Surveillance and Control of

*Aedes aegypti*

in New Caledonia

Source: www.geographic.org, used with permission

11th Pacific Science Inter-Congress - TAHITI - 2-6 march 2009
New Caledonia

- **Land area:** 18575 km² (7172 sq miles)
- **Total Population:** 250,000 inhab.

**Demographics:**
- Melanesians: 44%
- Caucasians: 34%
- Polynesians: 12%
- Asians: 4%
- Others: 6%

**Population Stats:**
- Total Population: 250,000 inhab.
- 58% pop. in Noumea

**Geography:**
- **Land area:** 18575 km² (7172 sq miles)
- **Total Population:** 250,000 inhab.
Dengue outbreaks in New Caledonia

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<tbody>
<tr>
<td>Serotype</td>
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<td>2</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>3</td>
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Time since last outbreak:
- 10 years
- 13 years
- 30 years

Circulating serotype 1 and 4

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Mosquitoes present in NC

Approximately twenty-two species, among which:

- *Aedes vigilax*
- *Aedes aegypti*
- *Culex quinquefasciatus*
Vector surveillance

Clusters of 20 houses randomly sorted every month

300 houses visited in Nouméa
Vector surveillance

One sticky ovitrap set in each cluster of houses
## Entomological indices

- **House index (HI)**
  
  Percentage of positive houses

- **Adult Productivity Index (API)**
  
  Number of *Aedes aegypti* 4th instar larvae and pupae per house

- **Sticky Ovitrap Index (SOI)**
  
  Number of female *Ae. Aegypti* caught per SO
The 2000 - 2009 period

Dengue cases in Nouméa
Adult Productivity Index
House Index
Sticky Ovitrap Index

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Ae. aegypti breeding sites in Nouméa
Prevention at all times

Entomological indices published every month
- By local newspaper
- By the radios

Flyers distributed

Destruction of Ae. aegypti breeding sites by municipal staff
Vector control during epidemics

Around patients’ dwellings only
Lutte anti-Vectorielle
BUT !!!

Repeated virus introduction

+ Insecticide resistance

+ Not all patients consult

+ Existence of « permanent breeders »

= More outbreaks

= Need for efficient larval control through community participation
WITH SPECIAL GRATITUDE TOWARDS:

John Tehei, Giovanni Wamitan, Jerry Wong, Sosiasi Kilama, and all those who collect the data and fight the disease on the field