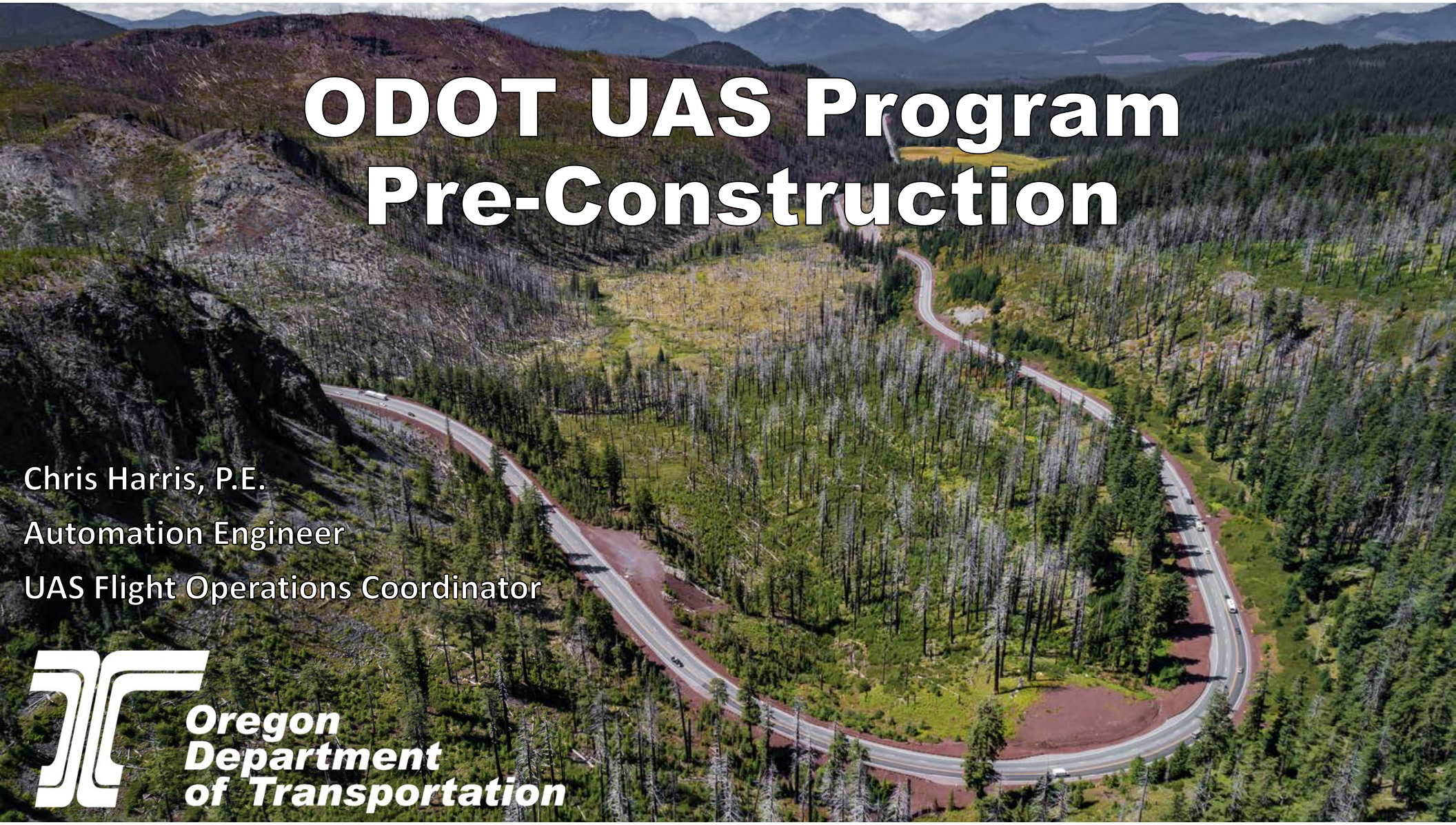


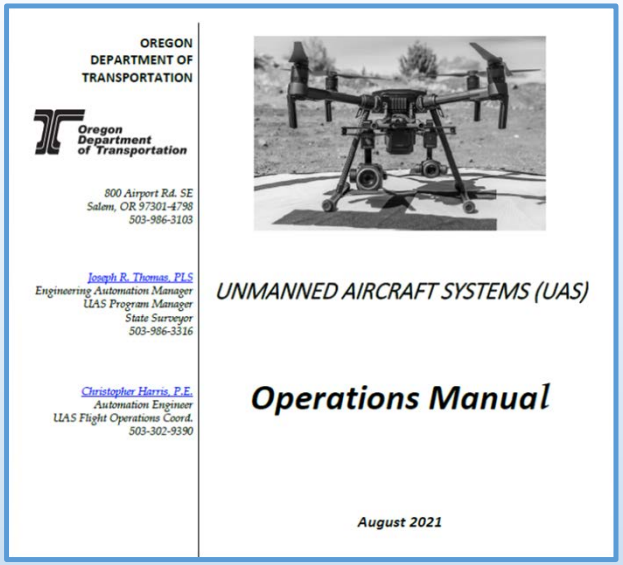
ODOT UAS Program
Pre-Construction

Chris Harris, P.E.
Automation Engineer
UAS Flight Operations Coordinator

Oregon Department of Transportation

ODOT UAS Program Overview

- Started in 2016 with 1 UAS and 2 pilots
- Currently 15 UAS and 25 pilots
- Disciplines
  - Survey + Engineering
