Florida International University
Library-Based GIS Center and Digital Scholarship

Presenters:
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Jamie Rogers, Assistant Director of Digital Collection Center
Outline

- Background of a Library-Based GIS Center
- Campus-wide GIS -- Organization and Governance
- Student-Centered GIS Service
- Community Engagement
- GIS and Digital Scholarship/Digital Humanities
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A Library-Based GIS Center -- History

Established in 1998 – Initially sponsored by Academic Affairs and Sponsored Research

A GIS Center in a service oriented, neutral space (e.g. Library) to benefit all departments’ teaching and research in Geo-spatial sciences

Construction of a new main library building – secured enough space for a teaching lab, a research area;

2008 Maps and Cartographic User Services (MIUS) – focusing on access, use and analysis of cartographic materials in digital formats, and geo-spatial data

2011, through a tech-fee funding, GIS extended to Biscayne Bay Campus

2015 tech-fee, GIS and DCC created Digital Scholar Studio
A Library-Based GIS Center -- Summary

GIS/DSS

- 15 credit GIS Certificate
- 700+ user accounts
- Campus wide license
- 20+ GIS credit courses
- 12+ topic workshop

- 200+TB Cloud Storage
- 50+ servers
- 70 workstations/laptops
- Plotter, Scanner, 3D, VR
- Drone Technology

- 40+ grants/contracts
- 18 academic disciplines
- 4.5 million external
- 1+ million tech fee

- 80+ TB research data
- 3 Topic Libguides
- dPanther Digital Repository
- 20+ Web GIS App.

http://gis.fiu.edu/
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Staff, Faculty and Governance

GIS Faculty Advisory Committee
20 members, 11 departments

(6+8) GIS Center and (6+3) DCC
GIS Research faculty /Developer
Librarian/ student employee/interns

Deans
Chairs
Directors
CIO
VP of DoR
Provost

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Guides and Tutorials

**Geo-tools**

- GIS and Remote Sensing software, tools, adds-in.
- Spatial geodatabase (where to download data)
- Tutorial and learning material

**GIS Data Service**

GIS/RS Data Services

Welcome to the FIU GIS Center!
Events

GIS Day

Outreach Examples

- Open data day hackathon: resiliency in response to climate change
- Spatial + Data Visualization Group
- 4th Annual Library Fair Career Fair for Miami Public Schools,
- City Clerk’s Office Retreat – Coral Gables,
- South Florida Expo GIS
Data Collection

AP download

Other Data Examples

- AirBus Image Pleiades – Miami – 2017
- Parcel data 1995 – 2018
- Crime data
- Social economic data
- Images from drone after Hurricane Michael
Tools

Micasense

- The MicaSense RedEdge™ is an advanced, lightweight, multispectral camera optimized for use in small unmanned aircraft systems. RedEdge™ provides accurate multi-band data for agricultural remote sensing applications.


Drone

- The Draganflyer Commander helicopter is a professional quality, powerful, easy to fly aerial platform specifically designed for high endurance applications for agriculture, public safety, search and rescue, mapping, aerial photography and much more.
3D Scanning

Faro Focus Ground LiDAR

- The ultra-portable FocusS 150 enables fast, straightforward and ultra-high accurate measurements of objects and buildings. It records architectural façades, complex structures, production and supply facilities, accident sites, and large-volume components delivering realistic and true-to-detail scan results with a range of 150m per scan.

- **Wolfsonian Museum Example**
- Coastal Protection

Pix4D
High Performance and Survey

High Performance Computer

- Intel - Core i9-7980XE 2.6GHz 18-Core
- 64GB DDR4-2666 Memory
- Samsung 960 Evo 1TB M.2 SSD
- EVGA GeForce GTX 1080TI

Survey Equipment

- Trimble 10
- Trimble R8
VR Cameras

- LG 360
- KODAK PIXPRO SP360 4K DU
- Samsung Gear 360 Spherical VR
- Sony RX100
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Sea Level Rise Impact Web Tool

Cat. 5 - mean tide

Coral Gables City

Cat. 5 - mean (ft)

- 0.00
- 0.01 - 9.40
- 9.41 - 13.40
- 13.41 - 17.10
- 17.11 - 22.80

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sea Level Rise Impact Web Tool
Virtual History

Coral Gables
VIRTUAL HISTORIC CITY
NEW WAYS OF DISCOVERING LOCAL HISTORY

http://maps.fiu.edu/cgm/
Virtual History – Digital Collection

http://maps.fiu.edu/cgm/cgmCollections.htm
Virtual History – Digital Collection

Coral Gables Digital Collection

Detail Information

Aduana Avenue, Coral Gables, Florida
1106 Aduana Avenue, Coral Gables
recto
verso
recto
verso
1107 Aduana Avenue, Coral Gables
recto
verso
verso
1110 Aduana Avenue, Coral Gables
recto
verso
recto
verso
verso
verso
1111 Aduana Avenue, Coral Gables
recto
verso
verso
1114 Aduana Avenue, Coral Gables
recto
verso
recto
verso
recto
recto

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Time Period

1900 - 1994
Virtual History – Historical Maps and Aerials
Virtual History – Eco and Cultural Tour

Recreational Routes:
- Recreational County Club-Reso Tour
- Recreational Bike And Swim 2000s 1 10
- Recreational bike And Swim

