

LSTA APPLICATION

Application Due: March 15, 2009

LIBRARY / ORGANIZATION NAME: University of Florida Libraries

MAILING ADDRESS P.O. Box 117007, University of Florida, Gainesville, FL 32611-7007

PHONE #352-273-2626 SUNCOM # N/A FAX # 352-392-7251

CONTACT PERSON Bess de Farber E-MAIL ADDRESS bdefarber@ufl.edu

FEID OR SAMAS AND EO # 59-6002052

CONTRACTING AGENCY NAME: University of Florida

TYPE (*check one*):

Public K-12 Academic Multitype Library Consortium Special State Library

CATEGORY (*check one*)

Access for Persons Having Difficulty Using Libraries

Library Technology Connectivity and Services

PROJECT NAME Phase III – From the Air: the photographic record of Florida’s lands

PROJECT New Continuing If continuing, specify year: began in 2003

LSTA FUNDS REQUESTED \$67,008

PRIORITY# 1 OF 1 APPLICATIONS SUBMITTED

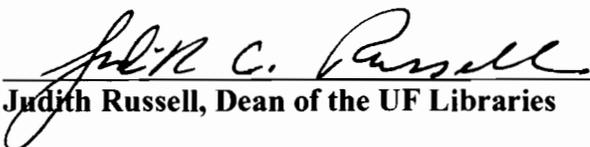
LIBRARY SERVICE AREA POPULATION 11 state academic institutions, Middle/High Science Classes, businesses; municipal, county and state agencies

NUMBER OF PERSONS TO BE SERVED BY PROJECT 2 million students/business/agency staff

TARGETED USER GROUP (*Check all that apply*)

Children Youth Adults Older Adults Mixed

Other, specify _____


Judith Russell, Dean of the UF Libraries

2/9/2009
Date

B. LSTA Outcomes Plan

Project Name: Phase III - From the Air: the photographic record of Florida's lands - University of Florida Librarie
 Project Summary/Program Purpose:

The University of Florida Libraries will digitize and make available via the Internet the U.S.Department of Agriculture aerial photographs of Florida from 1971 to 1990, expanding the existing 1938-1970 coverage. The storage and serving capacity of the system will upgraded and enhanced to support the additional 13,500 images and a new user-friendly mapping interface developed using Google maps API. Keyword and place name searching will be available. Additionally, users will be able to freely download images of interest in a jpg2000 format. School focus groups and user surveys will direct the design of the new mapping interface. Educational resources from the previous phases will be revised and expanded to assist collection use by researchers and the public. This project will make a total of 100,000 historic aerial images available freely for public use and will provide the infrastructure for future development of a state-wide repository of Florida historic aerals.

INPUTS	ACTIVITIES	OUTPUTS	OUTCOMES	EVALUATION INDICATORS	SOURCES/METHODS
<p>UF Libraries Staff: 1-project manager, 1-map consultant, 1-digitization manager, 1-metadata specialist, 1-GIS coordinator, 1-database programmer, 1-usability manager</p>	<p>Hire, train, and supervise project staff</p> <p>Purchase and configure server equipment, storage space, and software</p>	<p>Imagery and Metadata: 1) 13,418 digitized aerial photos 2) 21,417 records added to aerial database 3) First time digital availability of 1971-1990 4) 21,417 freely downloadable full resolution scans of aerals 5) 11 created county/year indexes</p>	<p>1. Public uses technology to access information (government agencies, industry, students, and the public use the Web site to access aerial photographs)</p>	<p>1a. 2,000 visits to advanced GIS interface (within 3 months of completion) 1b. 2,000 visits to user-friendly Google Map interface (within 3 months of completion) 1c. 2,000 downloads of full-resolution images (within 3 months of completion) 1d. 50 emails submitted through Ask A Librarian portal 1e. Website included in state-wide SUNLINK catalog</p>	<p>1a,b,c. UF system generated statistics to be collected when complete collection is available 1d. Statistics collected by email portal developed by Ask A Librarian staff once complete collection is available 1e. Verified inclusion into SUNLINK by DartClix</p>
<p>Project staff: 3-Student Scanning Technicians 1-Student Metadata/Quality Control Technician 5- GIS Graduate Student Technicians 1-Educational Media Graduate Assistant 1-Large Format Camera Operator</p>	<p>Imagery: 1) Purchase 500 aerial photographs 2) Scan 13,418 aerals and 120 paper indexes 3) Create 11 county/year indexes from 2,600 aerals with photogrammetry suite 4) Georectify 451 indexes 5) Link 21,417 aerial photos to georectified indexes</p>	<p>Interface: 1) Beta-interface created,usability testing, final rendition 2) Ask A Librarian Email portal for user comments and questions 3) Usability Report based on school participants feedback</p>	<p>2. Public learns to use technology (Electronic mailing lists, such as the Ask A Librarian network, are used to alert public libraries, schools, government agencies, and academic institutions to the updated and improved resources;)</p>	<p>2a. 200 hits on educational modules (3 months) 2b. 200 hits on instructional pages for librarians 2c. 50 listserve/e-flyers responses</p>	<p>2a,b. UF system generated statistics when online help resources available 2c. Project records based on emails received</p>
<p>Partners: 1) Roosevelt Middle Magnet School 2) P.K. Yonge Developmental Research School 3) Ask A Librarian staff</p>	<p>Evaluation activity: 1) Send Ask A Librarian survey to librarians from 98 libraries across the state 2) Continue online user survey</p>	<p>Server functionality: On demand downloading of 100,000+ images</p>	<p>3. Preservation of the aerial photography collection according to current standards</p>	<p>3. 21,417 images accepted into the DAITSS archive for Preservation standards</p>	<p>3. Verified receipt of images into DAITSS archive</p>

INPUTS	ACTIVITIES	OUTPUTS	OUTCOMES	INDICATORS	SOURCES/METHODS
Imagery: 1) 12,918 aerial photos from the Map & Imagery Library Collection 2) 7,473 images of aerials from the digital collection of FDOT 3) 500 aerials photos purchased from APFO 4) 714 aerial indexes 5) Rectified images from St Johns River Water Management District	User interfaces: 1) Develop user-friendly map interface with Google API 2) Conduct focus groups and user surveys with target audiences and revise interface 3) Develop Ask A Librarian email portal for interface	Instruction/Training: 1) 5 updated educational models 2) Introduction to aerial photography module 3) Instructional materials developed and distributed			
Hardware/Storage: 1) Online Access Server (DS4000 EXP420 expansion unit, 2- 500 GB SATA drives, 42U Rack) 2) GIS Virtual Server (4GB RAM, 2-750 GB SATA drives) 3) Tivoli archival storage 4) 5 DLC workstations/scanners 5) 5 GIS workstations	Training/Instruction: 1) Update educational modules created in the previous phases 2) Develop instructional materials for both public and academic librarians 3) Ask A Librarian: training, outreach, public instruction, portal development	Publicity: PR outputs (reaching audiences - Media Specialists, Florida History, Scientists)			
Software: 1) ERDAS Leica Photogrammetry Suite and software license for one year 2) ESRI ArcGIS Version 9.3 software 3) Adobe Photoshop version 8.0 professional 4) Customized metadata/imagery harvesting software	Publicity: 1) Create audience-specific e-flyers to send to listserves and target audience groups (Ask A Librarian network, LM_NET, fl-lib) 2) Send electronic promotional materials				

C. Action Plan

Project Status

Introduction to Submitting Agency

Located in Gainesville, Alachua County, the Libraries of the University of Florida form the largest information resource system in the state of Florida. The Libraries of the University of Florida consist of eight libraries. Six are in the system known as the George A. Smathers Libraries of the University of Florida and two (Health Sciences and Legal Information) are attached to their respective administrative units. Together the Libraries hold over 4,229,717 catalogued volumes, 7,814,666 microforms, 1,335,094 documents, 848,615 maps and images, and 19,287 computer data sets. FTE staffing at the Libraries includes 70 professionals, 153 support staff, and 155 student assistants. The Libraries serve over 50,000 students and a faculty of 2,865. The operating budget for 2008-2009 was \$22,553,276. Recent grant administrative experience within the Libraries includes an IMLS grant "Ephemeral Cities," two LSTA grant awards "FEFDL Florida Electronic Federal Depository Library" and "Rewiring Florida's News," and an NEH grant award for "Baldwin Library of Historical Children's Literature."

Background to Project

From the Air: the photographic record of Florida's lands

Historic aerial photographs dramatically document changes in Florida's land use. Between 1937 and 2000, the U.S. Department of Agriculture flew numerous flights across Florida creating close to 100,000 black and white, 9 x 9 aerial photographs with accompanying photomosaic and paper indexes. This collection has an established record of value to and use by broad segments of Florida's population (see Appendix 1, Letters of Support). Due to the unstable nature of the photographic negatives' sodium nitrate composition, the U.S. government destroyed archival negatives for the earliest photos. As a result, the aging hard-copy photographic prints are all that remain of this historic resource.

Originally, the images were intended to assist farmers determine accurate assessments for their farms and to provide information on crop determination and soil conservation. Today, these images provide some of the oldest land use/cover information available and are used extensively in agriculture, conservation, urban planning, recreation, education, hydrology, geology, land use, ecology, geography, and history (see Appendix 2, Examples of Aerial Photograph Use). The University of Florida Map & Imagery Library houses the largest and most complete collection of Florida aerial photographs outside of the National Archives in Washington, D.C. In 2002, an LSTA grant funded the first phase of the "From the Air" project which digitized the aging 1937-1951 aerial photographs and photomosaic indexes. The subsequent grant for 2003-2004, funded the digitization of the 1952-1970 aerial photographs.

