



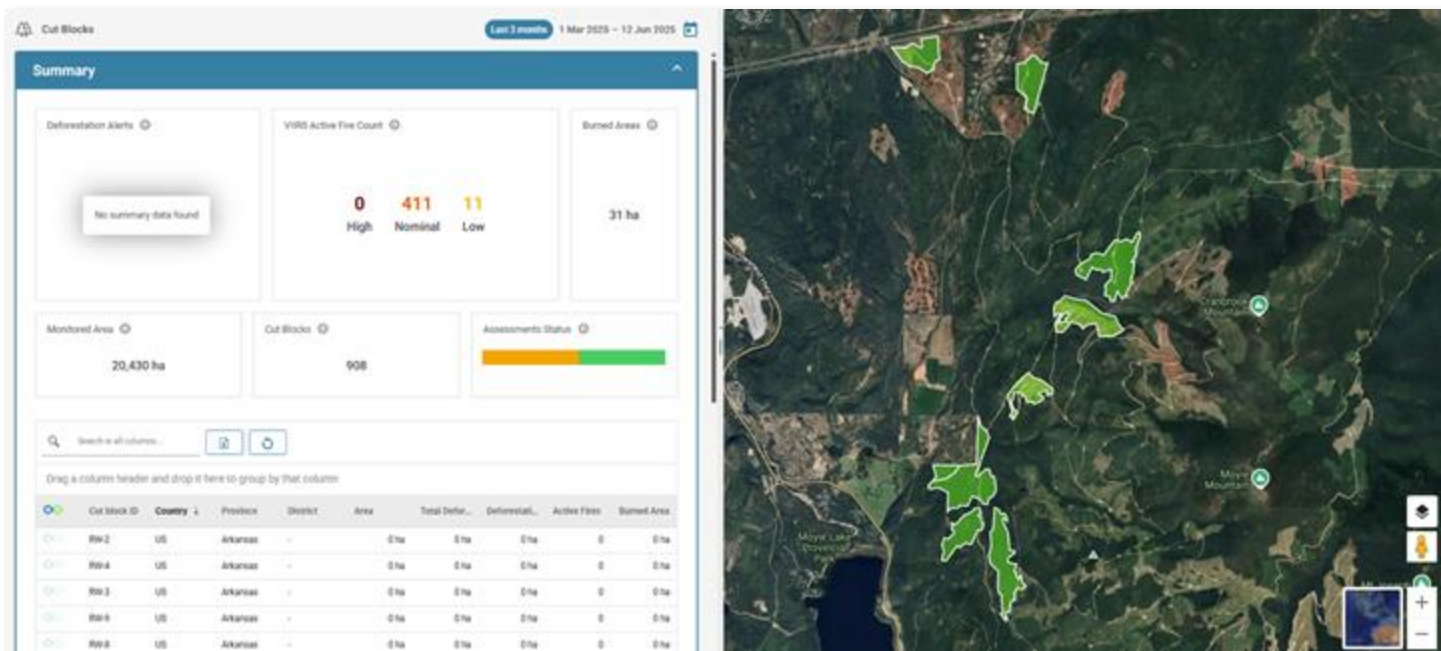
DIST alerts for rapid creation of forestry supply chain geospatial data

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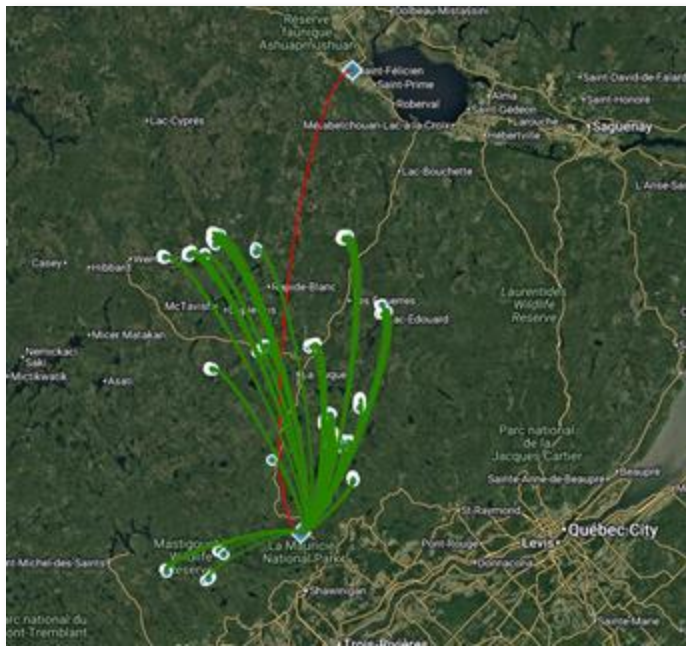
NGIS

