The European Network for the Radar Surveillance of Animal Movement

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Billions of organisms move through the air, influencing population dynamics, community interactions, the functioning of ecosystems and the services ecosystems provide. However, monitoring aerial movements of organisms is technically challenging. Radars are increasingly used to study the aerial movements of birds, bats and insects, yet research efforts are often local and uncoordinated between research groups. Radar meteorologists consider biological scatterers to be clutter, so recognizing birds, insects, and bats in weather radar data will lead to improved meteorological monitoring.

The recently formed European Network for the Radar Surveillance of Animal Movement (ENRAM) is funded by COST, and aims to bring together biologists, ecologists, meteorologists, and radar experts from across Europe to take optimal advantage of the biological information contained in weather radar data. This is done through coordinating efforts to improve and expand existing classification and retrieval algorithms, and to implement these algorithms at weather radars across Europe (e.g. through BALTRAD and/or OPERA). The main objective of ENRAM is to merge expertise to utilize weather radars to monitor the aerial movement of animals across Europe for a broad range of stakeholders at an unprecedented scale and enable researchers to study the causes and consequences of movement.

We present an overview of the ENRAM COST Action, that has members from over 20 countries. Planned cross calibration experiments involving dedicated entomological and ornithological radars alongside weather radars are introduced, and results of first efforts to implement algorithms for extracting biological data from weather radars across Europe are presented.