

## Remote Sensing Adoption within the Forestry Industry

### Practitioners Update on UAV and LiDAR

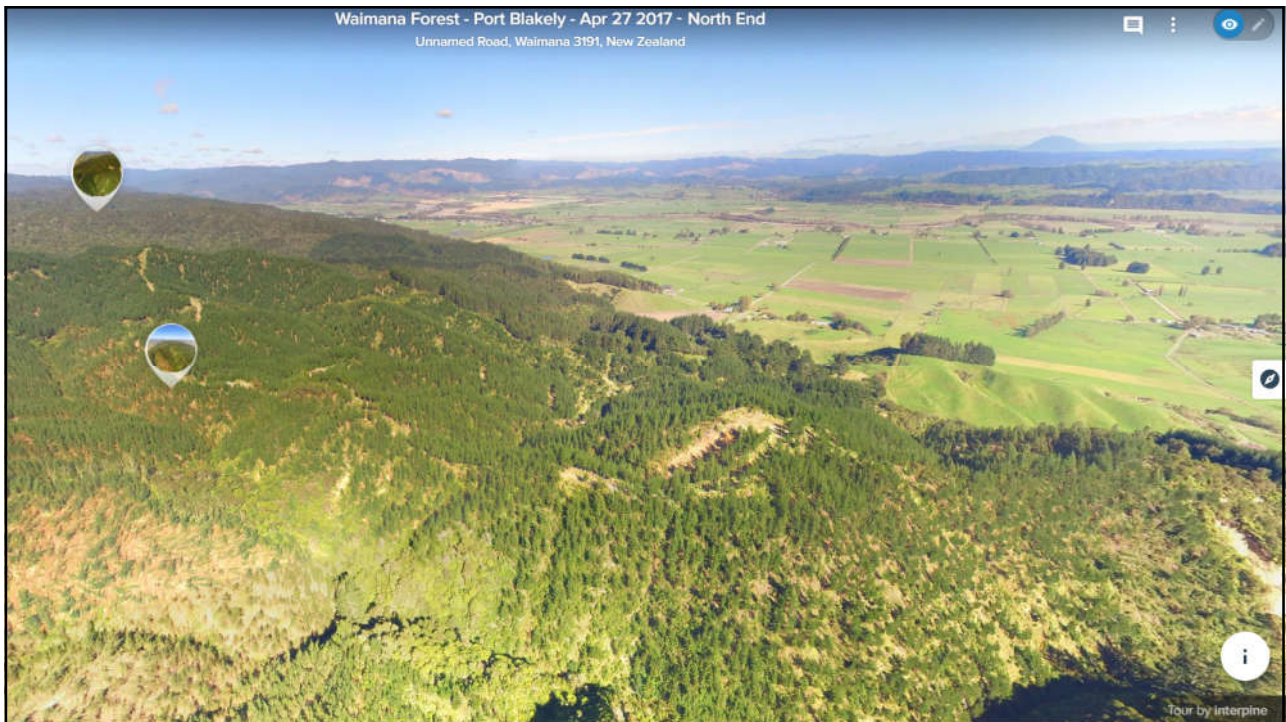




## Equipment Inspections



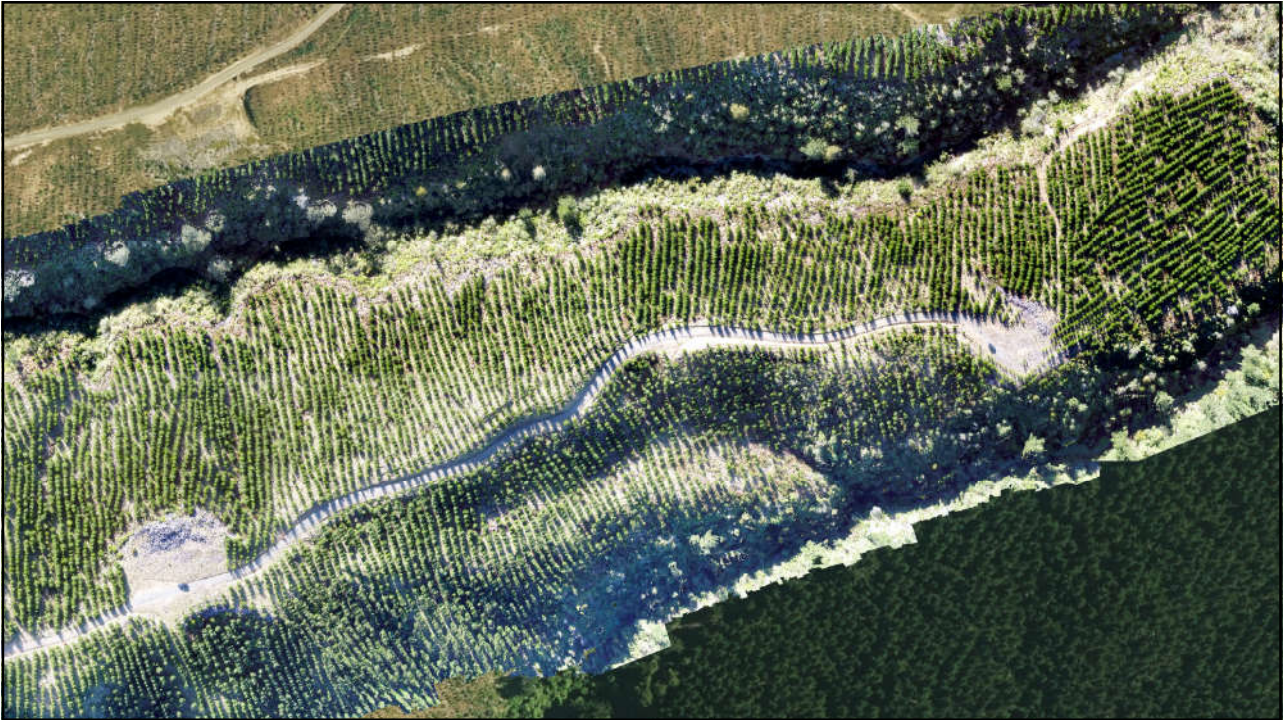




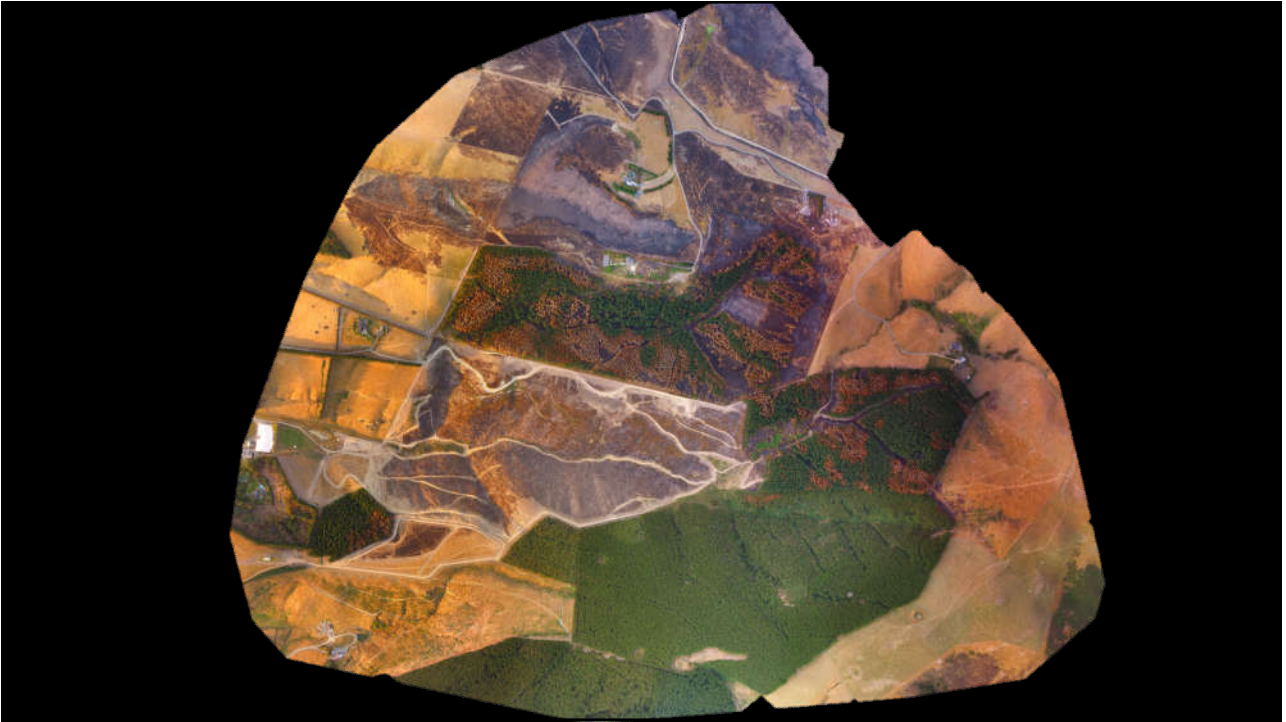
## Regular Monitoring



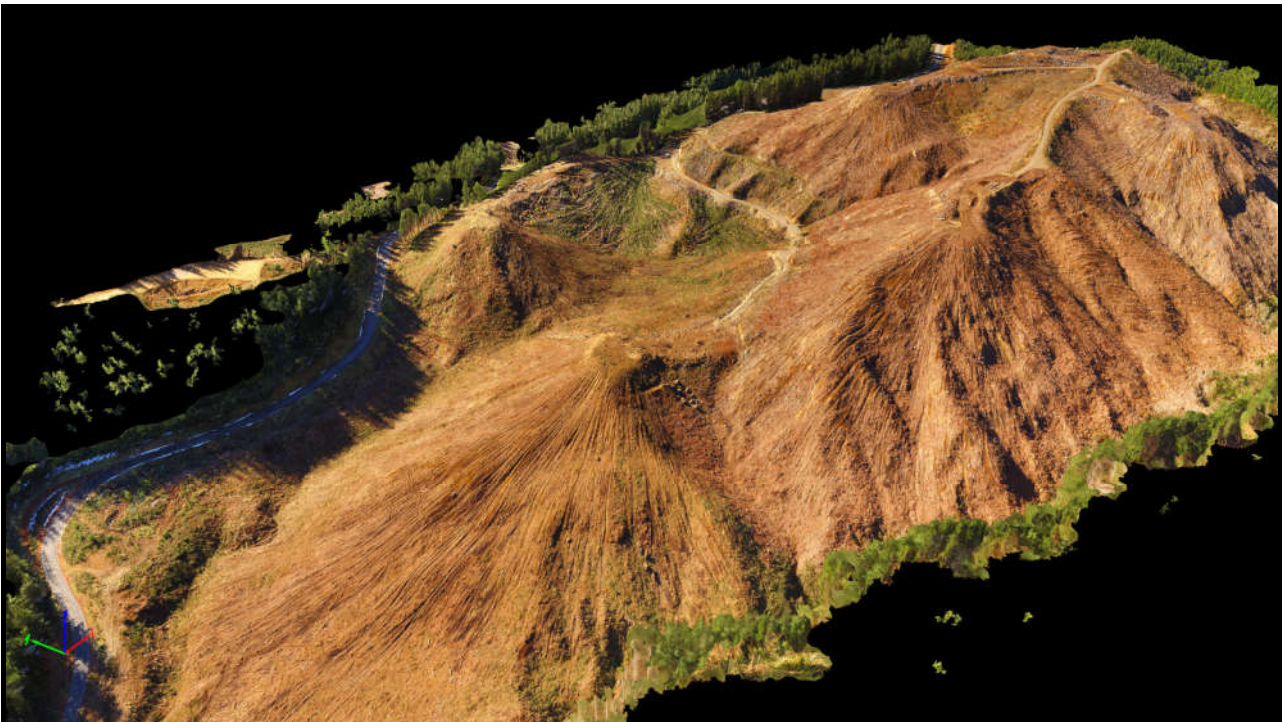




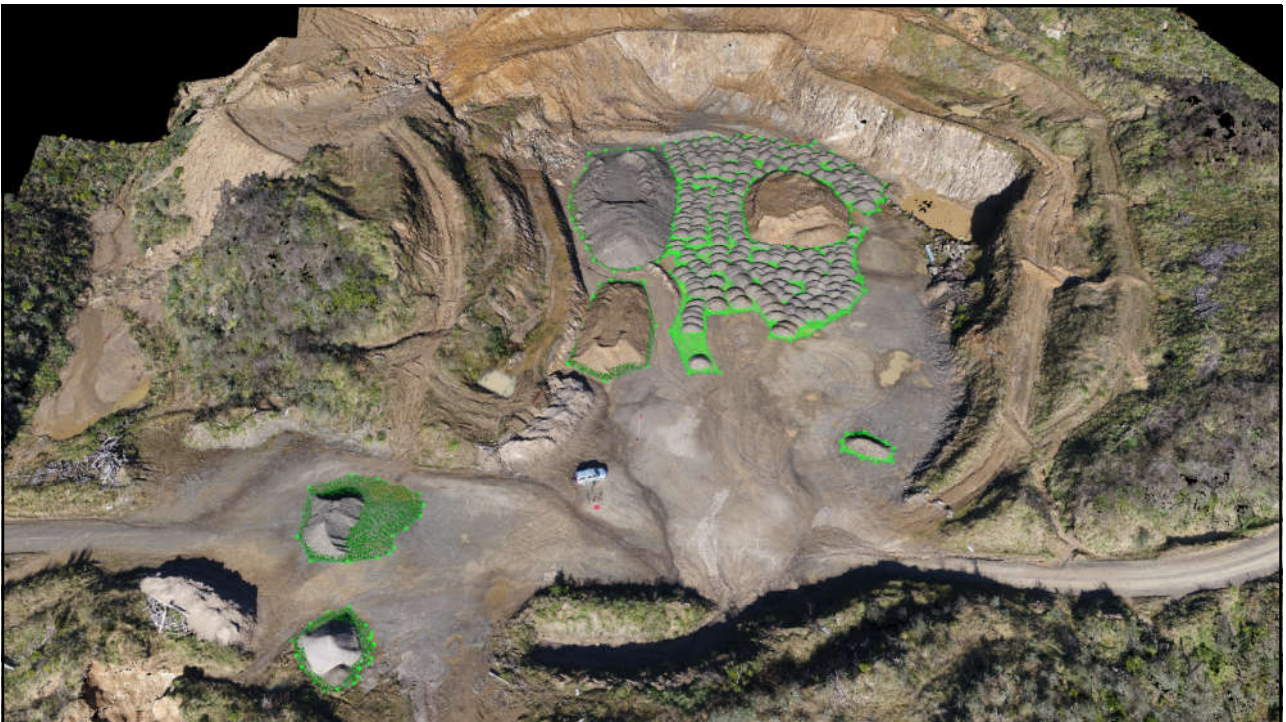
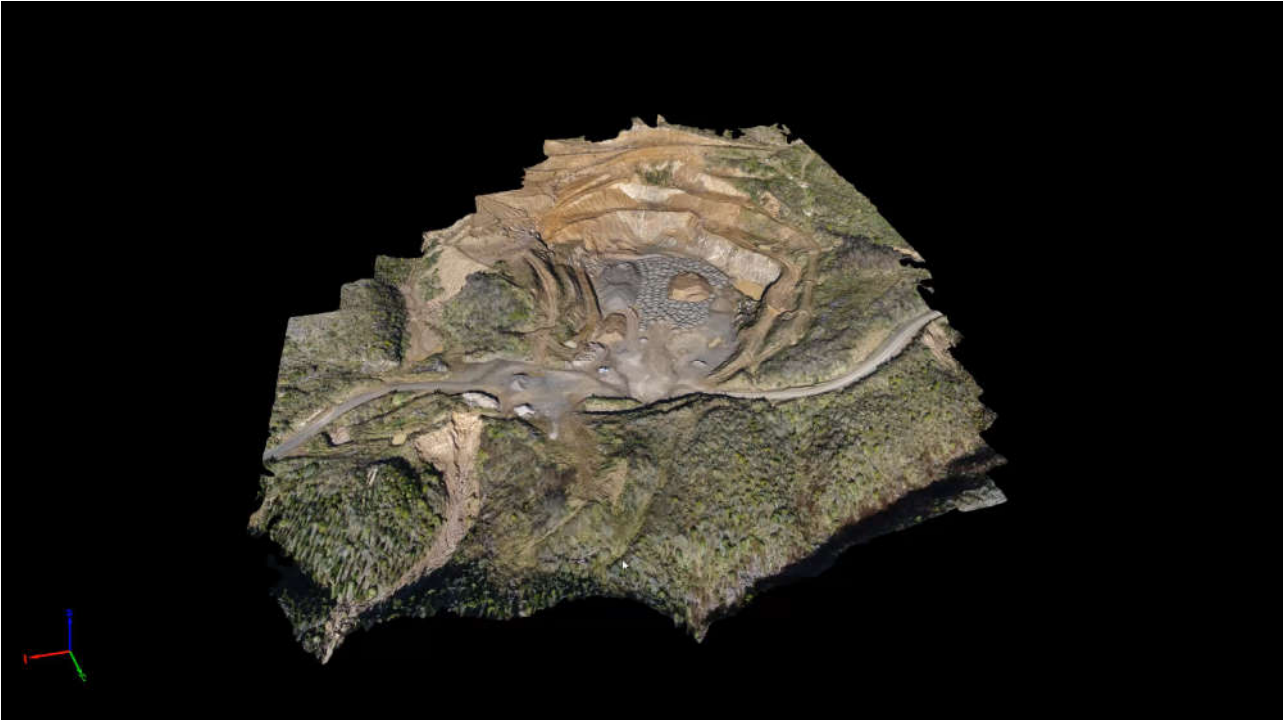




