



Online Mapping and Image Data

# History of FREAC / ISPA

- Institute of Science and Public Affairs (ISPA) - Created through consolidation of several university-wide outreach units
- FREAC - The Florida Resources and Environmental Analysis Center (**FREAC**), established in 1969, is the original center within the Institute of Science and Public Affairs (**ISPA**) at Florida State University (**FSU**). FREAC professionals conduct research in the general areas of resource management and environmental analysis, as well as provide advice and technical assistance to state and local agencies. Public lands research and analysis, geographic information system development, and graphic representation of digital databases are current and long-range FREAC research interests. FREAC also trains university students in these areas through direct involvement in projects, providing real-world experiences.

# FREAC Core Strengths

- Geography Education and Technology
- State Land Research
- Cartography and Graphic Design
- Technical Assistance Program

# Technical Assistance Program

## Services:

- Computer services for state agencies
- Recent emphasis in on-line mapping

## Data:

- State repository for digital imagery

# Land Boundary Information System (LABINS)

## **Purpose:**

- Funded by Florida Department of Environmental Protection to put survey information into the hands of the surveyors
- Started in 1983
- Goal was to save money on manpower by allowing users (surveyors) to perform their own data requests

## **Data distribution methods have included:**

- Phone lines using 300-baud modem (followed by 1200- and 2400-baud)
- 5.25" floppy disk; 3.5" floppy disk; CD
- World Wide Web – This method allows unlimited distribution of images and has contributed greatly to LABINS' popularity

## **Result:**

- The ONLY website of its type
- The largest collection of no-cost data available to the public
- Users began as surveyors but now include: engineers, outdoor enthusiasts, historians, property appraisers / real estate agents, lawyers, and others.
- Other groups are contributing their data to LABINS (DOT, counties, DOR, Water Management Districts)
- Other groups want smaller version of LABINS for their own data

# Land Boundary Information System (LABINS)

## Type of Data

### Surveyor-specific:

- Certified Corner Records
- Benchmarks from National Geodetic Survey
- Preliminary (not yet published) benchmarks from FDEP
- Third order data from ~1945
- Mean High Water data
- Tide Station Reports
- Erosion Control Lines
- Beaches and Shores Construction Control Lines

### Non Surveyor-Specific:

- Original Government Land Office Survey of 1840
- Aerial photography from 1995, 1999, 2004 at various resolutions and formats
- Parcel information



# LABINS

## Land Boundary Information System

On-Line Survey Information and Maps for the State of Florida



Florida DEP  
Division of State Lands  
Bureau of Survey and Mapping

### General Information

About LABINS  
Disclaimer  
Contact Us  
Links to Other Sites  
Purchase Data  
Clearinghouse

### Technical Information

Frequently Asked Questions  
Site Map

### Florida

Geographic Profile  
Florida Quad Lookup  
Florida DEP Quad Map (PDF)

### Map Not Responding?

Please disable pop-up blockers when using LABINS. Click [here](#) for more information.

## Survey Data



Map Interface

- Horizontal and Vertical Control
- Land Records



Map Interface

- Water Boundary Data

New! Try the Geographic Profile to find county, city, quad, township/range, and other information for your area of interest.

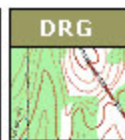
## Mapping Data



Map Interface



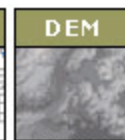
Digital Orthophoto Imagery



Digital Raster Graphics



Digital Line Graphics



Digital Elevation Models



NWI Maps (pdf)

# Land Boundary Information System (LABINS) Sample

The screenshot displays the LABINS Survey Data Interactive Map interface. The title bar includes the Florida Department of Environmental Protection logo and the text "LABINS Survey Data Interactive Map". The top right corner identifies the user as "FDE" and the system as "Bureau of Survey and Mapping Land Boundary Information System".

The interface features a toolbar with various navigation and tool icons. The main map area shows a topographic map of Florida with several survey data layers overlaid, including a grid of purple lines and various colored lines representing boundaries and survey points. Major highways like I-10, US-90, US-27, and US-319 are visible.

