Microsoft Research
FacultySummit

The Brazillian Biodiversity Database and Information System - SinBIOTA

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Virtual Institute for Biodiversity

FUTURE/WORLD 2011 2031

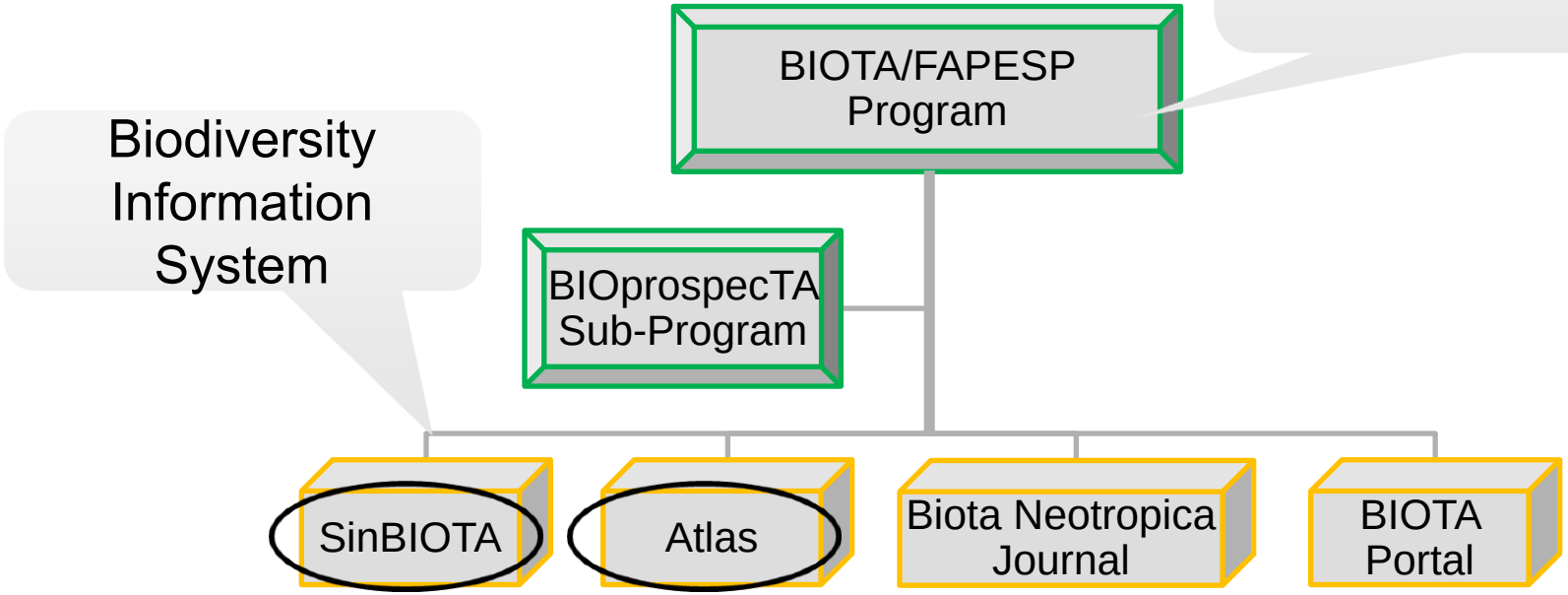
SinBIOTA

Content of this presentation

- BIOTA/FAPESP Structure
- SinBIOTA
- Occurrence Creation Form, Records, and Atlas
- BIOTA+10
- The need for re-development
- Future steps

