Revelstoke Community Forest Corporation

Commercial Thinning

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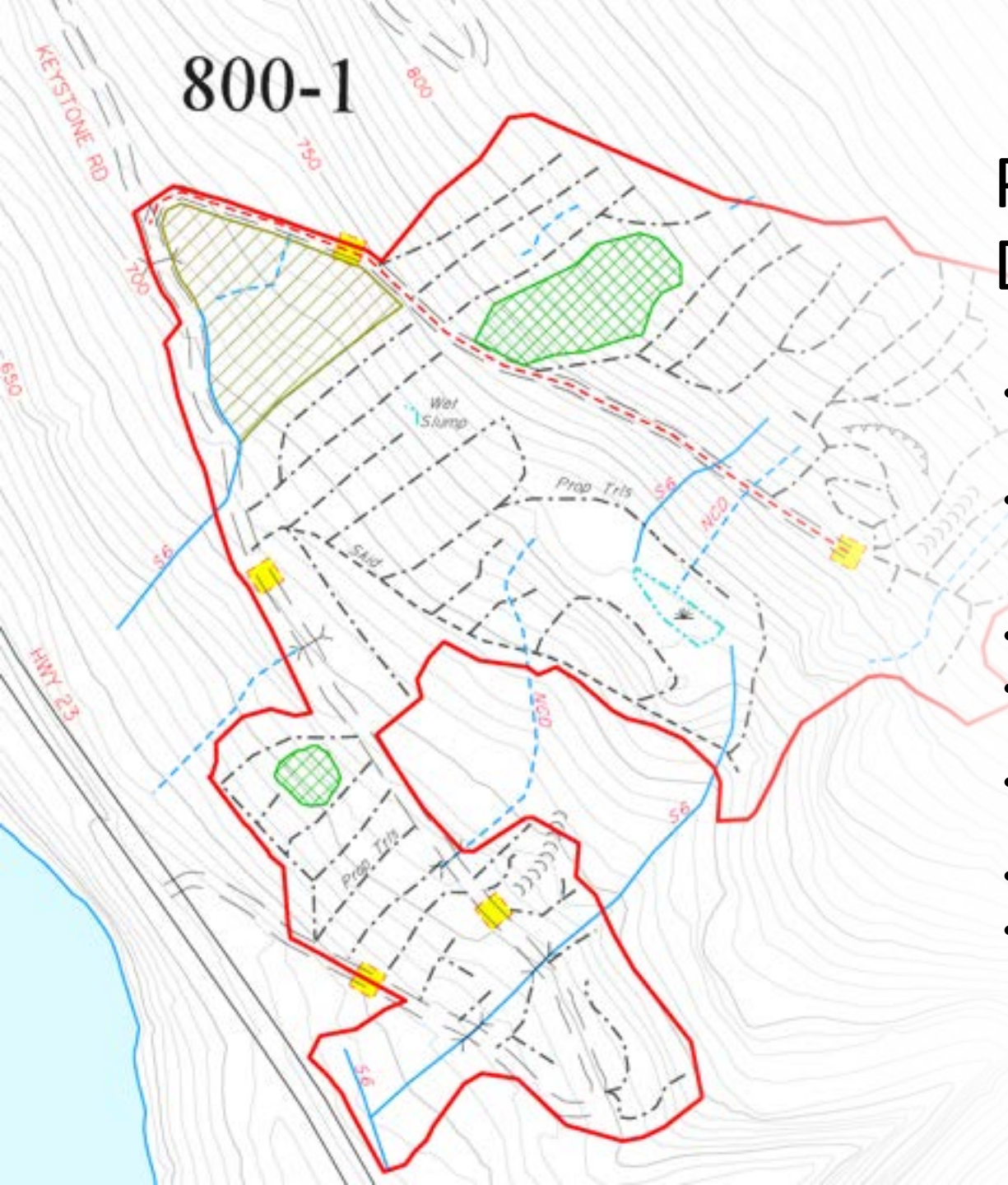
Outline

- Discuss different CT projects by RCFC
- Management Objectives of each
- Prescription Development
- Operational hurtles

Keystone Creek

Objectives:

- To improve the stand through creating a better species mix and culling poor quality trees giving more resources to the higher value, residual crop trees.
- Decrease the rotation time to next harvest by putting more volume on fewer stems.
- Harvest enough volume to make commercial thinning a viable harvest method.



