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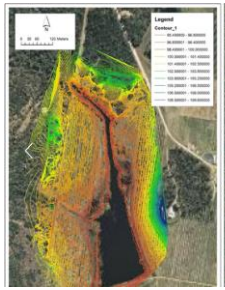
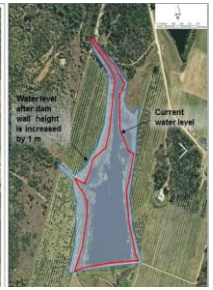

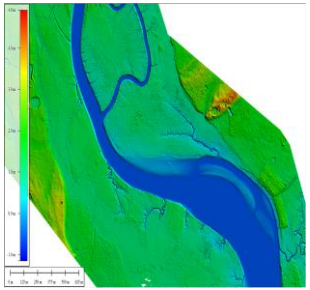
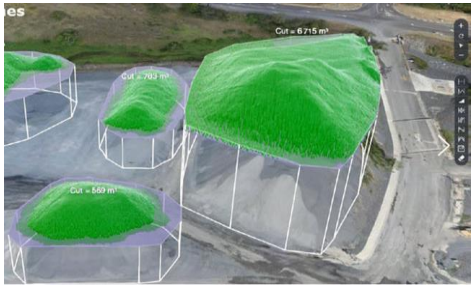

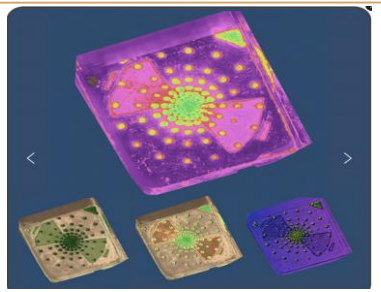
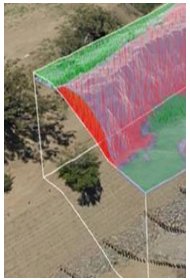
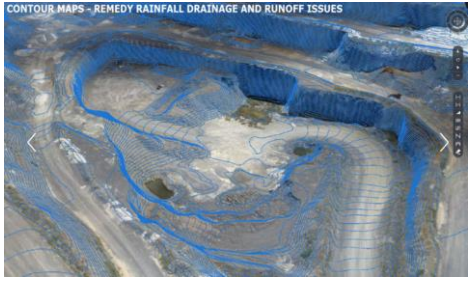

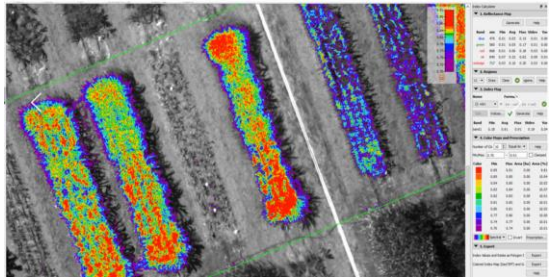

Applying Drone Tech to River Restoration

SYDNEY, AUSTRALIA | 14 -18 October 2018

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Monitoring River Restoration Projects

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Ultra high res. Images, environmental context for design and for project reporting and monitoring

