

Building a Virtual Research Environment for Bird behaviour analyses

The migratory behaviour of birds is one of the most fascinating study areas for biologists and laymen alike. Tracking individual bird movement at multiple scales in space and time is no easy task, but technological advances now provide unprecedented opportunities to study individual birds in great detail. A team at the University of Amsterdam has worked together with support from LifeWatch to develop a flexible, state of the art, Bird Tracking System (UvA-BiTS). Researchers from many organizations are working with this system to study migration, navigation, foraging strategies on land and at sea.

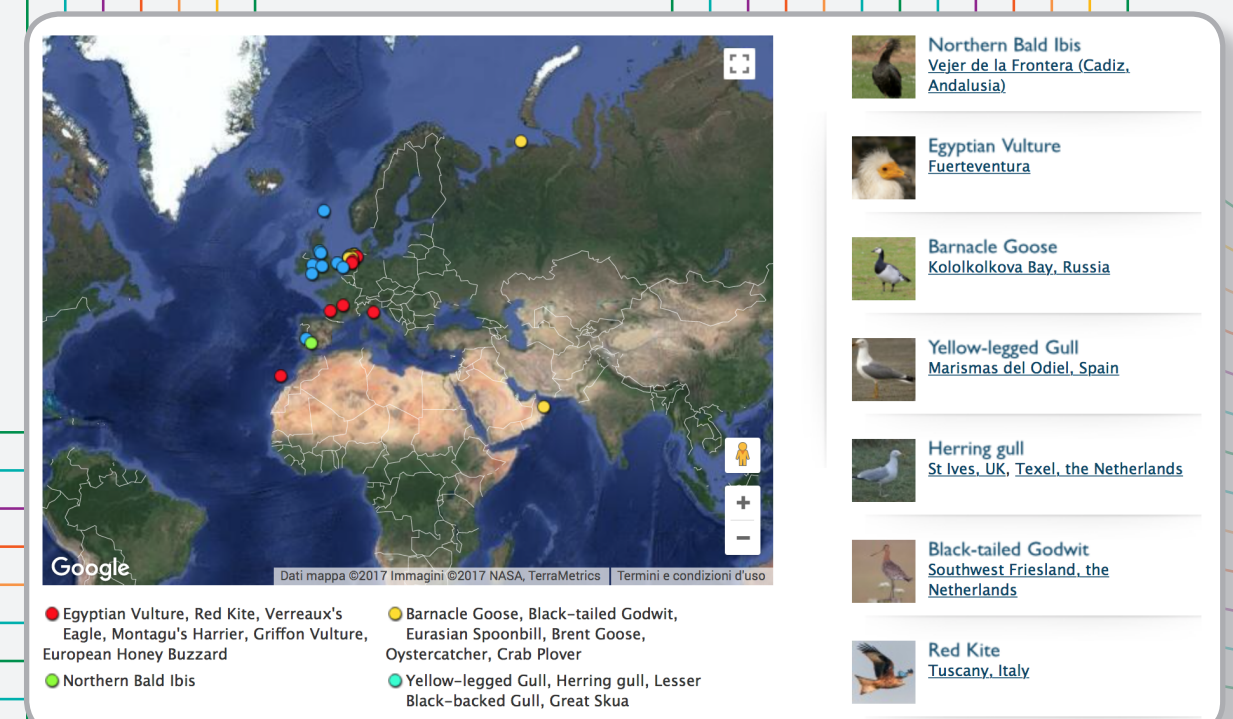


An adult Canarian Egyptian Vulture flying fitted with an UvA BiTS device.
Manuel de la Riva



Core information comes from solar powered, light weight GPS trackers with rechargeable batteries, a tri-axial accelerometer, and two-way data-communication to a ground station network. The data is processed automatically and can be visualization in a Virtual Lab environment with (Google Maps) geo-spatial information. But for this type of research it is also essential that data of individual behavior is combined with other sources of data, for instance the weather during migration, and information on land use and habitat availability. These data are also made available in the Virtual Lab.

Current collaborative projects include work in many countries (including Spain, Italy, Belgium, Netherlands, Sweden, Norway, Finland, Germany, Denmark, France, UK, Chile, Australia, USA, South Africa and Oman). The system is available for collaborative research and will continue to develop fostering research needs of a diverse community.



LifeWatch aims to further advance the virtual research environment to study (bird) migration, by supporting the technological developments of the tracking system, providing ICT core support to allow upscaling of the capabilities to analyze and interpret the data, and provide user support for researchers and stakeholders throughout the world that want to use the system for their collaborative research.