  - Communication
  - Wireless Communications
  - Region 3 Construction/Maintenance
  - Region 4 Survey


OREGON
DEPARTMENT OF
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Oregon Department of Transportation

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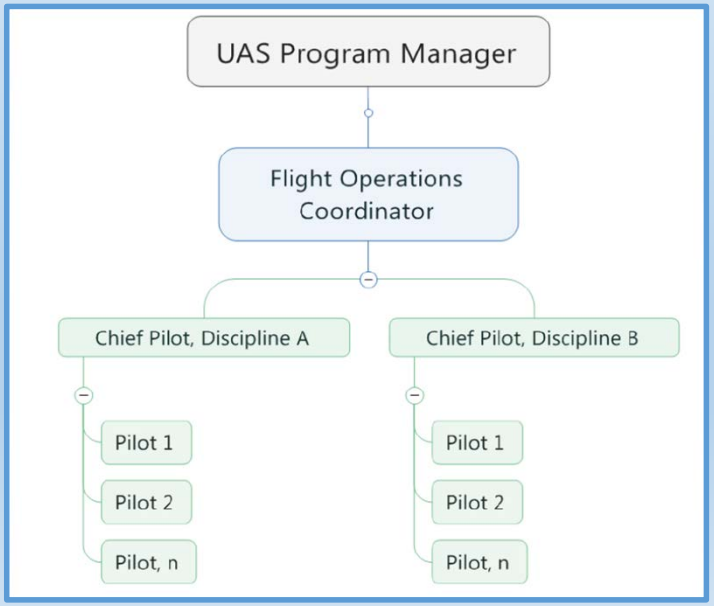
503-302-9390

UNMANNED AIRCRAFT SYSTEMS (UAS)