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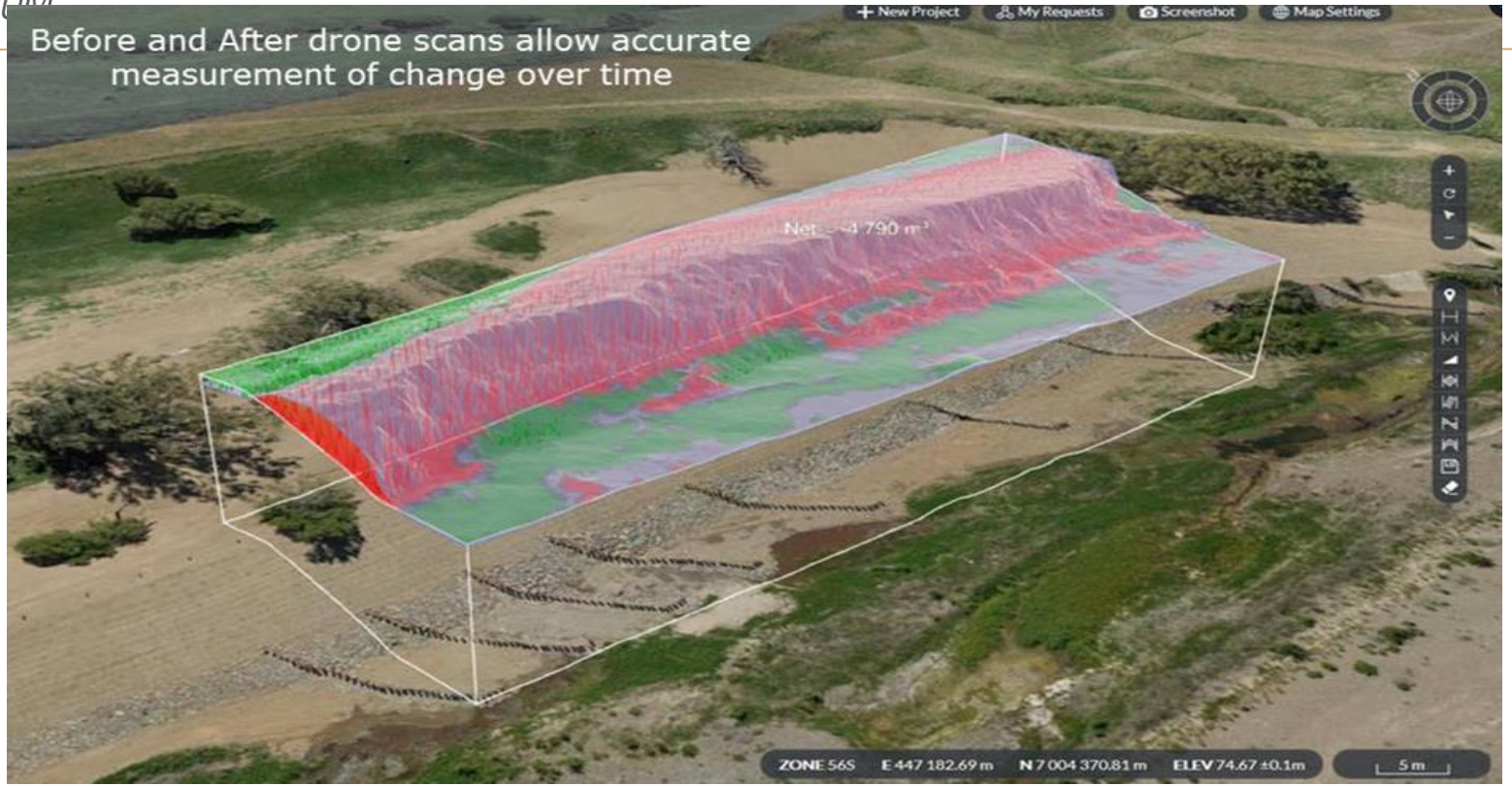
Measure Change over Time



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Drone Data Specialists

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Design for River Restoration

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Map View
Site context in full colour 3D
Thumbnails
Timeline
20 m
Elv 96.605 m
Lat -26.9653323° S
Lon 152.6629286° E

Photo View
Inspection mode
Click anywhere on the 3D model to pull up the associated high res. photos
North

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Conceptual to detailed design through online platforms

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Sharing designs and reporting made easy