Prescription Development

- Stand suitability
  - Piece size, sph, spp.
- Trail network – need to know machine capabilities for spacing
- Stream/wetland locations
- Write Prescription – limit number of rules
- Tree marking – mark to cut or mark to leave
- Cruise to 7.5 cm DBH
- Can add reductions based on stand tables and trail area to figure out volumes

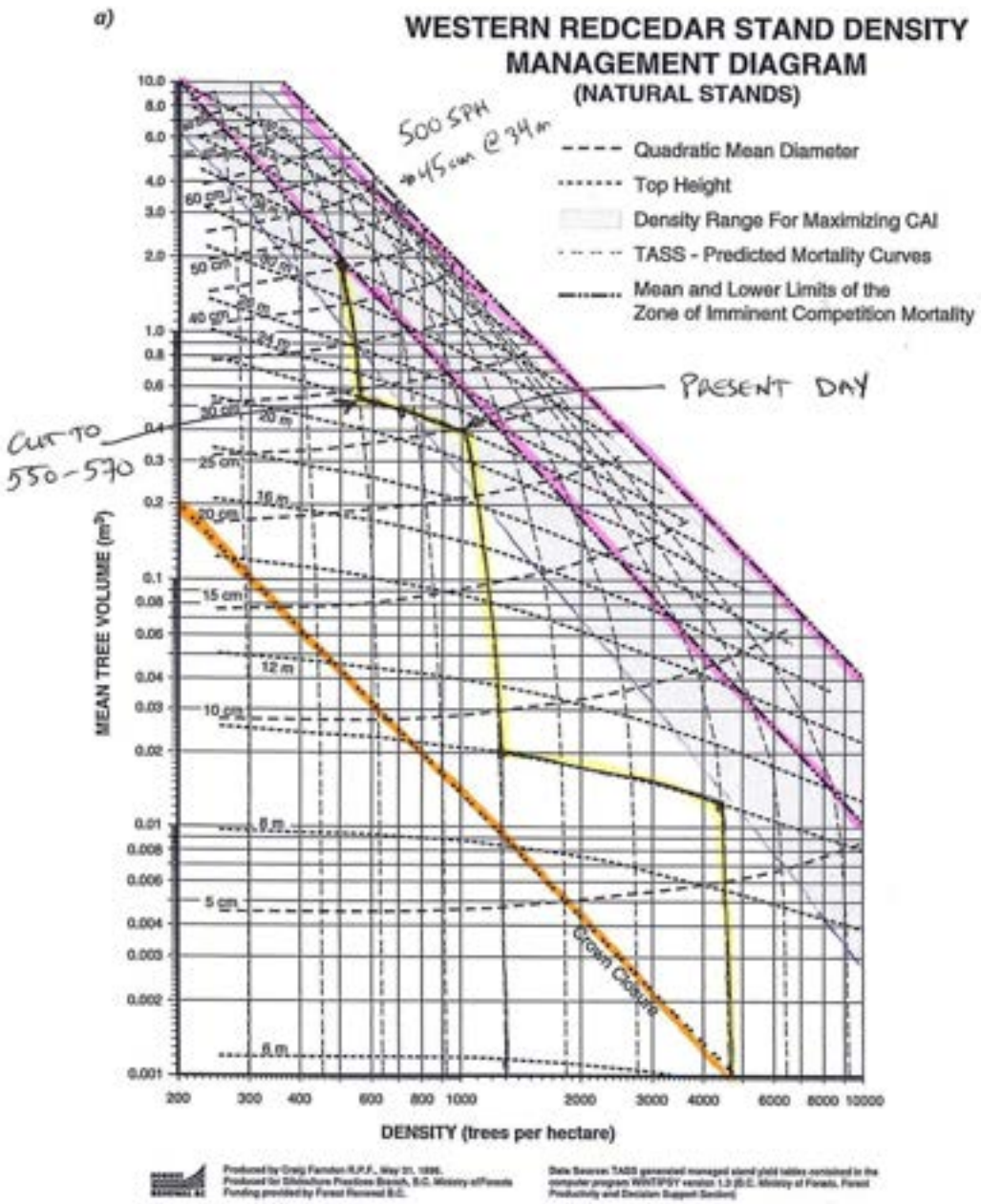


FIGURE 70 *Stand density management diagrams for both natural (a) and planted (b, next page) stands of redcedar (from Farnden 1996).*

