GBIF Global Biodiversity Information Facility

Using training to strengthen a node's stakeholder community

Fatima Parker-Allie, Anabela Plos, Carole Sinou, Laura Russell

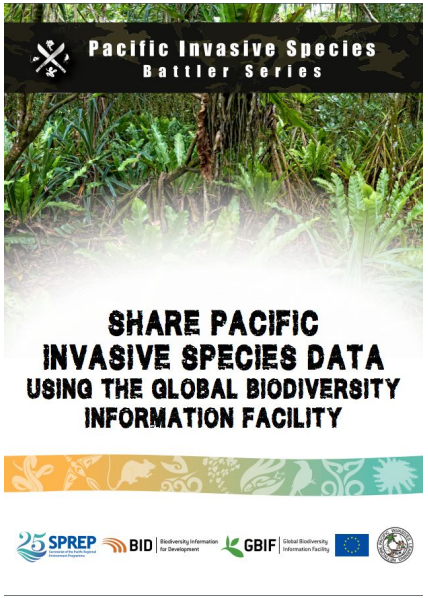
Session objectives

- Develop a training approach
- Plan and implement training

Develop training approach

What does ‘training’ mean?

- Workshops
- Online tutorials
- Video tutorials
- Blog posts
- Documentation
- Webinars
- Helpdesk
- ...



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Identifying the needs

YOU know your network/community BUT ASKING for feedback on what stakeholders are struggling with, or need, could be really informative

You will NOT be able to answer to all the needs at the same time, so PRIORITIZE and ORGANIZE, in order to make your training agenda LOGICAL

Data holders

Biological knowledge experts

Data users

Decision makers

Public stakeholders

SANBI
Biodiversity for Life
South African National Biodiversity Institute

Towards a Curriculum for Biodiversity Informatics, perspectives from the GBIF Community

Fatima Parker-Allie

GBIF

science & technology
Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA

Towards a Curriculum for BDI

- A GBIF Nodes thematic group was established prior to the GBIF Nodes Meeting in Oct 2015
- The aim was to get a clear idea of how the global BDI community, is contributing to the **dev and/or implementation of BDI curricula**, to support both work-based training of BDI professionals, as well as academic teaching at tertiary level with academic institutions
- Specifically, it was intended to get an idea of how the **GBIF community** can contribute to the growing the **field of BDI science** going forward.

Results – Academic Component

- An initial assessment of the **academic teaching activities** highlighted that a number of countries, were already engaged in the conceptualisation, development and implementation of **formal academic programs** in BDI; including:

- **Benin** - Masters programme in BDI
- **Colombia** - The GBIF Node is working with at least 4 universities that are willing to adopt courses on this topic
- **Costa Rica** - INBIO is in the process of reinstating a UNESCO Chair in BDI, at the Technological Institute of Costa Rica. Here, a one semester graduate level course called "Introduction to Biodiversity Informatics" is taught annually
- **India** - one week BDI course taught in a larger module of Landscape Ecology; part of 2 year Masters in Wildlife Science
- **Norway** - BIODATA
- **South Africa** – Developing a Centre for BDI; Curriculum, bursaries, postdocs, efforts towards a Research Chair
- **Sweden** – 3 week BDI course as part of a Masters programme at the Nordic Academy of Biodiversity and Systematic Studies (Sweden, Denmark, Norway)
- **Asia** - Taiwan - Through BIFA, the Taiwanese Node and Japan Node implemented a workshop for BDI (2016) resulting in a draft of a Cookbook for BDI with some teaching slides
- A number of the NM's have also indicated they are engaged in Master, PhD and Postdoc **student supervision** or management and/or had developed projects to support students. This includes Norway, Benin, Ghana, South Africa & the Netherlands.

Needs, outcomes / recommendations for growing BDI Science

Needs expressed by the BDI Community

1. **Formal academic training in BDI is critical** to move from the short course nature of work-based training.
2. A prioritized list of training for work based professionals is needed.
3. Training should be holistic, sequential & modular, speaking to the needs of different countries, are at diff. stages of development.
4. There was a large interest in implementing **e-learning platforms**, with more Nodes currently utilising the Spain e-learning platform.
5. Resources are required to facilitate the interchange of high level academic expertise between countries. Eg. Professors.

Recommendations and Outcomes from the Thematic Breakout Group

1. Develop a **GBIF-TDWG interest group**, to support the curriculum (Global Nodes Chair and GBIF Secretariat rep for the training)
2. The survey should be **redistributed** to capture information on work–based training and academic teaching needs more globally, as well as capture the resources/materials and expertise. The survey time should be extended as well as the target audience.
3. A list of available training resources should be developed. A GBIF task group should be developed to take this forward. The list should be dynamic, and a platform should be identified to upload and maintain this list.
4. It was identified that a **standard modular curriculum** should be developed, which integrates all the existing curricula that already exists, as well as the results of the survey, as a reference for new ones.

High Level Curriculum Framework

Data Generation	Biodiversity Information Management	Data Use and Application
Introduction to Biodiversity and Data	Databases and their design	Statistical Analysis of biodiversity data
Basics of Taxonomy, Taxonomic Databases, checklists	Programming/Scripting/Software Engineering	Species and Ecosystem Assessment
Biodiversity Data Capture and Data Quality Enrichment (eg. Geo-referencing), Data Mobilization	Biodiversity Data Assessment and Cleaning	Ecological Niche Modelling
Science Methods	Biodiversity Data Standards, Publishing and Licensing, Data policy and frameworks	Conservation Planning
Genetics and Molecular Data	Geographic Information Systems (GIS)	Public Health Applications
Global Change Ecology (Climate, Invasive Aliens, Natural Resources)		Data-Science-Policy Interface
		Building Biodiversity Informatics Institutions

What does BDI Curriculum implementation mean?

- **What does a biodiversity informatics curriculum mean for Higher education?**

a) To grow this field of science, resources are required for an increase in **high level expertise**, eg the interchange of professorships.

b) Travel grants for visiting scientists, maybe a worthwhile mechanism for the exchange of expertise.

c) Through the establishment of research chairs academics hubs of activity can develop

- **What does a biodiversity informatics curriculum mean for the Science-Policy Interface and Heads of Delegation to GBIF?**

a) The GBIF research infrastructure (RI) has great potential to enhance outputs for STI, through the use and application of data, platform development, workflows and methodologies,& the implementation of tools and techniques for enhanced STI outcomes.

b) The impact of the GBIF RI and its potential for STI can be seen in the research showcased in the GBIF science review, with a steady increase in peer-reviewed publications (related to thematic areas), using GBIF mediated. This **reflects an increase in use and impact of the data** for invasive species, impacts of climate change etc.; which has implications for the **bio-economy**

c) HoD have a roll to play in strengthening efforts to grow BDI as a field of science and in turn support STI. This includes generating/supporting buy-in with: 1.) national research foundations, funding agencies and policy/decision makers.

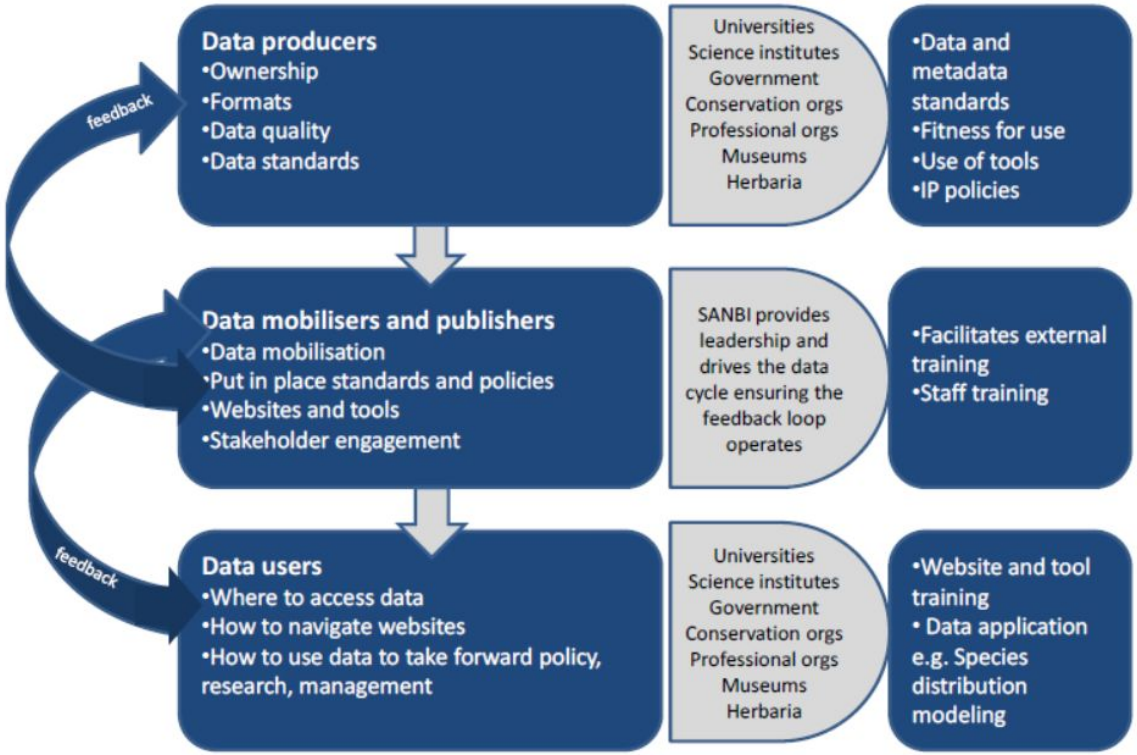
- **What does a biodiversity informatics curriculum mean for Node Managers?**

a) An established curriculum, with a set of teaching resources will enable the roll-out of a multitude of different BDI level courses. Such a curriculum will provide the basis for CD for students and WB professionals at institutions and universities globally.

b) NM expressed their willingness to support training and teaching. They are therefore an excellent resource as trainers, and for university level teaching.

c) Since 2016, the GBIF Secretariat and NM has actively been working on the development of curriculum components/modules, to support the BID programme. The reusable online modules produced as well as others, will have systemic impacts for the BDI curriculum teaching and training as a whole.

Developing a training strategy



Best if training plan is integrated to the strategic plan.

Think about a curriculum (but take advantage of resources already available!)