During the first two phases of the project *From the Air: the photographic record of Florida's lands*, 84,000 historic Florida aerial photo tiles captured between 1937 and 1970 were scanned, the image quality enhanced, and derivative web-friendly formats created. Additionally, all the photomosaic indexes for Florida flights were scanned and geo-rectified. This permitted a point on each tile to be aligned to the indexes, thus creating a map layer that shows the approximate geographic position of each tile. The original TIFF files were archived on gold-based DVDs in the Digital Library Center, University of Florida Libraries (DLC), and the derivative SID files were stored and served on a SID server maintained at the Florida Center for Library Automation.

Beyond the development of the online Florida Aerial Photography collection website, instructional materials were developed to assist students and the public on interpretation and use of aerial photograph collection. Four online educational modules were created to support the Social Studies Sunshine Standards: Spanish Explorers in the New World, St. Augustine; Miami, and A Place in Time. Presentations were given by library staff on the project at a number of professional conferences such as the American Library Association Annual Conference, the annual Florida Association for Media in Education conference, and the Annual Conference of the International Association of Marine and Aquatic Science Libraries and Information Centers.

Since the completion of Phase II

Online access and grass-roots promotion of this collection

<http://web.uflib.ufl.edu/digital/collections/flap/> has resulted in thousands of visits and ongoing requests for assistance in use. Requests for providing full-resolution images in a variety of formats, e.g., SID and TIFF are received on a weekly basis including hunters, writers, conservationists, and land developers. Since this project's inception in 2002, the University of Florida has responded to all requests from researchers who were seeking assistance in using the system. These requests varied from how to search by township/range to providing hundreds of digital images for use in projects by state agencies, institutions and companies. Literally hundreds of staff hours have been spent assisting the citizens of Florida and the U.S. to use this collection. Statistics from the SID server maintained by Florida Center for Library Automation (FCLA) are available as a composite figure. Between 12/17/2004 when the first aerials became available until 12/21/2008 there have been 35,836 visitors to the website.

One of the recurring requests by users was the desire to download images they needed without UF staff intervention. In 2007, the University of Florida Libraries began an upgrade/migrating project to reformat the original TIFF images to jpg2000 images. Currently, these images are being loaded on a jpg2000 server purchased and maintained by the UF Libraries. As of February 3, 2009, 79,000 of the 84,000 aerial titles were converted and loaded.

Statistics on use of the new format indicate that in 2007, there were 447 hits in 32 sessions and in 2008, there were 13,784 hits in 961 sessions. The jpg2000 images are compliant with accepted industry standards and are non-proprietary. By the middle of 2009, all of the original aerials will be available in the new format.

Introduction to Phase III

The decades of the 70s and 80s represented a time of continued growth in Florida. This growth was matched by infrastructure expansion including road building, new towns, and wide spread changes in land use. On October 1, 1971, Walt Disney World opened outside of Orlando, FL. All of these events were recorded in the aerial photographs shot at this time which is the focus of Phase III.

Phase III will: 1) expand the digital photographic aerial collection to include 1971-1990, 2) expand the technology infrastructure to include a file server that will permit users to independently download images and to add an advanced GIS data server, and 3) create a new user-friendly interface using Google API.

The majority of the images will be captured from the photographs in the Map & Imagery Library, University of Florida Libraries. Additionally, 7,473 compatible digitized images from other Florida state agencies will be used to fill in some collection gaps. Remaining gaps will be filled through aerial photographs purchased from the USDA's Aerial Photography Field Office. The Digital Library Center (DLC) will provide the technical support to scan the photos, assure image quality, archive the TIFF files, and prepare the jpg2000 derivative files to be made available to users worldwide.

Since the completion of Phase II, two critical needs have been identified: 1) professional users wanted a means of downloading images without mediation, and 2) the GIS map interface required some knowledge of GIS functionality inhibiting use by the general population. Phase III will address these two issues by installing a server that will permit users to download images on demand and create a new user-friendly map interface designed for K-12 and general users (see Appendix 3, User Survey Results)

Audiences being targeted during Phase III include middle and high school students/teachers and Florida librarians. Focus groups at Roosevelt Middle Magnet School, West Palm Beach and P.K. Yonge Developmental Research School, Gainesville will inform the design of the new user map interface. Florida librarians in the Ask a Librarian network provide state-wide assistance to Florida citizens. They will be trained in use of this new resource and will help promote its use throughout Florida.

Project Activities

Three products that will result from the successful completion of this final phase of the *From the Air* project:

I. Digitization of the historic Aerial Photography Florida Collection from 1971-1990

1. 500 aerial photographs will be purchased to cover collection gaps
2. Over 13,000 9x9 aerial photographs from the Map collection will be scanned
3. 7,473 digital images from other agencies will be integrated into this year range
4. Archive TIFF files will be added to the DAITSS system and derivative jpg2000 formats for web serving will be created

II. Technology Infrastructure Upgrade for Open Access and Retrieval and Database Enhancement

1. The Library's open access server and the new GIS server will come online
2. Photogrammetry software will be used to create 11 separate mosaic indexes from 2,600 individual photographs
3. Over 700 photomosaic and paper indexes will be used to create base maps to which the individual aerial photographs will be linked
4. All images from all Phases will be openly shared for viewing and downloading

III. Enhanced Public Access

1. A user-friendly searchable Google Maps API interface will be designed and implemented
2. Focus groups in partnership with schools will help design the interface
3. Instructional and educational guides for target audiences will be developed, promoted, and distributed

Each product, required action, and justification is given below.

Product 1: Digitization of the 1971-1990 aerials of the historic Florida aerial collection

1. Purchase aerial photographs for missing coverage

Gaps in Florida imagery coverage for the years of this proposal exist. The Map Consultant and the Project Manager will prioritize the missing areas and select 500 aerials to acquire. They will be purchased from the USDA's Aerial Photography Field Office, Utah.

2. Scan 9x9 aerial photographs

The Map & Imagery Library aerial collection currently contains 13,418 unique paper aerial images from 1971-1990 that will be scanned as part of the digitization project. Unlike previous flights, the scale from 1979 on was revised to 1:40,000 from 1:20,000 or 1:24,000. This is reflected in fewer images per flight. Digital images donated by the Florida Department of Transportation will add 7,473 unique views. A total of 21,417 digital images will be added to the collection during Phase III.

Preparation of the aerial photographs will be done by the Map library staff. The scanning, image enhancement, and quality control of the aerial photographs will continue to be performed at the Digital Library Center, University of Florida. The Project Manager in consultation with the Digitization Manager and Coordinator have set the standards for scanning the aerial photography. Students hired as scanning and quality control technicians will assure image creation/enhancement, GIS, and quality control. Scanning will conform to all appropriate standards and at pixel-per-inch resolutions and bit-depths that are consistent with the recommendations of Cornell University's *Moving Theory into Practice Digital Imaging for Libraries and Archives* (Anne R. Kenney and Oya Y. Rieger [Mountain View, CA: Research Libraries Group, 2000]). Electronic archive masters are uncompressed TIFF files (ITU 6.0) at 100% scale: the current de facto standard for electronic image archives. Under the supervision of the Digitization Manager, photographs will be digitized and produced in graphical file formats (i.e., TIFF) by scanning technicians to meet the requirements of the item's physical format. Images will be scanned at 615 dpi, 256 grey-scale. The quality control technician will perform final image review and derive the display format (jpg2000). Because the average file size of a digitized aerial photograph is approximately 30 MB, a compressed jpg2000 version of 1.3-1.5 MB will be created for serving over the Web. The accessible version of the digital product will be maintained by and served from the DLC's site. The archived version of the digital product will be migrated to, maintained by, and served from Tivoli, IBM's data storage manager utilized at the University of Florida.

3. Archive TIFF files in the DAITSS system and create derivative jpg2000 formats for web serving

The Florida Department of Transportation (FDOT) has made available to this project 7,473 digital images from 1971-1990. These images are currently in jpg format and will be converted to jpg2000 images for access and to TIFF images for archival purposes. The FDOT images scanned at 1200 dpi will be down sampled to match the 615 dpi resolution used during the previous Phases. Each file name will be amended to provide full integration with the naming scheme currently used in this project.

The archival TIFF images will be stored permanently in the Dark Archive in the Sunshine State (DAITSS) facility, hosted by the Florida Center for Library Automation (FCLA). This facility is one of the few in the United States that is striving to achieve national and international recognition as a trusted digital preservation repository. In essence, DAITSS will maintain a usable version using the best format migration tools available. Further information on this system is available at <http://www.fcla.edu/digitalArchive/index.htm>.

Product 2: Technology Infrastructure Upgraded for Open Access and Retrieval

1. Expand open access server, purchase, install and configure new GIS server

The Digital Library Center's existing open access server will be expanded to provide the necessary memory and storage to support full-resolution images of the aerial photographs scanned during all project phases: approximately 100,000 images. Expanding the current server involves purchasing a DS4000 EXP420 expansion unit, 2- 500 GB SATA drives (one for redundancy), and a 42U Rack. Proposed storage space costs are based on the current competitive pricing for redundant server hard drive expansions to ensure that the aerials are always accessible from one of the University of Florida Digital Collections' servers. The additional server space will build off the existing University of Florida Digital Collections servers and storage arrays and permit public access to download the aerial digital images. In the past, these images were pulled individually as patrons, agencies, or groups requested them and processing requests involved hundreds of hours of staff time.

The new GIS server will store, query, and distribute the increasingly large GIS tile database and control the functionality needed for web based advanced GIS searches. The current server is 6 years old, has 2 GB of memory, and 200GB of disk space. This has proven inadequate for the type and number of FTA GIS database queries. To perform optimally the new GIS server will be a virtual server including Windows 2003 Server Enterprise Service Packs and patches SP1, SP2, Internet Information Server Web Server Version 6.0, 4 GB of RAM, 750 GB of disk space. The UF Library will provide technical support of the new user-friendly search map interface, and the advanced GIS server.

