

# Increasing the accessibility of marine information from Colombian's Natural History Collections by mobilizing data, strengthening infrastructure, and training

**Programme:** BID

**Project ID:** BID-CA2020-055-NAC

**Project lead organization:** Marine and Coastal Research Institute "José Benito Vives de Andrés"

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

**Report approved:** 24/6/2022

## Narrative Midterm report

### Executive Summary

To date, the project has adapted to the difficult circumstances caused by the pandemic, and it has been possible to rethink the work scheme together with the partners, to carry out the digitization of data from the collections in the most efficient way, without causing cost overruns and considering the needs of both calendar and personnel by the entities. The hiring was proposed to be carried out simultaneously in all collections, but a staggered scheme has been chosen that will also allow the goals to be fully met, but without overloading the processes that are already being carried out. In the past months the focus has been digitization, and during the second half of 2022 training and dissemination will be emphasized through different workshops, but without stopping working on data management. 2023 is intended for the publication of the rest of the dataset and the consolidation of data papers. The follow-up to the project carried out both within the team and the one carried out by the institutional planning office, has allowed us to be alert to situations and respond in a timely manner. The construction of the checklist, which is one of the most challenging products, progresses smoothly. To date, several virtual meetings for planning have been held with different experts. The Blog deliverable has been reconsidered, in exchange for 2 datasets that will considerably increase the records to be mobilized. Instead, all dissemination will take place specifically through the project's website provided by GBIF. The first data set has been published and one of the team members has achieved his basic certification. However, is expected that all the members of the team that is already linked achieve their advanced certification in the coming months.

### Progress against milestones

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

**Dataset published:**

Dataset	DOI
Colección Sipuncula del Museo de Historia Natural Marina de Colombia - Makuriwa (INVEMAR)	<a href="https://doi.org/10.15468/myyev9">https://doi.org/10.15468/myyev9</a>

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

**Name of the workshop participant:** Catalina Arteaga Flórez

**Certification obtained:** Basic Badge

### Report on Activities

## Activity progress summary

The project had a slow development in the first months of execution, especially as a result of the delays caused by the pandemic, specifically for the activity of hiring personnel, and as a result, there were also some delays in their training. However, the work scheme was quickly rethought, and the best time for hiring was defined, considering the normalization of face-to-face activities in the entities, and the efficiency in the administrative processes of linking. In this way, the contracting procedures were scheduled to be carried out in the first months of 2022, in exchange for the closing months of 2021. The other activities are progressing as scheduled. It is worth highlighting the planning of a new activity related to the construction of the checklist. This is a polychaete taxonomy course that was proposed by several of the partner entities, as a complementary event to the workshop of experts that will carry out the project. Although the course is biological, the project will participate by presenting a module on marine data quality and information mobilization through the GBIF and OBIS biodiversity networks. This additional activity is expected to strengthen the data management processes associated with biological collections. Greater visibility of the project will begin to be noticed from the second week of June 2022, with the start of communication and outreach activities; which will reinforce the impact of each of the planned activities on the public.

## Completed activities

### Activity: Project start and formation of the work team

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**Description:** The scope of this activity was focused on two work fronts. The first, strictly administrative, was adjusted to the estimated development time between July and October. According to this officially in the institution, the project began on September 7, 2021, once the first disbursement of the grant was monetized. During this time, multiple institutional tasks were developed for the administrative and planning opening of the project, these included the creation of the cost center, instruction in contractual procedures, opening of the project in the planning office, and management of institutional backup resources (accounts and server space), among others. A second front was related to the selection and hiring of personnel, and in this sense, the activity and times were reassessed, since at that time in the country we were again in confinement measures and strict restriction of mobility due to the effect of the pandemic. This added to the inconveniences caused by COVID throughout the year, and the sum of other public order situations caused closures in some partner universities or delays in the normalization of their activities, which made it difficult to start face-to-face activities ending the year. For these reasons, it was considered more appropriate to hire the personnel who would work in these places, in the first months of 2022, so that the development of the activities would be more efficient, and would not have to be interrupted, while the vaccination schemes were completed for the official return to activities. Meanwhile, to avoid impacting the project in its normal development, it was decided to make strong progress with the counterpart staff in the initial development of the activities in the Invemar collections. Since these are the ones that have the greatest commitment to the number of records to be digitized and mobilized. Thus leaving the contracting of the personnel of the other collections that belong to the universities for the first months of 2022. Likewise, it was decided to establish a staggered scheme of work with these collections, considering hiring first the personnel of the CBUMAG, CEMUA, and Universidad del Valle collections, which follow in order by the number of committed records, and finally from the second semester of the year to the two small collections of the Universidad Tecnológica del Chocó and Universidad El Bosque. To date, the process is progressing according to the established plan.