- Geospatial consultancy (Australia, North America, EU)
- Working with forestry and other commodity companies for sustainable supply chain goals
- EUDR compliance
- SaaS platform Tracemark



OPERA DIST alerts use case in the forestry sector

- Forestry companies need reliable geospatial information on the precise location of their forest harvests
- This information needs to be produced on a regular basis (biweekly or monthly) as truck deliveries arrive at mills and roundwood and wood chips are processed
- Ideally paper and roundwood products have full traceability (i.e. this paper product was created from these 100 forest harvest areas)



OPERA DIST alerts use case in the forestry sector

- Precise geospatial locations of wood products are required for the European Deforestation Regulation (EUDR)
- Exact wood sourcing location helps assess risk in other sustainable forestry initiatives

1.15. What if a relevant commodity is produced on a plot of land within a single estate property, including also other plots of land?

The situation may be best described with the following illustration.



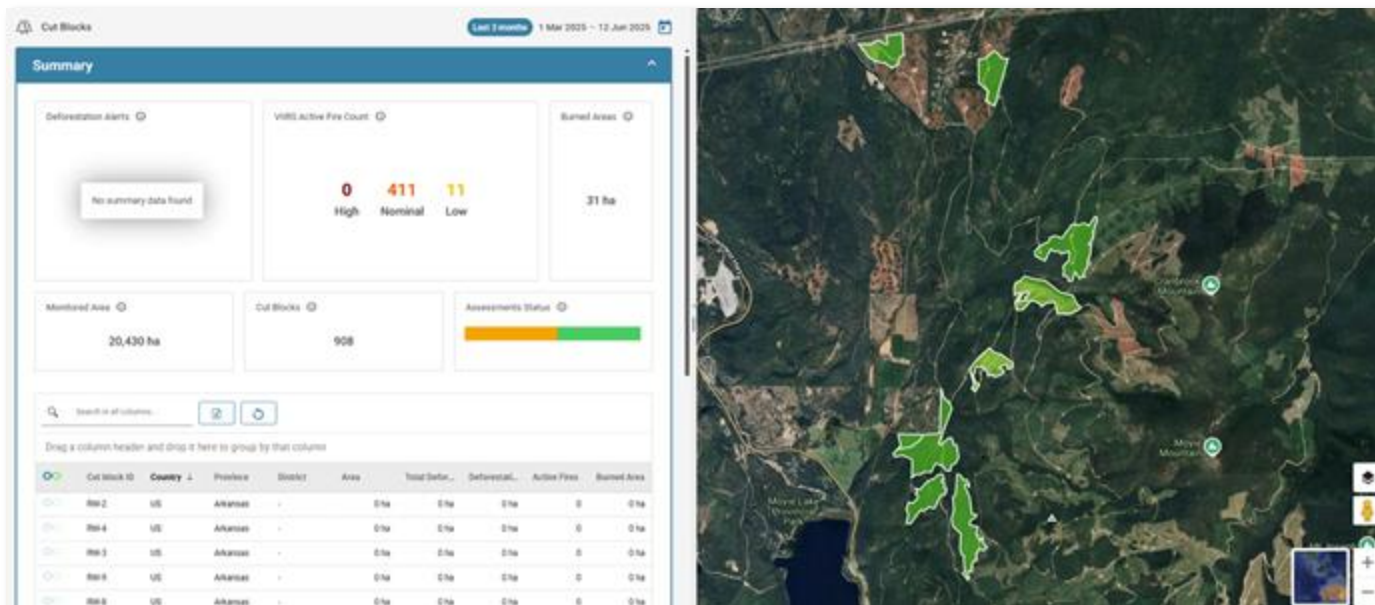
- i) If the relevant commodity (soy, in the example) is produced in area B, which geolocation should be provided?

