

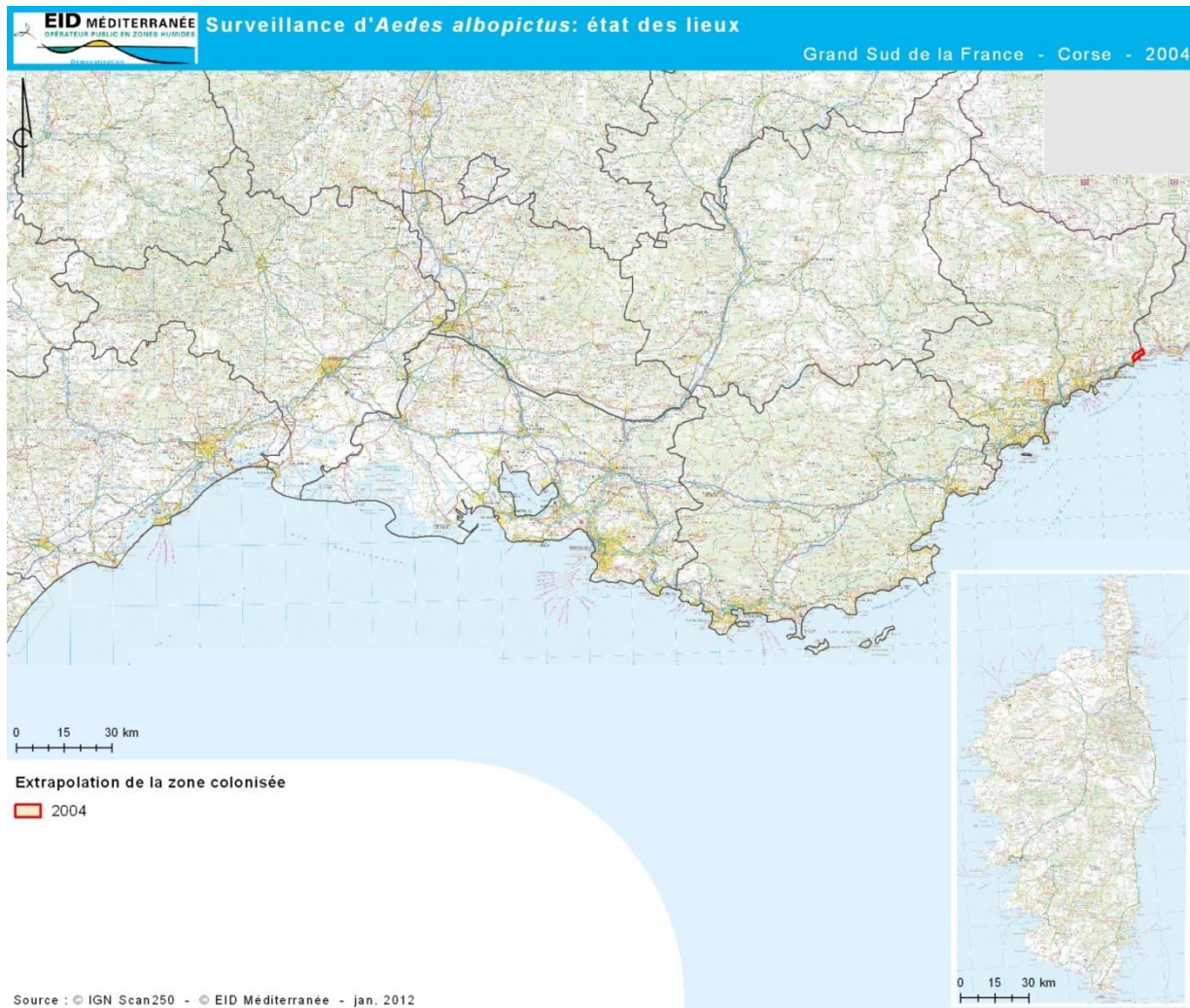
Entomological aspects of the french national plan against chikungunya and dengue dissemination



