

# WL2K<sup>1</sup> E-MAIL OVER HAM RADIO DEMONSTRATED DURING FLORIDA DIVISION OF EMERGENCY MANAGEMENT SIMULATED EMERGENCY TEST

bud Thompson, N0IA  
[budt@cfl.rr.com](mailto:budt@cfl.rr.com)

**Executive Summary** - The effectiveness of e-mail over Ham Radio without the use of a local internet connection at user (WL2K client) sites was successfully demonstrated during a Simulated Emergency Test (SET) in East Central Florida. On Wednesday June 4, 2008 the Seminole County Amateur Radio Emergency Services (ARES) group held a communications SET in conjunction with a State-wide Exercise dubbed *Hurricane Herb*. One of the stated goals of the SET was to demonstrate Ham Radio e-mail communications between and among Emergency Operations Centers and other sites in East Central Florida without the use of a local internet connection.

As part of this SET one county EOC, four city EOCS, three representative agency fixed sites, and two tactical stations effortlessly exchanged e-mail messages over the four-hour period. All outgoing and all incoming e-mail messages at client sites used the Ham Radio packet network rather than a local internet connection. The test included e-mail exchanges among participating Ham Radio sites in the local area and commercial e-mail addresses within and outside the local area. E-mail was exchanged with the North Florida American Red Cross in Jacksonville. More than 40 e-mail messages flowed freely during the SET.

E-mail client sites included the Seminole County, Altamonte Springs, DeBary, DeLand, and Edgewater Emergency Operation Centers. Representative agency and tactical client sites in Orange, Seminole, Volusia, and Putnam Counties also participated.

Five Local Area Network (LAN) Ham Radio Packet switches in Volusia, St. Johns, and Clay Counties linked via UHF trunks were employed. (Map 1) Fourteen Radio Message Server (RMS) E-mail internet access points in Orange, Seminole, Volusia, St. Johns, Putnam, and Clay counties were available. (Map 2) Three RMS sites in Seminole County were not available during the simulated internet loss.

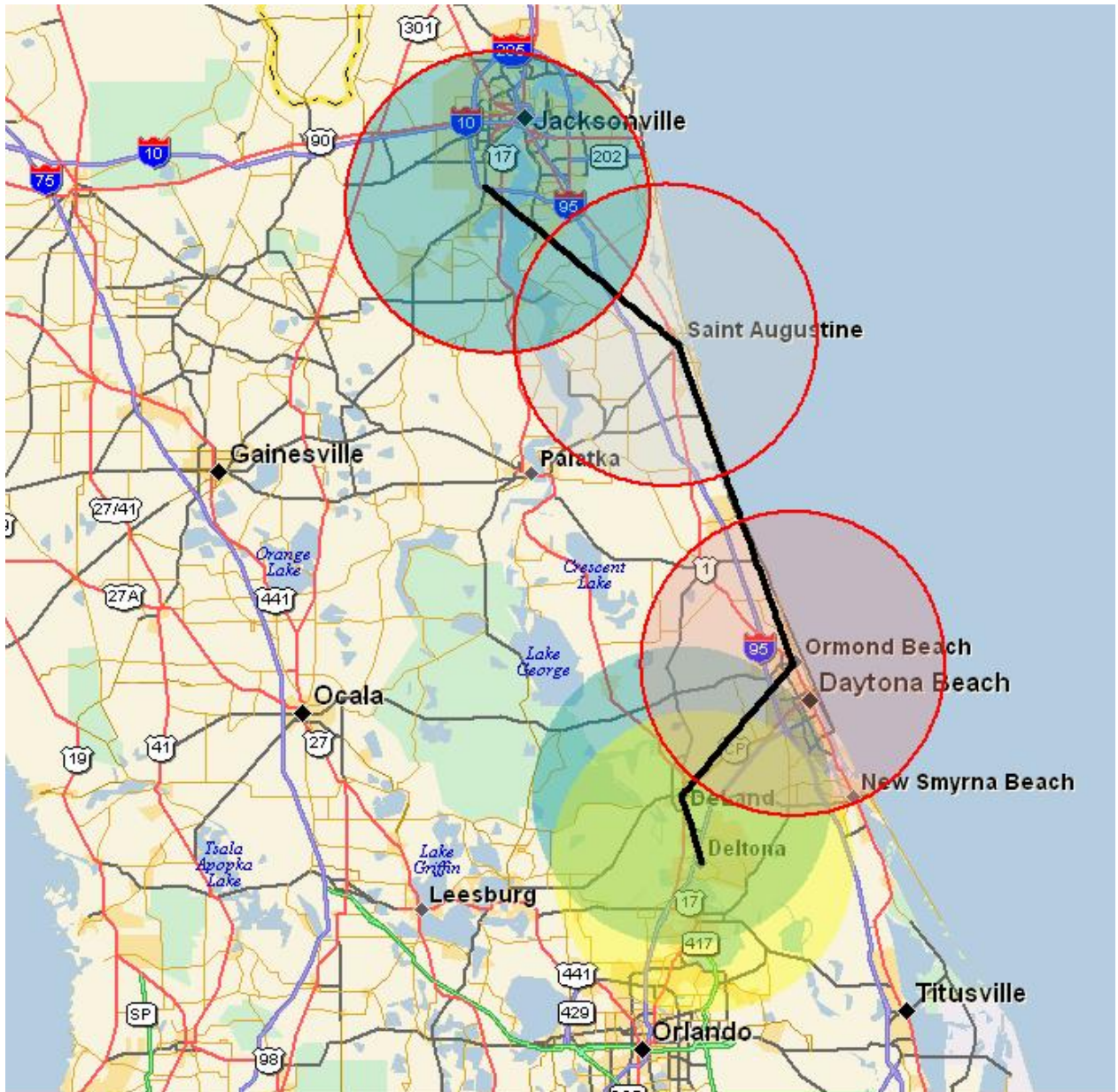
The (simulated) loss of local internet by participating client stations in Seminole County was mitigated by all client sites in Seminole county being able to link to RMS E-Mail internet sites in Orange, Volusia, Putnam, and Clay counties through the packet network.

