

**ASSESSING IMPROVEMENT
IN THE PUBLICS'S UNDERSTANDING
OF THE RISKS DUE TO
STORM SURGE
THROUGH THE USE OF
A SURGE VISUALIZATION MODEL**

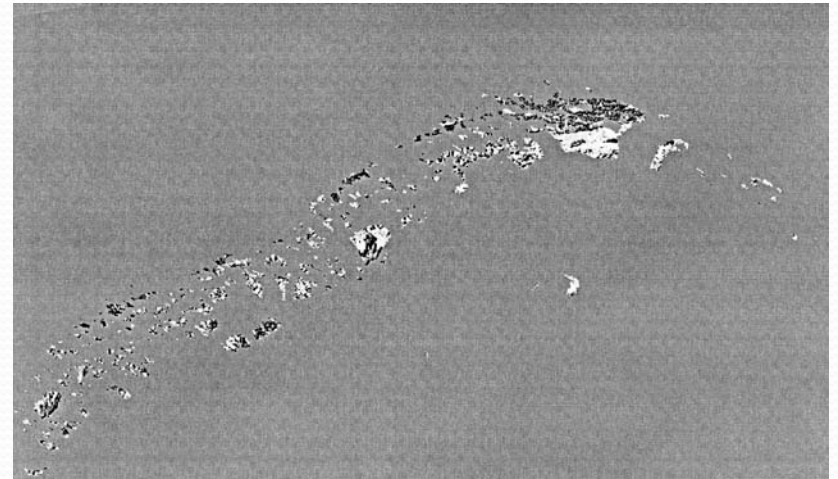
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College of Charleston**

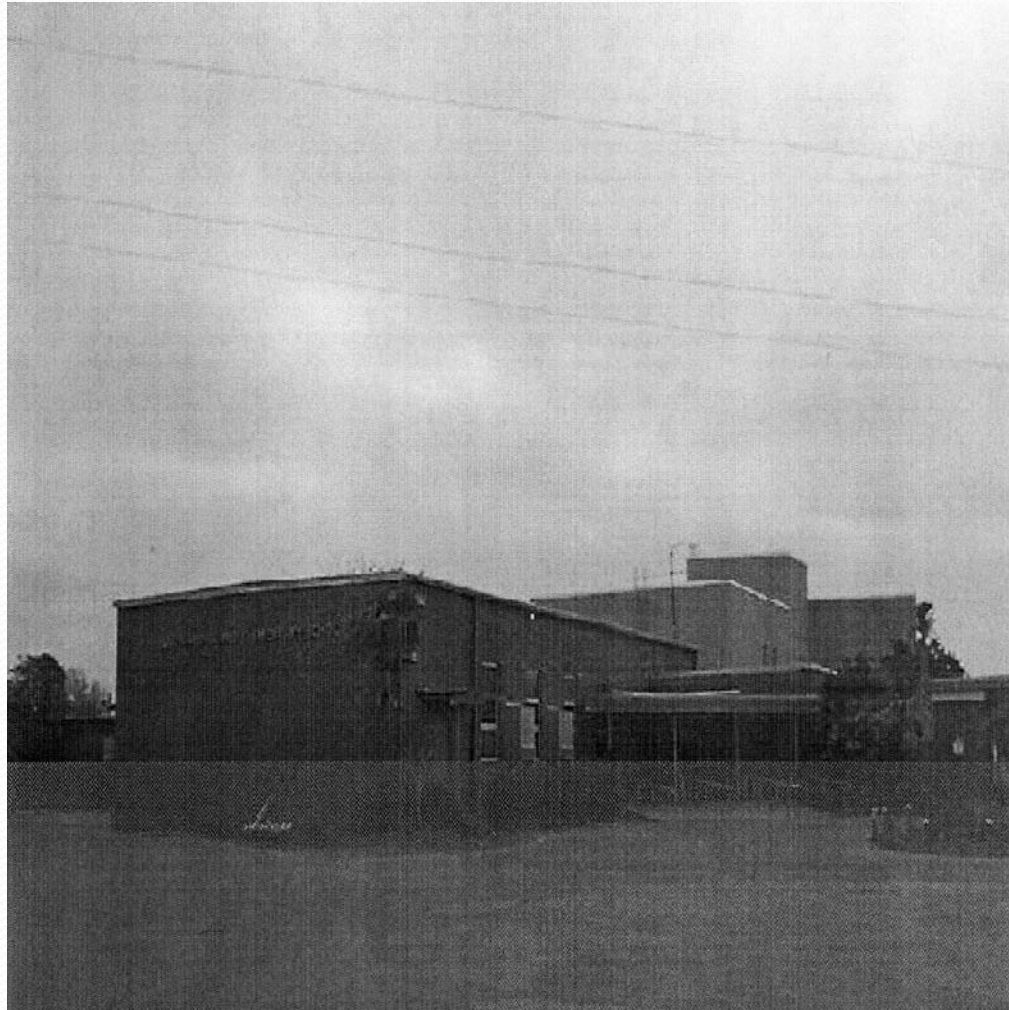
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Background

