Project Database of ICP Forests
PROJECT DESCRIPTION

ICP Forests

LRTAP
Long-range Transboundary Air Pollution

PROJECT INFORMATION

Project title: EDENext - Biology and control of vector-borne infections in Europe

Project ID: 45

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PROJECT DESCRIPTION

EDENext (http://www.edenext.eu) is a research project bringing together 46 international partners, including Avia-GIS (Agriculture and Veterinary Information and Analysis). EDENext is funded by the Seventh Framework Programme (FP7) for Research and Technological Development (http://ec.europa.eu/research/fp7/index_en.cfm). FP7 is the European Union's main instrument for funding in Europe for the period 2007–2013, and has been designed to support a wide range of participants ranging from universities, through public authorities to small enterprises and researchers.

EDENext builds upon the concepts, methods, tools and results of the earlier FP6-funded EDEN project (Emerging Diseases in a Changing European Environment). It is using the same general approach of understanding and explaining biological, ecological and epidemiological processes in order to develop a set of state-of-the-art methods and tools to improve prevention, surveillance and control of vector populations and vector-borne diseases. However, while EDEN focused on the effects of environmental changes on the emergence of vector-borne diseses, EDENext is seeking to explain and model the processes leading to the introduction, establishment and spread of vectors and/or VBDs, and to assess the possible control strategies to break the epidemiological cycles of VBDs.

In EDENext, we study the main groups of arthropod vectors involved in the transmission of vector-borne diseases in Europe: ticks, mosquitoes, sandflies, and biting midges (Culicoides). We have also selected the main diseases of actual or possible importance in human and veterinary public health (e.g. anaplasmosis, babesiosis, tick-borne encephalitis, Lyme). Rodents, insectivores and rodent-borne diseases (e.g. hanta) will also be considered, both for their direct importance in public health, and for the major role of rodents and insectivores as reservoir hosts of many pathogens. We put a strong focus on vector- and disease-quantitative modeling, based on advanced GIS and statistical analyses of environmental (e.g. temperature, humidity, vegetation) and landscape factors (e.g. land use and land cover). Mast production data might be an interesting data layer to include in the analysis, hence our request to get access to the futmon database. The resulting predictive models will be used to study various aspects of tick and host ecology, distribution and dispersal in a heterogeneous European landscape and to assess climate or environmental change scenarios, as well as vector or disease control strategies. The set of innovative research methods, tools and results obtained during the project will be a step forward a generic approach of vector-borne diseases in terms of disease monitoring and early warning systems, and will reinforce the general framework for an integrated pest and disease management system in Europe.