BIOTA/FAPESP Structure

Scientific community response for CBD



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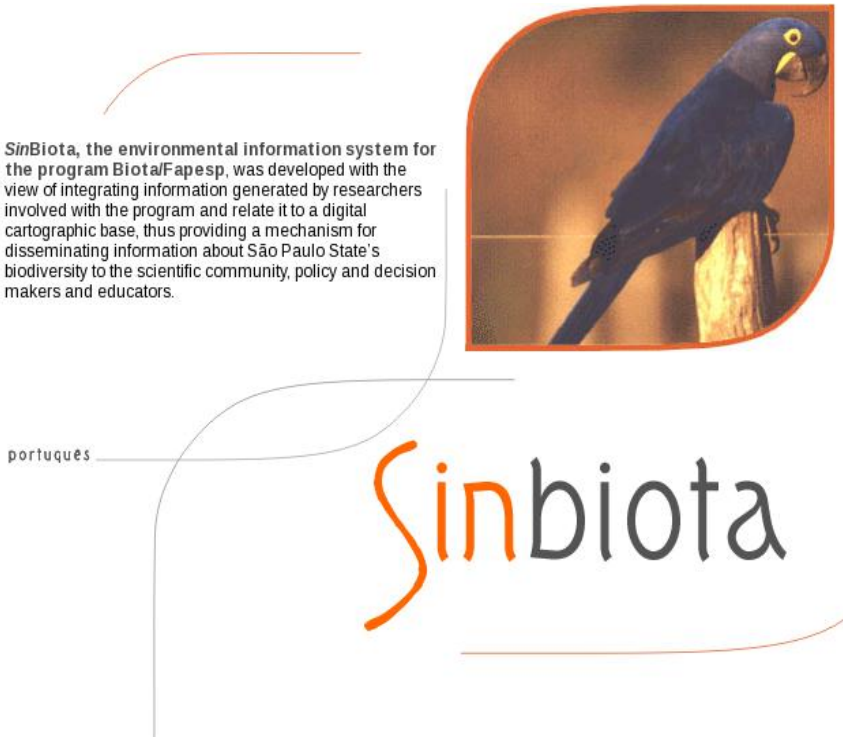
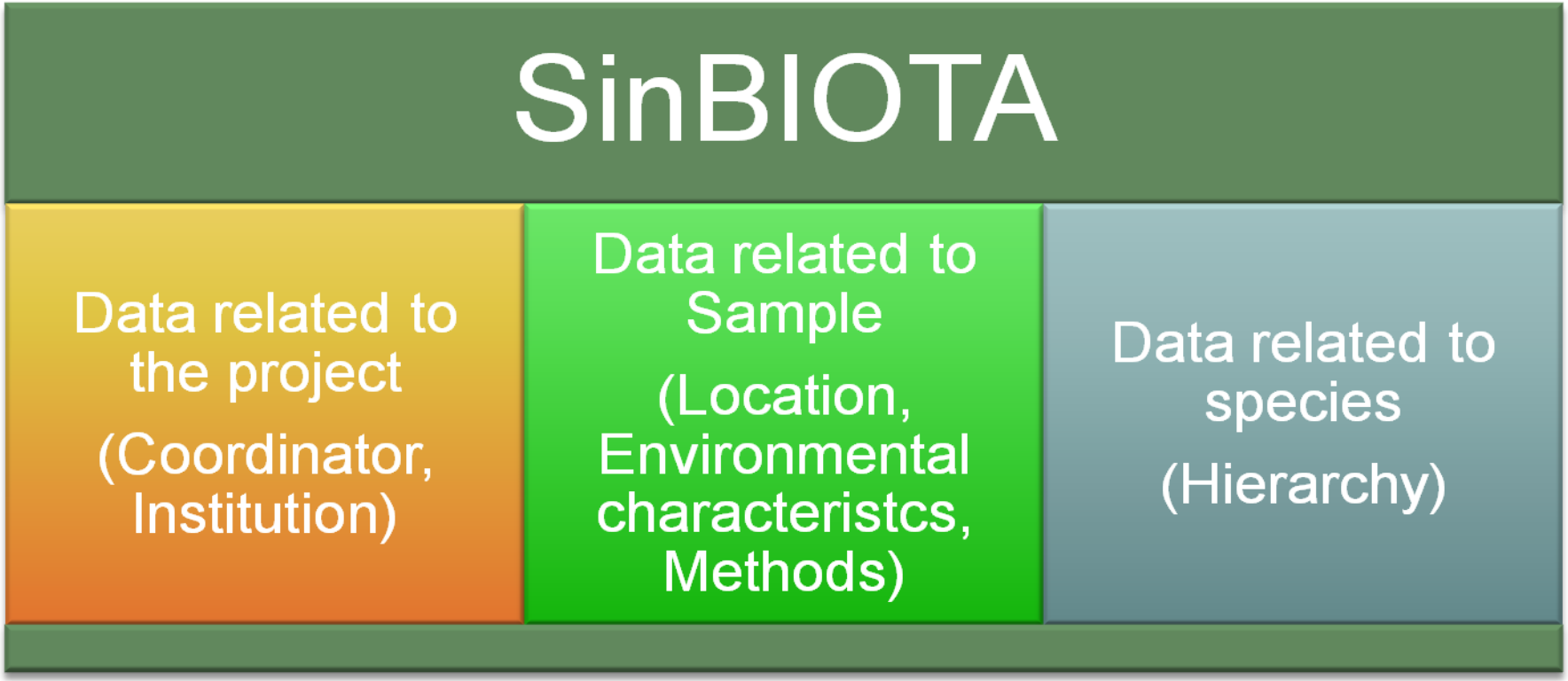


http://www.biota.org.br

- 100k records
- Around 12,000 spp.
- 85 projects
- 280 users

- GBIF gathers 293,485,946 from 339 data providers
- 1,476,405 from Brazil within 86,193 species