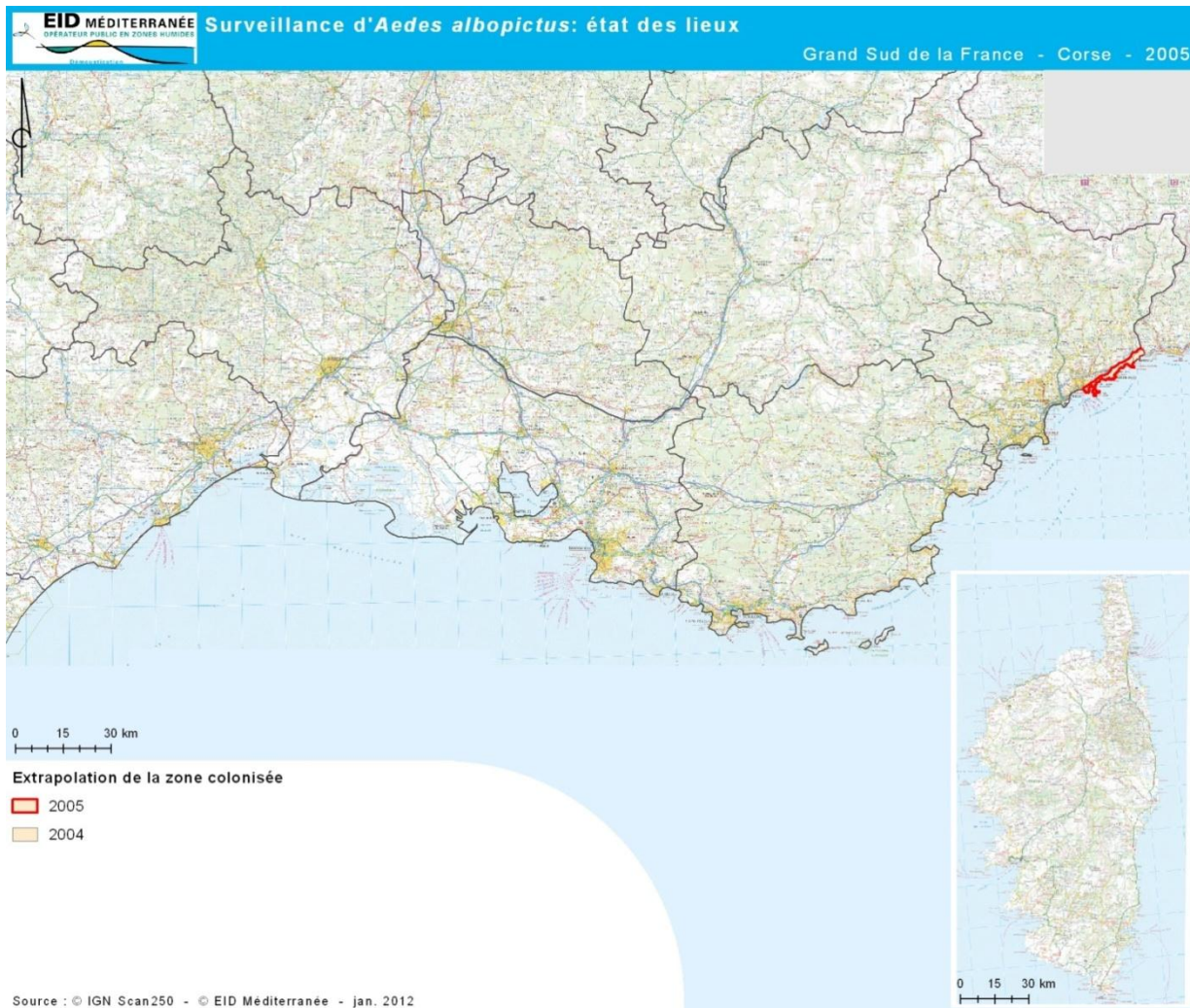
A multidisciplinary system

- Two main processes:
 - Entomological surveillance
 - Vector control around dengue/chikungunya suspected or confirmed cases