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Based on definition of plot of land ("land within a single real estate property") the operator should provide only the geolocation of the plot of land where the relevant commodity is produced (area B, in the example)

OPERA DIST alerts use case in the forestry sector

- Why DIST alerts?
 - Weekly deforestation across North America (where our clients operate)
 - RADD and GLAD-S2 aren't available for non-tropical areas
 - Trusted source from NASA, open-access, and scientifically credible
 - Hosted as an asset in Google Earth Engine which can easily be transferred to our sustainable sourcing platform Tracemark hosted on Google Cloud



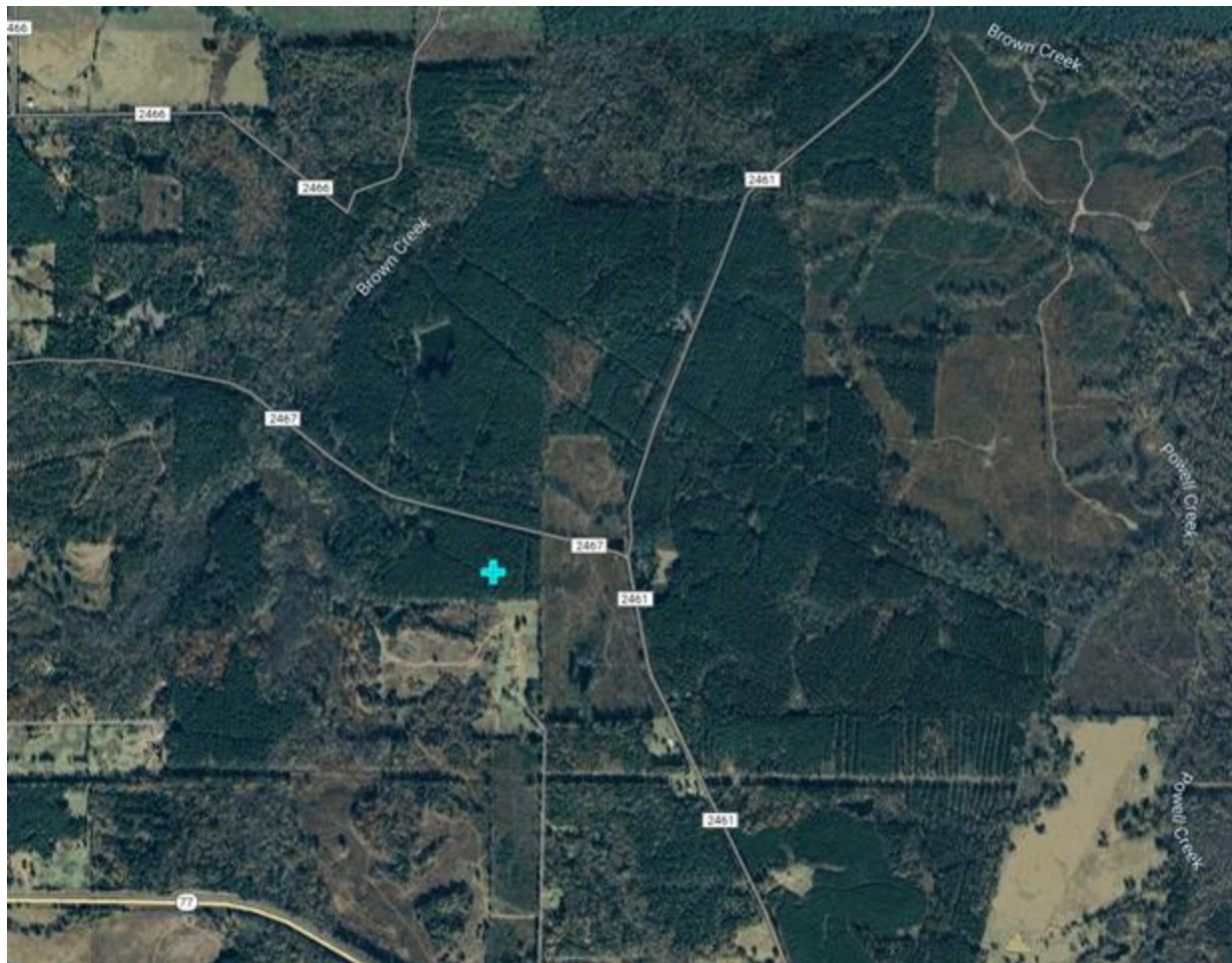
Two specific operational use cases

1. General area of forest harvest is known with a lat/long point generally within 1 km
2. No information on sourcing location

