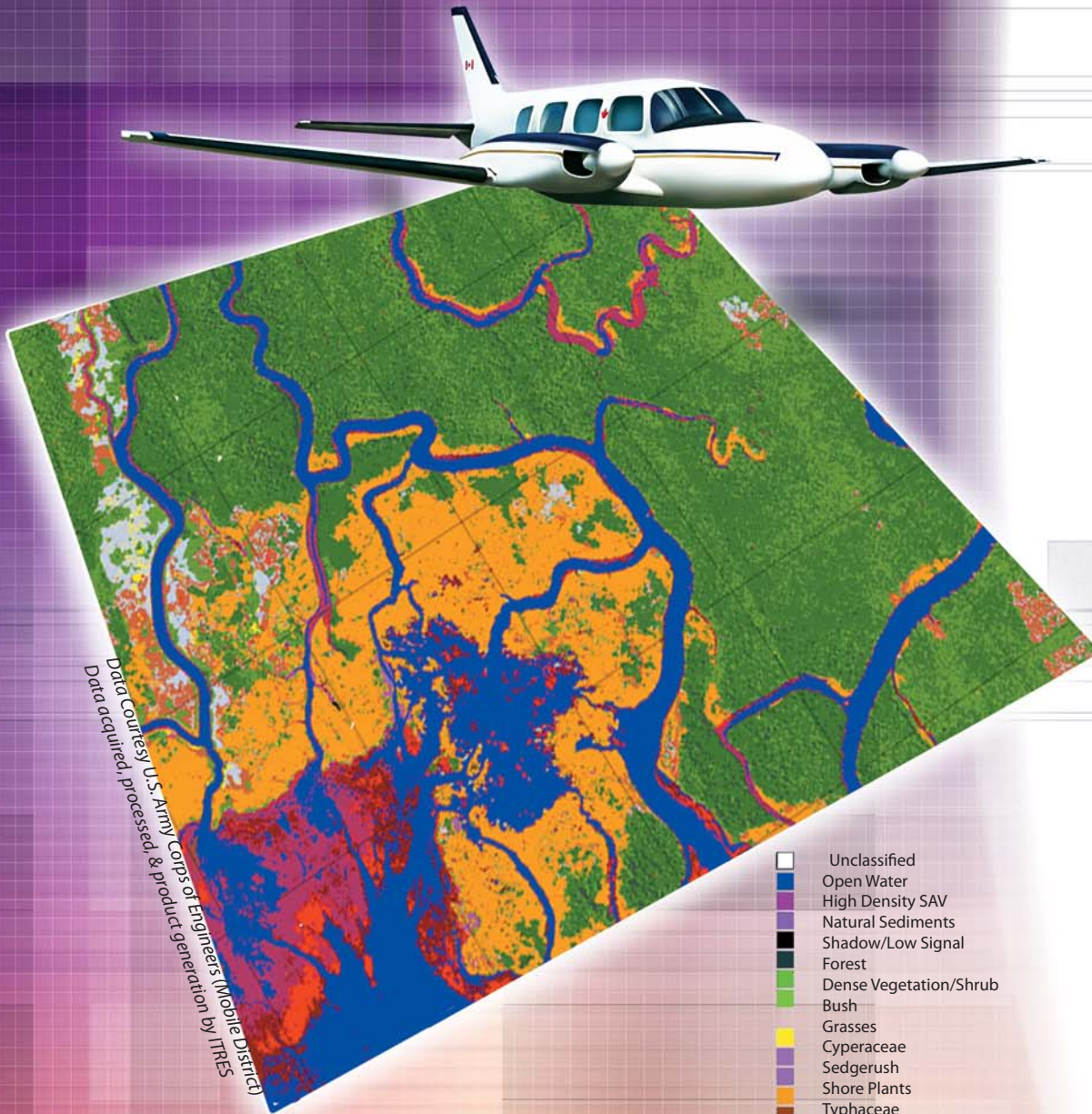


ITRES Applications

Airborne Hyperspectral Mapping

Baseline Coastal Survey & Classification Product Derived From CASI Data



Mobile Bay, Alabama

Atmospheric Correction

LIDAR Data Fusion

Detailed Ground Survey

Database Generation

Derived Landcover

Map Product



ITRES Applications



Airborne Hyperspectral Mapping

Alabama Coastline Hyperspectral Survey & Land Cover Classification

6900 line kms of hyperspectral CASI (Compact Airborne Spectrographic Imager) data were collected in 2002 for the U.S. Army Corps of Engineers (USACE), Mobile District to establish a comprehensive GIS for the Mobile River Basin. The study area includes the Alabama Gulf Coast and barrier islands, wetlands surrounding Mobile Bay, and river floodplain. The project was managed by 3001, Inc.

Project Statistics at a Glance

Number of flight blocks/lines:	19/441
Number of line km/miles:	6900/4287
Total CASI image mosaics/area:	188/2200 km ²
% Mosaics analyzed/area:	49%/1071 km ²

CASI Project Features

- 16-bit CASI imagery (VNIR, ~400-1000 nm);
- 1 m resolution, 36-band sensor configuration;

- Radiometrically calibrated imagery, atmospherically corrected to reflectance units;
- Geometric calibration performed using photogrammetric bundle adjustment procedure (correcting for sensor alignment offsets);
- Automated geocorrection mosaicking and orthorectification using LIDAR DEM.

Project Goals and Map Products

- ID of submerged and floating aquatic vegetation;
- Mapping of major wetland plant species and determination of water clarity;
- Coastline delineation; and
- Mapping land cover communities.

In support of these goals, a comprehensive ground truth database was delivered along with the processed imagery and derived map products (USGS DOQQ-compatible). The entire project dataset is intended to serve as a baseline from which to measure future changes in the Alabama coastal environment and Mobile Bay estuaries.

Interested in a similar project? Contact ITRES for further information by telephone, e-mail at info@itres.com, or visit us on the web at www.itres.com.



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All ITRES sensors are calibrated to a traceable standard.
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