innovation policies for the just energy transitions.
- The RIWG recommendations, from the perspective of research and innovation, for the "Alliance for Local and Regional Production and Innovation", under discussion in the G20 Health Working Group.

The above-mentioned deliverables will be known as the Manaus Package.

G20-Key Areas of Intervention for 2025

- SANBI has been selected in May 2024 as one of the 18 entities and organizations globally, which are to host the **Regional or Subregional Technical and Scientific Cooperation Support Centre's**, as part of the **Technical and Scientific Cooperation Mechanism** established by the Conference of the Parties at its fifteenth meeting.
 - To operationalize such a Centre, there is a strong biodiversity data mobilization and use requirement. Thus, there is an opportunity to look at support for data mobilization, capacity development, and use via regional mechanisms that will enable developing countries to deliver on responsibilities to the CBD. Hence, we can look at strengthening the work of BID initiative and biodiversity data for sustainable development.
 - Inclusion of ACM efforts in the issues note for G20: "GBIF Nodes in Africa have also strived towards stronger regional collaboration and engagement mechanisms in Biodiversity Informatics".
- Our Natural History Collections (NHC) is a key Research Infrastructure and plays a critical role in housing our biological diversity.
 Globally, there are a lot of asymmetries in this work. Many of the large Museums of the world contain both specimens and data from the global south. While the vast majority of biodiversity remains in the global South, the capacity to use the data and knowledge derived from this biodiversity lies in the North. Here, we want to look at a reduction in these asymmetries through the formulation of a "Plan of action". We want N-S collaboration amongst the Museums.
- The G20 supports the work to build a Catalogue of Life, to lessen the asymmetry of capacity, the G20 recognized the need for a
 global infrastructure to provide tools and services for nations to manage national species lists. National Species List are the
 foundational baseline information needed for national reporting and also to international initiatives like the CBD.

G20-Deliverables and Principles

Deliverables: International collaboration opportunities to grow biodiversity informatics efforts

Principles

- 1. The G20 promotes that the GBIF network expand and works with regional bodies, such as the 18 CBD Regional Support Offices, to accelerate training, data mobilization, and use to more comprehensively meet the biodiversity needs to protect our planet.
- 2. G20 supports a **Seminar** highlighting museum collaboration to equitably reduce the capacity and knowledge asymmetry between the Global North and the Global South, reducing the North-South divide. The **Seminar is proposed to be held in May**.
- 3. The G20 supports the **work to build a Catalogue of Life** to make communication possible. To lessen the asymmetry of capacity, the G20 recognized the need for a global infrastructure to provide tools and services for nations to manage national species lists.

Thank You





BID Experiences from Zimbabwe

For the Engagement Meeting for the Biodiversity Information for Development Programme 28-29 November, 2024, Harare, Zimbabwe, Africa

Luke Jimu







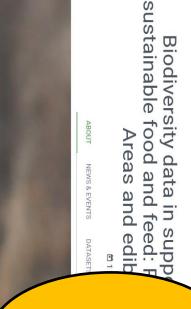
Digitizing the Matobo Hills Arachnid collections at the Natural History Museum of Zimbabwe



Mobilizing specimen data on bats and rodents from Zimbabwe



Mobilization of data on non-timber forest species in biodiversity hotspots of Zimbabwe



€100000

€ 200000

Zimbabwe

13 CITATIONS





Freshwater biodiversity of the Eastern Highlands of Zimbabwe: Assessing conservation priorities using primary species occurrence data



Providing access to the zoology collection of the Natural History Museum of Zimbabwe

African Insect Atlas

1 June 2016 - 31 December 2018 € 120,000







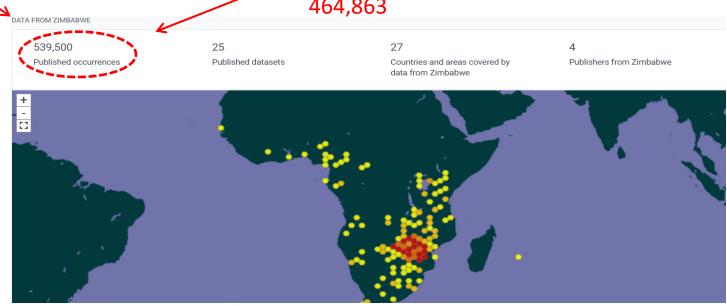
475,427





149,498

464,863





49,398











Mobilization of data on non-timber forest species in biodiversity hotspots of Zimbabwe

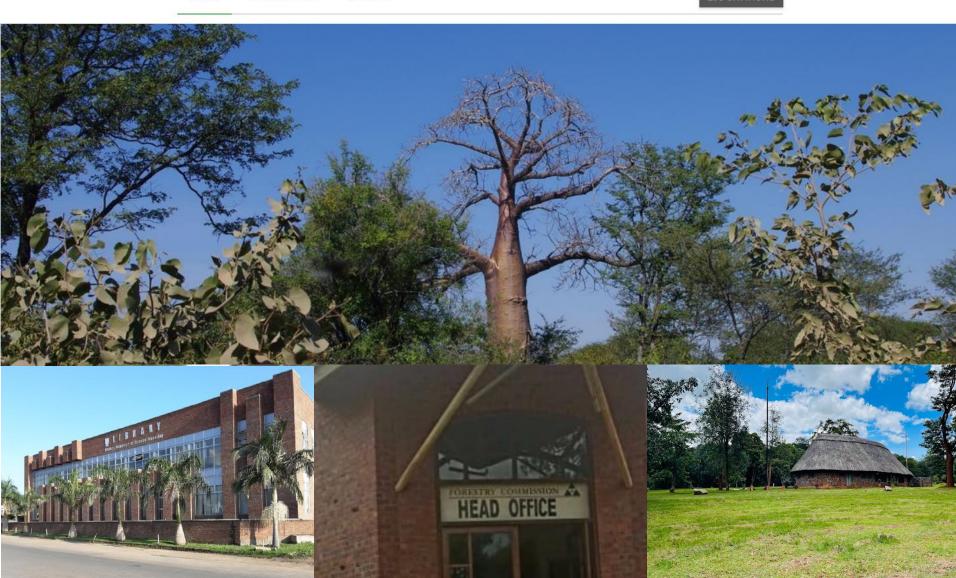
BID-AF2017-0237-NAC

1 October 2017 - 30 March 2019 € 37,864

NEWS & EVENTS

DATASETS

290 CITATIONS







Occurrence data set of Non-Timber Forest Products species for medicinal purposes in Zimbabwe's biodiversity hotspots

Published by Bindura University Of Science Education

Jimu L • Mapaura A • Mureva A • Mujuru L • Muvengwi J • Nyakudya I • Mapaura A

DATASET

PROJECT

METRICS

ACTIVITY

DOWNLOAD



The data in this resource has been published as a Darwin Core Archive (DwC-A), which is a standardized format for sharing biodiversity data as a set of one or more data tables. The core data table contains occurrence data set. The date on medicinal plants is published by Bindura University of Science Education (BUSE), Department of Natural Resources, which is the national node for GBIF (Global Biodiversity Information Facility) in Zimbabwe. BUSE and National Herbarium and Botanic garden will be ... More

Project ID: BID-AF2017-0237-NAC

Publication date: January 29, 2019

Metadata last modified: January 29, 2019

Hosted by: GBIF Secretariat

Licence: CC BY-NC 4.0

How to cite DOI 10.15468/m2s30i

Occurrence data set for wild food plant species in Zimbabwe's biodiversity hotspots

Published by Bindura University Of Science Education

Mujuru L • Muvengwi J • Jimu L • Mureva A • Mapaura A • Nyakudya I

DATASET

PROJECT

METRICS

ACTIVITY

DOWNLOAD

240 CITATIONS

This data set contains some occurrence data set for non-timber forest products used as food sources in five of the biodiversity hotspots of Zimbabwe. Community meeting were held to come up with a checklist of species used for food in each of the biodiversity hotspot areas under consideration. The checklist was then used as a basis for constructing an occurrence data set using specimen at National Herbarium and Botanical Gardens, Harare, Zimbabwe. Project ID: BID-AF2017-0237-NAC

Publication date: May 15, 2019

Metadata last modified: May 15, 2019

Hosted by: GBIF Secretariat Licence: CC BY-NC 4.0



How to cite DOI 10.15468/tixwop

RESEARCH ARTICLE



Diversity of local knowledge on use of wild food and medicinal plants in communities around five biodiversity hotspots in Zimbabwe

L. Mujuru¹ · L. Jimu¹ · A. Mureva¹ · A. Mapaura² · I. W. Nyakudya¹ · J. Muvengwi¹

Received: 31 August 2019 / Accepted: 14 September 2020 © Institute of Korean Medicine, Kyung Hee University 2020

Abstract

was collected using semi-structured interviews and focus group discussions in representative communities. About 89 wild food plants were used by the communities. Trees, shrubs, tubers/herbs, lianas/climbers and succulents constituted 65%, 11%, 12%, 8% and 4% respectively. Fruits were mostly harvested (52%) then leaves (28%), and others (roots/rhizomes/tubers, sap and fibres) (20%). Fruits were commonly consumed raw (96%) whilst others are processed into juices (4%), mostly collected by women and children. Fruits of *Adansonia digitata* L., *Vangueria infausta* Burch., *Uapacca kirkiana* Müll. Arg., *Berchemia discolour/zeyheri* (Klotzsch) Hemsl., *Vitex doniana* Sweet and leaves of *A. digitata* were most preferred plant species because of their taste and availability. However, some fruits such as *Vitex* spp. and *U. kirkiana* caused constipation and diahorrea respectively if consumed in excess. About 149 medicinal plant species belonging to 115 genera and 61 families were used for treating about 32 diseases and disorders. These were dominated by families; Fabaceae(16%), Meliaceae(5%),

This study documented use of wild food and medicinal plants in areas around five biodiversity hot spots in Zimbabwe. Data





National Stakeholders Initiation Workshop (BID-AF2017-0237-NAC) 01-02 March 2017, Mayfair Lodge, Bindura, Zimbabwe





Zimbabwe joins GBIF

Southern African nation becomes the eighteenth participating country from Africa

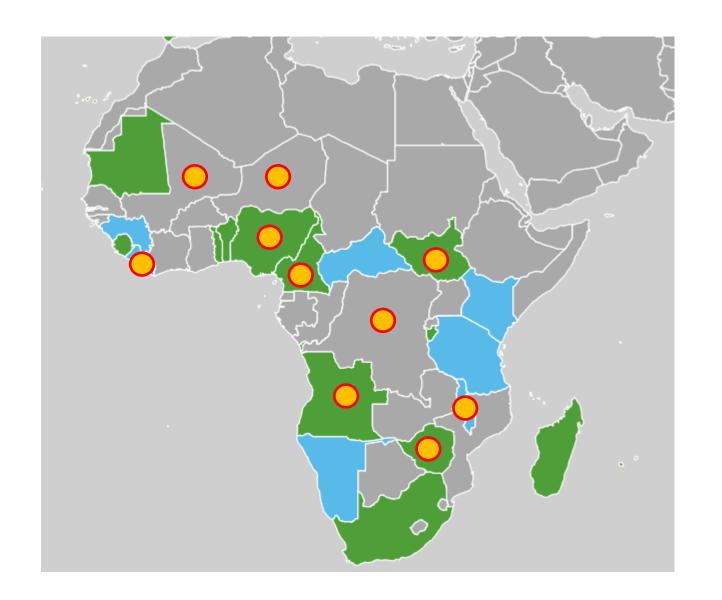


Zimbabwe becomes voting participant in GBIF

Southern African country becomes the region's 10th voting Participant and the 45th full member worldwide



Nodes Launched from the BID Program





Data Uses that are Unaccounted for e.g.















Thank You

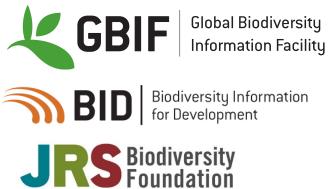
Luke Jimu

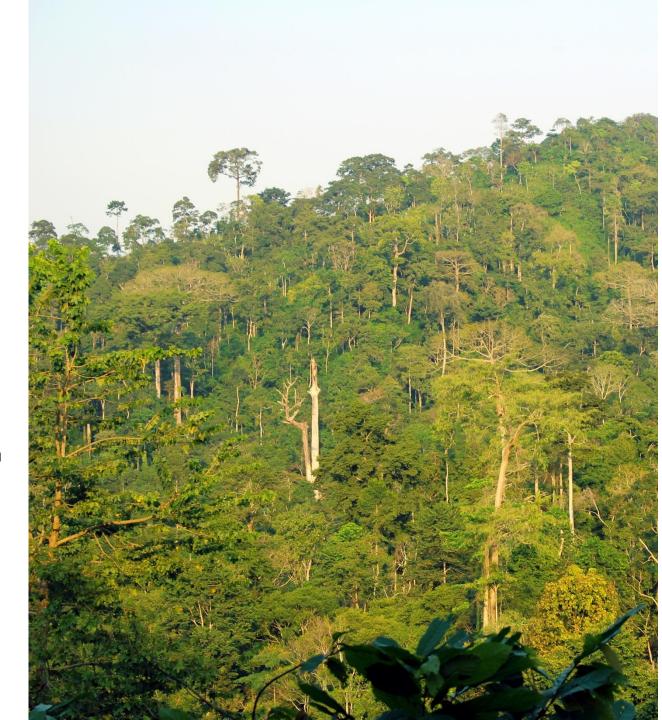




Raising the profile of data for the conservation of four forested African Landscapes

By Judith Ochieng, Project Coordinator A Rocha Kenya





THE PROJECT

11 organisations from across Kenya, Uganda, Nigeria and Ghana digitized, shared and used biodiversity data to inform the conservation of four forested African landscapes.































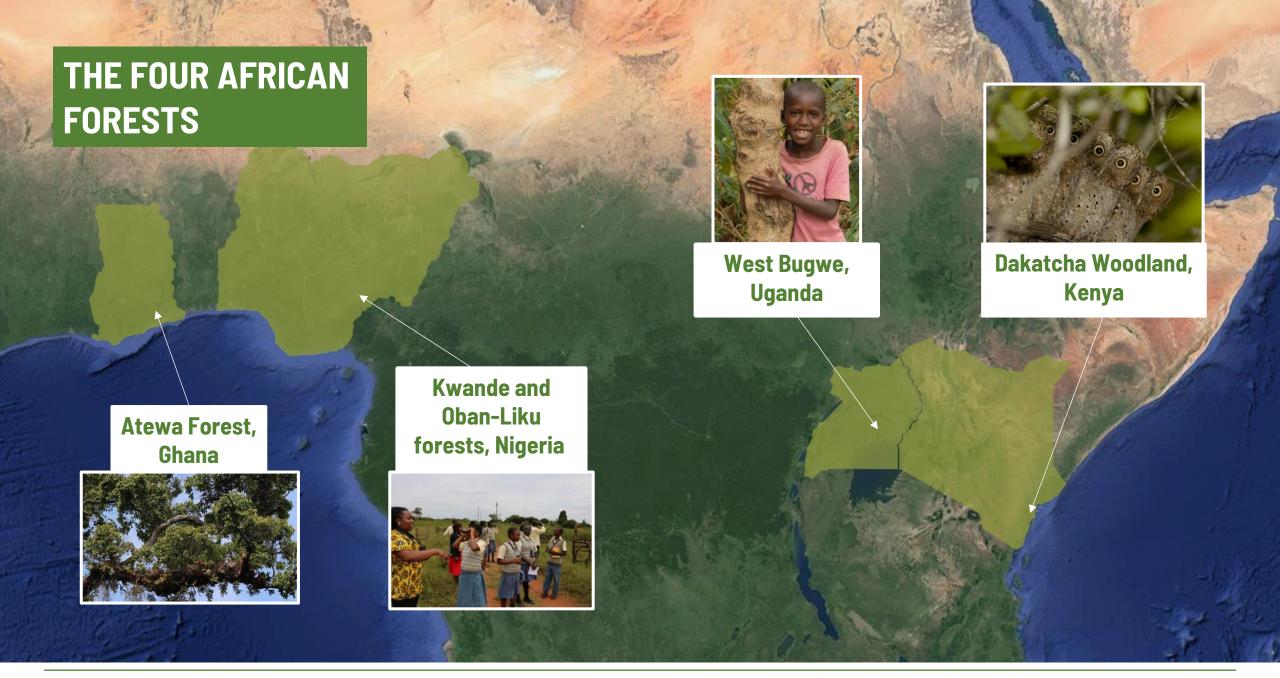


















Capacity building

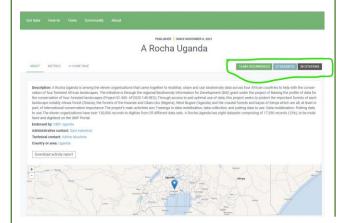
- 13 scientists trained on GBIF standards for publishing quality data
- 63 community guides, scientists, and scouts trained on collecting quality data



KEY ACHIEVEMENTS

Expansion of GBIF network

- A Rocha Uganda registered as a new publisher
- ABRI and CSIR registered in the GBIF Registry of Scientific Collection



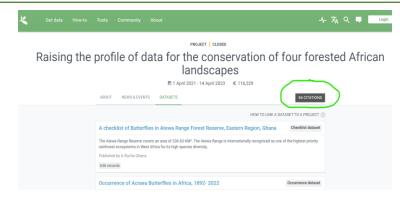
Published datasets

67 datasets (over 100,000 records of biodiversity data) with organisations new to GBIF such as A Rocha Uganda publishing the highest number of datasets (26)



Research

Citations from published datasets









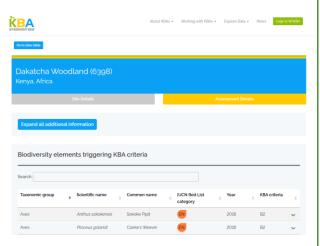
CONT...

