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Culex modestus, potential vector of West Nile fever © IRD, Nil Rahola

Emerging diseases and environmental change: the EDEN Project annual meeting for community results

After Finland in 2006 and Turkey in 2007, it is the Czech Republic that will be hosting the EDEN (Emerging Diseases in a changing European eNvironment) Project's third Annual Meeting, from 14 to 18 January 2008, in Brno. EDEN is an integrated project of the European Commission's FP6 (6th Framework Programme for Research and Technological Development), aimed at anticipating, preventing and intervening against the emergence of vector-borne diseases in Europe.

The EDEN Project, which was launched in 2004 on the initiative of CIRAD (Centre de Cooperation Internationale en Recherche Agronomique pour le Développement), [IRD](#) (Institut de Recherche pour le Développement), the [Institut Pasteur in Paris](#), to run for five years, associates 49 partners in 24 countries, most of them European. As Renaud Lancelot, Project Coordinator and CIRAD researcher, says: *“EDEN's biggest scientific success has been to combine the approaches of specialists in the biology and ecology of vectors and the diseases they transmit and of modelling teams with complementary points of view regarding the interactions between health and the environment and the scales on which diseases are perceived. These teams, from a wide range of places and disciplines, have agreed to work towards shared objectives, using the same concepts, methods and tools.”* The teams intend to quantify the impact of environmental change on the risk of seeing emerging diseases introduced, become established and spread in Europe and the Mediterranean.

Model diseases and at-risk ecosystems

The EDEN Project (see the list of its Steering Committee members below*) became a European reference for vector-borne disease epidemiology and ecology, and covers the whole range of manmade ecosystems in Europe, from the Arctic Circle to the Mediterranean, and their connections in Sub-Saharan Africa, a “reservoir” for several of the diseases under study. Its work is based on diseases that are sensitive to environmental change. Most of them are zoonoses: diseases shared by animals and man. They are transmitted by ticks, rodents or insects. Most are already found in Europe (tick-borne encephalitis, haemorrhagic fever with renal syndrome, leishmaniasis, etc). Others may emerge or reappear, such as malaria, West Nile virus or Rift Valley fever.

Innovative shared approaches using the latest research successes (remote sensing and mathematical tools for epidemiology, ecological science and biodiversity studies) have enabled the scientific network set up by EDEN to understand and model the mechanisms of emergence and identify at-risk ecosystems. Several CIRAD internal research units and joint research units are involved in the project, either in disease studies (West Nile virus, Africa platform, rodent-borne diseases) or in integration activities (modelling and remote sensing).

These scientific developments pave the way for innovations in the field of public health: dynamic mapping dynamic risk mapping, decision support for disease surveillance and control on a geographical Europe- and Mediterranean-wide scale. *“Ecosystems in the South are linked to those in the North through the intensification of trade, which facilitates the spread of diseases and their vectors”*, says Renaud Lancelot, adding that *“diseases do not recognize borders, and the authorities have now accepted this concept; it is no longer limited to the scientific community.”*

The Brno meeting

The Institute of Vertebrate Biology at the Academy of Sciences of the Czech Republic (an EDEN partner) will be hosting next year’s annual meeting of the EDEN Project, from 14 to 18 January 2008 at the International Hotel in Brno, the place of work of Johann Gregor Mendel, the father of modern genetics.

More than 150 participants, among the leading specialists in emerging diseases, their vectors and modelling for epidemiological and ecological studies, are due to attend the EDEN Annual Meeting. In the meantime, the annual report on research operations in the 24 countries—more than 70 scientific publications halfway through the project—will have been submitted to the European Commission, which will be despatching two experts to Brno to conduct a scientific audit of the project.

On 14 and 15 January, there will be a PhD meeting for graduate students. On 16 January, during the plenary session open to the public (for the first time since the start of the project), the 49 EDEN partners in EDEN will be presenting their scientific results. This will be followed by a press conference. The following two days will be devoted to scientific meetings organized by each sub-project, and the last day to the Steering Committee meeting and a debate on future operations under the EDEN project.

* the EDEN Steering Committee:

Sub-projects per disease:

Sarah Randolph - sarah.randolph@zoo.ox.ac.uk (tick-borne diseases)

Heikki Henttonen - heikki.henttonen@metla.fi (rodent-borne diseases)

Paul Ready - p.ready@nhm.ac.uk (leishmaniasis)

Paul Reiter - preiter@pasteur.fr (West Nile virus)

Didier Fontenille - fontenil@mpl.ird.fr (malaria)

Amadou Diaïté - amadoudiaite@hotmail.com (Africa platform)

Integration teams:

David Rogers - david.rogers@zoo.ox.ac.uk (low-resolution modelling)

Eric Lambin - lambin@geog.ucl.ac.be (environmental change)

Willy Wint - william.wint@zoo.ox.ac.uk (data management)

Hans Heesterbeek - j.a.p.heesterbeek@vet.uu.nl (disease modelling)

Jean-François Guégan - guegan@mpl.ird.fr (biodiversity)

Secretariat:

David Rogers - david.rogers@zoo.ox.ac.uk (Steering Committee Chairman)

Guy Hendrickx - ghendrickx@avia-gis.be (Steering Committee Secretary)

Renaud Lancelot - renaud.lancelot@cirad.fr (EDEN Project Coordinator)

Scientific contacts:

To contact Steering Committee members

Press officer:

Florence Vigier, florence.vigier@cirad.fr

For further information:

EDEN website: <http://www.eden-fp6project.net/>

Annual Meeting agenda: http://www.eden-fp6project.net/what_s_on