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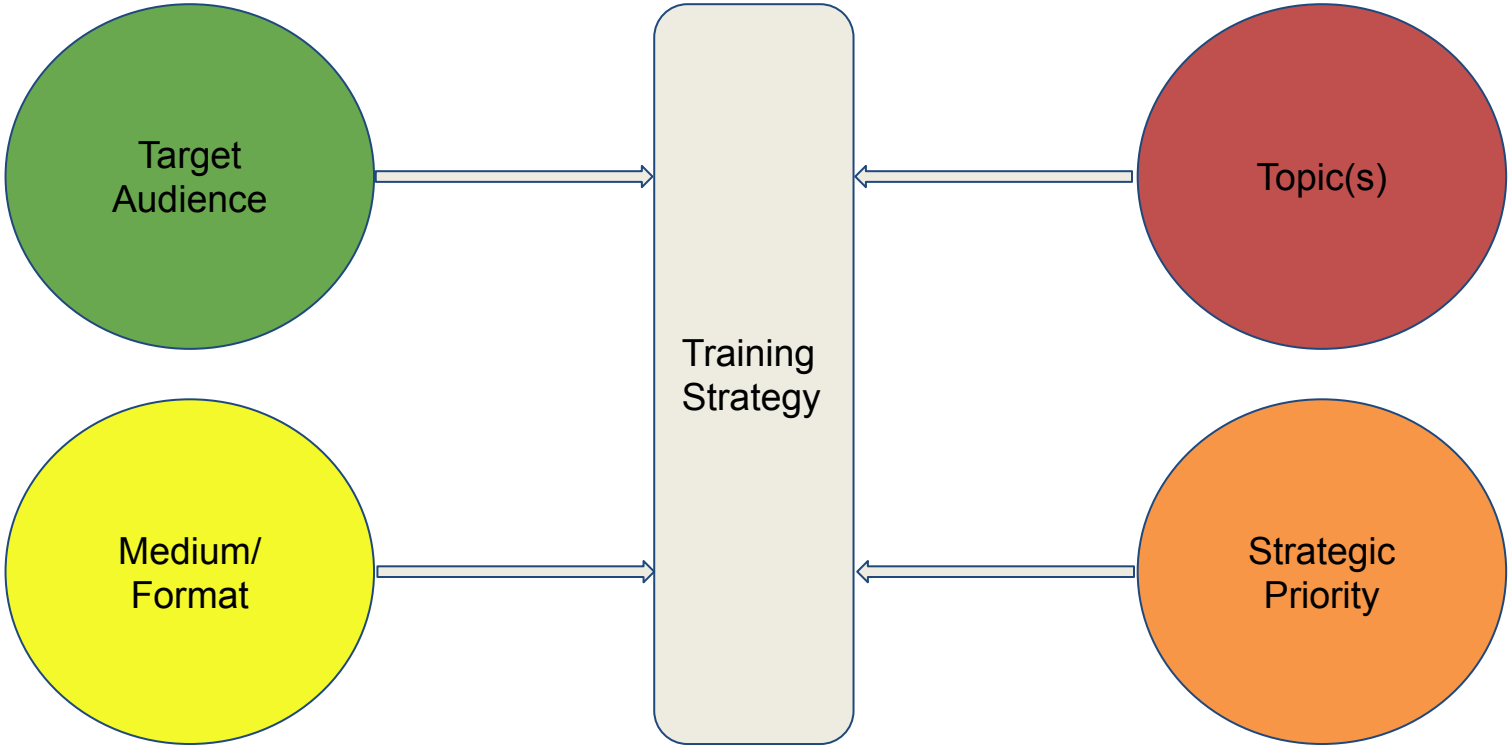
Develop a strategy



GBIF approach

GBIF Secretariat training approach

Activity 1a - Focus on people

Activity 1b - Strengthen skills

Activity 1c - Equip nodes

Activity 1d - Equip data publishers

Provide enhanced capacity for effective mobilization and use of biodiversity information through a strengthened community of practice

GBIF capacity enhancement framework

https://www.gbif.org/document/80954/gbif-capacity-enhancement-framework

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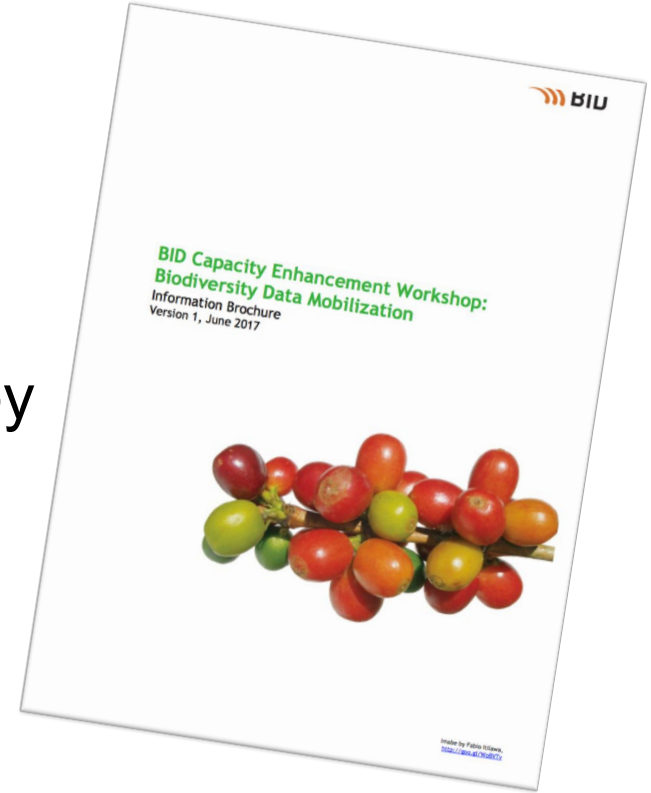
Goal: develop reusable curriculum

Develop a blended learning course comprised of **online** (elearning) and onsite modules with documented **learning objectives and measures** by which to assess and certify student learning.



GBIF

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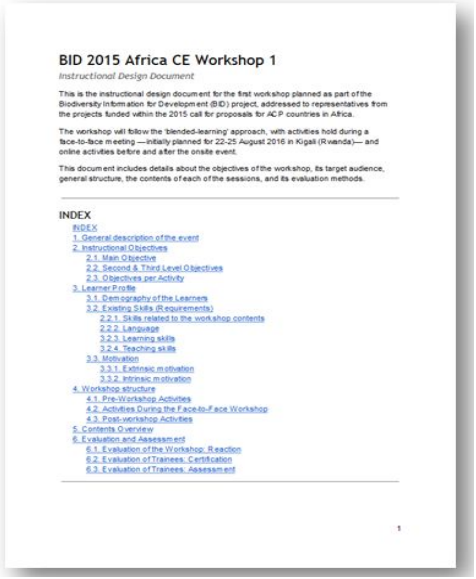


BID 2015 Africa CE Workshop 1

Instructional Design Document

This is the instructional design document for the first workshop planned as part of the Biodiversity Information for Development (BID) project, addressed to representatives from the projects funded within the 2015 call for proposals for ACP countries in Africa.

The workshop will follow the 'blended-learning' approach, with activities hold during a face-to-face meeting —initially planned for 22-25 August 2016 in Kigali (Rwanda)— and online activities before and after the onsite event.

This document includes details about the objectives of the workshop, its target audience, general structure, the contents of each of the sessions, and its evaluation methods.

INDEX

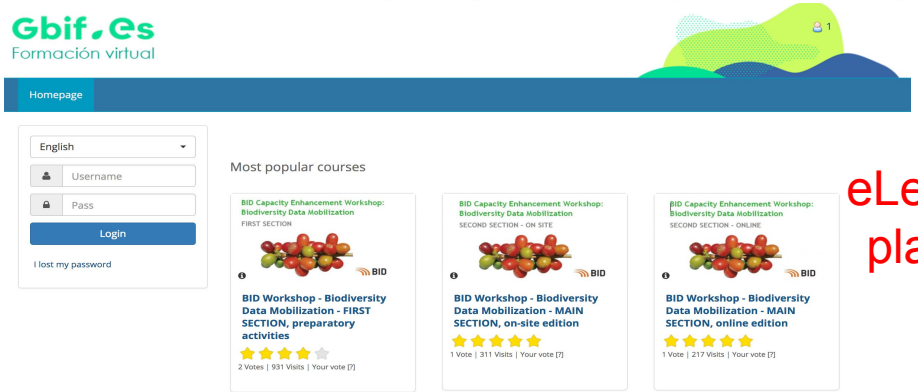
Instructional design

Evaluation rubric

SKILLS

PERFORMANCE LEVELS

	Minimal performance - 1	Basic performance - 2	Sufficient performance - 3	Outstanding performance - 4
A. Knowledge about BI data standards (DwC, DwC-A, GBIF EML profile)	Shows limited or no knowledge about which data standards are accepted by GBIF.	Knows the standards accepted by GBIF but does not know where to find information on how to use them. Cannot identify which terms are compulsory.	Knows the standards accepted by GBIF. Can find a list of the accepted data cores and extensions. Remembers the GBIF compulsory data & metadata terms and how to find the definitions of the terms.	Shows understanding about the characteristics and limitations of the DwC-A and the star schema.
B. Capacity to analyze the suitability of a biodiversity dataset for publishing through GBIF.	Shows limited or no knowledge of the formal criteria that a dataset needs to meet to be publishable through GBIF.	Knows the formal criteria that a dataset needs to meet to be publishable through GBIF but cannot assess if a given dataset meets them.	Can correctly assess if a dataset can be currently published through GBIF. Can assign at least one valid data type (=core) to a dataset based on the description provided by the data holder and after having analyzed the dataset.	Can identify more than one publishing option for a dataset (where possible).
C. Knowledge about GBIF data publishing mechanisms.	Shows limited or no knowledge of the currently recommended data publishing mechanisms in GBIF.	Can list all the existing mechanisms but cannot assess which are suitable for which case.	Can list all the existing mechanisms and knows the applicability of the simple spreadsheet publishing tools and the IPT.	Knows all the mechanisms and their applicability, including the simple spreadsheet publishing tools, the IPT and the web tools to create customized DwC-A.
D. Capacity to analyze the formal quality of a dataset prior to publishing.	Only uses visual checks to analyze quality. Can detect missing values in required fields. Can detect evident, severe data inconsistencies.	Can only use very basic techniques (e.g. sorting) to analyze data quality. Can detect mismatches between field names and content.	Can use specific tools and techniques to assess quality. Recognizes the minimum level of disaggregation needed for publishing. Can detect inconsistencies within a dataset. Can detect data format mismatches.	Uses a systematic approach to dataset analysis covering all major data issues. Can detect incorrect data values cross-checking data and metadata.
E. Capacity to perform data transformation and correction.	Can only make changes manually in the tables. Seldom describes the changes made.	Can use simple 'find & replace' tools to fill blanks and automatically replace values. Doesn't describe changes made consistently.	Can use tools to to automatically fill blanks, remove duplicates, check contents against checklists, split non-atomic values. Always remembers to describe changes made.	Can use advanced filters and clusters to address data quality issues. Can detect outliers. Can accurately describe changes made in a repeatable way.
F. IPT use: capacity to produce/analyze high quality metadata.	Shows limited or no knowledge about the characteristics of good metadata.	Knows the characteristics of good metadata but has difficulties recognizing them.	Knows the characteristics of good metadata and how to recognize them. Can produce recommendations on how to improve existing metadata.	Knows the characteristics of high-quality metadata and how to produce them.
G. IPT use: capacity to upload/connect data and map it to existing cores & extensions.	Can upload single-file datasets into IPT but does not succeed to map them to any core.	Can only upload single-file datasets into IPT and map to a single type of core with no extensions.	Knows how to produce suitable data files that facilitate connection of data. Can upload multiple files into an IPT as part of a single dataset and map them correctly to a core and at least one extension. Can use the IPT data translation and constant value features.	Knows how to perform a SQL data connection in IPT. Can map a dataset to a core and multiple extensions.
H. IPT use: capacity to use the tool to register and publish datasets.	Can update an existing, published dataset by uploading a new source file.	Can go through the publishing process with a error-free dataset from an already registered publisher.	Can successfully publish a simple dataset. Can correctly read and act upon publishing error messages in IPT. Can register publishers using the GBIF.org form.	Can understand and act upon the IPT publishing log. Shows understanding of dataset versioning in IPT.