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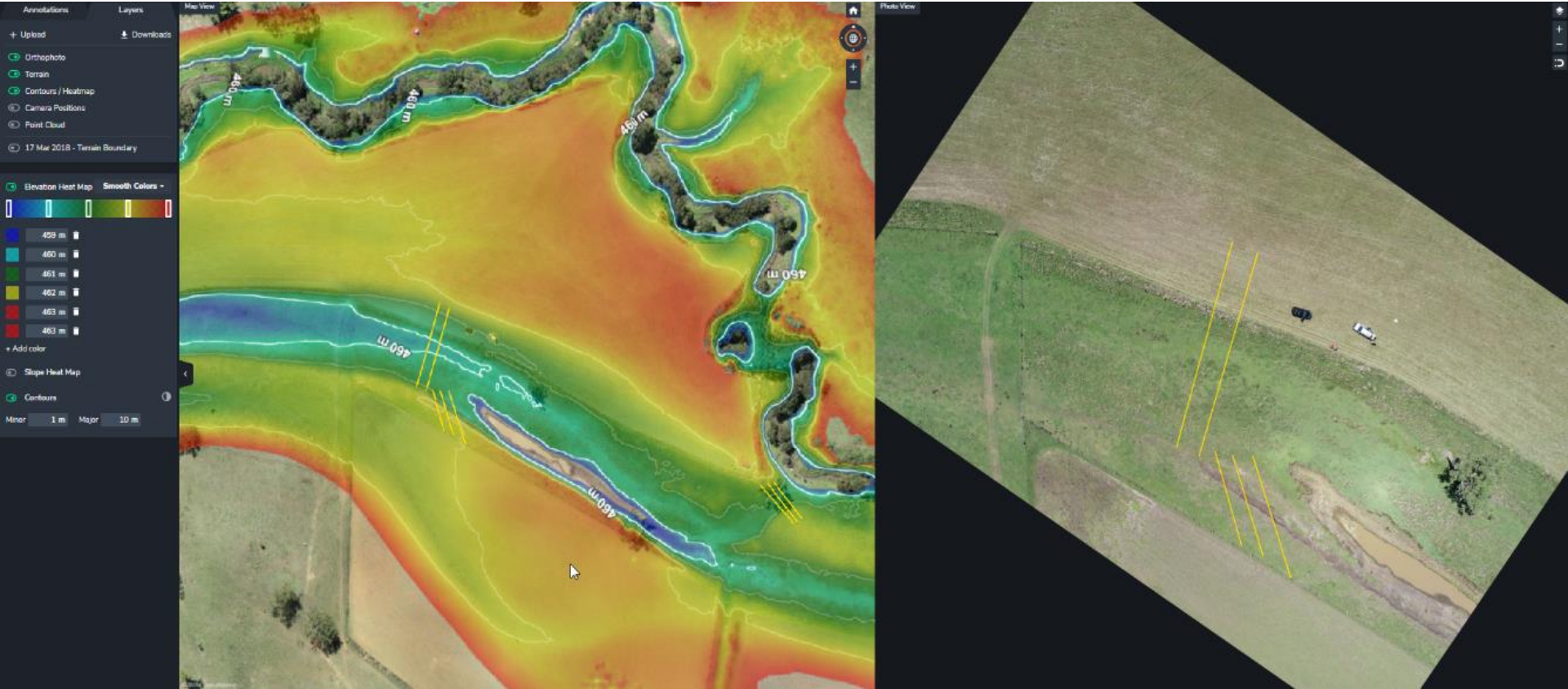

Map View
Photo View
Draw design straight into the 3D model to get exact areas or volumes
120m2 rock
Geotextile 170m2
Old weir
High resolution photo
Thumbnails

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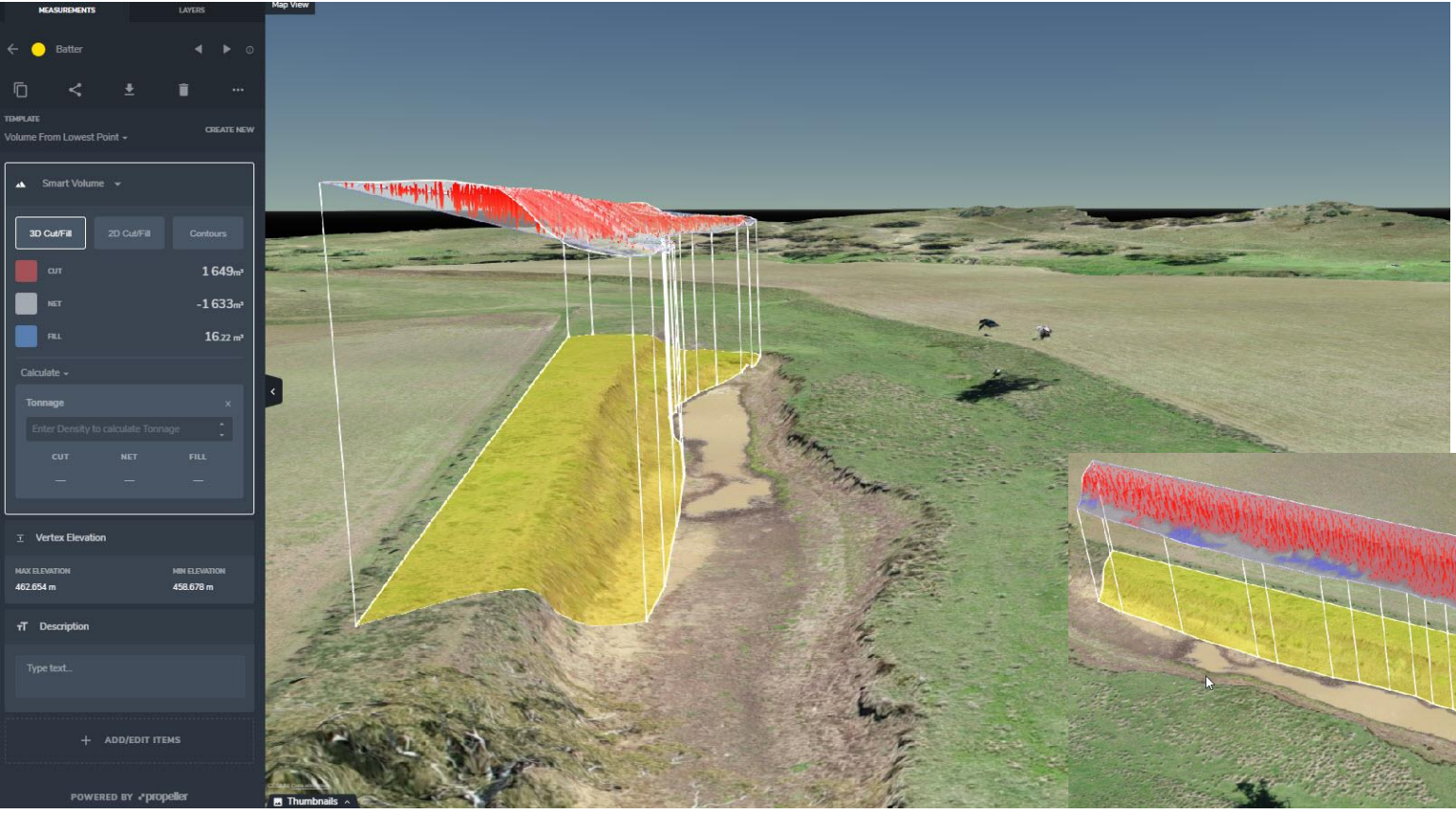
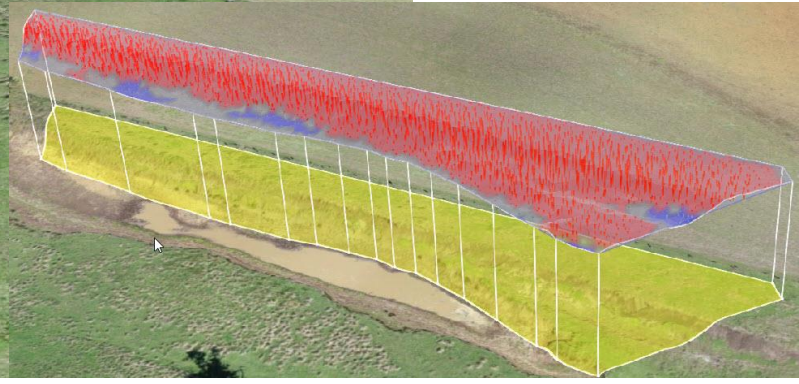
MEASUREMENT TOOLS – measure cut/fill volumes, areas, surface areas



