Drone Use & Storm Arwen

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1. Survey windblow more safely

2. Check inaccessible areas

3. Quickly determine presence/absence.

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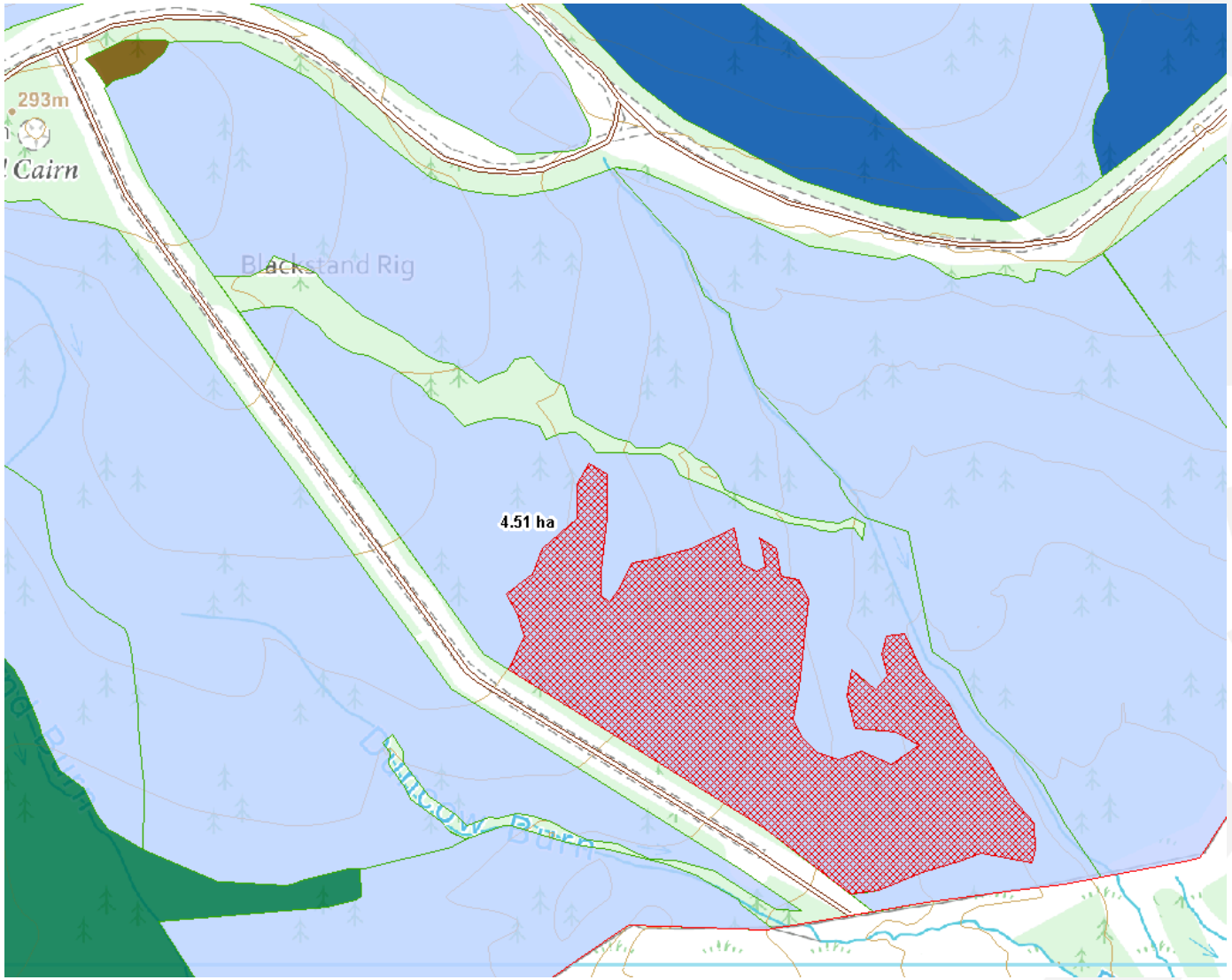

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With drones we can:

- Map areas of windblow safely and precisely.
- Quickly check for presence/absence of significant blow.
- Survey areas which are otherwise inaccessible.

