

CITY OF JACKSONVILLE COMPOUND FLOODING ANALYSIS

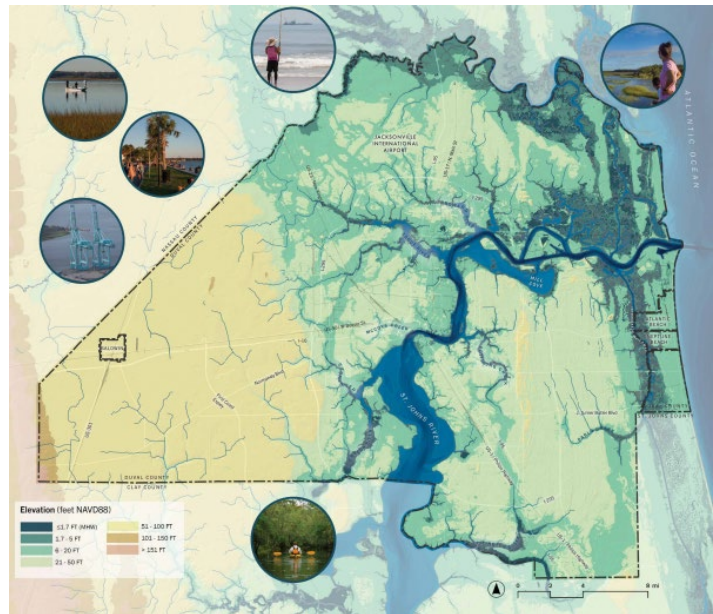
Jacksonville's location along the Atlantic Ocean, near the Saint John's River and tributaries, and the Intracoastal Waterway makes the city vulnerable to impacts of coastal surge, high tides, sea level rise, rainfall and riverine flooding.

Jacksonville's flood challenges become even more difficult when one or more of these flooding types happen simultaneously. Climate change is causing these flooding events to occur more frequently and with more interaction between flood types. In order for the City of Jacksonville to adequately prepare for current and future flood challenges, the city needs a model that incorporates the compounding impacts of the individual flood drivers to produce best available and actionable data for use towards mitigation planning, flood forecasting and associated decision making.

In response, The Water Institute with partners Deltares, Halff, UCF Coastal, and Princeton University are developing a probabilistic compound flood modeling framework specifically tailored to Jacksonville's flood rivers and its natural and built environment. This modeling framework will leverage advancements in machine learning, high performance cloud computing and infrastructure to produce actionable risk data and associated dashboards.

In addition, The Water Institute and partners will provide a real-time forecasting system that connects National Oceanic and Atmospheric Administration (NOAA) meteorological data to the developed compound flood modeling framework to provide best available site-specific flood information in advance of storm events.

The team will train the city staff on use of the model repository and the real-time forecasting system to provide a more holistic approach to addressing compound flooding issues, aid the city's long-term resilience planning, and in the preparation for storm events



Jacksonville is a city shaped by water with over 1,500 miles of shoreline. Image from the Resilient Jacksonville report.

CLIENT

City of Jacksonville

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City of Jacksonville

PROJECT COST

\$1.6 million

KEY STAFF ASSIGNED

Mark Bartlett, Jordan Fischbach, Brett McMann, Colleen McHugh, Hugh Roberts, Jeff Hicks, Zach Cobell, Muthu Narayanaswamy

COMPLETION DATE

Ongoing

RELEVANT PROJECT ELEMENTS

Compound flood model and probabilistic framework development

Flood forecasting software implementation

Data repository implementation

Flood consequences model development and application