Ham Radio operators directly involved at WL2K client sites for the SET included, K1KWG, AI4KM, N0IA, KC4UUM, KI4ZSK, KK4RW, N4GMU, AI4RI, KB9LEB, W2AS, N4ZKT, K4FUY, N0XIA and N7WWK (Putnam County.)

---

<sup>1</sup> Winlink 2000 system [www.winlink.org](http://www.winlink.org)

**MAP 1  
PACKET NETWORK SWITCHES IN EAST CENTRAL FLORIDA**

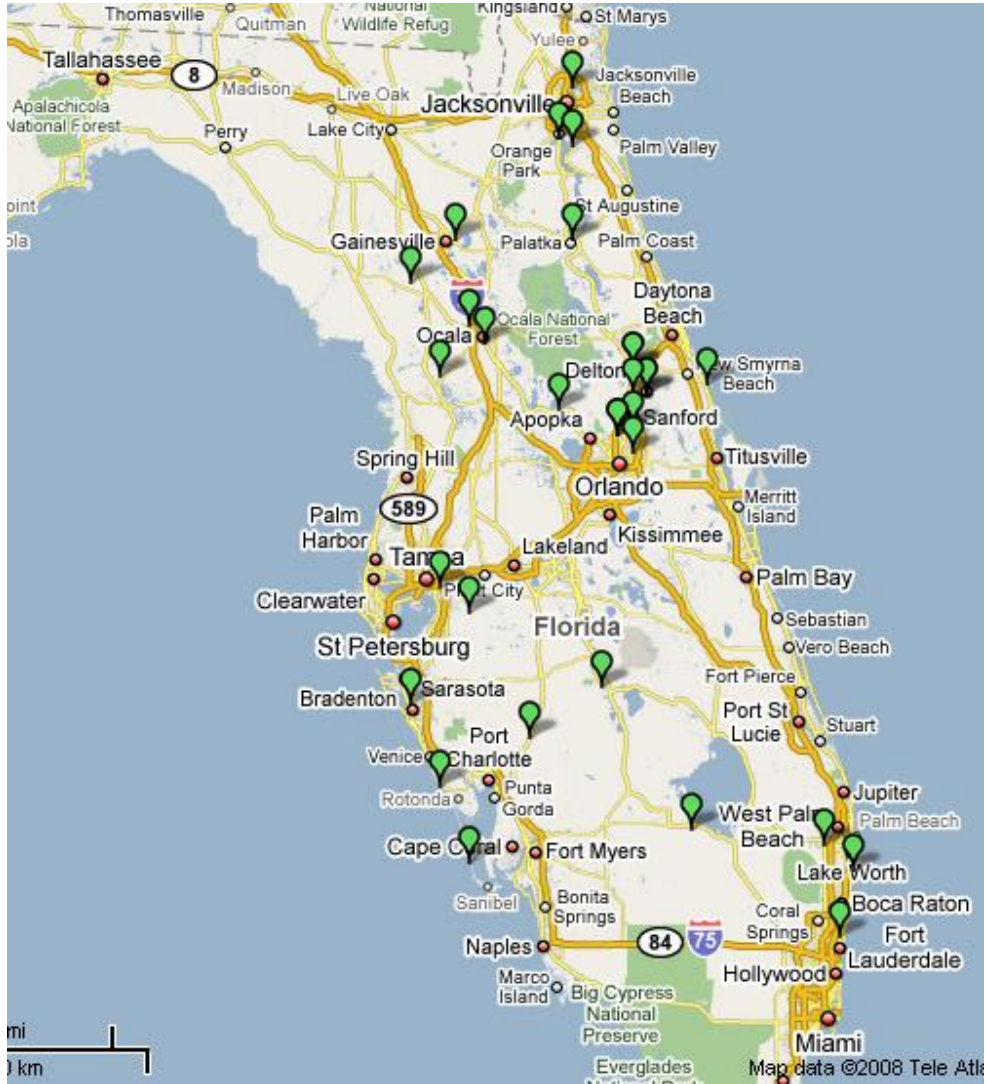


**LARGE CIRCLES** – Local Area Network (LAN) Packet coverage. Each color represents a different 2M LAN frequency. Nominal 20 mile radius is shown.

**BLACK LINES** – UHF backbone/trunks between Local Area Networks.

**NOTE:** The Orlando Packet switch (yellow circle) is in Deltona. It will be moved 20 miles south when a more appropriate location is secured. Meanwhile coverage throughout Orange County is facilitated by a digipeater at the Orange County EOC.

**MAP 2**  
**WL2K RADIO MESSAGE SERVERS (RMS) IN FLORIDA JUNE 4, 2008**



RMS sites from Orlando through to Jacksonville were used for internet access to e-mail.