P9.3   WIRELESS STORM SPOTTER AND MARINE REPORTING SYSTEM (WSSMRS) – A NATIONAL WEATHER SERVICE JACKSONVILLE/UNIVERSITY OF NORTH FLORIDA RESEARCH PROJECT.

Fred R. Johnson* and Patrick Welsh
NOAA/NWS WFO, Jacksonville, Florida

J. David Lambert
University of North Florida
Jacksonville, Florida

1. INTRODUCTION

The purpose of this National Weather Service (NWS) Jacksonville/University of North Florida partnership project is to develop, test and evaluate the ability to use Palm, or Palm like devices - Personal Digital Assistants (PDAs), to transmit and receive wireless weather observations. These weather reports will be sent directly from a trained storm spotter's or a mariner's PDA device to a virtual database, and a graphical Web site, which will prepare the collected records for display on any PDA device.

It is envisioned that this project will validate that a boater or storm spotter will be able receive the latest NWS forecast, advisories and warnings, plus the latest weather conditions from trained mariners or storm spotters over wireless PDAs. It will also provide a weather verification feedback system that will enhance, improve and reinforce forecast products, advisories and warnings issued by NWS forecasters.

2. PROJECT GOALS

A. Develop and test WSSMRS software for a Palm OS (operating system)

- Integrate user name, storm spotter number or call sign into start up function
- Record menus use pull down report criteria (criteria provided by NWS)
- Ingests GPS coordinates into the record
- Transmit records over a wireless network, or archives and transmit later if network is not available

B. Develop and test WSSMRS web clipping PDA software

- Integrate user name, storm spotter number or call sign into start up function
- Ingests GPS coordinates into the record
- Transmit records over a wireless network, or archives and transmit later if network is not available

C. Develop and test a virtual WSSMRS database and Website

- Validates and archives records
- Formats records for easy quality control
- Plots records in real time on a local geographic map
- Creates a NWS Local Storm Report
- Formats records for web clipping

D. Evaluation Study

- Develop and prepare a project "proof-of-concept" report

3. PROJECT SCOPE

A 90-day operational test will be conducted across NWS Jacksonville's county warning area and coastal waters. Trained local emergency managers, Skywarn storm spotters, and local boating organizations will assist in developing and evaluating software design, plus they will evaluate report timeless and data quality.

A casual comparative study will be conducted to assess the effectiveness of the additional weather reports.   This study will include techniques suggest by Polger et al. (1994), and Smith (2000).

4. REFERENCES

Polger, P.D., Goldsmith, B.S, Przywarty, R.C., & Brochieri, J.C., 1994: National Weather Service warning performance based on the WSR-88D, *Bull. Amer. Meteor. Soc.*, **75**, 203-214.

Smith, R. D., 2000: The warning polygon verification project: An alternative verification scheme for severe storm warnings. *20th Conference of Severe Local Storms*, AMS, 323-325.

*Corresponding author address: Fred R. Johnson, NWS WFO, 13701 FANG Drive, Jacksonville, FL 32218, E-Mail: Fred.Johnson@noaa.gov