



# Improving Multidisciplinary Instruction Through Applications of Drone Technology

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# Geomatics

# Communication and Leadership Development

## Program Descriptions

- Surveying
- Remote Sensing
- Digital Mapping
- GIS
- GPS
- Satellite Imaging & Other Technologies of Geospatial Science



- Journalism
- Print Design
- Science Communication
- Event Planning
- Web Design
- Videography
- Agricultural Issues



# Connection Point- Location

**UF** | IFAS CALS  
UNIVERSITY of FLORIDA

@ Plant City

**UF** | IFAS  
UNIVERSITY of FLORIDA  
AGRICULTURAL  
EDUCATION AND  
COMMUNICATION

**SFRC** School of  
FOREST RESOURCES  
& CONSERVATION

# Curriculum Crossover

How to integrate skills and techniques from two different majors



## We had to think about

- What skills do GEM and CLD students possess that can benefit students from the other major?
- How to incorporate drone usage in both CLD and GEM applications.
- Does this crossover occur in the work world?

# Connection Point Drone Usage



# Geomatics

## Drone/traditional field work:

- Easier to access remote/inaccessible areas
- Quicker data collection
- Lower cost as far as man hours for collection
- Possibly smaller crew
- Some programs allow on the fly checking of data

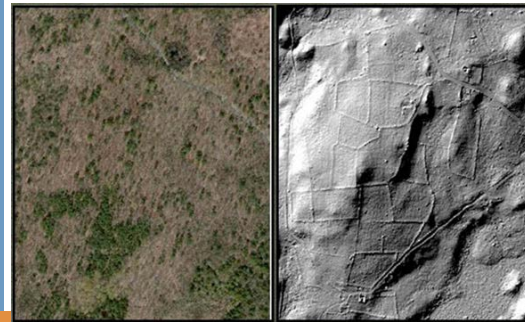
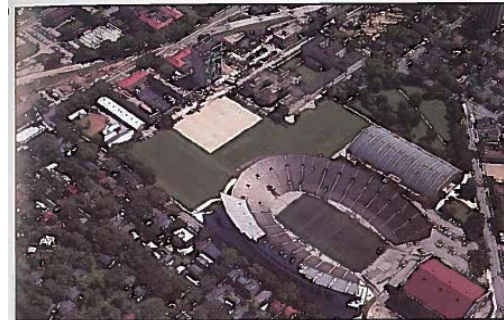
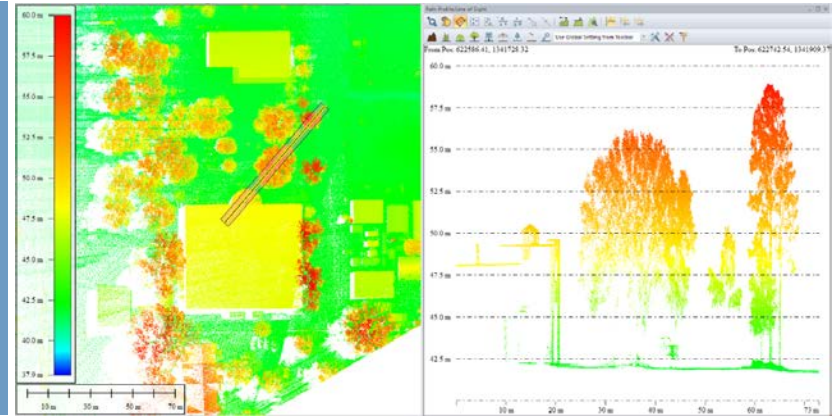
## Drone/aerial or satellite:

- Lower cost of platform
- Can achieve higher temporal resolution (can fly whenever with a drone, repeatedly—it can be harder logistically to arrange satellite pointing or aircraft mission)
- Can fly lower/less cloud cover issues
- High spatial resolution
- Lower cost for data



Remote sensing can identify phenomenon that are not visible to the naked eye.

- LiDAR
- Infrared
- Thermal



# CLD

## Drone Pros:

- Easier to access remote/inaccessible areas
- Quicker video collection
- Lower cost as far as man hours for collection
- Possibly smaller crew
- Smooth footage
- Allows for multiple angles not previously possible
- High-quality video quality (full HD) available at a low price- point
- Lends cinematic quality to videos

## Video Application :

- Realtors
- Property Development and Management
- Event Coverage
- Tourism
- Science Communication

Play video from Flash Drive  
(file too big for upload)



# Geomatics and CLD: Connecting the Dots with STEM



GEM student, Chelin Lauer designed this maze for a local agri-tourism business, Fox Squirrel Corn Maze.

Students created promotional materials for the farm using drones and traditional photography.

The orthomosaic was created using the CLD drone and used for marketing and as a site map.





# Geomatics and CLD: Connecting the Dots with STEM



GEM Graduate Student, Ali Gonzalez, offers drone workshops for CLD students in advanced videography, AEC4036.



GEM Graduate Student, Ali Gonzalez, captures footage for CLD student, Kaitlin McClure to create a science communication video at M&B Dairy.



CLD students created video tutorials for CLD and GEM students. Tutorials included how to download video files from Phantom and access them from computers. Tutorials will be used for future classes.

**Questions?**