Lat long point -> EUDR valid polygon

Proprietary + Confidential

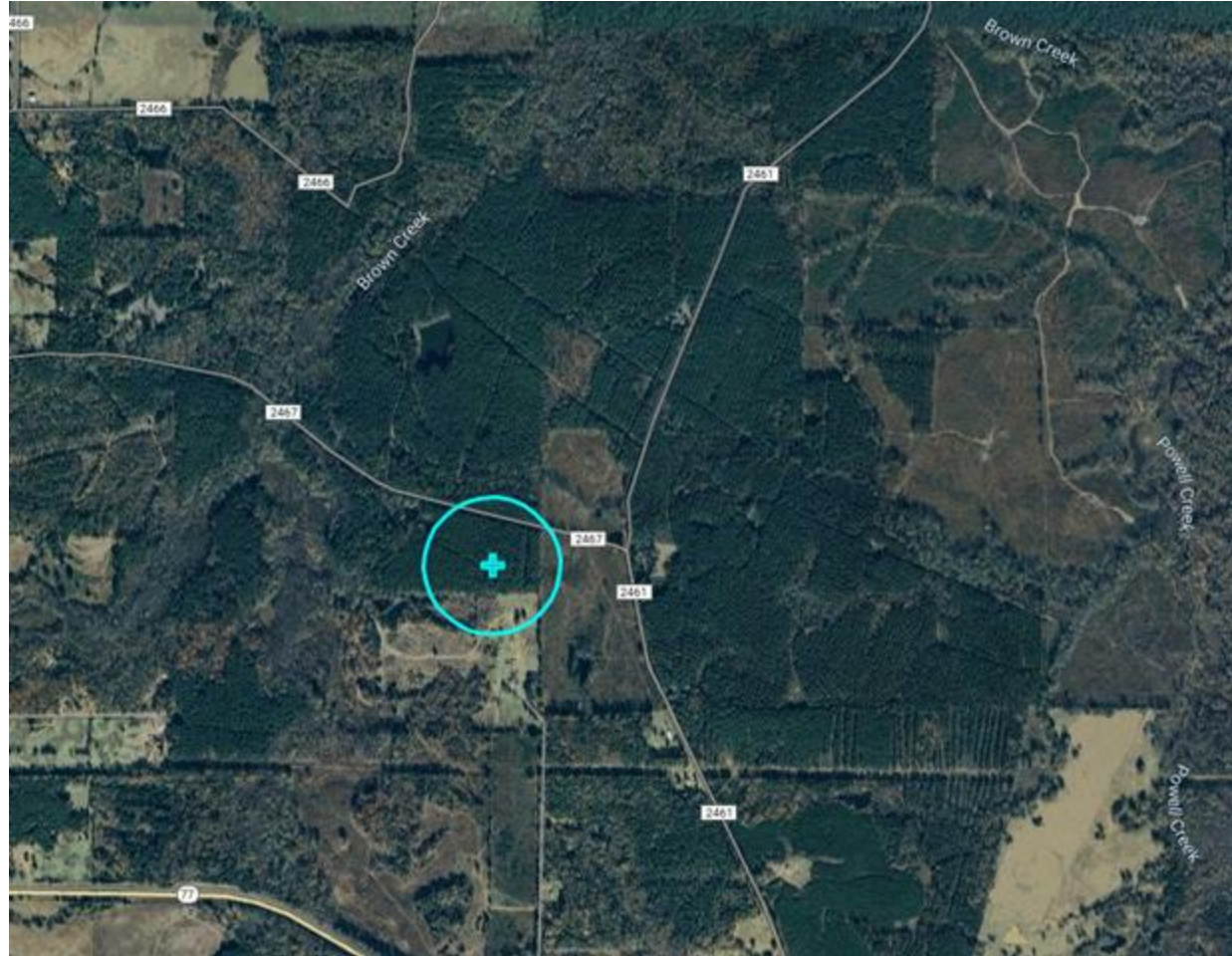
1) Client provides approximate lat long (x/y) coordinates with approximate harvest date (Jan - March 2025 in this case)



