African Bird Atlas Project - mapping the distribution of Africa's birds

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Programme: BID
Project ID: BID-AF2020-039-REG
Project lead organization: A. P. Leventis Ornithological Research Institute
Project implementation period: 1/4/2021 - 31/3/2023
Report approved: 31/5/2022

Narrative Midterm report

Executive Summary

With the funds obtained, the African Bird Atlas Project team has been expanded with the recruitment and training of 6 new data managers. All partners have also been involved in increased stakeholder engagements and a substantial improvement and strengthening of data mobilization and data use by all partners. There has also been remarkable progress made towards synergistic data management among the different national projects of the African Bird Atlas Project (ABAP). Currently, a centralized database for the African Bird Atlas Project has been put in place, capacity building workshops for training in use nd extraction of data from the database by sub-regional data managers is ongoing. Trainee data managers from Nigeria and Kenya are also now helping to process data requests at national levels. Requested data are being used by students and researchers to produce species distribution models, to investigate the effects of land use and climate change on species distribution, for biodiversity hotspot analysis etc. Data managers are also building web tools for better data visualization and easier access to species information - species accounts are being developed (e.g., https://www.aplori.org/datazone/birds). Data mobilization efforts is resulting in increased occurrence records and wider bird atlas coverage across all the ABAP countries. More than 18 million occurrence records have already been mobilized and published through our project.

Progress against milestones

Has your project published at least one dataset through GBIF.org?: Yes

Dataset published:

Dataset	DOI
Southern African Bird Atlas Project 2 dataset	https://doi.org/10.15468/8x5b7h
Kenya Bird Map (Full protocol and Adhoc records)	https://doi.org/10.15468/2lrl79
Nigeria Bird Atlas (Full protocol submissions)	https://doi.org/10.15468/hsvds6

Has at least one member of your project team received certification following the BID capacity enhancement workshop?: Yes

Name of the workshop participant: Bello Adamu Danmallam

Certification obtained: Advanced Badge

Report on Activities

Activity progress summary

1. Training workshops to strengthen regional and institutional collaboration and capacity for data management and analyses

Training workshops have been organized where the Information System Specialist, Michael Brooks from the FitzPatrick Institute of African Ornithology in South Africa - the technical advisory partner has been training newly appointed data managers recruited in Nigeria for West Africa and in Kenya for East Africa. Training workshops take place at least once a month and the new data managers from the sub-regions have already gained substantial proficiency in data request processing, analysis and use, and in updating the website. This has contributed in substantially improving regional and institutional collaboration and capacity for data management and analyses. Together, all data managers are working on the development of data visualization tools and products.

2. Environmental stakeholders engagement for policy integration - Volunteer recruitment and training for data collation

To increase awareness about the project, build capacity, and thereby increase our citizen science community, the Nigerian Bird Atlas Project (NiBAP) held a two-day seminar with officers of the Nigerian National Park Service (NNPS) including the Conservator-General, Alhaji Ibrahim Goni. The NNPS is a parastatal under the Federal Ministry of the Environment of Nigeria responsible for the protection and conservation of wildlife in National Parks. The event was facilitated by the project manager NiBAP, in the person of Dr. Talatu Tende accompanied by Ms. Kazeh Nanchin Winifred and Mr. Arin Izang. Participants/stakeholders were presented with a bird checklist obtained from the ABAP database for each of the National Parks and they were briefed on how they can include bird data in their conservation efforts and for continued update of the ABAP database and monitoring of the National Parks. The event took place at the Park headquarters in Abuja with participants from all the seven Nigerian National Parks. Participants also had two field birding outings to get acquainted with the use of the bird atlas mobile App (BirdLasser) for capturing bird records practically. Participants were urged to join the bird clubs around them to further hone their bird identification skills. This is followed by series of follow-up visits to the various National Parks.

3. Data collation and digitizing

All partners have been engaging with citizen scientists to encourage and facilitate continued generation of bird occurrence records during field expeditions. All partners have also assigned data managers and team members with the collation and digitization of historical records dating as far back as in the 1970s and obtained from pioneer organizations and individuals involved in bird atlas in the partner countries.

4. Data summaries and analysis of collected dataare already underway. Data managers in Nigeria are developing a "Birds of Nigeria" web portal (https://www.aplori.org/datazone/birds) based on the Atlas data. A reproducible R Markdown tutorial for publication-ready species distribution maps from the ABAP database has also been developed. Data requests have been used by some students to investigate the "Effect of Climate Change on the distribution of Hooded Vultures in Sub-saharan Africa" and for a "Hotspots analysis of Raptors in Nigeria". Other data papers are also being developed.

Effect of Climate Change on the distribution of Hooded Vultures in Sub-saharan Africa:

The study was carried out by Emmanuel Ajang (an undergraduate intern from Ahmadu Bello University Zaria, Nigeria), with technical support from the GBIF BID unit at APLORI (https://www.aplori.org/research/bioinformatics). Hooded vulture is currently listed as Critically Endangered on the IUCN checklist. Using the bird atlas occurrence data and historical climate data obtained from WorldClim and 50 years of future climate data (CMIP6) to model and predict the distribution of the species. Findings from the study suggest that the probability of sighting Hooded Vulture at higher latitudes close to the Sahara declined significantly and an increase in maximum temperature could also lead to their extirpation (unpublished work). The study also suggests that African countries increase their efforts as provided in the COP26 Glasgow Climate Change Conference, which will go a long way to save this species from extinction.