- CHARLESTON HAS EXPERIENCED MANY HITS OR NEAR MISSES IN THE PAST 20 YEARS
- 93% OF OUR 202 SURVEY SUBJECTS HAD EXPERIENCED HURRICANE EFFECTS
- YET, MOST FAILED TO UNDERSTAND BASIC HURRICANE ADVISORIES
- HALF DID NOT REALIZE STORM SURGE IS THE MAIN THREAT
- MOST HAD NO CLUE WHAT A PARTICULAR SURGE DEPTH MEANT RELATIVE TO THEIR HOME ELEVATION
- MOST DID NOT HAVE AN EVACUATION PLAN
- HALF FELT THE NWS OVERSTATES THE DANGERS

Sullivan's Island, SC

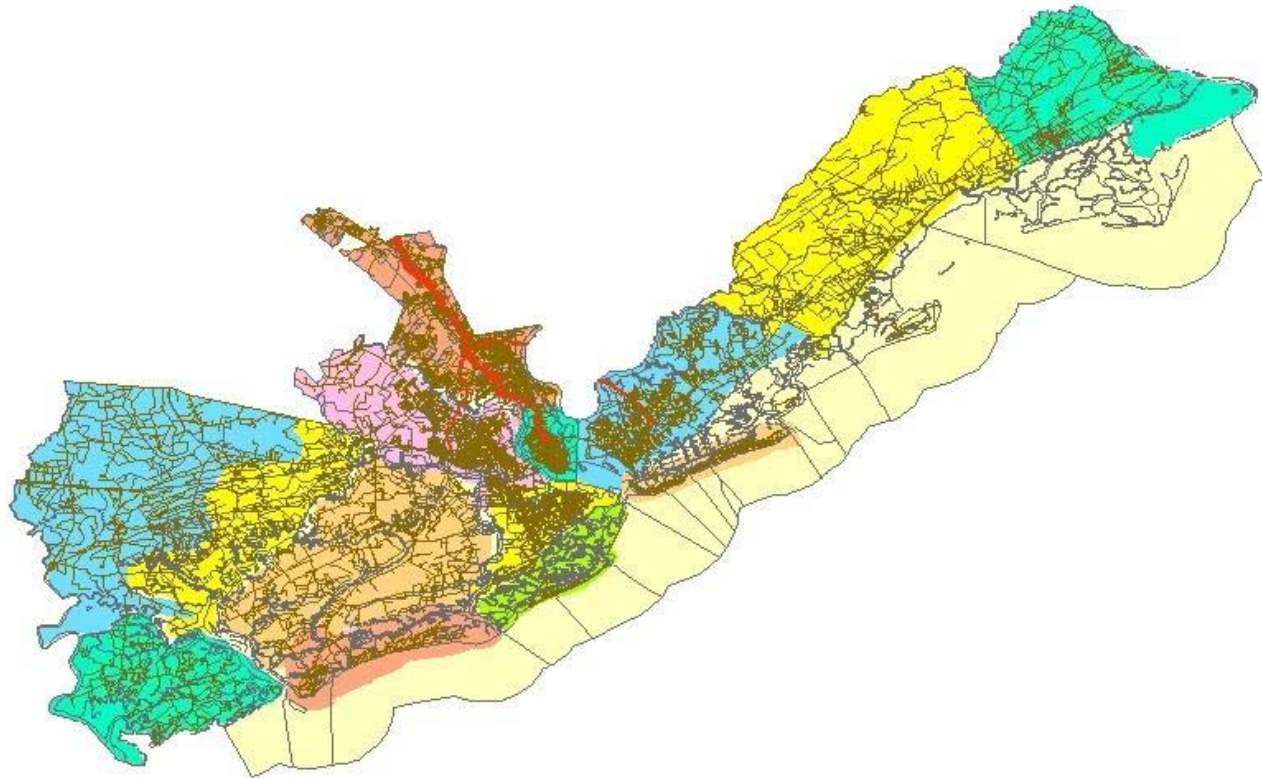




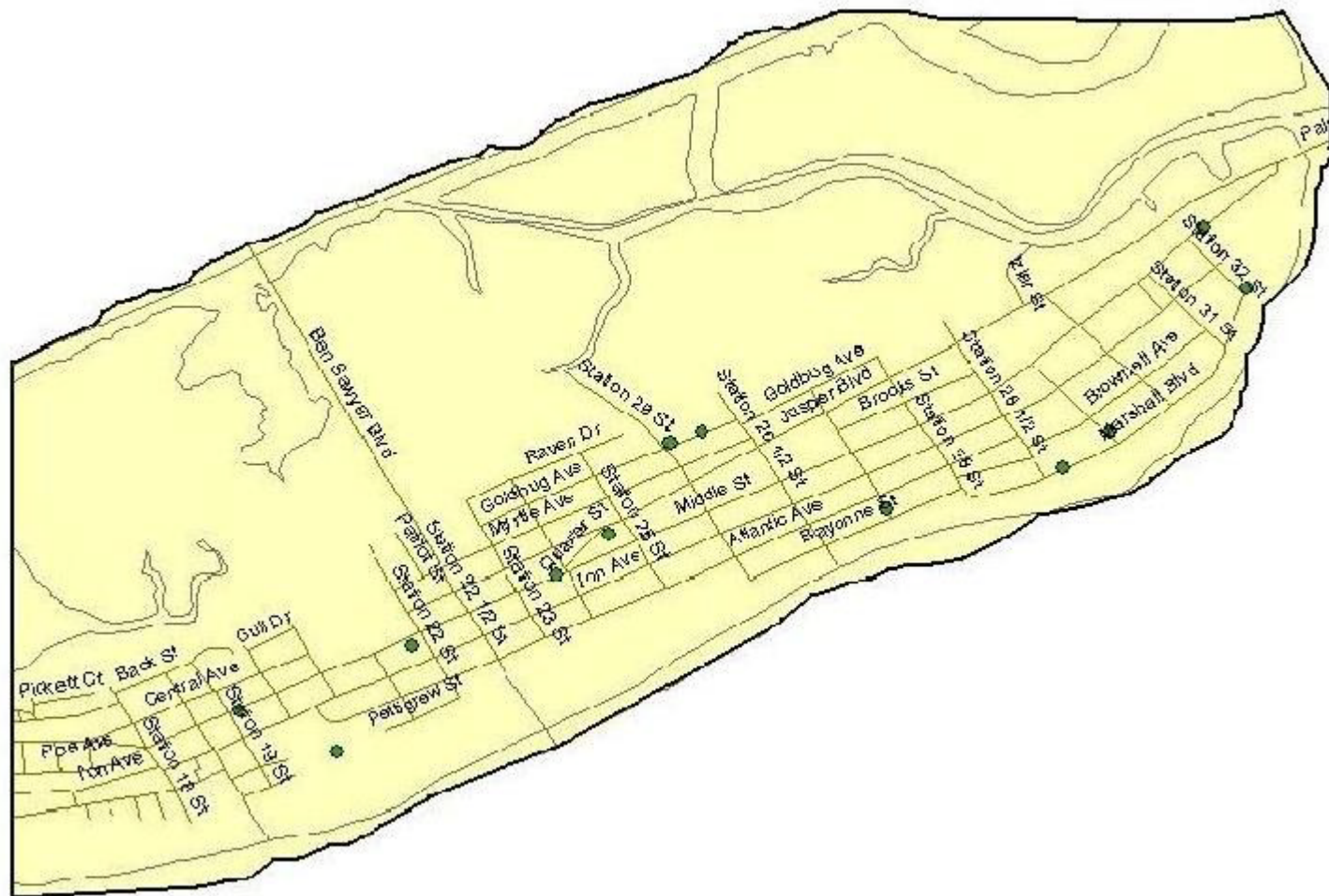
Surge Visualization Model

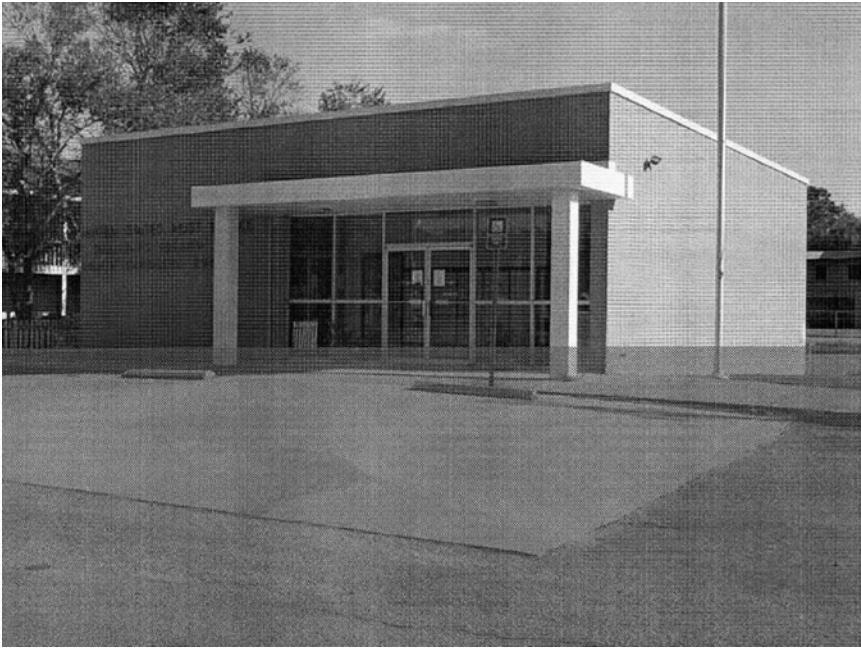
- INTERACTIVE WEB SITE
 - Background on Study
 - Basic Hurricane Physics
