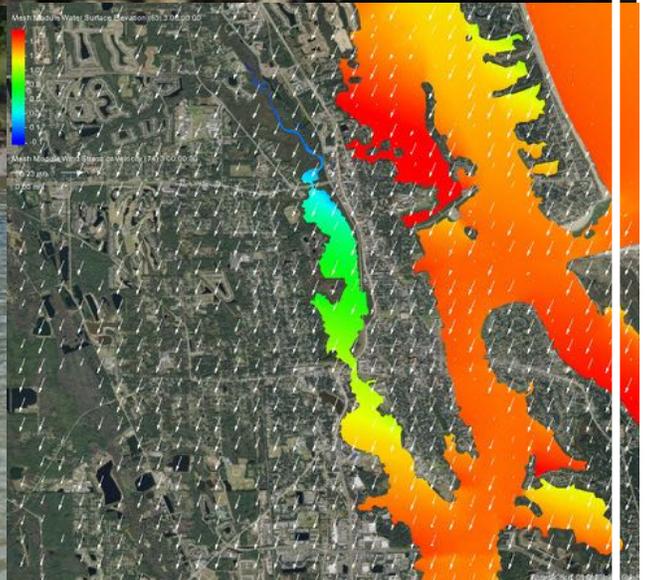


ATM

DESIGN
ENGINEERING
CONSULTING

APPLIED TECHNOLOGY & MANAGEMENT, INC.



Coastal Resiliency Services

Who We Are

We address risk through a holistic approach that facilitates adaptation to changing conditions while balancing the costs and benefits to the environment, community and property owners. Our results-oriented services focus on reducing risk through data verification, sustainable design and planning.



Coastal Risk Assessments

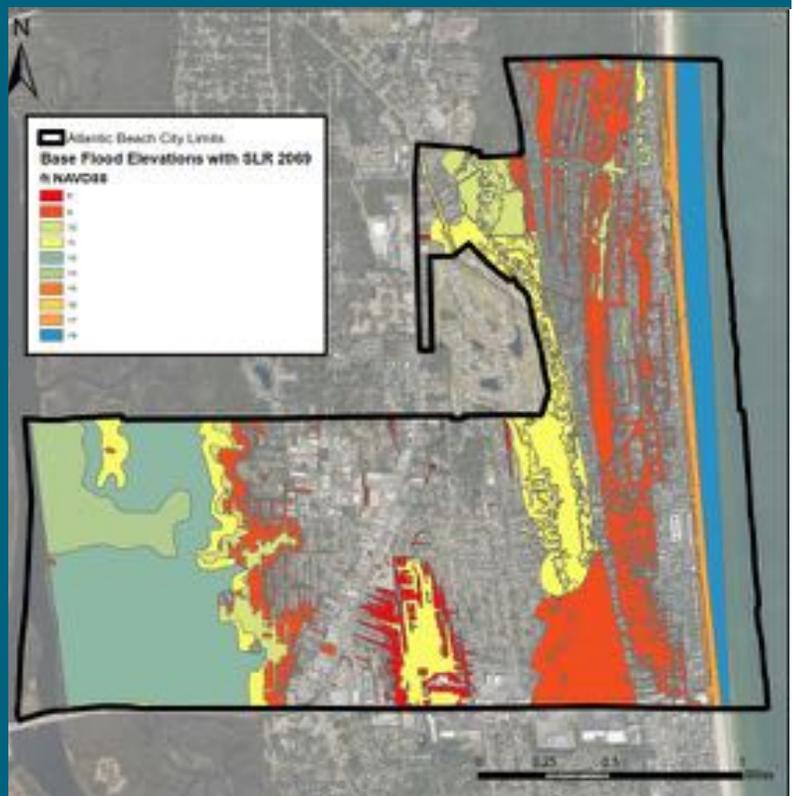
Understanding wind, waves and storm surge is integral to coastal resiliency. ATM independently verifies and analyzes data by using computer models to simulate historical hurricanes and/or severe climatic events that have occurred over the past 100+ years. By adding sea level rise (SLR) projections or scenarios to the modeling, ATM estimates tailwater conditions and future coastal flood risks associated with increased storm surge elevations and wave heights based on future 100-year flood hazards.