eLearning platform

GBIF

Goal: provide language support

Within the context of the curriculum, provide language support via language groups, mentors, and translated documents.

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Result: GBIF and community developed curriculum

- Nodes development
- Biodiversity data mobilization
- Biodiversity data use

Result: GBIF community developed curriculum

Foundations for Biodiversity Informatics

Planning a data mobilization project

Data capture and intro to data quality

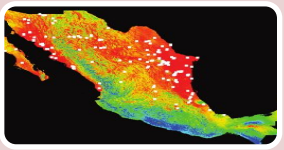
Data management

Data publishing

Intro to earth observations, biodiversity policy and workflow mgmt

Data mainstreaming

Data processing



Mapping standards and methods

Assessing conservation status

GBIF

Goal: certify knowledge of participants

Evaluation rubric

PERFORMANCE LEVELS

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mozilla OpenBadges

GBIF

Result: skilled participants

Data Mobilization

- BASIC - 41
- ADVANCED - 47

Data Use for Decision Making

- BASIC - 12
- ADVANCED - 7

Result: strengthened community of practice

- engaging individuals as mentors and ambassadors
- establishing regional knowledge networks

https://www.gbif.org/article/5SExsCfj7UaUkMCsuc6Oec/capacity-enhancement-mentoring
https://www.gbif.org/article/6dNF1d0tgcI4cmqeoS2sQ4/biodiversity-open-data-ambassadors

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Plan and implement training

Plan a specific training

Refer to your training plan	Outline the details	Outline the implementation
Key audience Topic(s) Delivery method	Possible partners Required resources Budget Materials Logistical planning	Communicate Launch Follow-up Evaluation/reporting

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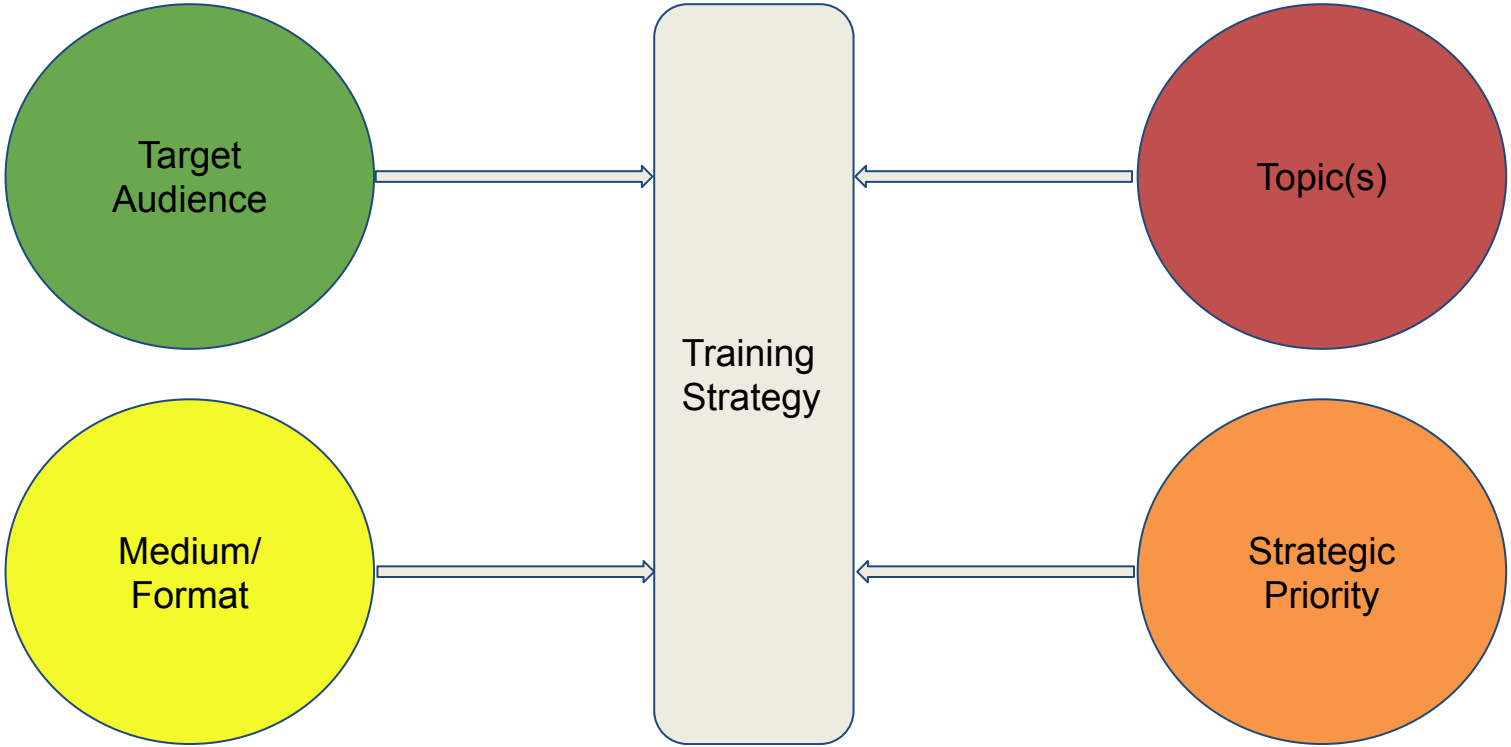
Refer to training strategy

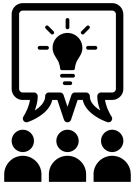


Outline the details and the implementation

Timing

Target

Communicate



Collaborate

Realistic funding

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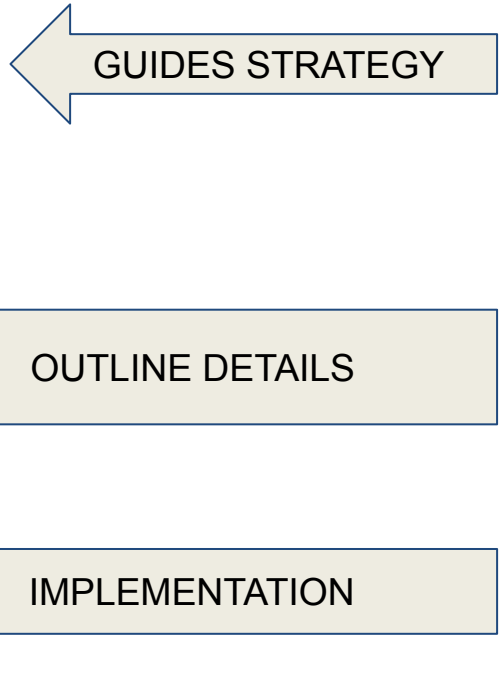
Tip: 8 steps to effective training

1. Perform training needs assessment
2. Keep adult learning principles in mind
3. Develop learning objectives
4. Design training
5. Develop/reuse materials
6. Implement the training
7. Evaluate the training
8. Repeat any of the above as necessary



https://www.convergencetraining.com/blog/how-to-create-an-effective-training-program-8-steps-to-success

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Tip: Adult learning principles

- Are self-directed
- Bring a lifetime of knowledge and experience to training
- Are goal-oriented
- Want training to be relevant and task-oriented
- Learn when they are motivated to learn
- Like to be and feel respected

https://www.convergencetraining.com/blog/putting-adult-learning-principles-to-work

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Develop or reuse materials?

What are the main topics for training?

Differents nodes, different needs!