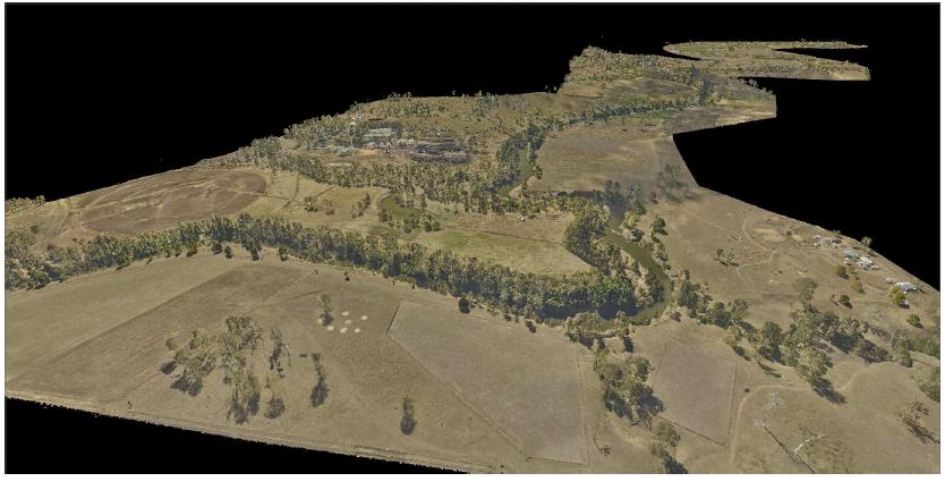


Batter of 1:3 to 1:4 along this vertical bank.