Prescription

- Stand juvenile spaced in 1997 @ 10m to 1300 sph
- Thin from 1000 to 550 sph
- Rules:

1. All Pw (dying of white pine blister rust) and deciduous
2. All damaged stems unless the resultant will leave a large gap in the canopy then leave best stem possible
3. Thin between stems to 3-8 meters (ave 4.5m) favouring leaving: 1) Cw, 2) Sx, 3) Fd
4. Prioritize removal 1) Hw, 2) limby stems, 3) forked trees

Harvest

- Tigercat LH 845C
- Komatsu 895 forwarder
- Volvo 290C excavator for loading/trail construction

Sorts:
Sawlogs: Cw, Hw, Pw, Sx, Fd
Pulp & Biomass

Post Harvest – Operational Issues

- Hired from Clearwater
- Well trained operators
- Build trust with harvest crew
- Production vs quality of harvest

Stand conversion:

Hw 46% to 38%

Cw 45% to 56%

Economics:

Cw almost triple the value of Hw


Goldstream – Sx & Fd Blocks

Learnings:

- Big equipment works but need a good operator
- Marking not required unless there is defect higher on trees
- Trail placement on simple ground not needed
- Map Stream and any other constraints
- Some soil disturbance is good.

Nissan Road – Mix Spp.

- Planted to Fd in 1978
- 1400 sph Fd, Cw, Hw, Pw, Ep (Sx, Act, At)
- Stand in self thinning stage
- Wanted smaller equipment
- Thin to 650 to allow a second thin before final harvest.

- Objectives:
- Recover volume loss before final harvest (Fd & Pw)
- Decrease rotation time
- Improve cedar growth (value)

Komatsu 138 zero swing (<8ft wide) with Nisula 555H harvester head
Komatsu 855 Forwarder (9ft wide)

- Training new operators – give them a paint can
- Hiring new operators to train is beneficial
- No need to mark trees, just lots of supervision to start
- Layout main trails only in tougher ground
- In Revelstoke, an 8-wheeled harvester is the machine to use

Considerations:

- Look at Height/Diameter ratios
- Consider leaving some non-treated areas for wildlife, wildlife trees, snow infiltration, riparian, visual screen, etc.
- Start with an easy block if you can (few species & mellow ground)
- Painting trees helps figure out your prescription
- Keep <5 rules for your harvester operator
- Watch for forest health issues
- Think about your final product you're trying to produce.

Potential Objectives:

- Accelerate stand development
- Value harvest – grow volume on higher value species
- Fill voids in timber supply
- Wildlife habitat restoration
- Wildfire reduction
- Recover natural volume losses
- Increase diversity especially in monocultures
- Cover crop for regeneration
- Create multi-aged continual cover forests

Great new technology to come:

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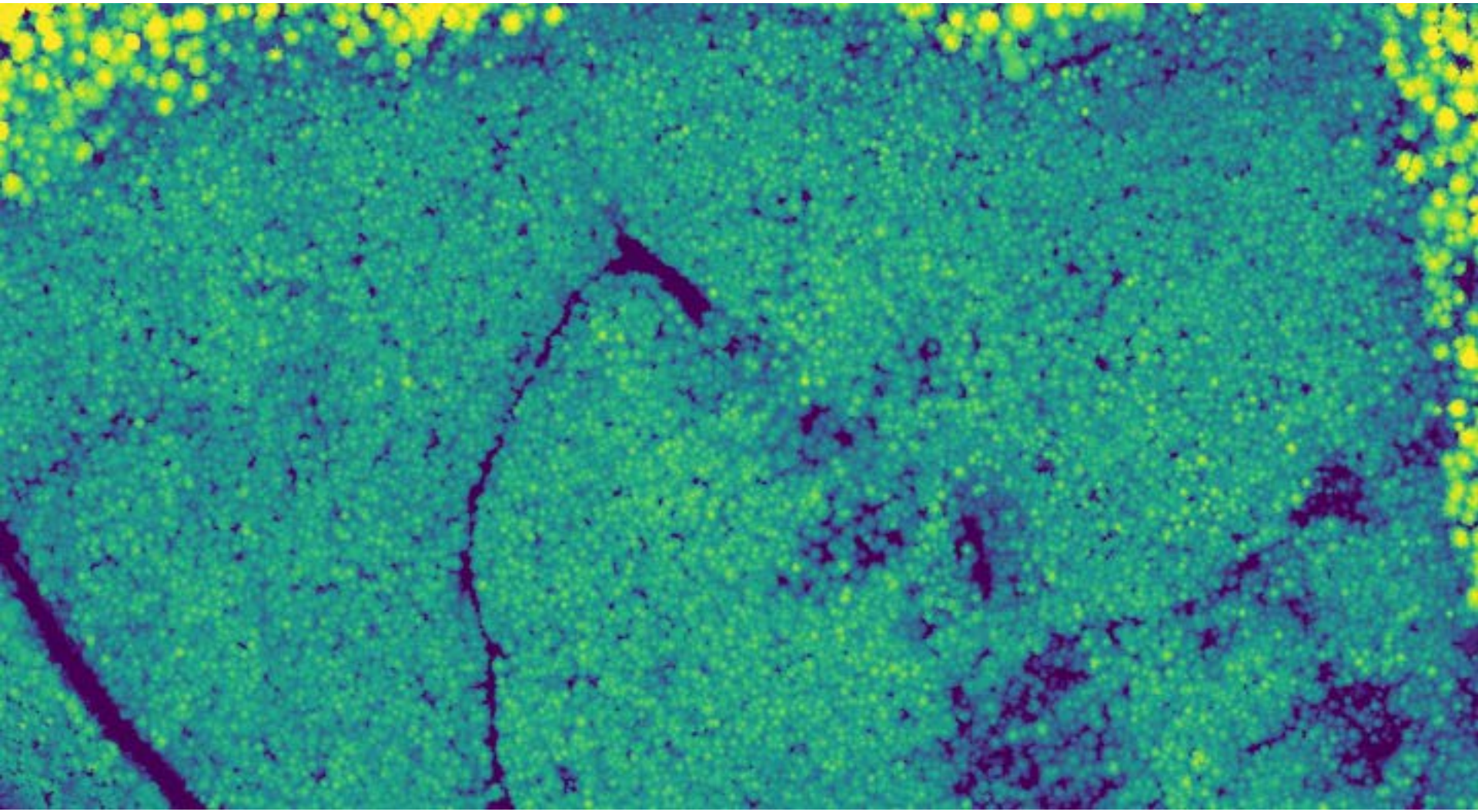