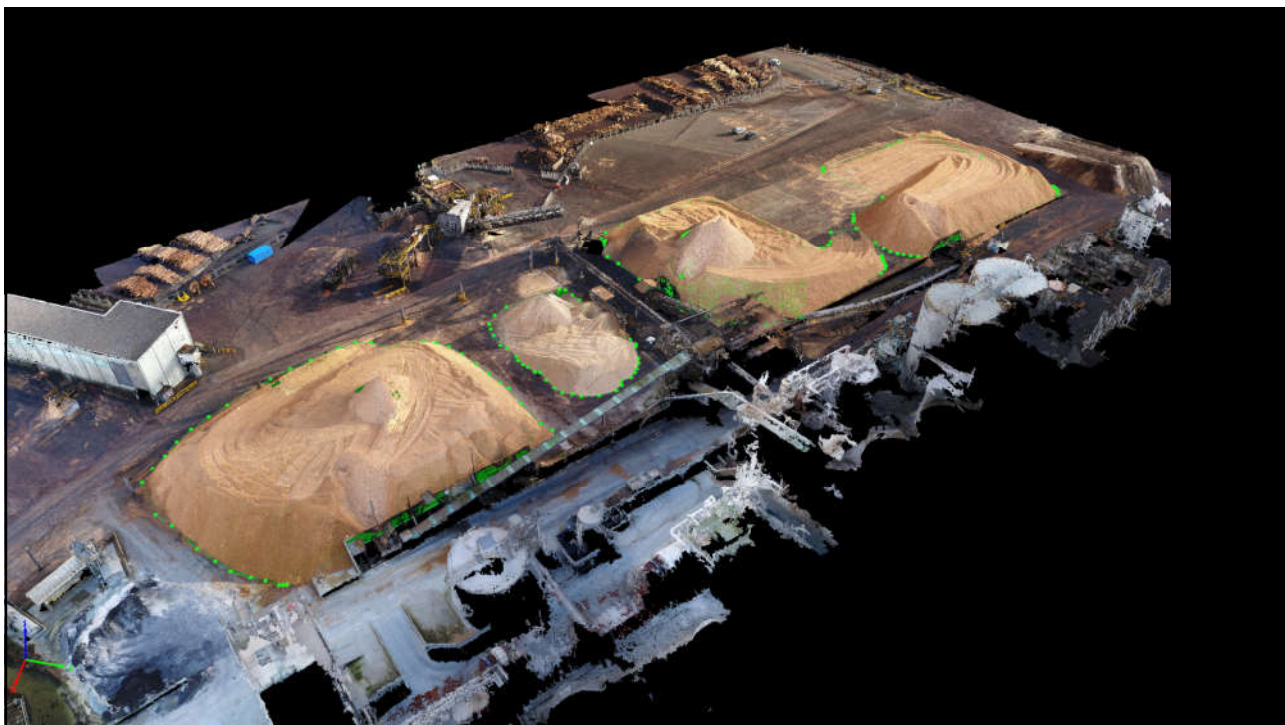
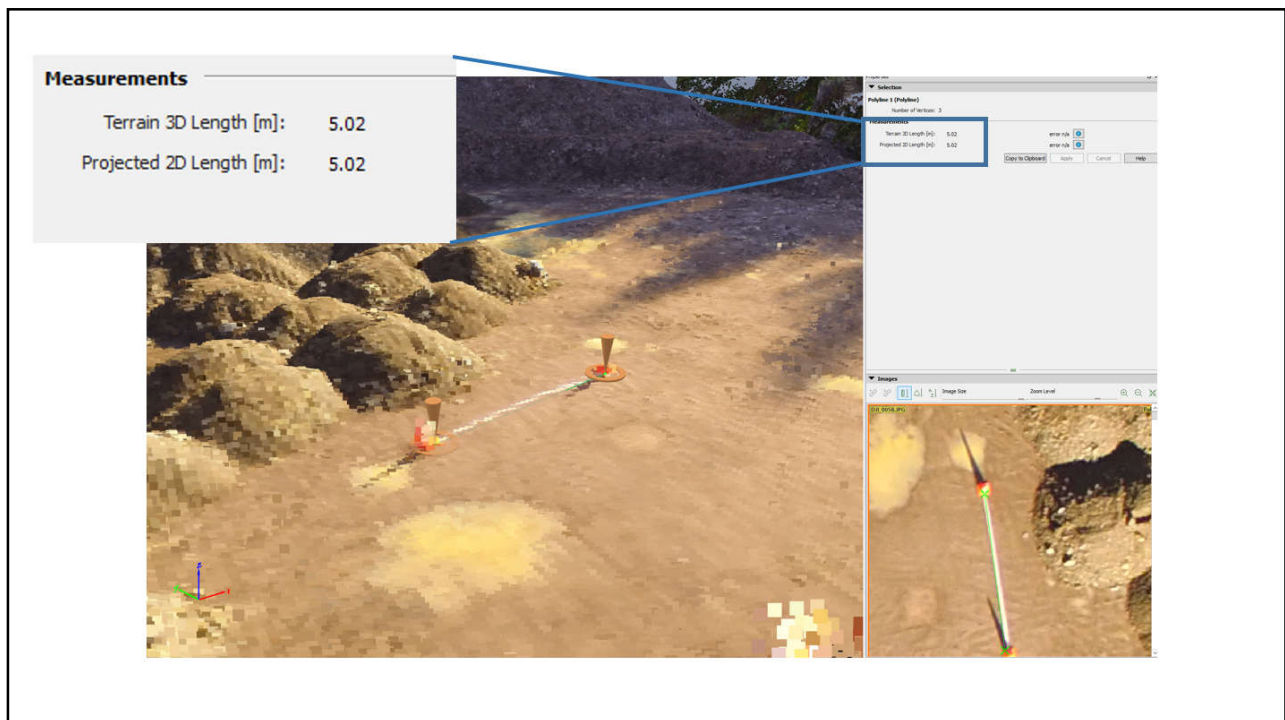




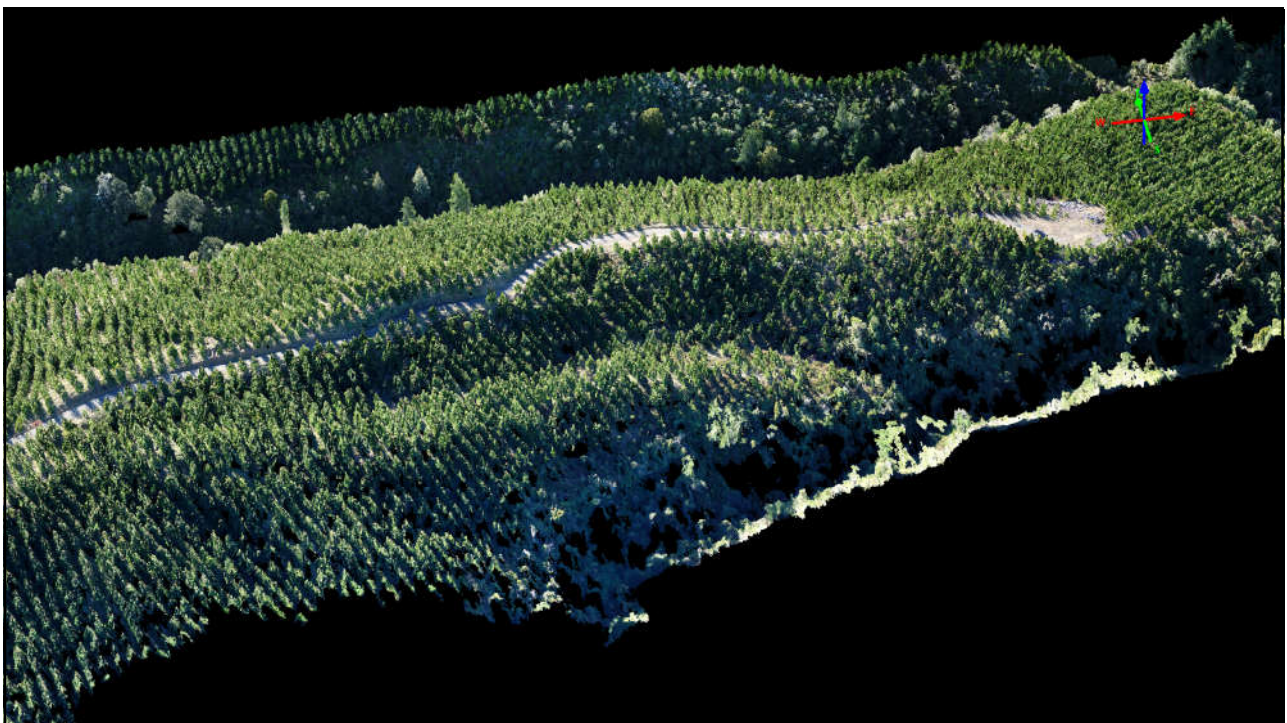
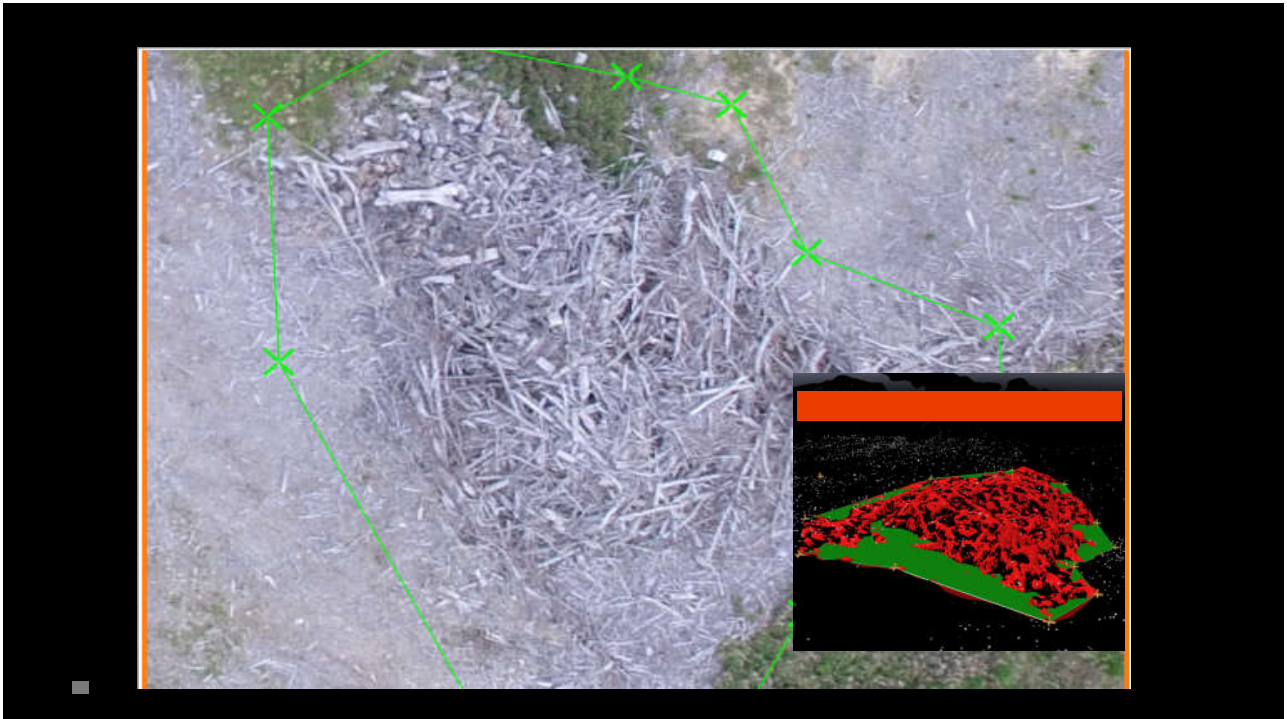




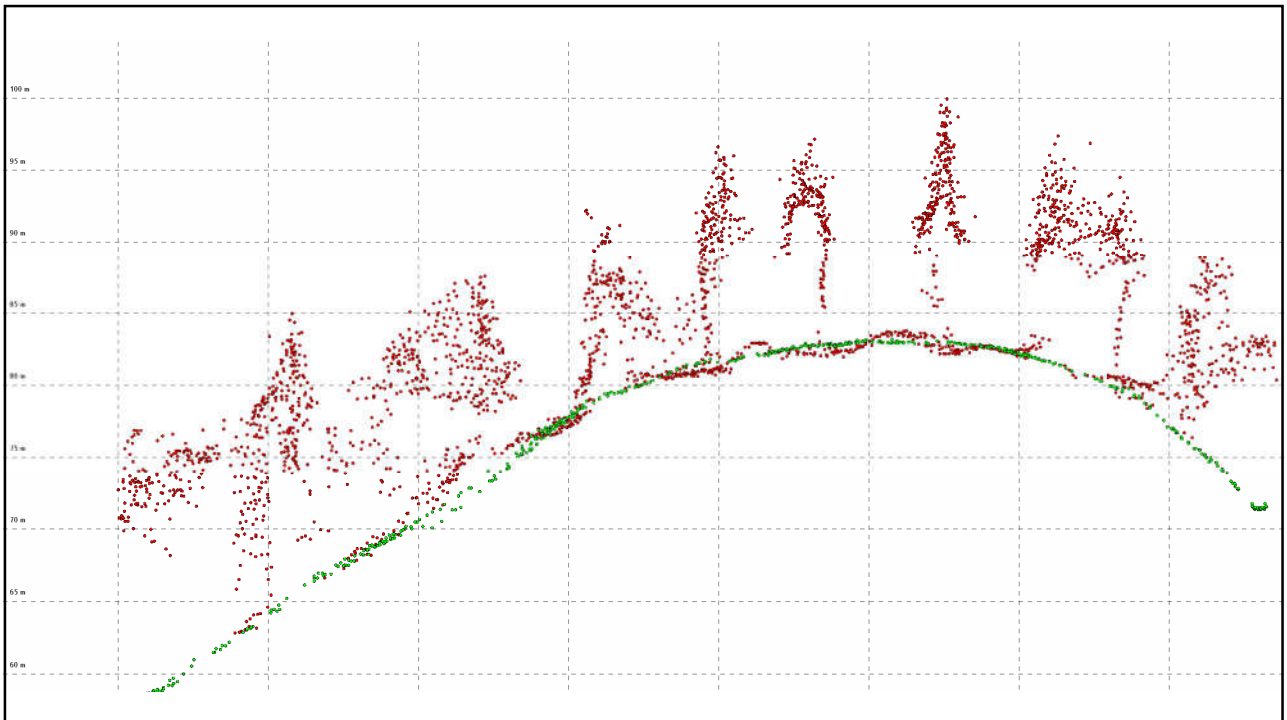
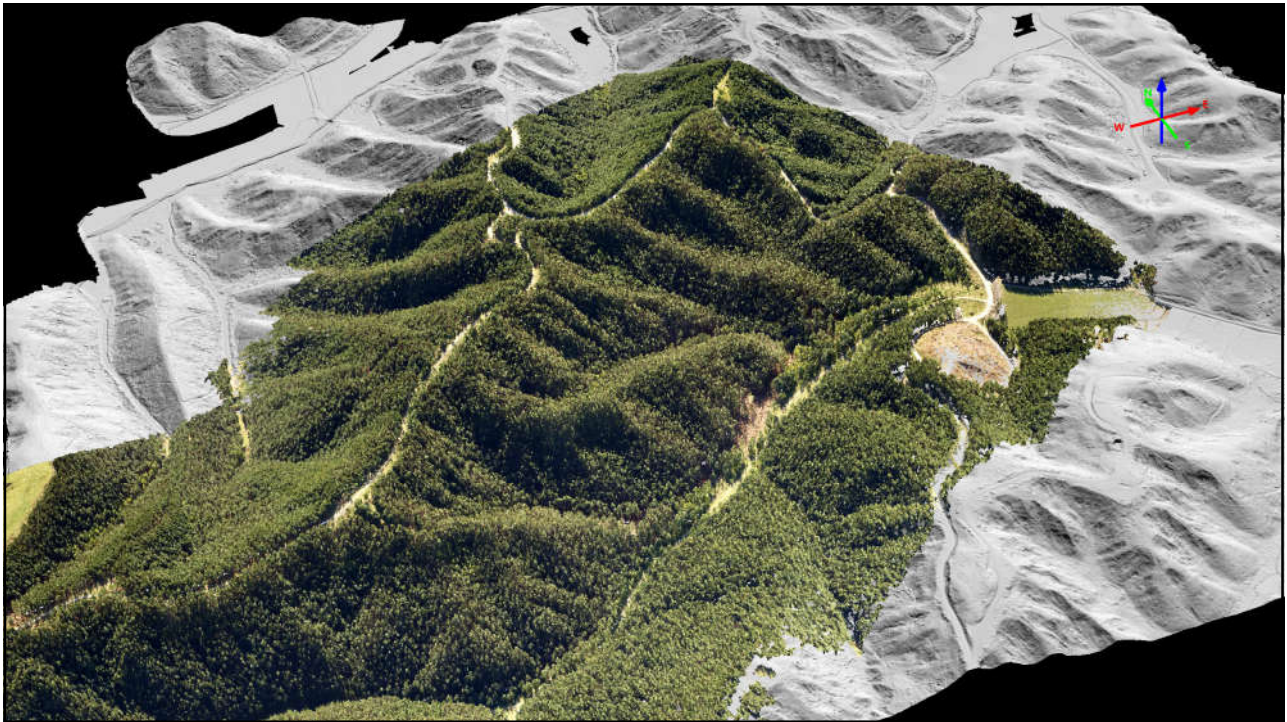