Ecological Routes:
- Spring islands
- Secret Gardens Tour
- Cool Cenotes
- Celebrating Earth Tour/Youth Center
- Celebrating Earth Tour
- Canopy Tour

Cultural Routes:
- Landmark Tour
- The Villagers
- Liberty
- Holy Sepulcher
- Historic Coral Gables Bike Tour
- Grand Vistas
- Fountains Pools and Waterways
- None

Multimedia

Built between 1923 and 1924, Le Jeune Place is included in the Coral Gables Register of Historic Places and is a contributing structure in the Coral Gables City Hall Historic District. It is located across from City Hall on the northern and southern intersection of Le Jeune Road and Coral Way and marks the entrance to what is known as Miracle Mile. German-born, Frank Biltz and Princess Paule designed the landmark plaza. Postulas include large reflecting pools with white columns and end piers. Le Jeune Place is named for Charles Le Jeune who moved from Belgium to Florida between 1899 and 1901.
Virtual History – 3D Miracle Mile

Colonnade Building
The original Colonnade Building, designed by architects Phineas Fost, Walter De Garmo and Paul Chaffin, is located at 133-160 Miracle Mile on the northeast corner of Ponce de Leon Boulevard. It was built in 1925-1927 and was initially constructed for use as George Merrick’s Coral Gables Corporation sales office. When the real estate market collapsed in 1927, the building was substantially complete and consequently tenants continued to occupy the space. In 1967, the historic portion of the building was rehabilitated and a high-rise addition was added to encompass the block of Aragon Avenue. The stately colonnaded arcade gave the building its original name. It is now known as the Colonnade Hotel and Office Building.
Virtual History – Community Engagement Tool
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Digital Scholarship Services

**Digital Scholar Studio**
- project consultation
- workshops
- in-class instruction
- equipment lending
- digital exhibit hosting
- software
- [http://dss.fiu.edu](http://dss.fiu.edu)

**Digital Collections**
- digitized special collections/archives/data
- community partnerships
- grant writing/collaboration
  - [http://dpanther.fiu.edu](http://dpanther.fiu.edu)
  - [http://digitalcommons.fiu.edu](http://digitalcommons.fiu.edu)
  - [http://www.dloc.com](http://www.dloc.com)

**GIS**
- data analysis
- data visualization
- development of online applications and knowledge management systems
- [http://maps.fiu.edu/gis](http://maps.fiu.edu/gis)
Digital Scholarship Resources

Digital Scholar Studio - Online Tools & Resources

DiRT (Digital Research Tools) Directory
http://dirtdirectory.org/
"The DiRT Directory is a registry of digital research tools for scholarly use. DiRT makes it easy for digital humanists and others conducting digital research to find and compare resources ranging from content management systems to music OCR, statistical analysis packages to mindmapping software."

UCLA's Digital Art Historian’s Toolkit
"A snapshot of tools that could be useful to art historians specifically. We’ve focused here on free, off-the-shelf tools that don’t require programming knowledge and might be particularly interesting to people who work with a lot of images."

Roy Rosenzweig Center for History and New Media
Research + Tools
http://chnm.gmu.edu/research-and-tools/
Digital Humanities tools and descriptions of how they may be used.
Student Projects

MAKING WAVES IN OPA-LOCKA: HISTORY AND RISING SEAS

A GROWING SEGREGATED CITY

The city of Miami continued to grow in the early twentieth century. Those seeking opportunities for work and wealth flocked to Miami seeking permanent residency. By 1910, 2,258 black residents called Miami home (62 percent of the 5,471 total population). By 1920, Miami’s black population constituted 32 percent of Miami’s population but occupied only 10 percent of the city’s available space. Of the 50 miles of paved streets in all of Miami, none were in Colored Town. The blatant disregard for black and poor communities by the white elite resulted in only affirming white assumptions of the link between Blacks, disease, and poor living conditions.

Segregation was viewed as a necessary tool to divide those with diseases (overwhelmingly black) from whites. The white community enforced segregation and resisted the expansion of Miami’s black quarter—sometimes violently. 200 Ku Klux Klan members paraded through downtown Miami in the traditional hoods and robes in the Spring of 1921. Members of the black community were kidnapped, whipped, and some even lynched throughout the decade.

Despite the limited availability to land, black business owners helped to give new life to Colored Town. In 1917, Miami’s Lyric Theatre opened, which served as a major center for entertainment into the 1930s. In 1927, Booker T. Washington Senior High School opened, the first high school for black children in Miami. However, black entrepreneurs were barred from opening any businesses in white districts, even though white entrepreneurs could open a business in Colored Town. For most of Miami’s black population, segregation, poor living conditions, and violence were away any hard-earned gains.

http://opalocka.omeka.net/

Explores the impact of climate change on vulnerable communities in south Florida

An investigation into the history of the Opa-Locka community in an attempt to find the origins of its residents' socioeconomic troubles and how sea level rise may impact them in the future
Student Projects

Eyes on the Rise

http://www.eyesontherise.org/

VirtualEYES
Digital Scholar Studio Stats

October 2016 – November 2018

10 grants supported by the Digital Scholar Studio

18 workshops and in-class instruction (126 participants)

39 consultation sessions

77 high-end equipment loans

79 events in the DSS spaces (564 participants)

1,370 hits to on-line learning modules, which provide Digital Humanities and Data Science tools, tutorials, and sample projects

1,465,007 hits to DSS supported projects
THANK YOU!

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