SinBIOTA


SinBIOTA
Data related to the project
(Coordinator, Institution)
Data related to Sample
(Location, Environmental characteristcs, Methods)
Data related to species
(Hierarchy)

SinBIOTA Form

BIOTA/FAPESP - Ficha Padrão Para Coleta/Registro

Usuário Érica Speglich (erica)

Projeto Desenvolvimento e estruturação de um Sistema de Informação A Programa Biota/Fapesp

Autor da Coleta

Referência Bibliográfica da Coleta

Data da Coleta Início

Fim

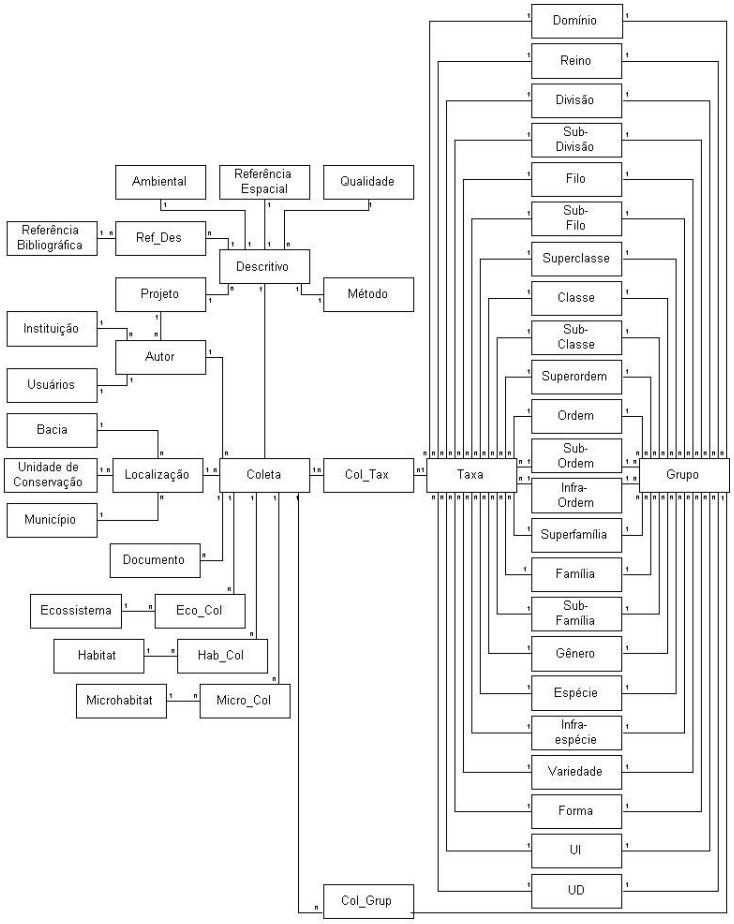
Município Adamantina , SP

Localidade

Unidade de conservação

Ambiente Terrestre

Dados



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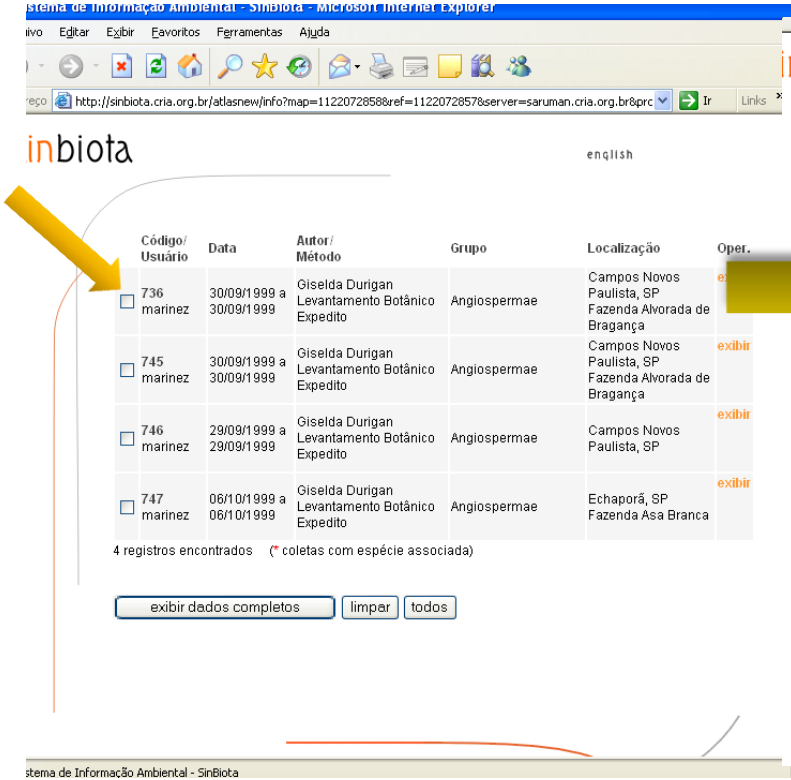
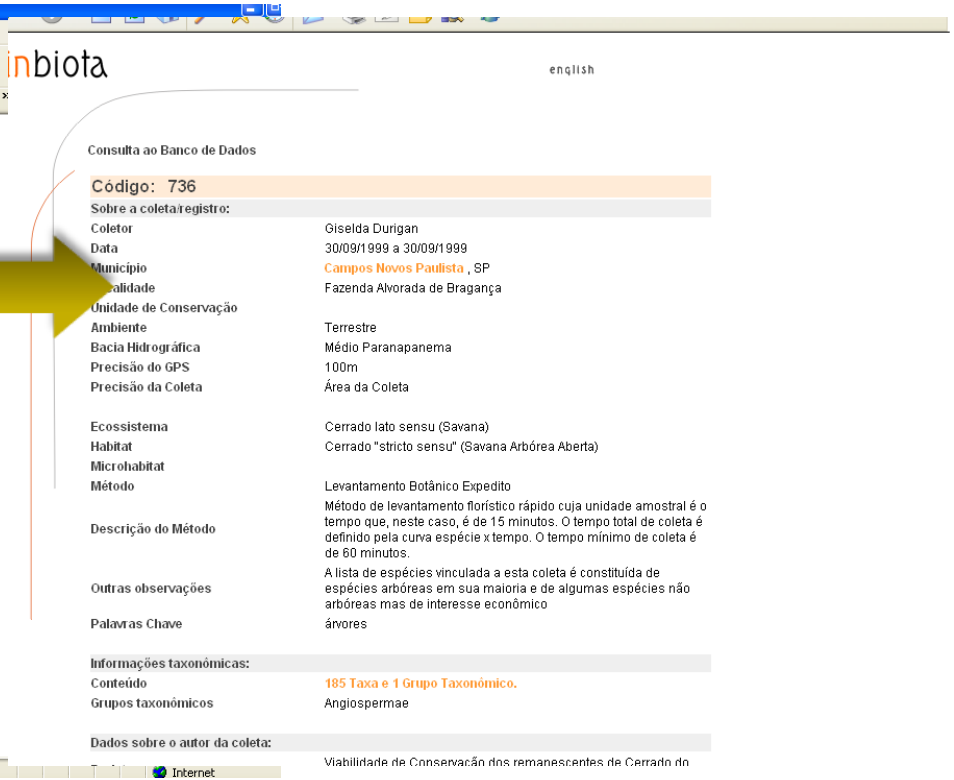
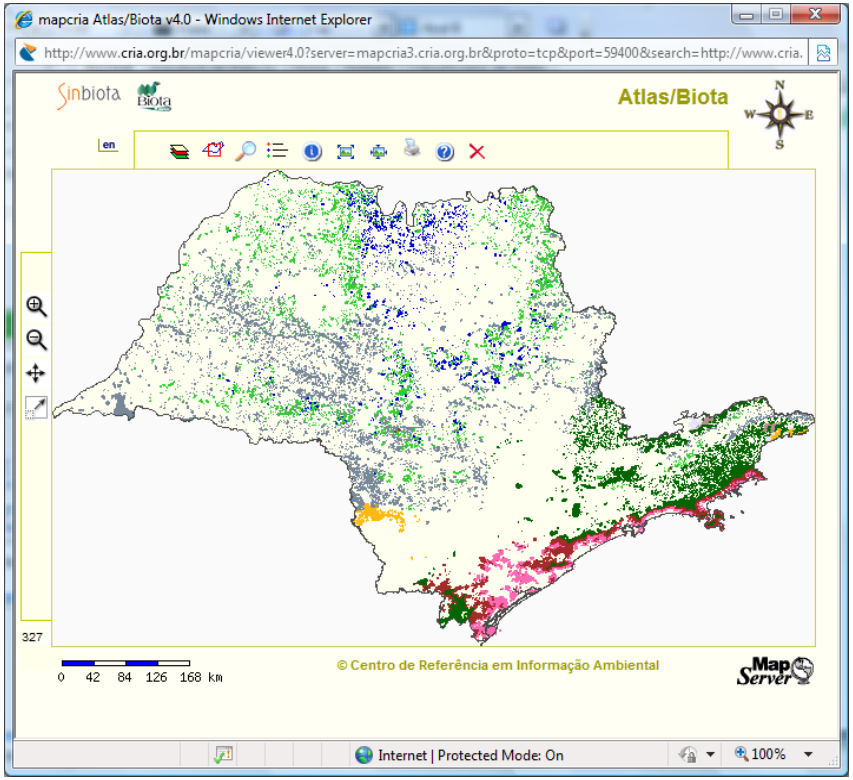
SinBIOTA Occurence Records