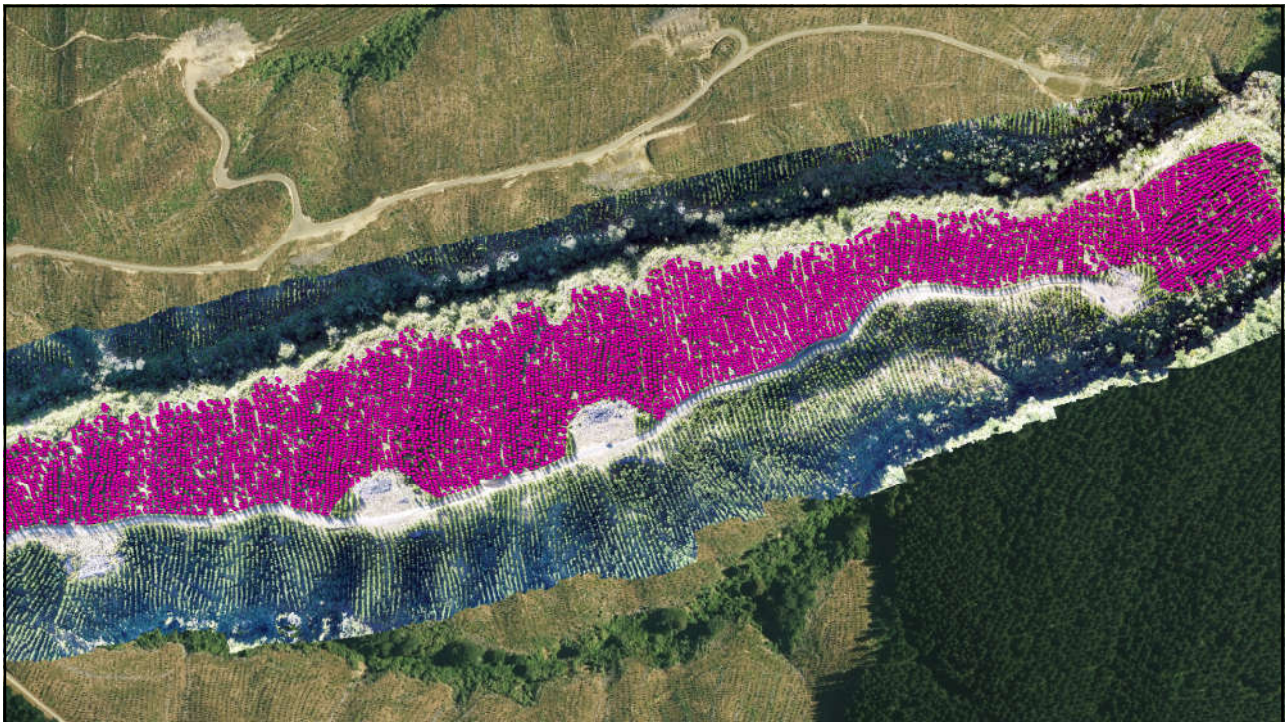
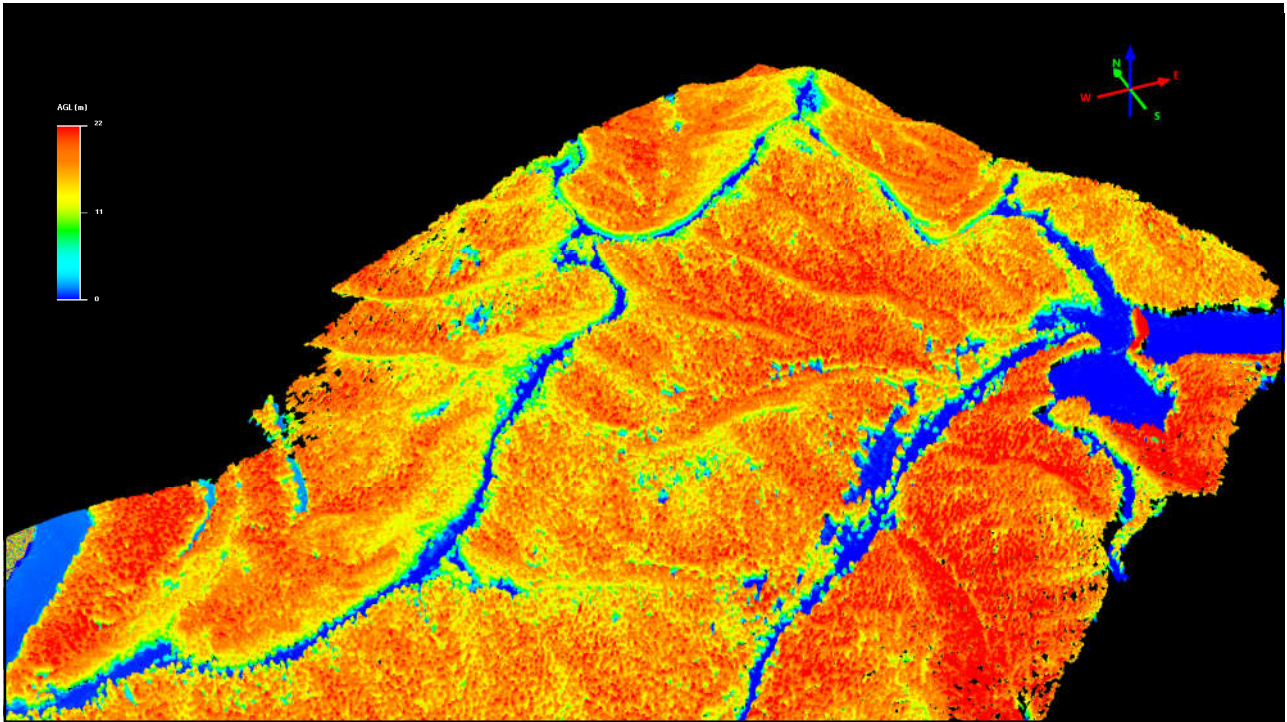




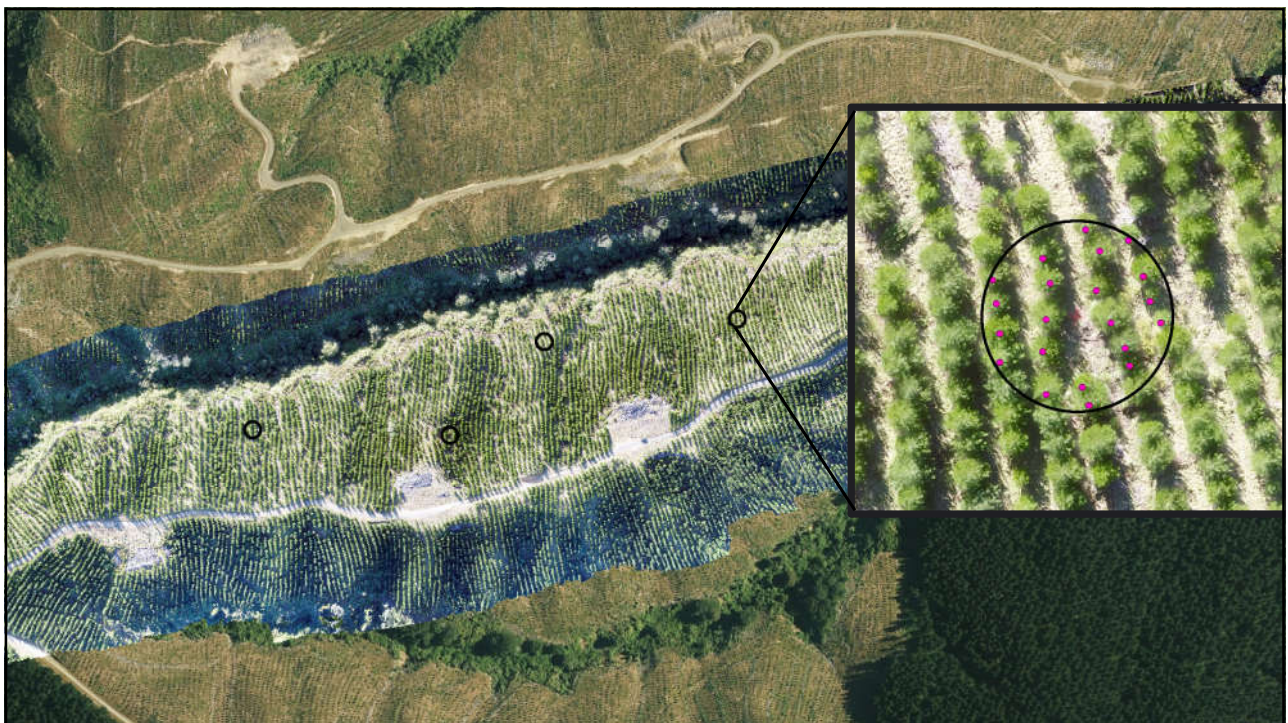
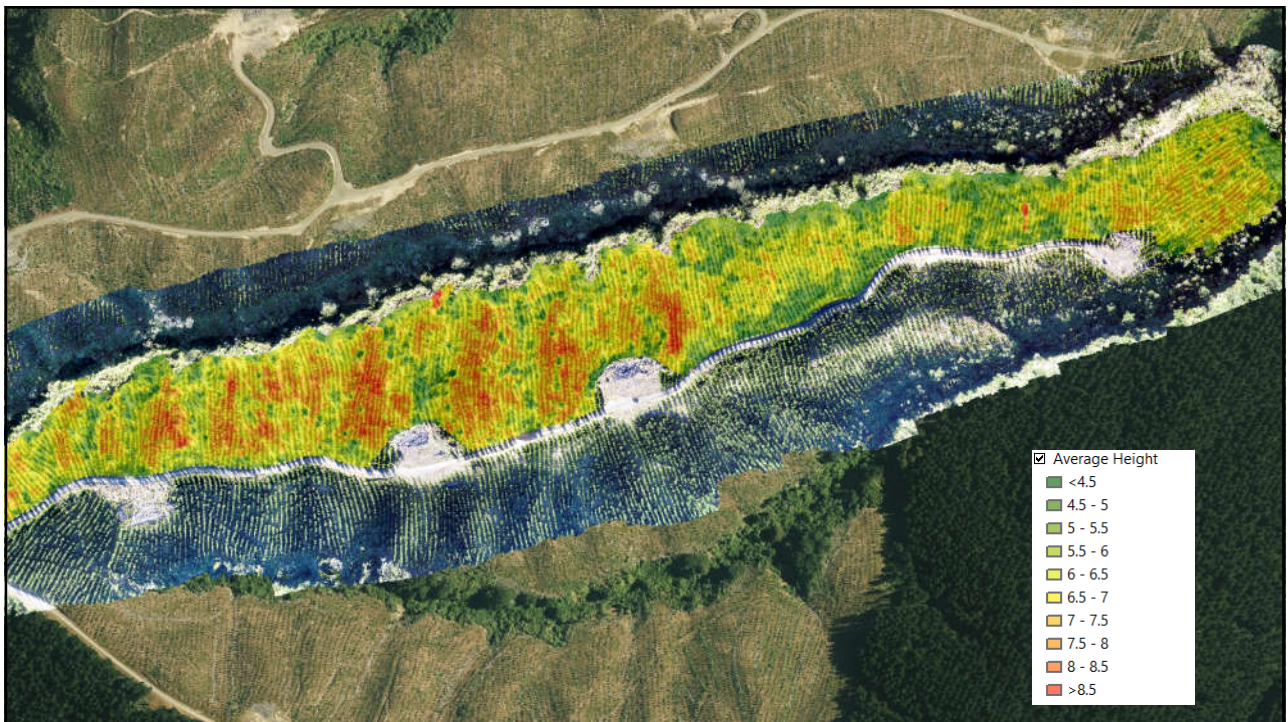