Data use in the four landscapes

Kenya



Updating information about Dakatcha Woodland Key Biodiversity Area



Ghana



Campaign against bauxite mining by the government and advocating for sustainable livelihoods (mushroom farming)



Uganda



Strengthening conservation efforts by stakeholders working in West Bugwe forest e.g., on restoration



Nigeria





Raising awareness about the little-known biodiversity of Kwande and Oban-liku forests



Director of Agriculture (fourth from left), Atewa forest region
- Ghana

Community presentation, West Bugwe - Uganda



Fundraising



Research

LONG-TERM IMPACTS



Education



Tourism



Planning & development decisions



Reporting







LESSONS LEARNT

- Good communication with partners from the outset.
- Some researchers/institutions may have rich data but unwilling to share.
- Not many scientist are familiar with GBIF standards for data publishing including producing quality metadata.
- Taxonomy is an evolving field.
- Project outputs: prioritise data use from the start of the project and plan accordingly.
- Be flexible and innovative in your approach.

RECOMMENDATIONS

- Educate data holders/partners on the value of open data sharing.
- Building capacity on GBIF data publishing standards is crucial (with follow-ups, e.g., data collection).
- Finances: budget for project dissemination accordingly and establish a common currency for accounting.





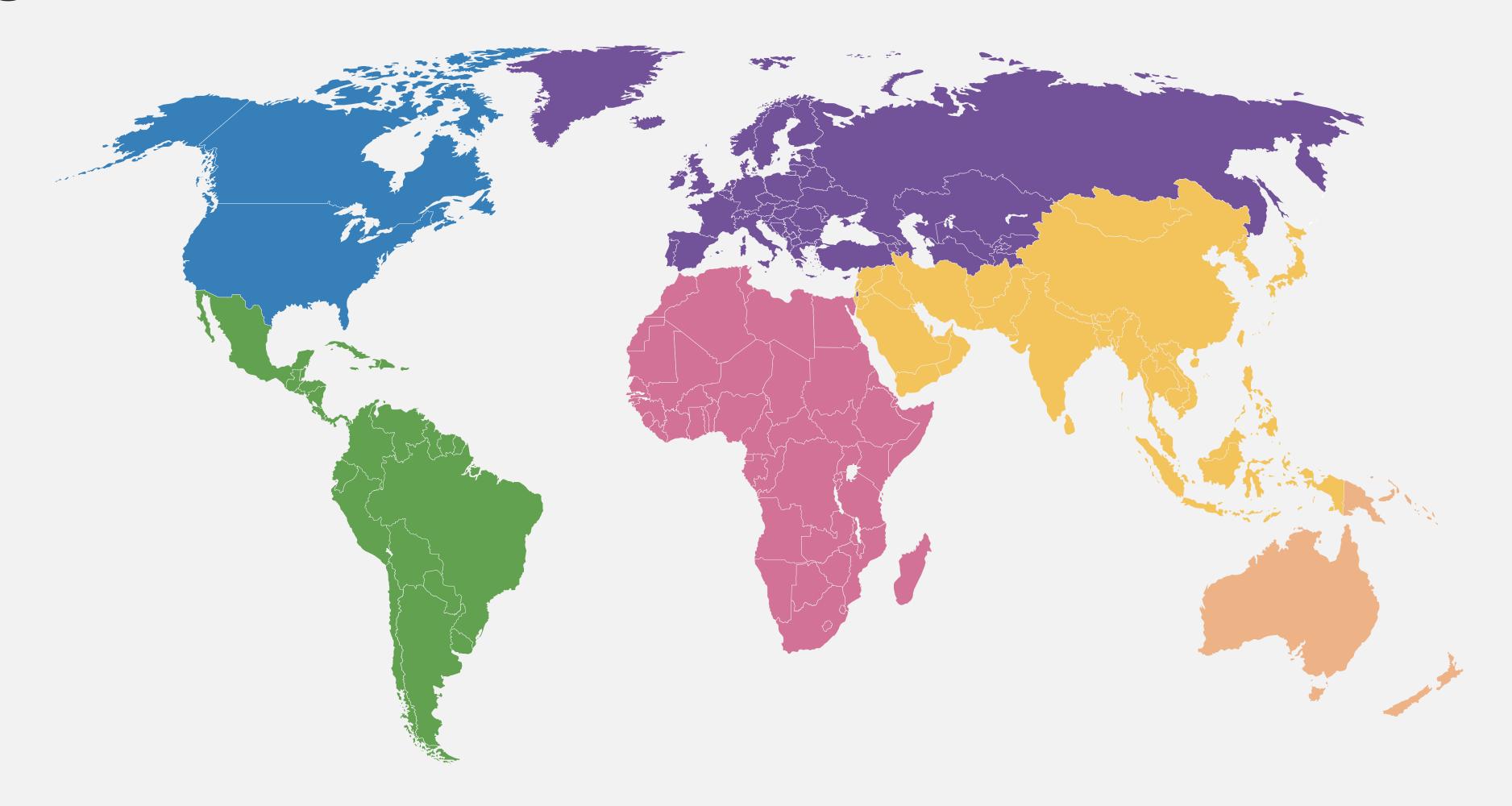






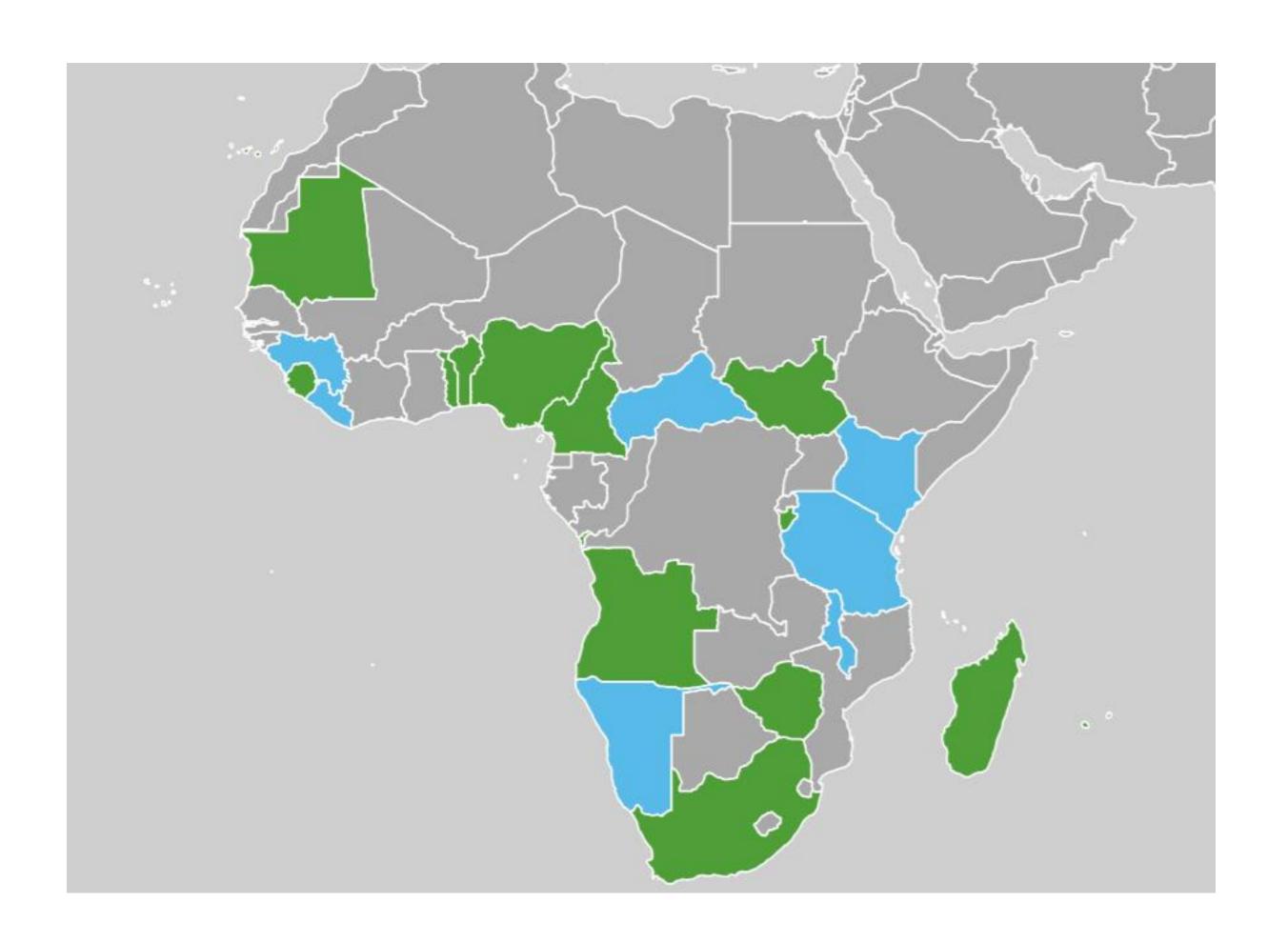


GBIF regions





Overview of Participant network in Africa



12 Voting participants

7 Associate country participants

5 Other associate participants

Discussion on experiences and challenges to become and remain Voting Participant



Objectives for regional meetings

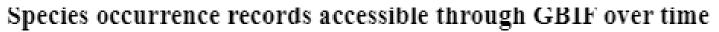


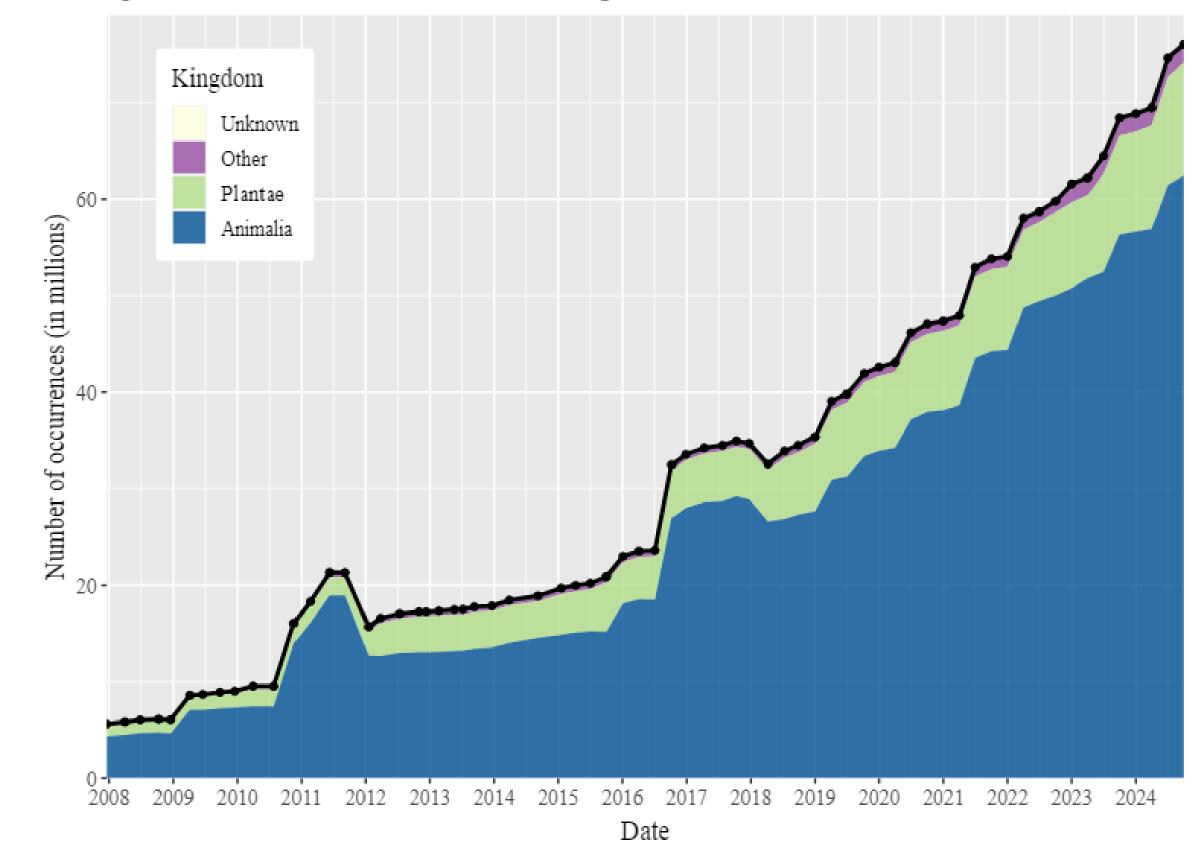
- Support regional coordination
- Facilitate regional collaboration by allowing nodes to share updates on their activities, receive peer feedback, and discuss joint project proposals through CESP and other programmes
- Provide feedback to the Secretariat and NSG on regional issues and priorities
- Develop stronger regional engagement in GBIF by identifying outreach strategies and actions, such as the recruitment of new participant countries and linking with relevant regional organizations and networks