ATLAS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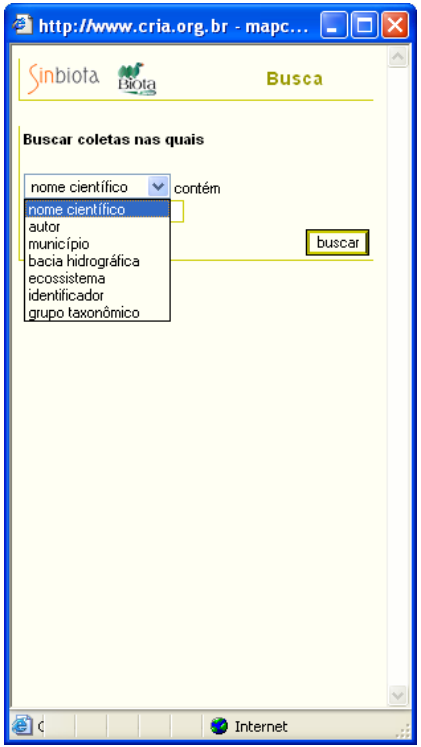
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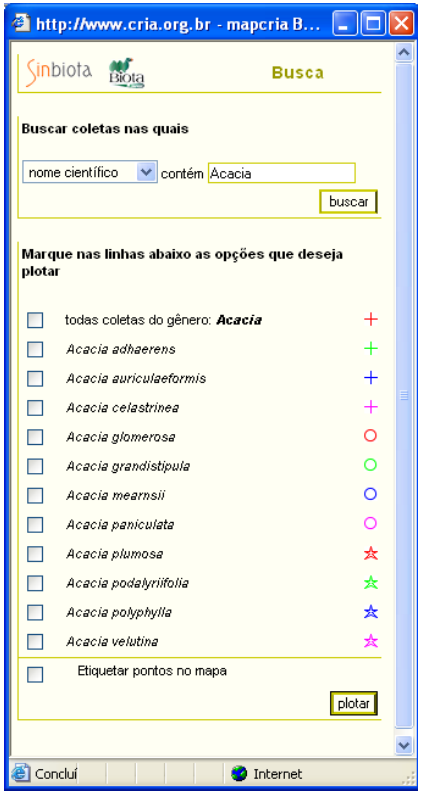
município
bacia hidrográfica
ecossistema
identificador
grupo taxonômico
buscar
Internet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Acacia auriculaeformis
Acacia celastrinea
Acacia glomerosa
Acacia grandistipula
Acacia mearnsii
Acacia paniculata
Acacia plumosa
Acacia podalyriifolia
Acacia polyphylla
Acacia velutina
Etiquetar pontos no mapa
plotar
Concluí
Internet

Other outputs

Publications

- Baseline series
- Biota Neotropica – www.biotaneotropica.org.br
- Conservation and Restoration of Biodiversity in São Paulo State
- Science Paper

Legislation

- So far 36 legal documents among State Laws and Decrees

POLICYFORUM

ECOLOGY

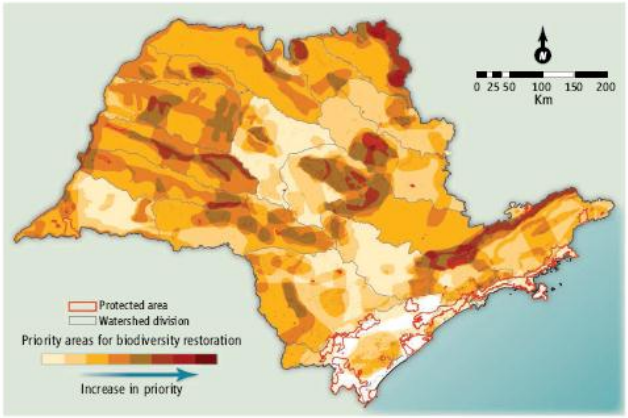
Biodiversity Conservation Research, Training, and Policy in São Paulo

The BIOTA-FAPESP program is linking a decade of research on biodiversity into public policy in the state of São Paulo.