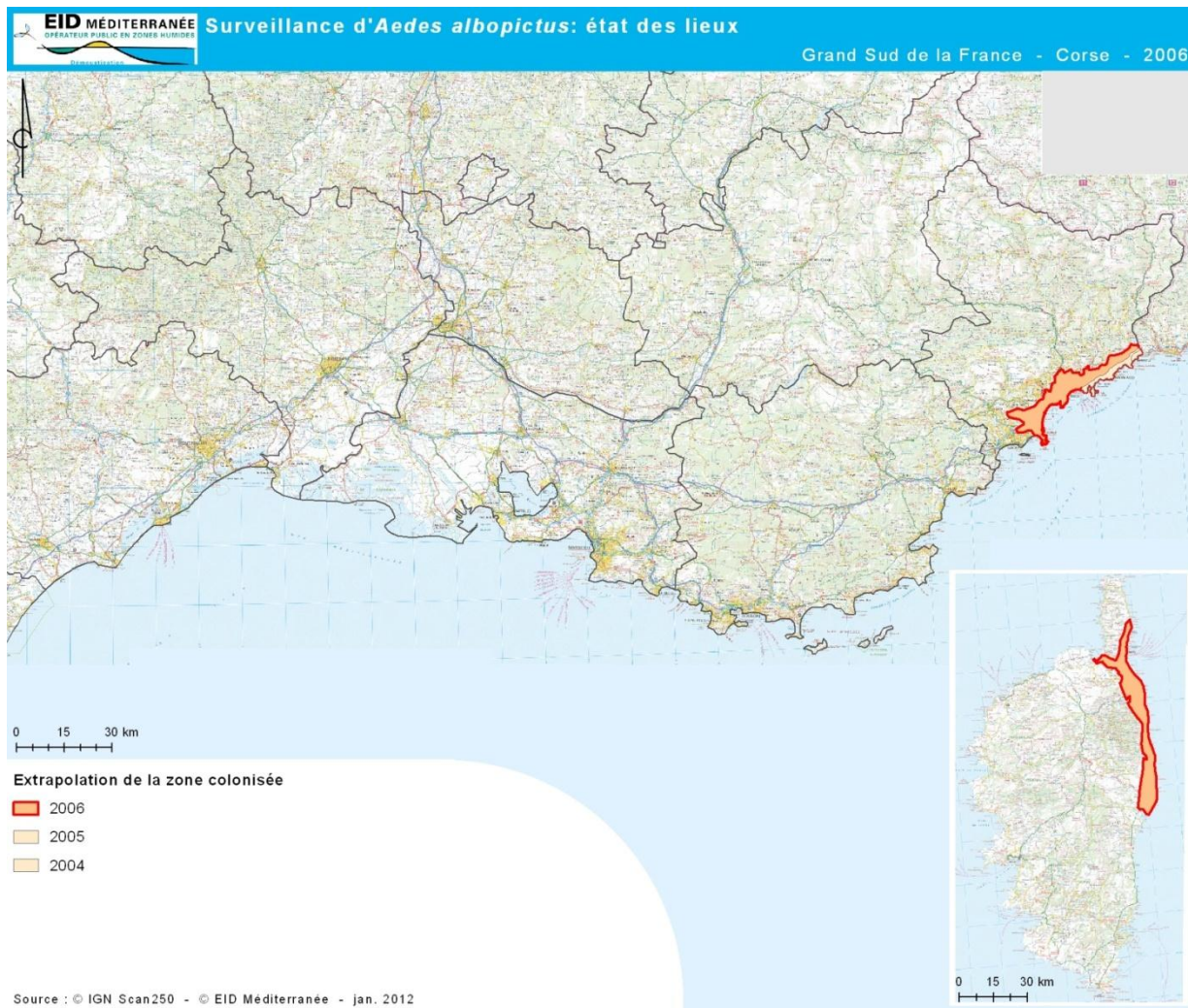
Surveillance



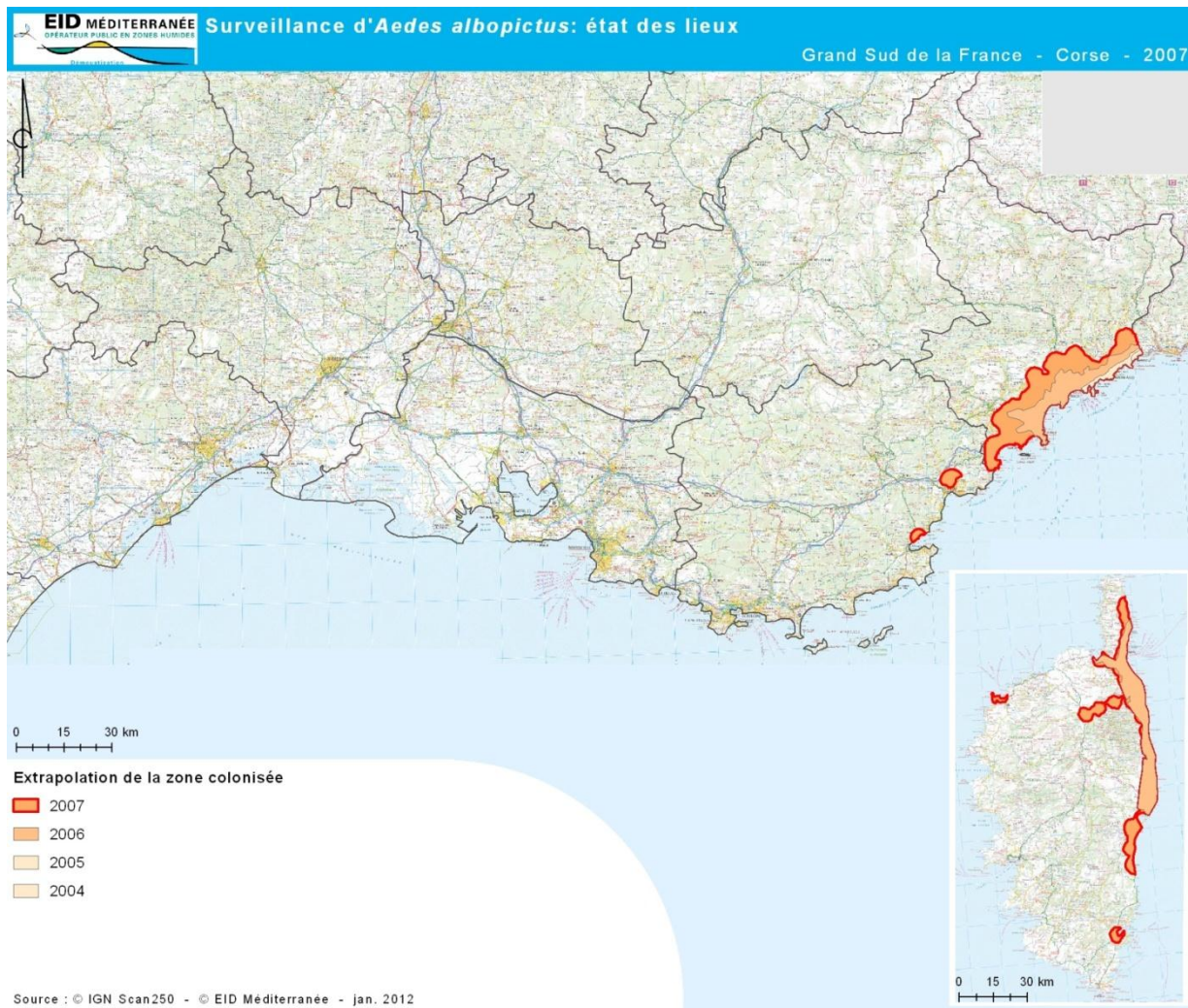
