SANBI-GBIF and GBIF-Spain partnership to investigate data mining approaches for impactful data use cases and stories

Programme: CESP
Project ID: CESP2022-005
Project page: https://www.gbif.org/project/CESP2022-005/cross-continental-partnership-to-investigate-data-mining-approaches-for-impactful-data-use-cases-and-stories
Project lead organization: South African National Biodiversity Institute - GBIF
GBIF Participant Represented: South Africa
Project implementation period: 1/8/2022 - 31/7/2023
Report approved: 15/12/2023

Narrative Final report

Executive Summary

With this project, SANBI-GBIF and GBIF-Spain aimed to optimize efforts and grow national capacity in the use of the eLearning platform and functionality, to support its training events and production of curriculum content. Furthermore, it aimed to implement a national training workshop entitled: "Analytical Techniques in Biodiversity Big Data Using GBIF: Making an Impact".
Some of the key achievements include: 1.) Strengthening North-South Node Collaboration between Nodes teams of South Africa and Spain, 2.) the capacitation of personnel related to the eLearning platform, 3.) the development of an agenda including some key research topics in the arena of biodiversity informatics and the use and relevance of GBIF data, 4.) The establishment of a team of experts including some key university collaborators that conducted the training curriculum and 5.) The capacitation of 22 participants (including regional representation) in the use and application of biodiversity big data analytics. The training and coordination teams of the Nodes comprised 12 experts.

The monitoring of the project was conducted on an ongoing basis, through regular catch-up meetings throughout the project. The final deliverable was the culmination of all the ideas and thought leadership provided by SANBI-GBIF and GBIF Spain, in this big data space to identify a range of skills to develop data mining and analysis techniques, to support scientific research and policy outcomes.
For the evaluation of the course, we implemented a google forms survey to capture participant feedback and have incorporated this into the attached final workshop report.
It was interesting to note that this course garnered a lot of interest, with approximately 120 applications received.

Report on Activities

Activity progress summary
All activities have been successfully achieved. Reciprocal visits between SANBI-GBIF and GBIF Spain has enabled capacity development related to the eLearning Platform as well as the formulation of a course in big data analytics using GBIF Data. This course brought together key experts, from Spain and South Africa which enabled the capacitation of 22 national participants. All content developed and curriculum has been uploaded into the GBIF Spain eLearning Platform, under course https://elearning.gbif.es/course/138/about.

Completed activities

Activity name: Spain to SANBI Institutional Visit

Description: Reusable content and documentation
All content, documentation, presentations, datasets etc available on the SANBI-GBIF elearning site.

Start Date - End Date: 6/3/2023 - 10/3/2023
Verification Sources: SANBI-GBIF eLearning Site
https://elearning.gbif.es/course/138/about

Promotional Flyer-SANBI-GBIF attached

Activity name: Training Event Conducted

Description: Training event conducted at Iziko Museums of South Africa
Start Date - End Date: 26/6/2023 - 30/6/2023
Verification Sources: Workshop report attached
Photo's attached
Social Media report attached

Report on Deliverables

Deliverables progress summary
All deliverables have been met. The short course was developed, was successfully implemented and content and curriculum is all available online. The course was also opened by the Deputy Director General of SANBI and the Executive Director of Iziko Museum, ensuring high level buy in for the biodiversity informatics work of the Node.
Additional experts from GBIF Spain was also included in the project, with some key South African University Partners. also including University of Malawi. This has provided an important networking opportunity, where subsequent activities could potentially be formulated. Video recordings of the training event were also taken, and these will be made available online, as soon it is ready.

Completed deliverables

Title: Capacity Development and Documentation Production

Type: Documentation
Description: Reusable Documentation/Content Package - presentations, methodology, showcases, datasets etc.
Sources of verification: All content available on the SANBI-GBIF/GBIF Spain elearning Platform https://elearning.gbif.es/course/138/about. Permissions has been adjusted and this is available with sign-in

Title: Training event conducted in Cape Town

Type: Training Workshop
Description: An onsite and physical training event held with the aim of capacitating approximately 25 Participants
Sources of verification: Workshop report - find attached

Title: Short-course on the eLearning platform to support training event in Cape Town on data mining techniques