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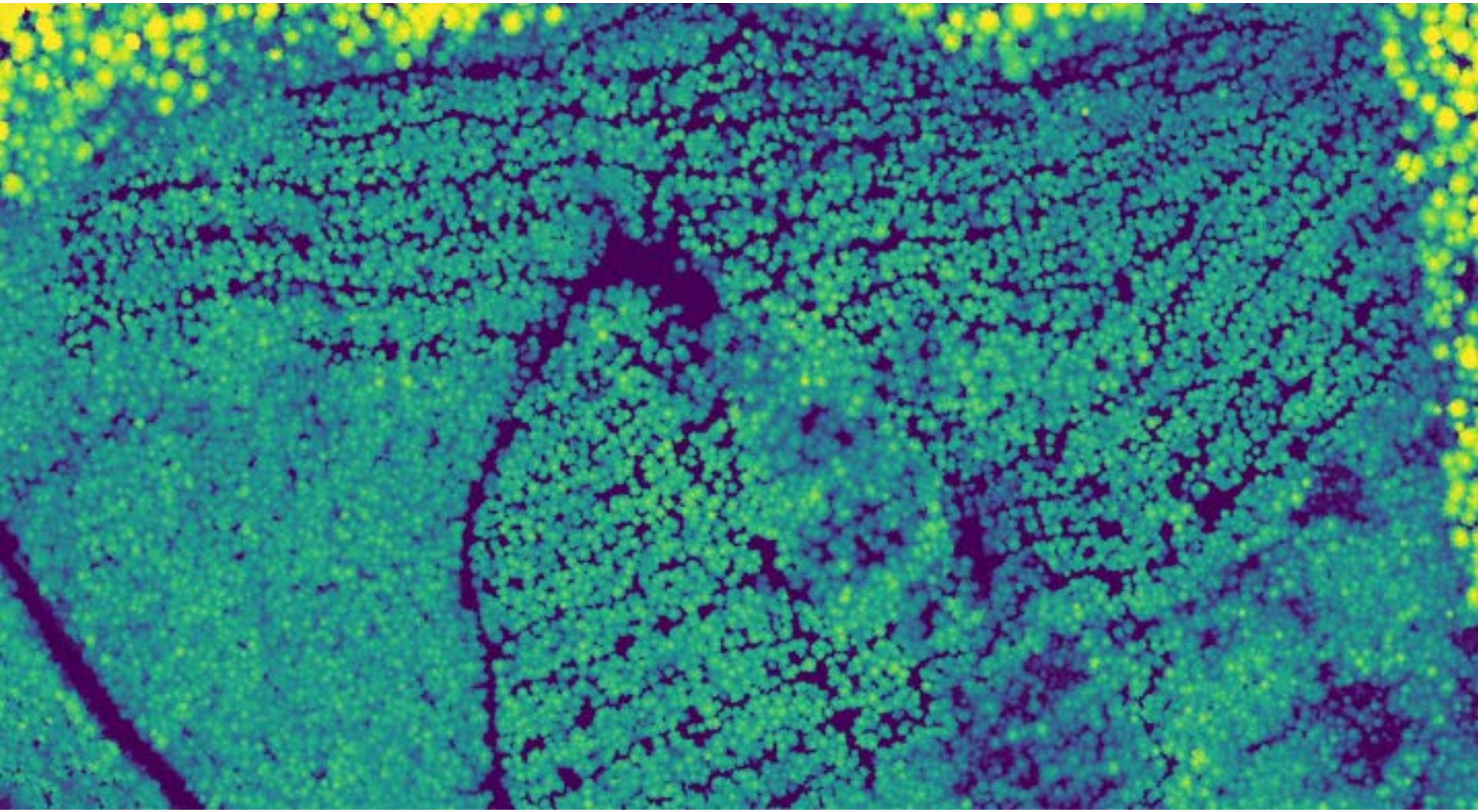

