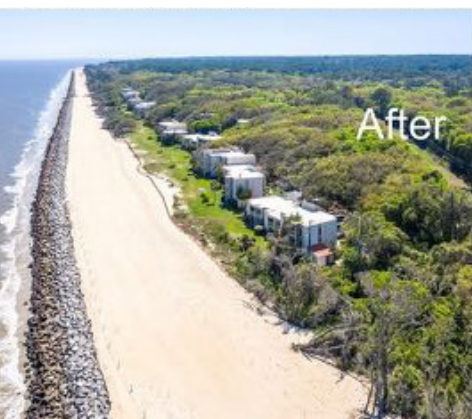
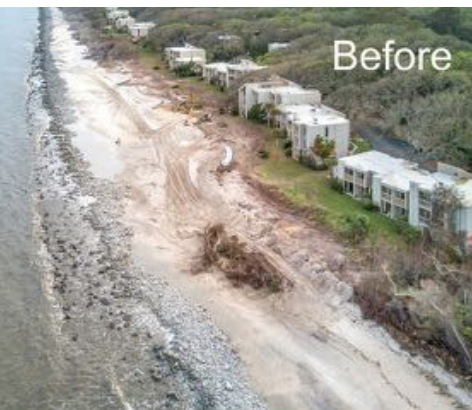


# COASTAL SERVICES

Since 1990, ATM has provided services on more than 750 coastal projects worldwide. Project locations include the U.S., Mexico, Caribbean, South America, United Arab Emirates, and Middle East.



## COASTAL ANALYSIS, SITE EVALUATION AND MODELING

Numerical Modeling to Optimize Project Design and Mitigate Potential Impacts

### Specialized Services

- Extreme Storm Hazard Estimation (wind, waves and flooding)
- Basin Circulation and Flushing
- Wave Generation and Transformation
- Beach, Dune and Nearshore Morphological Processes
- Shoreline Evolution and Impact Assessments
- 2-D and 3-D Estuary and Coastal Hydrodynamics
- Scour Analysis
- Sediment Transport
- Coastal Structures and Shore Protection Designs
- Harbor Wave Agitation and Long Period Waves
- Vessel Motions and Mooring System Dynamics
- Ship Navigation Simulations



## BEACH NOURISHMENT

### Specialized Services

- Feasibility and Economic Studies
- Storm Impact, Erosion Analysis and Project Design
- Numerical Modeling
- Regulatory Permitting
- Geotechnical Investigation and Analysis
- Borrow Source Identification
- Construction Administration
- Post-Construction Monitoring
- FEMA Cost Reimbursement Support

# EXPERIENCE



## SHORELINE STABILIZATION AND COASTAL STRUCTURES

### Specialized Services

- Seawalls, Revetments, Articulated Mats and Geotextile Applications
- Breakwaters, Jetties and Groins
- Bulkheads and Wharves
- Wave Attenuation Systems
- Living Shorelines



## DREDGING SUPPORT SERVICES

### Specialized Services

- Feasibility and Alternatives Studies
- Evaluation of Existing Conditions, Processes and Causes of Sedimentation
- Development and Permitting of DMMAs and CDFs
- Disposal Permitting, Design and Environmental Studies
- Regulatory Permitting and Coordination
- Dredging Project Design and Specifications
- Dredging Project Management and Monitoring
- Hydrographic, Bathymetric and Upland Surveys
- Environmental Resource Surveys, Mitigation Strategies and Habitat Creation Plans
- Beneficial Uses for Dredged Material including Beach Nourishment, Sand Bypassing, Marsh and Wetland Creation, Nearshore Mounds, and Bird Islands
- Public Coordination and Liaison
- Construction Administration Services



## SCOUR ANALYSIS

ATM provided coastal modeling in support of value engineering of the Gulf Coast Highway, initially designed with approximately 40 miles of sheet pile revetment to protect the highway from storm surge damages.



### Project Highlight | Gulf Coast Highway, Santa Rosa Island, FL

ATM performed detailed hurricane and storm surge analysis and modeling to assess Santa Rosa Island's susceptibility to storm surge levels and overwash for 5-, 10-, 25-, and 50-year storms. In areas where the highway was at lower elevations and susceptible to storm surge damage, ATM performed scour analyses to determine an appropriate level of protection to the highway.

ATM provided storm surge levels along Santa Rosa Island and potential scour depths at critical sections of the highway impacted by the storm surge and overwash. ATM also overlaid storm surge levels and potential scour depths on the proposed highway elevations. As a result, critical areas of the highway that were susceptible to overwash and potential storm-induced scour were identified, thereby reducing the amount of necessary sheet pile by 75 percent.



### Project Highlight | Jupiter Island Seawall, Martin County, FL

ATM's comprehensive analysis of alternate shore protection options resulted in selection of a vertical seawall to protect a segment of a storm-threatened county road. Shoreline data was obtained and storm erosion model simulations were performed to assess 25-year return period storm event beach/dune erosion. A 600-foot steel sheet pile wall was designed based on storm erosion data, geotechnical investigation of upland soils, and scour analyses. A rock toe scour revetment was designed to prevent excessive scour at the toe of the wall.



# EXPERIENCE



## ENVIRONMENTAL SUPPORT SERVICES

### Specialized Services

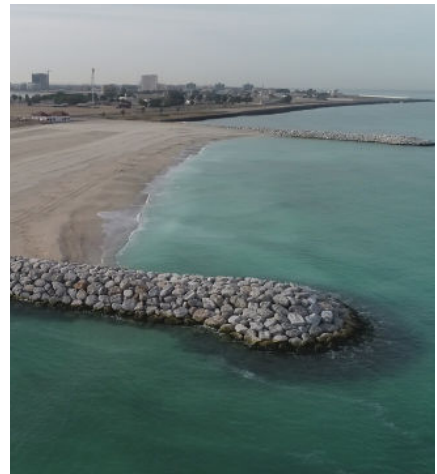
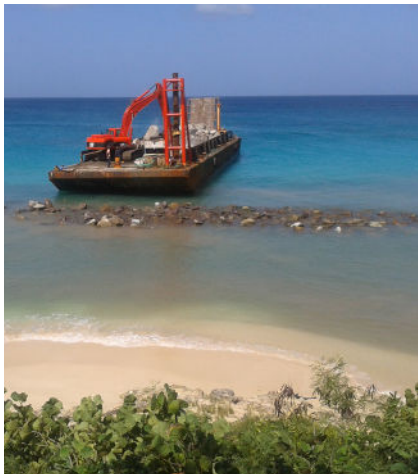
- Site Assessment and Opportunity Analysis
- Mitigation Design and Implementation
- Coral and Seagrass Relocation
- Artificial and Mitigation Reef Enhancement
- Dune Restoration
- Environmental Impact Assessments
- Mitigation Strategies
- Habitat Creation Plans
- Regulatory Permitting and Coordination
- Post-Construction Monitoring



## SURVEYING AND MAPPING

### Specialized Services

- Side-Scan Sonar
- Seismic
- Magnetometer
- Sub-bottom Sonar
- Beach Profile
- Bathymetric Survey
- Topographic Survey
- Boundary Survey
- As-built Surveys
- Seagrass Mapping
- Conservation Easement Descriptions
- Submerged Land Lease Descriptions
- Post-Construction Monitoring



## About Us

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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