The "Map Layers" panel on the right side of the interface lists the following layers and their settings:

- Background Images
- LABINS Data
  - Certified Corners \*
    - Legend
    - Show Labels
  - National Geodetic Survey (NGS) \*
    - Legend
    - Show Labels
  - Preliminary NGS \*
    - Pre. NGS Point
    - Show Labels
  - GLO Plats and Field Notes
  - Mapping Data Download
- Geographic Boundaries
- Automatically Refresh Map

At the bottom of the panel, there is a link for "Overview of Map Use" and a partially visible "Active Layers" section.



# LABINS Sample Data -- 2004 Aerial Photograph



# LABINS Holdings

- DRG – Digital Raster Graphics – 3400 images in 3 projections
- DLG – Digital Line Graphs – 5300 data sets
- NWI – National Wetlands Inventory maps – 1080 pdf images
- DOQQ – Digital Ortho Quarter Quads – 80,000 images: 3 different flight years, 3 projections for each flight year, and 1-3 file formats for each projection
- GLO – Government Land Office Notes & Plats – 145,000 pages (as tif images or pdf files)
- CCP – Certified Corner Program records – 92,000 records
- CCCL – Coastal Construction Line maps – 350 maps
- High Resolution Imagery – currently 120,000 images available, and we acquire approximately 50,000 new images every year.

# High-Resolution Imagery Download

Funded by Florida Department of Environmental Protection, Bureau of Survey and Mapping, through the LABINS project (Land Boundary Information System)

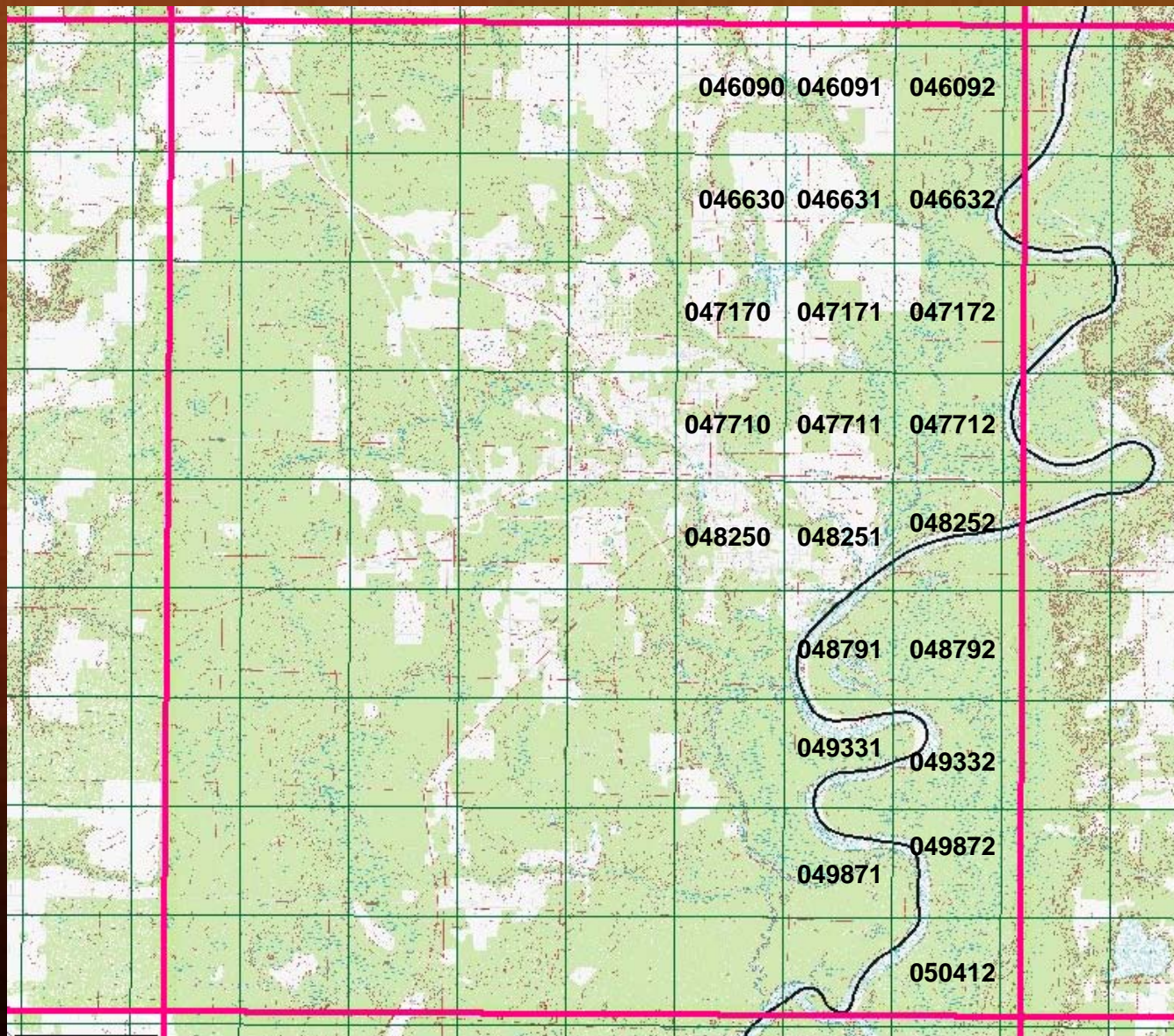
## Status:

