



Technical Services from WaterAtlas.org

Field Data Collection–Water Resources

What Services Do We Offer?

Bathymetric & Contour Mapping

We use bathymetric mapping equipment operated from small boats to collect position and depth (XYZ) data, which is then processed to create three-dimensional datasets. These data are used to create a detailed bathymetric map and morphological characteristics tables. The 3D digital data also may be used in conjunction with other 3D data (such as LIDAR) to create elevation contours and to derive water stage-to-water volume tables. Because we use shallow-draft kayaks and johnboats, we are able to access small lakes and ponds and navigable rivers, streams, and creeks.

Submerged Vegetation Analysis

Our trained field scientists use a combination of bathymetric mapping and side-scan sonar to map, measure and analyze submerged aquatic vegetation in a waterbody. Analysis includes species identification, depth extent of vegetative beds, data-based estimate of percent area covered by submerged vegetation, data-based estimate of percent volume infested by submerged vegetation, data-derived estimate of nutrient storage in submerged vegetation present.

Wetland Vegetation Analysis

As part of our field data collection we conduct wetland vegetation mapping and plant species identification/evaluation. These services include determining percent occurrence of nuisance and valuable native vegetation.

Water Quality Sampling

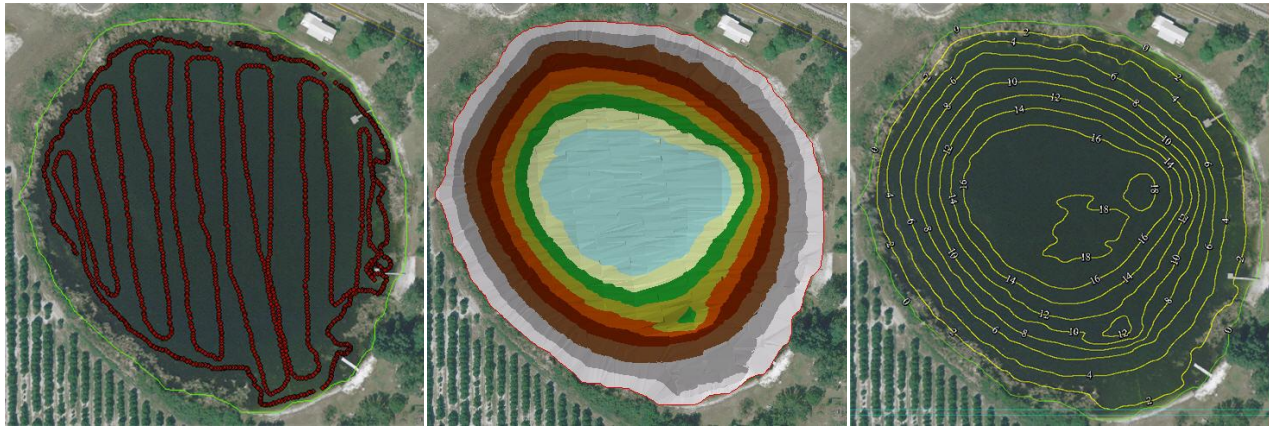
We use standardized methods and equipment to measure physical water quality parameters at predetermined sampling sites. A multi-parameter probe is used to collect physical characteristics: temperature (°C), specific conductance (ms/cm), dissolved oxygen (mg/L and % saturation), pH, depth of sample, and exact location of sample site (latitude/longitude). Field staff also is trained in water sampling techniques and can also perform sampling for chemical analysis during field assessments.

Lake Vegetation Index Assignment

Our field scientists are trained and certified by the Florida Department of Environmental Protection to perform the Lake Vegetation Index (LVI) assessment. This multi-metric index can be performed as part of an overall lake assessment or as an individual assessment task. It measures the presence of native, exotic and sensitive aquatic plant taxa, and assigns a “coefficient of conservatism” of the dominant plant species that indicates the broadness of its ecological niche.

Who Can Benefit?

Government agencies, environmental consultants, and other organizations involved in waterbody management in Florida can use the collected data to make more informed resource decisions.



Bathymetry data collection transects



Triangulated Irregular Network (TIN) graph



Bathymetric contour map



Emergent Vegetation Analysis



Submerged Vegetation Analysis



Water Quality Multi-probe

Why Use Our Field Collection Services?

We have an established, professional team with the required expertise, equipment, data management tools, and manpower to efficiently acquire, organize, store and disseminate the information needed to produce excellent results in the restoration and protection of waterbodies and watersheds.

Where Is Service Available?

Our field scientists operate throughout the Greater Tampa Bay Area, including Hillsborough, Pasco, Polk, Pinellas, and Manatee Counties.



For more information:

Florida Center for
Community Design + Research
4202 E. Fowler Avenue, HMS 301
Tampa, FL 33620
<http://fccdr.usf.edu/>

James C. Griffin, Ph.D.
Principal Investigator
(813) 974-1068
griffin@arch.usf.edu