

Strategic Plan 2017-2021





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The Portuguese Node has been established formally in 2013 and hosted by the Instituto Superior de Agronomia (ISA), since September 2015. The node works under principles of collaboration and sharing of biodiversity information with actors worldwide, inside GBIF's network.

Our vision “Free and open sharing of primary biodiversity data enriches knowledge and value of Portuguese and global biodiversity”, directs efforts in order to mobilize biodiversity data within the country, among other actions. Therefore, the strategic plan for 2017-2021 is divided in five main priorities, as follows:

- To increase capacity to intervene and participate through biodiversity information.
- Promote open access, visibility and recognition of institutions and researchers.
- Provide a reliable and advanced information infrastructure.
- Cooperate through information on biodiversity.
- Encourage and expand the use of biodiversity information.

About the Portuguese Node

In January 2013, FCT appointed the Tropical Research Institute (IICT) to be the Portuguese Node of GBIF (see [protocol](#)). This was a decision based on the recommendation made by the FCT Scientific Council of Biological Sciences and Environment, which recognizes the strong capacity and infrastructure of IICT in the area of Biodiversity Informatics. IICT has strongly invested, in the last decade, in the digitization and free sharing of scientific collections through the Internet. In August 2015, the IICT was integrated into the University of Lisbon, having been proposed to the FCT that the new host institution should be the Instituto Superior de Agronomia, which was accepted. In 2017, it was agreed by FCT, that the University of Lisbon and Instituto Superior de Agronomia would be the hosting of the Node for the period 2017-2018 (see [addendum](#) of the protocol).

Our vision

Free and open sharing of primary biodiversity data enriches knowledge and value of Portuguese and global biodiversity.

Our mission

To promote the integration of Portuguese data providers and biodiversity information resources into the GBIF network, and the availability of biodiversity data for scientific research and to be used by society.

Our principles

The implementation and actions of the Node follow the following principles:

Independence, neutrality and trust

The purpose of the Node is to be independent and neutral, ensuring full fairness between providers and end-users of data, in order to maximize the trust of institutions in participating in the network.

Quality of information

It is essential to ensure high level quality of scientific information made available through GBIF. The Node should support high levels of data quality by providers by facilitating access to computer tools, documents and training, provided by the GBIF Secretariat and others.

Service quality and adaptability

The Node will ensure the quality of services in obtaining, managing, providing and delivering information and data mediated between GBIF providers and end users, adjusting it to the requirements of users and society.

Collaboration and cooperation

The Node will promote collaborations between providers, users, stakeholders and other members of the network (namely the Secretariat and other nodes) that seek to achieve GBIF objectives, with a special focus on cooperation with Portuguese institutions and bodies, or CPLP countries.

Framework & priorities

GBIF's Portuguese Node strategic plan interprets and seeks to translate the current national situation, in the biodiversity information component, into the areas of biodiversity informatics, open science, data publication, use of scientific research, scientific collections and cooperation in the CPLP. Although this publication has been formalized only in 2019, the principles and priorities here announced had been and will continue to guide the Node's activities for the period of 2017-2021. They are aligned with the Strategic Plan (2017-2021) from GBIF [1], as represented below; by the FCT's Thematic Agenda for Research and Innovation - Agriculture, Forests and Biodiversity [2] and by the National Strategy for the Conservation of Nature and Biodiversity 2030 - ENCNB [3]. It also considers global perspectives in which Portugal is directly involved, such as the Sustainable Development Goals (SDG) [4], the Convention on Biological Diversity (CBD) [5], including the AICHI targets and post 2020 programmes.

In this regard, the above-mentioned protocols and guiding documents have in common recognition of the need to develop mechanisms to provide legit, transparent and fair ways of creating synergies between knowledge systems and information structures,

so that indicators of strategies defined by different actors are followed up in practice. At the global level, GBIF Portugal, as member of the global GBIF network, has some of its priorities related to the ones from GBIF.org, as shown in the table below; however, our priorities were elaborated considering the national context and its specificities.

