

# Leandro Biondo

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## Summary

Manager of the Science Division at the National Institute of the Atlantic Forest (INMA / MCTIC [www.gov.br/inma](http://www.gov.br/inma)) located in Santa Teresa, Espirito Santo, Brazil. Since 2021 appointed as substitute Director of INMA. Supports the execution of research projects and the management of the Institute.

INMA has 43 researchers and 49 employees, 68 of which in the Science Division working with biodiversity projects, a botanical garden and zoo with Atlantic forest species, reception of visitors and scientific collections administration at the Mello Leitão Museum. The museum receives 90 thousand visitors a year and the Institute annual budget is around 5.5 million reais.

Since 2013 I have worked with forest georeferenced data, helped build the [www.car.gov.br](http://www.car.gov.br) system with 6 million rural properties and the National Forest Registry (CNFP) until 2019. The CAR registry covers 6 million square kilometers and the CNFP covers 3 million, Brazil having 8.5 million in total. Both registries partly overlap and accounts for over 90% of continuous surface area in some states.

Working on Brazilian government on environmental, agricultural and science departments, I have implemented and managed multiple SIG systems, mostly open source projects joining PostGIS with Geoserver, Leaflet, Dokuwiki, WMS and WFS services with usage of RADAR, LIDAR and multispectral imagery. Participated on projects with analysis relating landscape with forest survey and remote sensing. Have built systems on local servers and AWS/Google Cloud environment. Experience with Vsphere, Vmware, Linux and Windows server administration (Services examples: [rede.inma.gov.br/dokuwiki](http://rede.inma.gov.br/dokuwiki), [sistemas.florestal.gov.br/geoserver](http://sistemas.florestal.gov.br/geoserver), [rede.inma.gov.br/geoserver](http://rede.inma.gov.br/geoserver)).

Trained multiple teams from Brazilian government institutions (CNMP, IBAMA, INCRA, SFB) with GIS software, and given small courses like <https://youtu.be/U5AgxCDpjko> that I keep on YouTube for anyone interested on using those tools and techniques the way I managed to.

Coordinator of Regenera Brazil Initiative at the Atlantic Forest, technical-scientific initiative for evaluating the recovery of biodiversity and ecological services, as well as mitigation and adaptation to climate change in Brazilian ecosystems. This project has 5 researchers related to permanent activities.

Supervisor of research projects at the program "Knowledge, conservation and sustainable development in the Atlantic Forest" with 38 researchers on six different areas from biological surveys to historical and georeferenced data related to biodiversity.

## Experience



### Science Division Manager

Ministry of Science, Technology and Innovation

Mar 2020 - Present (2 years 1 month +)

manager of the Science Division at the National Institute of the Atlantic Forest (INMA / MCTIC). Since 2021 appointed as substitute Director of INMA. Science division includes a Zoo-botanical garden,

a Museum that receives around 90 thousand visitors per year, including a library and scientific collections of zoology and botanic species. Currently hosts 52 researchers in 8 biology projects on biodiversity, forest restoration, biology history and environmental modeling.

<http://lattes.cnpq.br/8285626160583457>



## **Environmental Analyst**

Ministry of Science, Technology and Innovation

Oct 2019 - Present (2 years 6 months +)

Environmental Analyst since 2013, currently works as manager of the Science Division at the National Institute of the Atlantic Forest of the Ministry of Science, Technology, Innovation and Communications (INMA / MCTIC). Since 2021 appointed as substitute Director of INMA. Supports the execution of research projects and the management of the Institute, which includes the Botanical and Zoology collections of the former Mello Leitão Biology Museum, the Fernando Lee Library and the Santa Lúcia and São Lourenço Biological Research Stations. The institute has 15 government servants and 34 contract workers who take care of the museum and zoobotanical garden, as well as administrative and research support.

Project development and management on institutional website, corporate Wiki, scientific journal software, geospatial services and georeferenced database administration.

Coordinator of Regenera Brazil Initiative at the Atlantic Forest. This program is a technical-scientific initiative for better understanding the recovery of biodiversity and ecosystem services, as well as mitigation and adaptation to climate change in Brazilian ecosystems. This project has five researchers related to permanent activities.

Since 2020 acts as supervisor of research projects at the ministry program "Knowledge, conservation and sustainable development in the Atlantic Forest" that aims to support INMA in research, development and innovation activities related to biodiversity. The program has eight specialists who supervise four to ten researchers on six different areas from biological surveys to historical and georeferenced data related to biodiversity. The program has a total of 48 full-time scientists.



## **Project Manager**

Ministry of Science, Technology and Innovation

Dec 2020 - Present (1 year 4 months +)

Manage field survey and analysis team for Atlantic Forest part of the initiative, covering areas on the states of Espírito Santo, Minas Gerais and Bahia.

- i. Selection of priority areas;
- ii. Implantation of pilot projects;
- iii. Sistematization of recuperation methods;
- iv. Monitoring of recuperations areas;
- v. Support for public policies and private programs.



## **Project Supervisor**

Ministry of Science, Technology and Innovation

Aug 2020 - Present (1 year 8 months +)

Supervisor of the institutional program on biodiversity, with six projects listed below. Each project has research supervisors who are specialists on the research fields. Activities include field trip planning, equipment acquisition, human resources selection and management, cost planning and execution, event promotion, evaluation of results and accountability.

