VECMAP-VECTRACK: Anticipating Side Effects of Urban Heat Island Mitigation Measures
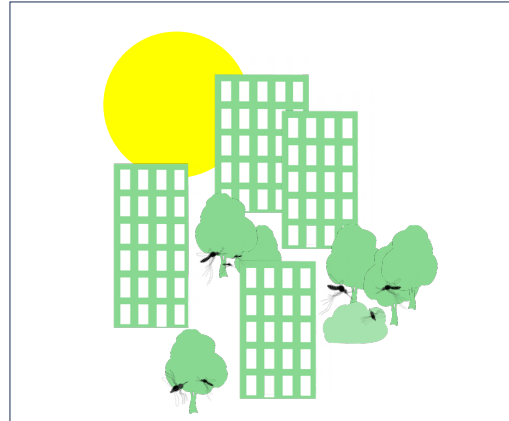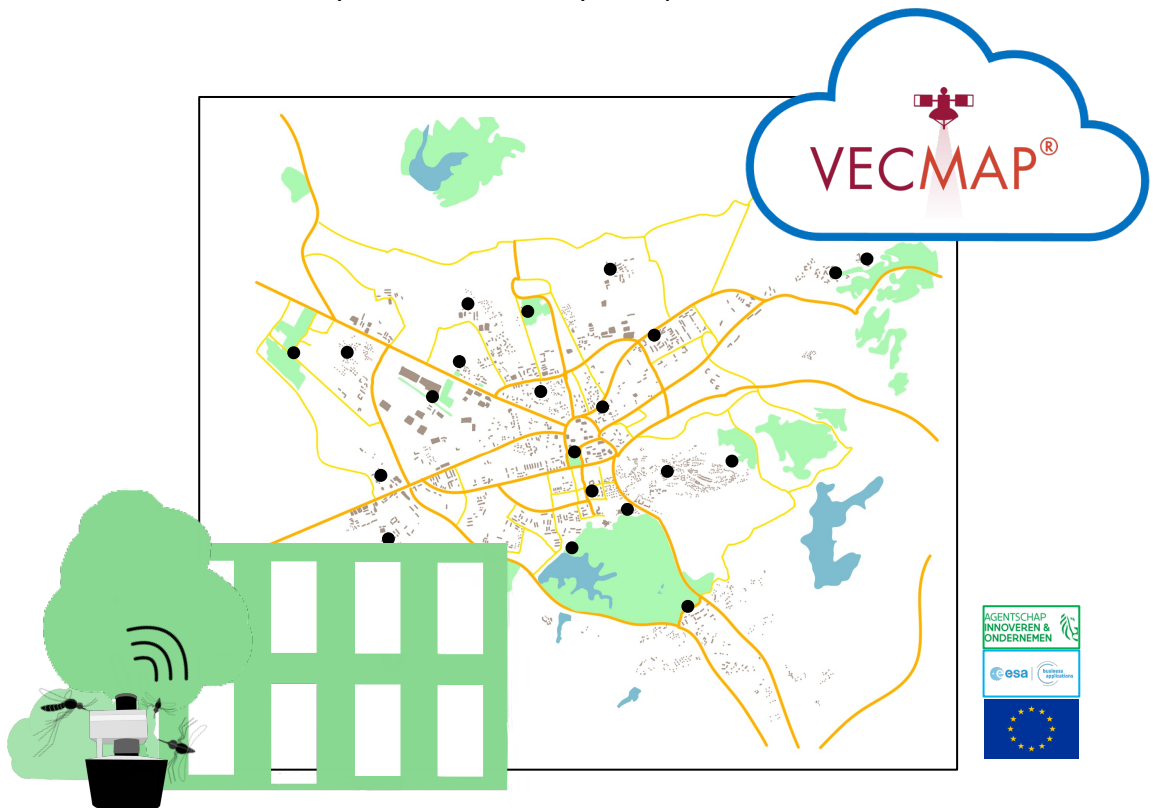
URBAN HEAT ISLANDS
→ need to implement measures to cool down.

GREEN CITIES mitigate the heat island effect, providing comfort for people **BUT** also for pests.

→ Need to map and monitor pests that cause nuisance or may transmit diseases.