**Start Date - End Date:** 1/7/2021 - 1/10/2021

**Verification Sources:** Contracts

### Activity: Development of initial training workshops for the work team

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**Description:** Two project team members completed the BID capacity enhancement workshop online. A basic badge was received by one of them, and the other participant will be applying for the certification soon. We expect to add another 5 members that complete the training during June 2022. These people are part of the team hired in April to work on the collections of the other partner entities.

**Start Date - End Date:** 1/7/2021 - 1/10/2021

**Verification Sources:** Badge received.

## Report on Deliverables

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### Deliverables progress summary

To date, progress has been made in the digitization of eight collection dataset deliverables; One has been published and another four are pending to start the digitization process. The latter corresponds to the smallest data sets, so there is no impact on the projected digitization plans. Likewise, progress is

being made in the construction of the checklist, which is one of the most challenging deliverables; progress is currently being made in the bibliographic compilation stage, and some meetings have been held with specialists to plan the activities associated with the validation of the information. On the other hand, the compilation of two additional datasets has also begun, which we propose as an alternative in exchange for the Blog deliverable (a broader explanation has been given in the Progress update item for this product), these datasets will add 7000 records to those proposed. In general, the project has estimated progress of 25%, considering the different work fronts. A greater impact in terms of finished deliverables has been caused by delays in hiring support personnel for digitization in partner entities, as a result of the complications caused by the pandemic, and delays in returning to face-to-face activities. However, this staff has already been hired, is active, and it is expected that the staggered digitization plan will help facilitate data digitization and publication work, focusing on the collections with the greatest commitments in terms of the number of records committed. It is noteworthy that there are no delays in the scheduled dates for the deliverables since these were considered from the proposal to be published until 05/31/2023. It is only about reorganizing activities to overcome difficulties and facilitate task management.

## Progress towards deliverables

### Dataset deliverables

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#### **Colección Estuarina y Marina de la Universidad de Antioquia - CEMUA**

**Dataset type:** Occurrences

**Dataset scope:** Specimens of phyla Mollusca, Annelida, Crustacea, Echinodermata, and Sipuncula from continental and oceanic areas of the Caribbean Colombian.

**Number of records:** 1,500

**Data holder:** Universidad de Antioquia

**Data host institution:** INVEMAR

**% complete:** 10%

**Status update:** Diagnosis of the information documentation status carried out, digitization in progress.

**DOI:**

**Expected date of publication:** 2022-12-30

#### **Colección de Biología Marina del Centro de Colecciones Biológicas de la Universidad del Magdalena – CBUMAG**

**Dataset type:** Occurrences

**Dataset scope:** Phyla Mollusca, Annelida, Crustacea, Echinodermata, Bryozoa, Platyhelminthes, Sipuncula, and Nematoda of meiofaunal communities from shallow and deep areas of the Caribbean Colombian.

**Number of records:** 1,500

**Data holder:** Universidad del Magdalena

**Data host institution:** INVEMAR

**% complete:** 10%

**Status update:** Diagnosis of the information documentation status carried out, digitization in progress.

**DOI:**

**Expected date of publication:** 2023-05-31

#### **Organismos marinos del Museo de Ciencias de la Universidad El Bosque**

**Dataset type:** Occurrences

**Dataset scope:** Phyla Mollusca, Annelida, Crustacea, Echinodermata, Cnidaria, and Porifera from shallow areas of the Caribbean Colombian.

**Number of records:** 150

**Data holder:** Museo de Ciencias Universidad El Bosque

**Data host institution:** INVEMAR

**% complete:** 0%

**Status update:** Digitization postponed for the second half of 2022, due to delays in hiring due to the restrictions caused by COVID.

**DOI:**

**Expected date of publication:** 2022-10-31

#### **Colección Porifera del Museo de Historia Natural Marina de Colombia (MHNMC) - Makuriwa INVEMAR**

**Dataset type:** Occurrences

**Dataset scope:** Phylum Porifera from continental and oceanic areas of the Colombian Caribbean, both shallow and deep waters.

**Number of records:** 1,500

**Data holder:** INVEMAR

**Data host institution:** INVEMAR

**% complete:** 30%

**Status update:** Digitization in progress.

**DOI:**

**Expected date of publication:** 2022-07-30

**Colección Bryozoa del Museo de Historia Natural Marina de Colombia (MHNMC) - Makuriwa INVEMAR**

**Dataset type:** Occurrences

**Dataset scope:** Phylum Bryozoa from continental and oceanic areas of the Colombian Caribbean, mainly from deep environments.