2. Purchase specialized photogrammetry software

The Library currently uses remote sensing software which easily manipulates spatial imagery. However, the basic software license requires an add-on in order to create and spatially reference the photomosaic indexes required by this project. Leica Photogrammetry Suite software will be licensed for 1 year as an add-on to the Library's existing remote sensing software license. The software will then be used to create 11 county-year photomosaic images from 2,600 individual tiles that have no publicly or privately available index.

3. Process photomosaic indexes for the aerials from 1971-1990 and link individual aerials to the indexes

Processing the photomosaic indexes to create a GIS layer of tile locations includes creating a digital image of each index sheet, and georeferencing and stitching the digital images by county. A large format digital camera operator will photograph the 120 paper indexes that were not part of the previous two phases. There are also approximately 11 county/year groups representing 2,600 tiles with no photomosaic indexes available in the collection or for purchase. GIS technicians will use the specialized photogrammetry software to create and rectify 11 index mosaics for these aerials so that they can be found through geographic search interfaces. Finally, there are an additional 320 previously scanned Phase III photomosaic paper indexes that will be georeferenced. In total, 451 indexes will be geographically referenced.

The hyperlinking of 21,417 individual aerial photographs to the digital indexes will also be done by the GIS technicians. The final georeferenced indexes will be used to create a GIS point layer. The geographic points will be intersected with other GIS layers, such as Township, Range, and Section, USGS quad sheet, zipcode boundaries, etc. in order to populate the searchable GIS database. Additionally persistent universal resource locators (PURLS) linking

to the individual aerial tiles will be added to the database. The new points and data will be added to the whole GIS database created in Phases I and II. While the individual digital aerial tile images will not be georeferenced, the image format will be suitable for rectification and use in some remote sensing and Geographic Information Systems (GIS) applications. For each digital image, metadata records will be created, linked to individual images, and entered into a searchable database. Appropriate records will be added to other state aerial directories.

4. Openly share all images for viewing and downloading

The full resolution JPEG2000s scans of the aerials will be made freely available for download from the open access server.

Over the years, the St. John's River Water Management District has borrowed aerial imagery produced in previous project phases and georeferenced them for District projects. In return for use of the imagery the District provided copies of their georeferenced files. These georeferenced aerial photographic images are highly valued and will also be made freely available through the website. Future georeferenced images received from public agencies or private contributors will be included for distribution.

Product 3: Enhanced Access through New Interface

1. Create user-friendly map interface using Google Maps API

In an earlier phase of the project, an interface was created which has worked quite well with GIS experts. However, this application has proven difficult for non-GIS specialists. In this grant cycle, a user-friendly interface will be created. This will lower the bar for access to this critical and historic data and allow for increased use in academic environments, particularly middle schools and high schools. This interface will utilize Google Maps API for display and searching. Google Maps API has been utilized in many other applications, which will lend an air of familiarity to project users. This will additionally allow for reverse geocoding and allow users to type in an address or geographic landmark name to view the related historic aerial photography.

2. Set up focus groups with partner schools to test and refine the new interface

The two new audiences targeted for the final phase of the aerial's project are 1) middle school/high school students and teachers and 2) librarians statewide. Having the Florida Aerial Photography Collection online was deemed highly useful by a number of educators. Unfortunately, the complexity of the original GIS interface kept the collection from being used to its fullest potential. One of the major aims of this final phase is to overcome this barrier by providing a user-friendly map interface specifically designed for this audience. To achieve this result, project staff will hold focus groups in schools consisting of students and teachers. Roosevelt Middle School, a magnet school dedicated to environmental science and GIS, has agreed to test the interface and host focus groups on location. This will be carried out by the Usability Manager who will travel to West Palm Beach, FL to conduct the focus groups. The same process will occur in two classrooms, one middle and one high school, at the P. K. Yonge Developmental Research School in Gainesville.

The second target audience consists of librarians who staff reference desks in public and academic libraries. Librarians have the ability to reach large numbers of people within their constituent communities. Many also understand the specific needs of these communities and can evaluate the user-friendly map interface to determine how it can meet the needs of larger user groups that can't be targeted individually. To achieve this, project staff will send out online

surveys to Ask A Librarian participants in libraries throughout the state. Results from these surveys will provide input for refining the user-friendly map interface to better suit the needs of users in a variety of environments.

3. Develop resource guides for target audiences

Another benefit for the project's targeted groups includes an increased understanding of how and when it is appropriate to use the Florida Aerial Photography Collection. Neither group can be assumed to have extensive knowledge of spatial data and resources. During the first phase of this project, curriculum modules were developed. These modules will be revised to better utilize the newly developed user-friendly map interface.

Librarians are often challenged to close gaps in patrons' incomplete knowledge. When dealing with spatial resources it is particularly difficult to know and be aware of the different tools available to answer the patrons' questions. Online guides will be designed to provide assistance during reference interviews and to determine when the online Florida Aerial Photography Collection can be useful to satisfy patrons' needs. Online guides will be developed separately for public and academic libraries to serve these specific patrons' requirements.

Publicity

Publicity in the first two phases focused on distributing information on the project electronically and through targeted mailings to public libraries, middle schools, high schools, university departments, community colleges, governmental and private organizations. The third phase will alert all audiences to the expanded coverage and new interface functionality through the same distribution channels.

The new target audiences of secondary schools will be reached through listserves, such as LM_NET and fl-lib, and presentations at the Florida Association for Media in Education, the Florida Association of Science Teachers, Florida Council for the Social Studies, and the Florida Library Association. Audience-specific flyers will alert them to the resource and provide ideas for how and when to use the resource in the curriculum and with patrons.

Additional awareness in the K-12 community will be gained through the inclusion of the resource in the SUNLINK catalog. SUNLINK is a website whose primary purpose is to promote the sharing of resources through all the schools in Florida. Materials from K-12 schools in Florida are cataloged and made available to schools throughout the state. In addition, educational websites are also selected and cataloged for the collection if they meet the selection criteria. The completed aerial photography of Florida website will be submitted with specific attention paid to the selection criteria. The website will then be available to a multitude of educators and students through a respected and wide-used source.

Florida librarians in the Ask A Librarian network will also be targeted. The Project Manager will be attending the Florida Library Association's (FLA) Annual Conference in 2010 to present information on how to help patrons use this digital collection. Further, this network of 98 libraries has agreed to help promote and distribute information about the project.

The Project Manager's presentation at the FLA conference will also cover future plans to create a state-wide collection of historic aerial photographs from multiple sources.

Timeline

Time Table	Quarter 1			Quarter 2			Quarter 3			Quarter 4		
	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	July	Aug	Sept
1. Purchase equipment, software, servers, and aerial photography	■	■										
2. Hire and train students techs	■	■	■									
3. Install and configure new GIS virtual server and open access server expansion		■	■	■								
4. Digitize 1971-1990 aerial photographs and paper indexes / Convert FDOT files to archivable and accessible format		■	■	■	■	■	■					
5. Rectify paper indexes and photomosaic indexes, create indexes using photogrammetry software, and populate GIS database to link to individual aerials		■	■	■	■	■	■	■				
6. Archive TIFF format full resolution images in DAITSS								■	■			
7. Develop and refine user-friendly map interface	■	■	■	■	■				■	■	■	■
8. Conduct focus groups and usability studies on new web interface						■	■	■				
9. Update educational modules and develop online guides for targeted user groups				■	■	■	■	■	■	■	■	■
10. Create "Ask A Librarian" email portal for the site (per Partnership Agreement)				■	■							
11. Develop and distribute electronic publicity and resource guides							■	■	■	■	■	■
12. Submit completed website to DartClix for inclusion in Sunlink Catalog										■	■	■
13. Present work in progress at conferences								■	■	■	■	■

Sustainability

Funding included in this current phase for a public accessible server seeks to address the need of users to have access to the full-resolution image files and to lessen the staff time involved in supporting this collection. Additionally, the initial interface created was based on a GIS platform that required a user-friendly understanding of GIS functionality to be used with ease. This phase also addresses that issue by proposing the development of a second, user friendly interface based on Google Map functions. Both of these enhancements are expected to provide substantial benefits to both the developers and users of this collection and to increase the sustainability of this project by reducing the UF resources allocated to actively supporting its use.

Because this collection has gained high visibility within the state, users have offered to provide digital images of other historic flights for incorporation into the collection. If this final phase is funded, integrating additional collections will become an option. As an example, Benjamine Garcia, GIS Manager for Lake County Water Authority in Tavares has offered to send the list of aerials from a 1941 Army Corps of Engineers flight to integrate into the database. The St. Johns River Water Management District has already completed the georeferencing of several sets of District aerials, and returned the rectified images to the project. At the present time, the project developers have agreed to freely provide all of the images available for 16 counties to the South West Florida Water Management District. The District will georeference the images and return them to be integrated into the project.

It is the ultimate goal of the project developers to create a state-wide collection of historic aerial photographs. Within the UF collections, there exist two additional collections that would be of value to researchers. There is a large aerial photograph collection that has been developed specifically to trace citrus land use in Florida. Future plans include digitizing the citrus survey aerials from 1960 to the present. Dr. Adair Wheaton of the Citrus Research and Education Center, Lake Alfred, FL writes: "You are aware that we have aerial photography for almost all of the citrus in the state, taken every 2 years from about 1960 to the present. A wealth of information is hidden in these map [sic] and digitizing these maps would provide a wealth of new information about the development of the citrus industry in Florida. I hope your project will include digitizing these maps." Additionally, in the Map & Imagery Library, there is a collection of 829 rolls of black and white, color, and color infrared film of various sizes (9" x 9", 70 mm, and 4" x 5"), each containing upwards of 100 aerial photographic images covering thirty-seven separate missions conducted by NASA's Kennedy Space Center in the 1970s. These images captured by a camera attached to a fixed-wing aircraft cover such missions as "Biological Control of Aquatic Weeds in Florida," which includes aerial photography of lakes in ten Florida counties from 1972 to 1976. This type of imagery is priceless in terms of documenting historic changes in Florida's landscape. With funding from an internal UF grant, this NASA collection is currently being inventoried and test digitizations conducted. Once this pilot is completed, external funding sources will be sought to digitize the entire collection and make it available as part of the From the Air collection.