- 1-foot resolution
- 2006, 2007, and 2008 fly dates
- LABINS is the state distributor of this data

## Changes in download strategy:

- No direct FTP access. Must download images individually from LABINS map (this is bandwidth issue – designed to prevent statewide ftp)
- Contact FREAC if you want a hard drive with files to avoid downloading altogether
- New grid system – departure from DEP quad system (more resolution means images cover smaller geographic area)

# High-Resolution Imagery Download



Pink is traditional DEP quad (usually divided into quarters: NE, NW, SE, SW)

The smaller green squares is the new grid for the hi-res imagery.

Each State Plane Zone has its own grid (Florida has 3 hi-res grids).

Notice grid numbers move sequentially left-to-right and ? top-to-bottom

Notice that there is no relationship between DEP and hi-res grids.

# High-Resolution Imagery Download

LABINS Survey Data Interactive Map

FD  
Bureau of Survey and Mapping  
Land Boundary Information System

LABINS - Results of Map Query - Microsoft Internet Explorer

**USGS Download**

DOQQ DRG DLG DEM

Download USGS data for this quad. Data includes: DOQQs (aerials), DRGs (topo sheets), DLGs (line work), and DEMs (elevations).

Quad: 5241 - BLOUNTSTOWN

**GLO Plats and Field Notes**

View scanned images from the Original 1840 Survey of Florida by the Government Land Office (GLO).

The documents consist of plats and notes. Since surveyor notes may span multiple volumes, be sure to read the instructions for their retrieval.

Township/Range: 1N8W

**High-Resolution Imagery**

The chart below shows the high-resolution imagery currently available for the selected point. Be sure to obtain all files for georeferencing.

If there is no data for your point, keep checking back periodically as we add images periodically.

Year, ColorType, State Plane Zone, data URL, and metadata URL are shown below.

State Plane Zone: N Grid Cell: 46092

2007	NC	N	OP2007_NC_046092_24.sd	meta
2007	NC	N	OP2007_NC_046092_24.sid	meta

If you do not see the data that you expected, try zooming in closer.

Land Boundary Information System

**Map Layers**

- Background Images
- LABINS Data
- Geographic Boundaries
  - County Boundaries
  - Rivers
  - Lakes
  - Quads
  - Township-Range
  - Township-Range-Section
  - City Limits
  - US Highways \*
  - Interstates \*
  - Geographic Names (USGS GNIS)
  - Hi-Res Imagery Grid for East Zone
  - Hi-Res Imagery Grid for West Zone
  - Hi-Res Imagery Grid for North Zone
- Parcels

Automatically Refresh Map

**NEWS**

**New Data**

- High-resolution Imagery** is available for certain areas. Use the "I" button and scroll to the bottom of the results page to find out if your area has been loaded.
- 2006 Parcel Data** is starting to arrive! We are loading this alphabetically and have 5 counties so far (Alachua to Brevard). We expect to have the remainder of the state by August 2007. To view this data, open the "Geographic Boundaries" folder and...