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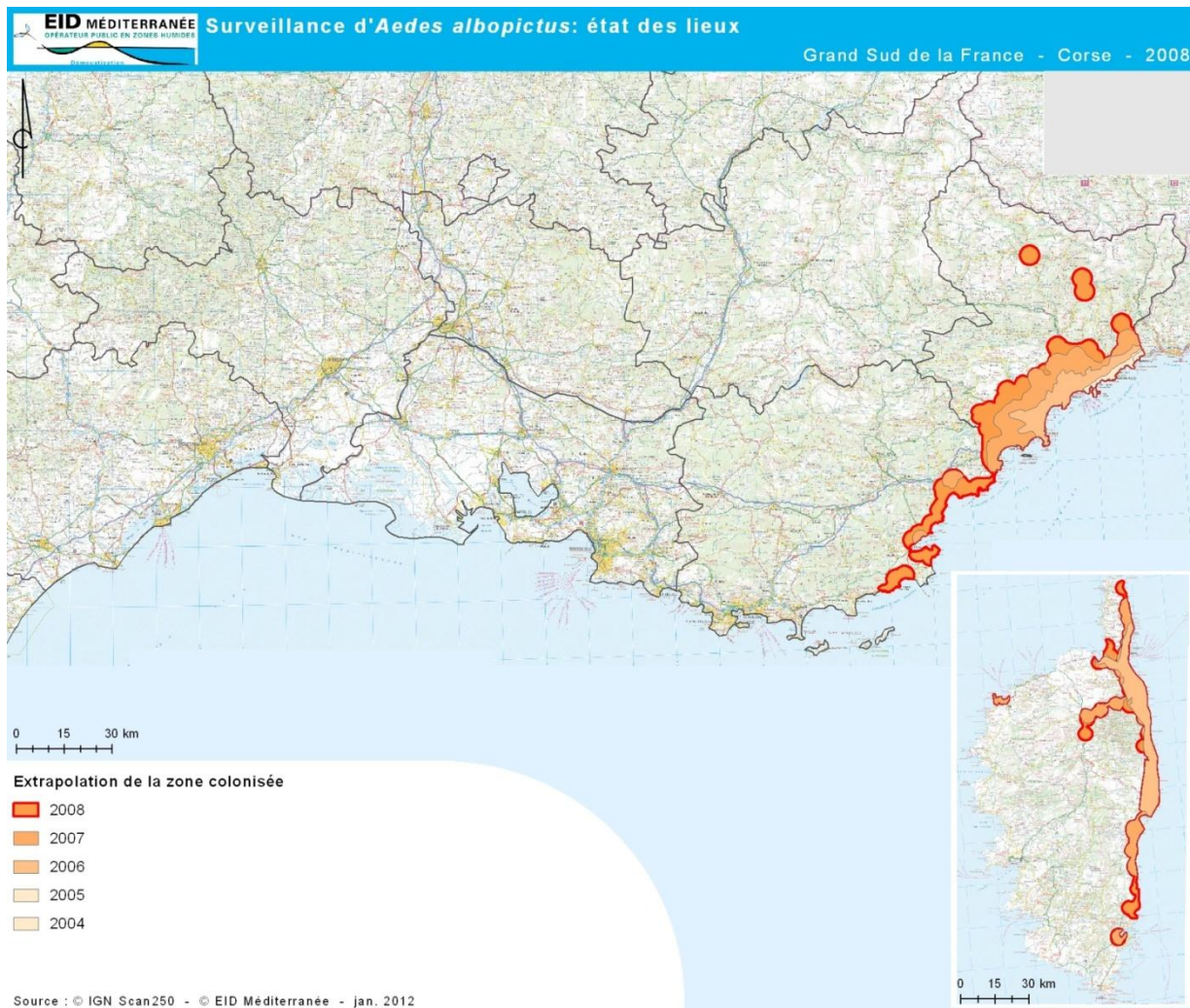
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