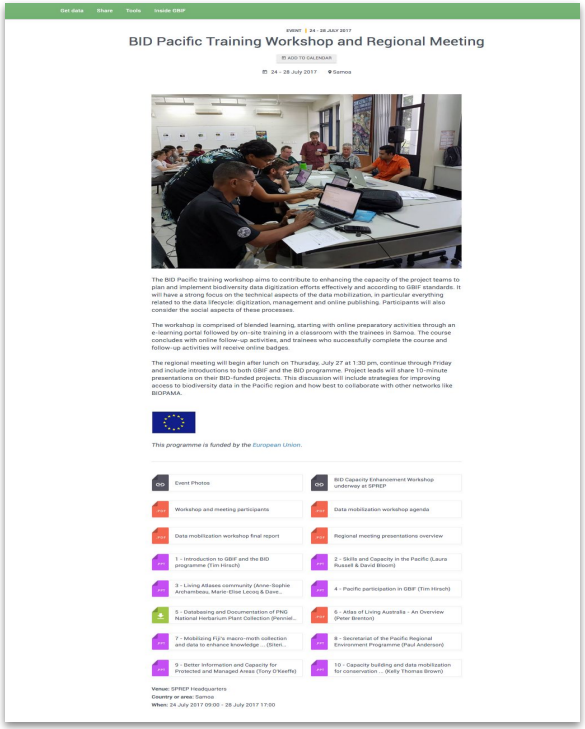
Trainings can be designed around many different topics:

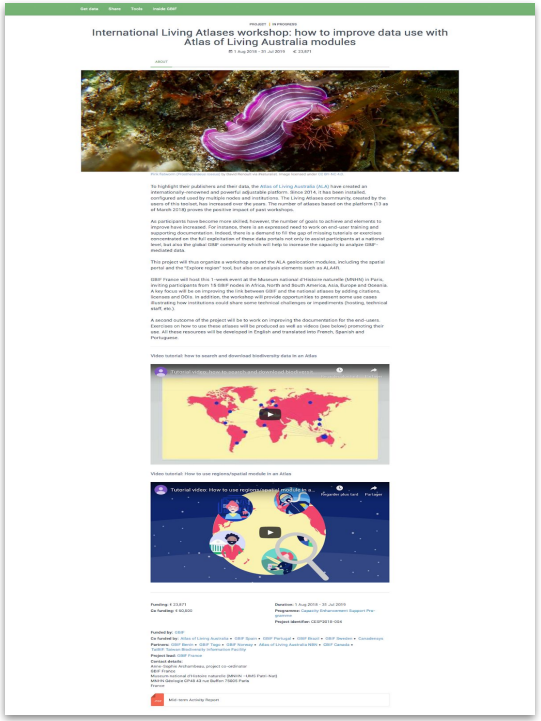
- Data Mobilization
- Data cleaning and data enrichment
- Data publication
- Data use
- Node management
- Communication
- Facilitation
- ICT training
- ...

Where can I find training material?

Project pages from:

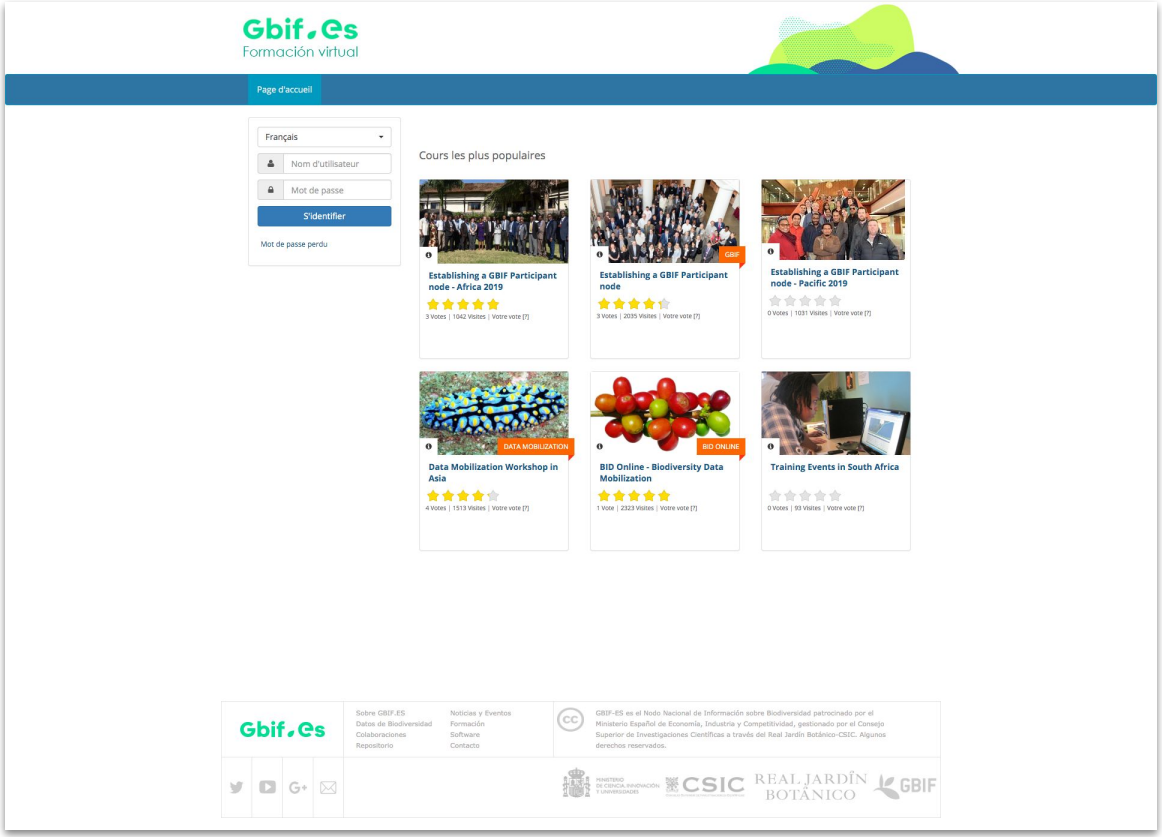
- CESP
- BID
- BIFA





Where can I find training material?

eLearning platform available from GBIF Spain, but also used by the Secretariat



http://elearning.gbif.es/

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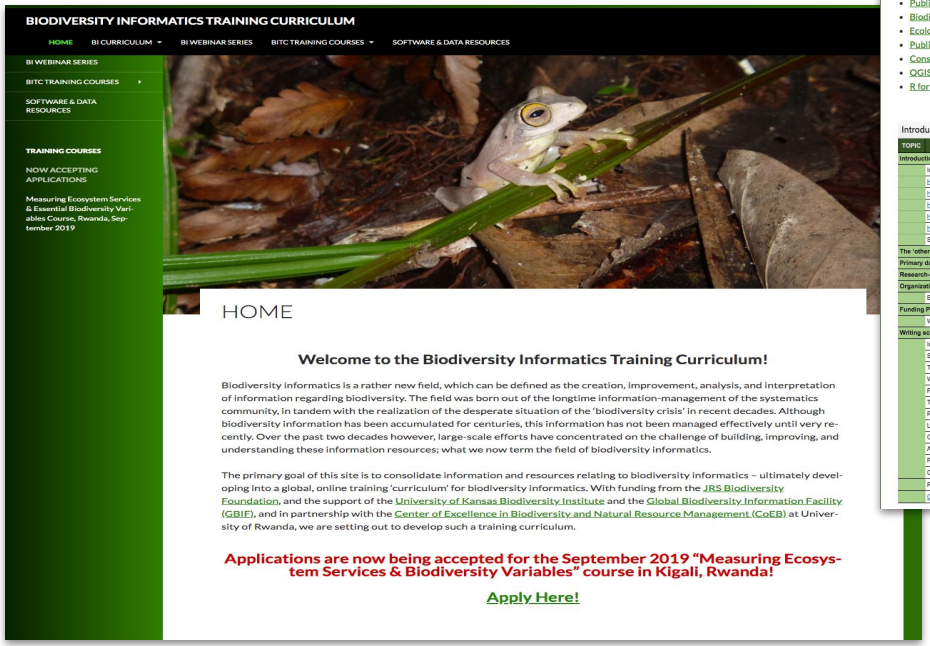
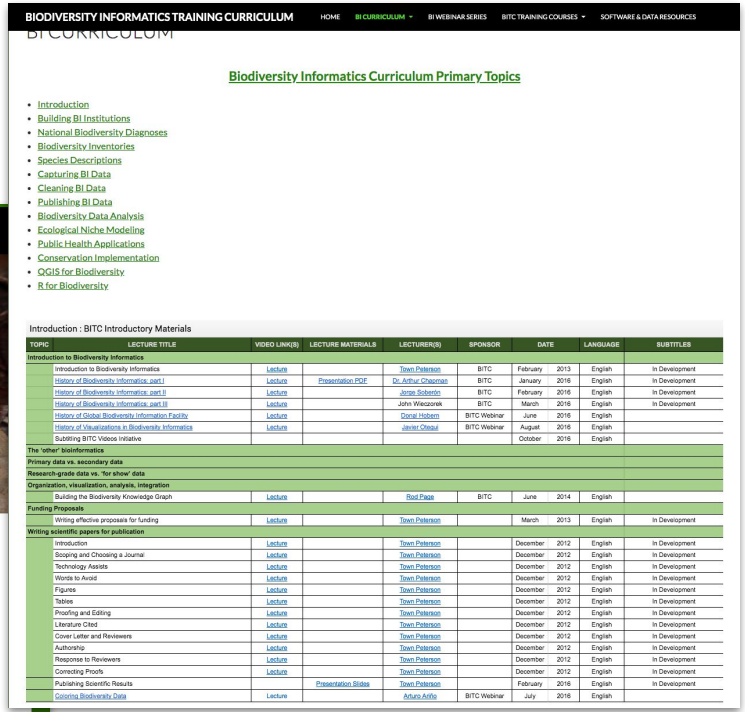
Where can I find training material?

Biodiversity Informatics Training Curriculum website





http://biodiversity-informatics-training.org/

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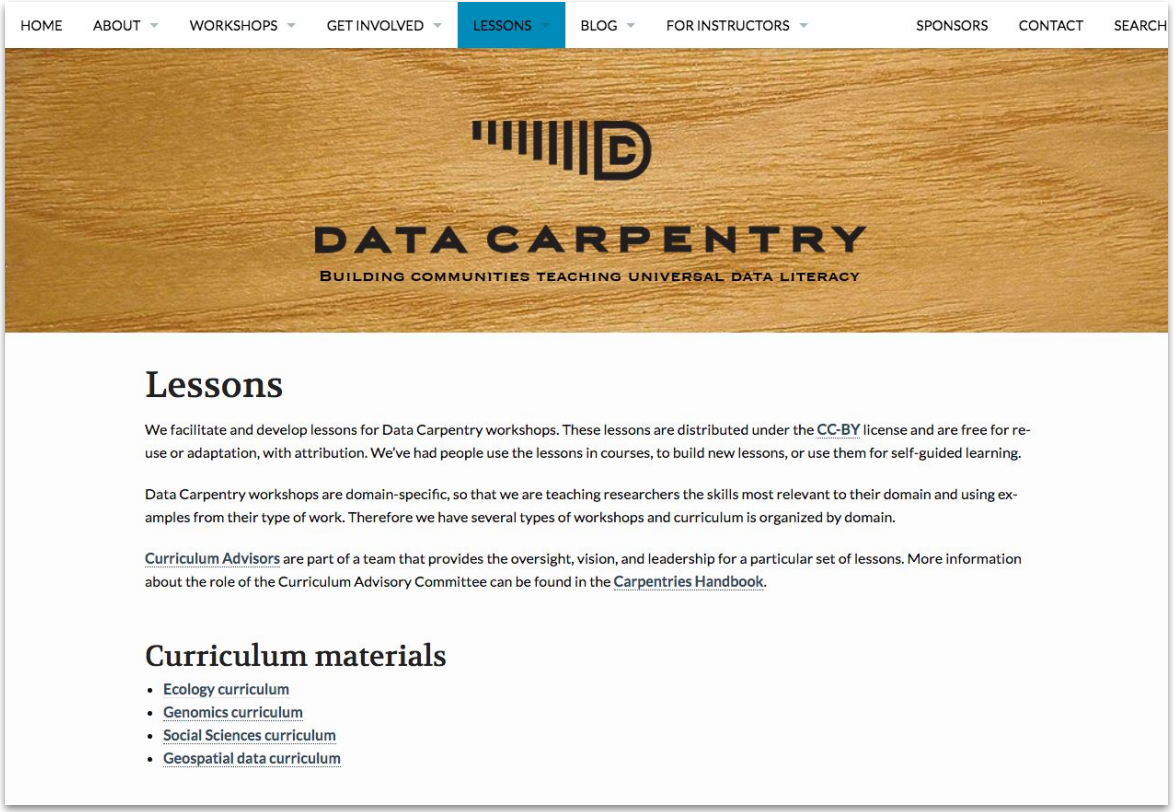
Where can I find training material?