Completed activities

Report on Deliverables

Deliverables progress summary

A total of ≈19 million records have been submitted so far. From these records, one million seven hundred and sixty-nine thousand five hundred (1769500) records can be attributed to the BID-AF2020-039-REG project from 1 April 2021 to 31 January 2022. The records encompass three major bird atlas

projects under the African Bird Atlas Project, which include Kenya Bird Map (98029), Nigeria Bird Atlas (238677), and Southern African Bird Atlas Project 2 (1432794) including countries like Botswana (13328), eSwatini (4438) Lesotho (749), Malawi (992), Mozambique (6642), Namibia (66039), South Africa (1278954), Zambia (14207), and Zimbabwe (47445).

Progress towards deliverables

Dataset deliverables

Kenya Bird Map dataset
Dataset type: Occurrences
Dataset scope: Bird occurrence data from Kenya
Number of records: 553,525
Data holder: FitzPatrick Institute of African Ornithology
Data host institution: FitzPatrick Institute of African Ornithology
% complete: 100%
Status update: Submitted
DOI: https://doi.org/10.15468/2lrl79
Expected date of publication:

Nigeria Bird Atlas dataset
Dataset type: Occurrences
Dataset scope: Bird atlas occurrence dataset from Nigeria
Number of records: 238,677
Data holder: FitzPatrick Institute of African Ornithology; A.P. Leventis Ornithological Research Institute (APLORI)
Data host institution: A.P. Leventis Ornithological Research Institute (APLORI)
% complete: 100%
Status update: Submitted
DOI: https://doi.org/10.15468/hsvds6
Expected date of publication:

Southern African Bird Atlas Project 2 dataset
Dataset type: Occurrences
Dataset scope: Comprehensive bird atlas dataset from Southern Africa
Number of records: 18,530,780
Data holder: FitzPatrick Institute of African Ornithology
Data host institution: FitzPatrick Institute of African Ornithology
% complete: 100%
Status update: Submitted
DOI: https://doi.org/10.15468/8x5b7h
Expected date of publication:

Other deliverables

Events

Training workshops to strengthen regional and institutional collaboration and capacity for data management and analyses

Dates: 2021-04-01 - 2022-03-03
Organizing institution: FitzPatrick Institute of African Ornithology
Country: South Africa
Number of participants: 5
Comments:
Website or sources of verification: news1.jpg & news2.png

Events

Environmental stakeholders engagement for policy integration - Volunteer recruitment and training for data collation

Dates: 2022-10-10 - 2022-04-01
Organizing institution: A.P. Leventis Ornithological Research Institute (APLORI)
Country: Nigeria
Number of participants: 30
Comments: Photos from event also attached as news3-news12.jpg; and this event and other events are discussed in the section titled 2021 Activities in the now attached "NiBAP 2021 report.pdf"

Website or sources of verification:
https://www.facebook.com/groups/NigerianBirdAtlas/permalink/2739685546323076/

Events

Presentation: Effect of climate change on the occurrence of Hooded Vulture in Sub-Saharan Africa

Dates: 2022-01-18 - 2022-01-18
Organizing institution: A.P. Leventis Ornithological Research Institute
Country: Nigeria
Number of participants: 24
Comments:
Website or sources of verification: news13-news16.jpg

Communications and visibility

All key project project partners have dedicated websites for the display of mobilized occurrence records. This data is displayed in coverage maps and can be found at http://www.birdmap.africa/coverage/country/Kenya for Kenya; at http://www.birdmap.africa/coverage/country/Nigeria for Nigeria and at http://www.birdmap.africa/coverage/country/southafrica for Namibia and the Southern Africa sub-region. A central website at http://www.birdmap.africa/ currently hosts and displays in real time all data currently mobilized and recorded across all of Africa under the African Bird Atlas project. All published articles making use of the data are also listed on the website. Some data metrics e.g. reporting rate of species is also produced and displayed in different spatial and temporal units.
Latest information and activities from the project will also be posted on the partner institutions' websites and on the GBIF project webpage for the broader GBIF community. Available documents have been attached with this report for the GBIF website.

Monitoring and evaluation

Monitoring and evaluation findings

All partners are keeping track of the number of new volunteer citizen scientists via the country portals. In Nigeria for example, number of volunteer citizen scientists contributing data has grown from 3 volunteers in 2015 to >250 as at November 2021. Number of newly atlased pentads has also grown from 7 in 2015 to >3,600 in November 2021. Furthermore, analytics from the central database indicates a total of 951 new registered citizen scientists in 2019, 738 new registrations in 2020, and 715 new registered users in 2021. The fewer new registrations in 2020 and 2021 are probably due to the challenges associated with movement due to the COVID-19 pandemic.

All these volunteer citizen scientists are collectively providing occurrence records from many more pentads. In Kenya, occurrence records were provided for 398 in 2019 and 529 pentads in 2020. Similarly, in Nigeria, records were provided for 821 pentads in 2020 and 1,216 pentads in 2021. In South Africa, records were provided for an impressive 3723 pentads in 2020 and 4076 pentads in 2021.

Impact of COVID-19 pandemic on project implementation

Travel restrictions and other challenges associated with the COVID-19 pandemic has limited data mobilization efforts including a reduced number of field expeditions by citizen scientists, reduced outreach and stakeholder engagements, although some of these events are now conducted virtually. Generally, there has been some decline in number of newly registered citizen scientists since 2020.

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.

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