

# APTIM Environmental and Infrastructure Survey Services

# APTIM ENVIRONMENTAL AND INFRASTRUCTURE SURVEY SERVICES

APTIM is a full-service geo-consulting firm employing surveyors, hydrographers, geospatial professionals, and engineers. Our multidisciplinary background allows us to provide a wide range of in-house surveying and other geomatics and geoscience consulting services. Our staff routinely performs surveys across a variety of environments from upland urban areas, remote wetlands, forested lands, low-lying coastal zones, as well as the inshore and offshore waterbodies. APTIM offers a full range of professional land surveying, hydrographic surveying, geodetic control establishment, geophysical surveys, and GIS database services.

## HYDROGRAPHIC SURVEYING

APTIM hydrographers have over 75 years of combined experience conducting coastal and open ocean surveying. As an industry leader in coastal hydrographics, APTIM emphasizes the use of the latest technologies to provide cost effective and powerful survey products to the most demanding end-users. We specialize in the use of nearshore and shallow water multibeam sonar and have collected thousands of miles of multibeam data in the Atlantic Ocean and Gulf of Mexico.

## VESSELS AND TECHNOLOGY

APTIM maintains a fleet of survey vessels with complete hydrographic suites including Real Time Kinematic or Differential navigation. Dynamic Motion Devices and Intertial Measurement Units are used when conducting high precision hydrographic operations. APTIM also routinely deploys Acoustic Doppler Current Profilers (ADCP) to collect current and temperature data which can be used for various modeling applications. All survey operations are conducted under the direction of professional surveyors and certified hydrographers to ensure compliance with all applicable laws, standards and procedures.

APTIM'S R/V SURVEYOR COMING TO SHORE ON ONE OF THOUSANDS OF NEARSHORE BEACH

PROFILES COLLECTED.

MULTIBEAM ECHOSOUNDER BATHYMETRY FROM AN ENCLOSED BASIN



TOPOGRAPHIC; INFRASTRUCTURE SCANNING AND CONTROL IN SUPPORT OF ENERGY INFRASTRUCTURE

SURVEYOR

## LAND SURVEYING

APTIM provides the initial on-the-ground surveys that define the properties involved in a lease, unit, or well location.

APTIM can also perform pipeline route surveys that are comprised of hundreds of tracts of land in both rural and dense urban areas. We are specialists in all areas of energy related surveys including the construction layout and as-built surveys of pipelines, pads, meter sites, and other energy facilities. APTIM also provides monitoring and boundary survey services for established sites.

#### **SCANNING 3D SONAR**

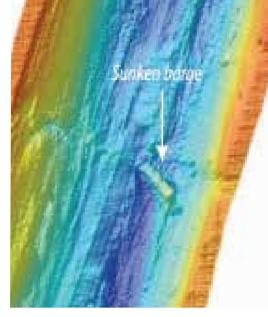
APTIM utilizes real-time scanning sonar in our suite of survey services for infrastructure inspections and other construction needs. The incorporation of this technology allows for highly detailed depictions of underwater infrastructure and natural features in real-time, without costly diver deployments. Each ping, or point, is tagged with horizontal coordinates and elevation data providing a fully rectified surface of the target feature. This technology is very well suited for as-built inspections of bulkheads, oil and gas rigging, and shipping terminals.

#### CONTROL ESTABLISHMENT

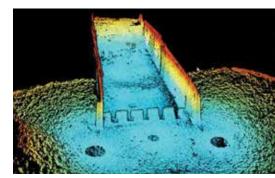
APTIM has established high order geodetic control across the Gulf Coast, Southeast United States and the Bahamas. APTIM adheres to all National Geodetic Surveys Standards and Specifications for Establishment of Geodetic and Tidal Control and has in-house staff fully versed and certified to use NGS OPUS-Projects as well as Trimble Business Center for control solutions. APTIM has been established control in remote areas and populated areas including the Bahamas, the Dominican Republic, the Middle East, and throughout the eastern and gulf coast states.

## MEAN HIGH WATER AND COASTAL BOUNDARIES

APTIM also routinely performs Mean High Water and other coastal boundary surveys. APTIM has vast experience with riparian rights issues as well as other property and boundary law and impacts on coastal projects and construction. APTIM has worked closely with State Agencies to establish numerous Erosion Control Lines (ECL) across the state of Florida.



MULTIBEAM SURVEY OF THE ATCHAFALAYA RIVER, LA



SUBAQUEOUS 3D SCAN USING BLUEVIEW SCANNING SONAR OF RESERVOIR SPILLWAY



MEAN HIGH WATER LINE SURVEY - LONG KEY STATE PARK, FL