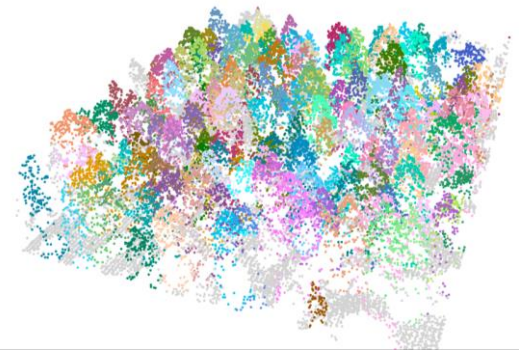
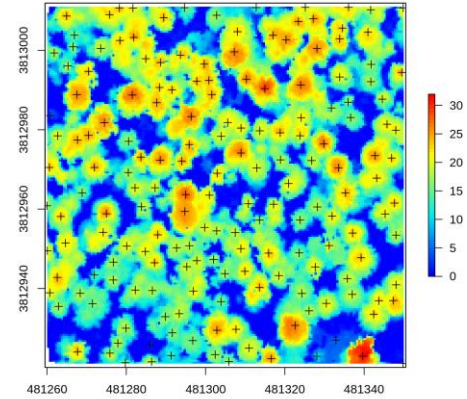
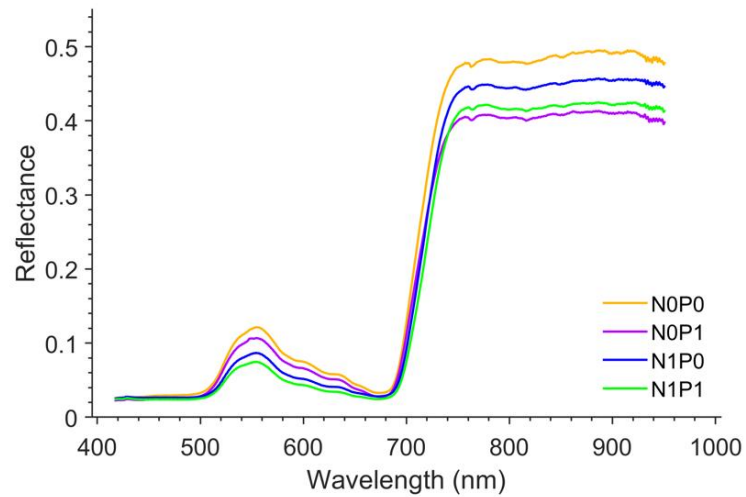
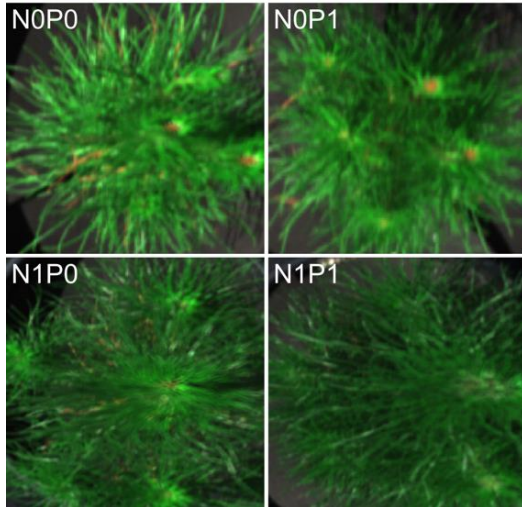
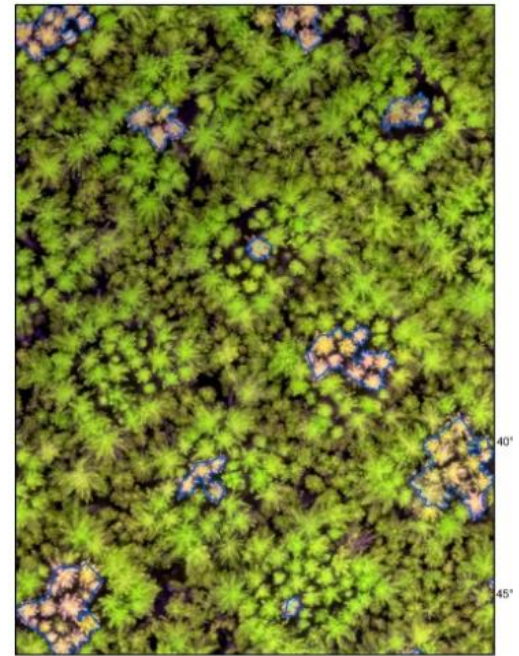


Remote Sensing Cluster Group meeting November 14, 2022



Cluster group background and purpose

- Formed in 2011, co-led by Aaron Gunn and Michael Watt
- Current membership of the group is 117 comprising mostly industry participants
- Broad purpose of the group is to facilitate the transfer of knowledge from specialists to industry allowing science uptake



Geospatial and remote sensing research

Timeline showing key developments

2009 – Spatial characterisation of productivity for a range of species

2011 – Remote Sensing Cluster group formed

2012 – LiDAR becomes affordable as a data source, research starts

2016 – Sentinel 2 satellite launched – free imagery widely used

2019 – Hyperspectral imagery used as a data source

2019 – Deep learning becoming more widely used in Scion

2021 – Applications developed to detect RNC using satellite imagery
and trees using RGB and deep learning

2022 – Productivity surfaces of 300 Index, Site Index, carbon for radiata pine,
redwood, uploaded to koordinates

Presentation overview

Time	Topic	Speaker
1.00 – 1.10 pm	Introduction	Michael Watt
1.10 – 1.40 pm	Use of deep learning for tree detection – the end user perspective	Aaron Gunn, Abdullah Madawi
1.40 – 2.00 pm	Alternative approach for tree detection using remotely sensed imagery	Sadeepa Jayathunga
2.00 – 2.20 pm	Detection of trees within the Timberlands estate	John Moore
2.20 – 2.40 pm	Validation of the Red Needle Cast detection tool using data from 2022	Andrew Holdaway
2.40 – 3.00 pm	Tech and forestry: the Uruguayan way	Santiago Ferrando
3.00 – 3.05 pm	Productivity surfaces describing volume and carbon for radiata pine and alternative species	Michael Watt
3.05 – 3.20 pm	Break	
3.20 – 3.40 pm	Use of deep learning to identify plantations at the national level	Grant Pearse
3.40 – 4.00 pm	Single tree inventory using UAV LIDAR	James McEwan/Sam West
4.00 – 4.20 pm	Tools for Foresters (UAV working group) update	Robin Hartley
4.20 – 4.30 pm	Summary	Aaron Gunn
4.30 – 5.00 pm	Questions/Discussion	