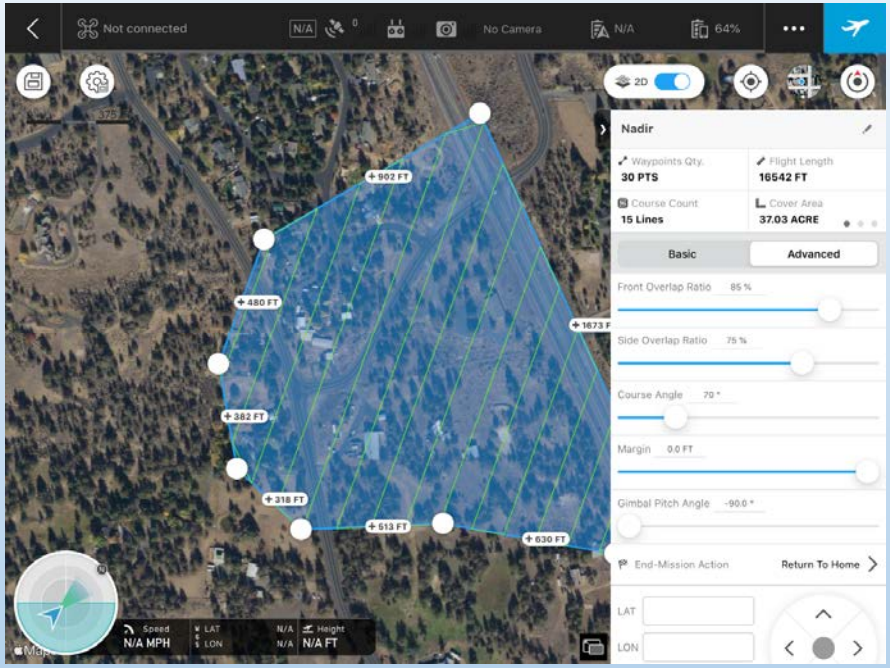
Operations Manual

August 2021

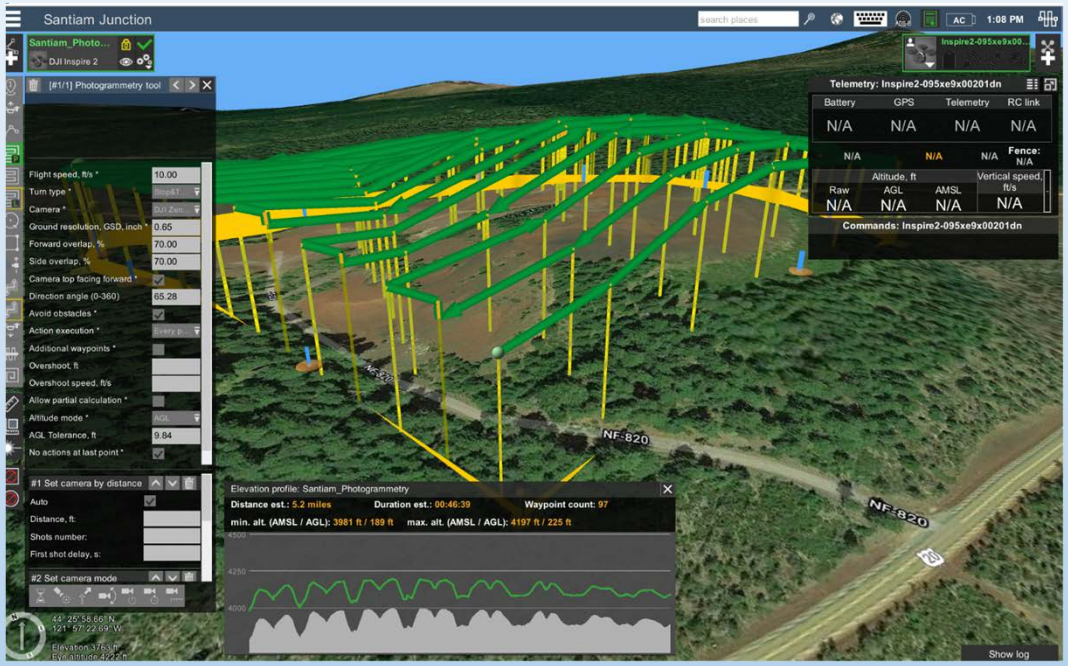


Equipment