VECMAP is a software package developed by Avia-GIS to plan and implement the monitoring and control of pest populations in general and mosquitoes in particular. VECMAP uses smart connected VECTRACK sensors developed with our partner IRIDEON, that automatically count and identify mosquitoes.

VECMAP®

Vector-borne diseases and climate

Vector-borne diseases have always been at the core of the climate change debate. Nevertheless, this relationship is rarely linear and often not straightforward.

Whilst it is convenient to assume that warmer conditions will systematically foster more vectors and therefore more diseases, the reality is far more complex. Wrong assumptions influence predictions and trigger wrong decisions that result in lost investments.

Understanding this requires in depth knowledge of the biology of vectors and pests and how this may be affected by the combined effects of climate change on temperature, rainfall and most importantly relative humidity.
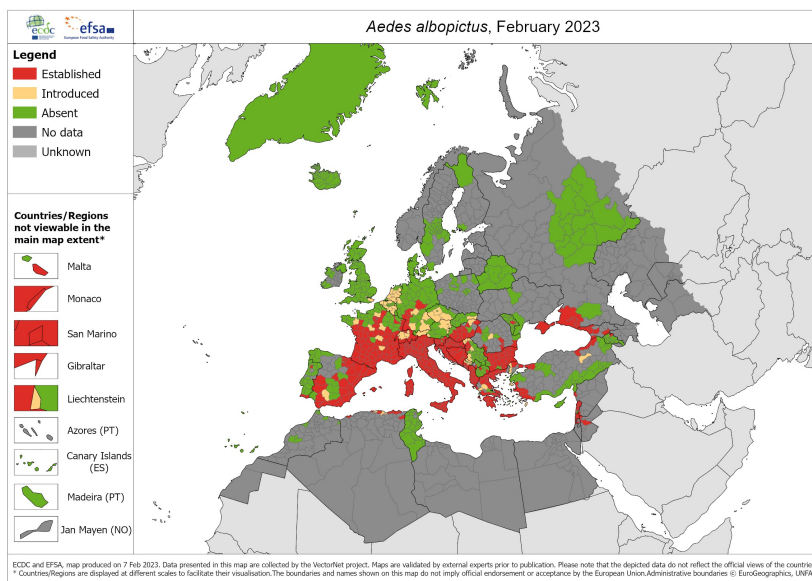
Other critical drivers that also need to be considered include increasing global traffic of people and goods as well as changing socio-economic patterns.

An iconic example in this context is the current invasion of Europe by the Tiger Mosquito
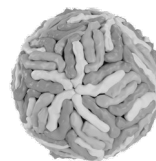
The mosquito has been introduced in the late nineties in Southern Europe through the increased global traffic of ship containers. It is spreading in urban areas in Europe through transport and has now established populations as far north as Alsace, Paris and Flanders.

Each year travellers coming back from the tropics with viruses such as dengue, chikungunya or zika, trigger local transmission to family members or neighbours in summer through these established mosquito-vector populations.

Aedes albopictus, February 2023

Legend
- Established
- Introduced
- Absent
- No data
- Unknown

Countries/Regions not viewable in the main map extent*
- Malta
- Monaco
- San Marino
- Gibraltar
- Liechtenstein
- Azores (PT)
- Canary Islands (ES)
- Madeira (PT)
- Jan Mayen (NO)

ECDC and EFSA, map produced on 7 Feb 2023. Data presented in this map are collected by the VectorNet project. Maps are validated by external experts prior to publication. Please note that the depicted data do not reflect the official views of the countries.
* Countries/Regions are displayed at different scales to facilitate their visualisation. The boundaries and names shown on this map do not imply official endorsement or acceptance by the European Union. Administrative boundaries © EuroGeographics, UNFAO.

Increasing evidence shows that the legitimate drive towards creating greener smart cities that help reduce the effects of climate change on urban heat islands, reduce the use of concrete and hardened surfaces and increase the integration of trees and other vegetation as part of urban architecture, make cities more pleasant places to live in for people but also create more opportunities for pests in general and mosquitoes such as the tiger mosquito in particular.

City developers and health authorities need to be aware of this and take measures to monitor and mitigate such risks. The VECMAP-VECTRACK tool kit helps you achieve this.

Contact us for more info and advice at: info@avia-gis.com