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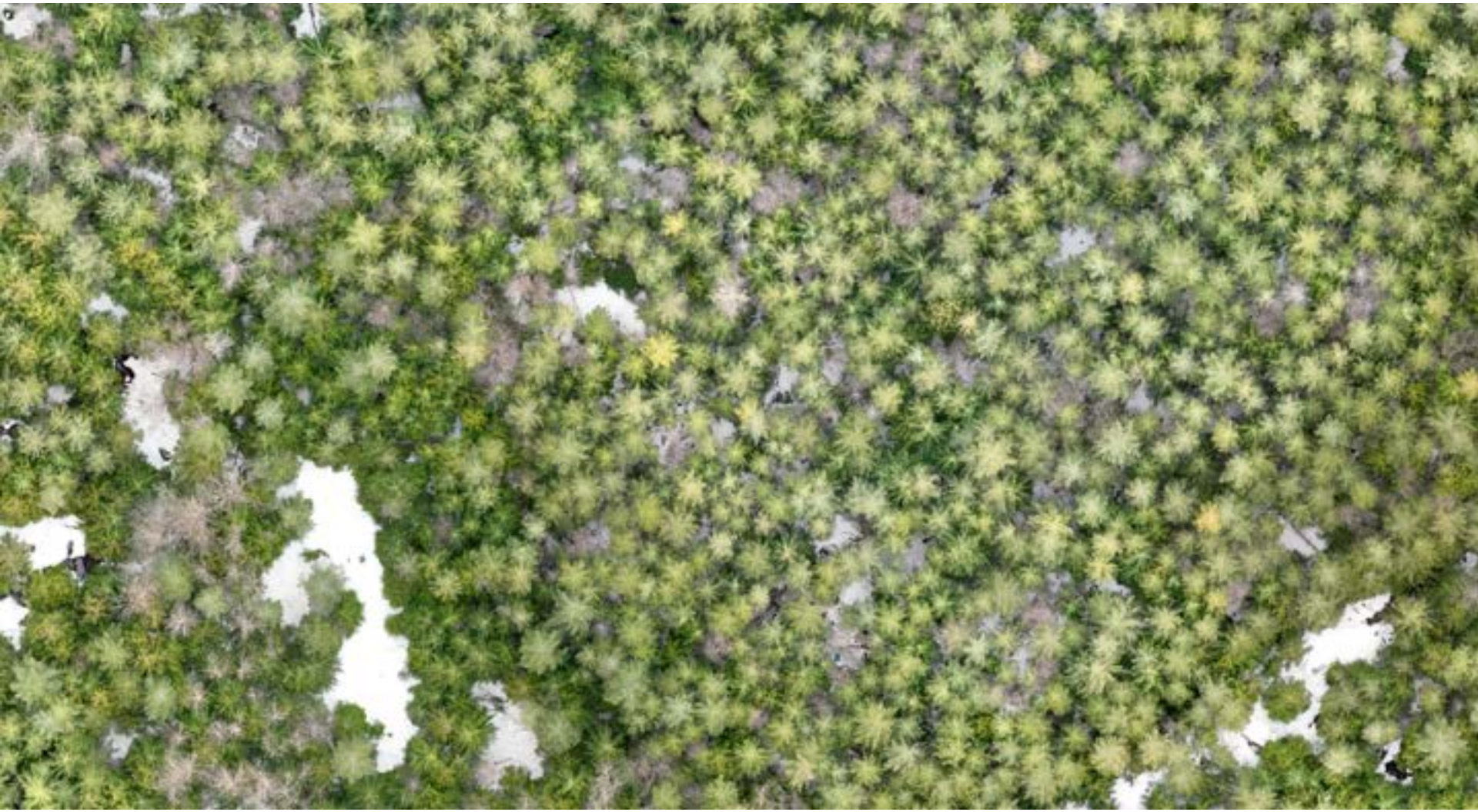

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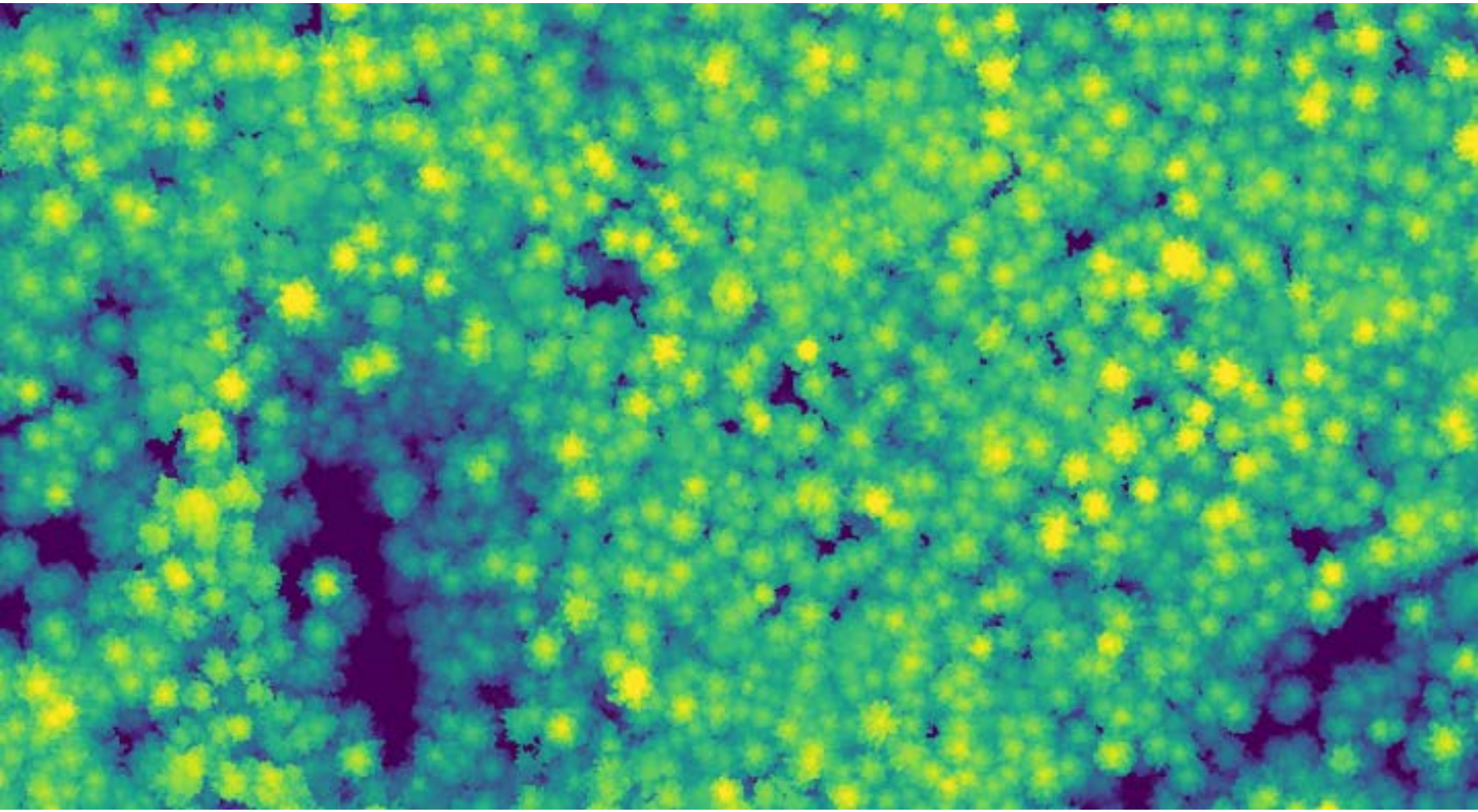