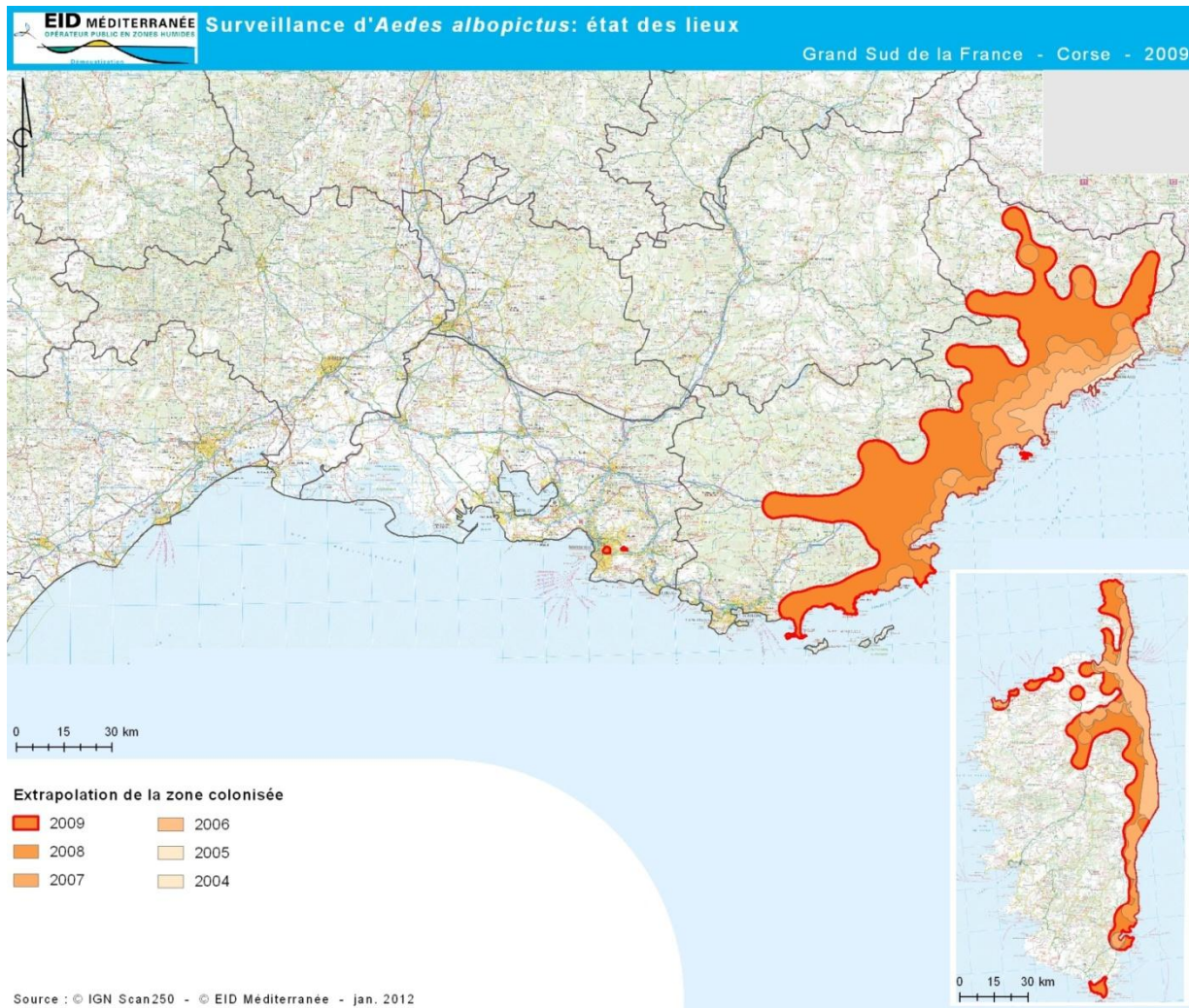
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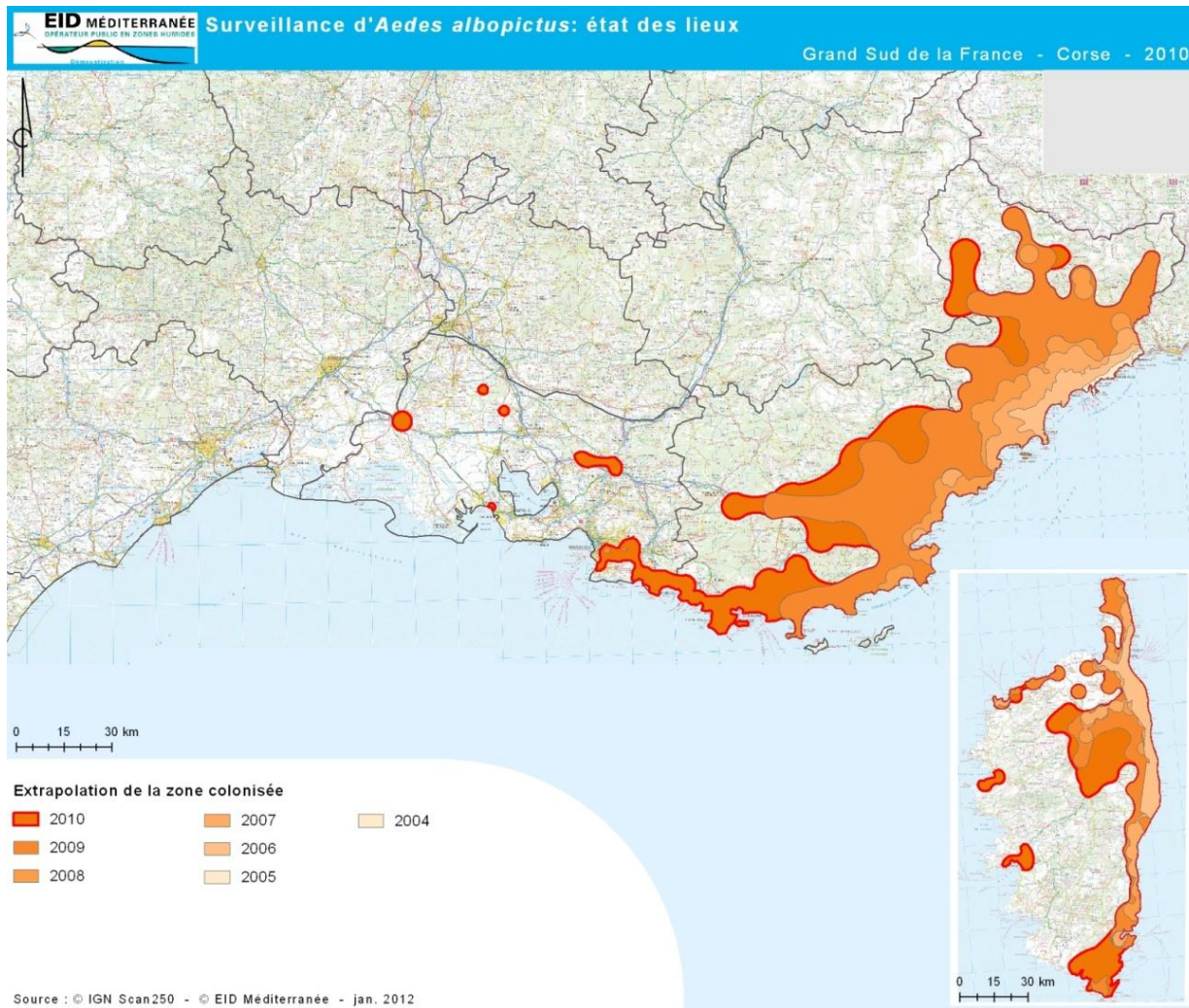