Type: Training Workshop
Description: An elearning package (SCORM) used as part of the training event and ready to be reutilized by any interested party (specially with the GBIF Community). Instructions under course description.
Sources of verification: Course available under the training and eLearning section of SANBI-GBIF/GBIF Spain - https://elearning.gbif.es/course/138/about

Events

Reciprocal Visit - GBIF SPain to SANBI-GBIF

Dates: 6/3/2023 - 10/3/2023
Organizing institution: SANBI
Country: South Africa
Number of participants: 3
Comments: All documentation are available through the SANBI-GBIF website
Website or sources of verification: https://elearning.gbif.es/course/138/about

Events

Institutional Visit and Learning Exchange

Dates: 12/12/2022 - 16/12/2022
Organizing institution: GBIF Spain
Country: Spain
Number of participants: 6

Comments:
Website or sources of verification: https://www.sanbi-gbif.org/post/2023/visit-spain/

Big Data Analytics Training in Cape Town

Dates: 26/6/2023 - 30/6/2023
Organizing institution: SANBI/GBIF Spain
Country: South Africa
Number of participants: 22
Comments:
Website or sources of verification: https://elearning.gbif.es/course/138/about

Communications and visibility

The project was promoted through both SANBI-GBIF and GBIF-Spain social media platform (Twitter), including those of the GBIF Node Managers social media where relevant. Please see the mid term narrative report as well.
Furthermore, please see the attached social media report of the training event visibility raised of the workshop.
Besides social media for all activities of the project, the work was promoted at conferences, and newsletters. A final article will also be placed in the next issue of the SANBI Gazette. Videos of the training is still being produced and when this is available, can be promoted.

Monitoring and evaluation

Monitoring, evaluation and lessons learned
Final Evaluation:
The aim to grow capacity in the eLearning platform, to foster North-South engagements and to grow Biodiversity Informatics capacity were all successfully achieved. The project was ambitious and progressive in what it set about to do. Being able to draw from existing capacities from the Nodes itself, and getting the relevant expertise on board was important. The project would have benefitted if the duration of the initiative was extended. The final training event was very successful and highly appreciated, based on the participant evaluations. More can be found in the workshop report.
The immediate benefits includes capacity development of participants at the workshop, however added benefits includes the networking opportunities and the subsequent activities that may emanate from that. Participants have mentioned they might adapt their own university course curriculum, based on some of the content of this course. Nodes team members have found relevance in the tools, and have applied Keppler to their data cleaning work. One big challenge is the duration of the CESP project as a one year endeavour, which is a short duration.

Best Practices and Lessons Learned:
The agenda for the final training workshop was very ambitious in its scope. It covered a range of topics, which presented an opportunity but was also challenging in terms how much content could be covered, in a short period of time. It was very fortunate to have excellent expertise on board, however this also presented a challenge, as this was only a one week course. Here, another mechanism needs to be found to achieve greater efficiency with trainer expertise on board.

The development of videos also took place, which is an excellent way to reach a broader audience and to benefit a larger community of stakeholders that were not able to participate as part of the initial workshop.

Post Project Activity(ies):
An article is being compiled for the SANBI Newsletter with regards to the final training event, and will be submitted within the next week or two.

A post will also be placed on the SANBI-GBIF website.

Video's of the training are being produced and will be made accessible.

An adaptation of this course as part of GBIF Spain training programme

Sustainability plans

Some benefits of the final training course, included the connection with the training experts, and different university Partners. This provides an opportunity for further training, projects etc. Efforts will be made to determine where the content can be reused and expanded upon. It is likely this will happen in the short course which is planned with Sol Plaatje University. Also, content has been developed with regards to the eDNA session. This will also be useful in the Biodata Advanced initiative, where Partners from the University of Free State and SANBI-GBIF are also involved. Opportunities also exist for this content to be utilised in the Nodes training events as required. GBIF Spain is also likely to adapt this course, for implementation within their training programme. Exposure to the content areas, and capacity that has been developed amongst all the participants including the trainers will be taken forward, through new publications, and new endeavours. Reusability of all materials and video content has been key.

Impact of COVID-19 pandemic on project implementation

There were some initial delays with COVID regulations and the timeline with travel to Spain, however this was quickly resolved, with the timelines back on track and the project managed to achieve its deliverables and all outcomes successfully.

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