As noted above, the University of Florida Libraries through the Digital Library Center has fully and actively supported this collection and its associated reference/research services during the last six years and will continue to provide excellent service to anyone using the collection. Additionally, the DLC is currently involved in a massive migration of images from the proprietary SID format to the industry standard jpg2000 format. This migration and the purchase and configuration of a jpeg2000 server will be used to house and serve the images created during this grant period, as part of the entire collection. The University of Florida Libraries are fully committed to supporting this project

indefinitely as a service to the UF community and the citizens of Florida. Any hardware/software costs needed for future digital curation and serving of this collection will be borne by the University Libraries, including any future costs for archiving the images at DATISS.

Partnerships

Partner 1: Roosevelt Middle Magnet School

Partner 2: P. K. Yonge Developmental Research School

Partner 3: Florida Librarians, Partner with Ask A Librarian

Roosevelt Middle School is a magnet school located in West Palm Beach, FL that has a focus in environmental science and Geographic Information Systems (GIS). P. K. Yonge Developmental Research School, Gainesville Florida is designed as a special school district under Florida Department of Education funding and is given the responsibility to develop innovative solutions to educational concerns in the state and to disseminate successful instructional programs to other school districts. Both partners have agreed to test the user interface for ease of use and applicability to middle and high school curricula. Students and teachers will provide feedback in a focus group environment that will inform the improvement of the user interface and offer suggestions on incorporating this collection in classroom activities. Schools will benefit from having this valuable online resource free of charge and without mediation.

Ask A Librarian is a state-wide network of 98 libraries that offer online reference assistance to the citizens of Florida. Ask A Librarian participants will benefit by acquiring skills to use an historic collection of broad interest to the citizens of Florida. This network has agreed to promote the Aerial Photography of Florida website to reference librarians state-wide, to assist with the distribution of instructional materials, and to develop a virtual email/chat reference services portal specifically designed for the online website.

BUDGET

(Round all amounts to the nearest dollar. Add additional lines if needed to include all information in a section.)

		LSTA		LOCAL/STATE MATCH
SALARIES & BENEFITS (Position Title) F.T.E.				
(All salaries to be paid from federal or local sources)				
<u>Project Manager (Carol McAuliffe)</u>	<u>0.1</u>	\$	-	not included
<u>Map Consultant(Jennifer Farrington)</u>	<u>0.03</u>	\$	-	\$ 1,432
<u>Digitization Manager (Randall Renner)</u>	<u>0.05</u>	\$	-	\$ 2,660
<u>Database Programmer (Mark Sullivan)</u>	<u>0.15</u>	\$	-	\$ 10,645
<u>Metadata/Quality Control Manager (Jane Pen)</u>	<u>0.03</u>	\$	-	\$ 1,573
<u>GIS Coordinator (Joe Aufmuth)</u>	<u>0.08</u>	\$	-	\$ 6,182
<u>Usability Manager (Marilyn Ochoa)</u>	<u>0.05</u>	\$	-	\$ 1,502
<u>3 - Student Scan Techs</u>	<u>0.54</u>	\$	8,156	\$ -
<u>1 - Student QC/Metadata Tech</u>	<u>0.11</u>	\$	1,868	\$ -
<u>1 - Student Digital Camera Operator</u>	<u>0.02</u>	\$	400	\$ -
<u>5 - Student GIS Techs</u>	<u>1.3</u>	\$	32,435	\$ -
<u>1 - Graduate Student Educational Media Specialist</u>	<u>0.17</u>	\$	4,135	\$ -
TOTAL SALARIES		\$	46,994	\$ 23,994

LIBRARY MATERIALS (Include types of materials to be purchased)

<u>Purchase 500 BW Aerials from APFO</u>	\$	6,500	\$	-
TOTAL LIBRARY MATERIALS	\$	6,500	\$	-

TRAVEL

<u>2010 Florida Library Association Annual Conference (1person/1 day/1 night)</u>	\$	261	\$	-
<u>West Palm Beach Focus Group (1 person/1 day/1 night)</u>	\$	473	\$	-
TOTAL TRAVEL.....	\$	734	\$	-

EQUIPMENT (Equipment and furniture with a useful life of at least one year and a unit cost of \$1,000 or more)

<u>GIS Virtual Server (Operating System: Windows 2003 Server Standard or Enterprise, Service Packs/Patches: SP1, SP2, Web Server: Internet Information Server Web Server Version: 6.0, Minimum of 4 GB of RAM, Minimum of 750 GB of disk space)</u>	\$	3,500	\$	-
<u>42U Rack (Open Access Server Expansion)</u>	\$	1,464	\$	-
<u>DS4000 EXP420 expansion unit (Open Access Server Expansion)</u>	\$	4,473	\$	-
TOTAL EQUIPMENT.....	\$	9,437	\$	-

OTHER (Specify)			
<u>Tivoli Storage Costs</u>	\$	355	\$ -
<u>ERDAS Leica Photogrammetry Suite and software license for one year</u>	\$	1,500	
<u>500 GB SATA drive (Open Access Server Expansion)</u>	\$	744	
<u>500 GB SATA drive for redundancy (Open Access Server Expansion)</u>	\$	744	\$ -
TOTAL OTHER	<u>\$</u>	<u>3,343</u>	<u>\$ -</u>
TOTAL	<u>\$</u>	<u>67,008</u>	+ <u>\$ 23,994</u> = <u>\$ 91,001.70</u>

D. Budget Narrative

Salaries & Benefits

To carry out the Phase III proposed project, **From the Air, the photographic record of Florida's lands**, the University of Florida Libraries will contribute a technical team consisting of one Project Manager, one map consultant, one digitization manager, one metadata specialist, one GIS coordinator, one database programmer, and one usability manager. The Head of the Map & Imagery Library will be the overall project manager. Specific project duties for each individual are given below:

Project Manager: will provide administrative and budgetary oversight including supervising the hiring of project staff and purchase of necessary equipment and software; reports directly to the funding agency; tracks and revises Action Plan as necessary.

Map Consultant: will assist the Program Manager in the selection of 500 aerial photographs to be purchased; selection of the 13,418 historical aerial photographs and 120 paper indexes to be digitized; preparing and tracking of aeriels and indexes selected for digitization.

GIS coordinator: will hire and supervise the GIS technicians who will rectify the paper and photomosaic indexes and link them to individual flight images; document the reliability of images for GIS applications; supervise the creation of appropriate geospatial metadata, assists in the development of online help sections for use and interpretation of the aeriels; oversees the use of specialized photogrammetry software to create indexes for aeriels where no index is available.

Digitization Manager: will provide hands on training in scanning and basic quality control for the scanning technicians; supervise the scanning of the 13,418 aerial photographs and 120 paper indexes; supervise quality control and production of compressed derivatives for Web serving; and integrate the scanning operations with populating the metadata database.

Metadata/Data Specialist: will work with the Project Manager, Digitization Manager, and GIS Coordinator to determine appropriate metadata collection procedures and appropriate interfaces to that data.

Database Programmer: will work with the Project Manager to develop new user-friendly map interface in Google API, install and configure of new servers, coordinates making the high-resolution and georectified images available through the website; assist in the development of online help sections for new user-friendly interface

The UF Libraries will contribute cost share (salary/benefits), for the following staff: Map Consultant, Jennifer Farrington (3% - \$1,084/\$348); Digitization Manager, Randall Renner (5% - \$2,038/\$622); Database Programmer, Mark Sullivan (15% - \$8,377/\$2,268); Metadata/Quality Control Manager, Jane Pen (3% - \$1,058/\$514); GIS Coordinator, Joe Aufmuth (8% - \$4,511/\$1,671); Usability Manager, Marilyn Ochoa (5% for six months - \$1,159/\$343). As in the previous two phases of this project, the Project Manager, Carol McAuliffe's salary and benefits were not included in the cost share though it is estimated that she will spend 10% of her time.

This LSTA funding request covers the following student workers. Wages indicated are commensurate with those currently paid within the state university system. Estimates for actual time necessary to perform these duties were derived from actual time logs for recent similar activities: five scanning technicians (15 hrs/week for 15 weeks @ \$7.25/hr totals \$8,156); a metadata/quality control technician based on 13,418 images @ 60/hr totals 225 hrs (\$8.30/hr @ 15 hrs/week for 15 weeks); a

digital camera operator based on 120 paper index images @ 3/hr totals 40 hrs (20 hrs/week @ \$10/hr for 2 weeks totals \$400); five GIS technicians based on effort to create 11 indexes, georectifying 451 indexes and linking 21,417 images totaling 2,703 hours (\$32,435); educational media graduate assistant to work for the Usability Manager to support the preparation of materials for usability focus groups, coordination of sessions, update past curriculum modules for using the user-friendly map interface, and support the development of new instructional materials.

Library Materials

The UF Libraries will purchase 500 black and white aerial photographs from the Aerial photography. Cost is \$13/photograph for a total of \$6,500. These historical aerials will fill in collection gaps for specific geographic regions of Florida.