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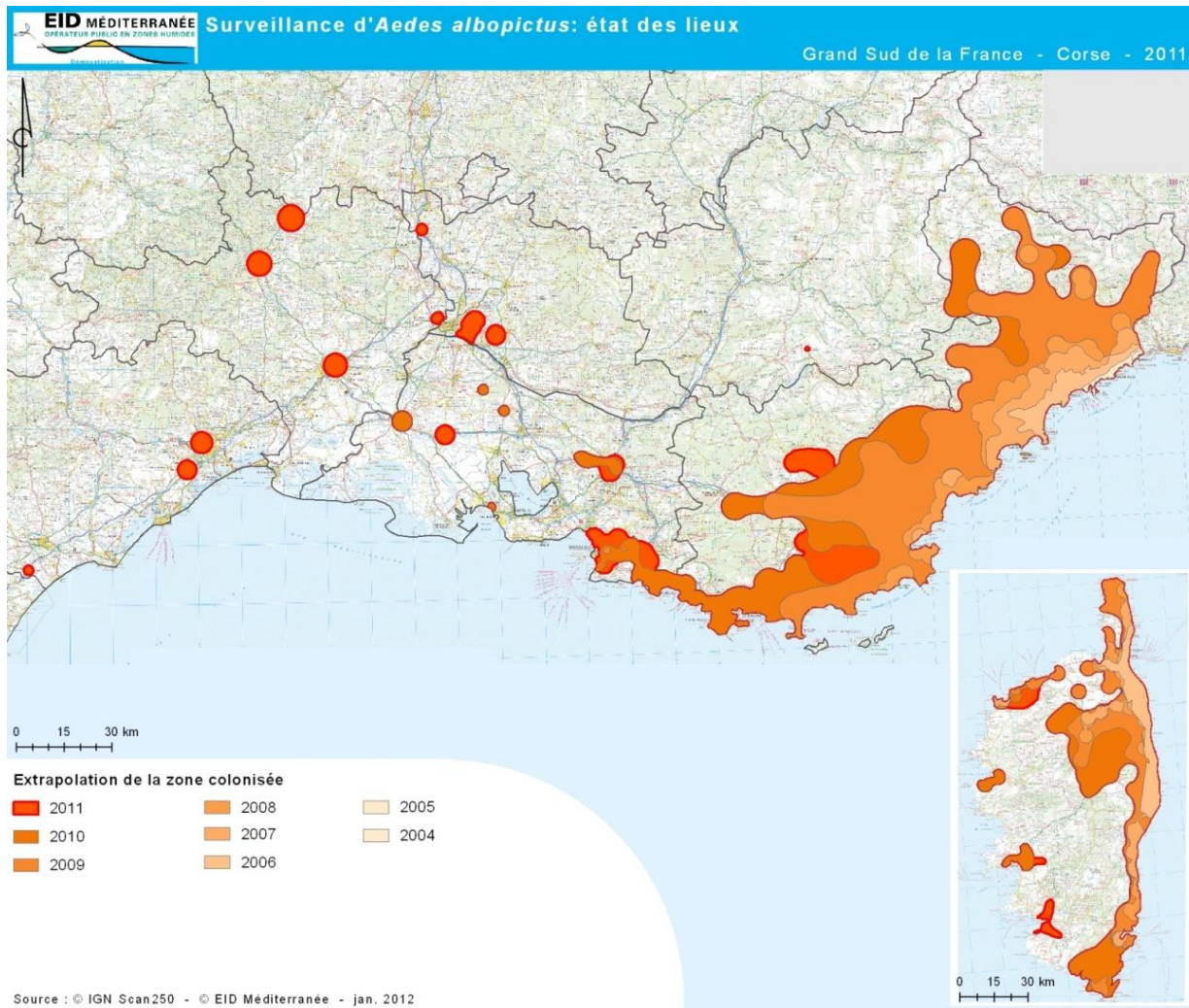
Surveillance