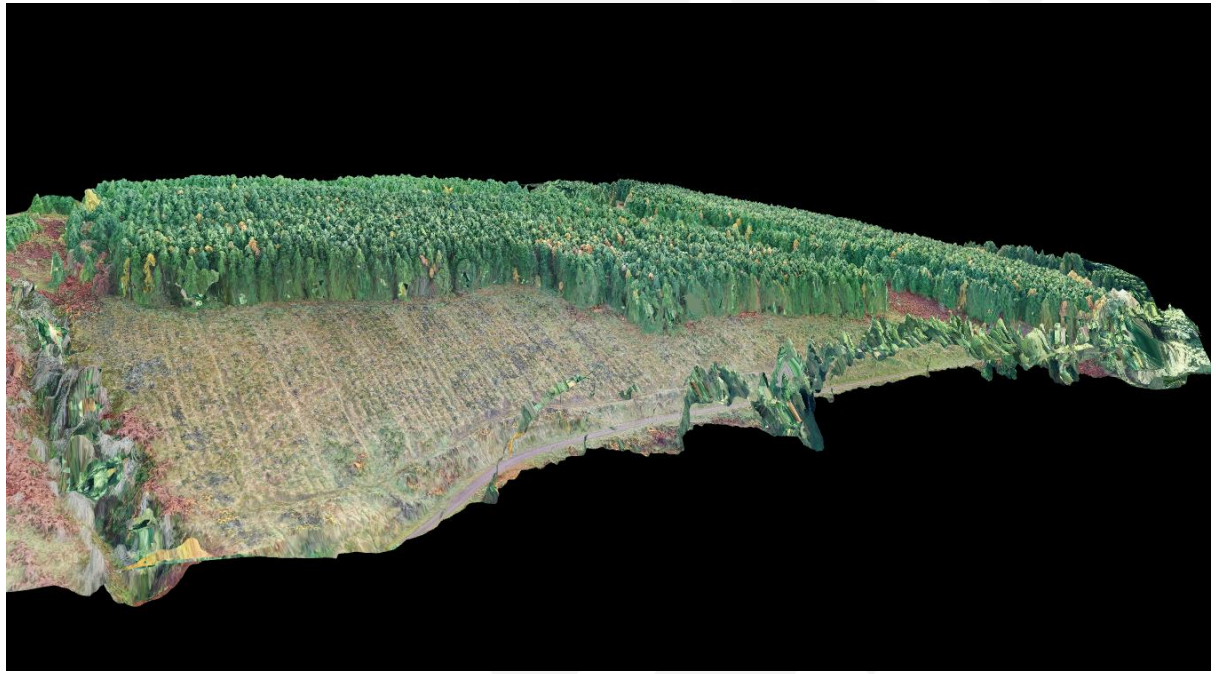
Other exciting applications…

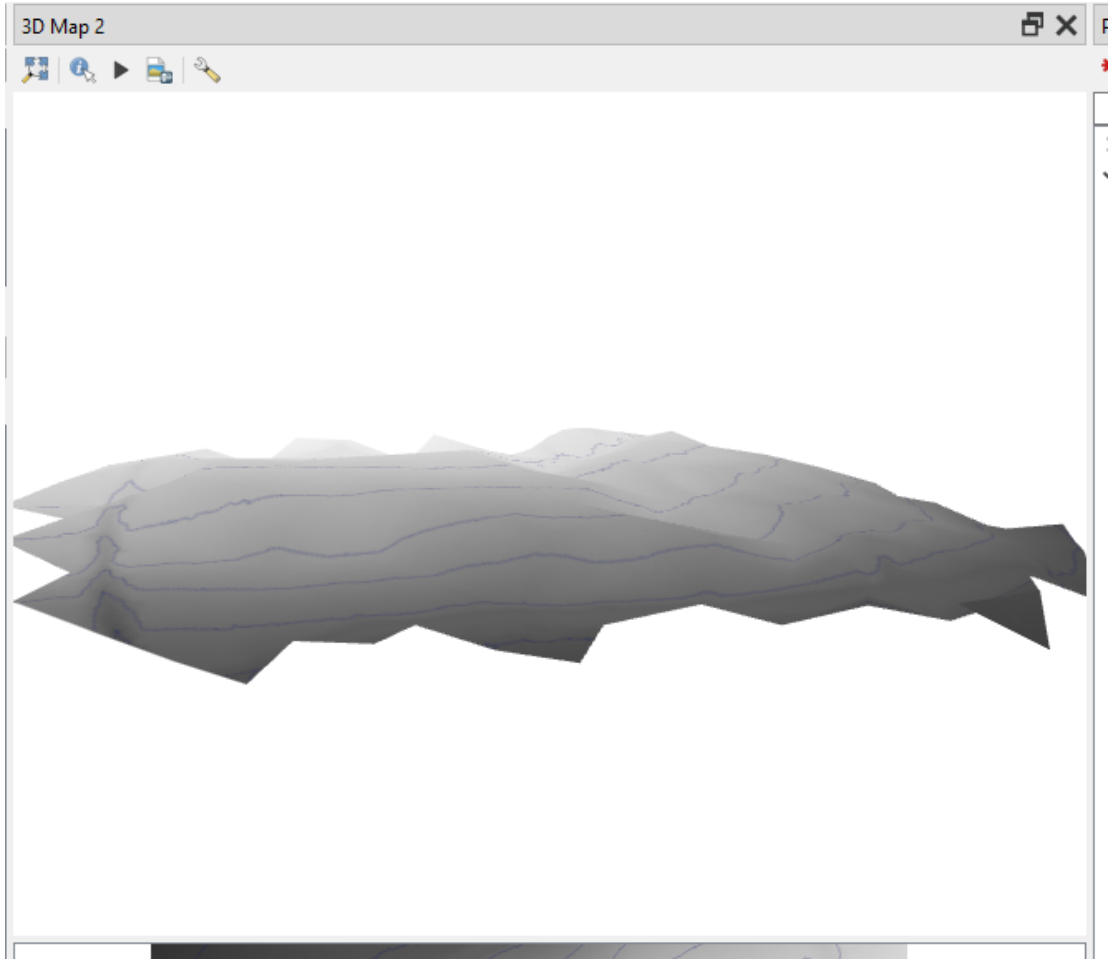
The state of drone use in UK forestry:

- We are increasingly moving towards mass adoption.
- ‘Core’ use-cases are emerging which solve legitimate practical challenges, including windblow surveys and quantification of ground prep.
- To continue to develop this technology, we need the ‘enthusiasts’ to keep