Travel

One project staff person plans to travel to the 2010 Florida Library Association Annual Conference to present information about the From the Air project and how it can be easily used to satisfy a variety of patrons' needs. Round trip to Orlando from Gainesville is 218 miles @ \$0.445/mile which totals \$97, plus \$36 for meals and \$100 for hotel for one night.

One project staff person plans to travel to West Palm Beach to conduct one day of usability focus groups with teachers and students at Roosevelt Middle Magnet School. Round trip to West Palm Beach from Gainesville is 538 miles @ \$0.445/mile which totals \$239, plus \$36 for meals and \$150 for hotel for one night.

Equipment

The current Open Access Server at the University of Florida must be expanded to allow approximately 100,000 aerial image files to be freely accessible. To expand this server, a DS4000 EXP420 expansion unit (\$4,473), and a 42U Rack (\$1,464) are required. The total cost of items over \$1,000 included in the server expansion is \$5,937.

The new GIS server is necessary to store, query, and distribute the increasingly large GIS tile database and control the web based advanced search GIS interface. The specifications for this server include Windows 2003 Server Standard or Enterprise, service packs/patches SP1 and SP2, Internet Information Server Web Server Version: 6.0, 4 GB of RAM, and 750 GB of disk space for a cost of \$3,500.

Other

The costs for the TIFF files in Tivoli, IBM's data storage manager utilized at the University of Florida, are \$349/TB for transfer and then storage is \$219/TB per year. The 21,417 image file (approx. 626GB) transfer cost will be \$218 and \$137 for the annual storage, totaling \$355.

Two 500GB SATA drives (\$744/each) will be purchased: 1) to expand the open access server and 2) for fail safe backup. The total cost for both drives is \$1,488.

ERDAS Leica Photogrammetry Suite software will be licensed for 1 year for \$1,500 as an add-on to the Library's existing remote sensing software license. The software will allow 11 indexes to be created for 2,600 individual tiles that have no publicly or privately available index.

Partnership Agreement

Library Services and Technology Act Grant

An agreement should be completed between the library and each partner. If another agreement or contract is already in place, it can be substituted for this form as long as the conditions listed below are included.

Library/Organization Name: University of Florida Libraries

Partnering Agency Name: Roosevelt Middle Magnet School

Partner Mailing Address: C/O Dee Ann Tiffany, 1900 Australian Avenue, West Palm Beach, FL 33404

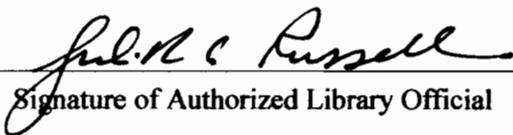
Project Name: From the Air: The Photographic Record of Florida's Land

We, the undersigned agree to provide the following programs, services, or activities:

1. Test the user interface for ease of use and applicability to middle school students and teachers
2. Provide feedback in a focus group environment that will inform the improvement of the user interface for students and teachers
3. Plan to incorporate the website resources development of future classroom activities focused on GIS and environmental topics

We further agree to each of the following:

- To implement the project as presented in the project application and any project revisions.
- That funds or services received will be used in accordance with the application and any applicable laws and regulations.
- Services will be provided at no charge and will be available to the target population.



Signature of Authorized Library Official

Judith C. Russell

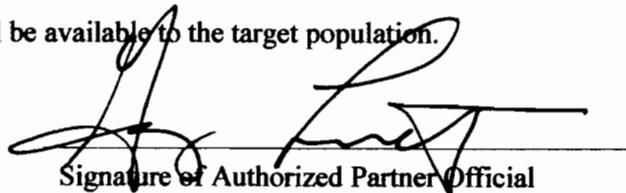
Name of Authorized Library Official
(print or type)

Dean of University Libraries

Title of Authorized Library Official

March 11, 2009

Date



Signature of Authorized Partner Official

George Lockhart

Name of Authorized Partner Official
(print or type)

Principal

Title of Authorized Partner Official

2/24/09

Date

Partnership Agreement

Library Services and Technology Act Grant

An agreement should be completed between the library and each partner. If another agreement or contract is already in place, it can be substituted for this form as long as the conditions listed below are included.

Library/Organization Name: University of Florida Libraries

Partnering Agency Name: P. K. Yonge Developmental Research School

Partner Mailing Address: C/O Penny Chou, 1080 SW 11th Street, Gainesville, FL 32601

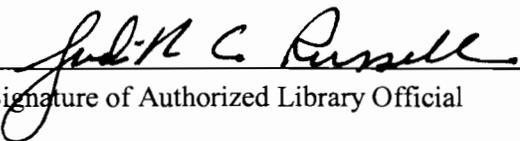
Project Name: From the Air: The Photographic Record of Florida's Land

We, the undersigned agree to provide the following programs, services, or activities:

1. Test the user interface for ease of use and applicability to middle school and high school students and teachers
2. Provide feedback in a focus group environment that will inform the improvement of the user interface for students and teachers
3. Plan to incorporate the website resources development of future classroom activities focused on GIS and environmental topics

We further agree to each of the following:

- o To implement the project as presented in the project application and any project revisions.
- o That funds or services received will be used in accordance with the application and any applicable laws and regulations.
- o Services will be provided at no charge and will be available to the target population.



Signature of Authorized Library Official

Judith C. Russell

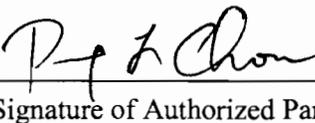
Name of Authorized Library Official
(print or type)

Dean of University Libraries

Title of Authorized Library Official

March 11, 2009

Date



Signature of Authorized Partner Official

Penny L. Chou

Name of Authorized Partner Official
(print or type)

Head Librarian

Title of Authorized Partner Official

2/26/09

Date

Partnership Agreement

Library Services and Technology Act Grant

An agreement should be completed between the library and each partner. If another agreement or contract is already in place, it can be substituted for this form as long as the conditions listed below are included.

Library/Organization Name: University of Florida Libraries

Partnering Agency Name: Ask A Librarian

Partner Mailing Address: 1202 Tech Blvd Suite 202 Tampa, FL 33619

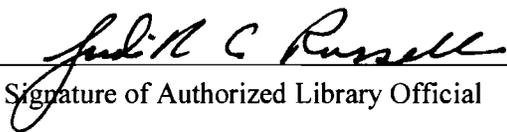
Project Name: From the Air: the photographic record of Florida's land

We, the undersigned agree to provide the following programs, services, or activities:

1. Support the marketing of the online aerial photography of Florida website to reference librarians state-wide through the Ask A Librarian network.
2. Assist with the distribution of web resources relating to the online Aerial Photography of Florida website to the Ask A Librarian network.
3. Develop a virtual reference email/chat reference services portal specifically designed for the online Aerial Photography website.

We further agree to each of the following:

- To implement the project as presented in the project application and any project revisions.
- If the partner organization is a faith-based community organization, that the support received through the project will not be used for religious or sectarian purposes.
- That funds or services received will be used in accordance with the application and any applicable laws and regulations.
- Services will be provided at no charge and will be available to the target population.



Signature of Authorized Library Official

Judith C. Russell

Name of Authorized Library Official

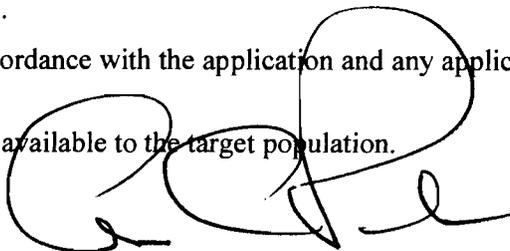
(print or type)

Dean of University Libraries

Title of Authorized Library Official

March 11, 2009

Date



Signature of Authorized Partner Official

Charles E. Parker

Name of Authorized Partner Official

(print or type)

Executive Director, TBLC

Title of Authorized Partner Official

2.24.9

Date

Appendix 2: Examples of Aerial Photography Requests

Requestor	County tiles	Coverage request and Response
Rosanna Rivero Everglades Foundation 18001 Old Cutler Road Suite 625 Miami Florida 33157	Glades, Henry, Palm beach, Martin ,Okeechobee counties	Lake Okeechobee and surrounding areas
Susan Brown Assistant PPDS - Florida Park Service District 2 Administration 4801 Camp Ranch Road Gainesville, Fl. 32641	Aerials of state parks	Used images for annual celebration of District 2, Florida Park service
Alicia A. Deochan Environmental Analyst Kimley-Horn and Associates, Inc. Suite 300 10117 Princess Palm Avenue Tampa, Florida	Pasco County	Township/Range searching for aerials in Pasco County 1941
Josh Kohlbecker CH2M Hill 4350 W. Cypress Street, Suite 600 Tampa, Florida 33607-4155	Eglin Air Force Base	Aerials covering Eglin, Florida
R. Mike Paige Project Coordinator *DMK Associates, Inc.* 6311 Atrium Drive, Suite 200 Lakewood Ranch, FL 34202		Sent instructions for searching Township/Range
Lizbeth Childs, E.I. PBS&J 1901 Commonwealth Lane Tallahassee, Florida 32303-3196	Franklin	Supplied correct attribution statement for aerials from Franklin County
Eric Gillis Project Scientist, ENVIRONMENTAL SERVICES, INC. 7220 Financial Way, Suite 100 Jacksonville, FL 32256		Comment addressing need for continued daily access to the collection: In our line of work here at Environmental Services, Inc., we rely on the historical aerials you provide on a daily basis. Most recently, I understand the transmittal of large maps on request via E-mail has been suspended due to an overwhelming demand. While we are always looking for ways to improve and make our efforts more streamlined, would you consider downloading your entire collection onto an external bulk memory device that we could provide?? I would welcome any comment or alternative solution you may have. And as always, Thank you very much for the wonderful service you provide.
Chris McLaughlin, SIT, chrism@nsgeo.com, Northstar Geomatics Post Office Box 2371 Stuart, Florida 34995 tel: 772-781-6400 ext 106 fax: 772-781-6462 web: www.nsgeo.com	St. Lucie	Request for some historical Florida aerial imagery in the Ft. Pierce/St. Lucie County area. Do you still take requests for these, or are they now available somewhere online? I will list the images below for efficiency in case you still handle these requests, thank you again – this resource has been very helpful for our surveying work in determining old water boundaries!