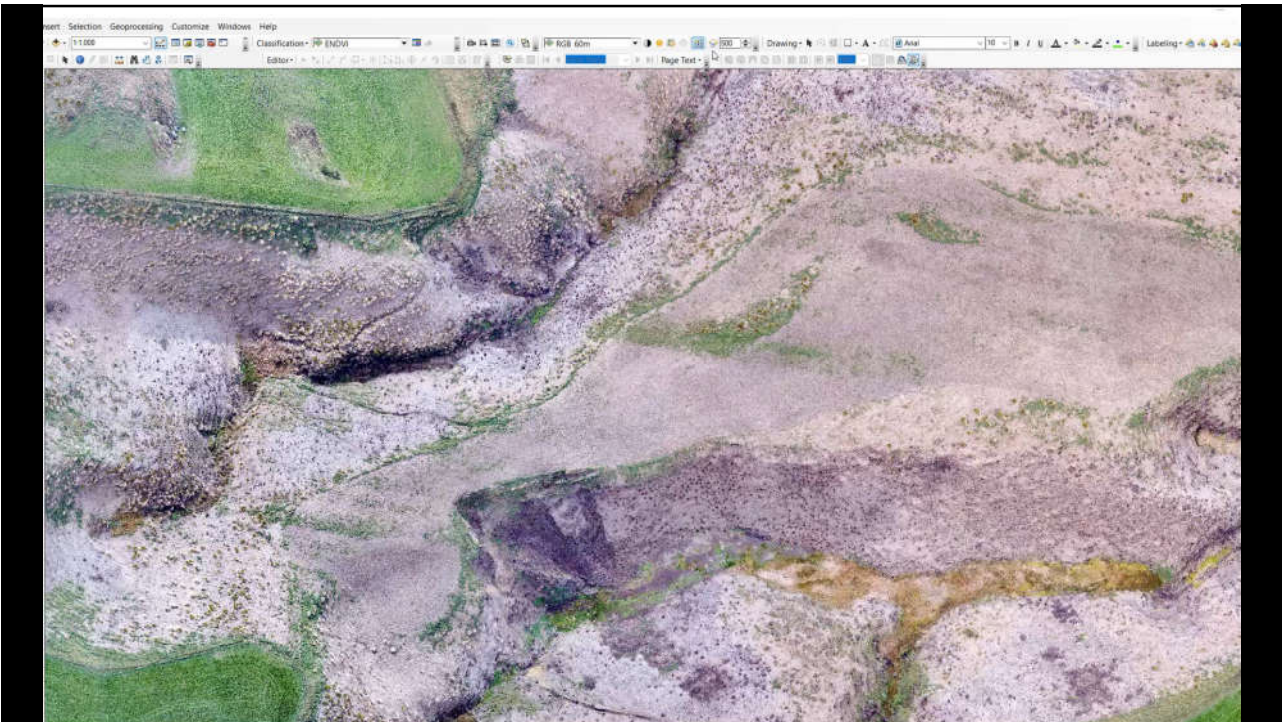








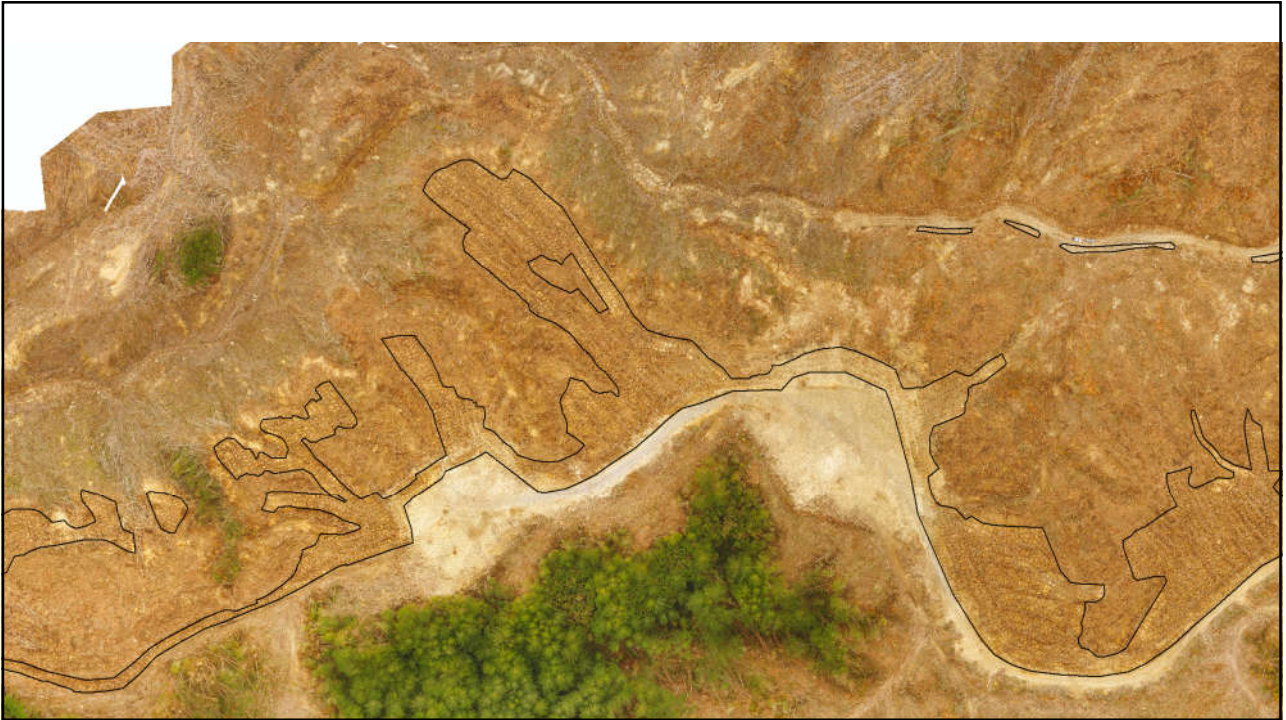










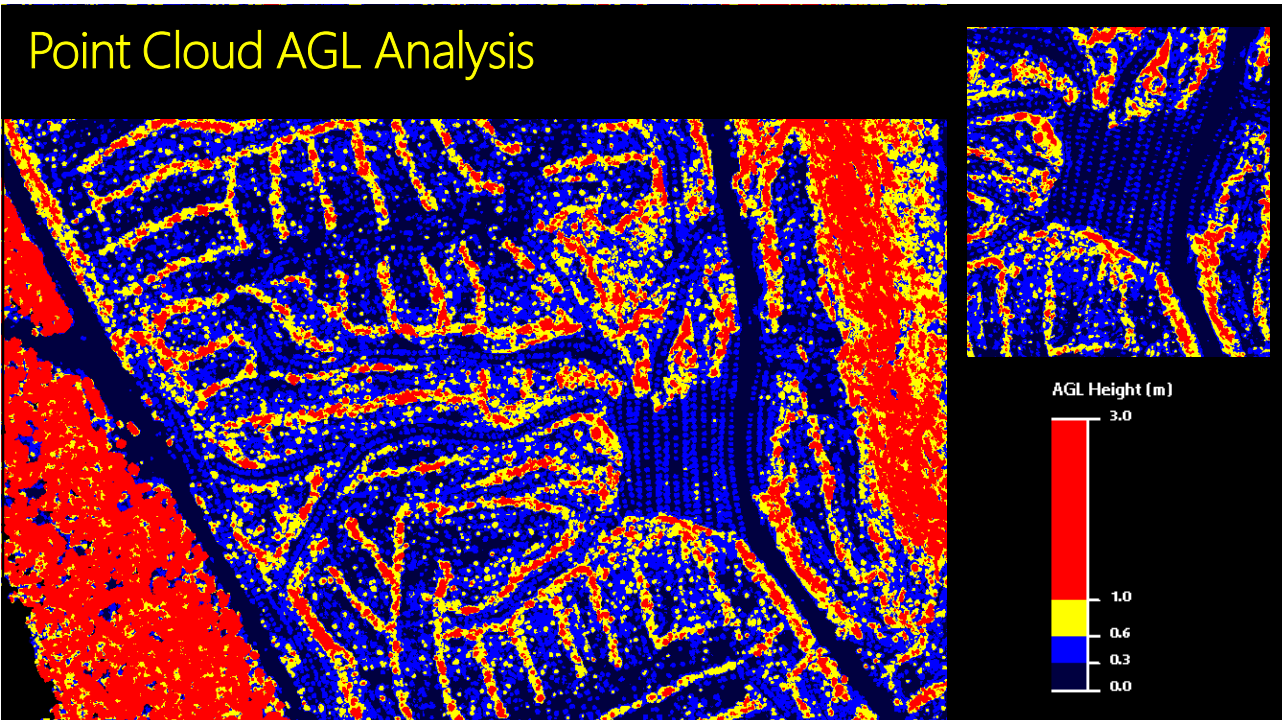




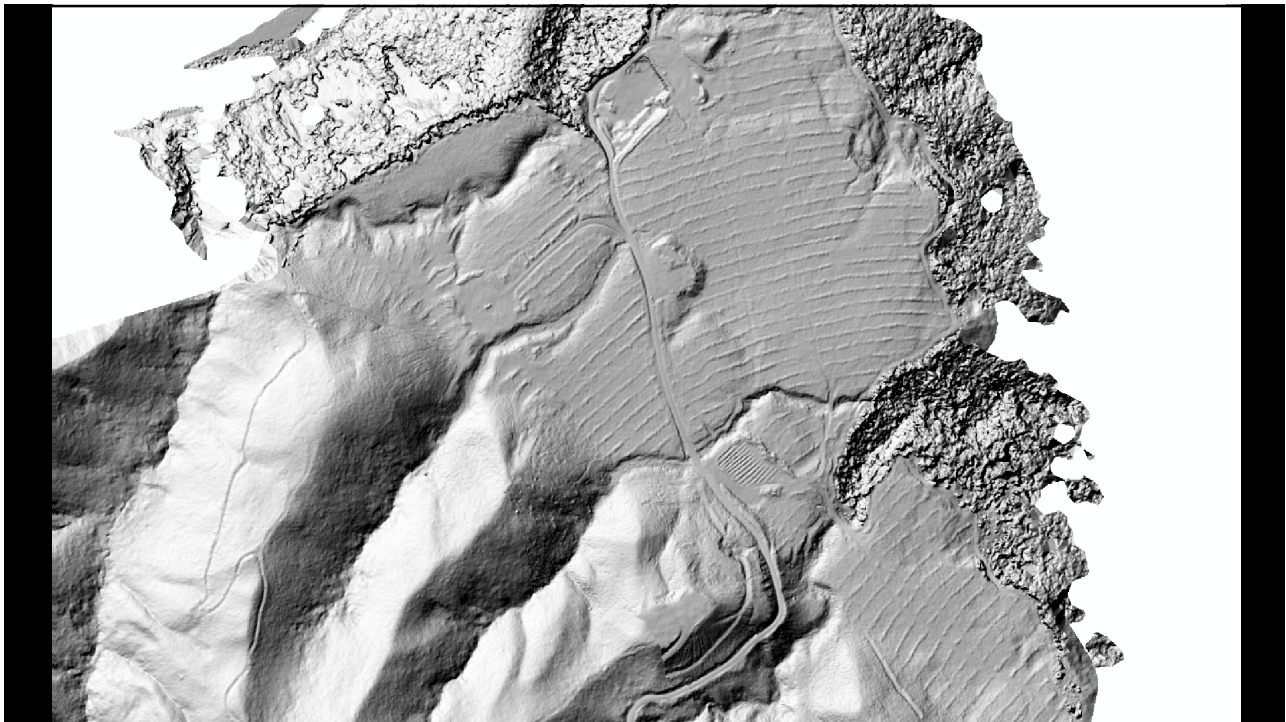
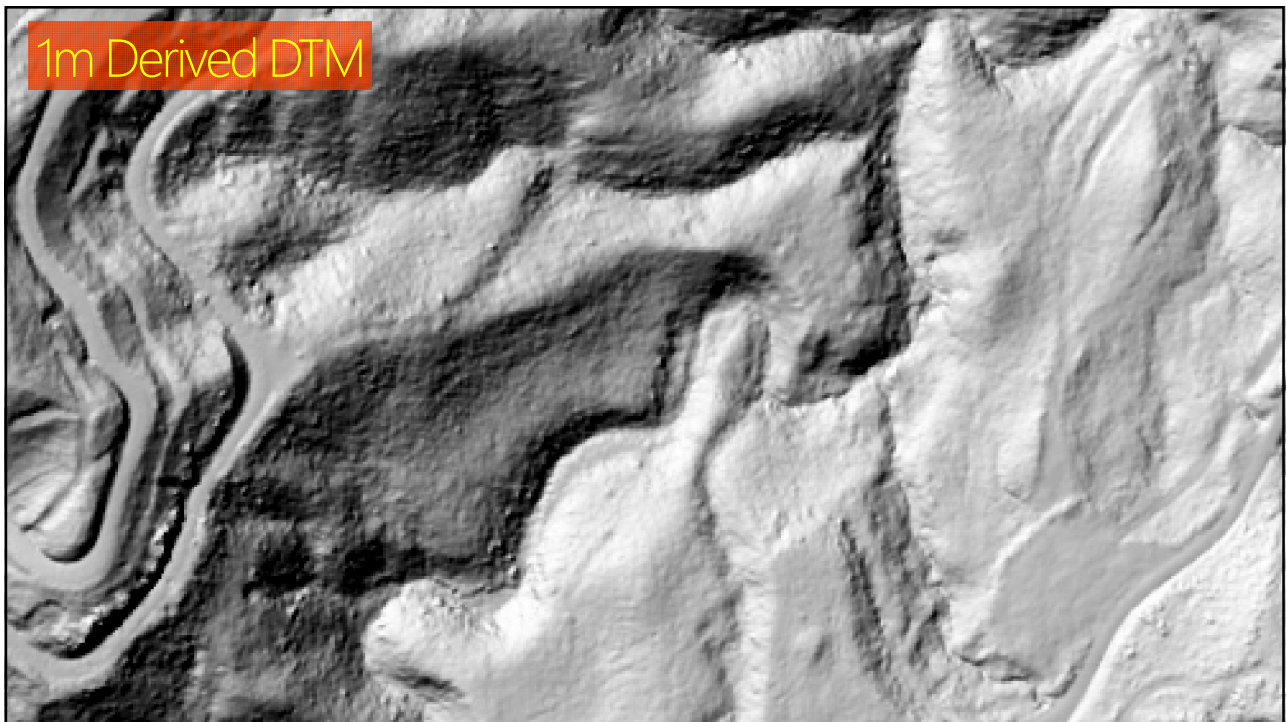
57 Spot Mounds



