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VeCTOR: VECTOR CLIMATE THREAT ONLINE RESOURCE

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The VeCTOR project aims to develop an online prognostic platform for climate-driven risk assessment of vector presence and vector-borne disease spread by exploiting the potential of the Copernicus Climate Change Service (C3S) infrastructure. Expansion of vector habitats and the distribution ranges of vector-borne pathogens such as malaria, dengue fever, and yellow fever is projected in the context of climate change. Intricate environmental dependency of vectors in light of an ever-changing environment requires an in-depth understanding of vector and disease dynamics for planning effective management strategies and minimising health impacts of future outbreaks.

Through this project, environment-driven spatiotemporal models of vector presence [1, 2] will be developed to enable daily, monthly, and annual risk prediction and the evaluation of vector control strategies for a growing list of disease vectors including mosquitoes and sand flies. Global surveillance data, collected as part of international collaborative initiatives such as VectorBase and VectorNet, and regional observations will be integrated, standardised, and exploited for improving predictive capacity and the range of applicability. The models will be curated and updated regularly through expert consultation and against the most recent observations.

By integrating climate datasets in essential tools for surveillance and forecast, the VeCTOR demo case aims to facilitate regional (Europe) and global climate-related risk anticipation at multiple temporal and spatial scales. The platform will serve and promote outreach to experts, decision- and policy-makers, and facilitate effective communication with the public.

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