Lat long point -> EUDR valid polygon

Proprietary + Confidential

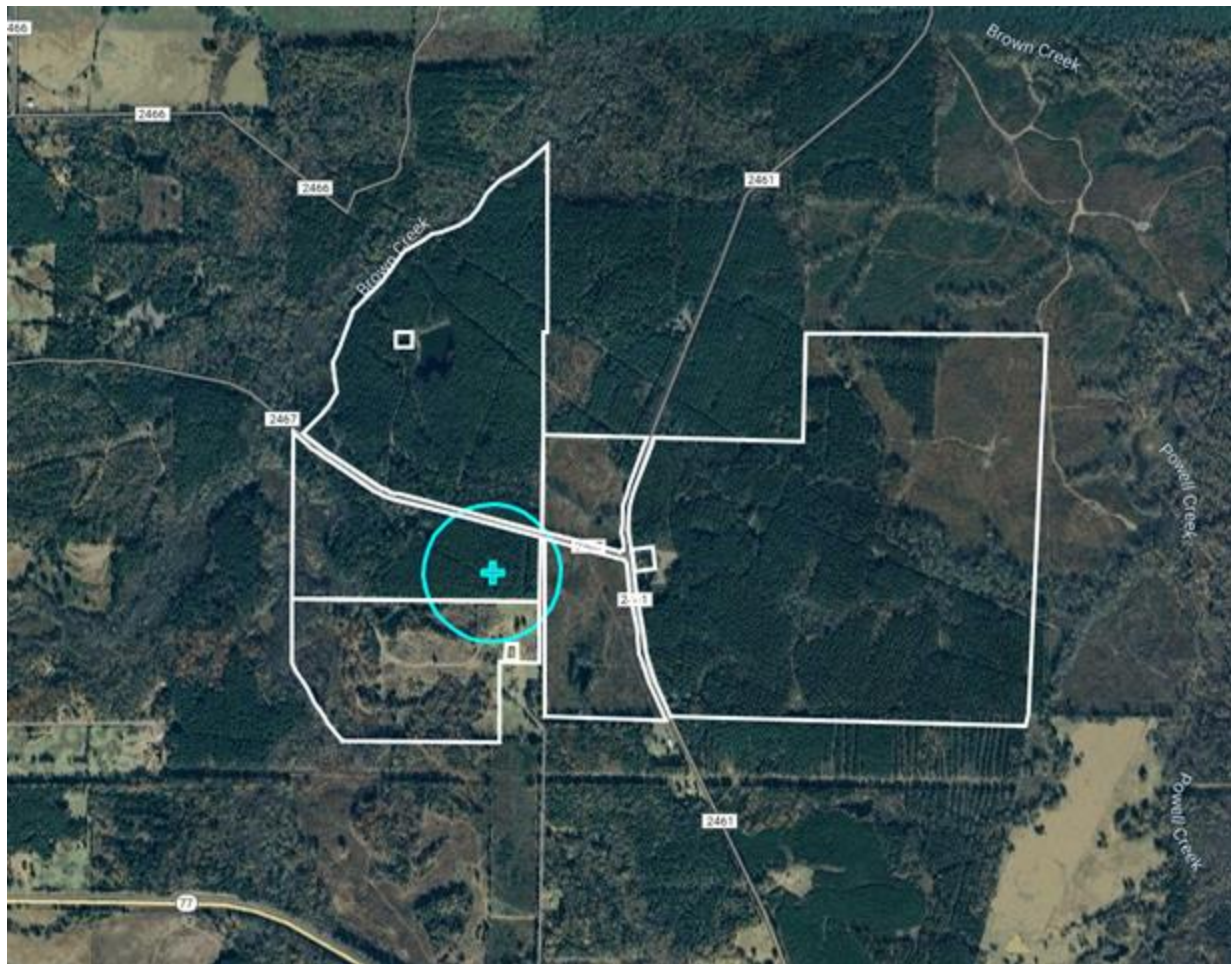
2) Buffer lat long point due to uncertainty in location