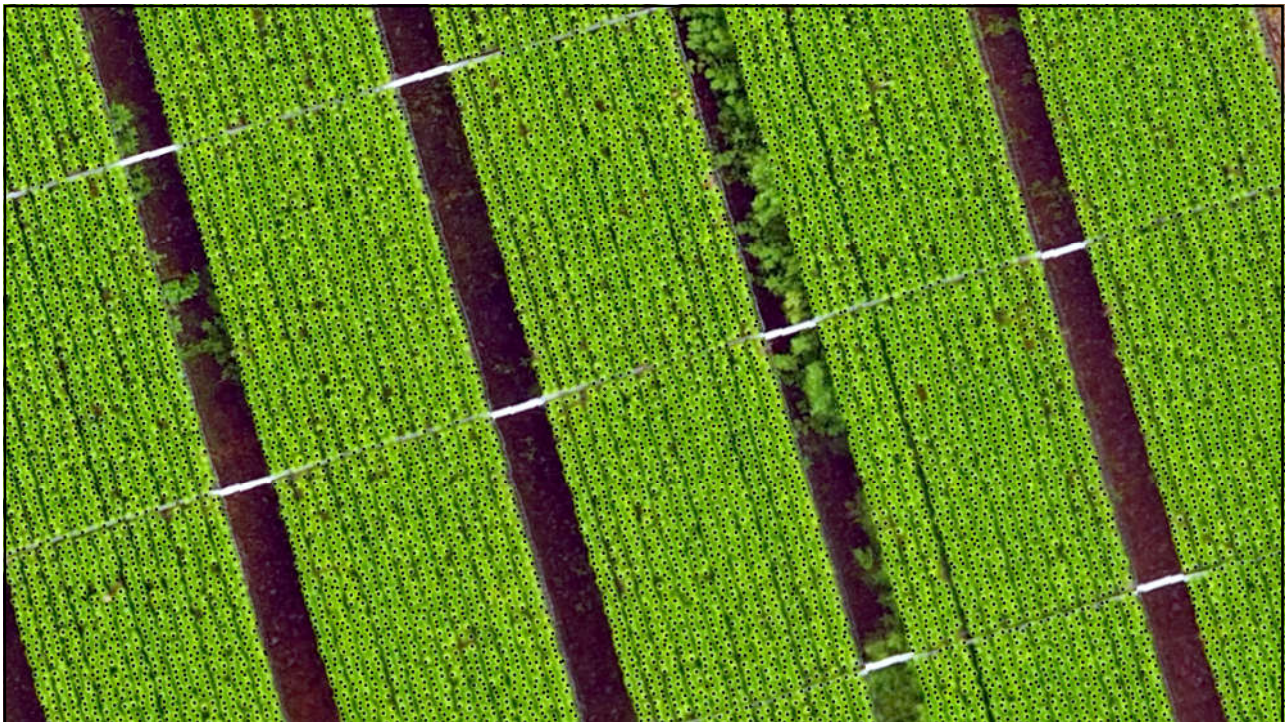
Point Cloud AGL Analysis



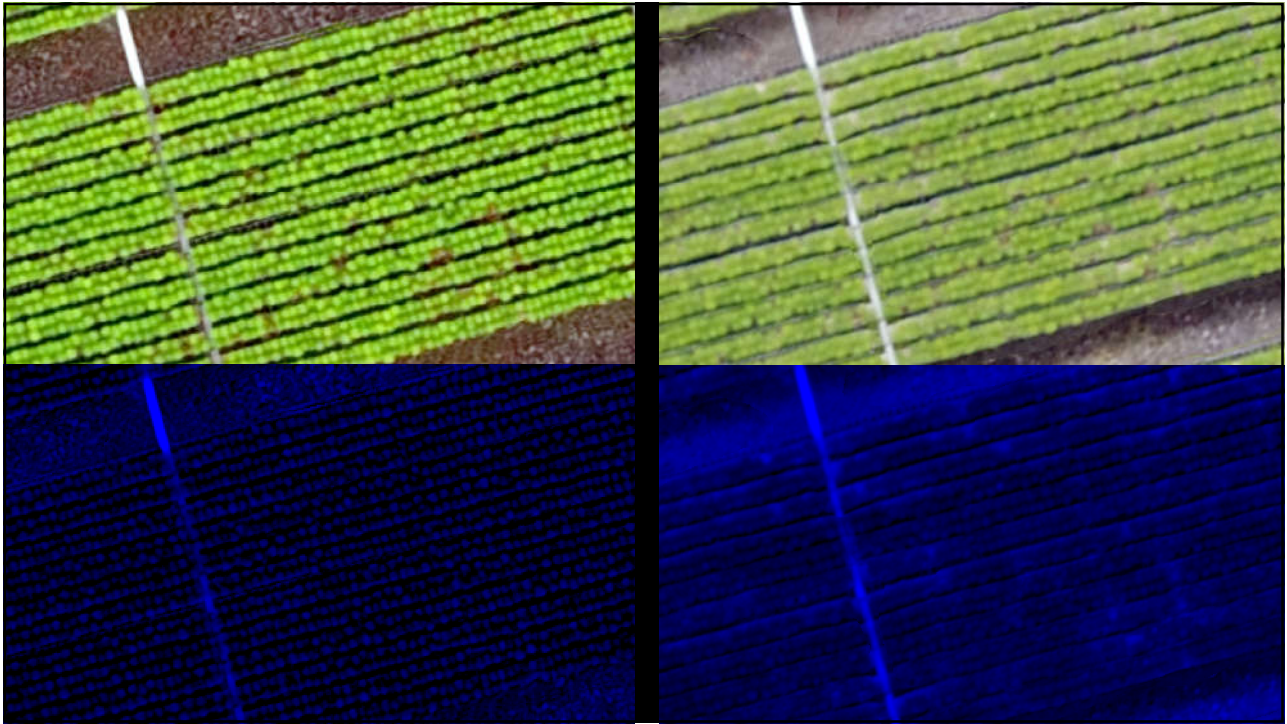
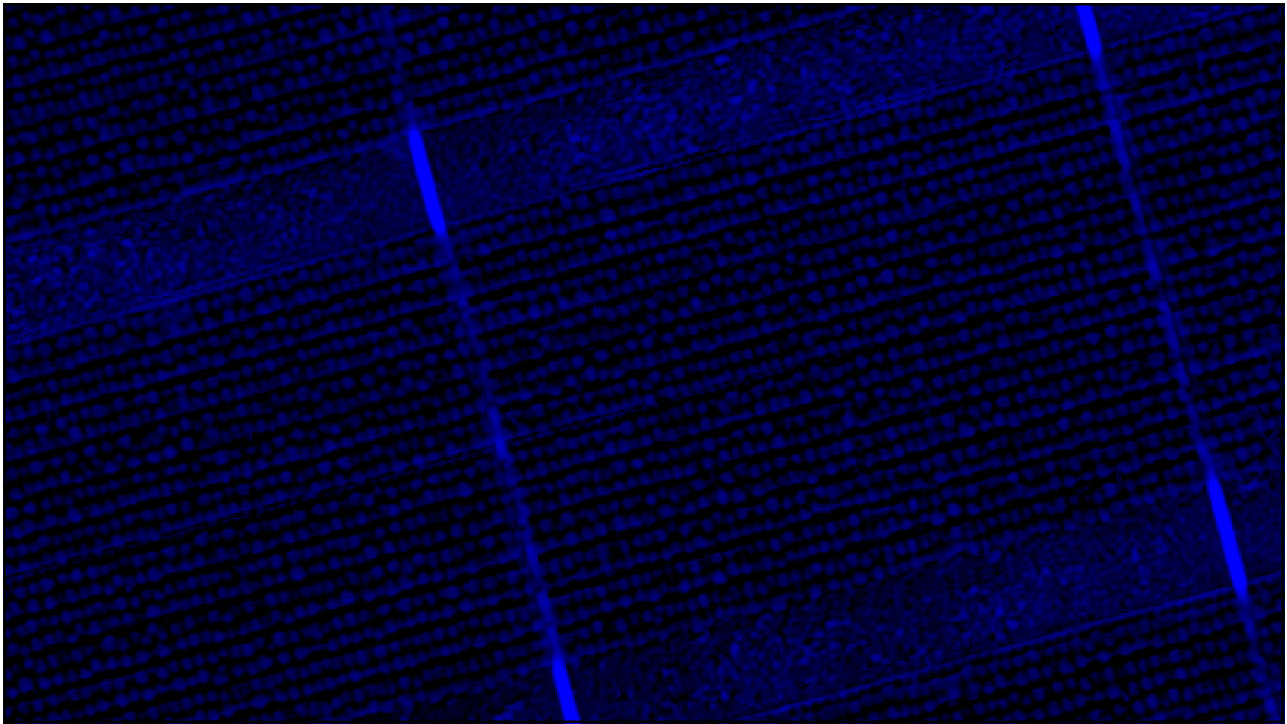








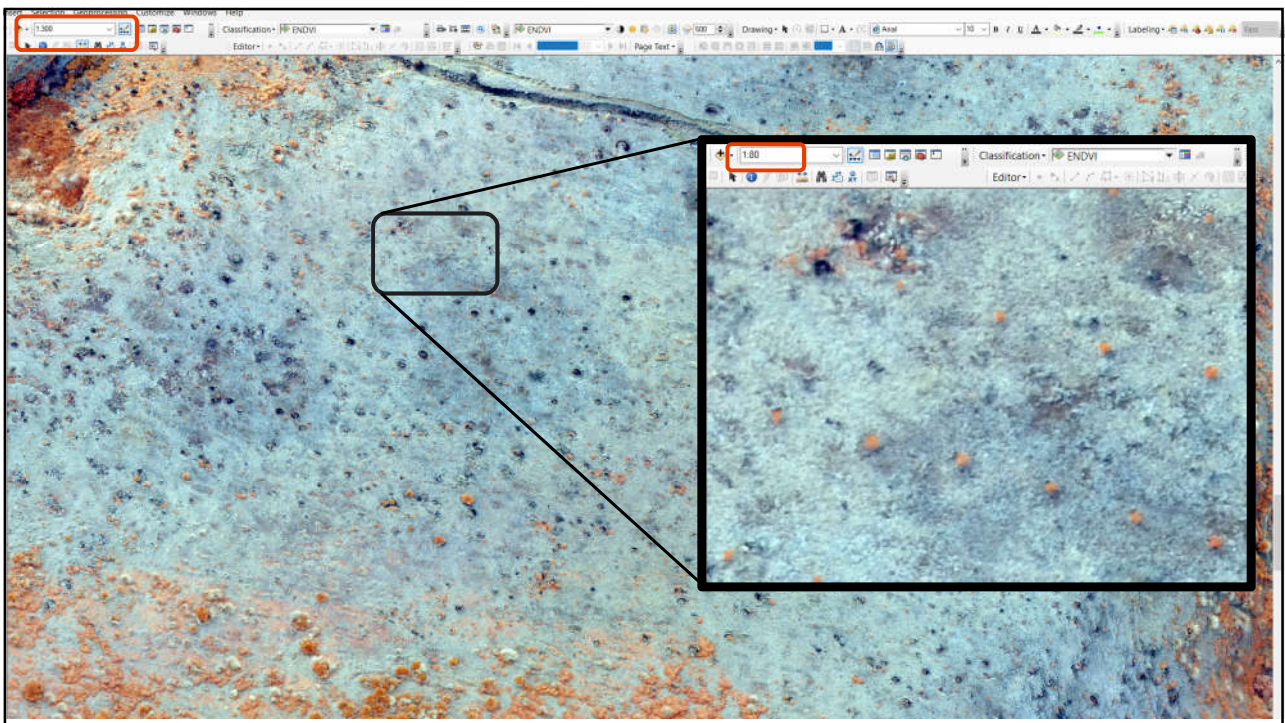
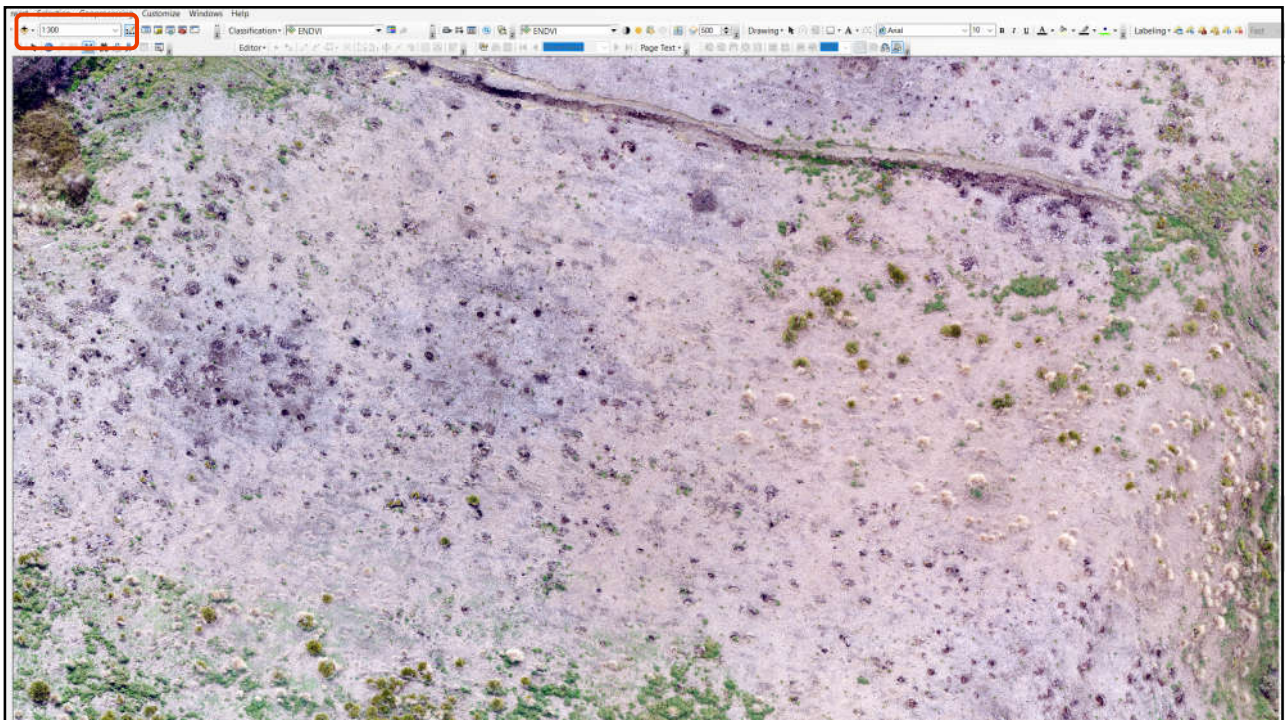




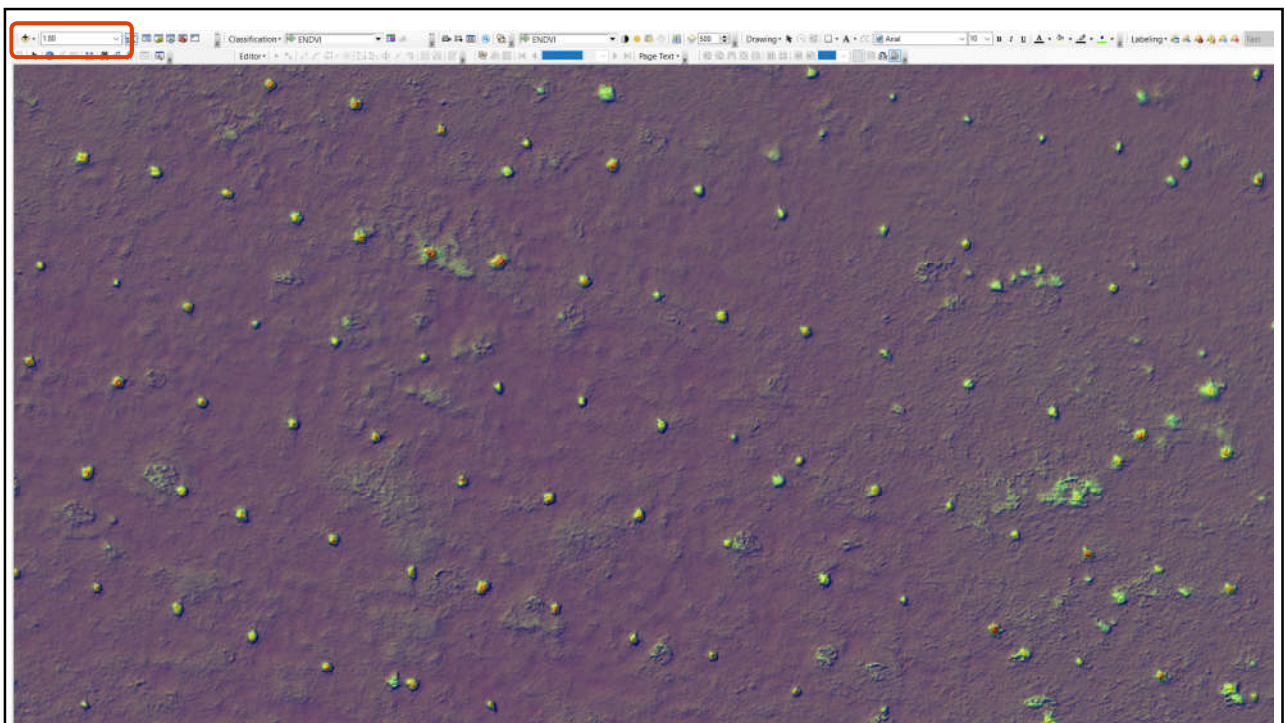
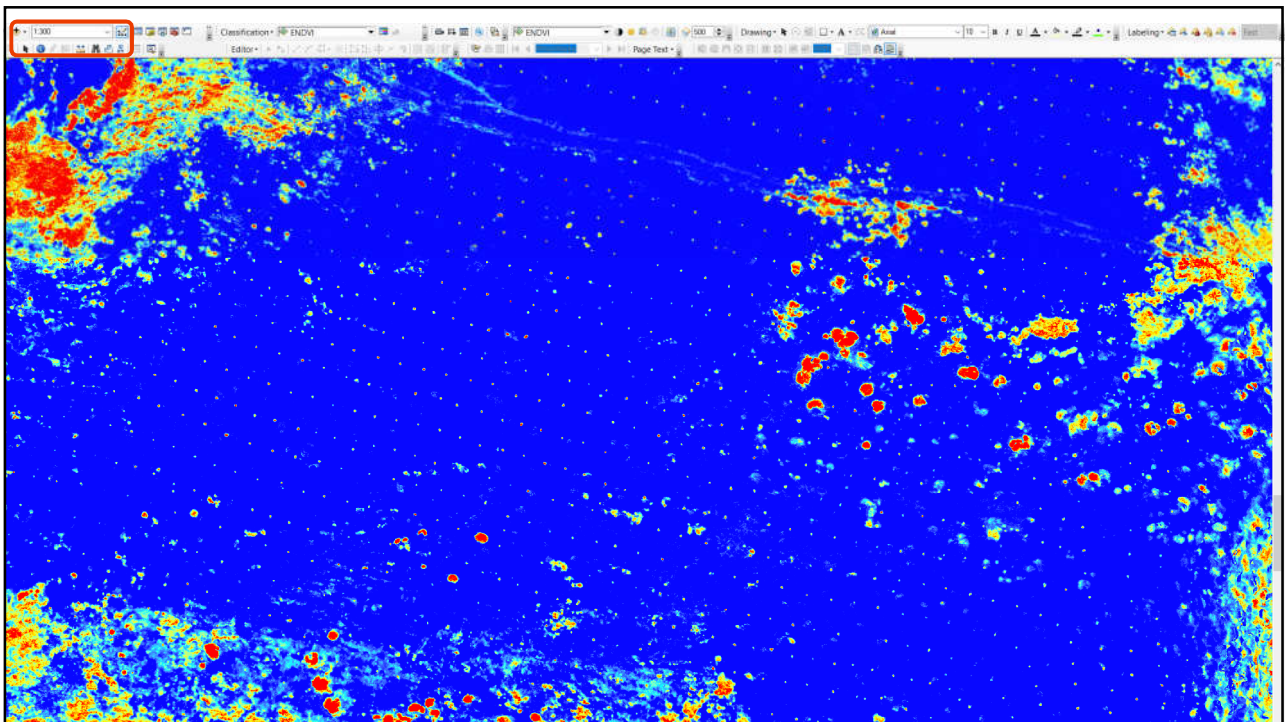