identifying new applications, and the ‘sceptics’ to keep the enthusiasts feet on the ground.

Measuring top-heights in teenage Sitka spruce

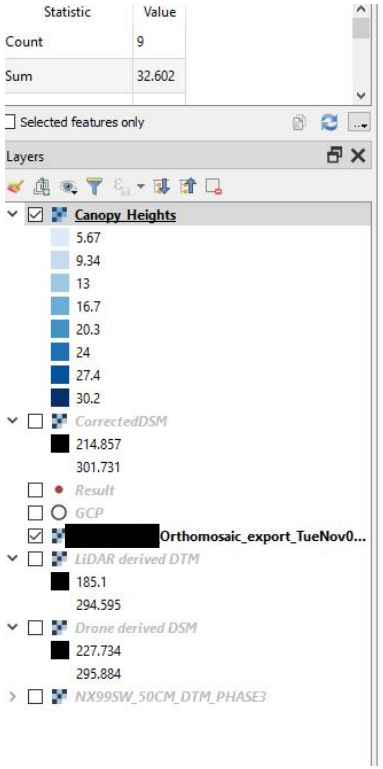
- Drones allow us to quickly and cheaply generate 3D models of features which we can take measurements from.
- A limitation of this is the inability to penetrate the forest canopy with optical sensors.
- But – is there a workaround?