Carlos A. Joly,[1]* Ricardo R. Rodrigues,[2] Jean Paul Metzger,[3] Célio F. B. Haddad,[4] Luciano M. Verdade,[2] Mariana C. Oliveira,[5] Vanderlan S. Bolzani[6]

Since the Convention on Biological Diversity (CBD) in 1992, biodiversity conservation (the protection of species, ecosystems, and ecological processes) and restoration (recovery of degraded ecosystems) have been high priorities for many countries. Scarce financial resources must be optimized, especially in developing countries considered megadiverse (*1*), by investing in programs that combine biodiversity research, personnel training, and public-policy impact. We describe an ongoing program in the state of São Paulo, Brazil, that may be a useful example of how conservation initiatives with a solid scientific basis can be achieved.

São Paulo's rich native biodiversity is threatened by changes in land cover and fragmentation (*2*, *3*). This prompted scientists in 1999 to found the Virtual Institute of Biodiversity, BIOTA-FAPESP. FAPESP, the State of São Paulo Research Foundation, is a nonpolitical, taxpayer-funded foundation, one of the main funding agencies for scientific and technological research in Brazil,

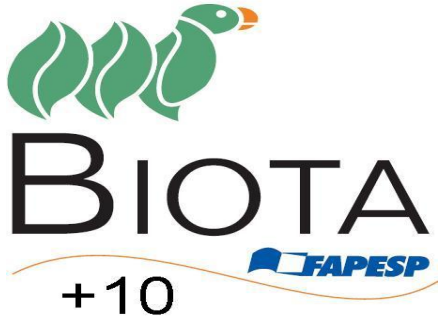


Priority areas for biodiversity restoration in São Paulo. The figure also shows the existing network of state parks (red lines) and the state's division of Water Management Units (gray lines). (See SOM.)

BIOTA +10

Success of the first 10 years pushed for more 10 years

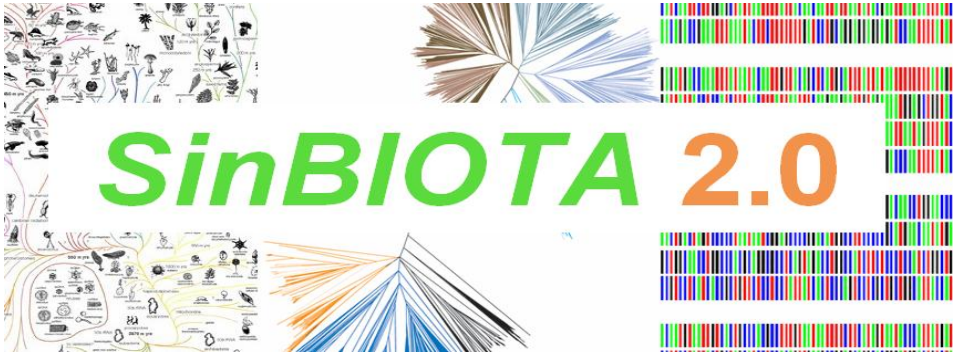
- Community meeting 2009 (300 researchers + “Scientific Plan”)
- More engagement from the State Universities (UNESP, UNICAMP, USP)
- Review of the processes and mechanisms inside the Program
- Expansion of the objectives
- Improvement of available structure



Need for system redevelopment

Microsoft/FAPESP project – 2 years started December 2009

- Objectives
  - Migration of the system to an University
  - Prototype development
  - Reference Document



Need for system redevelopment

Some features envisaged for SinBiota 2.0

- Explicit Data Policies and Metadata standards (TDWG, KNB, etc.)
- Integration with international initiatives (GBIF, OBIS, ALA, EOL, etc)
- Scalability and security of large databases
- Multimedia data and multimodal search
- Seamless Biodiversity and Map visualization
- Interoperability with analysis tools (sp. distribution, etc.)
- Datasets and monitoring network management
- Use of mobile clients
- Workflow sharing
- Social software features (tagging, annotation, etc.)