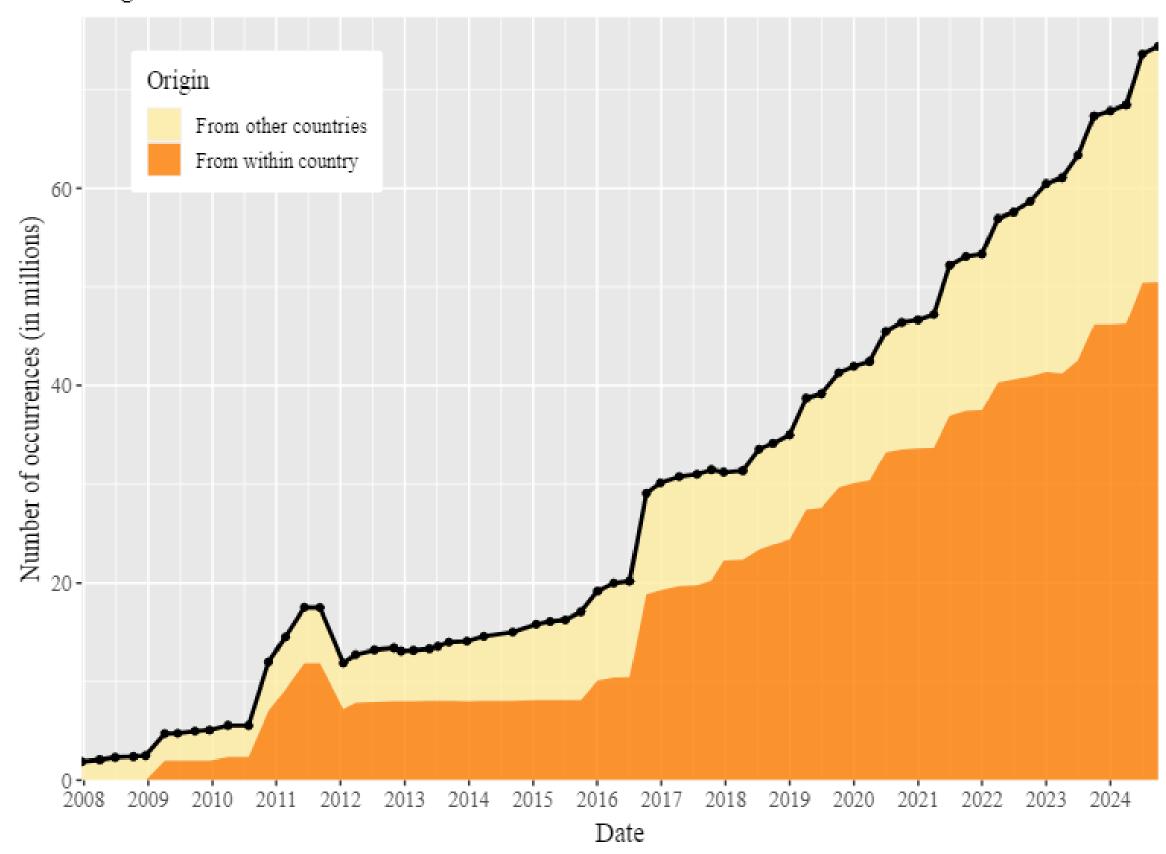


Regional trends for Africa: Data mobilization





Origin of occurrence records





Nodes are engaging in innovative data mobilization

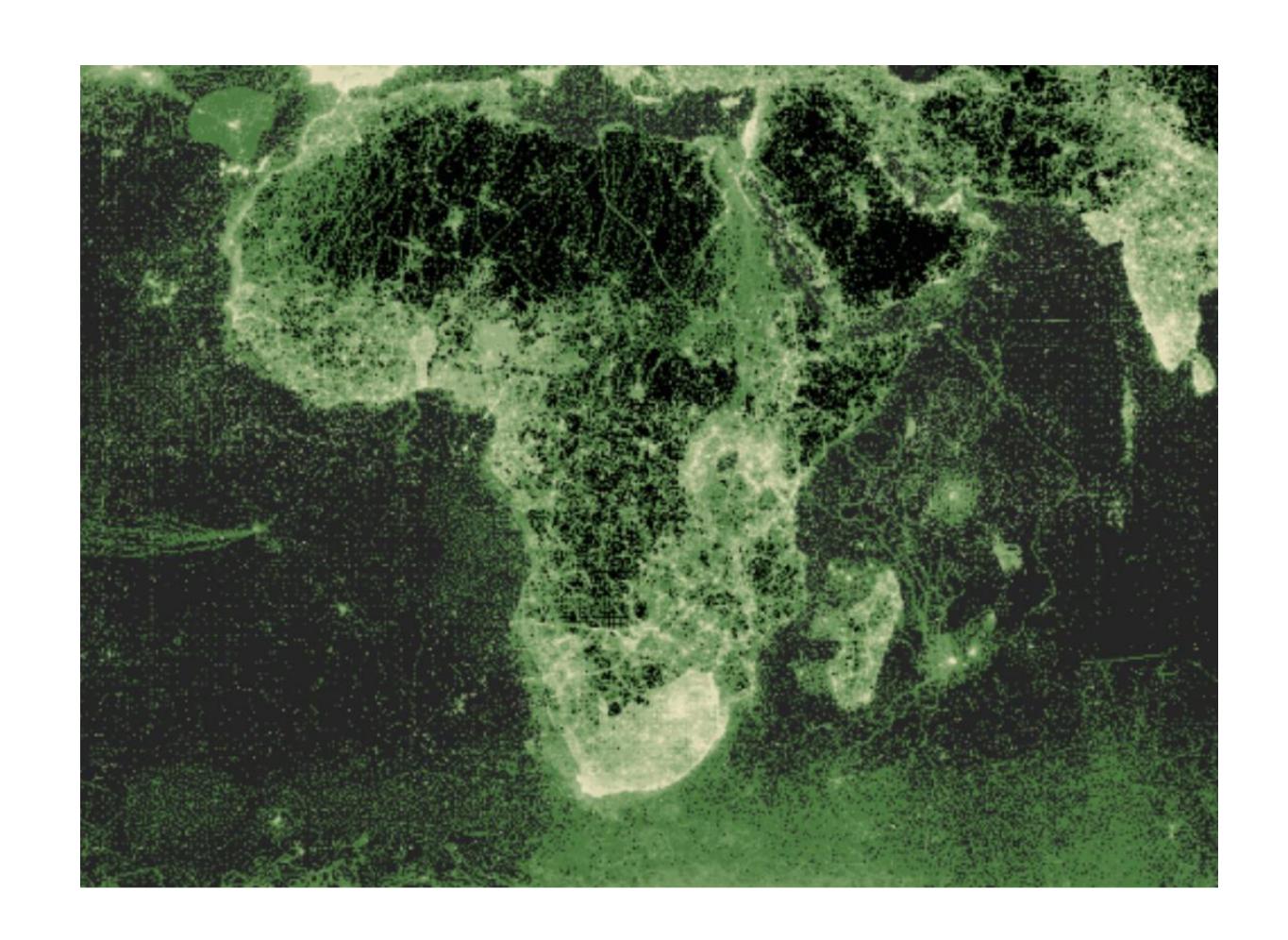


- Examples were shared of nodes
 engaging in mobilizing data from:
 - Camera traps
 - DNA metabarcoding data
 - Species interactions
 - EIA and monitoring
- This work aligns with GBIF's plans to enrich the data model



Mobilizing species occurrence data as foundational node activity

- In addition to more innovative data mobilization actions, there are still important gaps in species occurrence data in the region
- The BID programme will be important in helping nodes and partners to mobilize data

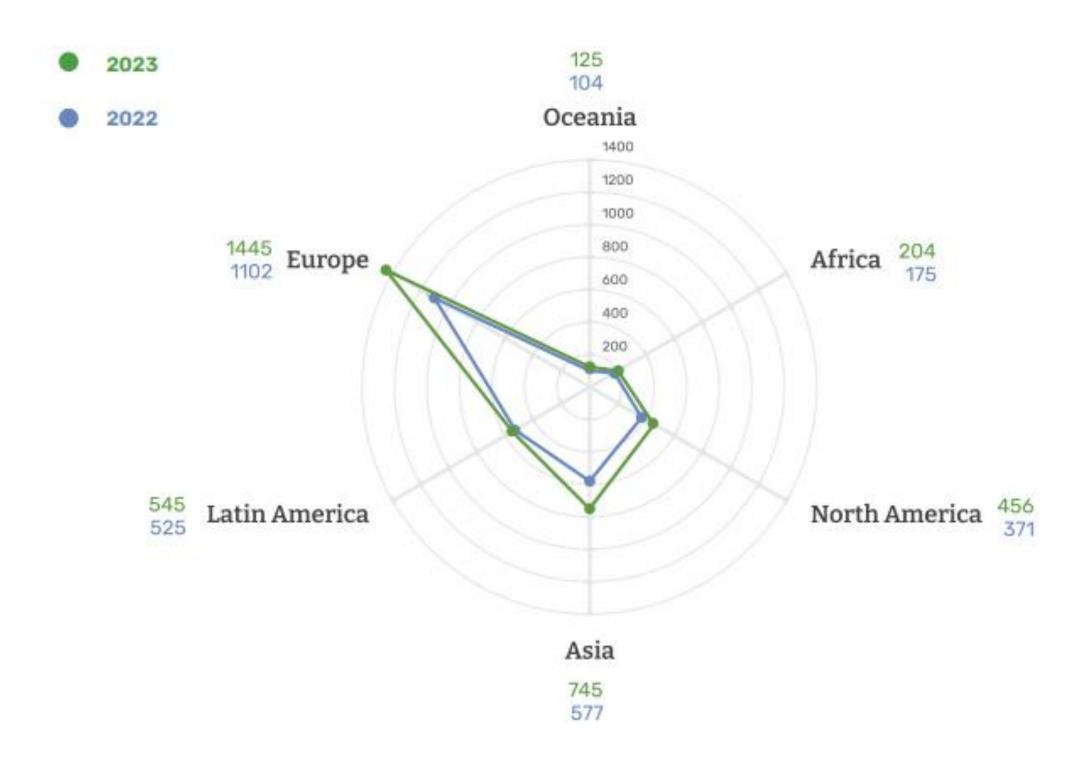






Data use in research in Africa

Peer-reviewed articles by region



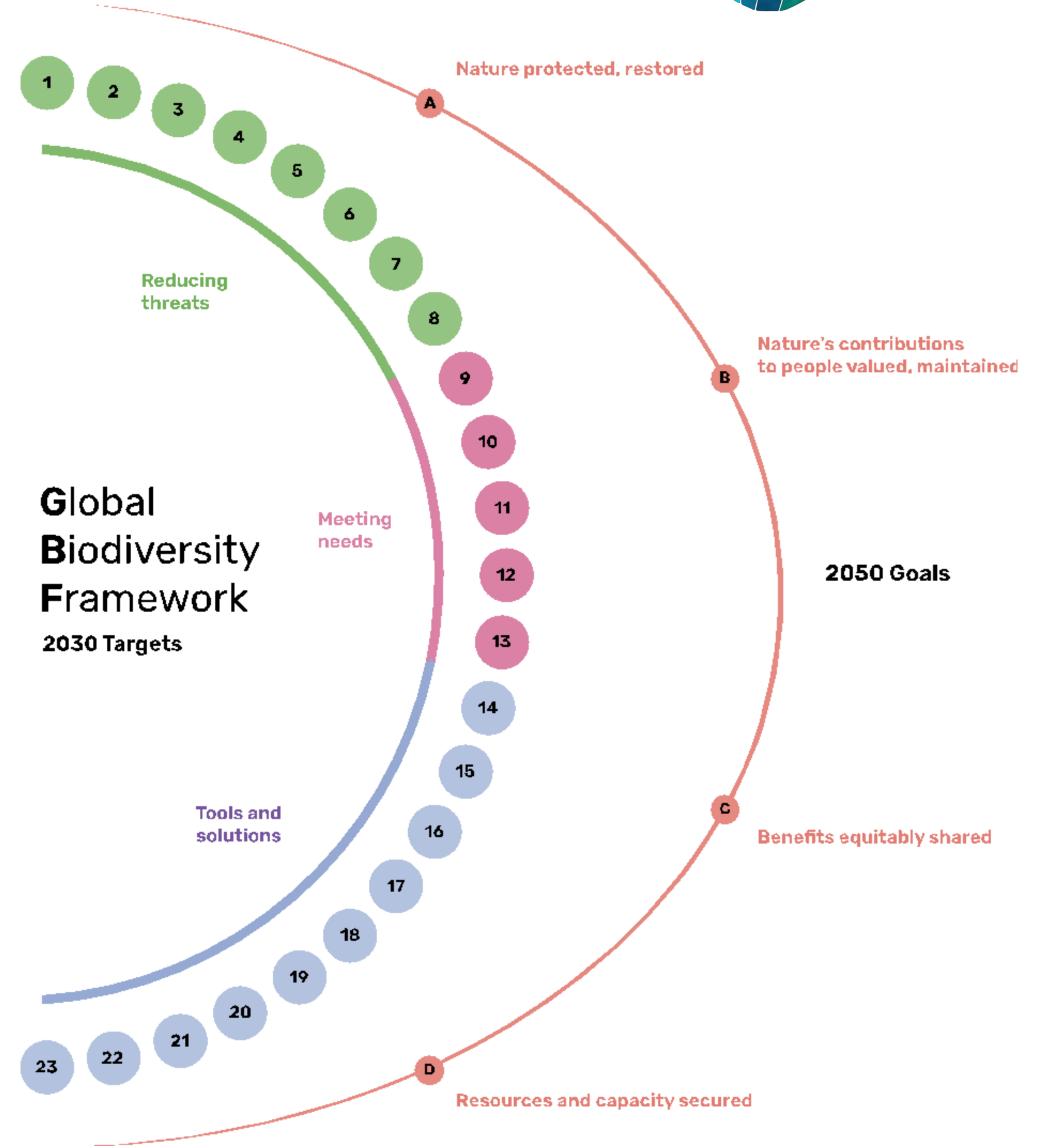
- General trend is showing an increase in the number of peer-reviewed articles using GBIF-mediated data in all regions
- Africa estimated to reach 235 articles
 by end 2024 (increased from 204
 articles in 2023 and 175 articles in 2022)
- Many nodes actively engaging
 academia, particularly students and
 early career researchers





Policy connections

- Opportunities relating to Kunming-Montreal GBF
- Many nodes engaging with CBD focal points, CHM and NBSAP processes in their countries
- Many of the research uses are policyrelevant, relating to:
 - Invasive alien species
 - Disease vectors
 - Protected species...







Priority to strengthen GBIF network in Africa

- Nodes committed to supporting
 outreach to encourage new countries to
 join GBIF
- Many experienced nodes to support new Participants
- GBIF Secretariat can assist in coordinating outreach efforts
- BID programme is a good opportunity to grow the GBIF network





Challenge of disparity among nodes



- Ongoing need to secure funding and human resources at the node level
- Success stories have been shared
- Africa Coordination Mechanism:
 approach to strengthen the network
 in the region and better coordinate
 efforts led by SANBI



Summary: Regional opportunities



- The data exist and data needs exist
- Importance of raising the visibility of the GBIF network within countries to encourage institutional participation
- Opportunities to engage with NBSAPs and national
 CBD reporting
- Opportunities arising from the regional level: CBD regional support centres and EU-funded biodiversity centres of excellence
- BID programme is coming at a good time



Thank you!

Jean Francois Moussa













About CIFOR-ICRAF

CIFOR-ICRAF harnesses the power of trees, forests, and agroforestry landscapes to promote biodiversity, tackle climate change, enhance food security and improve livelihoods. A focus on equity and value chains is central to this work.

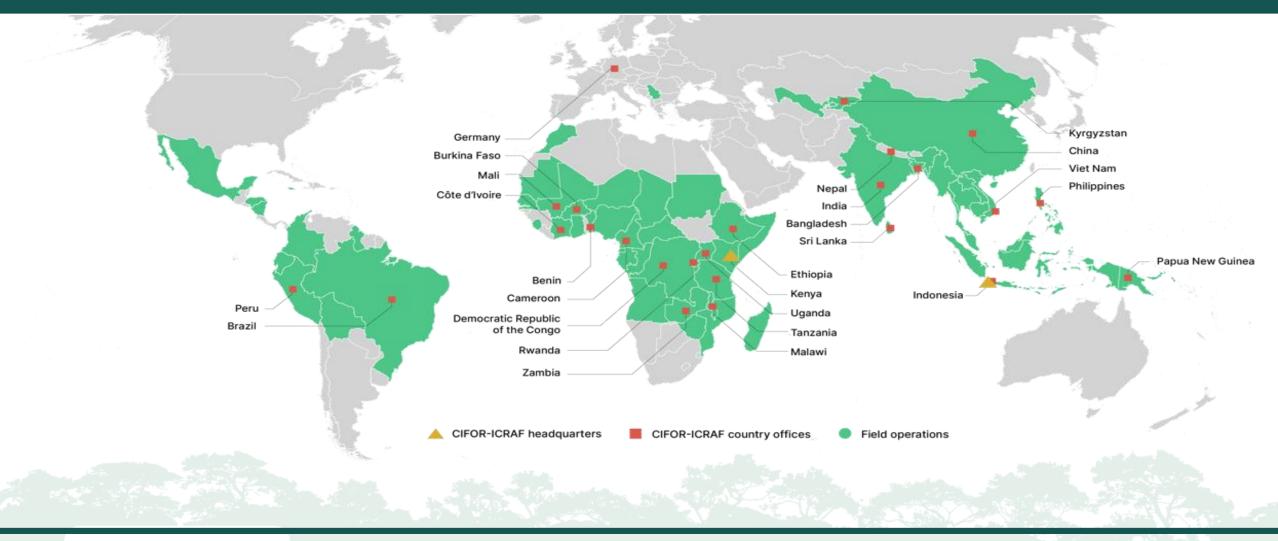
CIFOR and ICRAF are both international organizations and CGIAR Research Centres.







Worldwide Presence











OUR FOCUS AREAS

- 1. Trees & forest genetic resources, and biodiversity
- 2. Soil and land health
- 3. Sustainable Value Chains & Investments
- 4. Governance, Equity & Well-being
- 5. Climate Change, Energy & Low Carbon Development



- Aims to deliver on the best science needed to safeguard tree diversity, domesticate trees and deliver suitable tree planting material to growers including for food, fodder, timber and medicinal plants
- Tree gene bank has 248 agroforestry tree species
- To enhancing the availability of high-quality tree seeds to enable communities to plant the right tree, in the right place and for the right purpose.









Regional Centres of Excellence (RCoEs) for Biodiversity, Forests and Seascape Ecosystems

• Part of EU's support for the use of Science, Technology and Innovation (STI) for the green transition and sustainable development

Specific objectives:

- RCoE's become a reference point for updated information, influence policy decisions in the region, contributing to the regional and global agenda on forests and biodiversity
- Coordination with relevant actions at continental, global level; Enhanced linkage with the Natur Africa, & Synergy across the 3 RCoEs

RCoE Partners:

- RCoE-Eastern and Southern Africa (CIFOR-ICRAF & RCMRD) –OFESA & BIOPAMA
- RCoE-Central Africa (COMIFAC, CIRAD, UCLouvain FRMi, CIFOR-ICRAF)
- RCoE-West Africa (OBAPAO Consortium: Centre de Suivi Ecologique (CSE), RAMPAO, Regional Marine Centre-University of Ghana, CRAGRHYMET

Links with government institutions, Research, Academia, NGOs, networks









Data management & sharing practices

Lessons from the forest observatory for eastern and southern Africa

- Existing institutional platforms/geoportals sharing geospatial information.
- Exists legislations in some countries to encourage data management
- Request letters indicating the purpose of the data
- Access to data through collaboration agreement (e.g., MoUs)

Challenges

- Lack of data collection standards/Differences in methodologies
- Limited of resources to keep information sharing platforms operational
- Absence (weak) internal policies on data management/sharing
- Restrictions on raw data & certain data (e.g endangered species, plant genetic resources)
- Bureaucratic processes create obstacles to the sharing of data











Opportunities for biodiversity data sharing in the region and plans from the Centres of Excellence

- Data sharing infrastructure (e.g geoportals at national/regional level
- Standardization of data collection methodologies
- Presence of data dissemination of institutional platforms (Websites)
- Building trust and accountability, rules on intellectual property rights
- An enabling legal framework/protocol that enable a regional comparison
- Validation of data especially by stakeholders who provided the data











Partnerships































Contact information

West Africa-CE

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aissatou.sy@cse.sn

Central Africa-CE

- CIFOR-ICRAF: Dr Abdon Awono (a.awono@cifor-icraf.org)
- COMIFAC: Dr Florence Palla (fpalla@observatoire-comifac.net)

RCoE-Eastern and southern Africa

- CIFOR-ICRAF: Douglas Bwire (<u>d.bwire@cifor-icraf.org</u>)
- RCMRD: Michael Ngugi (<u>mkimani@rcmrd.org</u>)
- rcoe-geoportal.rcmrd.org











cifor.org | worldagroforestry.org | foreststreesagroforestry.org | globallandscapesforum.org | resilient-landscapes.org

The Center for International Forestry Research (CIFOR) and World Agroforestry (ICRAF) envision a more equitable world where forestry and landscapes enhance the environment and well-being for all. CIFOR-ICRAF are CGIAR Research Centers.