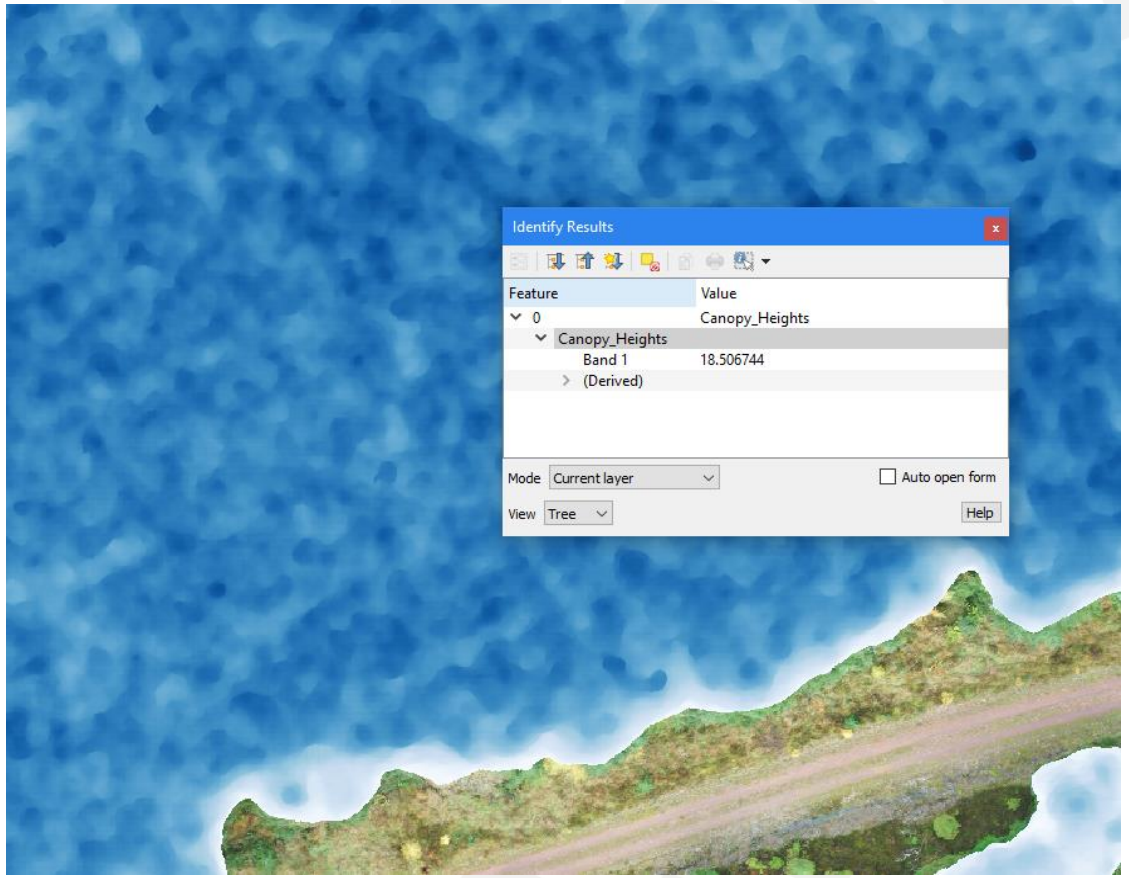




- Sub-canopy terrain can be extracted from existing datasets, such as a SEPA LiDAR DTM, available under an Open Government Licence.
- This ‘plugs the gap’ and makes mensuration with the drone possible.