Data Carpentry workshops and lessons (check also software carpentry website)



https://datacarpentry.org/

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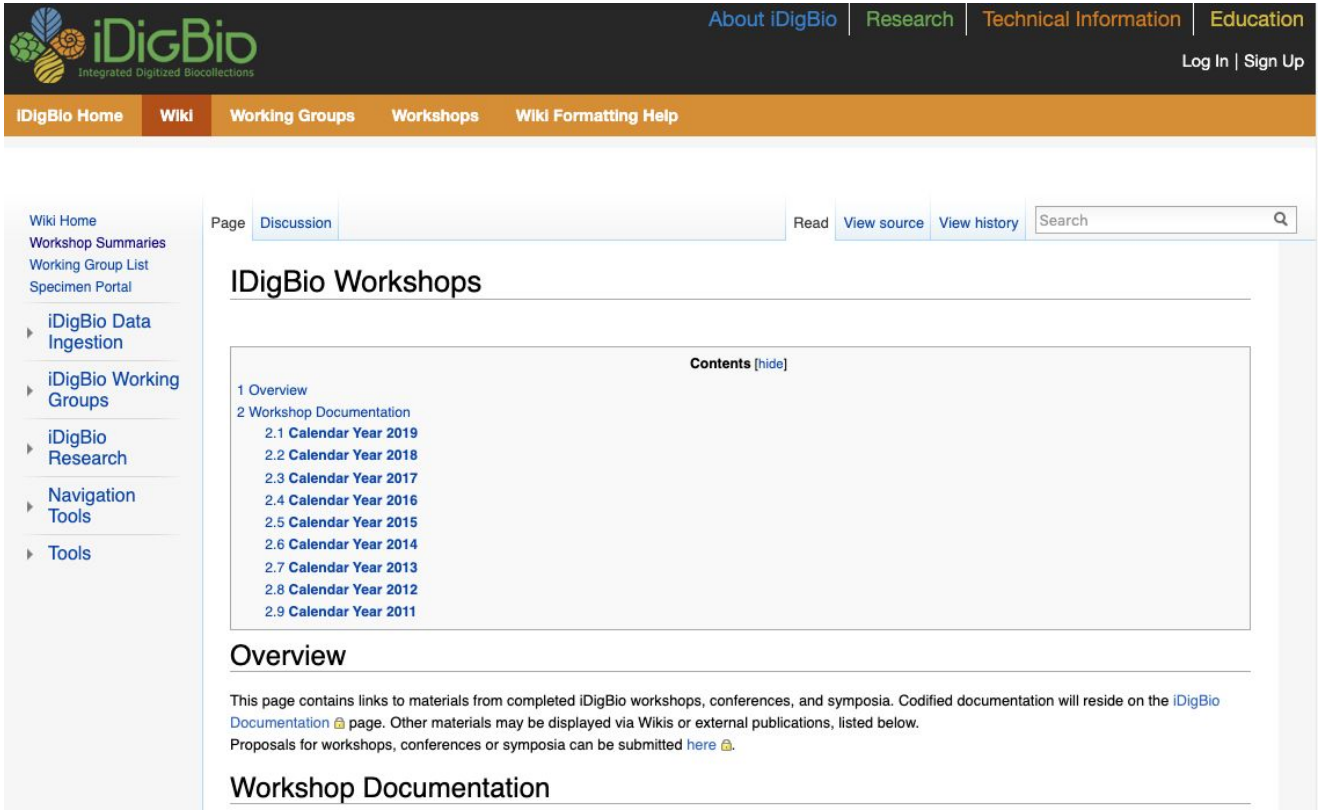
Where can I find training material?

iDigBio



https://www.idigbio.org/wiki/index.php/IDigBio_Workshops

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Where can I find training material?

Darwin Core Hour webinars organized by iDigBio

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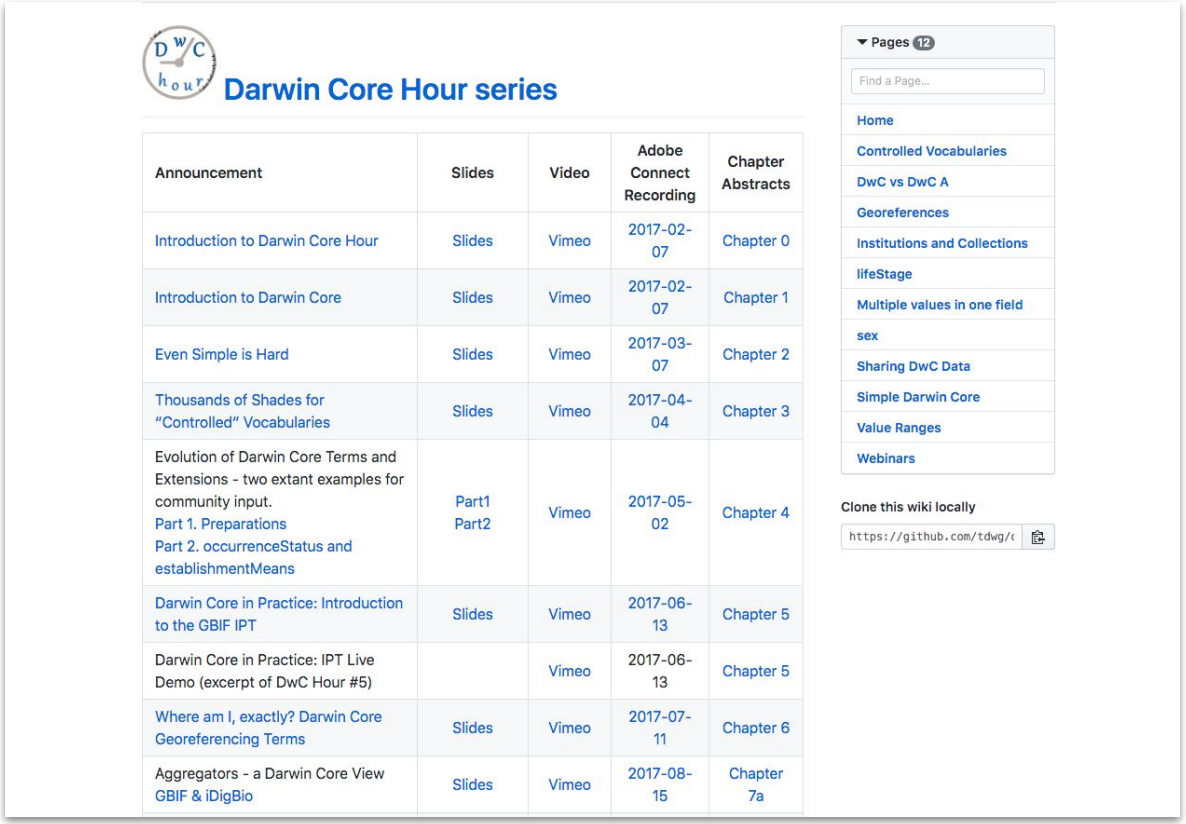
And many more other resources !



Darwin Core Hour series

Announcement	Slides	Video	Adobe Connect Recording	Chapter Abstracts
Introduction to Darwin Core Hour	Slides	Vimeo	2017-02-07	Chapter 0
Introduction to Darwin Core	Slides	Vimeo	2017-02-07	Chapter 1
Even Simple is Hard	Slides	Vimeo	2017-03-07	Chapter 2
Thousands of Shades for "Controlled" Vocabularies	Slides	Vimeo	2017-04-04	Chapter 3
Evolution of Darwin Core Terms and Extensions - two extant examples for community input. Part 1. Preparations Part 2. occurrenceStatus and establishmentMeans	Part1 Part2	Vimeo	2017-05-02	Chapter 4
Darwin Core in Practice: Introduction to the GBIF IPT	Slides	Vimeo	2017-06-13	Chapter 5
Darwin Core in Practice: IPT Live Demo (excerpt of DwC Hour #5)		Vimeo	2017-06-13	Chapter 5
Where am I, exactly? Darwin Core Georeferencing Terms	Slides	Vimeo	2017-07-11	Chapter 6
Aggregators - a Darwin Core View GBIF & iDigBio	Slides	Vimeo	2017-08-15	Chapter 7a

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Find a Page...

Home
Controlled Vocabularies
DwC vs DwC A
Georeferences
Institutions and Collections
lifeStage
Multiple values in one field
sex
Sharing DwC Data
Simple Darwin Core
Value Ranges
Webinars

Clone this wiki locally

https://github.com/tdwg/c

https://github.com/tdwg/dwc-qa/wiki/Webinars

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How to use material?

- Check the license, and respect it
- Contact the creator(s), ask about collaboration, existing updates, etc.
- Even if not required by the license, list your sources
- When license granted you the permission:
  - Customize the material to your needs and your network
  - Mix and match different sources

Where to share my training material?