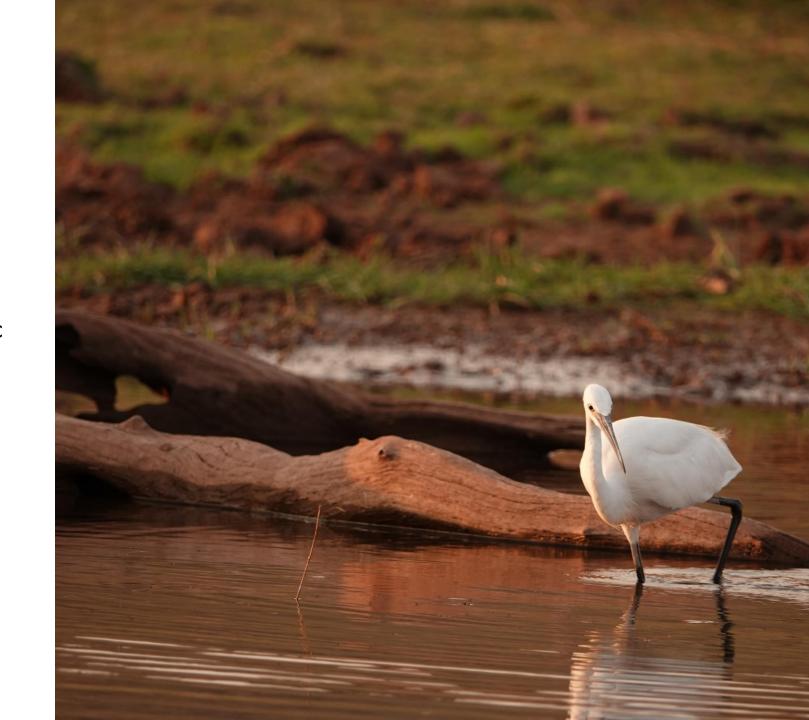
African Parks

- 20,000,000 hectares, 20 parks,
 12 countries
 - Incubator Projects
- Matusadona National Park



Biodiversity Data and Conservation Efforts

- Business Intelligence & Scientific Research
- Impact and conservation strategies
- Government partners and donors



Data Management

- Format and location of historical data (going forward?)
- Current AP system
- Different survey methods = different formats
- Best practices for gathering data and streamlining into a single traceable database









Biodiversity Data Sharing

- All have the same goal
- Long term?
- APN and other NGOs are often the most capacitated in the region for data collection
- Centralised repository will be open to APN and public
- Sometimes the only species records for the region
- Local students







The Global Biodiversity Information Facility

Melianie Raymond and Maheva Bagard Laursen
Community & Capacity Team, GBIF Secretariat



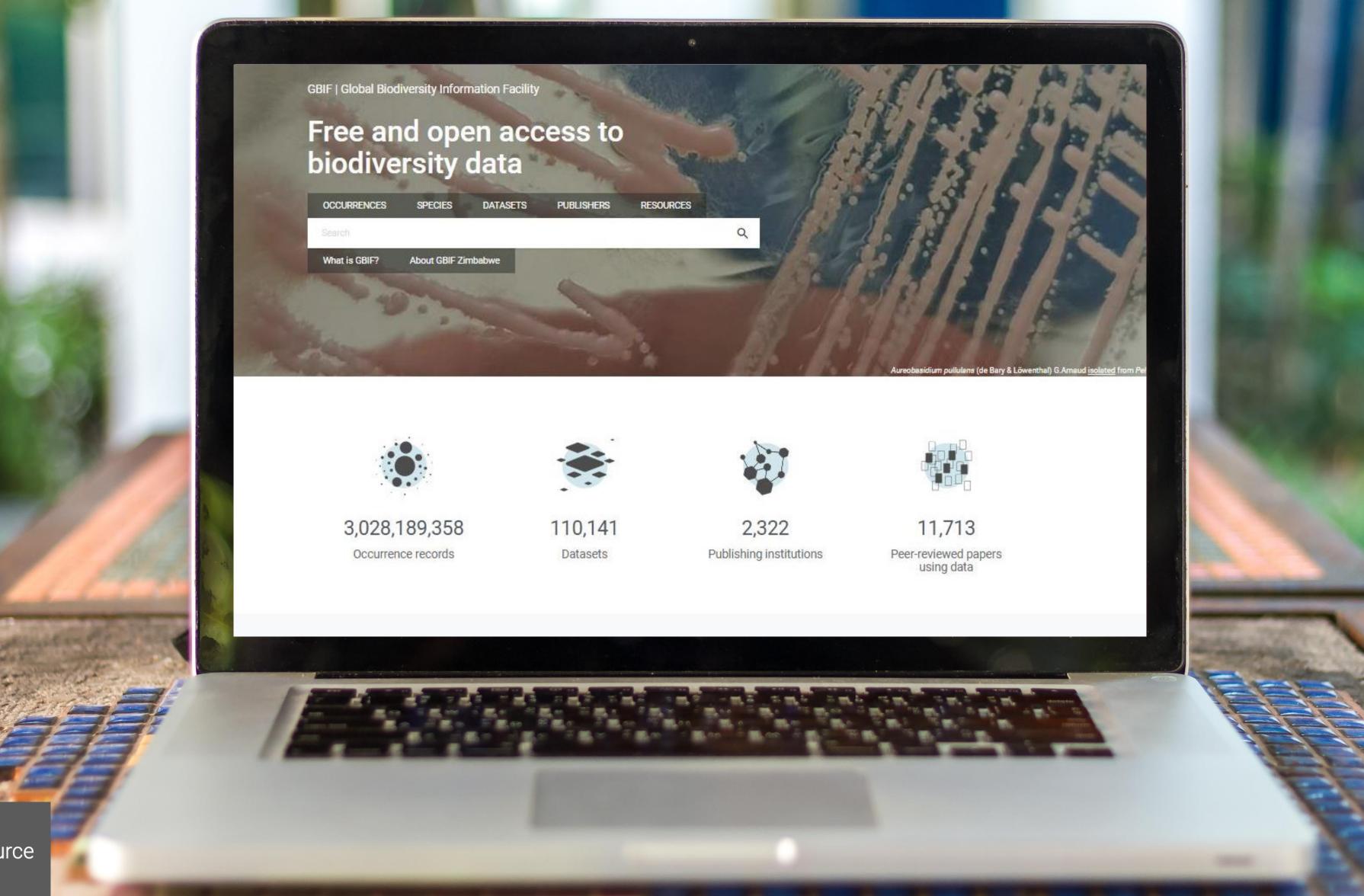
What is GBIF?

Intergovernmental network and data infrastructure

Provides anyone, anywhere, free and open access to data about all types of life on Earth

Voluntary collaboration through Memorandum of Understanding

Participant nodes, Secretariat in Copenhagen, DK





GBIF is a Global Core Biodata Resource



Vision

A world in which the best possible biodiversity data underpins research, policy and decisions.



Mission

To mobilize the data, skills and technologies needed to make comprehensive biodiversity information freely available for science and decisions addressing biodiversity loss and sustainable development