Moreover, the Node's priorities are lined up with SDGs on activities for the conservation and sustainable use of oceans (Goal 14); protection and sustainable use of terrestrial ecosystems (Goal 15), among other issues that are linked across biodiversity data and which can best be used to measure the results of strategies and actions. Moreover, considering the importance of cooperation among the Portuguese-speaking countries, still within the scope of SDGs, objective 9 encourages the facilitation of the development of sustainable and resilient infrastructures in developing countries by strengthening financial, technological and technical support to African countries, least developed countries, landlocked developing countries and small island developing States. Thus, the Portuguese Node intends to expand its relations with other

PRIORITY	GBIF Portugal	GBIF.org
01	To increase capacity to intervene and participate through biodiversity information	<ul style="list-style-type: none"> Partner with other organizations, institutions and agencies to maximize benefits from investments in capacity development in all regions. Promote inclusion of biodiversity informatics training as part of relevant university and workplace education.
02	Promote open access, visibility and recognition of institutions and researchers	<ul style="list-style-type: none"> Promote best practices for citation and acknowledgment of data publishers. Implement and promote models and tools for persistent sharing and use of open data.
03	Provide a reliable and advanced information infrastructure	<ul style="list-style-type: none"> Provide leadership in development and adoption of standardized tools, data format and vocabularies to enable mobilization and use of all biodiversity knowledge. Improve metadata for all datasets explaining methods, provenance, transformations etc. ("data stories").
04	Cooperate through information on biodiversity	<ul style="list-style-type: none"> Promote best practices for GBIF nodes to identify, engage and support all national holders of relevant data. Engage with government stakeholders in all regions to expand national participation in GBIF
05	Encourage and expand the use of biodiversity information	<ul style="list-style-type: none"> Develop mechanisms to integrate other classes of data providing information on species occurrence. Provide data relevant to understanding and responding to the impacts of climate change on biodiversity.

Portuguese speaking countries and increase support for access to information and communication technology.

The Aichi Targets also include in their strategic objectives the need to articulate knowledge and information on biodiversity worldwide, with special focus on strategic objective E, where it plans to improve, expand and implement through participatory planning, knowledge management and training. There is also a great opportunity to contribute to the efforts of IPBES to develop structures that allow exchanges between systems of knowledge, in order to assess the state of the planet's biodiversity, its ecosystems and its essential services to society.

At the national level, the activities framework of the Portuguese Node considers main national documents, such as the National Strategy for the Conservation of Nature and Biodiversity 2030 - ENCENB, which recognizes that "Portugal faces a great challenge: to appropriate and get to know to manage better". Thus, this Node presents great relevance not only within what has already been achieved in this sense, but in the future possibilities. Despite the great progress made in recent years in the conservation of biodiversity in the country, "information on the conservation status of habitats is fragile and land management tools need to be updated in some cases". Biodiversity data can support decision-makers to design public policies, environmental bodies for

monitoring actions and society as a whole, through the use of quality information in environmental education and by having free and open access to data.

Further, the Thematic Agenda for Agriculture, Forests and Biodiversity from the Fundação para a Ciência e a Tecnologia (FCT), also brings in several topics concerning the maintenance of the global databasing of organisms and with the development of data mining tools with direct interface with databases. In that regard, GBIF is currently the repository for biodiversity data and allows data to be freely used by anyone, anywhere on the planet. Data available at GBIF.org can be used for the predictive modeling of species distribution, habitat and ecosystem types, data and computation-intensive models, among others, that are increasingly needed and used worldwide for biodiversity management, protection and policy making.

Therefore, this Strategic Plan identifies a set of five interrelated priorities for the Portuguese Node of GBIF, from 2017 to 2021. The overall objective is to strengthen national capacity in the publication and use of biodiversity information in support of scientific research, education, decision making, planning and conservation activities, as well as enhancing Portuguese participation in the international context.



To increase capacity to intervene and participate through biodiversity information.

Priority 01

The potential for applying biodiversity information extends in different areas of society, such as scientific research, nature conservation, natural resources preservation, citizen participation in science, education on natural values, economic valuation of resources natural and others. It is very important, therefore, to ensure that this potential is accomplished, nourishing the different sectors with tools and knowledge to promote this application. This can be achieved through:

1.1

Development of training actions in the different sectors, including the creation of curricula, to provide training in data publication and data-use activities.