Independent Verification & Analysis | SLR Projections | Future Risks

As part of a multi-disciplinary team, ATM conducted the coastal hazard assessment component of a municipal-wide vulnerability assessment, ATM evaluated long-term coastal flood risks for Atlantic Beach, FL using future sea level rise (SLR) projections and more intense hurricane conditions. The overall vulnerability assessment reflects forward-thinking modeling while adhering to FEMA methodology in projecting the likelihood of 100-year flood events 25-, 50- and 100-years in the future. The assessment produced a series of flood maps, using FEMA methodology but accounting for SLR and increasing storm intensity, which FEMA does not do. The net result is the City now has a new set of flood insurance rate maps that consider SLR and climate change conditions.

Project Highlight: Coastal Hazard Assessment and Sea Level Rise Mapping, Atlantic Beach, FL



Floodplain Assessment & Mapping

Properties located in flood risk zones, especially within FEMA flood zones, present a unique set of challenges. ATM is well versed in the complex processes of coastal, riverine and waterfront flood risks and the technical guidelines regulating FEMA-designated flood zones.

Specialized Services

- Letter of Map Amendment (LOMA)
- Letter of Map Revision (LOMR)
- Letter of Map Revision based on Fill (LOMR-F)
- Technical Support for Construction of Pools, Decks, and Docks in Flood Zones
- Specialized Consulting-Engineering for Siting and Construction of New Residences
- VE Zone Fill Analysis - "No Rise" Certifications
- Expert Witness Services and Litigation Support



Significant Insurance Premium Savings | Flood Hazard Risk Reductions

Project Highlight: Fort Lamar Neighborhood FEMA Map Revision, James Island, SC



ATM was contacted by a group of homeowners to determine if the effective flood maps in their area accurately depict the true flood hazards and zones.

The isolated peninsula neighborhood is located within the tidal marshes behind a barrier island. ATM's feasibility analysis determined that using improved topographic survey data and FEMA-approved wave transect analysis, that a majority of the area could be remapped as FEMA AE zone versus the effective VE zone, thereby reducing insurance premiums.

A detailed coastal risk analysis was conducted according to FEMA guidelines. ATM submitted a LOMR package to FEMA reflecting the proposed changes and coordinated with FEMA on additional requests and analysis until the changes became effective. In the end, all structures in the study area were successfully changed from a VE to AE zone. Substantial savings on homeowner flood insurance premiums were realized based on the revised maps.

Integrated Planning & Design



Innovative multi-purpose solutions are needed to address critical issues such as waterfront infrastructure, coastal resiliency, water quality, sea level rise, enhanced water access, habitat protection, and environmental restoration. Working collaboratively with our clients and team members, we integrate planning, stakeholder participation and physical realities to formulate comprehensive adaptation strategies.

Adaptation Strategies | Restoration | Mitigation

ATM identified new amenity and coastal protection opportunities for the resort property and developed marina plans and innovative mangrove design concepts. The final environmental restoration plan included detailed analysis of grading plans, reconstruction of suitable ground elevations for mangrove development, reconfiguration of a rock berm structure to restore hydraulic flows, and design of canals that could be used as kayak trails. The environmental restoration design also incorporated amenities such as boardwalks, decks, kayak docks, a bird observation tower, and the upland location of the interpretation center.

This project was selected as the only Caribbean project case study in the ULI publication “Returns on Resilience: The Business Case.”

Project Highlight: Ritz Carlton Marina & Mangrove Grand Cayman, Cayman Islands





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Founded in 1984, ATM is a design, engineering and consulting firm providing coastal, waterfront and water resources engineering services to clients worldwide.

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**Coastal, Waterfront &
Water Resources Engineering**