Datasets 109,909

Hosted portals

24

Country • **Participants**

64

Peer-review papers using data

11,603

Organizational **Participants**

43

Average records downloaded per month (2024) 201.5 billion

Species

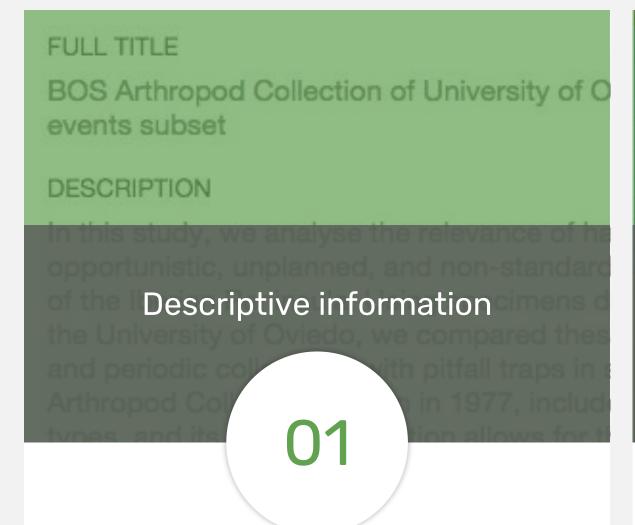
occurrence records

3,024,927,234

Publishers

2,371

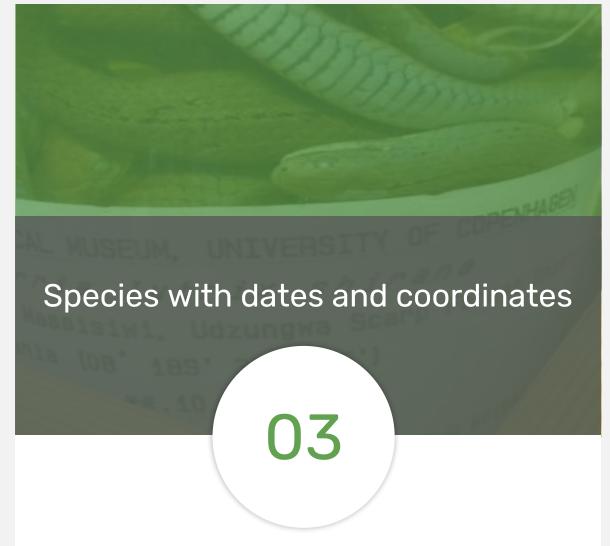
Data richness levels supported by GBIF



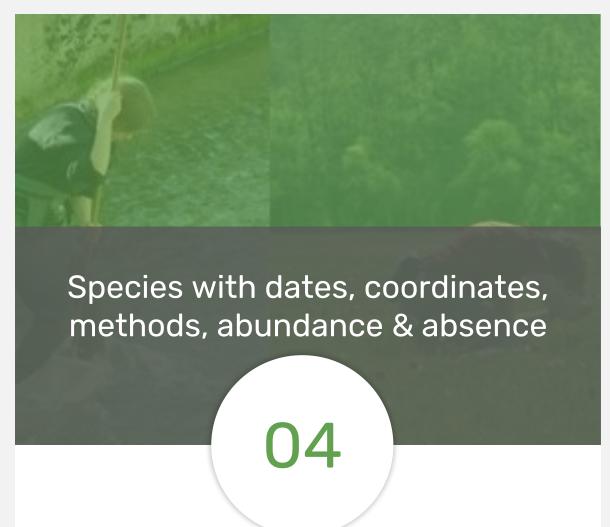




Species checklists



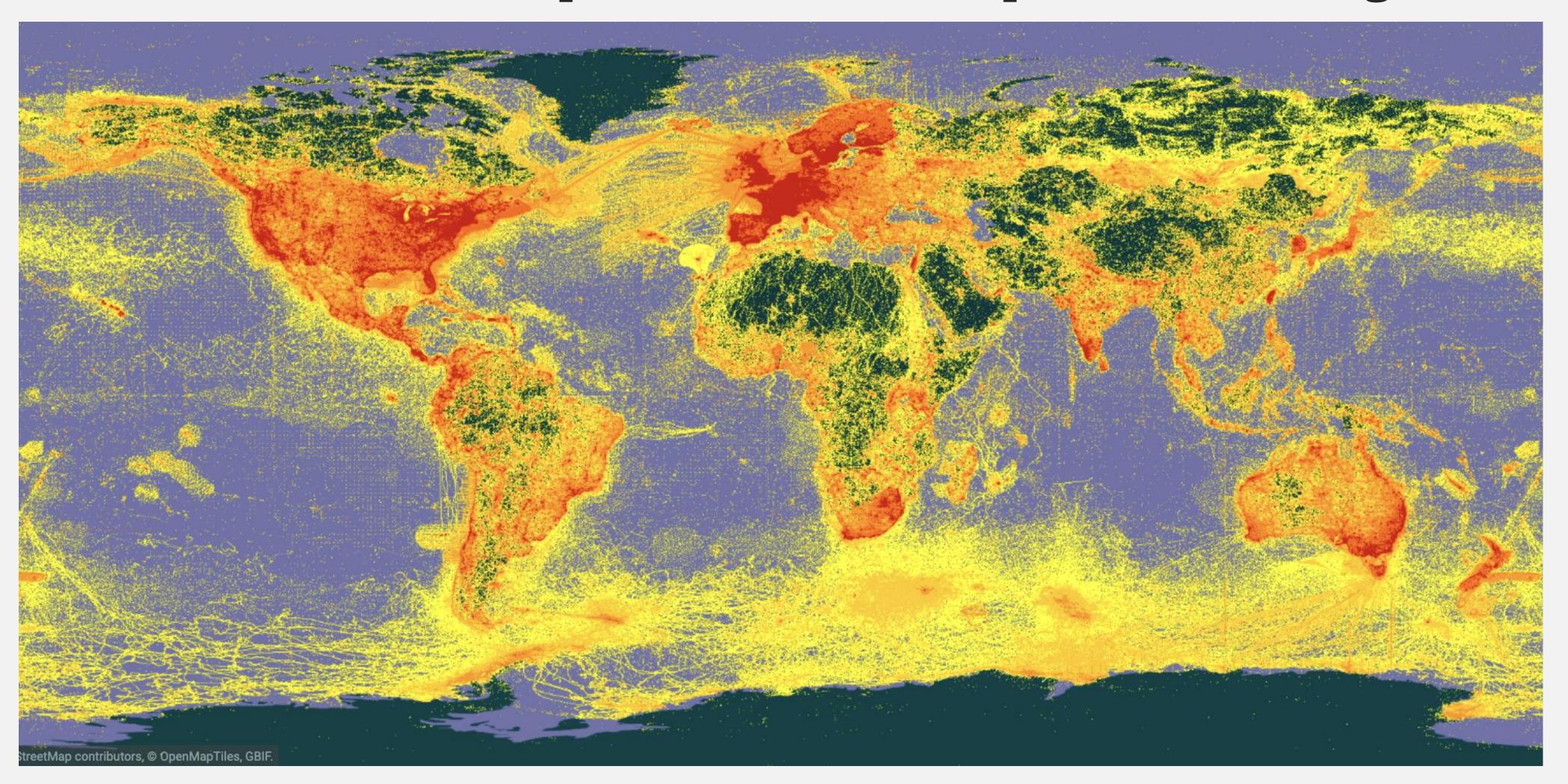
Occurrence-only data



Sampling-event data

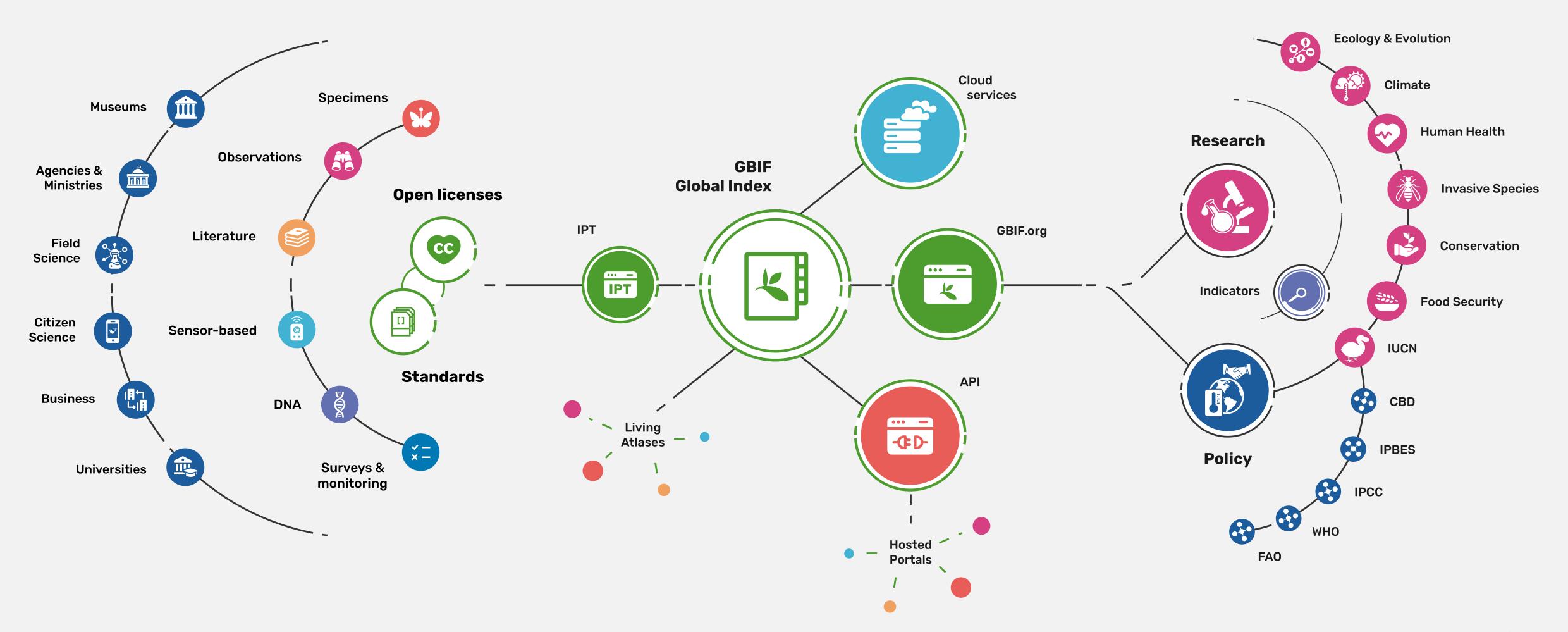


Distribution of data on species occurrences published through GBIF





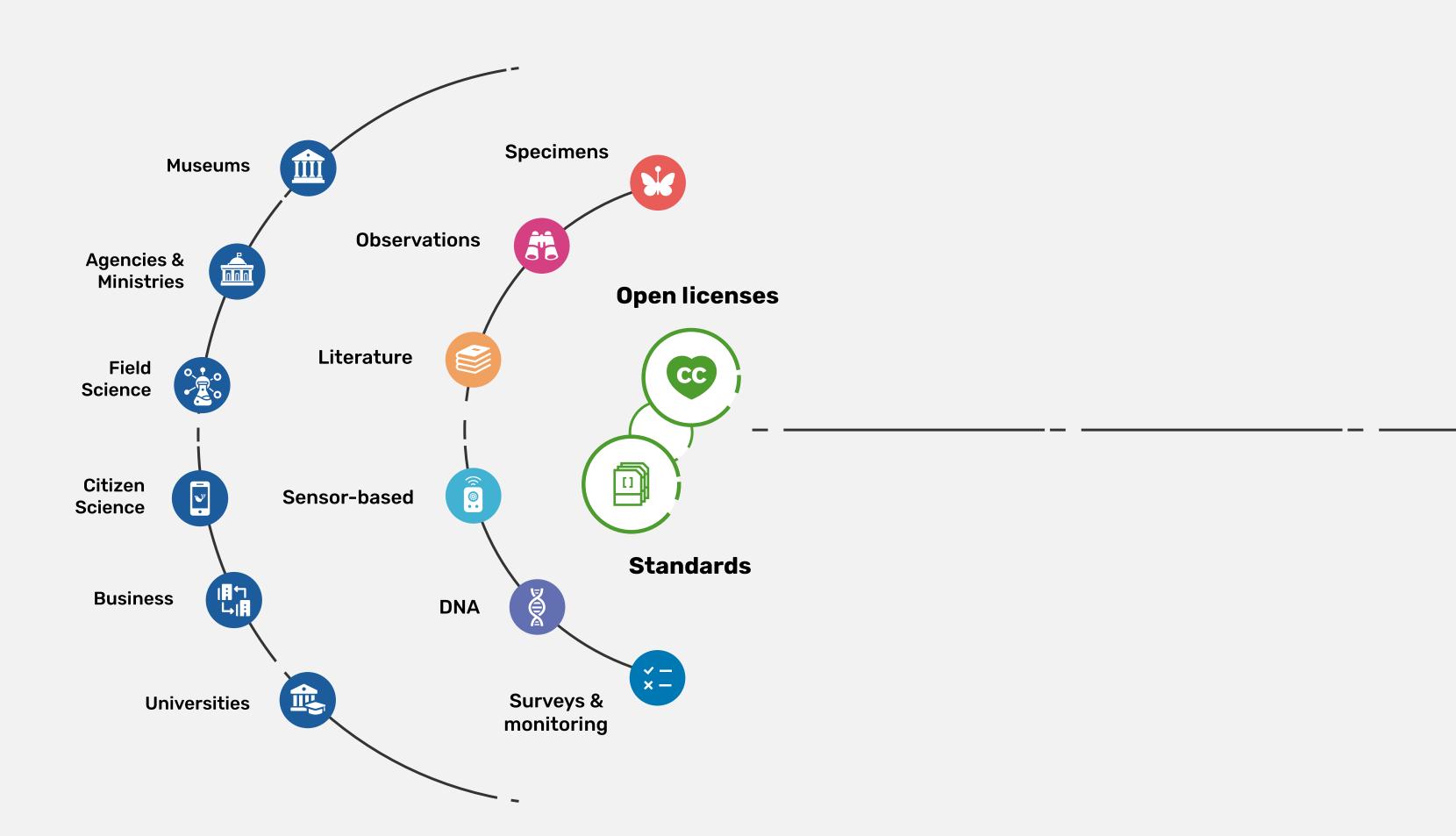
Providing biodiversity evidence for research and policy





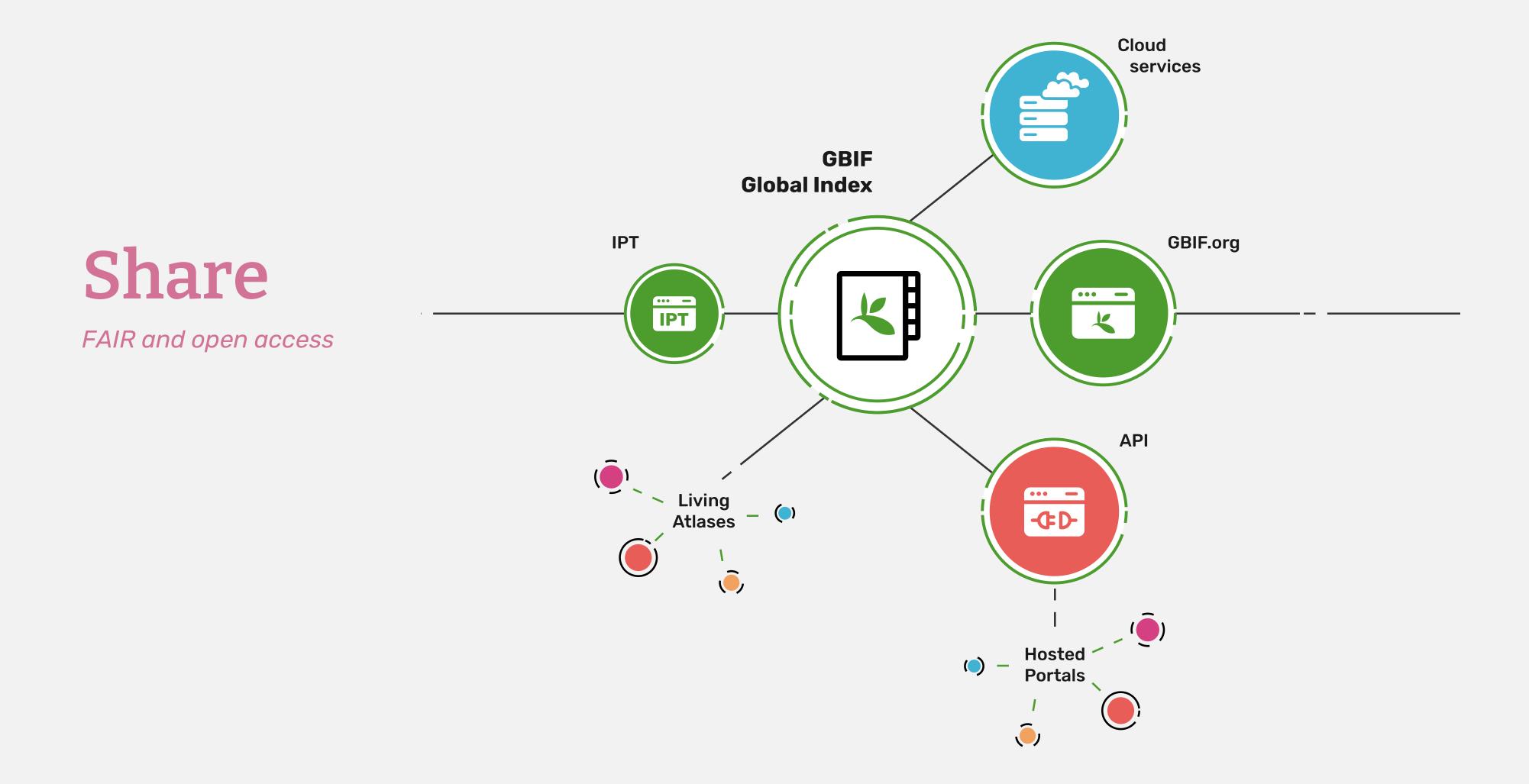
Sources of biodiversity evidence







Access to biodiversity evidence

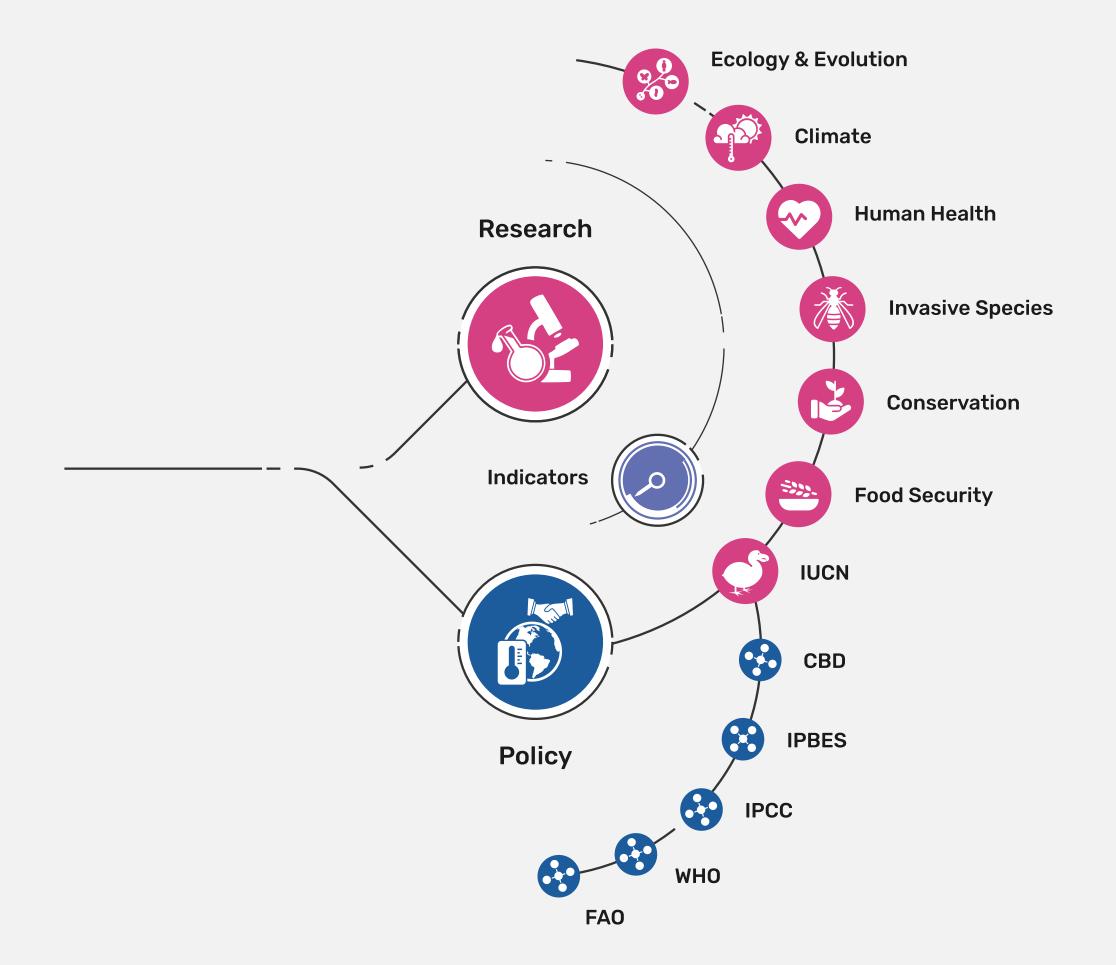




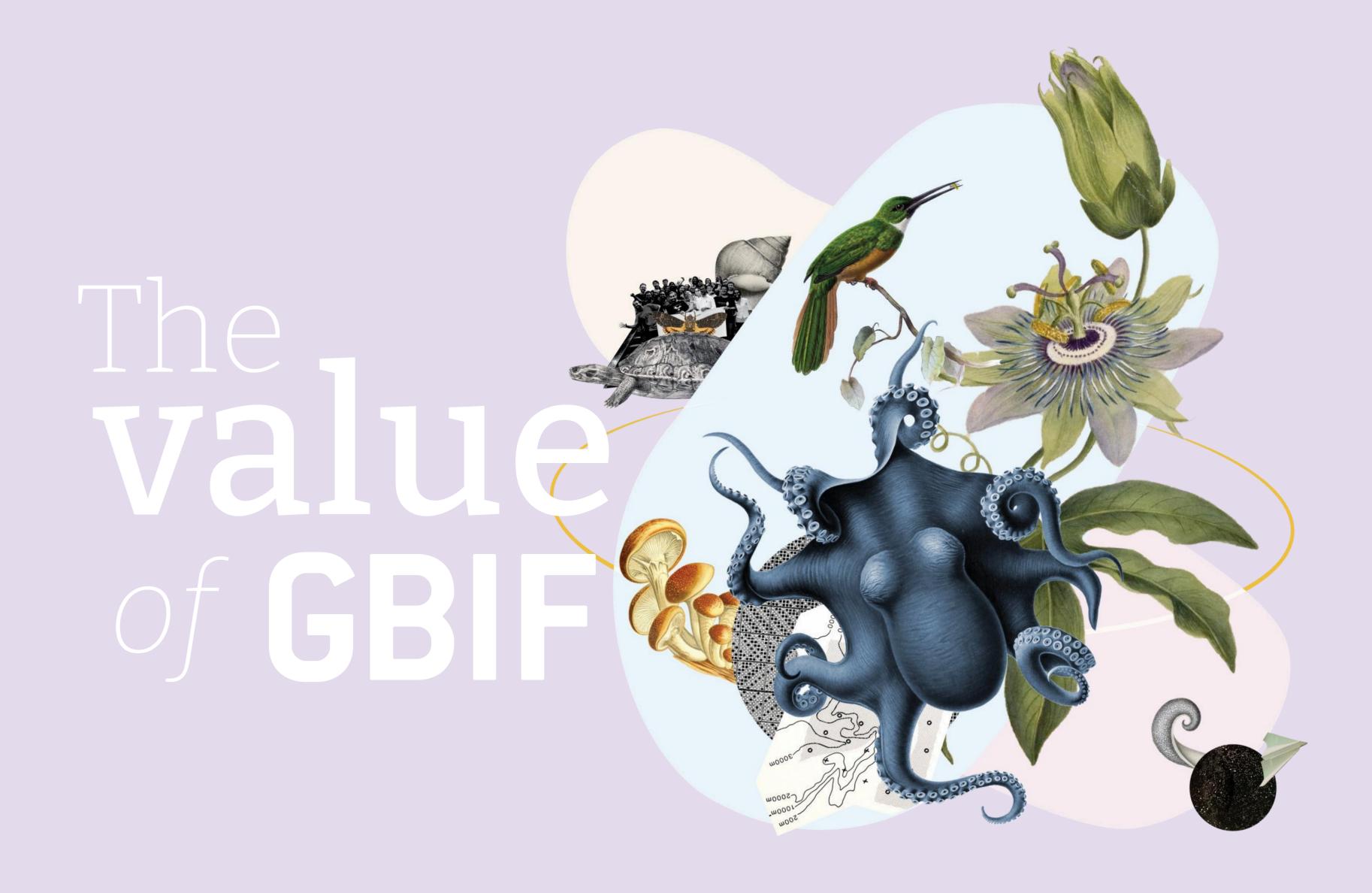
Uses of biodiversity evidence

Transform

Apply and use data







The economic value and impact of the GBIF network



For every €1 invested in GBIF, users receive €3 of benefits while society gains up to €12