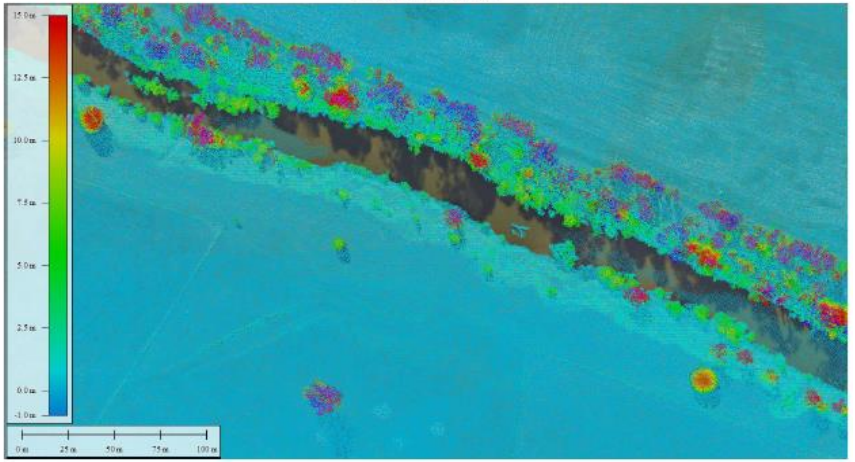
Total soil removed 1633m^3 about 2200t

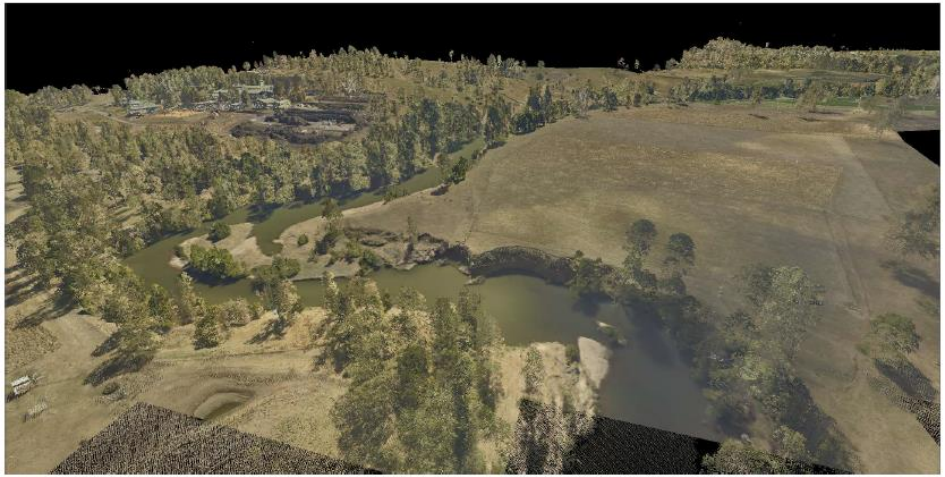
Aerial mapping of River Systems for detection of erosion and subsequent repair

