

# From Biodiversity Observation Networks to Datasets and Workflows Supporting Biodiversity Indicators, a French Biodiversity Observation Network (BON) Essential Biodiversity Variables (EBV) Operationalization Pilot using Galaxy and Ecological Metadata Language

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## Abstract

Integration of biological data with different ecological scales is complex! The biodiversity community (scientists, policy makers, managers, citizen, NGOs) needs to build a framework of harmonized and interoperable data from raw, heterogeneous and scattered datasets. Such a framework will help observation, measurement and understanding of the spatio-temporal dynamic of biodiversity from local to global scales. One of the most relevant approaches to reach that aim is the concept of Essential Biodiversity Variables ([EBV](#)). As we can potentially extract a lot of information from raw datasets sampled at different ecological scales, the EBV concept represents a useful leverage for identifying appropriate data to be collated as well as associated analytical workflows for processing these data.

Thanks to [FAIR](#) data and source code implementation (Findable, Accessible, Interoperability, Reusable), it is possible to make a transparent assessment of biodiversity by generating operational biodiversity indicators (that can be reused / declined) through the EBV framework, and help designing or improving biodiversity monitoring at various scales.

Through the [BiodiFAIRse GO FAIR implementation network](#), we established how ecological and environmental sciences can benefit from existing open standards, tools and

platforms used by European, Australian and United States infrastructures, particularly regarding the [Galaxy](#) platform for code sources accessibility and the [DataOne](#) network of data catalogs and the [Ecological Metadata Language](#) standard for data management. We propose that these implementation choices can help fight the biodiversity crisis by supporting the important mission of [GEO BON](#) (Group on Earth Observation Biodiversity Observation Network): “Improve the acquisition, coordination and delivery of biodiversity observations and related services to users including decision makers and the scientific community” (GEO BON 2022).

## Keywords

GEO BON, French BON, PNDB, Galaxy-E, EML, data, metadata

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## References

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