Research and policy

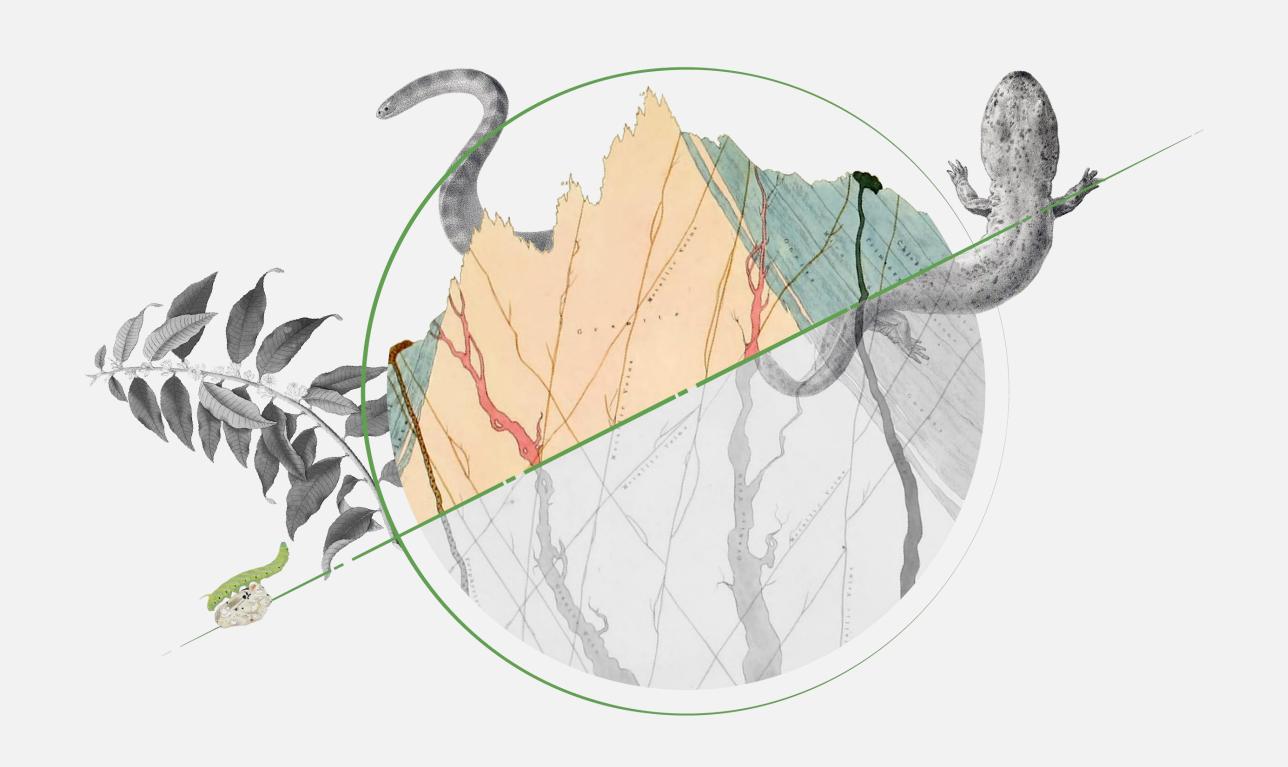
GBIF empowers its community of users to unlock new insights, enabling ground-breaking scientific studies and facilitating evidence-based policy decision-making.





GBIF expands the scope of what is possible

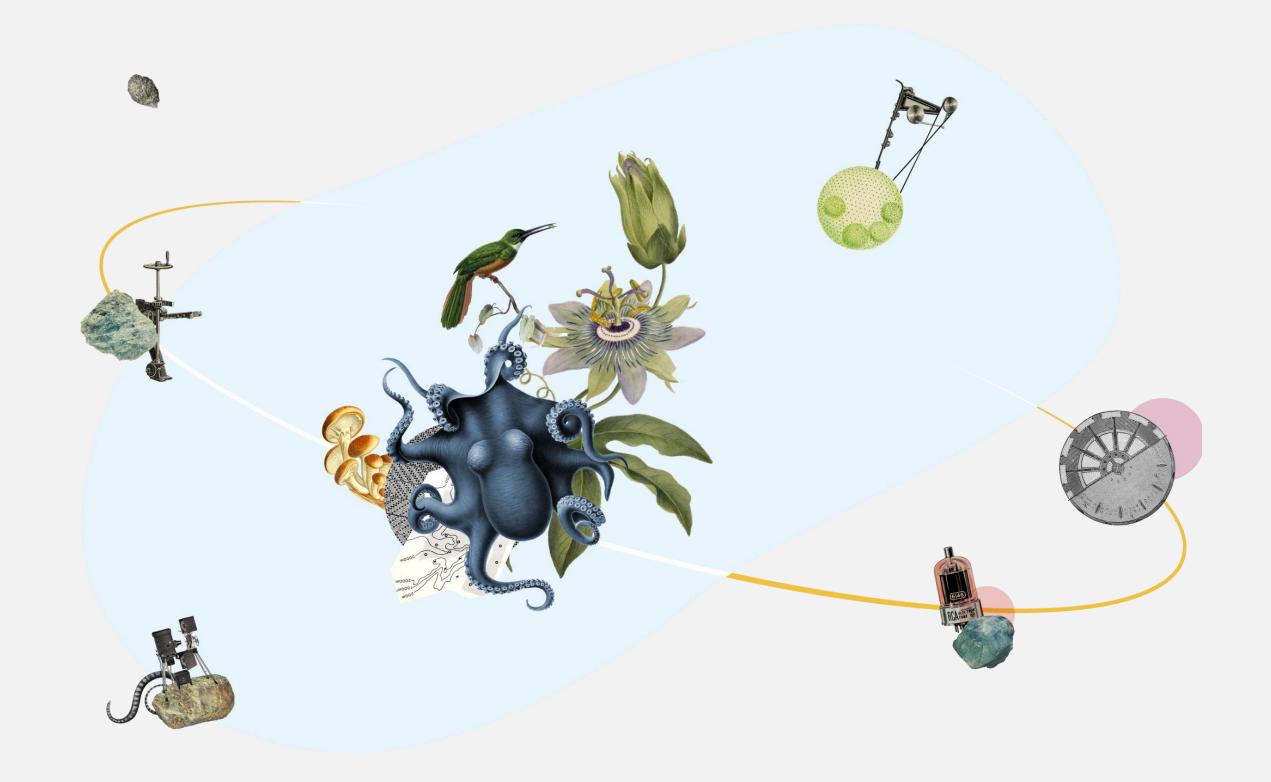
Almost half of GBIF users would have found it impossible to achieve the same outcome in the absence of GBIF.





Shared infrastructure

By embracing a hosted framework, GBIF's infrastructure democratises access to biodiversity data, promotes collaboration, facilitates data harmonisation, and fosters innovative research.





Shared infrastructure

"the most comprehensive, openly available, application-agnostic (most unbiased), easiest-to-use, and modern access point to known digital species occurrence data."

Committee on Data of the International Science Council (CODATA)







Primary data as foundation for implementing and monitoring GBF



GBIF relevance (illustrative)

Data to identify key biodiversity areas

Data to monitor restoration

Data to locate, monitor protected areas

Data for species conservation

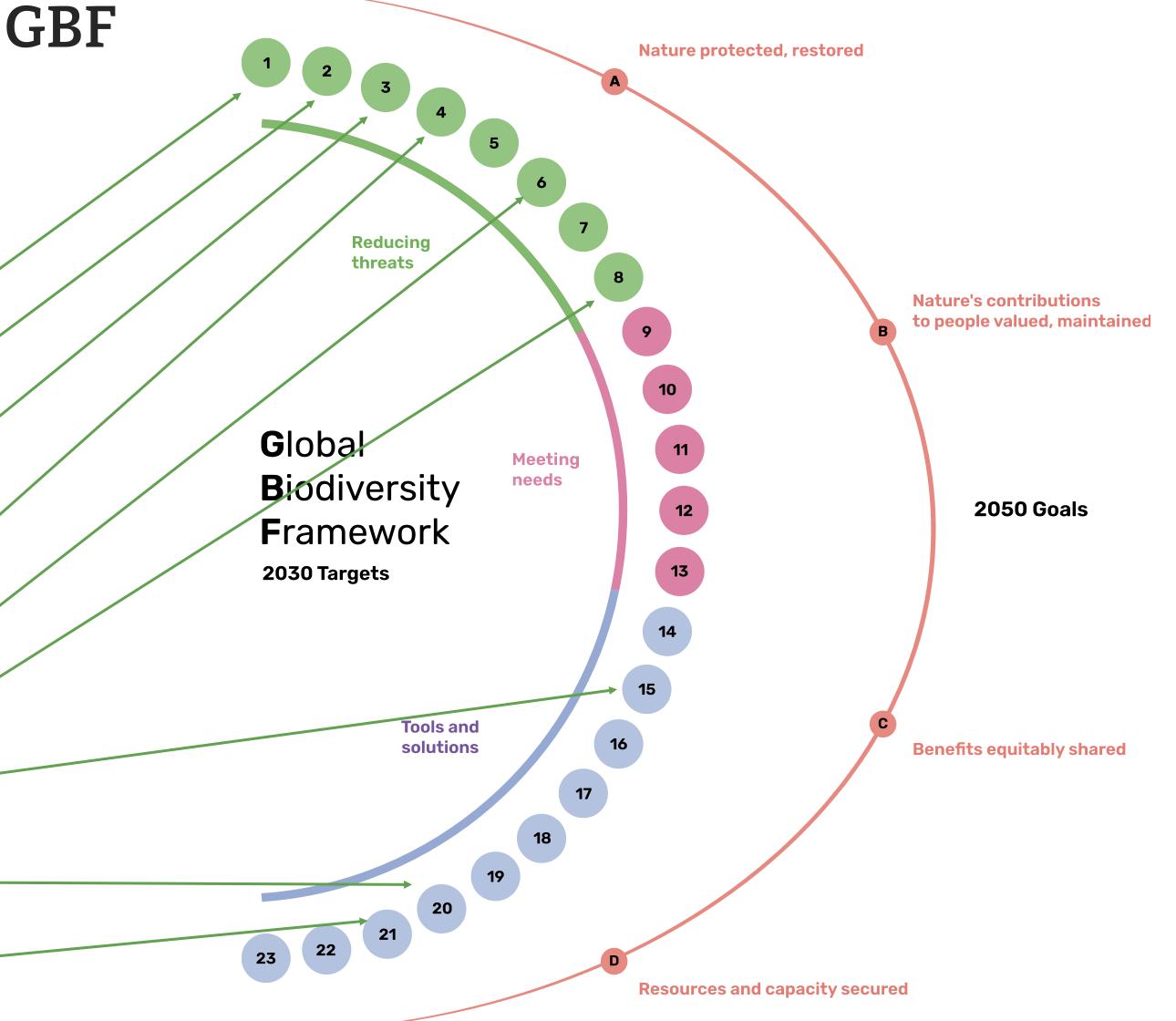
Data on invasive species occurrence

Data to model climate change impacts

Platform for sharing EIA data

Capacity programmes for data mobilization and use

Making data available for implementation





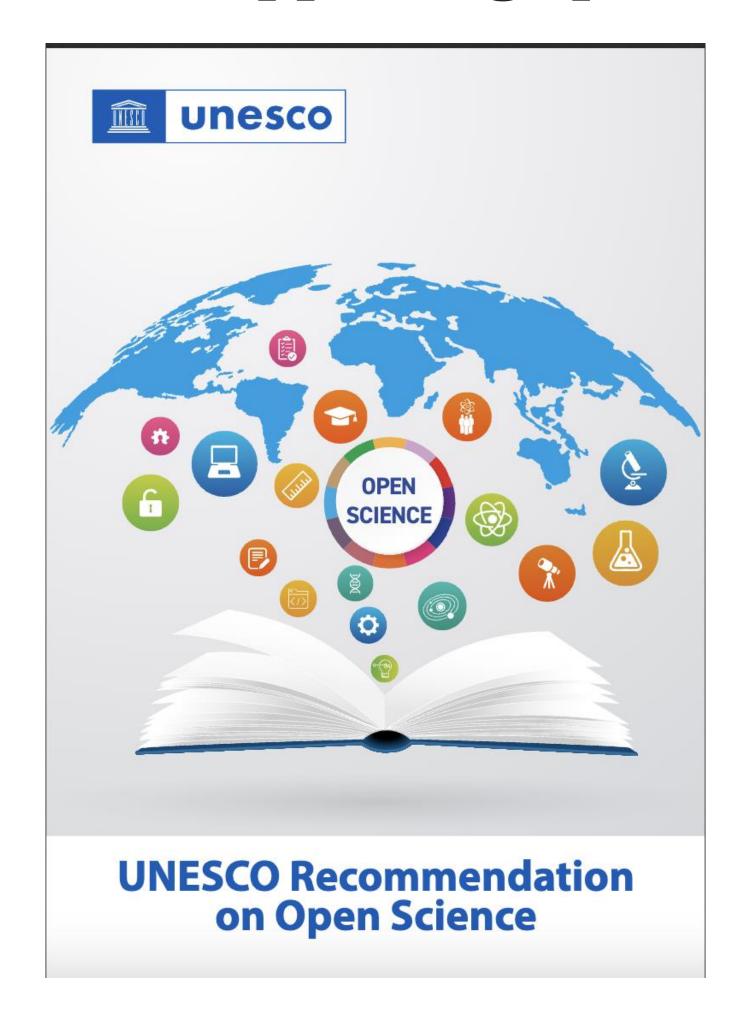
GBIF and a sustainable future

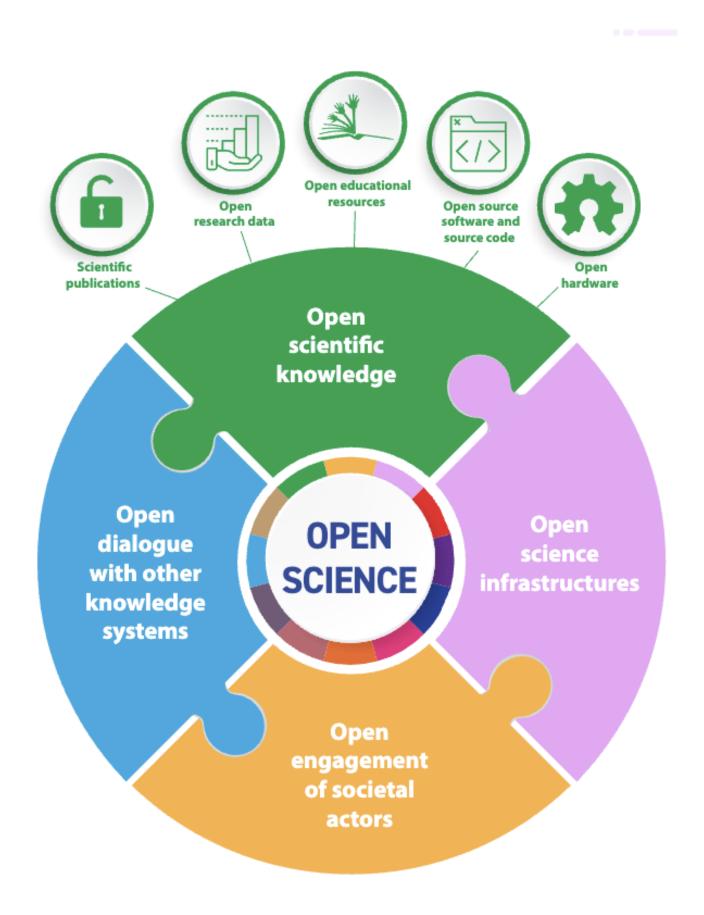
Almost all GBIF users, 92%, identified that their use of GBIF-mediated data was linked to achieving Sustainable Development Goals





GBIF supporting open science







Open research data are available in a timely and user-friendly, human- and machine-readable and actionable format, in accordance with principles of good data governance and stewardship, notably the FAIR (Findable, Accessible, Interoperable, and Reusable) principles, supported by regular curation and maintenance.



Multiple ways to work with the GBIF network

- GBIF nodes
- Regional support teams
- GBIF Secretariat





Capacity enhancement



By focusing on people, GBIF recognises that the success of data sharing and conservation efforts relies on individuals' skills, knowledge, and engagement at various levels.





