

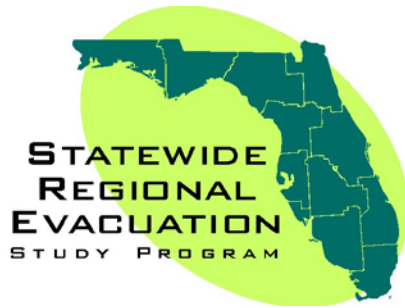
Northeast Florida Region Statewide Regional Evacuation Study Program

For
Baker, Clay, Duval, Flagler, Nassau, Putnam and St. Johns
Counties

Prepared by:
Northeast Florida Regional Council
for the
Florida Division of Emergency Management



This page intentionally left blank



CREDITS & ACKNOWLEDGEMENTS

Funding for the 2013 Study was provided by the State of Florida through the Division of Emergency Management to update the Regional Evacuation Study in Northeast Florida and to develop the methodology to update all regions in the State to the 2010 census data. This Study also further integrates the Evacuation Studies and Growth Management. As a result, this study addresses both Emergency Management and Growth Management data needs. Funds were also provided by the Federal Emergency Management Agency (FEMA) with all money administered through the Florida Division of Emergency Management

(FDEM), 2555 Shumard Oak Blvd., Tallahassee, 32399. Web site: www.floridadisaster.org. Local match was provided by the counties of Baker, Clay, Duval, Flagler, Nassau, Putnam and St. Johns

The Council acknowledges and extends its appreciation to the following agencies and people for their cooperation and assistance in the development of this document:

Northeast Florida Regional Council Staff; Federal Emergency Management Agency; NOAA; Florida Division of Emergency Management; Florida Department of Economic Opportunity; Florida Emergency Preparedness Association; Kerr & Downs Research; Dr. Earl Jay Baker - Hazards Management Group; North Florida TPO and the Central Florida MPO Alliance ; Florida Department of Transportation; CDM Smith; National Weather Service – Jacksonville Office; and the counties of Baker, Clay, Duval, Flagler, Nassau, Putnam and St. Johns.

Florida Division of Emergency Management

Bryan Koon, Director
Andrew Sussman, Hurricane Planning Manager
Richard Butgereit, GIS Manager



County Emergency Management Agencies

Adam Faircloth, Director of Baker County Emergency Management
Lorin Mock, Director of Clay County Emergency Management
William Estep, Interim Director of Duval County Emergency Management
Troy Harper, Director of Flagler County Emergency Management
Danny Hinson, Director of Nassau County Emergency Management
Quin Romay, Director of Putnam County Emergency Management
E.R. Ashton, Director of St. Johns County Emergency Management

Northeast Florida Regional Council

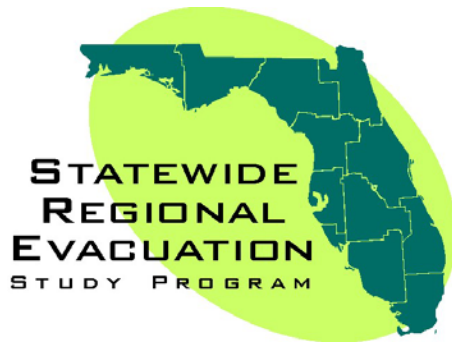
Jeffrey Alexander, Statewide Program Manager

Florida Emergency Preparedness Association

For their support in this statewide effort



This page intentionally left blank



The Statewide Regional Evacuation Study Program was completed by regional planning council staff in all eleven regions of the State. Oversight was provided by a small group in order to facilitate an overall review of the program. Subject matter expertise was provided by section leads for the major portions of the Study. These leaders ensured the accepted methodology was utilized across the State and that each section was completed in a consistent manner.

State Oversight Group

Andrew Sussman, Manager, Hurricane Program, Florida Division of Emergency Management

Brian Richardson, Manager, Natural Hazards Section, Florida Division of Emergency Management

Jeffrey Alexander, Director, Emergency Preparedness Programs, Northeast Florida Regional Council

Statewide Section Leads

Betti Johnson, Principal Planner, Tampa Bay Regional Planning Council - Analyses & Shelter

Marshall Flynn, Information Systems/GIS Manager, Tampa Bay Regional Planning Council - GIS

Richard Ogburn, Asst. to the Director, Research & Budget, South Florida Regional Planning Council - Demographics and Population

Beth Payne, Planning Program Director, Northeast Florida Regional Council - Statewide Planning & Coordination

Ed Ward, District 2 Emergency Coordination Officer - Florida Department of Transportation (FDOT) Liaison

In addition, sincere thanks for all those staff members, both past and present, of the Florida Division of Emergency Management (FDEM), whose contributions of time, interest and knowledge in all aspects of this project have made it a success.



The Northeast Florida Regional Council (NEFRC), (Region 4), is one of 11 regional planning councils in Florida established under the authority of Chapter 186, Florida statutes. It has been in operation since 1962 assisting public, private, and institutional sectors in a six-county area to address regional scale issues. The Northeast Florida Regional Planning Council offers services to the seven counties of Baker, Clay, Duval, Flagler, Nassau, Putnam, and St. Johns.

The Council is comprised of local government elected officials and private citizen representatives within the region.

There are two distinct components of the RPC:

- The RPC's Governing Board, or Council, a body of representatives that governs the agency.
- The staff, the professionals who provide technical support for Council decision-making and services for local governments throughout the region.