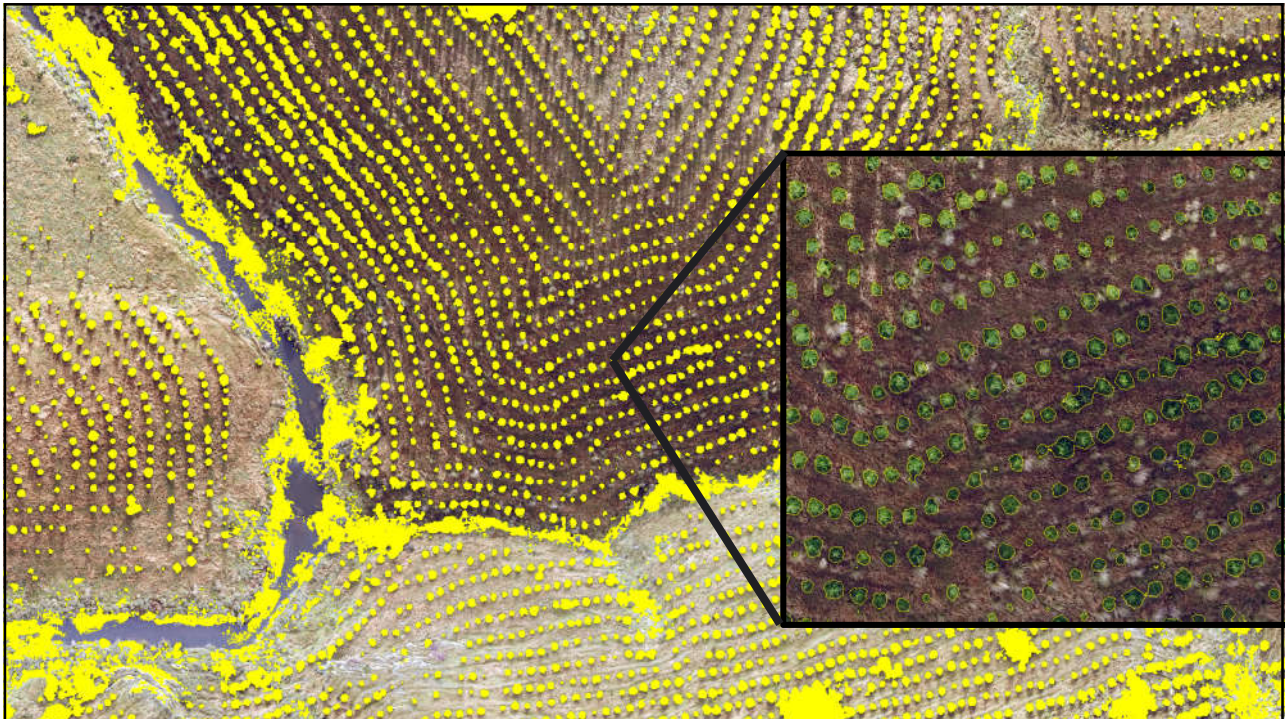












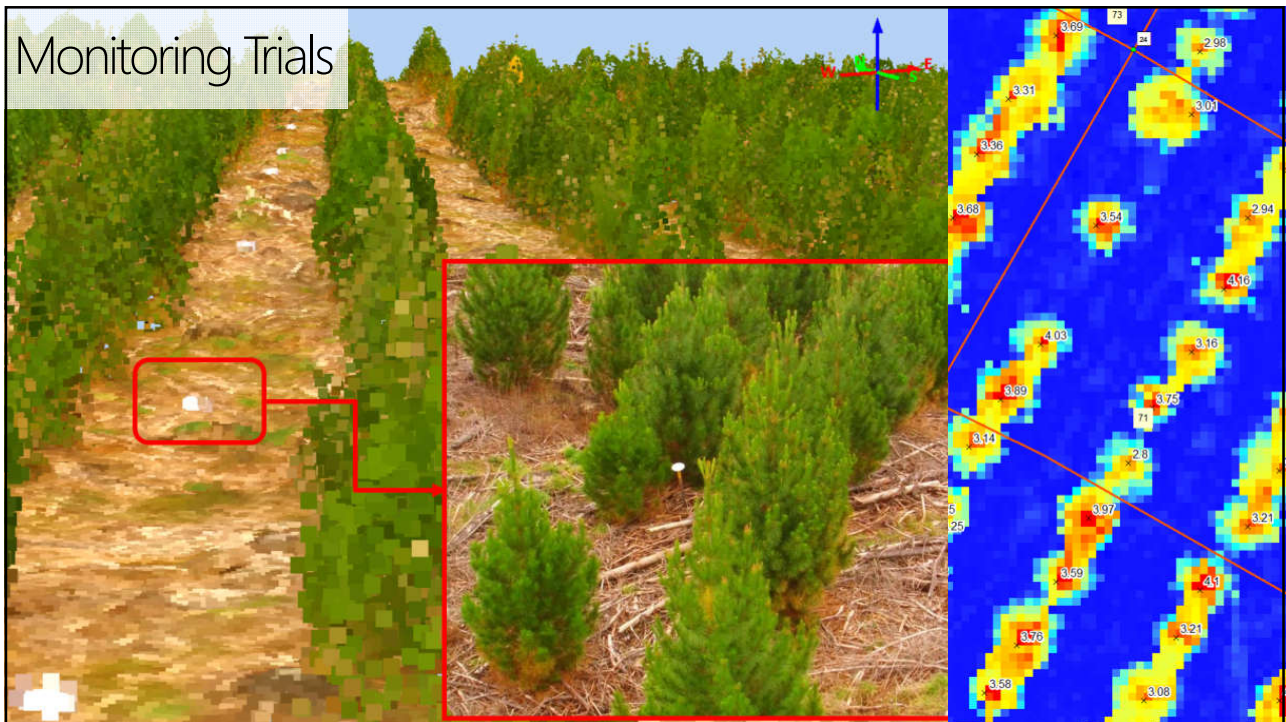
Plot	Slope	Radius	Tree Count	SPH	Comments
1	17	8.16	15	750	Small amount of grass
2	17	8.16	12	600	Gently slope small amount of grass
3	19	8.21	13	650	Medium weeds and grass
4	17	8.16	17	850	Just of skid track lots of slash but pretty clean a couple of browsed trees in plot
5	18	8.18	16	800	Good looking plot small amount of weeds
6	12	8.07	16	800	Very clean bit of grass
7	21	8.26	17	850	Clean plot
8	13	8.08	12	600	just of skid track thick grass
9	22	8.29	8	400	Thick grass very low stocked
10	26	8.42	8	400	Very low stocking
11	14	8.1	10	500	Trees 10 very low stocked are
12	23	8.32	17	850	Good looking plot small amount of weeds
13	17	8.16	15	750	Grassy area
14	17	8.16	15	750	Bit of slash and grass in plot trees look healthy
15	18	8.18	16	800	Bit of slash from pile above plot but healthy trees
16	15	8.12	14	700	Just below hauler skid clan just a small amount of weeds trees look healthy
17	26	8.42	10	500	Heavy grass just below skid very low stocking Trees 10
18	26	8.42	10	500	Very steep medium weeds low stocking
19	25	8.38	10	500	Steep overgrown slash pile
20	25	8.35	15	750	Lots of grass and slash
21	25	8.38	14	700	Very weedy lots of slash 1 dead one
22	10	8.04	13	650	Slash and very weedy
23	12	8.07	12	600	Very wet ground lots of grass
24	17	8.16	16	800	Very healthy
25	15	8.12	16	800	Lots of grass and slash
			337	674	



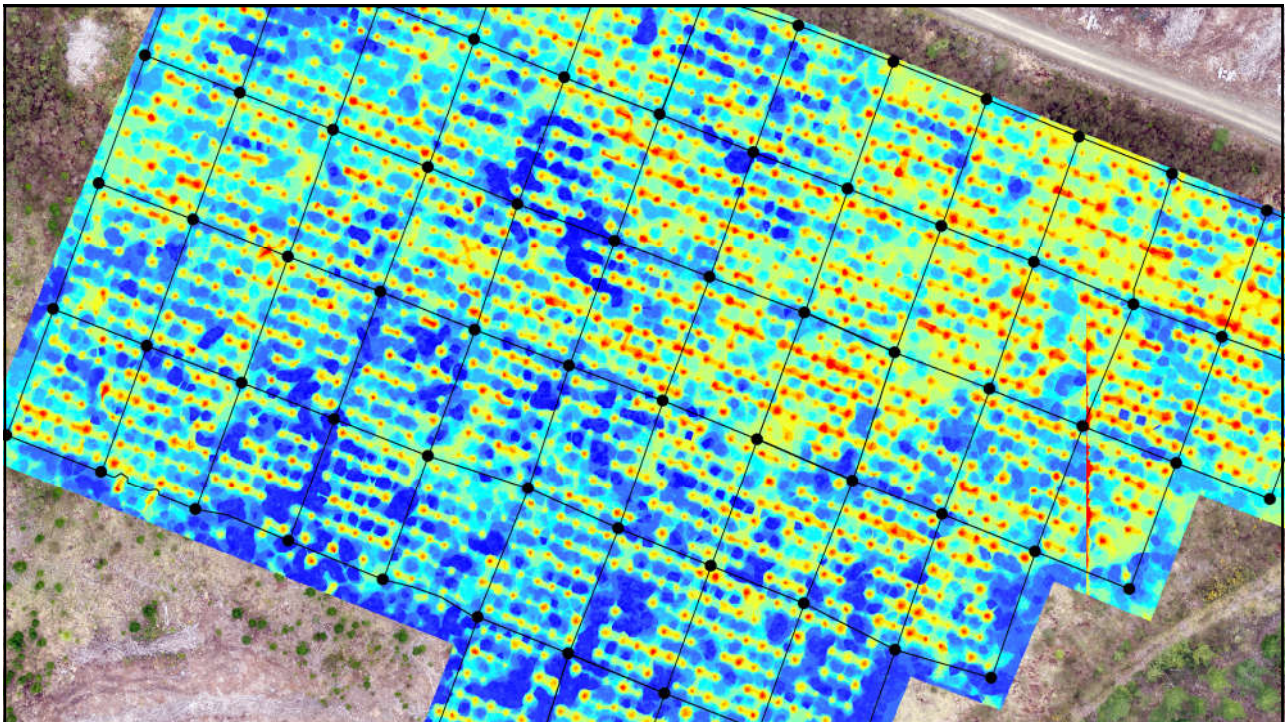
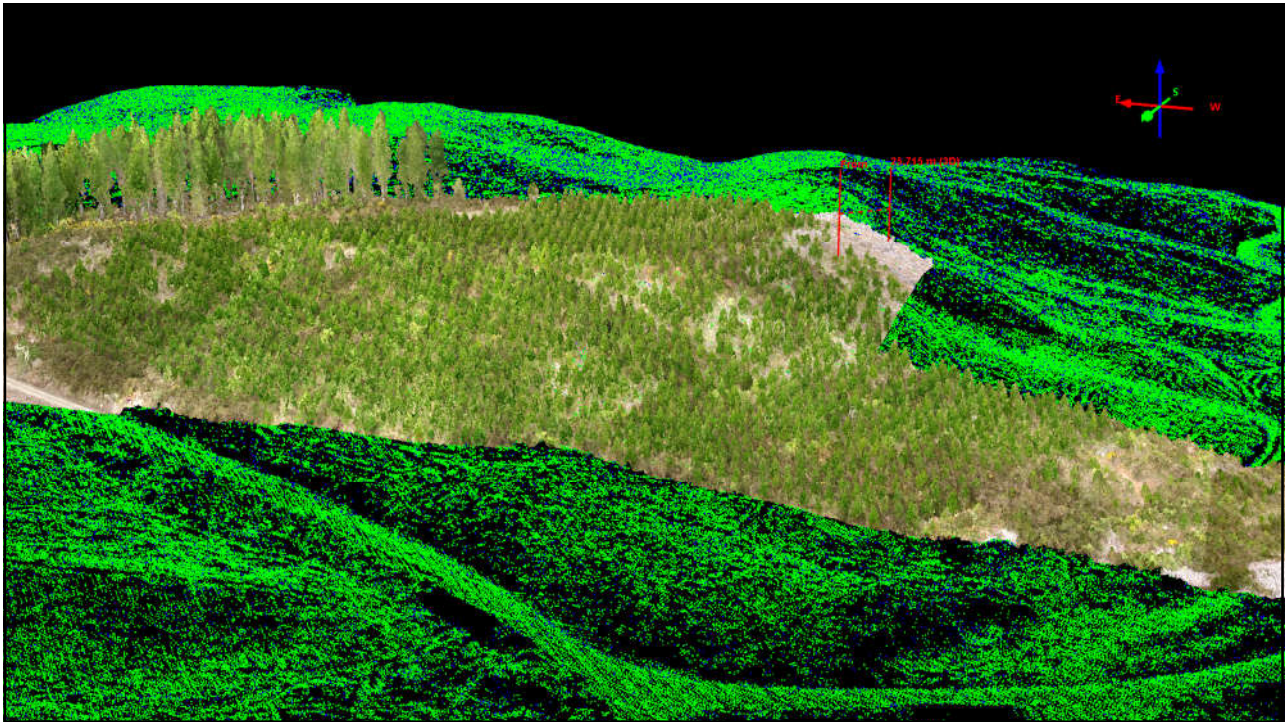