The BID programme



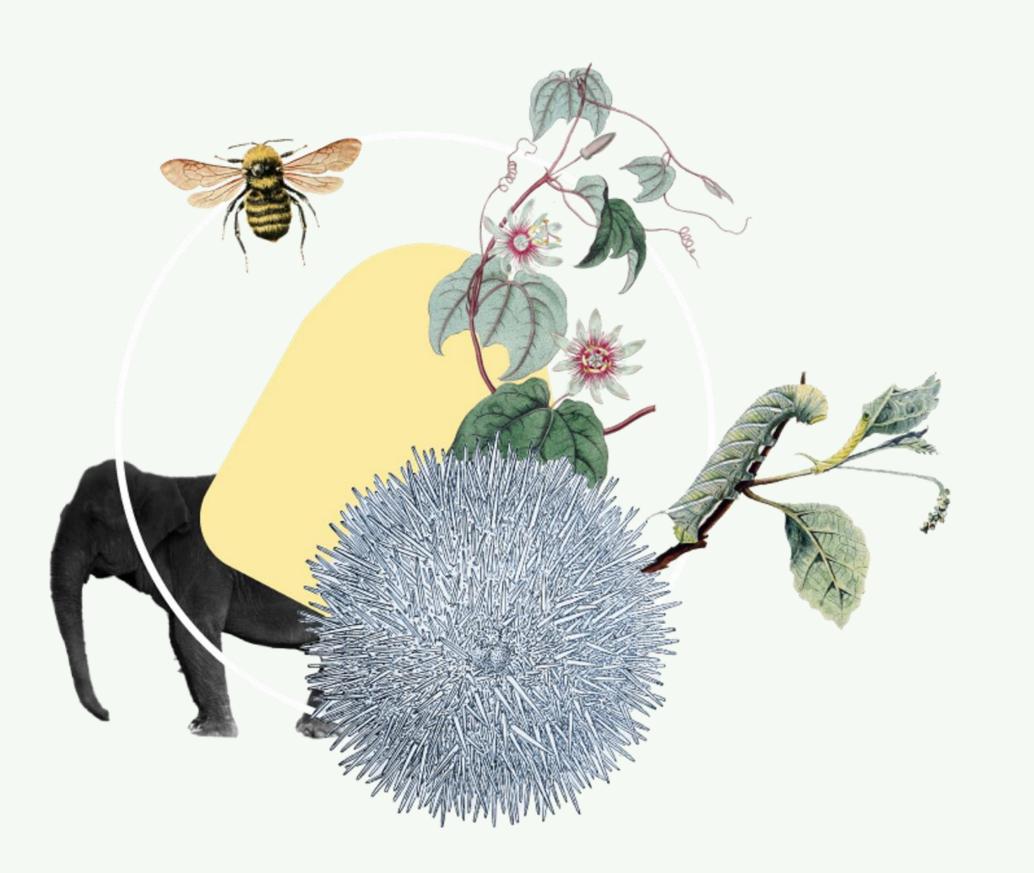


Sharing knowledge

Enhancing capacity to mobilize

FAIR and open data on

Biodiversity to increase knowledge

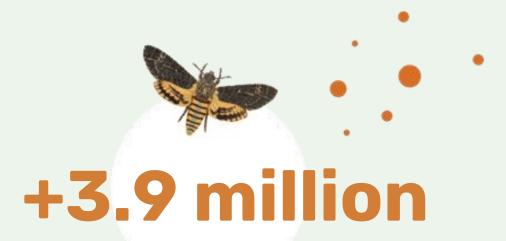


To support Science and Policy

Enhancing capacity to use open data on biodiversity in research and policy to address key needs for the benefit of society







Species occurrence records









Capacity enhancement supported by the BID regional support team

+100









Pacific

BID AFRICA



Species occurrence records





1,158

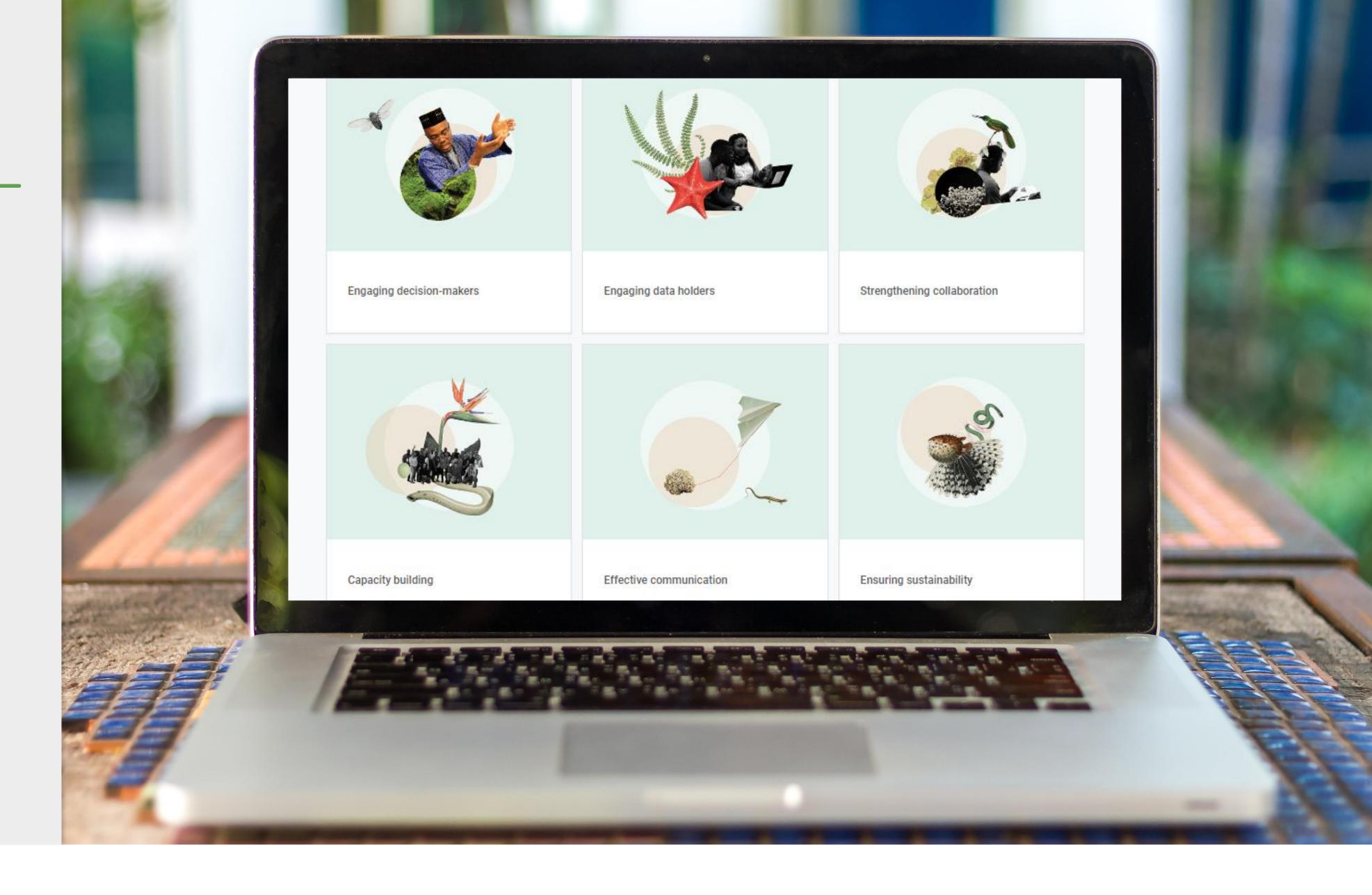
Publishing institutions





Best practices for mobilizing policy-relevant data

Highlight best practices developed
by project teams to address
common challenges to inspire
organizations considering similar
activities





Thank you!

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New phase of BID (2024 – 2029)

Melianie Raymond and Maheva Bagard Laursen
Community & Capacity Team, GBIF Secretariat







BID 2024 - 2029



Duration: 60 month

Broad geographic focus: Africa, Latin

America and the Caribbean and Pacific

Start date: 09th August 2024



Main objective

Significant improvement of the availability and accessibility of data, information, and knowledge for decision-making



Key outcome

Enhanced capacity to meet the knowledge needs of the Kunming-Montreal Global Biodiversity
Framework through the mobilization of the required skills, collaborations and technologies

Focus on supporting the knowledge needs of the Global Biodiversity Framework (GBF)



Keys outputs and related activities



Mobilization of biodiversity data

- Contracting of regional support teams
- Organization of one call for proposals for biodiversity data mobilization projects
- Setting up or maintenance of open hosted data publishing infrastructure



Robust communities of practice

- Development and consolidation of training materials on data mobilization and use
- At least one capacity building workshop in each region

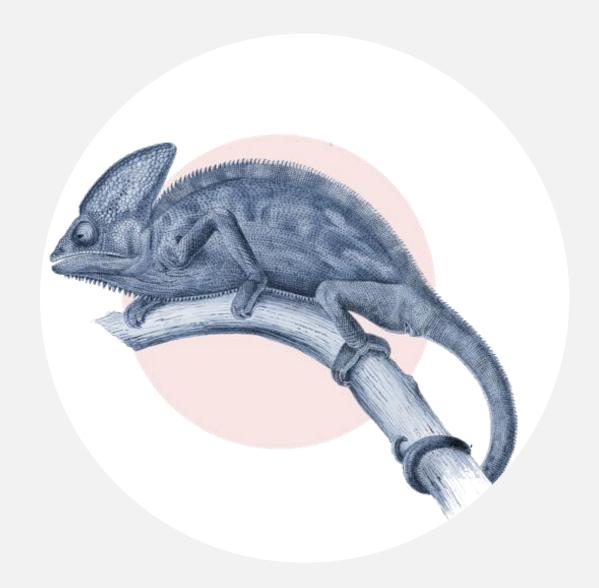


Use of data by research and decision processes

- One regional meeting in each region
- Tracking citations of data mobilized through BID in research and decisionmaking
- Promotion of results to science-policy initiatives



Tentative timeline for key activities









2024

Organization of regional meetings in the target regions to identify key regional capacity and information needs

Contracting of regional support teams

2024 - 2025

Determination of the intervention strategy for each regions based on knowledge gaps analysis and recommendations provided by regional stakeholders 2025 - 2026

New round of BID calls for proposals

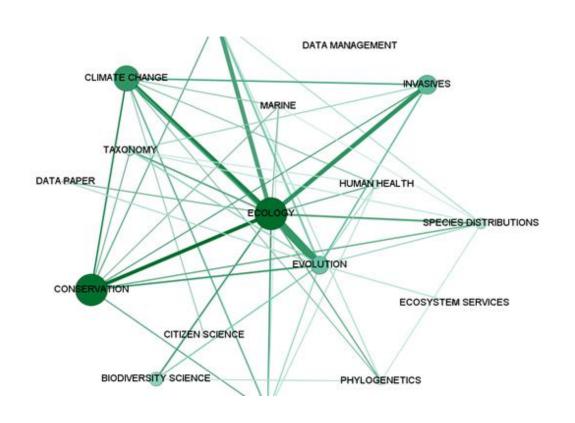
2026 - 2028

Implementation period of the projects selected under the BID calls for proposals (2-year projects)

Capacity development workshop (2026)



Consultative process guiding the development of BID









External evaluation of the BID programme:

- Assess the impact of BID
- Draw recommendations for future phases

BID Showcase event & workshop:

- Capture practical experiences and recommendations from nodes and grantees
- Explore ideas to strengthen capacity development on the regional level

Global Node Meeting:

Explore and identify
recommendations on how nodes
should be involved in BID

BID regional meetings:

- In parallel of regional nodes meetings whenever possible
- Aim to identify regional information needs to inform BID selection criteria





BID Africa Engagement Meeting for the Biodiversity Information for Development Programme

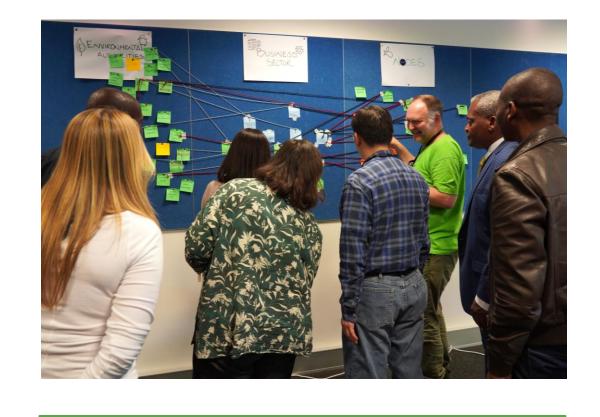




Objectives of the meeting









Share regional progress updates and best-practices

Identify key regional capacity and information needs to inform the development of the upcoming BID call for proposal

Identify opportunities
for synergies between
existing and upcoming
regional initiatives and
the BID programme

Encourage broad
participation in the calls
for proposals, including
applicants, reviewers,
mentors, trainers, and
partners



Expected output: Draft meeting report including









Regional recognition of BID as contribution to targets 20 and 21 of the GBF

Recommendations from the region on priority impact areas within

- Data mobilization
- Capacity needs for effective biodiversity data management
- Delivering biodiversity data for use

Mechanisms for addressing regional priorities within:

- Calls for proposals
- Capacity enhancement workshops
- Knowledge sharing

Additional opportunities to strengthen and sustain the impact of BID via synergistic action across programmes and initiatives in the region

The draft meeting report will be circulated for further input and sign-off by the meeting participants



Thank you!

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Updates on the Activities of the Africa Region Support Team

Tsiky Rabetrano & Laban Musinguzi | Africa Regional Support Team



GBIF Africa Regional Nodes Meeting | November 27th, 2024

Scope of the region support

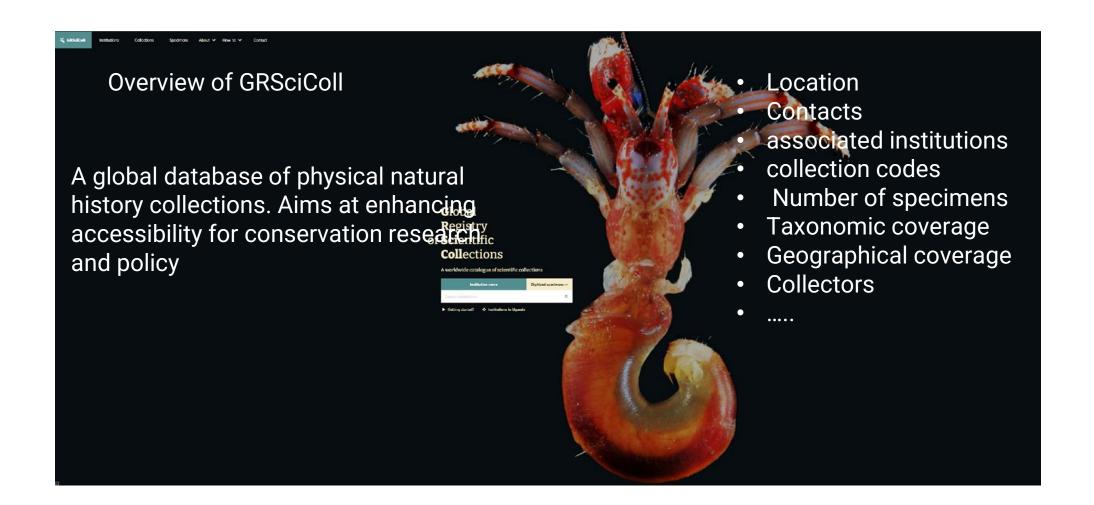
- 1. Primary technical point of contact for helpdesk assistance on data mobilization and publishing
- 2. Identification of key capacity needs and training opportunities
- 3. Coordination of capacity enhancement activities
- 4. Regular interactions with institutions in the region

Obj. 1 of the GBIF Nodes Implementation Plan 2024: Engage research communities for data mobilization and use

Promote and participate in data mobilization; Develop key partnerships; & Node development

Collection mobilisation for GRSciColl

Support to efforts to update and enrich the database by listing new collections & updating information on existing ones

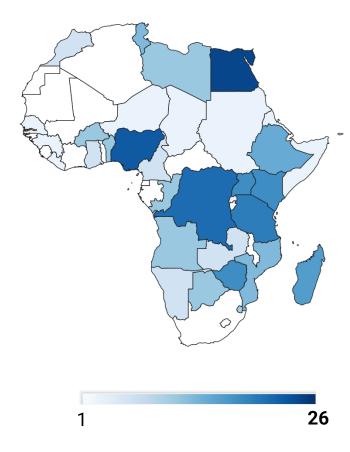


Countries covered in region

- 203 institutions in 35 African countries covered
- 59 new collections added

How the region can contribute/participate

- 1. Verify, update & register new collections.
- 2. Publish the collections in GBIF
 - Most of the collections are not digitised
- 3. Use the information in GRSciColl e.g. in reporting



Number of institutions covered by collection mobilisation (May 2024)

Regular interactions with regional nodes & institutions

HELPDESK

- -Technical assistance
- Dataset reviews
- Access to IPT

INTERACTION WITH NODES

- -Technical support
- -Endorse publishers

CAPACITY BUILDING

-Publicize & support capacity building opportunities

MOBILISATION OF COLLECTION

-Encouragions the publication of collections in GBIF

REPRESENT GBIF AT REGIONAL LEVEL

-Participation in outreach and engagement events

- Helped successful implementation of 19 projects funded by the BID program in the region
- > Interacted with institutions in 15 countries in the region this year.
 - Eni Ghana: published two datasets (November 2024)
 - Gaia Seychelles: published two datasets (October 2024)



AFRICA REGION WEBINAR

OBJECTIVES OF THE WEBINAR

Our Goals:

- 1. Capacity Building: Equip GBIF nodes and data providers in Africa with the necessary skills for effective biodiversity data mobilization and publication.
- 2. Knowledge Sharing: Create a platform for nodes to share challenges, solutions, and success stories, fostering collaboration.
- Strategic Alignment: Support GBIF NodesImplementation Plan by addressing regional priorities.