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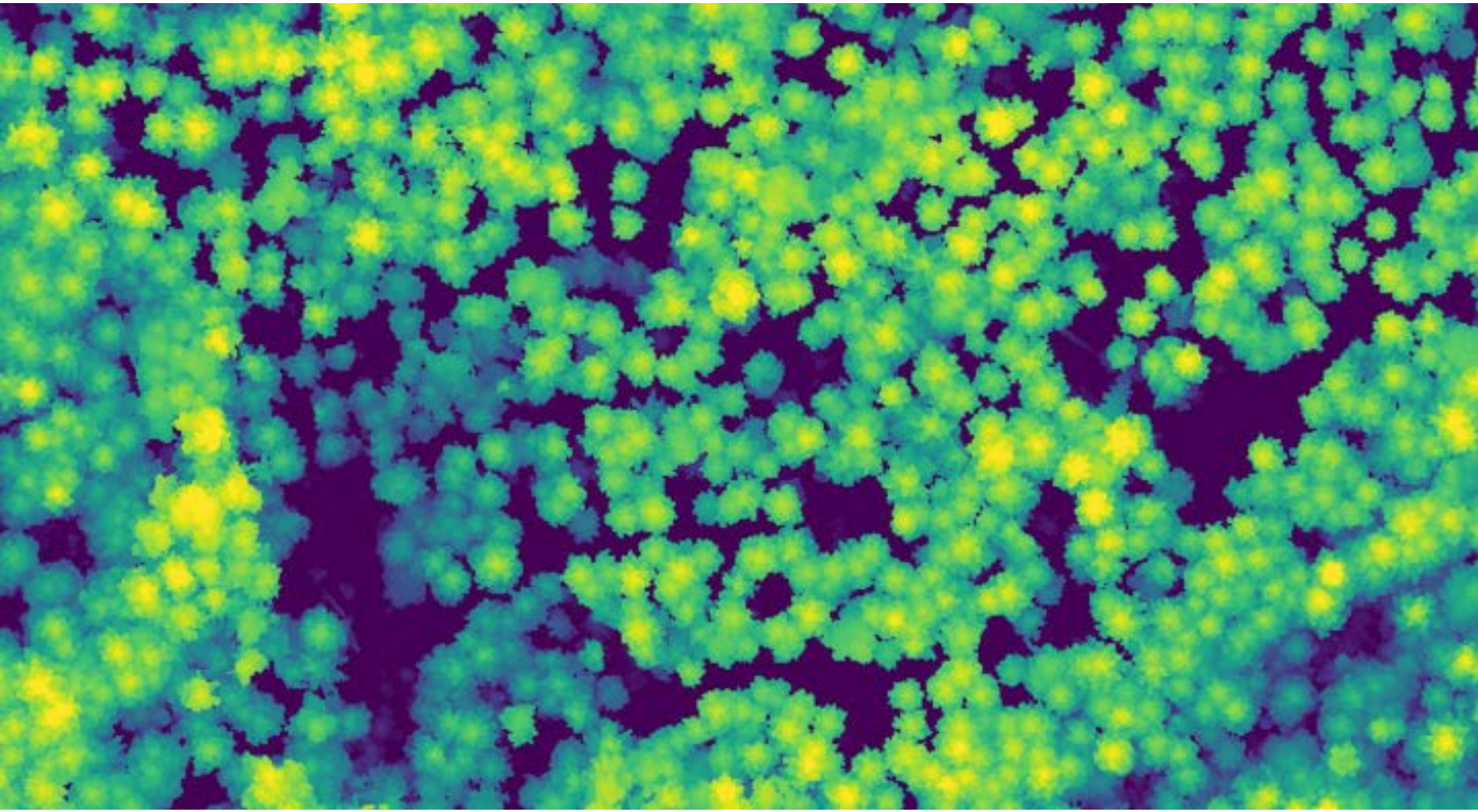

