

Implementing biodiversity data flow on the national level by creating data structures between BBS, NZCS/CMO and NIMOS within the Suriname Environmental Information Network (SMIN)

Programme: BID

Project ID: BID-CA2020-008-USE

Project lead organization: Anton de Kom University of Suriname - National Herbarium of Suriname

Project implementation period: 1/7/2021 - 30/6/2023

Report approved: 19/11/2021

Narrative Early Progress report

Executive Summary

The project's achievements to date are:

1. The Data Mobilization Workshop has been attended by Anielkoemar Gangadin, Curator Invertebrates at NZCS/CMO, and the exercises have been submitted.
2. The MoU for exchange of data between the Anton de Kom University of Suriname and the National Environmental Authority (NIMOS) has been signed
3. The contract for hiring two Data Managers for BBS and NZCS/CMO has been legally screened and approved by the AdeKUS Board. The Data Manager NZCS/MO commenced with the project activities 4 October 2021 and the Data Manager for BBS will start 1 November 2021.
4. An introduction meeting between BBS, NZCS/CMO and the IT-consultant for NIMOS has been held to discuss the workflow and requirements for the development of the National Database within SMIN.
5. Planning sessions have been held with GBIF Mentor Leonardo Buitrago and GBIF Data Use Projects Coordinator Andrew Rodrigues.

The project's progress has been monitored and evaluated by having quarterly meetings with project partners (the first quarterly meeting was scheduled for 29 October 2021). Also, a meeting has been held with NIMOS and the IT Consultant, ITWIZARDS, to discuss the Data User Needs and Requirements and to discuss the progress of the development of the National Database. A meeting has also been held with the University Center for Information and Technology to discuss their support regarding IT infrastructure and database set-up.

The activities for Data Managers at BBS and NZCS/CMO started later than planned in the project schedule due to the approval date of the contracts and availability of the candidates. This is expected to have little effect on the outcome of the project.

Planning phase - User(s) consultation outcome(s)

Defining Data User Needs

The data users within the project are GBIF, NIMOS and the Amazon Cooperation Treaty Organization (ACTO). The scientific question is: How can biodiversity data and information be used to monitor Suriname's vulnerable assets?

Datasets will be published through GBIF following the Darwin Core Standards and mandatory fields for publishing. NIMOS requests biodiversity data and information to monitor Suriname's Vulnerable Assets, namely Endemic Species, Migrational Species, ENDANGERED Species, Genetic Sinks, and Medicinal Knowledge. International agreements and commitments for reporting addressing the country's biodiversity include the UNCBD, AICHI Targets, and CITES.

The Monitoring Indicators followed are set by IUCN, FDES & SDG. NIMOS stated that there is a need for Evidence based Policy in Suriname to monitor Trends in Species Trading and Loss of Ecosystems or Habitats, and for measuring the country's performance in addressing underlying issues. Suriname needs Biodiversity Indicators and NIMOS mentioned this as a high priority need. The format of data that will be needed is to monitor map based indicators and species trend indicators. The format in which data needs to be provided by research institutions has not been set clearly by NIMOS. They

want the research institutes to decide what data will be published.

The SMIN will be established to produce official national Environment Information by consisting of governmental actors, research institutes etc. The SMIN will manage already produced information and translate this information through policy advises and ADD VALUE TO DATA. The SMIN wants to make information available and rigorous. The National Database is expected to be developed before the end of 2022. During the quarterly evaluations scheduled in the project activities, the user needs will be evaluated and data mobilization will be addressed accordingly.

Defining Data Needs

BBS and NZCS/CMO are considered the first data providers within the SMIN. Within the BID project datasets will be published through GBIF and SMIN. NIMOS stated that there are no specific requirements for the format of data to be published through SMIN. BBS and NZCS/CMO will use their data management protocols to decide which datasets will be published e.g. only datasets that meet the DwC standards and mandatory fields, and images that are linked to these datasets will be published.

Dataset types that are the most suitable to address the scientific question are occurrence datasets. These provide, among others, spatial and species information. With the occurrence datasets map based indicators and species trend indicators can be determined.

Photographs of collections specimens will be mobilized and published to allow for scientific references and additional information. Since both BBS and NZCS/CMO are already publishers within GBIF, already published data can be used. Processing of data includes two-tiered data quality checks, georeferencing and picture formatting (quality and size). The data will be processed by the researchers and Data Managers at BBS and NZCS/CMO. The data server at the AdeKUS will be linked with the data server at NIMOS for data entry into the National Database. Data to be published through GBIF will be hosted by VertNet or the regional IPT.

The realistic timeframe for publishing the datasets through GBIF is May 2022 and through SMIN is August 2022.

Planning Phase Outcomes

The change that will be made to the initial project plans after consultation with the data user (NIMOS) is that BBS and NZCS/CMO will enter data into the National Database based on agreed fields, since analysis of the data sets is not required by NIMOS. The deliverables will consist of Metadata and Environmental Data.

Furthermore, the plan to set up the accommodation for the Data Manager at BBS will be delayed until the co-funding has been arranged. To mitigate this change a work space will be created in the collection with the required material and tools for the Data Manager to meet the project deliverables within the scheduled time and budget.