Appendix 2: Examples of Aerial Photography Requests

<p>Ron Martin Firm Administrator Beggs and Lane, RLLP Pensacola, FL 32502 (850) 432-2451</p>	<p>Santa Rosa</p>	<p>I am trying to view some older aerial maps of Northern Santa Rosa County from 1940 to 1958. The website is GREAT! I am having some difficulty using the Advanced ArcIMS search engine. I am trying to view Township Range: 06N29W for the years 1940, 1941, 1955 and 1958. Response was to send instructions on how to use the Township/Range function.</p>
<p>Daniel W. Pearson Environmental Specialist II FDEP, Division of Recreation and Parks Bureau of Parks District 2 4801 Camp Ranch Road Gainesville, FL 32641-9299 352-955-2279 (SC 625-2279) FAX 352-955-2139 (SC 625-2139) Email: daniel.pearson@dep.state.fl.us</p>	<p>10 aerials supplied</p>	<p>We've just been "given" the newest State Park by the Suwannee River WMD. It's a bunch of acres north of Branford on the Suwannee River. I get the pleasure of writing the management plan. The uplands have been used hard over the years, so there's not much natural left. The floodplain is apparently in better condition, but I really need those wonderful aerials to figure out what happened to this property over the years.</p>
<p>Marin F.D. Greenwood, Fisheries-Independent Monitoring, Florida Fish and Wildlife Conservation Commission, Fish and Wildlife Research Institute, 100 8th Avenue SE, St Petersburg, FL 33701, USA</p>	<p>Hillsborough</p>	<p>Your website is excellent. I'm writing a report on tidal creeks in Tampa Bay and wanted to include some of your images to illustrate changes over time. I read your copyright page and just wanted to make sure that referencing the FLAP database and website would suffice to acknowledge the source of the images. I did not see any copyright information noted on the images or in associated records from the GIS interface.</p> <p>Thanks for any information, and also for the very useful site. Response: Citation format sent.</p>
<p>Barbora Ubar County Photogrammetrist Project Manager Mapping Section, County Surveying Division Real Estate Department, Hillsborough County 601 E. Kennedy Blvd., 21st floor Tampa, Florida 33601</p>	<p>Hillsborough</p>	<p>I am looking for historical aerials from year 1939 to 1994 for 08-30-18 (STR) in Hillsborough County. Response: Instructions on searching Township/Range were sent.</p>
<p>Beth J. LaCivita Historic Florida Consulting, LLC /Specializing in Heritage Education, Tourism, and Historic Preservation Planning/ 1484 Mitchell Avenue Tallahassee, FL 32303</p>	<p>Gadsden</p>	<p>I am looking for aerials of Midway Florida in Gadsden County. Response: Instructions sent on using advanced search and place name option.</p>

Appendix 2: Examples of Aerial Photography Requests

<p>Melanie Knapp, Govt Operations Consultant II/* Florida Department of Environmental Protection Division of State Lands/ Bureau of Surveying and Mapping Title and Land Records Office 3900 Commonwealth Blvd. MS #108 Tallahassee, FL 32399 (850)245-2788 or SC 205-2788, ext 4801 Fax: (850)412-0613</p>		<p>I'm researching the north end of Lake Toho (area east of Kissimmee in Sec22-25S-29E) and cannot open the 1944 aerials. Response: Staff responded by doing a search of the requested areas, zipping the tiles found, and sending them to Ms. Knapp.</p>
<p>Barry R. Wharton, Senior Environmental Scientist Senior Professional Associate/ HDR Engineering, Inc. 2202 N. West Shore Blvd., Suite 250 Tampa, FL 33607-5711</p>	<p>Lee and Charlotte County aerials</p>	<p>I am working on a historic drainage basins mapping project for the Charlotte Harbor Nat'l Estuary Program. Response: Images provided.</p>
<p>Anita Fodor Anita.Fodor@dep.state.fl.us</p>	<p>Monroe</p>	<p>Needed source of 1940 aerials of Monroe County. Response: sent information on USDA flights.</p>
<p>Scott Gulf County Board of County Commissioners Scott Warner- GIS Technician 1000 Cecil G. Costin, Sr. Blvd Room 311 Port St. Joe, Florida 32456</p>	<p>Gulf</p>	<p>I have been searching through the Aerial Photography viewer website focusing in on Gulf County. I was wondering if it was possible to get the aerials flown in 1942 for Gulf County? I am the GIS Technician for the county and these aerials would be a great tool for showing everything from beach erosion, land use changes, and for many other comparisons of yesterday and today. Could you please tell me how I can go about getting these aerials? Response: Information on obtaining the SID images was sent.</p>
<p>Ryan Horstman Ecologist WilsonMiller.com</p>	<p>Hillsborough county</p>	
<p>Laura Graser, Staff Geologist Geomatrix Consultants, Inc. 2101 Webster Street 12th Floor Oakland, CA 94612</p>	<p>Citrus, Marion, Levy Counties</p>	<p>I would like to obtain high resolution digital aerial index maps from 1949 for Citrus and Marion Counties and 1963 index maps for Levy, Marion, and Citrus Counties. Response: Indexes for requested counties and years zipped and made available for pickup</p>
<p>Deborah Gillett GIS Analyst Survey Section Land Resources Department Southwest Florida Water Management District 2379 Broad Street, Brooksville, FL 34604 (352)796-7211, Ext. 4473</p>	<p>Hernando County</p>	<p>1 aerial requested. Response: SID image sent</p>
<p>Anthony W. Myers Gis Analyst I 2158 Johnson Street Fort Myers, Florida 33901</p>	<p>Collier County</p>	<p>Rquested specific aerial in the South Collier area on or before 1974 and no earlier than 1693. Response: sent SID image</p>
<p>Greg Blanchard Environmental Manager Manatee County Environmental Management Dept.</p>	<p>Manatee County</p>	<p>How would I cite photos from the FLAP Department of Agriculture series in a technical report? Response: Correct citation format sent.</p>

Appendix 2: Examples of Aerial Photography Requests

<p>Nick Rillstone URS Corporation Southern 1625 Summit Lake Drive, Suite 200 Tallahassee, Florida 32317</p>	<p>Alachua County</p>	<p>I need to use them for a remediation project that I am working on in Gainesville.</p>
<p>Lamar Rogers, Fayetteville, GA</p>	<p>Hillsborough county</p>	<p>I'm about to finish "My Story" and would like to include small portions of these in it. I grew up near Plant City. This is my personal story and will not be sold. It's for my decendants and friends. Response: 3 aerials requested were supplied.</p>
<p>Gregg Walker, Park Biologist Wekiwa River Basin State Parks 1800 Wekiwa Circle Apopka, FL 32712</p>		<p>How do I download and use these images in my GIS software? Response: Explained formats and usage. Later message: Before I shock you with a very large request, is there maximum number of tiles per request? I manage over 40,000 acres and am interested in every year for which they are available. This is partly for park management and also as part of my PhD dissertation in Conservation Biology at UCF. Response: Aerials requested were supplied.</p>
<p>Roxanne Gause P.E. Ardaman & Associates 9970 Bavaria Road Fort Myers, Florida</p>	<p>Lee County</p>	<p>Just a curiosity, you have such a great website for the old aerial photographs of Lee County, better than what is accessible here in Lee County. What I don't understand is that the Collier County USDS has a wonderful selection of the 1940's- 1960's aerial photographs with great indexes. Why are they not available on this website? Could they be in the future? Response: In the future, we hope to build a state-wide historic aerial collection</p>
<p>John Purdy Vice President, Construction KA & KM Development Inc. 7802 Kingspoints Parkway Orlando, Florida 32819</p>	<p>Seminole</p>	<p>I am looking for historical aerial photos of Seminole County. Specifically, of an old Airport on Highway 46, just west of the St. Johns River. It was called Bruce Field. Response: Image availability given & images supplied.</p>
<p>Daniel Parsons, E.I. Staff Engineer Dewberry 1000 North Ashley Drive Suite 801 Tampa, Florida 33602</p>	<p>Manatee and Sarasota</p>	<p>I am trying to acquire digital aerial photography for a large portion of Manatee and Sarasota County from the 1950's for a project for SWFWMD. Response: Aerials were burned to DVD and supplied.</p>
<p>Jason Cornell Environmental Specialist Florida Department of Transportation- District 2 1109 S. Marion Ave. Mail Station 2007 Lake City, FL 32025-5874</p>	<p>Suwannee</p>	<p>Three tiles provided</p>
<p>Anthony Austermann Environmental Planner Walton County Planning and Development Services Division Environmental Department</p>	<p>Walton</p>	<p>How can we obtain all of the 1941 and 1949 aerial photos for Walton County Florida? Response: Burned to DVD and sent.</p>
<p>JD Ennis Geographer/GIS Chicago District, Planning Branch 111 N Canal St. Suite 600 Chicago, IL. 60606</p>	<p>Hernando, St. Johns</p>	<p>Tiles supplied for Corps of Engineers project.</p>