The result:





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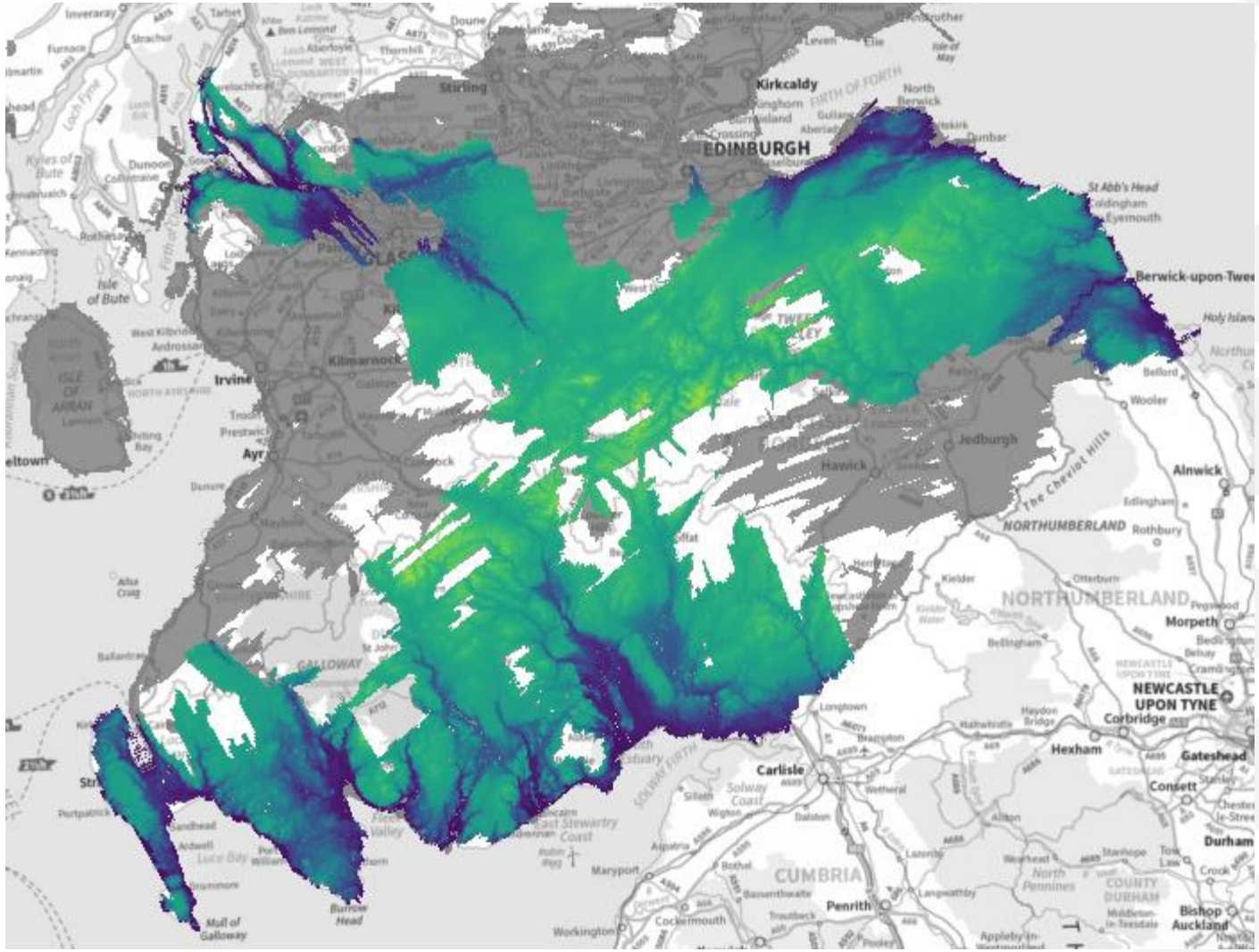
‘Phase III – LiDAR Coverage’