Report on Activities

Activity progress summary

Review of activities:

Develop workflow and protocols: The data management workflow has been created and the protocols will be developed when both Data Managers at BBS and NZCS/CMO have worked out each of the steps in the data management process. (November - December 2021)

Set up a common data storage system: Accommodation for Data Managers has been postponed because co-funding is not readily available. The contract for the Data Managers had to be legally screened by the AdeKUS which caused some delay from the end of the Legal Office. The Data Manager for NZCS/CMO is contracted from October 2021 until May 2023 and for BBS from November 2021 until June 2023. Due to the Covid-19 pandemic the Data Managers will work on a rotation schedule. This will have little effect on the outcome of the project, as Data Managers will perform part of their tasks by working from home. Purchase of IT equipment was delayed because IT buying advice is required and support to set the requirements for the infrastructure set-up from AdeKUS IT department (UCIT). This will have some effect on the schedule but little effect on the outcome of the project planning phase. The server has yet to be purchased (through co-funding) and the installation of Specify software has not yet been performed. Consequently no new data has yet been entered into the database (Specify) at BBS and NZCS/CMO. Since the activity is scheduled from October 2021 until April 2023, we expect the delay in purchase of IT material and equipment to have little effect on the planning outcome of the project.

Check quality and compliance: to be commenced.

Host dat by DATASUR: to be commenced.

Train personnel: To be commenced.

Publish data: To be commenced.

Evaluations: First evaluation meeting with project partners held on 29 October 2021.

Progress on activities

Activity: Develop workflow and protocols

Description: Develop workflow and protocols for data production and data dissemination on national level and through GBIF

Start Date - End Date: 1/7/2021 - 17/12/2021

Verification Sources: BBS_NZCS_NIMOS_Data management Workflow_October21

Activity: Set up a common dat storage system

Description: 2.1 Construct the accomodation for Data Management and set up the required infrastructure; 2.2 Procure the Data Server and Host the data by DataSur; 2.3 Enter data into database at NZCS/CMO; 2.4 Enter data into database at BBS

Start Date - End Date: 18/1/2022 - 28/4/2023

Verification Sources: BBS_NZCS_NIMOS_Data management Workflow_October21

Report on Deliverables

Deliverables progress summary

Description of the progress of the project:

1. Work flow model and protocols: Work flow model has been created and protocols will be developed (November - Decemebr 2021)
2. Accomodation and infrastructure: Construction of the accomodation will be postponed until co-funding is available and advice and support from UCIT to set up the infrastructure is being provided.
3. Data sets - Databases and Images: Data entry with Specify is yet to be commenced. Data entry in MS Excel is 80% completed. Images from BBS collections are 80% completed. Images from NZCS/CMO collections have yet to be commenced. Data entry into the National Database has yet to be commenced.

Update of the project deliverables:

The project deliverables have been adjusted in accordance with NIMOS. Only meta data, environmental data and images will be entered into the National Database. Data Summary tables and Species Distribution Maps are no longer required. Data sets to be published through GBIF will consist of occurrence data and images from the collections at BBS and NZCS/CMO according to the Dwc Standards and mandatory fields. No new deliverables will be added to the outputs of the project.

Delayed deliverables:

Development of data management protocols has been delayed due to the availability and contract screening of the Data Managers (BBS and NZCS/CMO). This will cause a delay in data entry into the databases (Specify and the National Database). Also the user interface from the National Database has yet to be made accessible for the AdeK University and the servers at both institutions still need to be connected. The new expected date for delivering the protocols is 12 December 2021 and the new start date for data entry is postponed to 18 January 2022. The delivery date for this activity remains 28 April 2023.

Progress towards deliverables

Deliverables - Project planning phase

Workflow model and Protocols

Description: Data mobilization and data management Workflow model and Protocols

% complete: 30%

Status update: Data management workflow has been developed and protocols will be developed between 1 November and 12 December 2021

Sources of verification: BBS_NZCS_NIMOS_Data management Workflow_October21

Accommodation and Infrastructure

Description: Accommodation and Infrastructure for Data Management

% complete: 10%

Status update: Accommodation for the Data Manager BBS will be postponed until co-funding becomes available. Advise on IT purchases and support with infrastructure set-up is being prided by the IT department of the AdeKUS

Sources of verification: N/A

Deliverables - Project data mobilization phase

Databases

Dataset type: Occurrences

Dataset scope: Databases at NZCS/CMO and BBS (Flora Database and Fauna Database) not previously published through GBIF

Number of records: 10,000

Data holder: BBS and NZCS/CMO

Data host institution: VertNet and DataSur

% complete: 0%

Status update: Databases with Specify are yet to be established. Data is already entered in MS Excel spreadsheets. National Database has yet to be developed.

DOI:

Expected date of publication: 2022-05-20

Images

Dataset type: Occurrences

Dataset scope: Images of plant and animal collections

Number of records: 58,000

Data holder: BBS and NZCS/CMO

Data host institution: VertNet and DataSur

% complete: 0%

Status update: 80% of BBS collections are already photographed. NZCS/CMO collections are yet to be photographed.

DOI:

Expected date of publication: 2022-08-19

Deliverables - Project evaluation phase

Environmental data

Description: Environmental data e.g. mercury pollution data and habitat description data from several areas

% complete: 0%

Status update: Environmental data will be available once they have been uploaded to GBIF and the National Database

Sources of verification: N/A

Metadata

Description: Metadata for flora and fauna, including images of collections specimens

% complete: 0%

Status update: Meta data will become available once the data has been uploaded to the GBIF website and the National Database

Sources of verification: N/A

GBIF leads the Biodiversity Information for Development (BID), a programme funded by the European Union. The programme provides supplementary support for activities addressing the needs of regional researchers and policymakers through mobilization and use of biodiversity data.