## How to Download Imagery:

1. Use LABINS map ([www.labins.org](http://www.labins.org))
2. Zoom to area of interest
3. Turn on the grid lines if you want. (See "Geographic Boundaries" folder.) Some state plane zones have overlap - to avoid confusion, be sure to turn off grids for
4. Activate the "I" button (Identify)
5. Click on area of interest. A new pop-up window will display all data for that area.
6. Scroll to the bottom of the new window. If aerials are available for that area, you will see links to images and metadata.
7. Click on the images to download. (Be sure to get all world files necessary for georeferencing!)

# Florida Geospatial Metadata Index

- Organizations are stewards of their own data
- Others may want to use data, but are not aware of how to get it
- Most U.S. states have a GIS data collection website. State agencies contribute their data to this site to be distributed for the public good. Information can include transportation, management areas, aerials, land cover, etc. Users download data directly from the clearinghouse.
- Florida has been slow in promoting the this community resource but a good result is that we have been able to observe what has worked and not worked in the other states and develop our strategy accordingly.

# Florida Geospatial Metadata Index

Problems with the Clearinghouse approach:

- GIS data resides in 2 places -- the originating organization AND at the clearinghouse. Duplicate data.
- There is risk that clearinghouse data could be out-of-date.

# Florida Geospatial Metadata Index

FREAC has a different approach:

- Only **Metadata** is contributed to the central site, **not the actual data**.
- The actual data stays with the group tasked with creating and maintaining the data



# Florida Geospatial Metadata Index

## What is Metadata?

- “Data about data”
- Contains information such as: date, scale, etc.  
*fill in some more here*

## How it works:

- Agencies provide metadata to the Geospatial Metadata Index
- Users can search the index by keyword or topic. Users can find where to proceed further to obtain data.

## Florida GIS Data Clearinghouse

[Home](#)

[Browse](#)

[Search](#)

[Contact](#)

### Pilot Project

#### Funding by USGS CAP Grant

This project is geared toward Suwannee River Water Management District. During this pilot study, the emphasis will be on NSDI data layers. This project is being funded by a USGS CAP grant through the Florida Institute of Government with technical support by the Florida Resources and Environmental Analysis Center (FREAC) of the Florida State University.

### Welcome

#### Florida GIS Data is Available for Download

Welcome to the Florida GIS Data Clearinghouse. This site is intended to facilitate sharing of Florida GIS data. Contributors range from federal, state, water management district, county, city, and private interests.

Please take a few moments to browse through the site and send us comments.

#### How Do I Find Data?

##### It's Quick

Click the [Search](#) tab and type as much information as you have available.

#### How Can I Contribute Data?

##### It's Easy

All you need to do is to send us a link to your organization's FGDC-compliant metadata page. We do the rest!

### Links

[Geospatial One-Stop Federal Geographic Data Committee \(FGDC\)](#)  
[Open Geospatial Consortium, Inc.](#)  
[GIS Lounge](#)

### A First Use of GIS

An early use of the geographic method was in 1854 by John Snow, one of the founders of medical epidemiology, to map a cholera outbreak in London. He plotted the locations of individual cholera cases on a paper map. The resulting pattern revealed the source of the disease -- a contaminated water pump at the center of the outbreaks.

### Contact Us

Please [email](#) us your comments or call us at 850.644.2305. We want to hear your suggestions

# Florida Geospatial Metadata Index

## Florida GIS Data Clearinghouse

[Home](#)

[Browse](#)

[Search](#)

[Contact](#)

### Pilot Project

#### Funding by USGS CAP Grant

This project is geared toward Suwannee River Water Management District. During this pilot study, the emphasis will be on NSDI data layers. This project is being funded by a USGS CAP grant through the Florida Institute of Government with technical support by the Florida Resources and Environmental Analysis Center (FREAC) of the Florida State University.