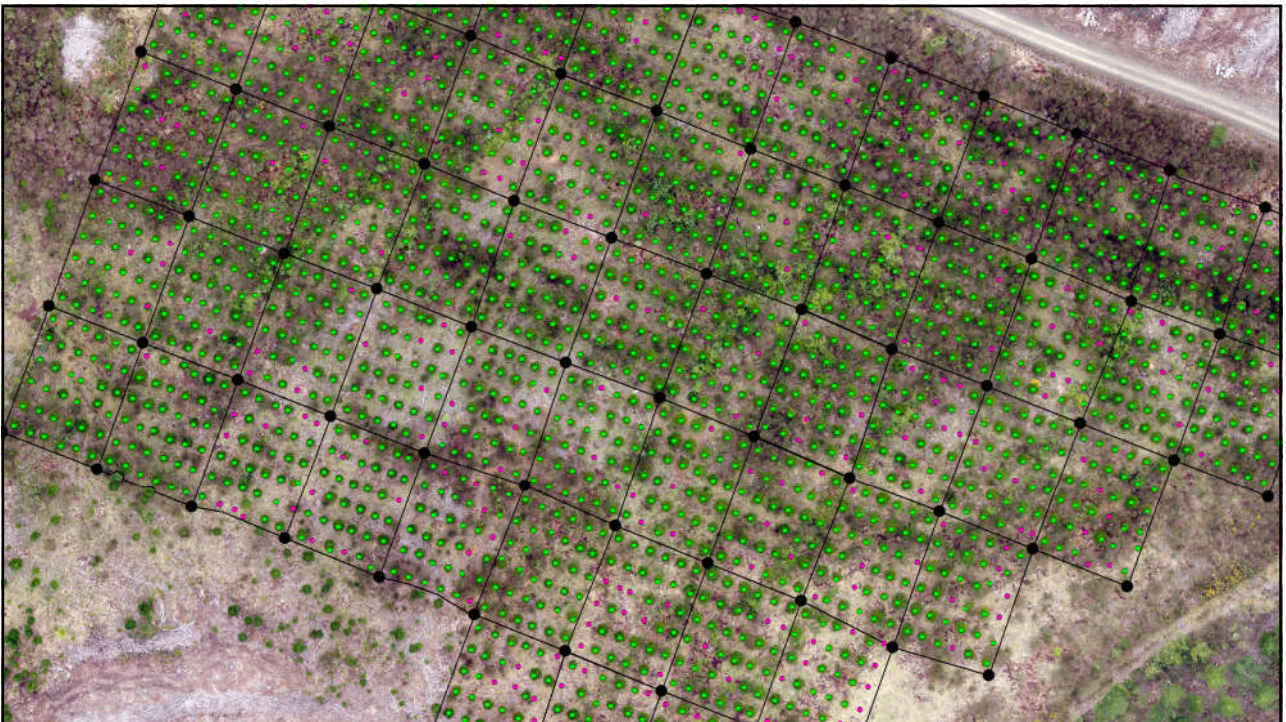
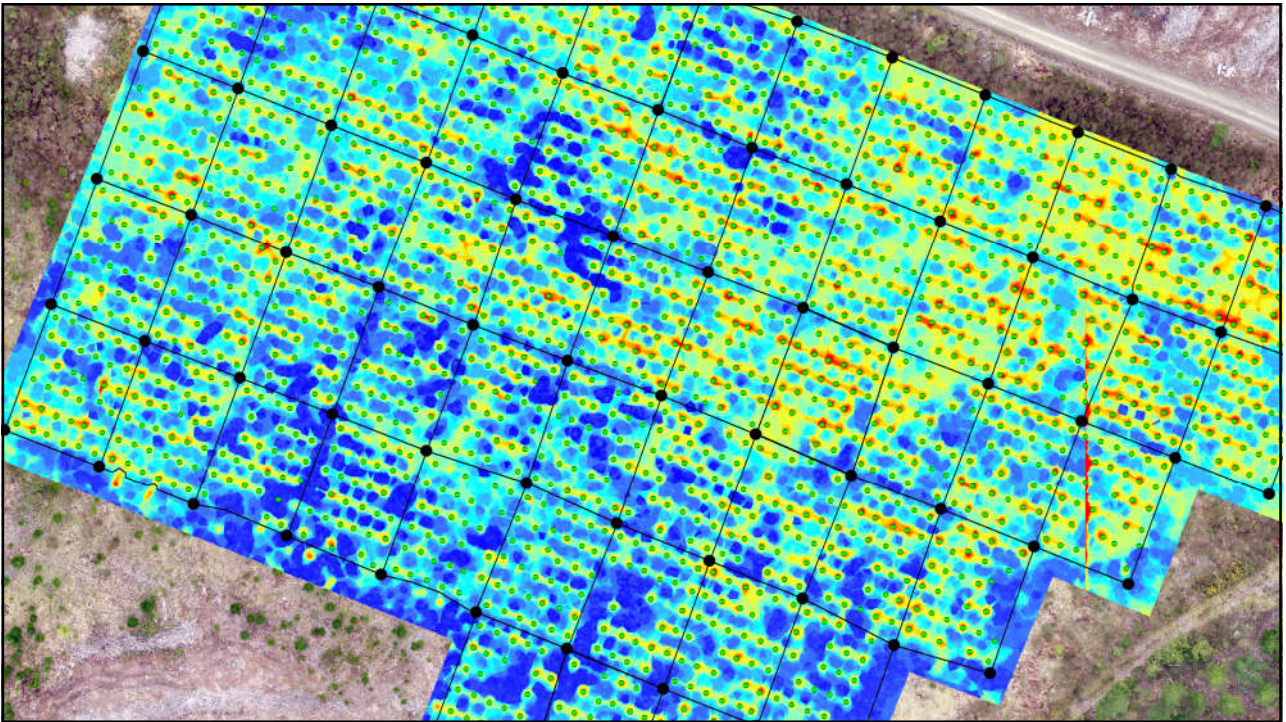




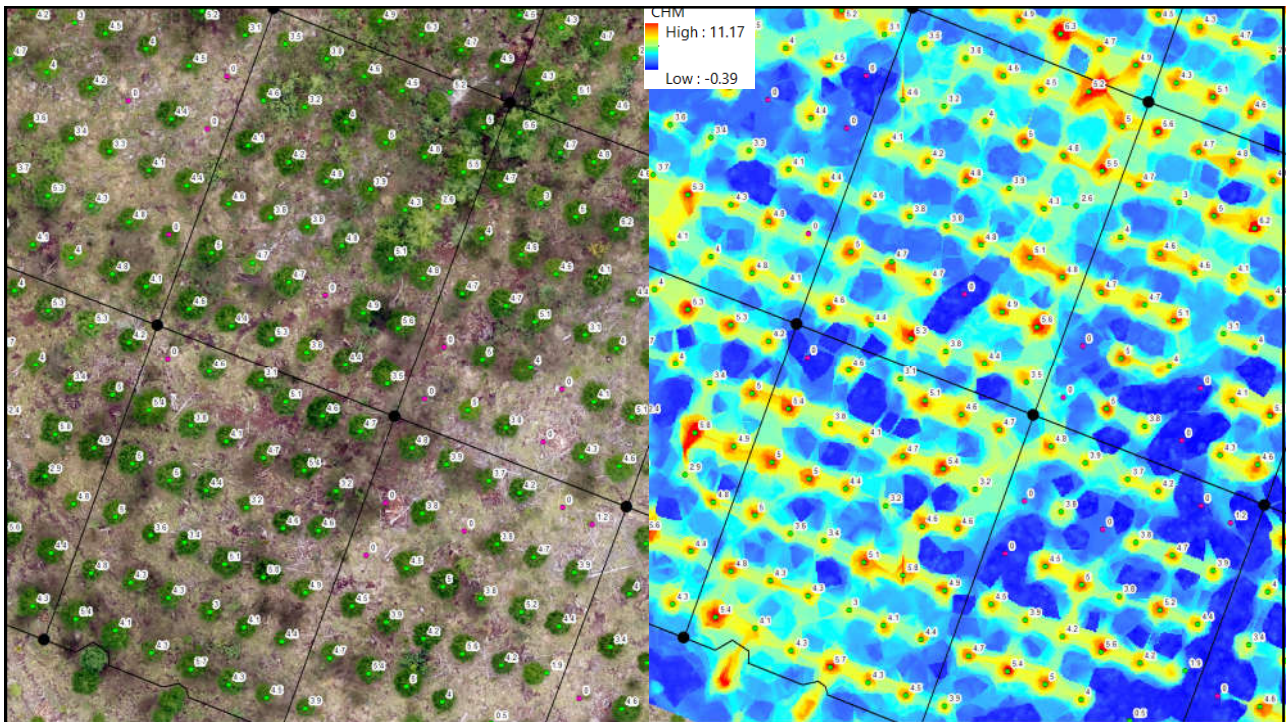








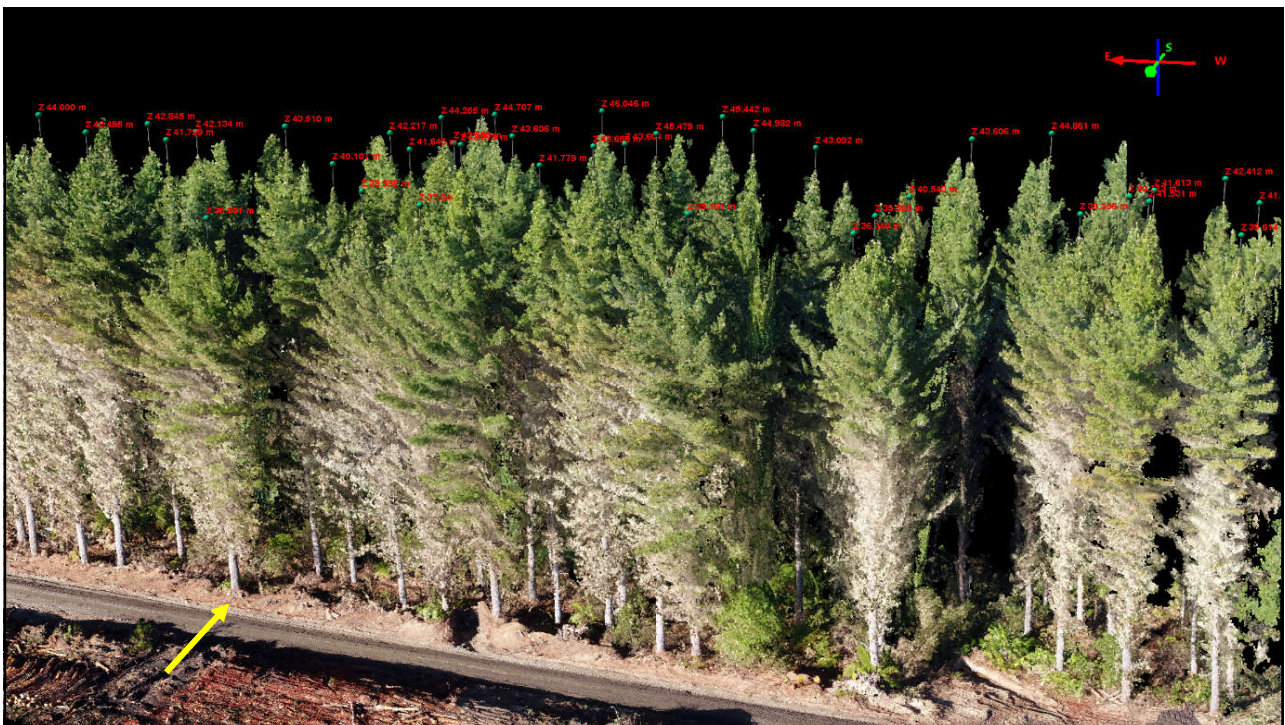
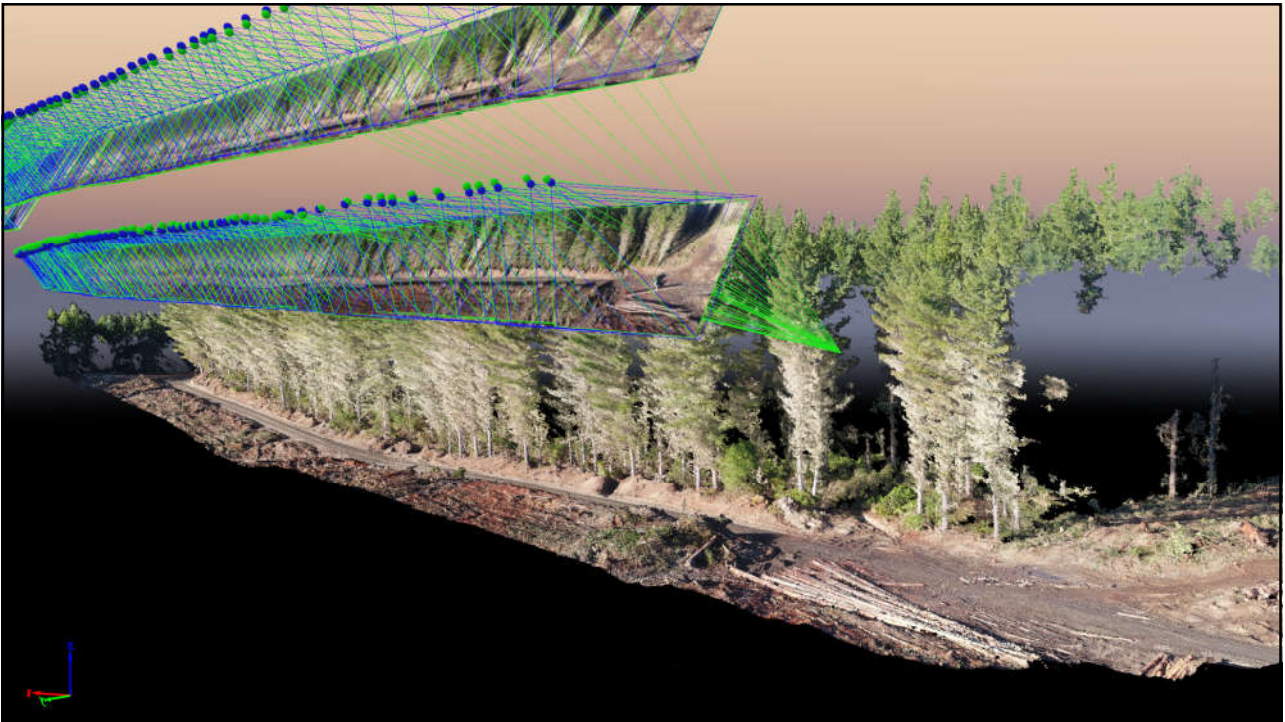