Appendix 2: Examples of Aerial Photography Requests

<p>Amy Hoyt GIS Manager Lee County 1500 Monroe Street, 4th Fl. Fort Myers, FL 33901</p>	<p>Lee</p>	<p>1944 aerials of Lee County burned to DVD and sent.</p>
<p>Nick Johnson, St. Pete Times</p>	<p>Hillsborough</p>	<p>Article on Shell Key used aerials to show changes in land mass</p>
<p>Paul R. Carlson, Jr, Ph.D., Research Scientist Florida Fish and Wildlife Conservation Commission Florida Fish and Wildlife Research Institute 100 Eighth Avenue SE, St. Petersburg, FL, 33701</p>	<p>Hillsborough</p>	<p>The digital imagery collection is a gold mine of historical information, and I appreciate all the work that went into cataloging, scanning, organizing, and serving the data. I'm not sure how much I told you about our project, but we are looking at historical changes in seagrass cover in one area of Tampa Bay along the Hillsborough County shoreline. I am scrambling to meet a report deadline... Response: 14 images from Hillsborough provided through zipped file.</p>
<p>Adam Hoyles Environmental Consultant Onsite Environmental Consulting, LLC. www.onsiteec.com <http://www.onsiteec.com> 4355 Beverly Ave Jacksonville, Florida 32210</p>	<p>Volusia, Flagler</p>	<p>We use the "Aerial Photography Florida" collection often on many projects. We are usually most interested in older imagery (1940's and older) and use it primarily for forensic wetland determinations. It is often necessary to use this older imagery as it provides the only reliable record of the historic extent of wetlands. I cannot express to you how important these images are to the restoration and conservation of wetland resources.</p> <p>Having said that, we are excited to be working on a parcel that is approximately 5,000 acres. We need to develop historical wetland extent maps using the imagery that is only available from your collection. Response: 12 images requested were sent.</p>
<p>Terry Cartwright Environmental Scientist URS Corporation 7650 W. Courtney Campbell Causeway Tampa, FL 33607-1462</p>	<p>Pasco</p>	<p>1 aerial requested. Response: SID image sent</p>
<p>David Printiss Director of Science and Conservation Resources The Nature Conservancy Northwest Florida Program 10394 NW Longleaf Drive Bristol, FL 32321-0393</p>	<p>Liberty</p>	<p>1 aerial requested. Response: SID image sent</p>
<p>Patrick J. Bohlen, PhD Associate Research Biologist and Director of Research MacArthur Agro-ecology Research Center 300 Buck Island Ranch Rd. Lake Placid, FL 33852</p>	<p>Broward, Highlands</p>	<p>Requested aerial photographs for Buck Island Ranch, Archbold Research Station Response: 14 images sent</p>

Contact Information	Describe how having online access to Florida aerial photography is important for your research.	Describe how you use aerial photography in your field.	Describe how useful it would be to your work to have online access to 1971-1994 Florida aerial	Describe how we can make this site more useful to you.
Lee A. Kissick, Sr. Regulatory Scientist	I consider this service an essential tool for my work. It's been bookmarked as a favorite website since I discovered it and it's one of my 3 homescreens. Can't live without it.	I review Environmental Resource Permits and need to evaluate the impacts of land development projects on wetlands and other water resources. This stie provides useful data to reconstruct land use histories and past drainage effects that may need to be considered during the ERP review.	My own agency does not provide historical aerial photography of this caliber. I have recommended this website to other regulatory agencies and environmental consultants alike.	It'd be great if you could get more post-1958 aerials loaded for Volusia County and environs.
Chris McLaughlin, PSM Wantman Group, Inc.	I am a surveyor who has used this imagery to determine old shorelines of waterways and to help establish intents of easement and deed documents based on the properties and utilities existing during the time the documents were written.	We use aerial imagery to allow our consumers to see the relationship of our surveys to their lands. I have used this historical imagery for numerous projects and deem it very important.	We need to be able to see (in South Florida) how lands were laid out before drainage canals and levees were constructed.	Allow us to download the images we see without having to contact the staff at UF. It would be nice to have them georeferenced, but not neccessary since we already know what lands are being depicted when we use them, so we can georeference them in-house to the features we deem most important.
Joe Clemis A2L Technologies	It saves thousands of dollars of gasoline and oh, the greenhouse gas savings, not having to drive to each county repository of USGS aerial photographs	Study historic land use	It is extremely useful and time saving being able to access the photography at all times of the day from a personal pc.	Verify older photography actual locations, older ones are close, however, not accurate.
Keanan Bell WRscompass	It is vital to understanding historic land use and change in Florida. There are very few data sources available online that allow the user to draw their own conclusions regarding the transition of real estate over time.	Primarily to determine historic land uses and changes in land use over time to facilitate environmental restoration and remediation projects in the state.	It would be useful if the entire contact print was available for download at a resolution high enough to discern all site features.	This site would be significantly more useful if entire aerial image tiles or contact prints were available for download at 100% resolution (via FTP server like FDEP LABINS or online interface like FDOT APLUS).
Wayne Y. Adams Miami-Dade County Public Schools		I use the photographs when I teach the students about environmental issues. They are useful tools for showing the students how the land is being transformed and used.		Improve the map index page. Most of the reference points do not coincide with the actual photographs. Most of the time when I pick a point directly over the area of interest, I find the actual photograph is off so far that the area does not even show. It would also be useful if the user could download the actual photograph.

Leslie Condon Miami-Dade County Public Schools	Online access to Florida's aerial photographs helps me research historic property use for property transactions. Having this information saves me time and money to travel to get print aerial.	I use aerial photography to find approximate dates of property development and previous land uses.	The more aerials I have available, the more accurate my date of development and land use information can be.	
Michelle Dachsteiner	I work in ERP permitting, compliance and enforcement for SWFWMD. This site is the best site to find historical aerials of project areas, to determine wetland extent and land use practices over the years.	I use aerial photography to determine land use practices over time.	Additional years are always helpful, and would be used frequently.	The site works well currently.
Bonnie Irving SWFWMD	These historical aerials are often a missing piece to the land use puzzle of historical Florida.	I use the information obtained from these historical aerials to determine the historical land use and land changes over time. I also locate historical wetlands to determine any connectivity existing wetlands used to have.	I would gain a more complete picture of land use changes over time.	Having a detailed list of tiles available by year and STR would be helpful.
Anna Dziadon Aerostar Environmental Services	This is vital to our production of Phase I reports. We use this service on a weekly basis and it saves us hours by not needing to drive to each county for aerials on CD.	This is vital to our production of Phase I reports. We use the aerials to describe historical characteristic of the property and its adjoining properties.	Introducing newer aerials would be excellent. We often need to go elsewhere to find aerials from years past 1971 and their website has changed and become confusing and time consuming.	Introducing the more recent years of aerials would really help since your website is easy to use and usually pretty complete in terms of areas covered. THANKS!
Tracy Tobin Aerostar Environmental Services	I research properties all over the State of Florida for Phase I Environmental Site Assessments.	We are required to available at least one aerial photograph per decade back to the 1940s.	It would take less time if these aerials were available on one website rather than having to visit several websites. Less time is less money!	PLEASE don't make us pay for it and if possible add additional years. THIS is by far the most user friendly website I use in my research.
Preston Miller Central Florida Testing Laboratories	Extremely important. I work for a company that does sinkhole investigations and having historical aerials available as a reference is invaluable.	As a comparison to recent aerials. Looking for significant changes over time.	Very useful. Sinkhole investigations would be incomplete and inaccurate without these aerials.	

<p>Elizabeth Black AEROSTAR Environmental Services, Inc.</p>	<p>It helps to keep our services competative with other companies since we do not have to pay for the aerials. Also, it keeps costs down, since we do not have to sub-out the aerials search, like we have to do in other states. It makes our work easier.</p>	<p>We use aerials to determine the past operations and use of a site per the ASTM standards for Phase I ESAs.</p>	<p>It makes working with them much easier since most everything is in a digital format. Also, we don't have to scan hard copies and make sure they are in the correct format for use in ArcMap.</p>	<p>The ArcIMS search function is a bit cumbersome and when you type in the correct information, it desn't always return the correct aerials. Other than the search function (zooming in and clicking on the aerial is easy), there's really nothing that I would change. Adding in a topo or aerial background can make it harder to locate. Maybe is the roads and lakes were more true to their actual shapes, it would help.</p>
<p>Theresa Heiker Leon County Public Works</p>	<p>Access to aerial photos from adjacent counties, as well as historic photos, provides information not otherwise available regarding land uses and changes in creeks and wetlands. I've forwarded the link to several professionals in the water resources field.</p>	<p>Stormwater management requires knowledge of natural water systems in order to resolve flooding of existing development and prevent future development in inappropriate areas. Also, the historic aerials have greatly assisted in identifying where the natural systems have been "improved". This helps plan corrections to address the unintended water quality degradation.</p>	<p>My community, Leon County, maintains aerial photography in our GIS from more recent flights (1994). However, photos from 1971 to 1994 would document changes to our water resources which had significant impacts to our environment. Restoring water systems requires that we understand how nature has been changed.</p>	<p>It would be great if prints could include the photo information. I have to zoom in to identify a feature and often lose the date and frame information. Perhaps it could auto-populate from file, like the footer information?</p>
<p>Jeff Ransom Miami-Dade County Office of Historic and Archaeological Resources</p>	<p>Extremely important.</p>	<p>I'm an archaeologist with Miami Dade County. I use it extensively.</p>	<p>Although we have hard copies of these maps at the county, it would be much more convebient to access these digitally online.</p>	<p>It already works great!</p>
<p>Sherilyn Wells votetrees@earthlink.n et</p>	<p>It is critical as I am in another state and am working on a legal issue.</p>	<p>I don't. My site usage is specific to a legal issue.</p>	<p>Extremely useful... updated information is essential in ascertaining changes over time.</p>	