Contributing Staff of the Northeast Florida Region

Brian Teeple, AICP
Chief Executive Officer

Mario Taylor
Deputy Chief Executive Officer

Jeffrey Alexander
Managing Director, Emergency Preparedness Programs
SRESP Statewide Program Manager

Elizabeth Payne, AICP
Planning Program Director, Project Manager

Eric Anderson
Regional Planner

Michael Epstein
Regional Planner

Ameera Sayeed
Senior Regional Planner

Bonnie Magee
Administrative Assistant

Angelique Carnley
Administrative Assistant

Michael Calhoun
Graphic Designer

Northeast Florida Regional Council

2012/2013 Policy Board Members

Baker County

Hon. Jimmy Anderson (C)

Mr. Hugh D. Fish, Jr. (M) -
Secretary/Treasurer

Hon. Adam Giddens (C)

Mr. Darryl Register (G)

Clay County

Hon. Wendell Davis (C) - **1st Vice President**

Hon. Steve Howard (M)

Mr. Kenneth Smallwood (G)

Hon. Chereese Stewart (C)

Duval County

Ms. Elaine Brown (G)

Hon. Reginald L. Brown (C)

Hon. Matt Schellenberg (C)

Hon. Stan Totman (M)

Flagler County

Hon Frank Meeker (C)

Hon. Jon Netts (C)

Hon. Catherine Robinson (M)

Mr. Robert "Bob" Sgroi (G)

C = County appointee

G = Gubernatorial appointee

M = Municipal appointee

Nassau County

Hon. Shirley Graham (M)

Hon. Barry Holloway (C)

Mr. Robert "Bob" Spaeth (C)

Mr. Larry Williams (G) - **President**

Putnam County

Hon. Kenny Eubanks (C) - **2nd Vice President**

Hon. Nancy Harris (C)

Hon. Vernon Myers (M)

St. Johns County

Hon. Rachael Bennett (C)

Hon. Roxanne Horvath (M)

Hon. Cyndi Stevenson (C)

EX-OFFICIO NON-VOTING MEMBERS

St. John's River Water Management District

Mr. Geoff Sample

Florida Department of Transportation

Mr. Larry Parks

Florida Department of Environmental Protection

Mr. Gregory Strong

Statewide Regional Evacuation Study Program List of Volumes

Volume 1 – Technical Data Report

The *Technical Data Report (TDR)* is the primary Regional document of the Statewide Regional Evacuation Study Program. The TDR contains the summary analysis of all other supporting research, survey data and modeling, as well as key data found only in this Volume, such as the Population and Demographics analysis and the Shelter Analysis.

Volume 2 – Regional Behavioral Analysis

The *Regional Behavioral Analysis* was produced by the behavioral specialist Dr. Earl J. Baker, Hazards Management Group for the 2010 Statewide Regional Evacuation Study Program. The report includes a summary of the behavioral survey data and analysis, which includes the regional behavioral assumptions, incorporated in the calculation of evacuation population, evacuation participation rate (transportation analysis) and anticipated shelter demand. This Volume and data within are still relevant and included in the analysis for the 2013 Northeast Florida Regional Evacuation Study update. Please reference the 2010 edition of Volume 2.

Volume 3 – Regional Behavioral Survey Report

The *Regional Behavioral Survey Report*, produced by Kerr and Downs, Inc., provides the survey data from the more than 2500 behavioral surveys conducted in 2009 as part of the SRES Program. Volume 3 is still applicable to the 2013 Northeast Florida Regional Evacuation Study Update. Please reference the 2010 edition of Volume 3.

Volume 4 – Evacuation Transportation Analysis

The *Regional Evacuation Transportation Analysis* is produced by the evacuation transportation team at CDM Smith (formerly Wilbur Smith Associates). It includes a summary description of the evacuation transportation model, study methodologies, behavioral assumptions and growth management impact assessments on evacuation. The report includes the evacuation clearance times for the counties and the region for 2015 and 2020 under different planning and operational scenarios.

Volume 5 – Evacuation Transportation Supplemental Data Report

The Supplemental Report, prepared by CDM Smith contains the model run inputs and outputs and serves as the source data for the *Evacuation Transportation Analysis*.

Volume 6 – Emergency Management Evacuation Tool Kit

The *Emergency Management Tool Kit* includes locally selected data pertinent to the county emergency management agency. It is meant to be used as a quick reference guide for operations.

Volume 7 – Storm Tide Atlas

The Storm Tide Atlas provides the storm tide boundaries based on the new SLOSH Analysis including the boundaries of the Coastal High Hazard Area (CHHA). It is provided in several formats including GIS files, PDF files, and printed copy. There is one Book for each county in the region, which has a potential for storm tide flooding.

Volume 8 – Methodologies for the Statewide Regional Evacuation Study Program, 2013

This volume provides a detailed description of the methodologies, model assumptions and the Transportation Interface for Modeling Evacuations (TIME) developed and utilized in the Statewide Regional Evacuation Study Program. Other methodologies are included for the use of GIS in the Study, including the Surge Inundation Modeling (SIM) tool as well as the tool created for the Depth Analysis. Specific to the 2013 Northeast Florida Regional Evacuation Study update is the methodology to update the Small Area Data utilizing the 2010 Census. This Volume is specific to the Northeast Florida Regional Evacuation Study.

Volume 9 – Depth Analysis Atlases

The Depth Analysis Atlas provides the depth of the storm tide based on the new SLOSH Analysis. The Depth Analysis is created for each category of storm, with each County having a separate book for Category 1, 2, 3, 4, and 5; each book depicts the depth of the storm surge for that Category of storm.

This page intentionally left blank

Volume One: Technical Data Report

Table of Contents

Executive Summary

Chapter I. Regional Demographic and Land Use Analysis

Chapter II. Regional Hazards Analysis

Chapter III. Regional Behavioral Analysis Summary

Chapter IV. Regional Population and Vulnerability Analysis

Chapter V. Regional Shelter Analysis

Chapter VI. Regional Evacuation Transportation Analysis

Glossary of Terms/Definitions

This page intentionally left blank