

**Florida Medical Entomology Laboratory Extension Program – Dr. Roxanne Rutledge-Connolly
(University of Florida)**

- a) Background
 - i) 1979 FMEL placed under University of Florida
 - ii) Land grant university
 - iii) Only research station dedicated to working on biting insects
 - iv) Located in conservation area on Indian River
 - (1) Impounded wetlands
 - (2) Good for salt-marsh mosquitoes
 - v) Outreach mandate
- b) Extension products
 - i) Common Mosquitoes of Florida
 - (1) 33 of species represented
 - (2) Shows picture, data, habitat, range
 - ii) Florida Mosquito Control “white paper”
 - iii) Mosquito ID and Certification Workshop
 - (1) Offered every spring – 2 week course
 - (2) Adult and larval identification
 - (3) Sampling opportunities
 - (4) Control and surveillance
 - (5) Certification after passing exam
 - (6) Graduate credit available (through University of Florida)
 - iv) Mosquito info web site
 - (1) White paper available as a pdf
 - (2) Mosquito database
 - (3) Buzz Words
 - (4) <http://mosquito.ifas.ufl.edu>
- c) Research
 - i) Extension works closely with research
 - ii) Arbovirus Transmission Risk Models – info available on web site
 - iii) Background
 - (1) Water table depth –
 - (a) Data collected by Global Energy and Water Cycle Experiment
 - (b) 589 reporting station throughout south Florida
 - (2) Targeting *Culex nigripalpus* populations –
 - (a) Primary WNV/SLE vector
 - (b) Populations increase greatly after droughts break
 - (3) GIS model
 - (4) Focus on control decision-making
 - iv) Specifics: 1977-1990
 - (1) Looking at water table depth occurring during SLE outbreak and comparing to non-outbreak years
 - (2) 4 temporal phases
 - (a) Initial dry down
 - (b) Initial wetting – amplification period
 - (c) Secondary dry down
 - (d) Secondary wetting – virus spillover to humans
 - (3) Deviations from pattern seen in SLE year means lower risk

- (4) Key is shape of secondary dry down/wetting periods
- v) Can create risk maps based on these data
- vi) Models show risk of epidemic transmission
 - (1) Environmental conditions considered
 - (2) Mosquito population data used
 - (3) Need to add bird population data
 - (4) Does give some info about the risk of focal transmission as well
- vii) Needs additional calibration
- viii) Plan to extend program to north Florida