

## The Flemish contributions to LifeWatch – A general overview

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To support and encourage scientific research on biodiversity and ecosystem functioning, Europe launched LifeWatch within the European Strategy Forum on Research Infrastructures (ESFRI). LifeWatch functions as a central virtual laboratory, integrating observatories, databases, web services and modelling tools distributed throughout Europe.

The Flemish contributions to the LifeWatch infrastructure are coordinated by the Flanders Marine Institute (VLIZ) and the Research Institute for Nature and Forest (INBO).

Flanders is contributing to the central LifeWatch components with the construction of a **taxonomic backbone**, which includes taxonomy access services, a taxonomic editing environment, species occurrence services and catalogue services. These species information services facilitate the standardization of species data and the integration of the distributed biodiversity data repositories and operating facilities.

On a regional LifeWatch level, Flanders is constructing and managing a **marine, freshwater and terrestrial observatory**. For the marine observatory, the monthly campaigns with the RV Simon Stevin were remodelled to monitor additional parameters and organism groups, a marine station with laboratories was set up, and additional equipment (a.o. phytoplankton flow cytometer, zooscan, video plankton recorder) was purchased by VLIZ. For the freshwater and terrestrial observatory, several projects are coordinated by the INBO, in cooperation with VLIZ: a GPS tracking network for large birds, monitoring of the Natura 2000 habitats by an Unmanned Aerial System, acoustic telemetry of eel, and remote monitoring of ground water.

Furthermore, VLIZ and the INBO both have a number of established (biodiversity) **data systems** that contribute considerably to the LifeWatch infrastructure. These systems are constantly being updated and complemented. In order to fill some of the spatial and temporal gaps in the biodiversity data of these systems, **data archaeology** activities are being carried out during the LifeWatch construction phase (2012-2016). This will improve the accessibility and visibility of the data for the scientific community.

As a last Flemish contribution to LifeWatch, VLIZ set up an online data portal where scientists can use several **web services** to standardize, quality control, analyse and visualize their own biodiversity data (<http://lifewatch.be/data-services>). The web services also assist in the retrieval of additional data. These web services form a valuable contribution to the data available from the supporting data systems, the taxonomic backbone, and the data collected by the observatories and sensor networks.

During the VLIZ Young Marine Scientists' Day a few aspects of the Flemish LifeWatch infrastructure will be highlighted in a series of animated demonstrations: the use of the data services, the zooscan and the sensor network for large birds.