Surveillance



Surveillance



Surveillance

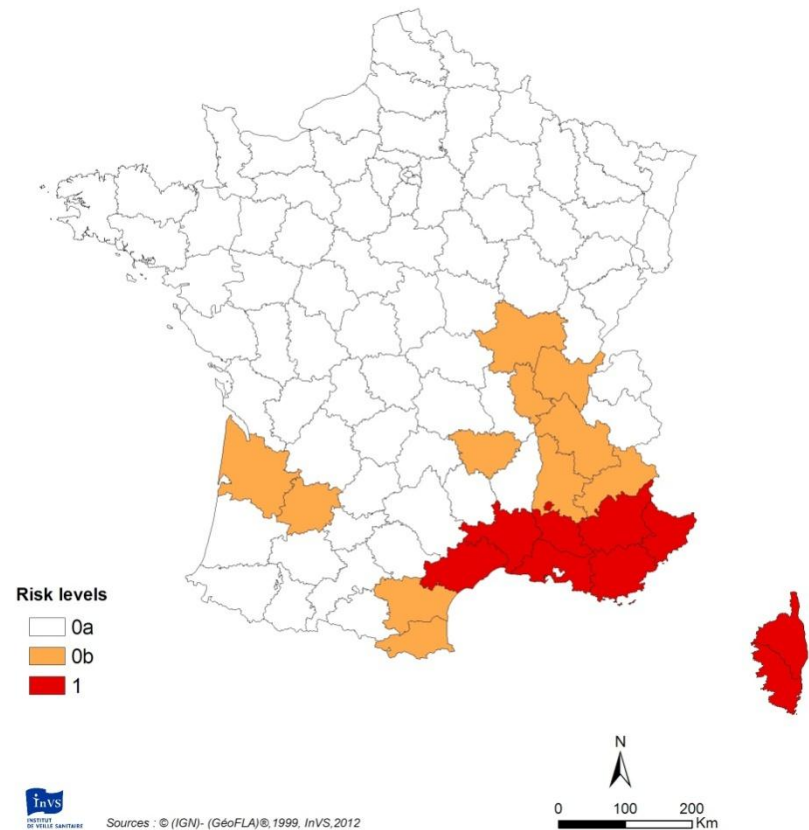
When *Ae. albopictus* is established in a département (level 1)



Strengthened human surveillance, immediate reporting of suspected cases



Vector control



Vector control process

All suspected or confirmed dengue/chikungunya cases



Notification to health surveillance agency (fax)



Epidemiological investigation (symptoms, travel, possible beginning/end of viraemia...)