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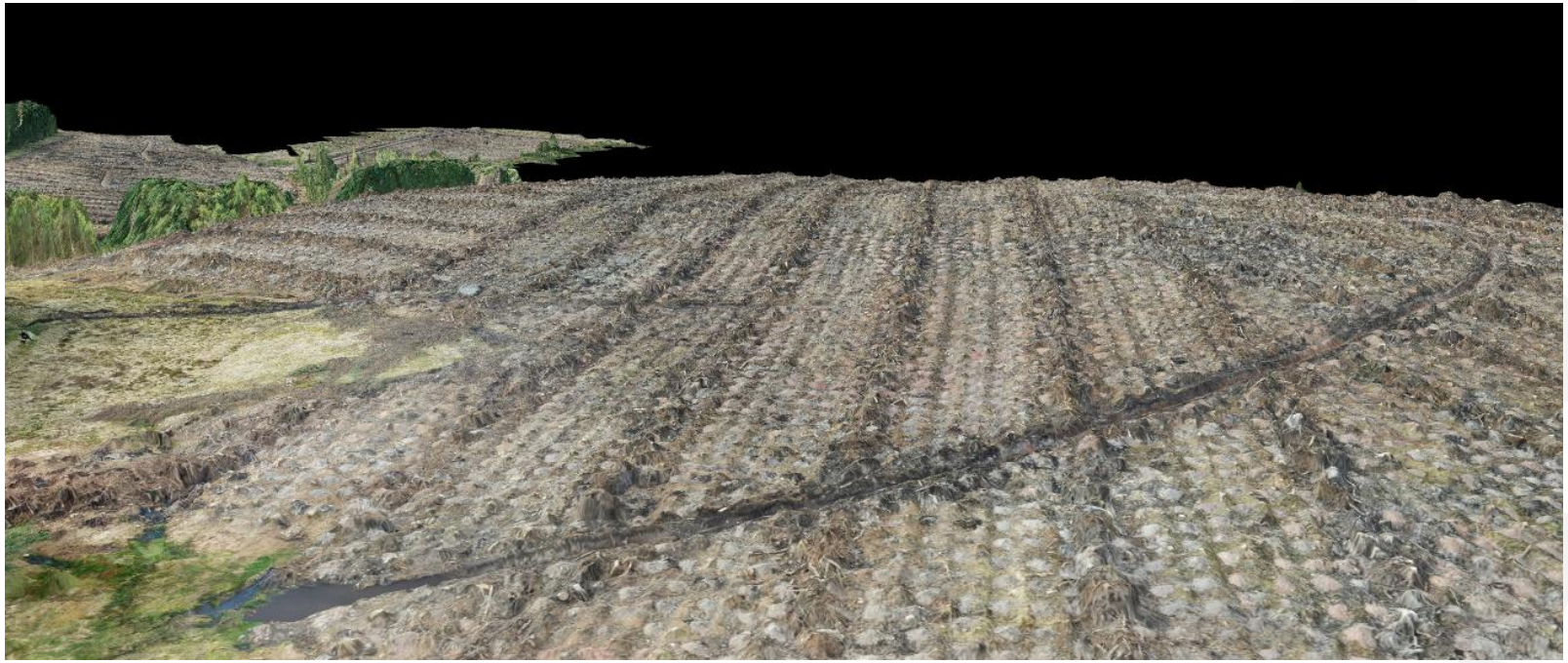
Operational datasets **for use now**:

Baseline site data **for use in the future**:



Closing remarks

- **Drones help us solve practical challenges and drive operational efficiency, but they also help us capture baseline site information – data assets that have future value.**
- **There is an opportunity cost associated with not capturing sub-canopy terrain data, at the one point in the rotation where there are no trees in the way!**