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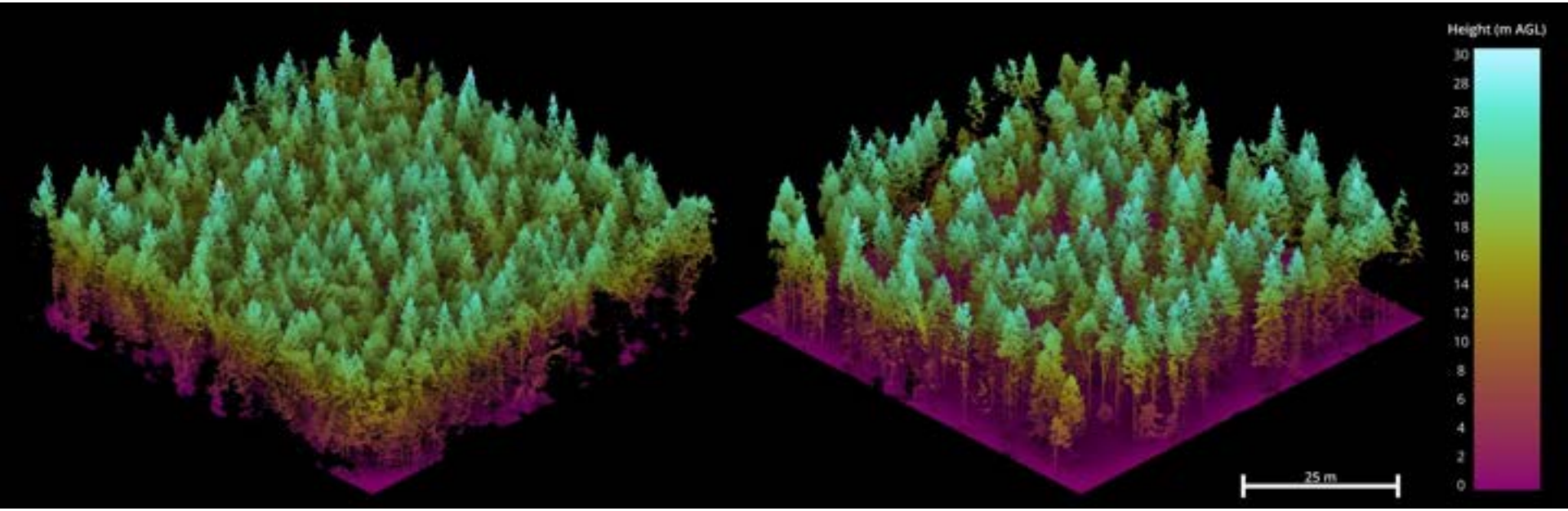

Benefits of commercial and precommercial thinning

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Commercial thinning and Juvenile Spacing

Not thinned

Old thinning from 1980's


Thank you,
Photo: David M