

**Maine GIS User Group Special Event**  
**June 16, 2017**  
**University of Maine at Presque Isle**

**Applications of Drones and LiDAR in Forestry and Agriculture**

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|---------------|---|
| 8:00 – 8:30   | Registration (with continental breakfast)   |
| 8:30          | Welcome   |
| 8:30 – 9:15   | Utilizing LiDAR and LiDAR-Derived Products for Forest Management – Chris Huston (Irving Woodlands)<br><br>A brief overview of Irving Woodlands utilization of LiDAR and LiDAR-derived products to facilitate and improve the management of forest resources. Some examples will be shown of tools we have rolled into a program we are calling precision forestry.  |
| 9:15 – 10:00  | sUAS Technology to Produce High-resolution Orthophotos & Derived Products for Forestry Applications – Tony Guay (The Barbara Wheatland Geospatial Programs, School of Forest Resources, University of Maine)<br><br>This session will discuss the use of sUAVs technology in the forest industry, and how nearly real-time data can provide valuable information to improve decision making and forestry operations |
| 10:00 – 10:30 | Coffee/Tea Break  |
| 10:30 – 11:15 | LiDAR Applications for Agriculture, Natural Resource Conservation Service – Tara King (Natural Resources Conservation Service)<br><br>Tara will provide an overview of how the NRCS uses LiDAR derivatives for soil survey applications and in conservation planning. She will review LiDAR tools used by NRCS field office conservation planners, engineers and soil scientists.                                   |
| 11:15 – noon  | Aerial Agronomy: A Look toward the Future of UAVs in Agriculture - Jesse Badger (Precision Unmanned Aerial)<br><br>Jesse will discuss what we have learned in UAVs in agriculture over the past three years and where we see it going including an overview of new aircraft and sensors and the use of programmable band sensors in disease detection.  |
| Noon – 1:00   | Buffet Lunch  |
| 1:00 – 1:45   | Spuds, Timber, and Towers...What to Do with Your Drone Data – Nikhil Vadhavkar (Raptor Maps, Inc.)  |

With the new FAA regulations and the affordability of high-quality aircraft, now is the perfect time to integrate drones into your business. However, the ability to effectively manage data has created headaches for both drone operators and their clients. In this session, we will discuss effective drone data management through the lens of potato crop data that we collected in Aroostook County last growing season. We will also highlight similarities and differences in data collection and management in agriculture, forestry, and industrial inspection applications. Finally, we will discuss optimal storage and analysis methods that preserve drone data for machine learning and automated analysis.

1:45 to 3:15

Drone demonstrations:

Jesse Badger (Precision Unmanned Aerial) will demonstrate the use of DJI quadcopter.

Chris Carroll (Aero Imaging Solutions) will demonstrate the use of fixed-wing eBee RTK.

3:15 to 3:45

Coffee/Tea Break

3:45 to 4:15

GeoLibrary Imagery Program – Joe Young (Maine GeoLibrary)

Joe will provide an overview of the GeoLibrary's geospatial data acquisition programs for LiDAR and orthoimagery. He will relate how communities, public, non-profit, and other organizations can utilize these programs to acquire high resolution data for their areas of interest at greatly reduced cost.

4:15

Closing remarks

***Register for the meeting on the Maine GIS User Group website. <http://megug.org/>***

Conference Committee: David Hobbins (University of Maine at Fort Kent), Chunzeng Wang (University of Maine at Presque Isle), Joe Young (Maine Office of GIS) and Dan Walters (USGS).