## Breakage Studies



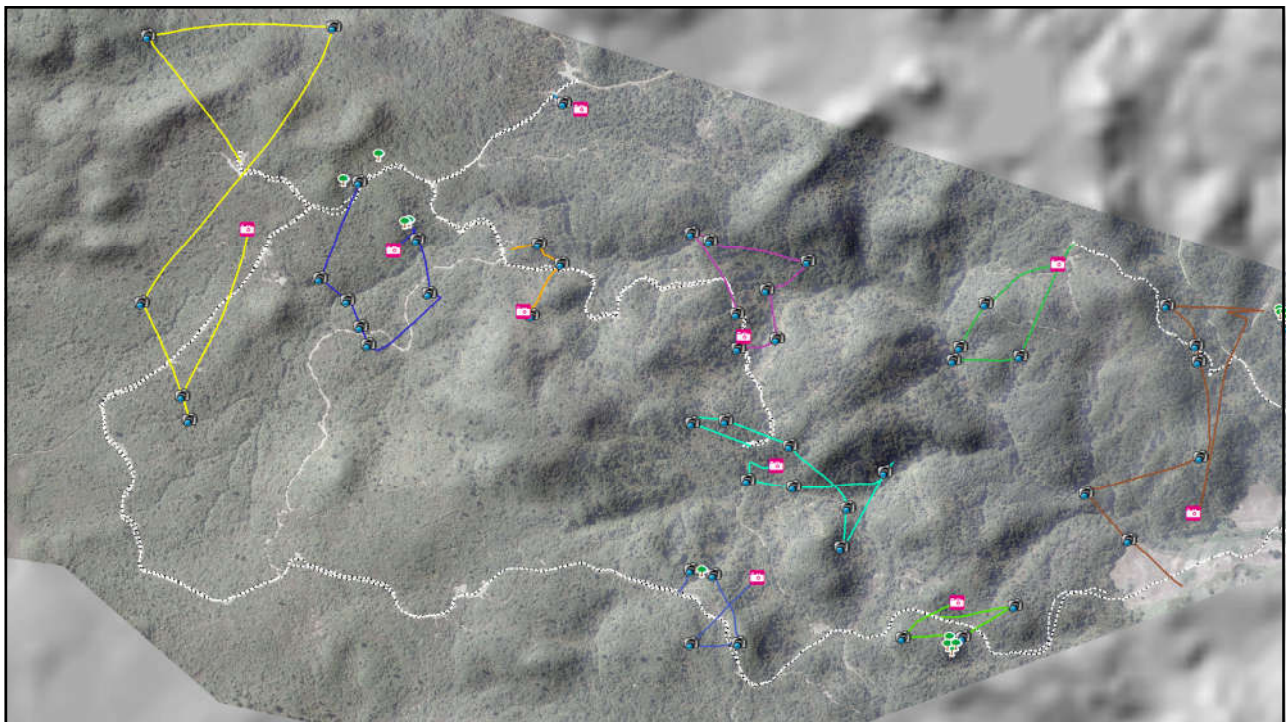




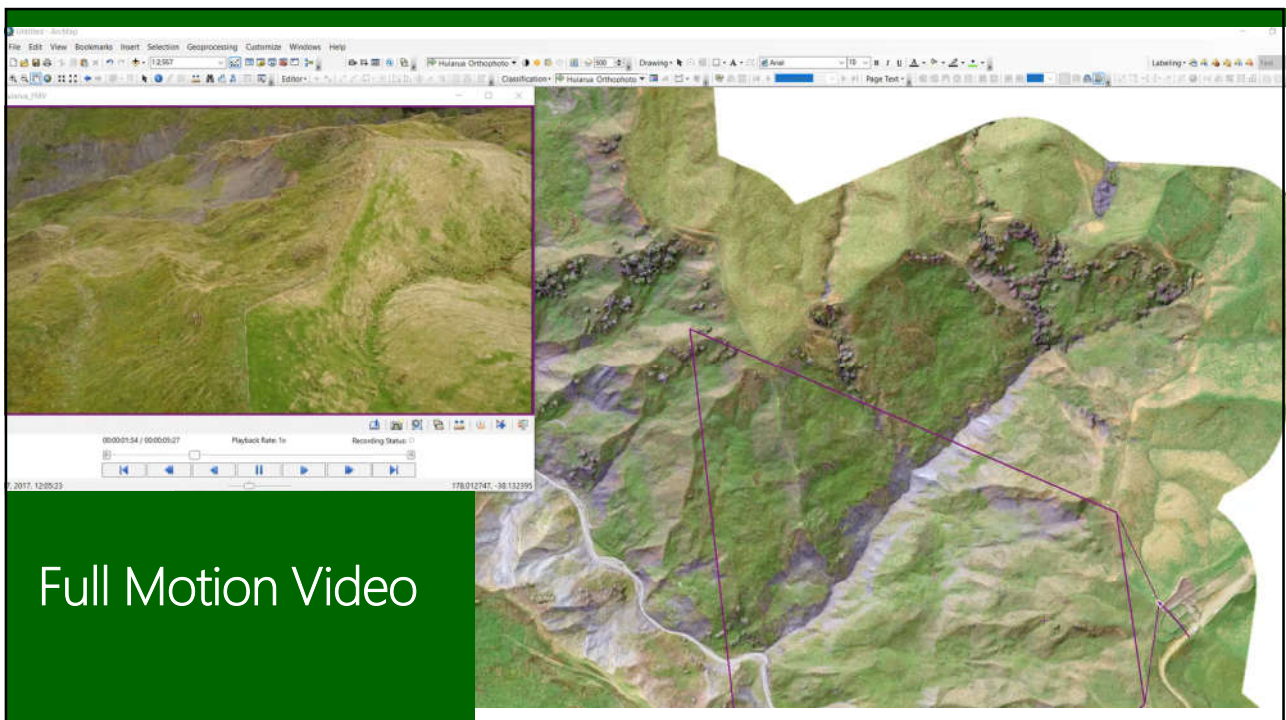










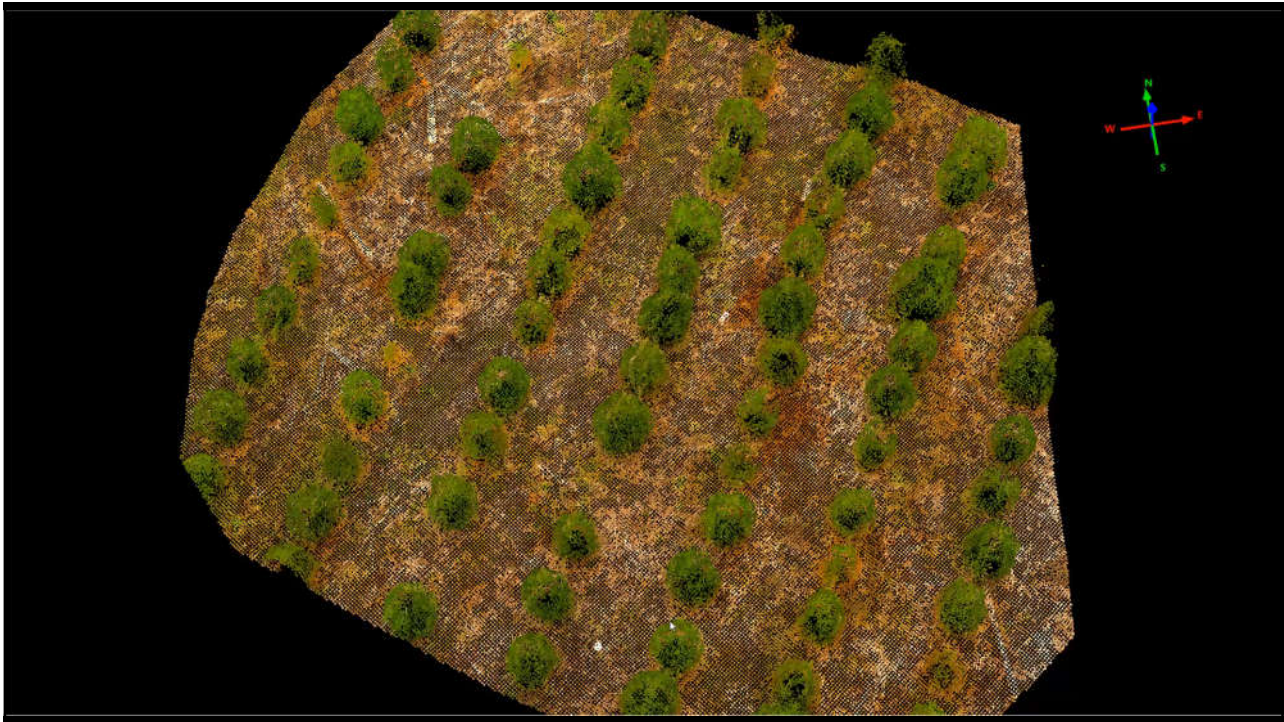
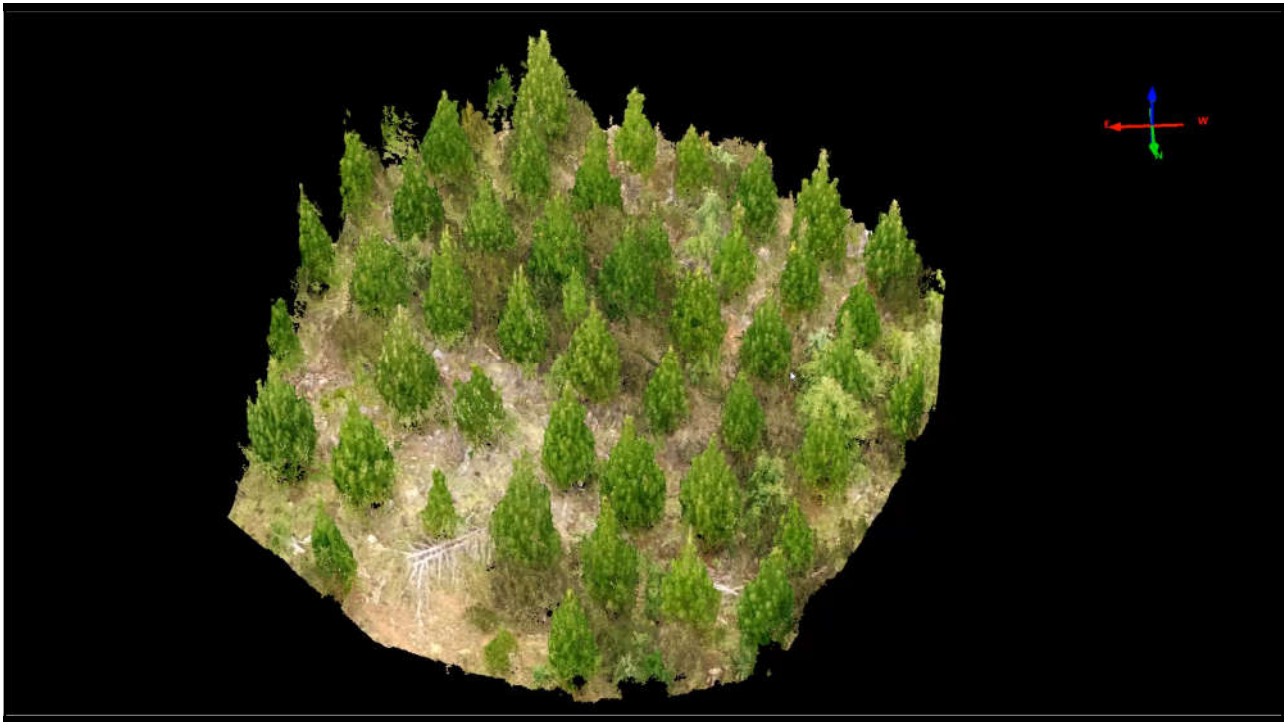


Full Motion Video











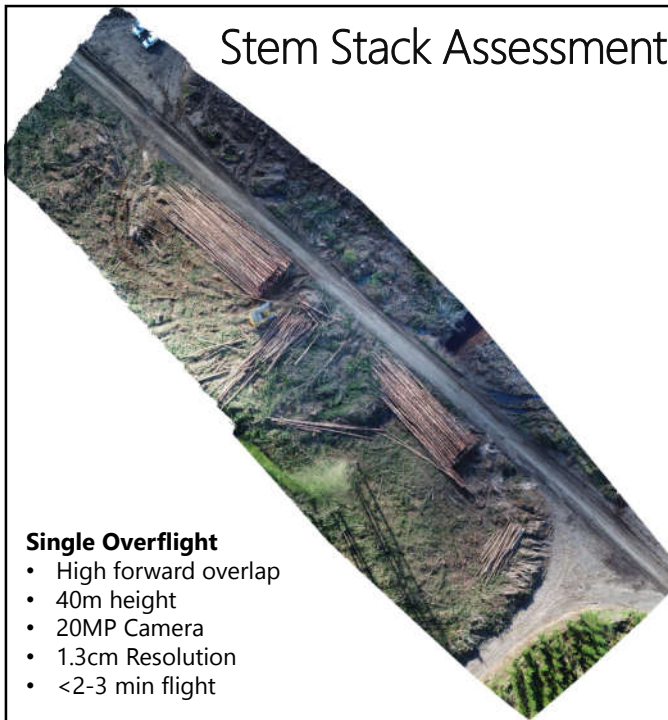




## Develop New Measurement & Monitoring Systems

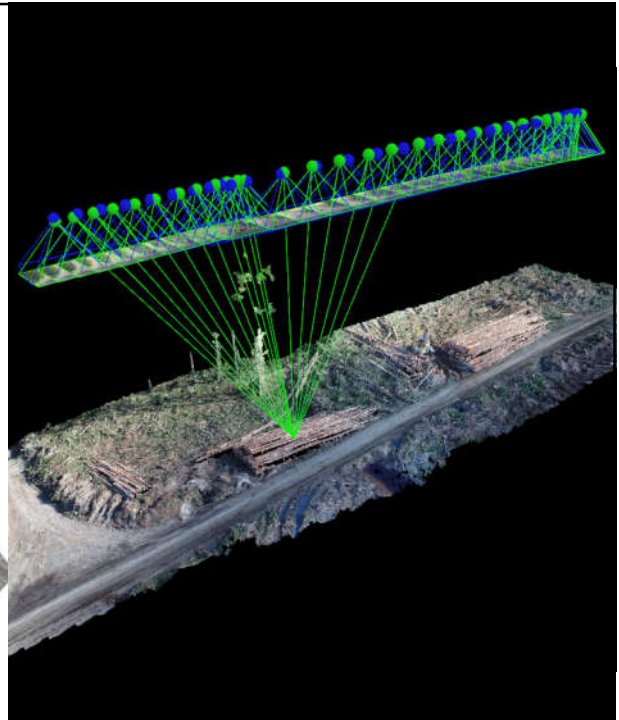


### Stem Stack Assessment



#### Single Overflight

- High forward overlap
- 40m height
- 20MP Camera
- 1.3cm Resolution
- <2-3 min flight





## Measure Stem Stacks





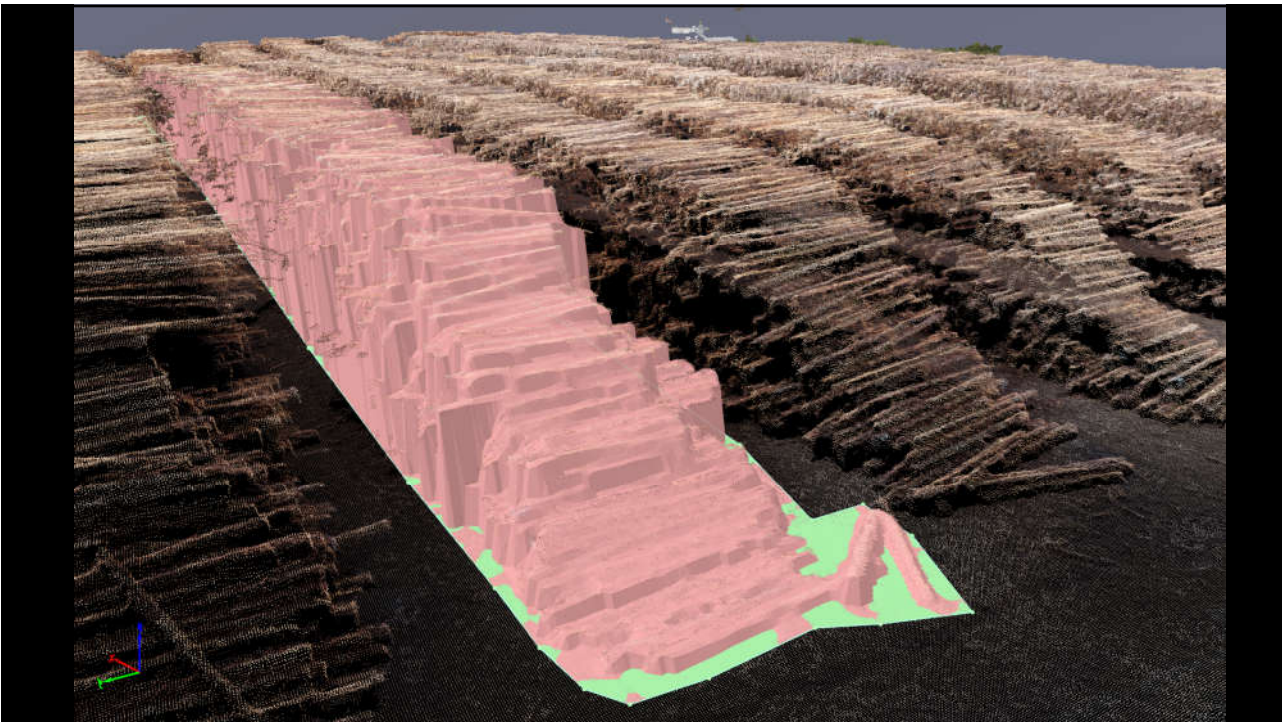
## Measure Delimbed Stems



## Measure Delimbed Stems

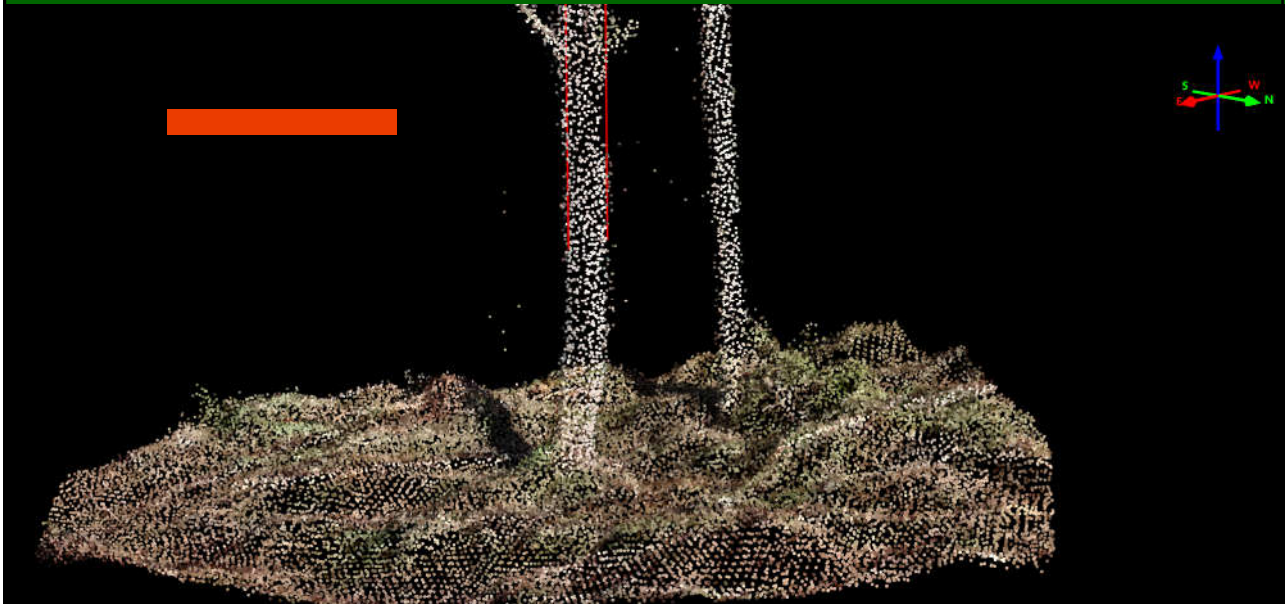








## Point Cloud - Measure Standing Trees?



## Measure Standing Trees?