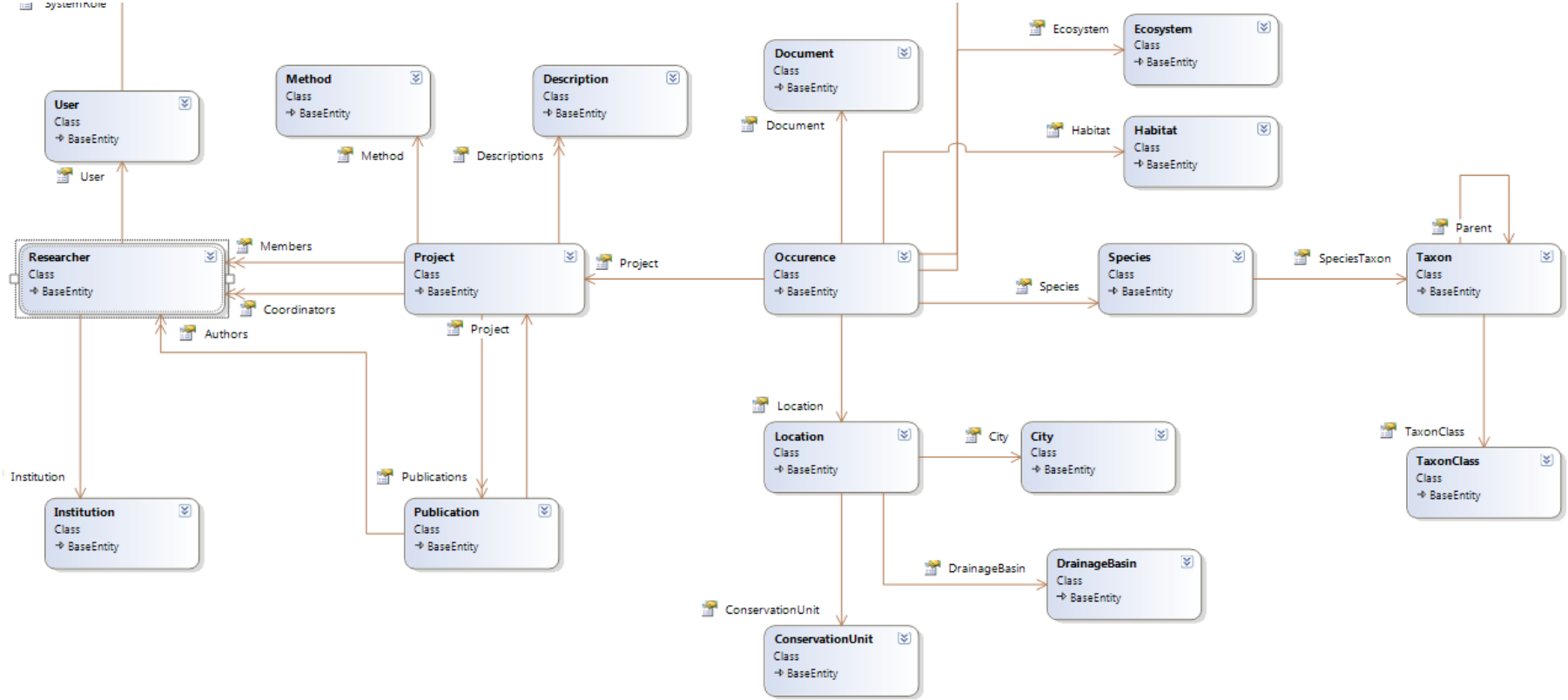
Need for system redevelopment

Changes in the DB

- Relaxed integrity constraints
- Redundancy
- Each taxon rank as individual table