MONTHLY WEBINARS OVERVIEW

Programme Highlights:

- We aim to cover relevant, practical, and actionable topics for data providers and biodiversity stakeholders.
- Webinars are one-hour sessions designed for interactive learning, often including live demonstrations or expert presentations.

PAST TOPICS

May : How the regional support team are complementing the nodes in Africa

• **June** : Overview of GBIF Data Publishing Tools

August : Best Practices for Mobilizing and Publishing Data on GBIF – Guest Prof. Jean
 Gonglo

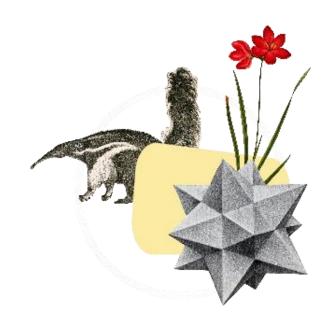
September: Introduction to flags and issues in GBIF datasets – Addressing common data quality
 concerns.

October : GBIF Hosted portal – Guest: SANBI-GBIF led by Fatima Parker



KEY NUMBERS

- Total number of webinars conducted: 5 (2024 so far)
- Average participation per session: ~10-15
 participants, representing multiple African countries
- Some topics have been tailored based on participant feedback and current data publishing challenges.





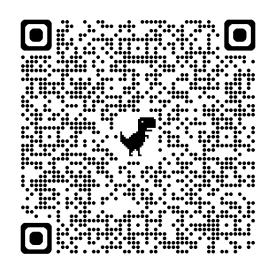
UPCOMING PLANS

Next Webinar

Topic: Exploring Capacity-Building Opportunities in Biodiversity
 Data Management and use | December 13, 2024

Focus: This webinar highlights programs like the Data Use Club, Data Camp, and Mentors and Volunteers List to support skill-building and collaboration in biodiversity informatics.

 Plans for 2025:Conduct a Data Mobilization Workshop to provide hands-on training and strengthen regional capacity in biodiversity data management.



Additional Plans:

- Expand outreach to underrepresented countries in Africa.
- Collaborate with more experts for interactive and impactful sessions
- Continue addressing data quality challenges and enhancing the use of GBIF tools.



CALL TO ACTION

- Join our upcoming webinars and invite colleagues!
- Share your feedback to help shape future sessions.
- Contact us for support with GBIF data mobilization and publication.





BioBlitz



THANK YOU!

BID Regional Support, Africa| africa_support@gbif.org





SANBI's role in translating scientific data to effective policies and implantation strategies

Africa Regional Nodes Meeting

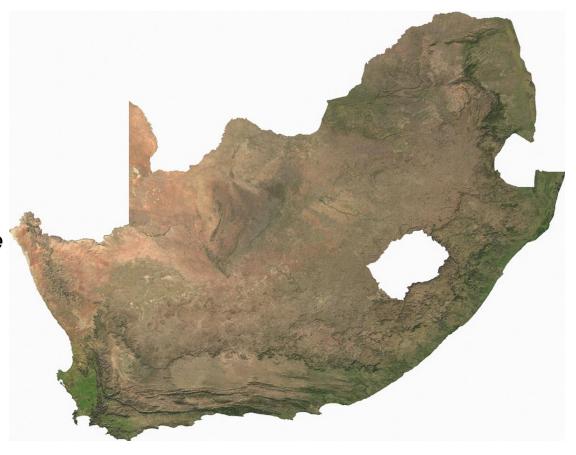
28th and 29th November 2024

Harare, Zimbabwe



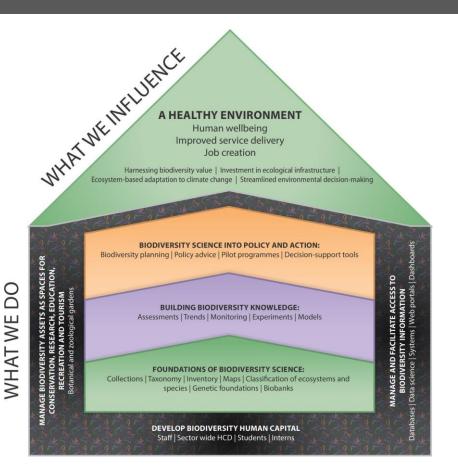
SANBI

- The South African National Biodiversity Institute (SANBI) was established under the National Environmental Management: Biodiversity Act (Act 10 of 2004).
- It's mandate:
 - to generate, co-ordinate and interpret the knowledge and evidence required to support effective management and conservation of biodiversity.
- SANBI's responsibilities extend across the biodiversity sector and beyond, where it:
 - Monitor and report on the status of biodiversity (natural heritage),
 - Providing technical support and guidance,
 - Translate biodiversity into various tools and guidance across the sectors.





SANBI Value chain and Action Plan



SANBI's involvement encompasses the entire value chain, where it collate **foundational scientific knowledge**, undertake **assessments** and **mainstream** science into policy space to safe guard biodiversity.



Reduce pressures

- Sustainable wildlife ranching
- Biodiversity-friendly cultivation

Urban Adaptation

- Green energy/technology
- Set-asides
- Alternative livelihoods
- Water conservation

Avoid further loss Improved land-use decision making

Protected area expansion and management

effectiveness

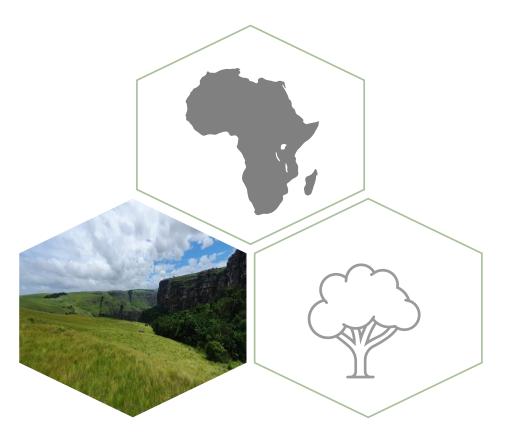
Protect

Restore

Prioritising and implementing restoration

Tanslating

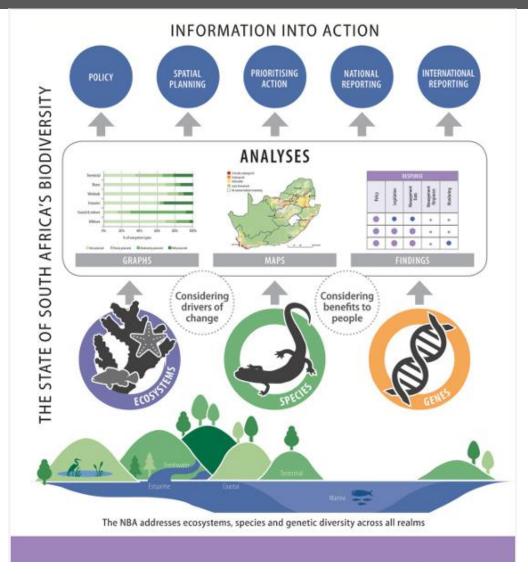
Science-Policy-Implementation



National Biodiversity Assessment

NBA is a collaborative effort to synthesize the best available science on South African Biodiversity to inform policy and decision making in a range of sectors.

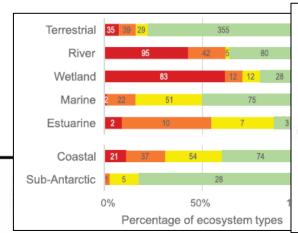
- It seeks to answer the following high-levelpolicy-relevant questions:
 - Status: How is SA biodiversity doing at the ecosystem, species and genetic level?
 - Trends: Are ecosystems, species, genetic diversity doing better or worse?
 - Responding: Are we responding effectively to the challenges of managing and conserving biodiversity?
 - Benefiting: How is society benefiting from biodiversity?

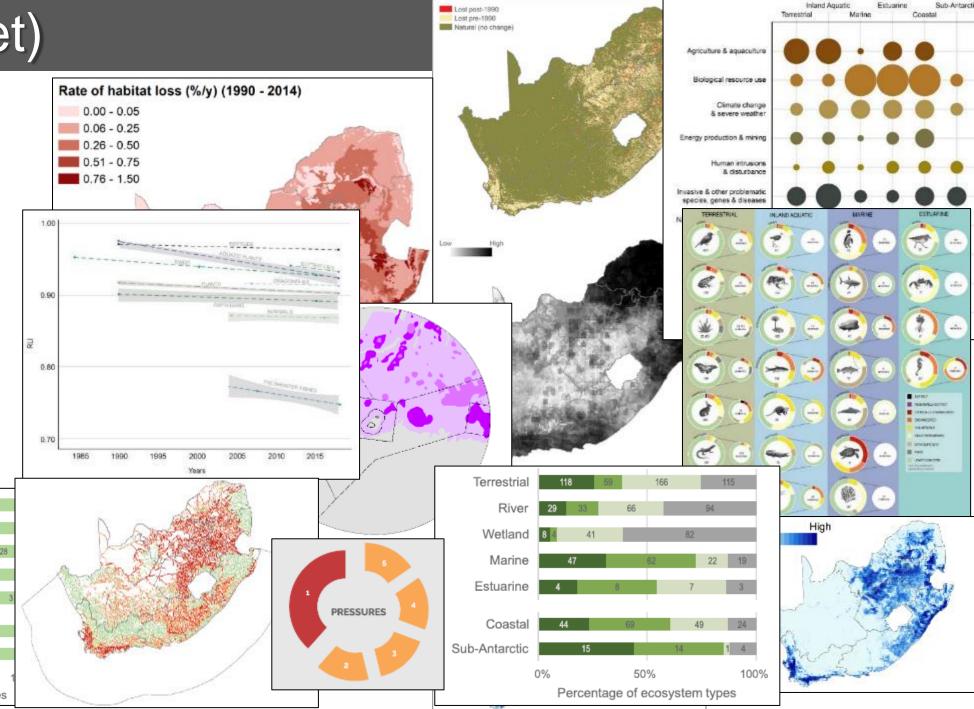


NBA (dataset)

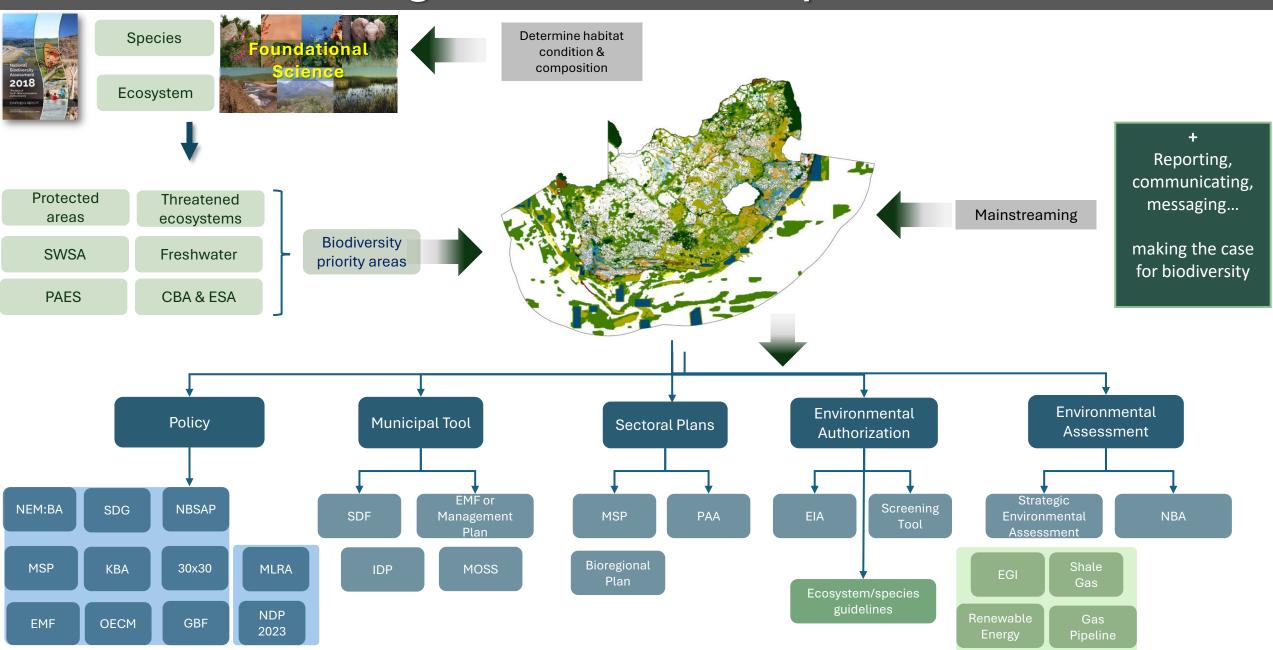


The NBA includes many analyses and provides an enormous amount of data and information catering for the many different user groups





Translating science into implementation



Data Management and Systems

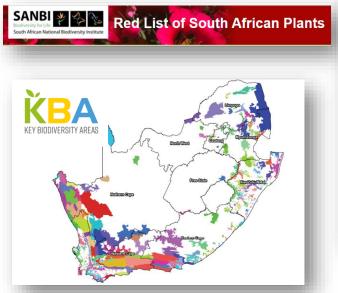


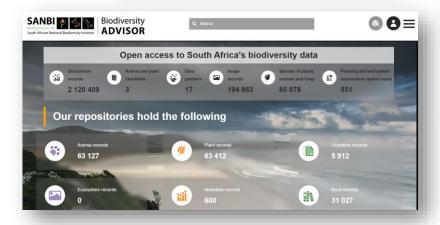
DFFE Environmental Screening Tool

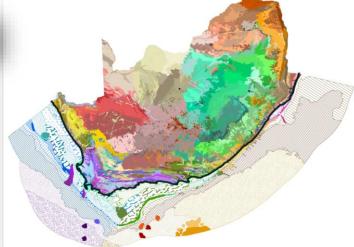
















Mainstreaming Tools







Nelson Mandela Bay Municipality Final Bioregional Plan

Nelson Mandela Bay Municipality Public Health Directorate **Environmental Management Sub-Directorate**

Report No 400919/3

November 2014





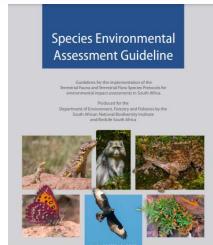










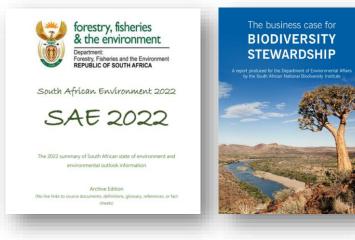


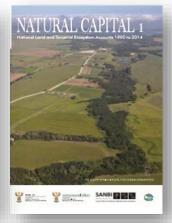


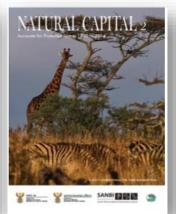


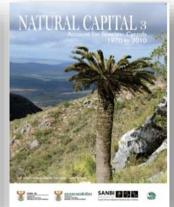


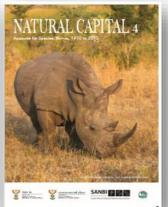


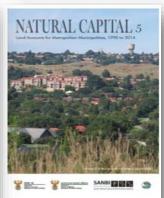












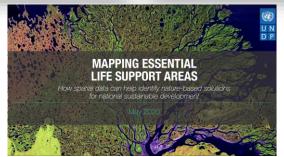








GLOBAL ENVIRONMENT FACILITY INVESTING IN OUR PLANET







Opportunities for Biodiversity Data Sharing in the Regional Context

- Transboundary Ecosystems: Sharing biodiversity data among neighboring countries helps monitor and manage ecosystems that span borders, such as river basins, TFCAs and marine corridors.
- Standardized Data Protocols: Regional platforms can promote harmonized data collection, analysis, and reporting standards, ensuring comparability and interoperability across countries.
- Foster collaborations amongst members states, allow pooling of resources to improve biodiversity inventories and monitoring efforts.





Opportunities for Biodiversity Data Sharing in the Regional Context Cont...

Based on capacity needs for Parties and in preparation for 7NR SANBI TSC aims to:

- ✓ Convene training workshops and technical assistance programs tailored to member state needs and support reporting;
 - Through sharing tools and expertise, the center will empower national institutions and enhance data mobilization efforts;
- ✓ Share Technological Infrastructure such as GIS systems, remote sensing tools, and biodiversity modeling software;
- ✓ Establish a centralized platforms for SADC to store and analyze regional biodiversity data-to include other Multilateral Environmental Agreements (MEAs) and will support NBSAP related reporting .