Collection Software



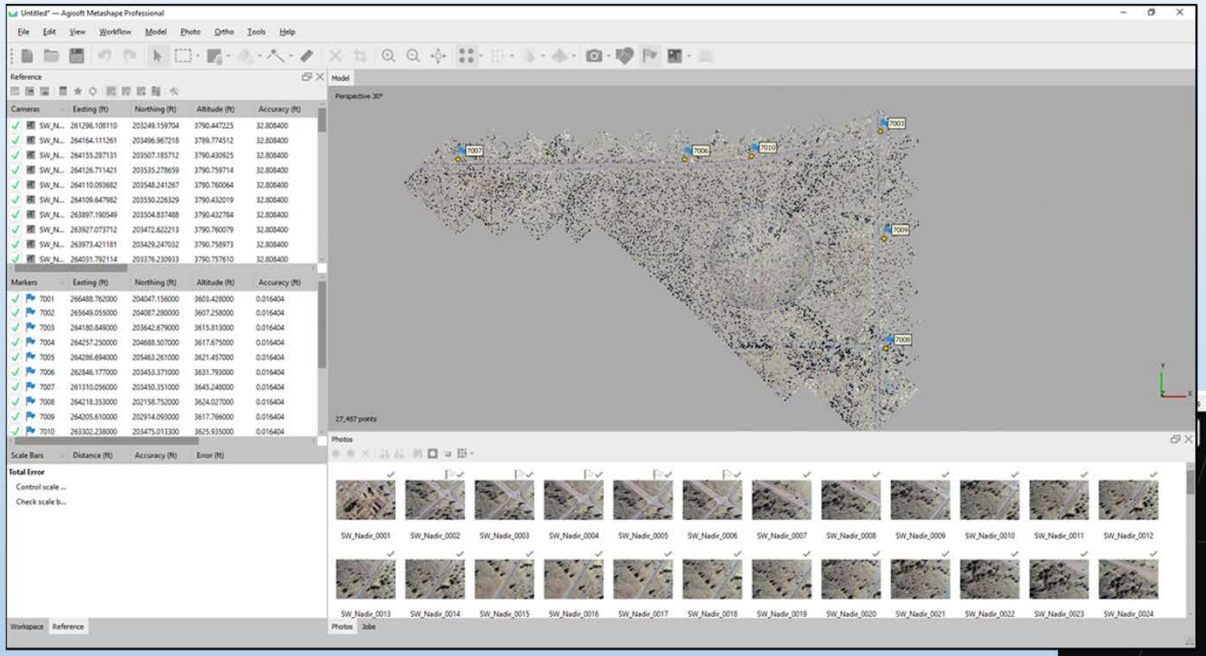
DJI Groundstation Pro – iPad only
DJI Pilot – Android/Crystal Sky