### Browse GIS Data by Category

#### NSDI Framework Layers

##### Geodetic Control

Horizontal and Vertical Control Network for Florida from NGS - [data](#) - [metadata](#)

##### Cadastral Data

MadisonPARPOLY - [metadata](#)

##### Digital Orthoimagery

2007 one foot natural color orthophotogray - Walton County - [metadata](#)

2004 Suwannee River Water Management District (SRWMD) ADS40 Digital Imagery Acquisition and Natural Color and Color Infrared Orthophoto Production - [metadata](#)

2006 One Foot Natural Color Ortho Photographs - Hardee County - [metadata](#)

2006 One Foot Natural Color Ortho Photographs - Northern Polk County - [metadata](#)

2007 one foot natural color orthophotogray - Leon County - [metadata](#)

2007 one foot natural color orthophotogray - Liberty County - [metadata](#)

2007 one foot natural color orthophotogray - Gadsden County - [metadata](#)

2006 One Foot Natural Color 2006 One Foot Natural Color Ortho Photographs - DeSoto County - [metadata](#)

2007 one foot natural color orthophotogray - Okaloosa County - [metadata](#)

2007 one foot natural color orthophotogray - Escambia County - [metadata](#)

2007 one foot natural color orthophotogray - Gulf County - [metadata](#)

2007 one foot natural color orthophotogray - Calhoun County - [metadata](#)

2007 one foot natural color orthophotogray - Jackson County - [metadata](#)

2007 one foot natural color orthophotogray - Dixie County - [metadata](#)

# Florida Geospatial Metadata Index

## Search for GIS Data

Provide as much information as you have

Content Theme:

Text Search:

Searches **theme, title, keywords, abstract, and purpose.**

Your Search for **Keyword: aerial** Retrieved 14 Records

Imagery & Photographs	
	<a href="#">data</a> <a href="#">metadata</a>
Title	2007 one foot natural color orthophotogray - Gulf County
Keywords	orthophoto,orthoimage
Abstract	This metadata record describes the digital orthophotos produced for FL-DOR in 2007. This 1:2400 scale orthophotography is comprised of natural color digital images collected with a GSD (Ground Sample Distance) of 1.0'. Imagery was collected with a Leica ADS40 digital sensor and processed with Leica GPro software
Purpose	A digital orthophoto is a geometrically accurate photographic record of landscape conditions at the time of the corresponding <b>AERIAL</b> photography. As such, the digital orthophoto is useful for a variety of applications, such as environmental monitoring, facility engineering/maintenance, city/county planning, property line review, etc. The digital orthophoto can be used alone or as a raster basemap for corresponding vector line mapping.

Imagery & Photographs	
	<a href="#">data</a> <a href="#">metadata</a>
Title	2007 one foot natural color orthophotogray - Calhoun County
Keywords	orthophoto,orthoimage
Abstract	This metadata record describes the digital orthophotos produced for FL-DOR in 2007. This 1:2400 scale orthophotography is comprised of natural color digital images collected with a GSD (Ground Sample Distance) of 1.0'. Imagery was collected with a Leica ADS40 digital sensor and processed with Leica GPro software
Purpose	A digital orthophoto is a geometrically accurate photographic record of landscape conditions at the time of the corresponding <b>AERIAL</b> photography. As such, the digital orthophoto is useful for a variety of

# Florida Geospatial Metadata Index

# Florida Geospatial Metadata Index

<http://Clearinghouse.labins.org>

## For Users:

- Visit website
- Search by topic or keyword

## For Agencies:

- Send FREAC your FGDC-compliant metadata records. (We can make arrangements for long-term automation.)

# Florida Natural Areas Inventory Conservation Lands

Purpose: 1. Have current data readily available for users (Florida Forever, 1000 Friends of Florida, The Nature Conservancy, etc.). 2. Save money on printing costs

This is the leading conservation land site in the U.S.

The screenshot shows the Florida Natural Areas Inventory website interface. At the top left is the logo with a green frog and the text "FLORIDA Natural Areas INVENTORY". To the right is a navigation menu with links: SERVICES, DATA, PRODUCTS, PARTNERSHIPS, ABOUT, STAFF, CONTACT. Below the logo is the main heading "Florida's Conservation Lands".