Alert of the vector control operator



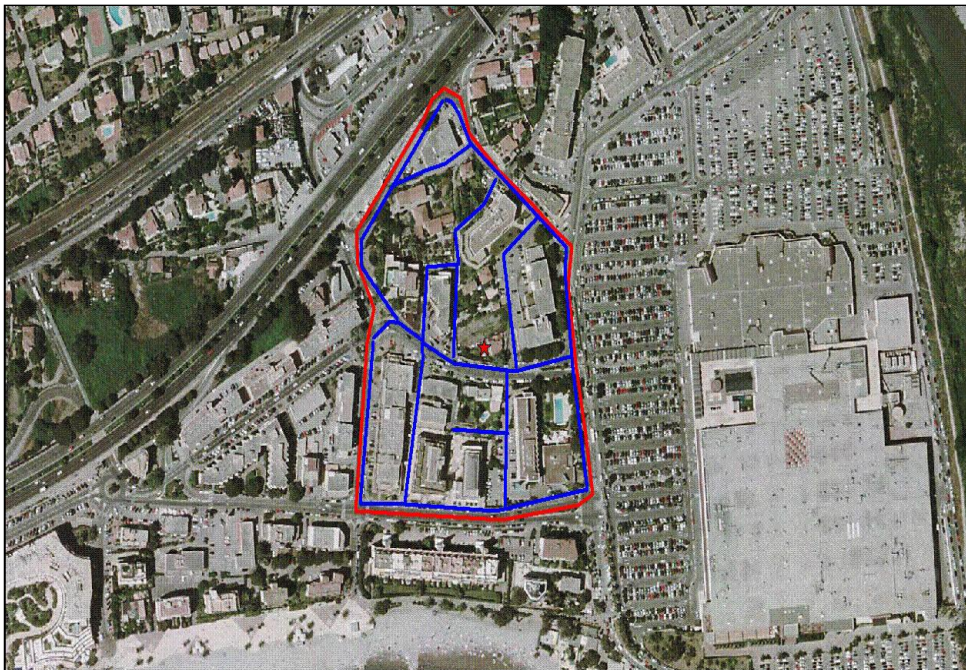
Entomological investigation, and treatments if necessary



Assessment of the efficacy, new treatment if necessary

Vector control process

- Notification of a suspect case potentially viremic
 - Validation of the address(es)
 - Definition of the perimeter(s)



- Intervention perimeter
- ULV route
- ★ Case

Vector control process

- After municipality is informed:
 - Geolocation
 - Obtaining access permission (keys, codes,...)
 - Investigation within the perimeter
 - Breeding sites removal or larviciding if necessary
 - Information of the neighbourhood : date and hour of the treatment, safety precautions towards insecticides

Vector control process

- Imagocide treatment :
 - Between 4 A.M. and 5 A.M. :
Truck-mounted ULV spraying within the perimeter

 - When necessary:
Thermal fogging for inaccessible resting sites



Vector control process

- Assessment of the efficacy:
 - Adult trapping (BG-Sentinel[®])
 - new treatment if necessary



Vector control process

Insecticides used:

- Larvicides :
 - Bti (*Bacillus thuringiensis israelensis*)
- Adulticides:
 - Deltamethrin only : Aqua-Kothrine EW[®]
 - Cé Rathrine[®] EBT 161/ULV (15 g deltamethrin + 5 g esbiothrin/l)
 - Banole[®] W : paraffinic oil (adjuvant)

Workgroup *Aedes albopictus* – CNEV : propositions

- Surveillance :
 - Optimization of the network
 - Involvement of local authorities and private operators
 - Implementation of a web portal for the population

Workgroup *Aedes albopictus* – CNEV : propositions

- Control :

- Improved involvement of local stakeholders
- Monitoring of resistance to insecticides
- Charter of best practice for private operators
- Inventory of all the resources available (public or private) according to the epidemiological context
- What place for larvicides, adulticides and social mobilization in the global strategy
- Assessment of environmental side effects

Workgroup *Aedes albopictus* – CNEV : propositions

- Avenues of research :
 - Development of new insecticide formulations
 - Auto-dissemination
 - Genetic control
 - Development of human and social sciences



Continuous improvement of the
control strategy, refinement of the
national plan



Thank you for your attention