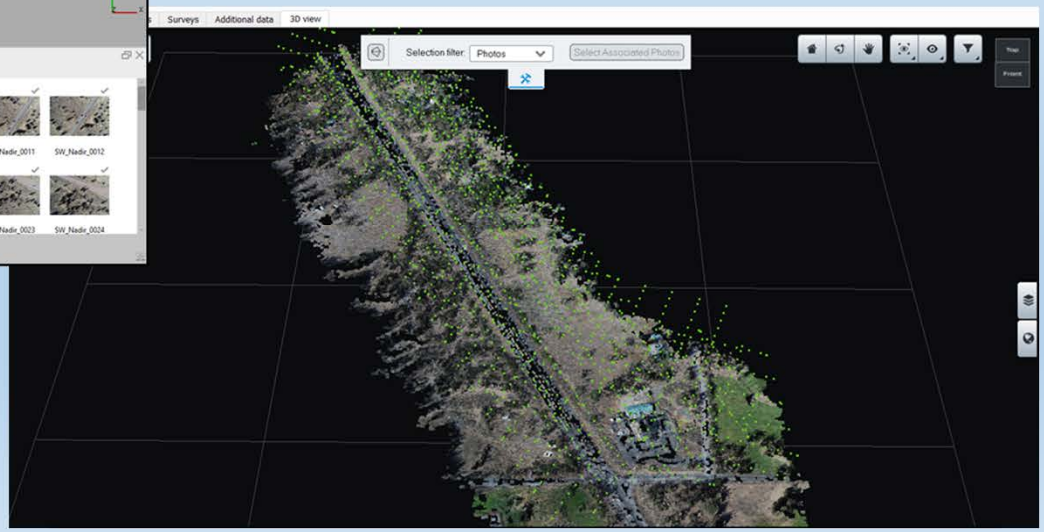
UgCS - Windows

Processing Software

Agisoft Metashape



Bentley ContextCapture



Best Practices and Considerations

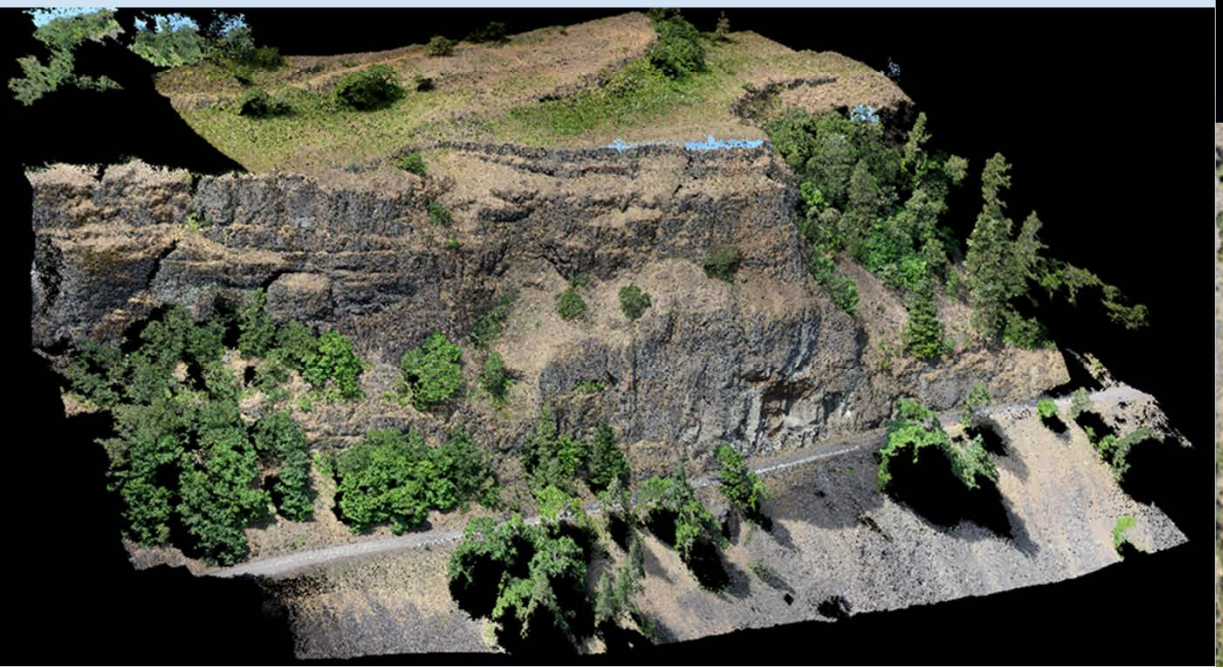
Planning

- Area of Interest
- Airspace
- Vegetation
- Traffic + Pedestrians
- Weather
- Deliverables
- Required accuracy