- Share to benefit the community
- Share it with open licenses!
- Share it in standard format (i.e. font, size, type of file, size of file, etc)
- Share in multiple places! It increases the probability that your material will be discovered and reused
- Ideas of where to share:
  - Node/Community website
  - Project pages (CESP, BID, etc.)
  - Through Twitter or FB
  - Article in a journal
  - eLearning platforms
  - Open sharing platforms
  - etc

Resources

Abstract: Writing a strategic training plan (PDF)

Template: Training plan (MS Word)

Template: Training plan schedule (MS Word)

Template: Training and education implementation schedule (MS Word)

Template: Training folder structure (Google Drive)

GBIF Global Biodiversity Information Facility

Using training to strengthen a node's stakeholder community

Fatima Parker-Allie, Anabela Plos, Carole Sinou, Laura Russell

GBIF Global Biodiversity Information Facility

Developing a training module in ASEAN network

Kit Elloran | *GBIF GB26*

OCT. 17-21, 2019 | LEIDEN, NETHERLANDS

GBIF Global Biodiversity Information Facility

ASEAN CENTRE FOR BIODIVERSITY

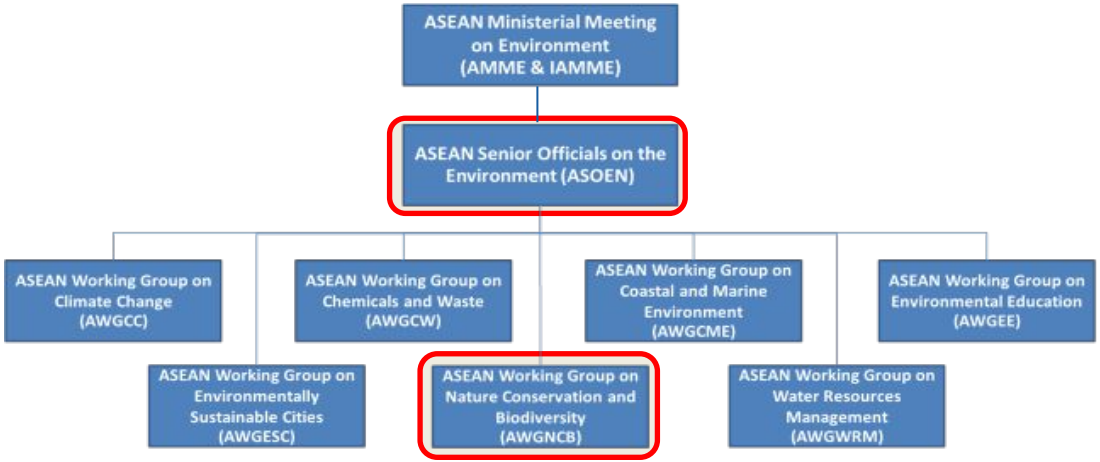
5 Years Strategic Plan
2016-2020

Biodiversity Information Management (BIM)

Mandates and objectives is to Provide training and technical assistance to AMS in biodiversity data management

Biodiversity conservation
and
Mainstreaming biodiversity

GBIF Global Biodiversity Information Facility



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THEMATIC concerns

Access and Benefit Sharing

Biodiversity Information Management

Ecotourism, Business and Biodiversity

Climate Change and Biodiversity

Taxonomy and Invasive Alien Species

Species Conservation and Wildlife Law Enforcement

The Economics of Ecosystems and Biodiversity

Public Awareness

GEOGRAPHIC concerns

ASEAN Heritage Parks and Protected Area Management

Coastal and Marine Biodiversity

Wetlands and Peatlands

Transboundary Protected Areas

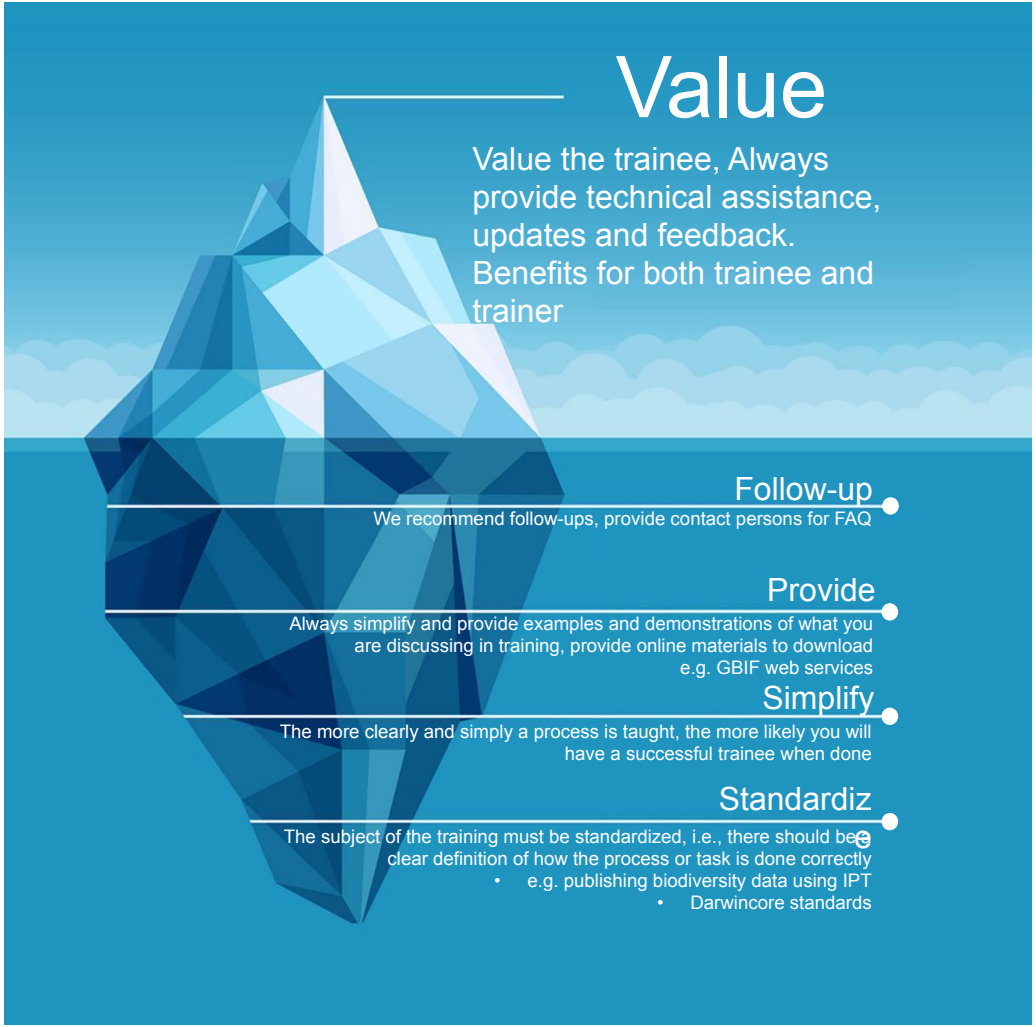
Agriculture Biodiversity

Urban Biodiversity

GBIF Global Biodiversity Information Facility

Developing a training module in ACB network

Biodiversity Information Management (BIM) objectives is to Provide training and technical assistance to ASEAN Member States



GBIF Global Biodiversity Information Facility

Thank you!

ASEAN CENTRE FOR BIODIVERSITY

Biodiversity Information Management | ACB

REGIONAL MASTER PROGRAM IN BIODIVERSITY INFORMATICS

- **Dr. Jean C. GANGLO**
- **Professor of Forest Sciences (University of Abomey-Calavi, Benin)**
- **Coordinator of the master program in Biodiversity informatics**
- **Node manager of GBIF Benin**
- **Regional Representative of GBIF Africa**

INTRODUCTION

- Africa is home to a rich biodiversity that provides critical ecosystem services (provisioning, regulating, cultural, and supporting ecosystem services)
- However, most ecosystems in the continent are facing threats (land use change, overexploitation, environmental pollution, invasive alien species, and climate change etc.)
- Africa is also a continent where evidence to support decision making on biodiversity conservation is critically insufficient or lacking.
- Insufficient or lack of capacities are among the priority bottlenecks to overcome in order to enable data publishing and data uses to inform decisions in Africa
- **In order to achieve this, we need sound knowledge in biodiversity informatics through a full master degree program at university**

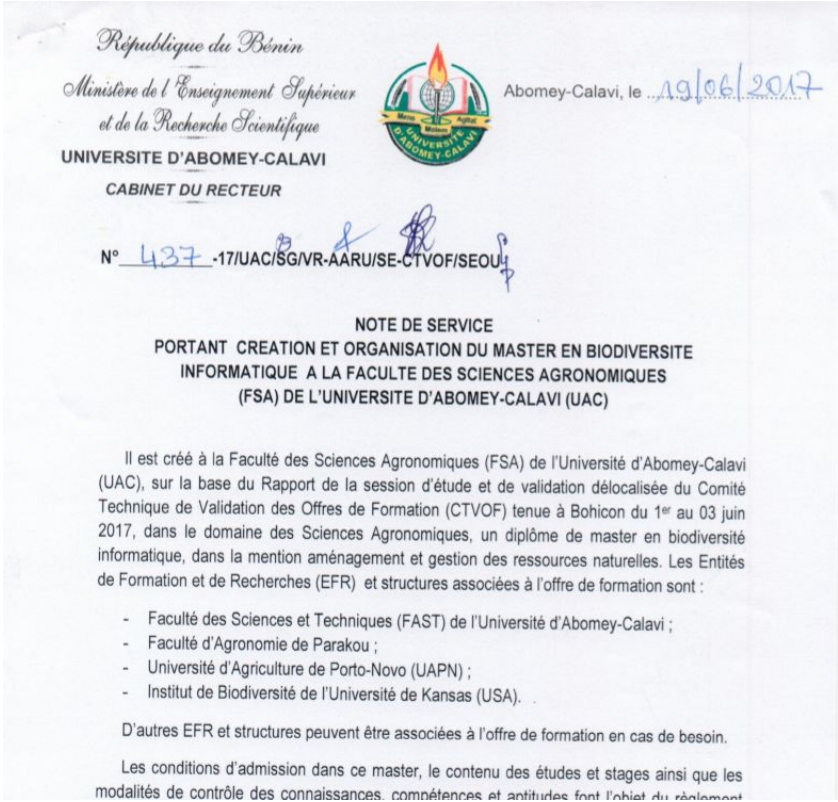
REGIONAL MASTER PROGRAM IN BIODIVERSITY INFORMATICS

- **Historic events (Curriculum elaboration and validation process)**

- **Creation of the program at the Faculty of Agricultural Sciences of the University of Abomey-Calavi**