PCI 1 — Biodiversity conservation in the central Atlantic Forest

PCI 2 — Conservation and Restoration of the Atlantic Forest in the Rio Doce Watershed

PCI 3 — Diagnosis of conservation units and endangered species in the Brazilian Atlantic Forest

PCI 4 — Biodiversity, conservation and perspectives for the study of rupicolous ecosystems in the Atlantic Forest

PCI 5 — Organization and digitization of collections on the history of the Atlantic Forest and the history of nature conservation

PCI 6 — Citizen science in the generation of knowledge, dissemination and scientific education



## **Environmental Analyst**

Serviço Florestal Brasileiro - Ministério do Meio Ambiente

Jun 2013 - Present (8 years 10 months +)

Working at the Brazilian Forests Service (part of Brazilian Ministry of Environment and currently at the Agriculture Ministry) on image analysis, geoprocessing, remote sensing and general programming.

Manage software development projects related to forest management, forest inventory, rural properties environmental registry, landscape analysis and traditional people regions.

- Database development and management (PostgreSQL);
- Image processing;
- Image and data analysis;
- Remote sensing;
- Python, IDL, GDAL and other GIS related programming and scripting;
- QuantumGIS, ArcGIS and Grass usage;
- License, network, GIS, database and map server administration;
- Forest knowledge, mapping and management;
- Natural resources evaluation and usage planning;
- Economical modelling of scenarios for sustainable use of land areas and forests;
- Gather and analyse and relate various data from different organizations (public and private).



## **Environmental Specialist**

Ministerio da Agricultura

Jan 2019 - Oct 2019 (10 months)



## **Project Contributor**

ARBI

Sep 2007 - Feb 2014 (6 years 6 months)

Design of HVAC (artificial climatization) systems for commercial and residential buildings from houses to industrial complexes.

Full environment analysis for dimensioning and adapting the building for the most comfort with the least energy impact.

ASHRAE compliant HVAC, ventilation, safety and comfort specifications. Environmental certification on buildings (LEED Green Building, AQUA, PROCEL-Edifica)

Retrofit analysis of commercial buildings on HVAC system selection, investment and operational cost prediction based on annual simulation on energy modeling.



### **Energy Efficiency Consultant**

CTE - Centro de Tecnologia de Edificações

Sep 2011 - May 2013 (1 year 9 months)

- Consulting on energy efficiency of commercial buildings, including envelope components, light power, equipment and occupation density and scheduling;
- Air conditioning consulting on chilled water and direct expansion systems, including thermal energy storage for demand peak usage;
- Usage of efficiency strategies such as energy recovery systems (mechanical and thermal), high performance windows and light dimmerization;
- Simulation of natural ventilation systems on warehouses for LEED certification;
- Implementing and verifying buildings and systems in accordance to national and international standards like Brazil's NBR16.401 and USA's ASHRAE 55, 62.1 and 90.1;
- EnergyPlus Simulation accordingly to ASHRAE 90.1 Appendix G for LEED Green Building Certification;
- LEED Green Building consulting with focus on Energy and Atmosphere items;
- Tariff and costs implementation and analysis on whole year simulations with EnergyPlus;
- Usage of Meteorological data on Energy and Water aspects, including building irrigation and natural ventilation;
- Data collection and results presentation to clients;
- 2d and 3d project analysis, constructive material gathering, representation of real world constructions and systems on physical and mathematical models;
- Engineering and energy data validation and application;
- Simulation server administration and automation of processes and energy plus jobs;
- BIM model analysis;
- Wind and Solar energy production for usage on warehouses, commercial buildings and shopping centers;



### **Inter**

Universidade de São Paulo

Jul 2005 - Jan 2007 (1 year 7 months)

Help Desk on computer network, web services, e-mail services, telephone issues, wireless, general software and hardware.

Web page development, data base management and security assessment.

## **Education**



### **Universidade de Brasília**

Master of Science - MS, Forest Management/Forest Resources Management

Jan 2015 - Oct 2016



### **Universidade de São Paulo**

Bachelor, Meteorology

2004 - 2010



## **Universidade Federal do Rio de Janeiro**

Meteorology

2003 - 2004

Continued my studies at Universidade de São Paulo



## **ETFG - Sebrae**

Technician, Business, Economics, Accountancy

2000 - 2003

## **Licenses & Certifications**



**Brazil Remote Sensing Survey (RSS) training - FAO**



**Training eCognition Tools + Functionality - Trimble Inc.**



**Dinamica Project - Módulo I - Dinamica EGO - Universidade Federal de Minas Gerais**



**Planning of Hiring and Selection of IT Suppliers for Brazilian Gov. - Enap**



**16th WEEK OF BUDGETARY, FINANCIAL AND PUBLIC CONTRACTING ADMINISTRATION. - Enap**



**Public Budget Management - Enap**



**LEGAL TOOLS FOR INNOVATION - IFCE-Maracanaú**



**Satellite fire monitoring and geoprocessing - INPE**



**Workshop Adding Geo to PostgreSQL with PostGIS - Serpro**



**FOSS4G Boston 2017 - National Collaborative Mapping of Forests and Natural Resources From a Government Initiative - FOSS4G**



**Land And Poverty 2019 - OPEN INTERACTIVE MAP PLATFORM INFRASTRUCTURE TO SUPPORT PROJECTS ON LOCAL AND REGIONAL SCALE. - The World Bank**



## **Land And Poverty 2020 - CORRELATION BETWEEN RURAL BRAZILIAN PROPERTY PERIMETERS DECLARED IN SICAR AND SIGEF - The World Bank**

### **Skills**

Energy Efficiency • LEED • Sustainability • Energy • Engineering • Fortran • GIS Modeling •  
Unix Shell Scripting • Python (Programming Language) • PostGIS