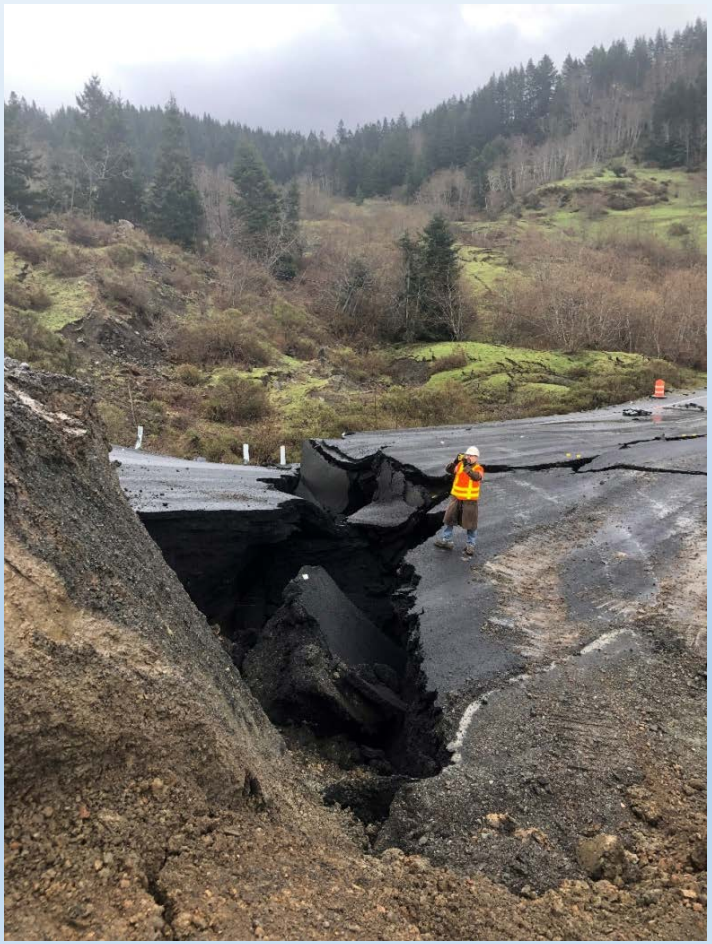
Collection

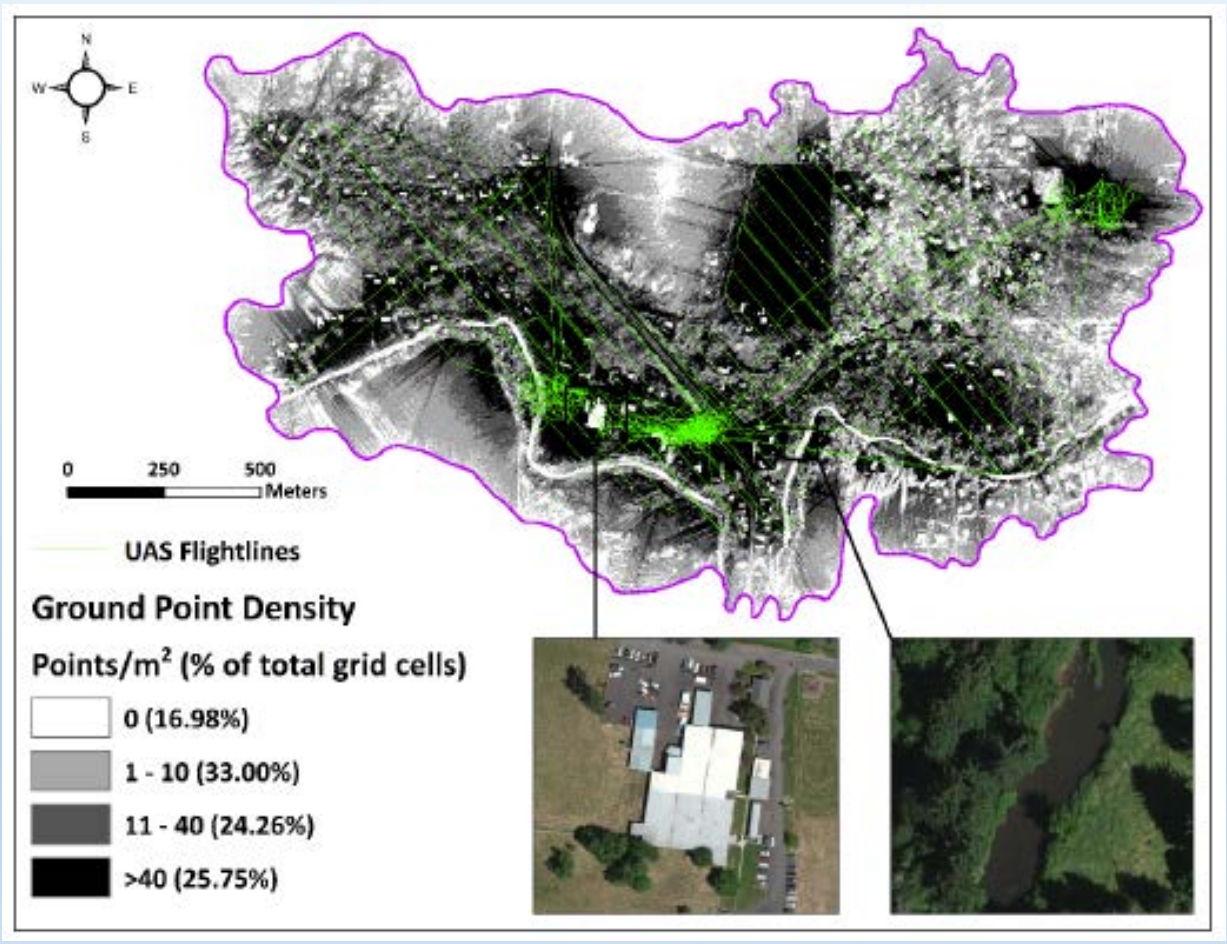
- Ground sample distance
- Altitude
- Overlap
- Flight lines
- Ground Control Points
- Battery management
- Lighting
- Focus