- **Objectives**
  - We intend to create a cohort of data scientists with sound knowledge in biodiversity informatics to use data and derive relevant research products to inform decisions on biodiversity conservation and sustainable uses

  - Teaching languages are French in the first year and English from the second year of the program



République du Bénin
Ministère de l'Enseignement Supérieur et de la Recherche Scientifique
UNIVERSITE D'ABOMEY-CALAVI
CABINET DU RECTEUR

Abomey-Calavi, le 19/06/2017

N° 437 -17/UAC/SG/VR-AARU/SE-CTVOF/SEOU

NOTE DE SERVICE
PORTANT CREATION ET ORGANISATION DU MASTER EN BIODIVERSITE INFORMATIQUE A LA FACULTE DES SCIENCES AGRONOMIQUES (FSA) DE L'UNIVERSITE D'ABOMEY-CALAVI (UAC)

Il est créé à la Faculté des Sciences Agronomiques (FSA) de l'Université d'Abomey-Calavi (UAC), sur la base du Rapport de la session d'étude et de validation délocalisée du Comité Technique de Validation des Offres de Formation (CTVOF) tenue à Bohicon du 1er au 03 juin 2017, dans le domaine des Sciences Agronomiques, un diplôme de master en biodiversité informatique, dans la mention aménagement et gestion des ressources naturelles. Les Entités de Formation et de Recherches (EFR) et structures associées à l'offre de formation sont :

- Faculté des Sciences et Techniques (FAST) de l'Université d'Abomey-Calavi ;
- Faculté d'Agronomie de Parakou ;
- Université d'Agriculture de Porto-Novo (UAPN) ;
- Institut de Biodiversité de l'Université de Kansas (USA).

D'autres EFR et structures peuvent être associées à l'offre de formation en cas de besoin.

Les conditions d'admission dans ce master, le contenu des études et stages ainsi que les modalités de contrôle des connaissances, compétences et aptitudes font l'objet du règlement

REGIONAL MASTER PROGRAM IN BIODIVERSITY INFORMATICS

- **Courses content *(adapted from Peterson and Ingenloff (2016).***
-
- ***Professor Peterson is the adviser of the master program***

- The master program is a permanent two-year program structured in teaching units with the following main contents:

- 1) Introduction to biodiversity informatics; 2)Basics concepts of biodiversity; 2) Biodiversity data capture; 3) Biodiversity data formatting, cleaning, and publishing; 4) GIS and Applications to biodiversity data analysis; 5) Biodiversity inventories; 6) Biodiversity data analysis with R; 7) Climate change and biodiversity; 8) Ecological niche modeling and strategies for biodiversity conservation; 9) Data-science-policy interface; 10) Public Health and Applications of biodiversity data; 11) Building biodiversity informatics institutions; 12) Internships of students in institutions working in the field of biodiversity, etc.

Mrs. Justine KOTIN, during her internship phase in CREDI NGO

REGIONAL MASTER PROGRAM IN BIODIVERSITY INFORMATICS

Origins of students in the program

- We have actually five nationalities of students. They are from DRC, Côte-d'Ivoire, Togo, Madagascar, and Benin
- Our hope is that the number of students will increase with years

Category of teachers involved in the program

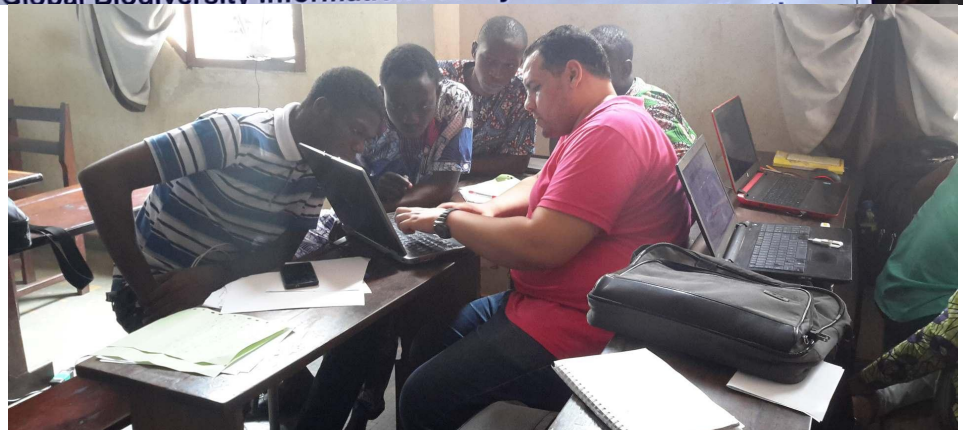
- National trainers (10 teachers)
- International trainers (at least two teaching missions per year)

Sustainability of the program

- Internships to strengthen capacities of national trainers in Laboratories abroad (USA mainly) in orderr to carry out the program

Financial supports

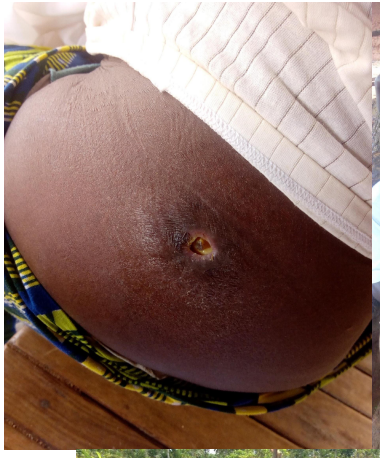
- National level
- International level



REGIONAL MASTER PROGRAM IN BIODIVERSITY INFORMATICS

Research works in the program

- Three thematic areas are concerned with the research activities of the first batch of students
  - Public health (Lassa fever and Buruli ulcer)
  - Least concern and threatened animal and plant species (Sitatunga, *Tragelaphus spekii; dwarf crocodile, Osteolaemus tetraspsis;* African Mahogany*, Afzelia Africana;* Monkey with red belly, *Cercopithecus erythrogaster erithogaster* etc.
  - Invasive Alien species of Hyptis and Mesophaerum genera (Lamiaceae family)
  - The master theses will be defended from December 2019



Main challenges

- Building of infrastructure / classrooms to lodge students of the program
- Scholarships to students to limit students abandonments in the program

Reusable materials

- Curriculum adapted from Peterson and Ingenloff (2016)
- Recorded courses

MANY THANKS FOR YOUR ATTENTION

Hi Jean:

Rather thank YOU ... Gabriel was a great student, and indeed a nice person with whom to interact. He is smart and insightful, and consistently was following the material and understanding it deeply. Indeed, we had three "competitions" during the course ... challenges to see which student could complete an analysis first (and most elegantly). Gabriel won TWO of the three challenges!

Once again, Gabriel was a complete pleasure to have involved in the course. All the best, ATP

Dear Town,

Gabriel is well back home and I tell you my profound gratitude for accepting him in that course.

Many thanks for your support of all kinds. You are quite helpful for me in the management of the master program on which you kindly offer your advices and supports. God bless!

I hope that Gabriel has been respectful and did not disappointed you.

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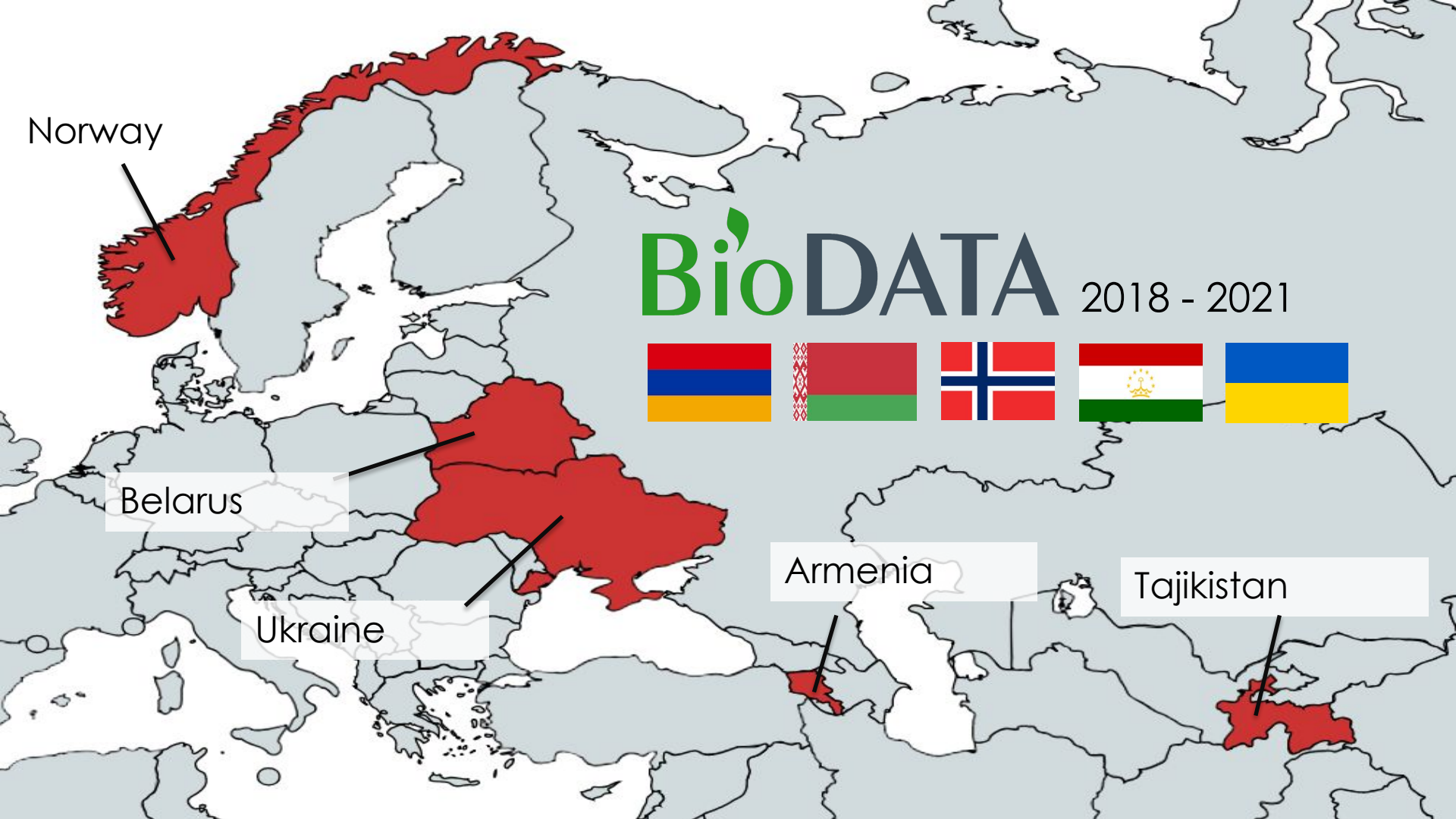
Diku Direktoratet for internasjonalisering og kvalitetsutvikling i høyere utdanning

