TETRA TECH

Geomatics Technologies Group

Integrated Mapping Solutions

Tetra Tech provides integrated mapping solutions using state-of-the-art mapping software, airborne and mobile sensors and camera systems, and a robust information technology infrastructure. Our clients receive accurate, innovative geospatial and mapping solutions for commercial, governmental, and defense applications.

Our ASPRS-certified photogrammetrists, FAA-certified UAS pilots, certified geographic information systems professionals, LiDAR analysts, and remote sensing and survey professionals work together to provide the latest tools and technologies to support our clients' goals and objectives. Tetra Tech's geomatic technologies professionals support our clients with a full suite of services—from air, land, water, and desktop.

Core Products and Services

Planimetric and Topographic Mapping
Our team develops precision-engineering scale maps and topographic contours. We customize end-product deliverables to client standards and file formats.

Orthoimagery
We have extensive experience in producing high-quality orthoimagery, digital camera or film-based acquisition, and satellite imagery that can be used as a basemap for both visual interpretation and engineering design.

Light Detecting and Ranging (LiDAR)
Our LiDAR analysts are skilled in feature extraction, analysis and integrating data into operations. Our specialists combine photogrammetry and LiDAR, enabling modeling of optimal terrain-based products.

Multispectral and Hyperspectral Technology
We use multispectral and hyperspectral imagery, which encompasses a vast portion of the electromagnetic spectrum, for agricultural, environmental, forestry, and geologic studies.

Geographic Information Systems (GIS)
Tetra Tech's GIS capabilities include data development and analysis, data conversion and editing, programming, cartographic production, and WebGIS. Our expert knowledge includes the latest software packages such as the ESRI software suite and Open Source GIS.

Unmanned Aerial Systems (UAS)
Our UAS Certified Pilots are flying fixed wing, copter and heavy-lift systems for aerial data acquisition. The data is often used for change detection and precision mapping products such as 3D surfaces, oblique or orthoimagery, and contour maps.

Mobile Mapping
Our mobile LiDAR collects up to 2 million LiDAR data points per second, as well as simultaneous 360-degree imagery. The data is used for road condition surveys, asset management, and design engineering. Our sensors can be mounted to vehicles, vessels or all terrain vehicles.

Airborne Topobathymetric Mapping
Tetra Tech owns and operates a Teledyne CZMIL SuperNova topobathymetric LiDAR sensor. We use the data to map coastal zones and shorelines as well as stream channels and floodplains.

Markets We Serve

- Civil engineering and land survey firms
- Federal, state, and local agencies
- Military Installations
- Energy companies and electric utilities
- Water and irrigation districts
- Mining industry clients
- Landfill operators
- Ports and harbors
- Golf courses and racetracks
- Environmental consultants
- Land development and land management firms
- Railroad and rail authorities
- Transportation departments
- International agencies
- Oil and gas agencies

Signature Projects

Our goal is to always target in innovation, striving to create end-to-end geospatial solutions to assist clients with managing resources, risk mitigation, modeling, and analytics.

- LiDAR and high resolution orthoimagery for more than 5,500 square miles of terrain along the United States-Mexico border for the U.S. International Boundary and Water Commission
- Imagery classification of land-use and land-cover for NOAA's C-CAP data in Mississippi
- Impervious surface analysis using high resolution imagery and LiDAR data for the City of Santa Fe, New Mexico
- Hyperspectral acquisition, processing and change detection for sensitive species habitat at Edwards AFB, California
- Thermal and natural color UAS imagery acquisition and analysis for the Willamette Confluence construction area, Oregon
- Landfill mapping and volume calculations using archival aerial imagery for Vandenberg AFB, California
- Scanning, aerotriangulation, and orthorectification of more than 9,600 historical aerial images for a GIS basemap for Los Angeles Department of Water and Power, Cailifornia
- Engineering scale planimetric and topographic mapping of an Indy Car racetrack in support of video enhanced technology in Toronto, Ontario
- Helmand Transmission Line planimetric mapping in Afghanistan
- LiDAR and modeling for 180 square miles of forest in the Klamath and Shasta Trinity National forests, California
- Transmission line LiDAR survey and planimetric mapping to generate asbuilts for reconductor design in Bakersfield, California
- High-resolution true color and color infrared orthoimageryand airborne LiDAR to support a hydroelectric project in Pit River, California
- High resolution UAS orthoimagery and planimetric mapping at Pismo Beach, California, to monitor and evaluate coastal erosion of cliffs
- High-resolution UAS orthoimagery and video to support watershed management and conservation in North Carolina
- UAS LiDAR acquisition and data processing for 3D DTM and topographic contour mapping of a former mine site in Butte, Montana
- Mobile LiDAR collection of 40 lane miles of interstate highway for a pavement resurfacing project in Goodells, Michigan
- Mobile LiDAR and 3D imagery collection for 10 miles of access roads for condition assessment for a utility client in Colorado Springs, Colorado
- Terrestrial LiDAR scanning for long-term monitoring for slope stability assessment for an industrial site in Texas
- Coastal inundation modeling for NASA's Ames Research Center facilities in California using high resolution imagery and airborne LiDAR
- Visual simulations using AR engines to update NOAA's Sea Level Rise Viewer for various U.S. coastal locations

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