Rock falls
Landslides
Material Sources

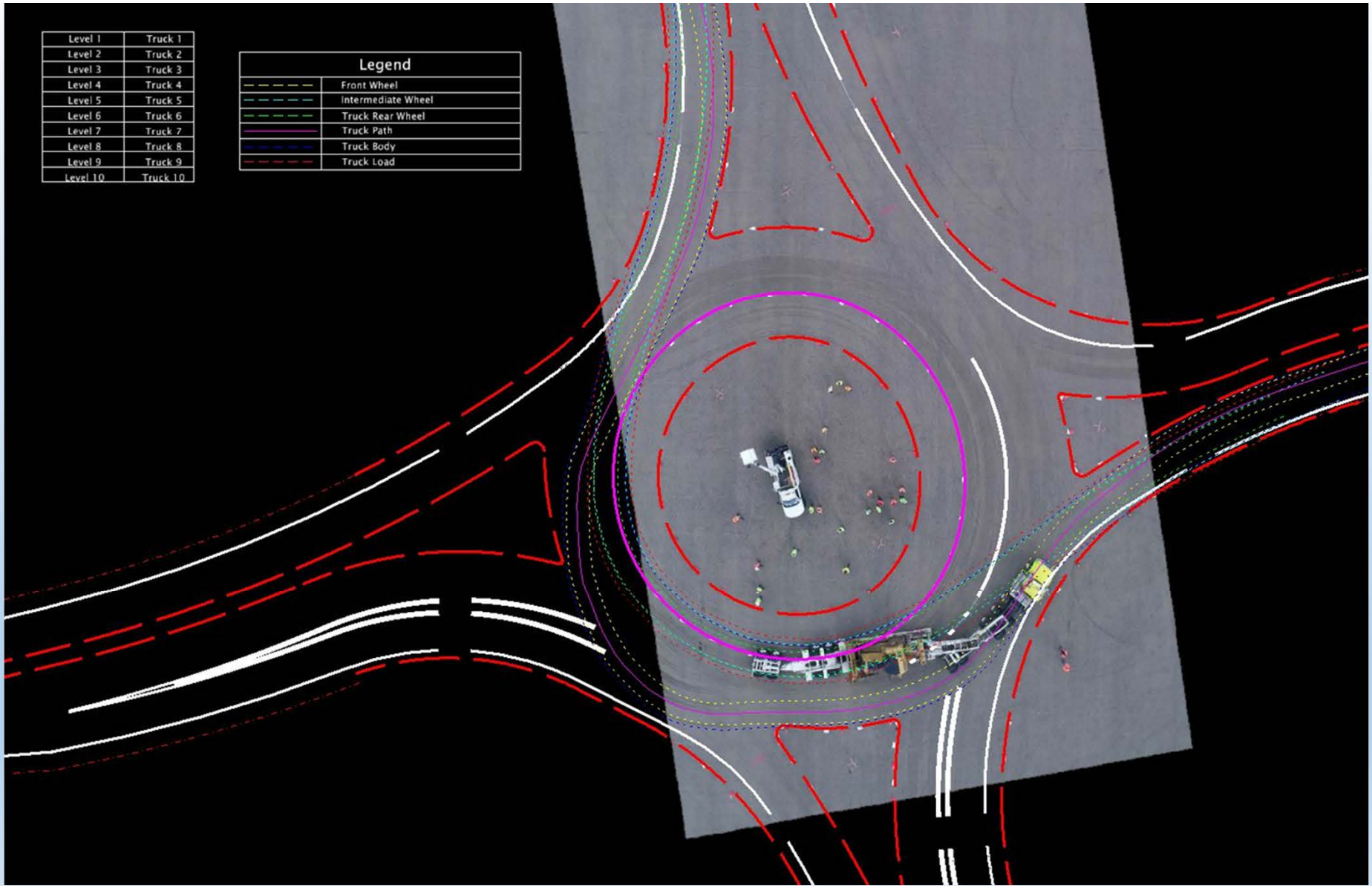


UAS Lidar - Landslides





Mixed Datasets


Level 1 Truck 1
Level 2 Truck 2
Level 3 Truck 3
Level 4 Truck 4
Level 5 Truck 5
Level 6 Truck 6
Level 7 Truck 7
Level 8 Truck 8
Level 9 Truck 9
Level 10 Truck 10
Legend
Front Wheel
Intermediate Wheel
Truck Rear Wheel
Truck Path
Truck Body
Truck Load

Project Visualizations

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