Bio'DATA

Biodiversity Data for Internationalization in higher education

GBIF GLOBAL NODES TRAINING AT GB26, BIODIVERSITY NEXT, LEIDEN | 18 OCTOBER 2019


Norway
BioDATA
2018 - 2021
Belarus
Ukraine
Armenia
Tajikistan

GOALS

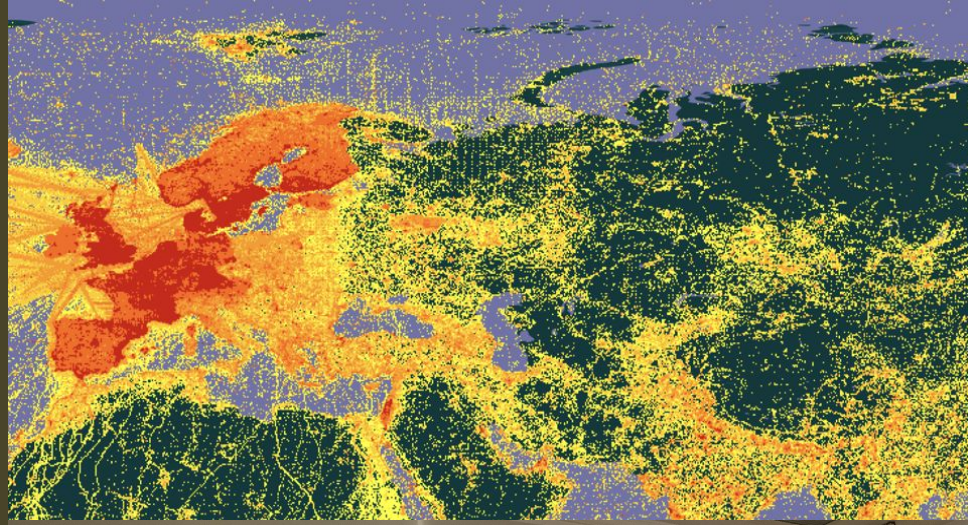
Offer professional training in data skills to biodiversity researchers

Promote open data and open science to foster international collaboration

Involve partner countries in international biodiversity networks like GBIF

64 students (16 x 4) and 16 staff (*mentors*) trained on biodiversity informatics skills

Organize a total of 8 events during the project period 2018 to 2021



PROJECT PARTNERS

University of Oslo (ForBio & GBIF Norway)

National Academy of Sciences of Belarus

V.N. Karazin Kharkiv National University, Ukraine

Armenian National Agrarian University

Academy of Science Republic Tajikistan & Zan va Zamin

GBIF Secretariat, Copenhagen

ROLES

ForBio based in Oslo provides the central coordination team and financial center of operation

Local project partners in Tajikistan, Belarus and Armenia – responsible for organization of project events in Minsk, Dushanbe and Yerevan

CURRICULUM

BioDATA is re-using the training curriculum developed for the EU-funded GBIF Biodiversity Information for Development (BID) program

And the e-learning platform hosted by GBIF Spain

Successful students are awarded a digital certification badge from GBIF – which will qualify them to contribute as mentor in the wide GBIF network

ACTIVITIES

Kick-off meeting

(Oslo, Norway)

Train-the-mentors course

(Minsk, Belarus)

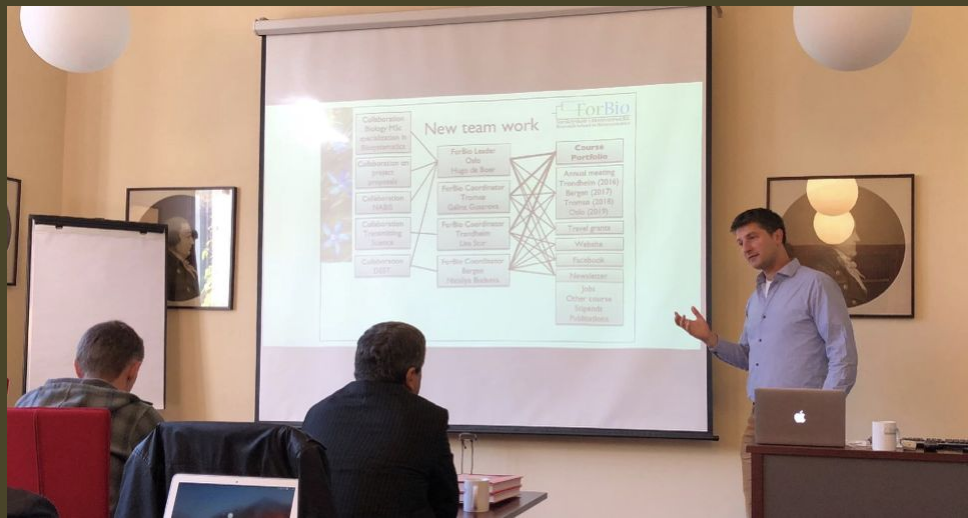
4 regional training courses

(Tajikistan, Belarus, Armenia, Ukraine)

Final symposium

(Oslo, Norway)

Kick-off meeting | February 2018 | Oslo, Norway



Train-the-mentors| February 2019 | Minsk, Belarus

Regional training| June 2019 | Shambari, Tajikistan

Including students from Latvia and Lithuania

Regional training| November 2019 | Białowieża, Belarus

Participants from Belarus:

National Academy of Science of Belarus

Baranovichi State University
Belarusian State University
Gomel State University
Grodno State University
Vitebsk State University

National Park “Braslavskie Ozera”
National Park “Pripyatsky”

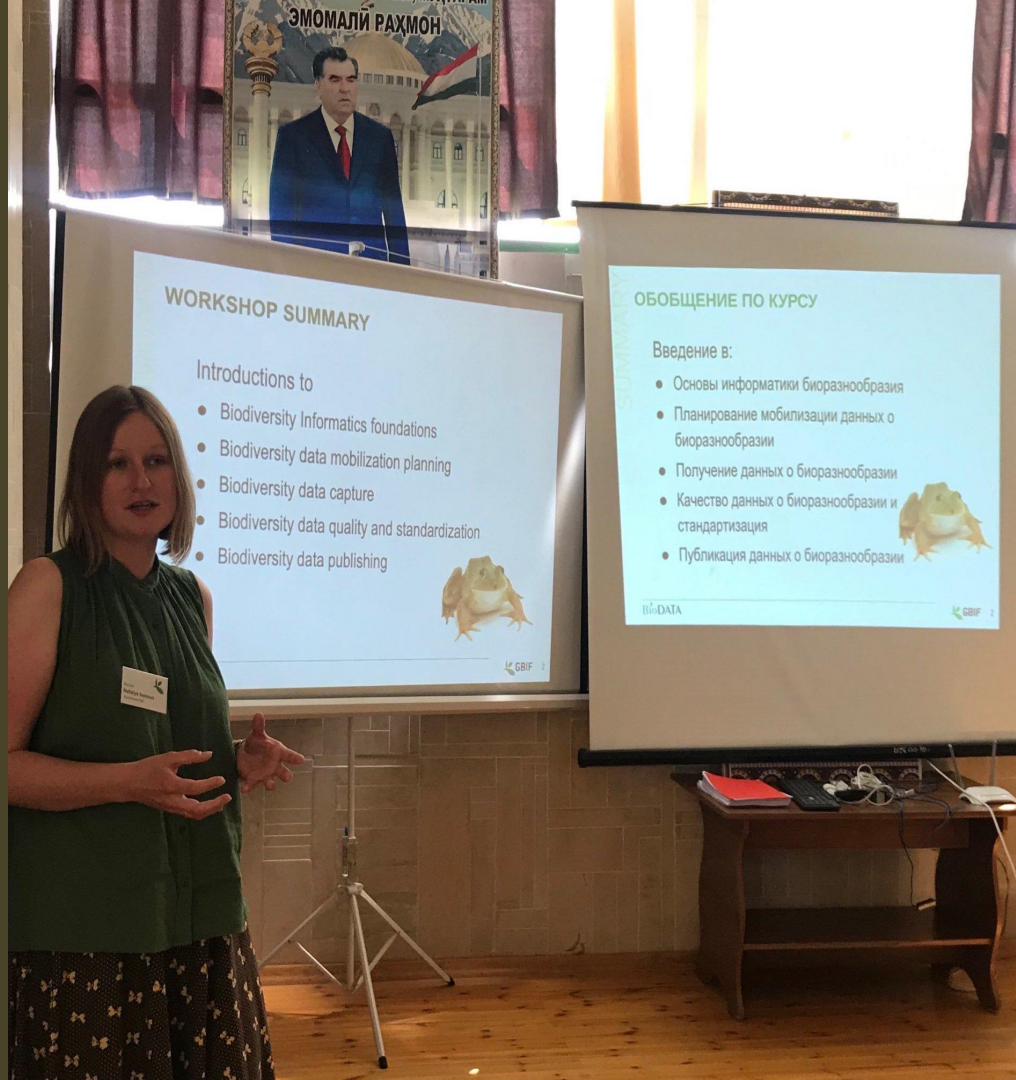
Regional training| April 2020 | Yerevan, Armenia

Regional training| October 2020 | Ukraine

CHALLENGES

Language barriers – all training materials were translated to Russian (by the GBIF.ru team)

Internet connectivity – the course IPT and all course training materials was provided from a small Raspberry Pi server installed in the classroom



SUCCESS

Belarus joined GBIF as associate country July 2019

Armenia and Tajikistan prepare to join GBIF

Ukraine prepare data publication in GBIF

FUNDING

Diku

Norwegian Agency for International Cooperation and Quality Enhancement in Higher Education

Funded by the Eurasia program of the Norwegian Agency for International Cooperation and Quality Enhancement in Higher Education (Diku)

Budget 3M NOK | € 300 000 Euro

Project period 2018 to 2021 (3 years)

GBIF Global Biodiversity Information Facility

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