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Providing better understanding of climate and environmental drivers of sand fly borne diseases – the CLIMOS project

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Climate Monitoring and Decision Support Framework for Sand Fly-borne Diseases Detection and Mitigation with COst-benefit and Climate-policy Measures

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Introduction: Over the last two decades, three successive research consortia (EDEN, EDENext and VectorNet) aimed at improving knowledge, surveillance, and control of vector-borne diseases in Europe and neighboring countries. Among these, sand fly-borne diseases including leishmaniasis and phlebovirosis represent an important public health and veterinary concern.

Material and Methods: We here present the main ideas of a novel effort to tackle sand fly borne diseases (SFBDs) – the CLIMOS project.

Results: CLIMOS - Climate Monitoring and Decision Support Framework for Sand Fly-borne Diseases Detection and Mitigation with Cost-benefit and Climate-policy Measures - aims to complement and build on previous efforts, bringing together researchers, health-care and veterinary practitioners, technology platform designers and at-risk communities, to conduct innovative and applied research seeking to better prepare for current and future impacts of climate and environmental changes on human and animal health, using sand flies and the diseases they transmit as a model system.

Conclusions: CLIMOS will:

- develop a general public health risk assessment method for SFBDs through integration of climate, environmental and One Health disciplines and data sciences;
- utilize big data from Earth-observing satellites and ground-level surveillance records, to map the locations of disease-carrying insects and provide health, climate and environmental services to keep communities safe, and

integrate economic and social sciences, to enable socio-economic assessments of impacts of the incidence and spread of SFBDs on individuals and societies