BIODIVERSITY DATA MANAGEMENT AT THE ALEXANDER von HUMBOLDT INSTITUTE

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Humboldt Institute
Kew Gardens, UK
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Agenda

• The Institute
• Data and Information at the Institute
• Institutional Data and Information Infrastructure
• Data and information at the Infrastructure
• Biological data standardization and publication
• Support documents
• Available data
• What’s coming
Institute Mission

To promote, coordinate and carry out research that contributes to the conservation and sustainable use of the biological biodiversity in Colombia.
DATA AND INFORMATION AT THE INSTITUTE

Types

- Geographic data and information
- Species occurrences
- Socioeconomic data
- Species checklists
- Monitoring data
- Reports
- Bibliographic products
- Response to requirements
- Videos
- Sounds
- Camera Trapping
- Images
- Species distribution models
- Indicators
DATA AND INFORMATION AT THE INSTITUTE

- Institutional Data and Information Infrastructure
- Institutional Documents Repository
- Environmental Images Bank
- Biological Collections
INSTITUTIONAL DATA AND INFORMATION INFRAESTRUCTURE

Access gateway to the data and information generated in the fulfillment of the mission of the Institute

- Integration of data and information generated by the Institute
- Ensure data and information minimum quality
- Ensure data and information access
- Ensure data and information persistence over time

Data and information to be consulted and used in knowledge construction processes to contribute in the conservation and sustainable use of biodiversity in Colombia

Interoperability
INSTITUTIONAL DATA AND INFORMATION INFRASTRUCTURE

Integration of data and information generated by the Institute
Ensure data and information minimum quality
Ensure data and information access
Ensure data and information persistence over time

INCORPORATION GUIDELINES
RESEARCHERS AND CONTRACTORS SUPPORT
ARTICULATION WITH OTHER AREAS
ACCESS AND RELEASE DATA POLICY
DATA AND INFORMATION CATALOGS
DATA AND INFORMATION CUSTODY
DATA AND INFORMATION AT THE INFRAESTRUCTURE

- OCCURRENCES
- CHECKLISTS
- SAMPLING EVENTS

CEIBA
 Biological Information Catalog

GEONETWORK
 Geographical Information Catalog

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BIOLOGICAL DATA

**OCCURRENCES**
- Preserved specimens
- Human observations
- Machine observations

**CHECKLISTS**
- Thematic inventories
- Regional inventories
- Derived from occurrences

**SAMPLING EVENTS**
- Soundscapes
- Long-term monitoring plots
BIOLOGICAL DATA STANDARIZATION

EXCEL

R - TAXIZE

R - GEOVALIDATOR

Terms duplicity
Formats
Mandatory elements

Scientific names validation
Higher taxonomy

Full matching between coordinates,
state/province and county
BIOLOGICAL DATA PUBLICATION

Private and public

OCCURRENCES
CHECKLISTS
SAMPLING EVENTS

CEIBA
Biological Information Catalog

R Table

Public

IPT
Integrated Publishing Toolkit

GBIF

SiB-Colombia

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SUPPORT DOCUMENTS

- Incorporation Guidelines
- Occurrences templates – DwC
- Checklists templates – DwC
- Sampling event templates – DwC
- Darwin Core profile (IAvH adaptation)
- Biological metadata profile (IAvH adaptation)
- Monitoring data publication document – event core (DwC)
AVAILABLE DATA

- Occurrences: 267
- Checklists: 118
- Sampling event: 15
- Others: 16

Resource = Metadata + Dataset

1,168,037
Primary: 1,102,037
Secondary: 66,000

Primary: 1,102,037
Secondary: 66,000
AVAILABLE DATA

FONDO DE ADAPTACION PROJECT
Available resources and occurrences

60 PARAMOS AND WETLANDS

15 Checklists

45 Occurrences

128,580
AVAILABLE DATA

LA PLANADA PROJECT
Available resources and occurrences

BIGGEST PLOT
500m X 500m

Occurrences

177,494

2 Census
AVAILABLE DATA

LONG-TERM PLOTS
Available resources and occurrences

OCCURRENCES

37.619

Tropical dry forest
Tropical rainforest
### AVAILABLE DATA

#### COLOMBIA BIO PROJECT
Available resources and occurrences

<table>
<thead>
<tr>
<th>Department</th>
<th>Occurrences</th>
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<tbody>
<tr>
<td>SANTANDER</td>
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<td>VICHADA</td>
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<td>ANTIOQUIA</td>
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<table>
<thead>
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<tr>
<td>4,694</td>
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<tr>
<td>2,350</td>
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<td>3,510</td>
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AVAILABLE DATA

CUNDINAMARCA ORCHIDS
SANTANDER BIO
BOYACÁ BIO
INSTITUTIONAL DATA AND INFORMATION INFRASTRUCTURE

GEOGRAPHIC DATA

GEODATABASES  SHAPES  RASTER  WEB SERVICES
GEOGRAPHIC DATA STANDARDIZATION

METADATA

ISO 19115  ISO 19139

VALIDATION

Metadata
Quantitative information

PUBLICATION

ISO 19113
SUPPORT DOCUMENTS

Docs

- Geographic metadata profile
- Construction of a geographic data model – Methodological proposal
- Quality parameters for geographic data – Proposal
- Remote sensors management – Proposal
AVAILABLE DATA

Resource = Metadata + Dataset

58 Web Services
WMS - WFS

- Geoscientific information
- Inland waters
- Environmental
- Land cover with basic maps
- Localization
- Others

436

64%

14%

8%

8%

3%
AVAILABLE DATA

HUMBOLDT INSTITUTE OCCURRENCES

Georeferenced occurrences generated by the Institute and available online
AVAILABLE DATA

STRATEGIC ECOSYSTEMS DELIMITATION AND MANAGEMENT

Provide support information to the environmental authorities for the Colombian ecosystems identification, delimitation and management process

- Colombian Paramos 1:100,000
- Insular and continental wetland 1:100,000
- 21 Colombian Paramos 1:25,000
- Wetland and Paramo’s land cover 1:25,000
AVAILABLE DATA

Biogeographic, ecological and strategic planning approach in the operational Ecopetrol areas.

10 layers

- Biomas
- Total collapse
- Hidrology
- Conservation goals
Environmental variables in the oil palm crops planning and agroecological practices that protects biodiversity. This project was focused in two sub regions (north and east).

26 layers

<table>
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<tr>
<th>Species richness</th>
<th>1:100,000</th>
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<tbody>
<tr>
<td>Coverage</td>
<td>1:25,000</td>
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<tr>
<td>Shrub Forest</td>
<td>1:25,000</td>
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</table>
AVAILABLE DATA

Important Bird Areas (IBAs)

Tropical dry forest
1:100,000
WHAT’S COMING

R table

Relational database

DATABASE
WHAT’S COMING

BioModelos

INDICADORES DE BIODIVERSIDAD

REPOSITORY

ONLINE COLLECTIONS

IMAGES BANK

GEONETWORK

CEIBA

Others...

“DIGITAL HUMBOLDT” PROJECT

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