Coloured 3D LiDAR data

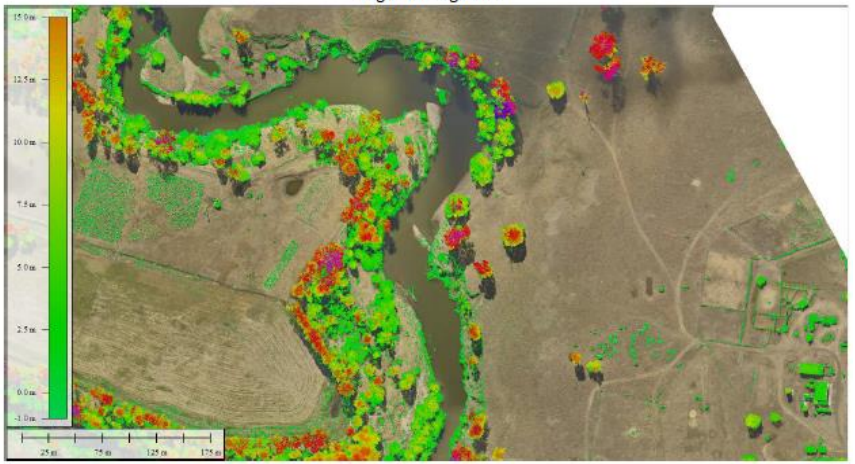


LiDAR Elevation data



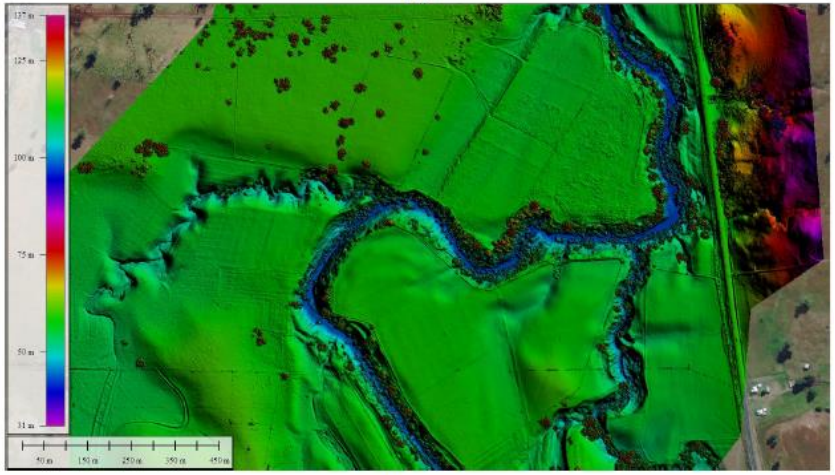


Height above ground

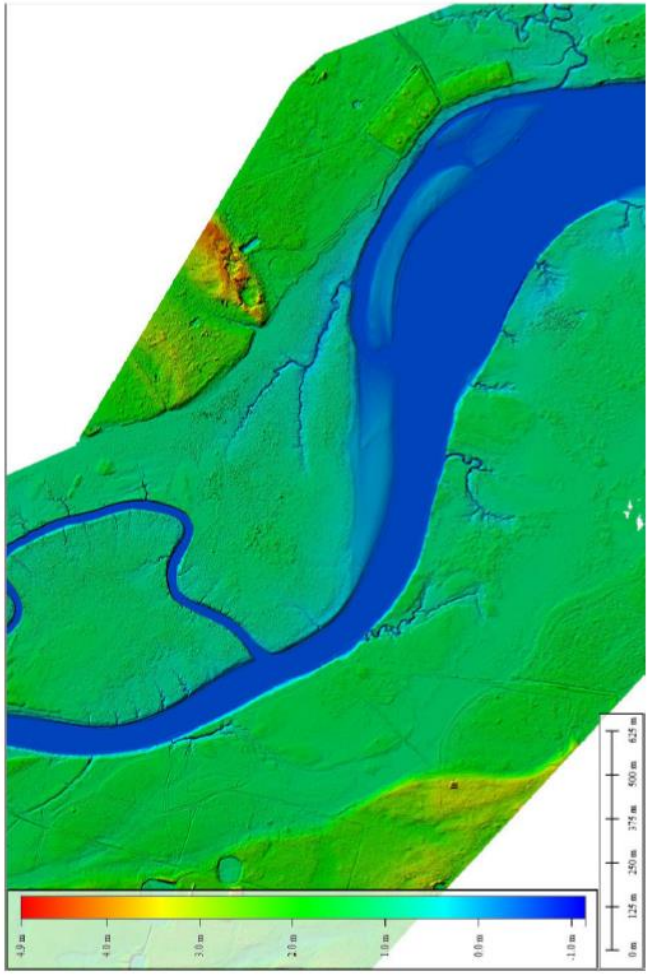


Aerial mapping of River Systems for detection of erosion and subsequent repair

DSM



DTM (terrain only)



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Weed Monitoring and Management for River Restoration

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Killer vine weeds – cats claw monitoring and management