<p>Jeff Cannon Pasco County Cemeteries</p>	<p>I am a local historian in Pasco County and the use of these are absolutely wonderful and great that they are free of charge. Without these I have had to rely on try to gather them from local sources, which takes a great deal of time!</p>	<p>These aerial have been used in the submission of application to the FMSF (FLorida Master Site File) for the preservation of historic resources. I have also used them for presenation purposes to show how Florida has grown since the 1940's.</p>	<p>The use of 1971-1994 aerials would be of great value to the historic research of Florida as there was much built between the 50's and 70's. Each day that passes these become more valuable as historic resources.</p>	<p>This site could be more useful by allowing folks to access other historical records or documents that are on file with the university or other universities that would be willing to share their collections. These online records and documents of course should be limited to Florida, I am specifically seeking Seminole Indian War records that are extremely hard to find.</p>
<p>Bill Spencer Suwannee River Water Management District</p>	<p>I use it to help document pre-existing wetland conditions for wetland violation enforcement.</p>	<p>Allows me to verify if an area that has been filled is an "historic" wetland or not.</p>	<p>Just today I greatly needed mid-1970s to verify when a dirt road was paved. A road was build without a permit, but owner claims it was there pre-rules.</p>	<p>Could make it easier to move around on the ground between adjacent photos. Help with specifying data form for entry. TWRNRNG can be confusing. Could have the searches saved so when you modify you don't need to start over.</p>
<p>Steven Dier Professional Service Industries (PSI)</p>	<p>It allows for speedy access to historical information. FDOT no longer provides an accurate location, instead a conglomerate of aerials with no index to find the location you are seeking.</p>	<p>To look up historical conditions on a certain parcel and vicinity. We use this to identify potential environmental concerns on-site and off-site.</p>	<p>Extremely useful in our productivity, not having to go to county property appraisers offices or sift through FDOTs aerials.</p>	<p>Include a look up by Section-Township-Range or Latitude-Longitude (DMS) which would allow the user to easily find their location.</p>
<p>William Jones wdj@hiwaay.net</p>	<p>Useful for tracking changes in land uses.</p>	<p>I use the photography to locate structures, roads, and settlements that have been eliminated by present day development.</p>	<p>It would be more useful to me if early photographic sets were complete, and if pre-1937 imagery were available (if it exists.)</p>	<p>The selection tool would be more useful if the tile containing the selected ground was selected and displayed, and if there were a mechanism to pan from tile to tile without cycling back to the selection map. Also, download access to the full .sid files would be useful, as would the capability to selectively display only the tiles for a given flight or given year.</p>
<p>Mr. Jeffrey Platt Florida Atlantic University</p>	<p>Great</p>	<p>I am a hunter. When I aquire new property, I do my prescouting from the air.</p>	<p>It might be good to compare changes</p>	<p>aerial photography from early 1900's would be quit usefull!</p>
<p>Anonymous</p>	<p>Great</p>	<p>I am a hunter. When I aquire new property, I do my prescouting from the air.</p>	<p>It might be good to compare changes</p>	<p>Make it a bit easier to find unmarked places.</p>

Desiree Estabrook-Zhou Archaeological Consultants, Inc.	With many archival items available digitally, it reduces my dependence on local historical societies and the expense it sometimes demands in order to access their materials (time/travel/copying). Many times, however, local historical societies do not have historic aerials, which are instead housed in state collections. Considering that many state collections are located in northern Florida or at one of the many state universities, and far away from my office of employment, I would not be able to utilize these resources in a timely and effective manner if they were not available online.	As an architectural historian, I rely on historic aerials to determine approximate building dates for properties encountered during my survey. Dates listed on a county property appraiser website are generally estimates for a building's construction, so it helps to have a dated aerial for reference. Aerials also provide a view of the surrounding context, which helps when I need to evaluate historic resources and explain the general transition within a given area.	Having later aerials (1971-1994) would assist in determining changes within a project area (ie. when certain buildings appear to have been demolished, construction of roads/bridges/etc.)	Perhaps note that when clicking on a particular aerial, it sometimes will direct you to that exact location, or other times, it will bring you to an aerial several miles away. The placement of the aerial link does not always match the particular area it is on. [I hope that makes sense.]
Lisa Tully ltully@ardaman.com	I do Phase I environmental assessments, and it saves so much time to be able to view historic aerials of the entire state without having to track them down through the property appraiser or county services.	Part of what I need to do for research is look at the oldest aerials possible - your service always has what I need.	These mid-years are often difficult to find on subscription services such as terraserver.com.	I've found the locations of the dots on your maps are slightly off - but they're consistently placed slightly northeast of the actual location of the photo, so it's very easy to compensate.
Shane Billings Bay Appraisal & Environmental, Inc.	This service is very important as I use it for historic research associated with Phase I Environmental Site Assessments. It helps keep my costs down as it saves the time of having to visit various agencies.	Historic research to identify potential landfilling, gas stations, environmental concerns.	This would be VERY useful. It would save me the time of having to visit various agencies to review photos.	If additional aerials are added, that would be great.

<p>Robert M. Couch III, P. E. Bay Appraisal & Environmental, Inc.</p>	<p>As an environmental engineer I am frequently called upon to assess possible environmental concerns from past uses of properties. Having online access to these photos speeds up research time. In addition, being able to access them on holidays and weekends has been invaluable.</p>	<p>The photographs are used to determine past uses of a piece of property and the surrounding properties that may have an environmental impact on the subject property.</p>	<p>Having the 1971-1994 aerial photographs in addition to the current earlier ones would save a half day of work traveling up to Ocala, pulling the photographs and having to physically take a photograph of the photos since they do not have scanning or digitized photos in place. On average, the additional photographs would save 300-500 working hours per year for the company.</p>	<p>It would be very helpful if we could zoom in using lat/long.</p>
<p>Pierre Bruno Forge Engineering, Inc.</p>	<p>The online access to Florida aerial photography is important to my research because it helps reduce and in some cases eliminate the need to drive to locations having "hard copy" aerial photographs. This significantly reduces the amount of fuel that I must use and at the same time reduces hydrocarbon emissions.</p>	<p>I am a Professional Geologist and I use aerial historical aerial photographs to review changes that have occurred over time, in order to evaluate for possible site contaminations and for land use planning.</p>	<p>There is a data gap of 20 years - having online access would complete that data gap and benefit me and the environment because I must sometimes drive to locations to review hard copy aerial photographs.</p>	<p>This site has come a long way in a very short time. Finding specific locations used to be tedious and you have made the site very user friendly. Thank you.</p>
<p>Rick Wood EPAI</p>	<p>It saves fuel and time because I drive less to go to the places other aerals are kept.</p>	<p>Phase I Environmental Site Assessments</p>	<p>Very</p>	<p>I don't know -----have not used it yet.</p>
<p>Thomas H. Thurlow, Jr. and Sandra Thurlow (Members of numerous Florida Historical Societies)</p>	<p>My wife is a local historian limited to the Martin and St. Lucie County areas, including Stuart,Jensen Beach, Sewall's Point. She has written 4 books and has given hundreds of slide/powerpoint programs over the past several years.</p>	<p>Martin County was formed from portions of Palm Beach and St. Lucie Counties in 1925, and vintage aerial photographs are very effective. We recently found Underwood & Underwood aerial photos in 1925 promotional material and we are curious as to whether addition aerial photographs of the Martin County area from 1900 thru 1970 are available.</p>	<p>1971 -1994 aerials would be useful to illustrate the history and development of the County since 1925.</p>	<p>I don't know -----have not used it yet.</p>

Justin Chamberlain Central Florida Testing Labs, Inc.	as an employee of an geotechnical engineering firm i use this site virtually every day of the week except sunday. It is a critical resource for historcal data.	We review historical aerials to determine developmental and geomorphic changes that occur over time in our area of review.	I have been eagerly waiting for the addition of data to this resource. Having an aerial set with a wider spanse of time would really help with establishing timelines development.. i.e. can help narrow the rang or establish a timeline when more recent additions to a structure were completed.	adding a PLSS (sec-twp-range) grid would be VERY BENEFICIAL!!!! Adding a "rough" grid of each aerial year (see Pinellas Co.'s PAIRS for example).
Anonymous	By having access to the historic aerial photographs I am able to do research on past land use for the entire state of Florida from anywhere.	I use them often to determine historic land use, and to identify historic structures within certain areas.	Not incredibly useful right now, but as time moves forward it would be very useful as I am generally concerned with time periods more than 50 years ago	Expand to include different states in the surrounding area.
melissa hoover Brown, Burdine and Associates	It greatly simplifies getting old aerial photos to compare land use and change from past to present.	Ascertain previous use of land.	VERY! These years are critical to determine the timeline of early development to now.	
Anonymous	It saves time, and money by the easy access online access.	I use it to pin point agricultural property for evaluation of potential of use, or sale	It is extremely important for me to have access to the data 71-94 and it would also be helpful to have additional data outside that range.	By linking plat locations to tax records, and dead info

CERTIFICATION OF CREDENTIALS

(Complete this form only if your library entity does not receive State Aid to Libraries or Multitype Library Cooperative grant funding.)

The University of Florida
(name of library governing body)

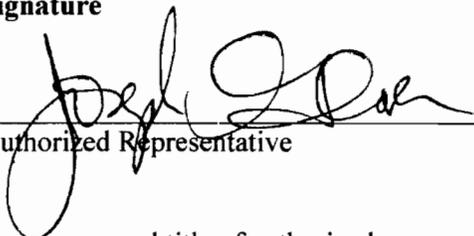
governing body for the George A. Smathers Libraries
(name of library/organization)

hereby certifies that the incumbent library administrative head,

Judith C. Russell
(name of incumbent)

has completed a library school program accredited by the American Library Association and is thereby eligible to apply for and administer a Library Services and Technology Act (LSTA) grant.

Signature



Authorized Representative

3/13/09
Date

Type name and title of authorized representative below:

Joseph Glover
Name

Provost
Title