**Number of records:** 2,000

**Data holder:** INVEMAR

**Data host institution:** INVEMAR

**% complete:** 10%

**Status update:** Digitization in progress.

**DOI:**

**Expected date of publication:** 2023-05-31

**Colección Annelida del Museo de Historia Natural Marina de Colombia (MHNMC) - Makuriwa INVEMAR**

**Dataset type:** Occurrences

**Dataset scope:** Phylum Annelida from shallow and deep environments of the continental and oceanic areas of the Colombian Caribbean and Pacific.

**Number of records:** 2,000

**Data holder:** INVEMAR

**Data host institution:** INVEMAR

**% complete:** 40%

**Status update:** Digitization in progress.

**DOI:**

**Expected date of publication:** 2022-09-30

**Colección Nematoda del Museo de Historia Natural Marina de Colombia (MHNMC) - Makuriwa INVEMAR**

**Dataset type:** Occurrences

**Dataset scope:** Phylum Nematoda from shallow and deep environments of the continental and oceanic areas of the Colombian Caribbean.

**Number of records:** 300

**Data holder:** INVEMAR

**Data host institution:** INVEMAR

**% complete:** 70%

**Status update:** Digitization and Structuring in Darwin core in progress.

**DOI:**

**Expected date of publication:** 2022-07-30

**Colección Sipuncula del Museo de Historia Natural Marina de Colombia (MHNMC) - Makuriwa INVEMAR**

**Dataset type:** Occurrences

**Dataset scope:** Phylum Sipuncula from shallow and deep areas of the Colombian Caribbean.

**Number of records:** 200

**Data holder:** INVEMAR

**Data host institution:** INVEMAR

**% complete:** 100%

**Status update:** Completed

**DOI:** <https://doi.org/10.15468/myyev9>

**Expected date of publication:**

**Colección Tunicata del Museo de Historia Natural Marina de Colombia (MHNMC) - Makuriwa INVEMAR**

**Dataset type:** Occurrences

**Dataset scope:** Subphylum Tunicata from shallow and deep areas of the Colombian Caribbean.

**Number of records:** 50

**Data holder:** INVEMAR

**Data host institution:** INVEMAR

**% complete:** 0%

**Status update:** Digitization in progress.

**DOI:**

**Expected date of publication:** 2023-04-30

**Organismos marinos de la Colección Hidrobiológica del Chocó - CHbCH, Universidad Tecnológica del Chocó**

**Dataset type:** Occurrences

**Dataset scope:** Phyla Crustacea, Echinodermata, Mollusca, Cnidaria, Annelida from shallow

environments of Pacific Ocean of Colombia

**Number of records:** 150

**Data holder:** Universidad tecnológica del Chocó - UTCH

**Data host institution:** INVEMAR

**% complete:** 0%

**Status update:** Digitization postponed for the second half of 2022, due to delays in hiring due to the restrictions caused by COVID.

**DOI:**

**Expected date of publication:** 2022-12-05

**Colección Brachiopoda del Museo de Historia Natural Marina de Colombia (MHNMC) - Makuriwa INVEMAR**

**Dataset type:** Occurrences

**Dataset scope:** Phylum Brachiopoda from shallow and deep environments of the Colombian Caribbean.

**Number of records:** 50

**Data holder:** INVEMAR

**Data host institution:** INVEMAR

**% complete:** 0%

**Status update:** Digitization in progress.

**DOI:**

**Expected date of publication:** 2023-03-30

**Colección de Tejidos del Museo de Historia Natural Marina de Colombia (MHNMC) - Makuriwa INVEMAR**

**Dataset type:** Occurrences

**Dataset scope:** Tissues of fish, echinoderms, mollusks, cnidarians, crustaceans, sponges, from shallow areas of the Colombian Caribbean and Pacific.

**Number of records:** 1,000

**Data holder:** INVEMAR

**Data host institution:** INVEMAR

**% complete:** 20%

**Status update:** Digitization in progress.

**DOI:**

**Expected date of publication:** 2023-05-31

**Invertebrados de las Colecciones marinas de la Universidad del Valle**

**Dataset type:** Occurrences

**Dataset scope:** Phyla Mollusca, Cnidaria, Echinodermata, Annelida - Polychaeta, Crustacea, Porifera, from Pacific Colombian.