On the left side, there are three filter sections:

- Map Zoom:** Includes a dropdown menu "to County" and a search box "to Conservation Land".
- Show Conservation Lands:** Includes a dropdown menu "within County" and a search box "by Lead Managing Agency".
- A paragraph: "Each conservation land is categorized by lead managing agency. Properties that have multiple managing agencies will be listed only by lead managing agency and not by secondary managers."

In the center is a "Map Layers" panel with a list of layers and checkboxes:

- Conservation Lands
- Conservation Lands Text
- Aerials
- Digital Raster Graphics
- State Highways
- Local Roads
- Water Bodies
- Water Bodies Text
- Township Range
- Township Range Section

Below the map layers is the text: "Data Last Updated: **Sept 2005**".

At the bottom left, there is a note: "Map is designed to be accessed with Internet Explorer and may not work with other browsers." and another note: "Not all conservation lands are open to the public; contact managing agency for additional information."

The main map area on the right shows a green-shaded conservation land area labeled "Adams Property" and "INDIAN RIVER". The map includes a legend, navigation tools (home, zoom, pan, etc.), and a mouse cursor. At the bottom right of the map, it says "Map Center: 80° 28' 26.5" W, 27° 46' 21.0" N".

# Other data sources

## Data for the State of Alabama

- [http://www.aces.edu/waterquality/gis\\_data/index.php](http://www.aces.edu/waterquality/gis_data/index.php)
- <http://gis.alabama.gov/links.aspx>

## Data for the State of Florida

- <http://www.geoplan.ufl.edu/>
- <http://www.dep.state.fl.us/gis/datadir.asp>
- <http://clearinghouse.labins.org>
- <ftp://sdrftp03.dor.state.fl.us/>
- <http://web.uflib.ufl.edu/maps/>
- <http://www.uflib.ufl.edu/digital/collections/FLAP/>

## Data for the State of Georgia

- <http://www.gsa.state.al.us/>
- <http://gis.state.ga.us/>
  - <https://gis1.state.ga.us/index.asp>

# Data Sources, cont.

## Federal Datasets

- <http://seamless.usgs.gov/> (DEMs, hydrography, transportation)
- <http://edcsns17.cr.usgs.gov/EarthExplorer/> (satellite imagery, aerials, etc.)
- <http://165.221.201.14/NAIP.html> (USDA aerial photography)
- <http://www.fws.gov/data/>
- <http://fsgeodata.fs.fed.us/clearinghouse/index.html> (Forest Service)
- <http://www.nationalatlas.gov/>
- <http://www.csc.noaa.gov/bins/products/data.html> (NOAA Coastal Services Center)
- [http://soils.usda.gov/survey/printed\\_surveys/](http://soils.usda.gov/survey/printed_surveys/)
- <http://radar.weather.gov/GIS.html>
- [http://www.census.gov/geo/www/cob/bdy\\_files.html](http://www.census.gov/geo/www/cob/bdy_files.html) (cartographic boundary files)



# Data Sources, cont.

## Miscellaneous Resources

- <http://www.travelgis.com/geocode/Default.aspx>
- <http://libinfo.uark.edu/gis/us.asp> (Arkansas)
- <http://www.ncgia.ucsb.edu/giscc/gateway.html> (GI science core curriculum)
- [http://www.maptech.com/onlinemaps/index.cfm?CFID=3881627&CF\\_TOKEN=36740124](http://www.maptech.com/onlinemaps/index.cfm?CFID=3881627&CF_TOKEN=36740124)
- <http://www.maptown.com/usaaeronautical/usasectionalchart.html>
- <http://www.mapdex.org/search/>
- <http://www.findgis.com/>



# Imaging and Online Mapping

## Questions?

[ftp://146.201.97.137/GIS\\_Demo\\_Stuff](ftp://146.201.97.137/GIS_Demo_Stuff)

Contact Information:

Stephen Hodge

Director of Technical Assistance Program

FREAC / FSU

shodge@fsu.edu

850.644.2882