

The logo for FOSS4G 2006 features a stylized red and white graphic on the left, resembling a ribbon or a stylized letter 'G'. To its right, the text 'FOSS4G 2006 - Free And Open Source Software' is written in a bold, black, sans-serif font.

FOSS4G 2006 - Free And Open Source Software

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BRAZILIAN OBSERVATORY OF MARINE BIODIVERSITY

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Marine biodiversity is responsible in large part for the earth natural wealth. This importance can be assured by the fisheries and tourism industries, whilst it provide important ecosystems services, such as protection of the coast and absorption of carbon dioxide from the atmosphere. However, the marine biodiversity has been declining through the centuries mainly due to human activities. Despite the global research efforts to understand ocean's biodiversity, they still lack an integrated and systemic approach, resulting in isolated data and perceptions of the real impact of human activities.

The construction of knowledge about biodiversity is a cooperative product. Its study and conservation efforts require a multi and interdisciplinary approach (CANHOS et al., 2004). Therefore, any attempt to integrated data from different sources requires data standards definitions, such as proper metadata to characterize the environment, means of data sampling, processing, exchange and integration. Besides setting standards, it also requires Information Technology - IT tolls to allow virtual integration of distinct data sets and potential analysis to build up knowledge. Finally, since it is a cooperative product, distributed access is the key issue for setting a strong collaborative network between researchers and institutions. In other words, everyone should benefit for sharing data and information.

Ongoing international efforts to integrate data from different projects and monitoring programs have been focused in the potential benefits from Information Technology, especially those based on the World Wide Web. This is the case of UNEP World Conservation Monitoring Centre and its IMAPS (Centre's Interactive Map Service) initiative; OBIS-SEAMAP (Ocean Biogeographic Information System - Spatial Ecological Analysis of Megavertebrate Populations); ReefBASE (Global Information System on Coral Reefs). These three examples embrace global scale, whereas others follow country limits, such as BERDS (Biodiversity and Environmental Resource Data System) from Belize).

Despite the significant data and information that has been produced for the past

thirty years, the efforts towards such IT applications to integrate and visualize biodiversity data in Brazil are still shy. The Centro de Referência em Informação Ambiental - CRIA is one of the ongoing initiatives. The Marine Mammals Monitoring System (SIMMAM) is a recent attempt to integrate marine mammals' data that is well fragmented in the hands of institutions and researchers. In addition to the official support of the Brazilian Environmental Agency, the project will receive in 2006 financial resources from PETROBRAS to conduct a thorough review of publications and public onboard observers' registers from seismic operation of oil industry. These data will be eventually added to the system.

A few marine conservation projects, such as TAMAR, BALEIA FRANCA, BALEIA JUBARTE, and ALBATROZ are investing part of its efforts in the construction of information systems to handle the significant amount of data that has been produced in the past years. They are conscious of the limitations and risks of having data in separate spreadsheets, and the benefits of having a database. The important aspect of it is that they already see the perspective of data integration, therefore they are seeking solutions that are based in the Web. The TAMAR Project is an example. Its DBASE database which holds twenty five years of data sampling will be migrated to a web based information system that includes data visualization via WebGIS and web services for interoperability. The system will be fully operational by June/2006. Taking the Brazilian scenario as an opportunity, this project proposes the development of a framework for an Internet based Brazilian Marine Biodiversity Observatory - OBBIM. This objective is supported by SIMMAM project itself, plus partners such as TAMAR and BALEIA FRANCA. In a long run it is expected that other projects adhere to the Observatory objectives.

In general terms, the observatory should support international standards for metadata and data exchange, such as XML, WMS and WFS. It should include access to different data sources through web services, integration and geospatial support to foster oceanographic research community interaction and data exchange. It also must provide open source architecture to reduce maintenance costs.

The Observatory conceptual framework has been constructed upon international similar experiences, and will be operational for tests from June 2006.

Primary authors : Dr. SPERB, Rafael (UNIVALI)

Co-authors : Mr. BUGHI, Carlos Henrique (UNIVALI) ; Dr. FERNANDES, Anita Maria da Rocha (UNIVALI)

Presenter : Dr. SPERB, Rafael (UNIVALI)

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