 - Hurricane Surge Visualization Model
 - Error Warnings
- DATA ON ONE THOUSAND LANDMARKS (every 2 blocks)
- DATABASE OF 50 SLOSH SIMULATIONS (Thanks Brian Jarvinen)
- COMBINE SLOSH, ELEVATION, TIDAL DATA
- OVERLAY WATER DEPTH ON PHOTOGRAPHS

GIS map, Charleston County

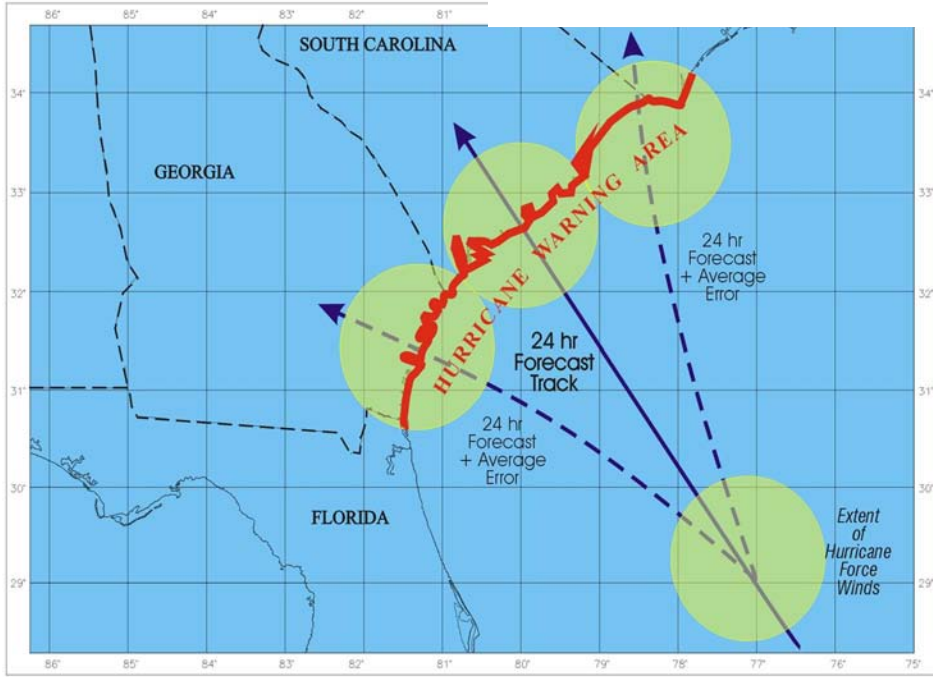
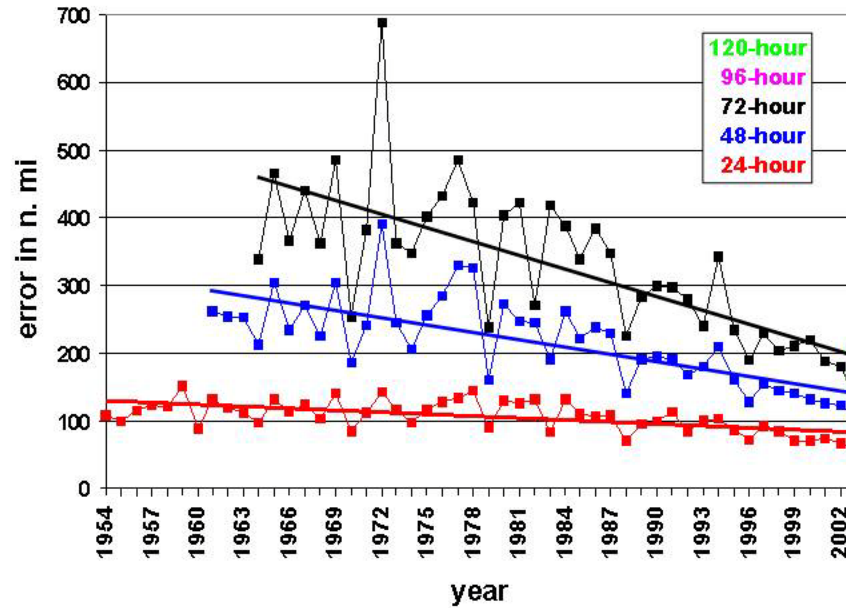