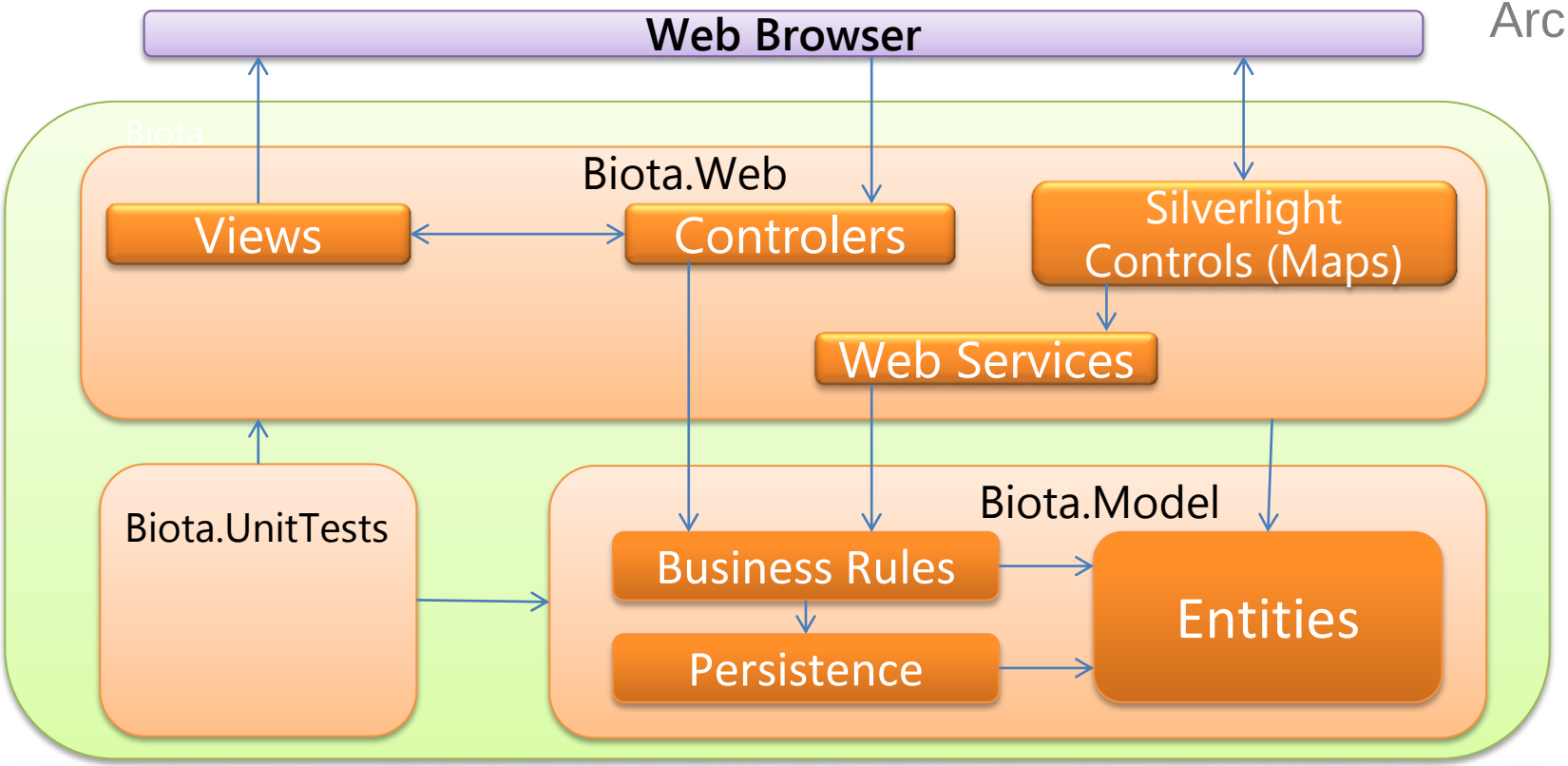
- Class Modeling
- Object-Relational Mapping

Need for system redevelopment



Need for system redevelopment

Prototype Architecture



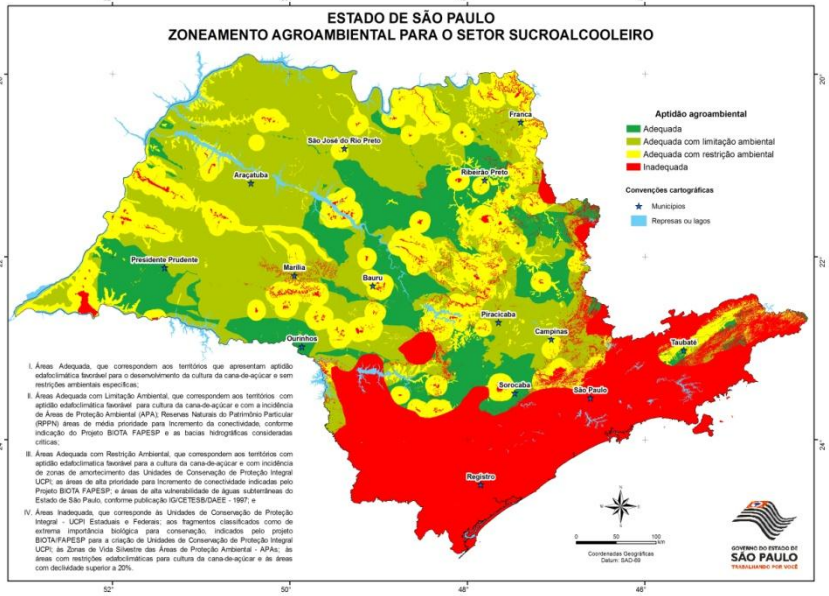
Need for system redevelopment

New atlas service

Future steps

Scientific and Educational communities and Environmental Governance to provide directions

- Feedback as guidance for new directi
- New data providers must be considere
- Modular system – new tools easily inc
- Horizon scanning activities for identify research and technology in Biodiversi
- Create solid bridges between Biodiver
- New data formats – Modeling, Workflo
- More mechanisms to present data an



Thank you!

For further information and potential partnerships

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- Computational Development Coordinator – PhD Joao Meidanis – meidanis@scylla.com.br
- Executive Manager – MSc Tiago E. M. Duque-Estrada – tiagode@unicamp.br
- Software Researcher – PhD Cleber Mira – cleber.mira@gmail.com

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