Alternative Sources of Accurate Agriculture Topography

Ben Neff  
Iowa State University, beneff@iastate.edu

Nathan Wright  
Iowa State University, nbwright@iastate.edu

Reagan Rieken  
Iowa State University, rjriecken@iastate.edu

Reece Sharp  
Iowa State University, rwsharp@iastate.edu

Spencer Shalla  
Iowa State University, sshalla@iastate.edu

Follow this and additional works at: http://lib.dr.iastate.edu/tsm415

Part of the Bioresource and Agricultural Engineering Commons, and the Industrial Technology Commons

Recommended Citation
Neff, Ben; Wright, Nathan; Rieken, Reagan; Sharp, Reece; and Shalla, Spencer, "Alternative Sources of Accurate Agriculture Topography" (2017). TSM 415 Technology Capstone Posters. 20.
http://lib.dr.iastate.edu/tsm415/20

This Poster is brought to you for free and open access by the Iowa State University Capstones, Theses and Dissertations at Iowa State University Digital Repository. It has been accepted for inclusion in TSM 415 Technology Capstone Posters by an authorized administrator of Iowa State University Digital Repository. For more information, please contact digirep@iastate.edu.
Problem Statement
• The goal is to measure the relative accuracy of alternate methods to create topographic data of agriculture fields for water flow and related analyses

Objectives
1. Understand alternate methods of gathering topographic data
   -LIDAR Data
   -Public Domain sources
   -Drone overflights and analysis
   -Data gathered by yield monitoring system
2. Compare the accuracy, logistics, and cost of the alternate methods
3. Demonstrate the complete data and workflow to complete a water flow analysis

Methods
• TSM 433 - Utilize SMS Software to analyze data from yield monitor
• Use drone overflights to create 3-D topographical map of a field
• Use of public domain sources to gather data
• TSM 324 – Analyze LIDAR data

Acknowledgements: Authors are grateful to Bob Recker at CVI, for the opportunity to work on this project. Project was co-funded by the differential tuition.