**Number of records:** 1,000

**Data holder:** Universidad del Valle

**Data host institution:** INVEMAR

**% complete:** 10%

**Status update:** Diagnosis of the information documentation status carried out, digitization in progress.

**DOI:**

**Expected date of publication:** 2023-03-30

**Listado de los Annelida marinos de Colombia / Checklist of Marine Annelida of Colombia**

**Dataset type:** Checklist

**Dataset scope:** Marine species of phylum Annelida from Colombia.

**Number of records:** 150

**Data holder:** INVEMAR

**Data host institution:** INVEMAR

**% complete:** 20%

**Status update:** Compilation of bibliographic information and digitization of data in progress.

**DOI:**

**Expected date of publication:** 2023-05-31

**Other deliverables**

**Blog of BID Project "Increasing the accessibility of marine information from Colombian's Natural History Collections by mobilizing data, strengthening infrastructure, and training".**

**Description:** Online blog with access to each training workshop led by the Project, it will include description, contents, photographs, participants list and certificates (if applicable). The outreach activities and products of communication will also be include.

**% complete:** 0%

**Status update:** Proposed change. We have concluded that this product no longer has the impact with which it was conceived. In fact, at this moment it would imply a double effort for us since we would

have to feed the Blog and also the GBIF website with practically the same information, which does not make much sense. Clearly, it is much better to centralize the information at the project site, which is also supported by the GBIF infrastructure. Considering this, we would kindly like to propose to the BID Coordinator Team that allows us to exchange this product for two non-digitized datasets, which would add up to 7000 records. The sets would be "Foraminifera Collection of the Marine Natural History Museum of Colombia" (3500 records) and "Mollusca Collection of the Marine Natural History Museum of Colombia" (3500 records). We believe that this proposal would have much more relevance and impact with respect to the goals of the project and the grant. This change will have no implications on the current approved budget. We can digitize these datasets as part of ongoing activities.

**Sources of verification:** N/A

#### **Data papers**

**Description:** Three data papers published, it will provide the link to access to full available documents or it provide copy of the publications.

**% complete:** 0%

**Status update:** These deliverables are scheduled to be developed between 01-10-2022 and 20-06-2023

**Sources of verification:** N/A

### **Communications and visibility**

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The communication component has been the least developed during this stage of project execution since efforts have been concentrated on the organization and digitization of data. The difficult start due to delays caused by the pandemic in hiring personnel also affected the development of informative content. However, as the training activities and events are originally scheduled to be deployed from mid-June 2022, we are committed to generating collective work in this regard with the partner entities in order to properly disseminate the activities among the community. Some infographics are ready on the importance of data mobilization with the project and on biological collections, as well as the publication of a podcast on the experience of an intern with the development of the project. These products will be disclosed in the second week of June through the Project webpage.

### **Monitoring and evaluation**

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#### **Monitoring and evaluation findings**

The internal monitoring of activities by both the project and the institutional follow-up alerted to the difficulties and delays experienced, allowing the team to react with the reorganization of activities, with the least possible impact. Likewise, the follow-up by Leonardo Buitrago as a representative of the GBIF regional support team has also been essential to detect alerts and find a fluid and very timely communication channel to resolve concerns and inconveniences. Their advice is considered essential for the training processes that will take place in the second half of 2022. In collaboration with the partners, a rethinking of the dissemination plan will be carried out to strengthen the communication and dissemination component, which during this first stage of execution it was affected by the reorganization of activities to respond to the circumstances, not being possible to be developed in the desired way with the available personnel.

### **Impact of COVID-19 pandemic on project implementation**

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The project has suffered different impacts, directly due to health effects due to COVID of a couple of team members, the project coordinator, and one of the researchers, who fortunately overcame it. Additionally, the pandemic generated delays due to the strong confinement measures and restrictions adopted by the country, which made it difficult to access universities and, in general, face-to-face work in biological collections, and consequently limited progress in digitization activities. These activities are perhaps one of the most critical points of this project, since a large part of the committed records were completely undigitalized, a task that is very demanding in terms of time and direct work in the collections. On the other hand, the return to normalcy by the institutions also took time and almost coincided with the closing stage of the year, which for public entities such as universities and research institutes in the country generates a great administrative burden, and therefore, it was necessary to reformulate the personnel hiring process and plan the development of the activities in stages with the partner entities. Despite the inconveniences and delays, it should be noted that the project was organized to advance with the counterpart staff in the activities and we are sure that the implications have only been for the agenda, and in no case have they altered the budget or the goals to be achieved.

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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.