1.2

Increasing the value of information, improving data quality, working with data publishers to adopt mechanisms and procedures for quality control and improvement of information.

1.3

Assessment of existing information gaps - taxonomic, spatial and temporal - in order to inform the establishment of priorities for data mobilization and ensure a good representation of biodiversity in compiled information.

1.4

Ensuring that decision-making on species and habitats conservation is supported by the best and most complete information available, improving the quality of decisions.

To promote open access, visibility and the recognition of institutions and of researchers.

Priority 02

Open data is an important driver of scientific development and innovation, providing new dimensions of scientific research that were not imagined when data was first made available. But the publication of open access data is also a factor of appreciation and recognition of scientific research, as demonstrated by the greater number of citations obtained by scientific articles in which authors make data available together with the publication. For the institutions, the provision of data adds up a further level of use of their scientific heritage, associated with scientific collections or scientific databases, serving to support the mission and purpose of this heritage. In this way, it will be promoted:

2.1

The adoption of open access licenses for the publication of biodiversity data.

The establishment and recognition of GBIF as an open access repository and FAIR (Findable, Accessible, Interoperable and Reusable) for the publication of open access data.

2.2

2.3

The ease in citing the use of data and the availability of usage metrics to publishing institutions and researchers.



To provide a reliable and advanced information infrastructure.

Priority 03

The Node should facilitate the data infrastructure allowing the participation of national institutions and users in GBIF, both in publication and in use of data. The Node contacts different communities with diverse forms and needs to access, use, process and analyze biodiversity information. By participating in the GBIF global network and similar initiatives, the Node has access to technological solutions, tools and platforms whose national application potential is very high. In this way, the Node can:

3.1

Promote the adoption of methodologies, protocols, tools and data standards that allow treatment and use of information according to international reference standards.

Ensure technical and technological capacity for Portuguese participation in international initiatives in information technology for biodiversity.

3.2

3.3

Serve as a pivot for the dissemination of technological solutions that best fit the needs of different communities of Portuguese users.

Seek the optimization of resource use and technological infrastructure, serving different needs (eg thematic, regional, user communities, research infrastructures) based on a common data infrastructure.

3.4

To cooperate through information on biodiversity.

Priority 04

Species behavior do not respect political boundaries. Similarly, scientific knowledge transposes these same frontiers, as a resource of humanity. The technological support to biodiversity information must be able to respond to this information dynamic, not only guaranteeing consistency, but also ensuring that information is interpreted using the appropriate contexts. In addition to methods, the information itself must flow, to ensure that it is used at its source. Through the cooperation axis, the Node will:

4.1

Promote the availability of biodiversity data from other geographies, specially the ones associated with scientific collections based in Portugal.

Collaborate with other participants of the GBIF network, both countries and organizations, in order to provide information services to users and researchers that include the ecological and biogeographical constraints of species.

4.2

4.3

Encourage the use of Portuguese within the GBIF network, ensuring the support and sharing of information for the entire Portuguese-speaking community.

Collaborate with other participants of the GBIF network, both countries and organizations, in order to provide information services to users and researchers that include the ecological and biogeographical constraints of species.

4.4

To encourage and expand the use of biodiversity information.

Priority 05

The use of biodiversity data made available through GBIF varies among the most common applications in ecology, evolution, conservation and biogeography of species; developments in human health, invasive species, agriculture and climate change. Many of these applications are related, but somehow they are limited by the nature of data, which mostly reports occurrences. To meet the expectations and requirements of scientific communities and environmental initiatives, using the GBIF as the main source of information on biodiversity is due to:

5.1

Promote the adoption of expanded data models to integrate and link other sources of information, data and biodiversity properties relevant to its documentation and monitoring.

Expand the areas of data utilization, exploring associations to related domains where the full application potential is not yet accomplished (e.g. agrobiodiversity).

5.2

5.3

Serve as a pilot platform for the development of new technologies, applications and innovation (e.g. application of artificial intelligence to species identification).

Promote the use of information on biodiversity by society, in schools' environment, in communication of science or in applications of citizen science, contributing to the assumption of the value of biodiversity.

5.4

Bibliography

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