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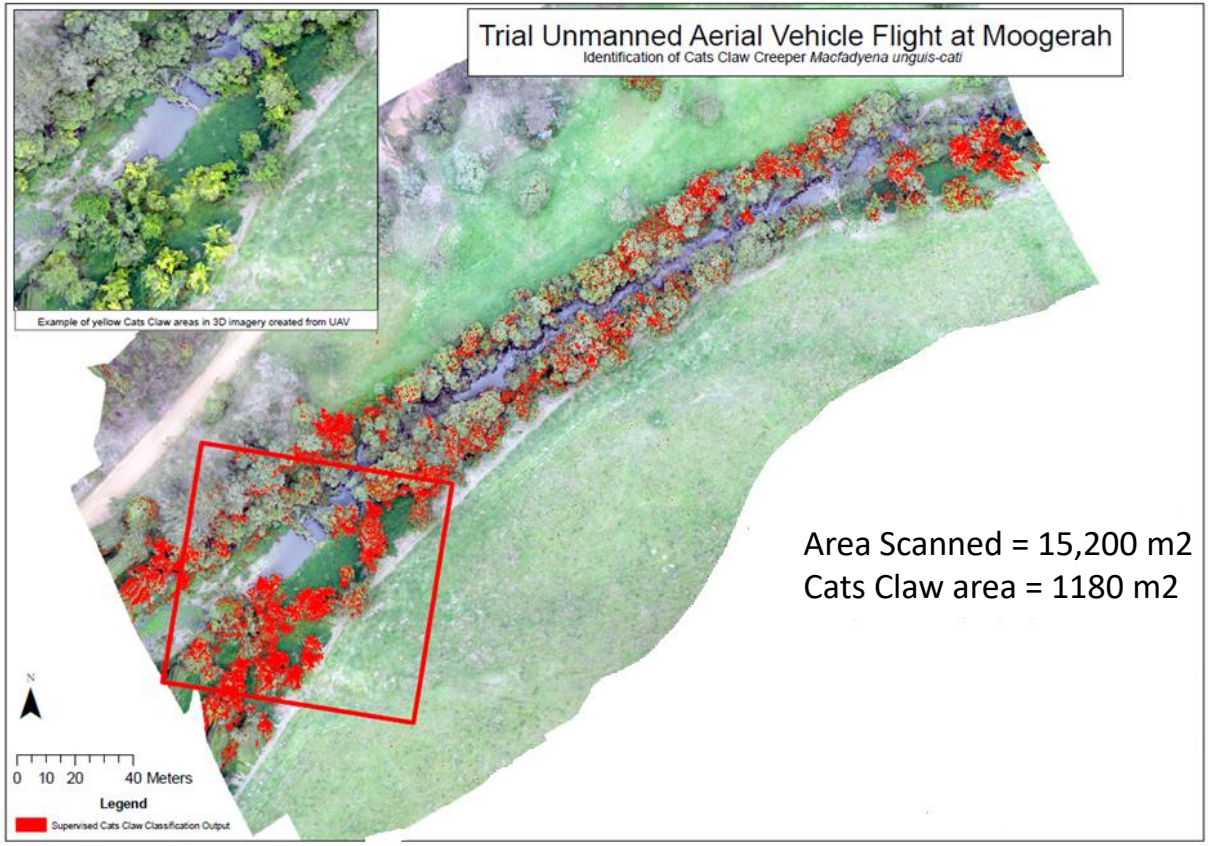
Area Scanned = 2000Ha
Celtis mapped = 3.5Ha



Area Scanned = 15,200 m2
Cats Claw area = 1180 m2

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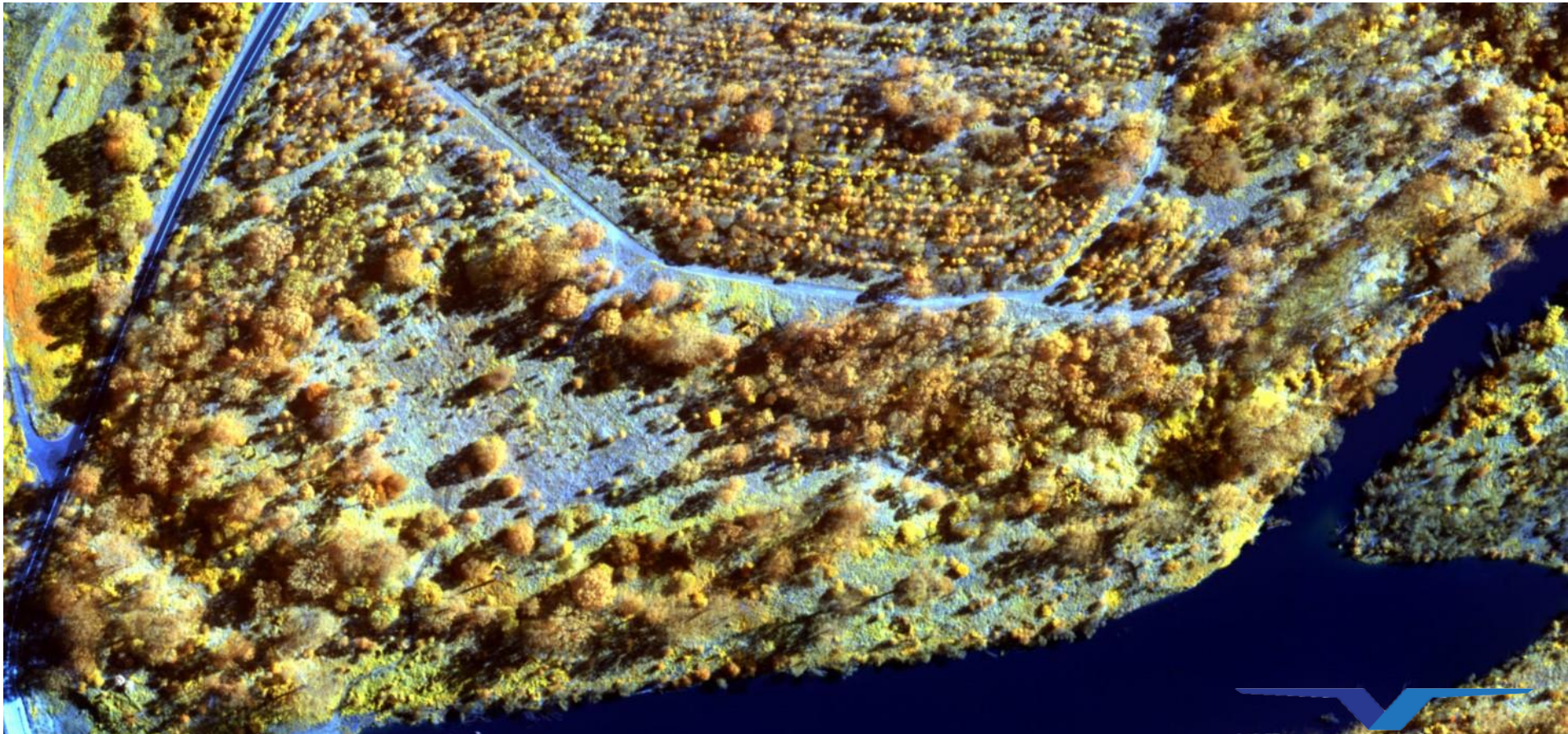
Chinese Celtis – Winter reflectance 5 band multispectral