Zoom to Sullivan's Island

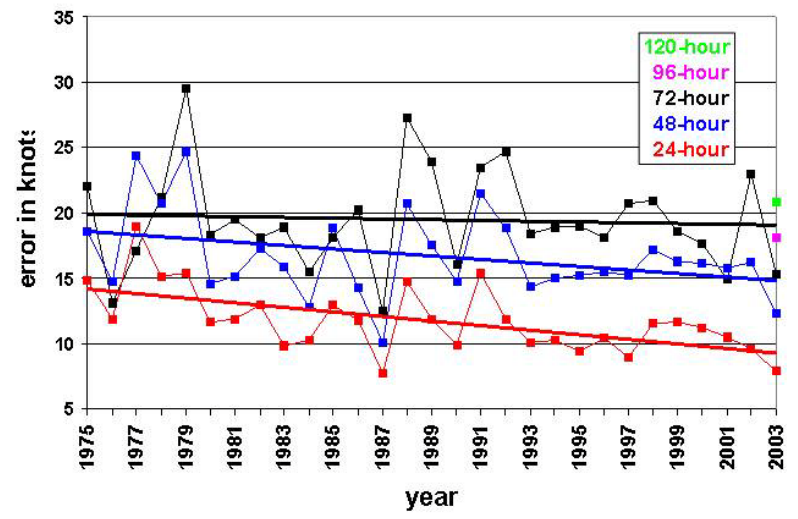




Tropical Prediction Center Performance Measures
 yearly-average official track forecast errors and trend lines, Atlantic basin



Tropical Prediction Center Performance Measures
 yearly-average official intensity forecast errors and trend lines, Atlantic basin



Procedure

- SURVEY HUNDREDS OF RESIDENTS
- SITE ADDRESS ONLY RELEASED TO SURVEY SUBJECTS
- DEMOGRAPHICAL DATA
- UNDERSTANDING OF HURRICANE PHYSICS EXPLORED BEFORE AND AFTER USING THE SITE
- EXPLORE UNDERSTANDING OF UNCERTAINTIES IN FORECAST, ELEVATIONS, WAVES, INLAND FLOW, ETC.
- DETERMINE PROBLEM AREAS FOR FUTURE MODELS
- PUBLISH

Summary

- PUBLIC HAS POOR UNDERSTANDING OF THE RISK ASSOCIATED WITH HURRICANE SURGE
- STANDARD FLOODZONE MAPS ARE NOT EFFECTIVE FOR MOST PEOPLE
- HOW EFFECTIVE WILL AN INTERACTIVE WEB SITE USING LOCAL LANDMARKS BE AT CONVEYING RISK OF HURRICANE SURGE?
- USE AS AN EDUCATIONAL TOOL
- DETER DEVELOPMENT OF LOW-LYING AREAS?
- THANKS TO THE NOAA (UCAR) COMET PROGRAM!

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