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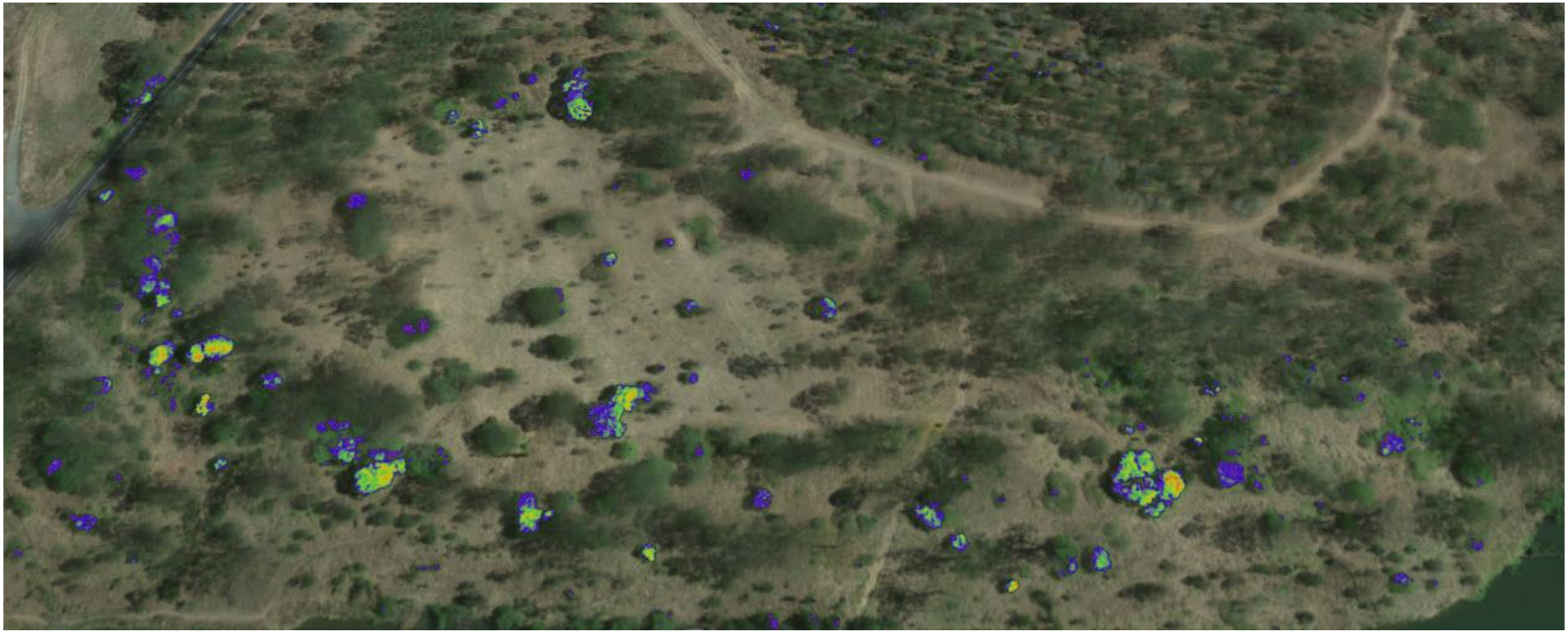
Chinese Celtis – Spring reflectance 5 band multispectral

OSAVI – picks out spring celtis quite well



Urban creek restoration

Project marketing

Environmental Education

Check design implementation

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Questions?