Lat long point -> EUDR valid polygon

Proprietary + Confidential

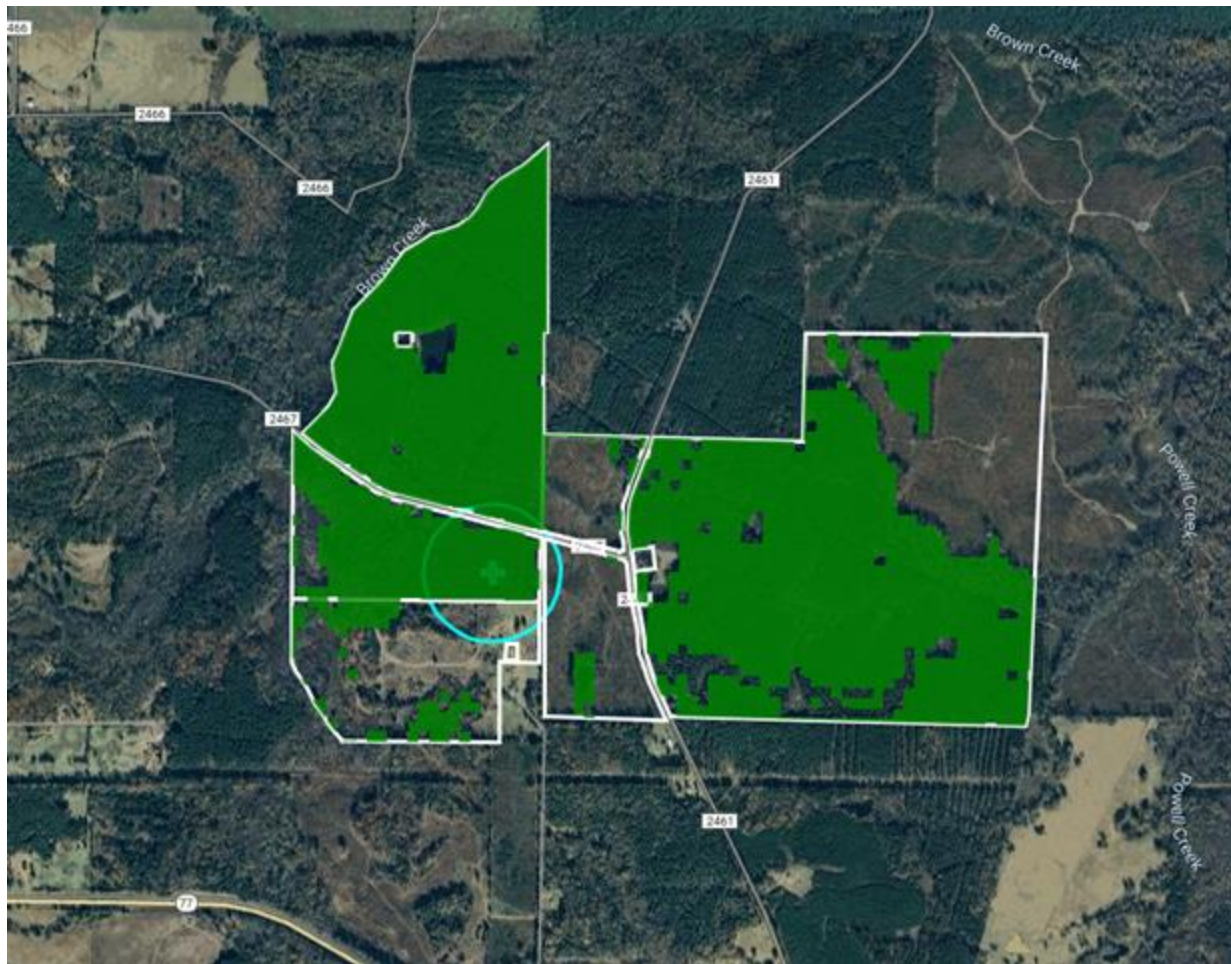
3) Get all parcels that overlap with buffer



Lat long point -> EUDR valid polygon

Proprietary + Confidential

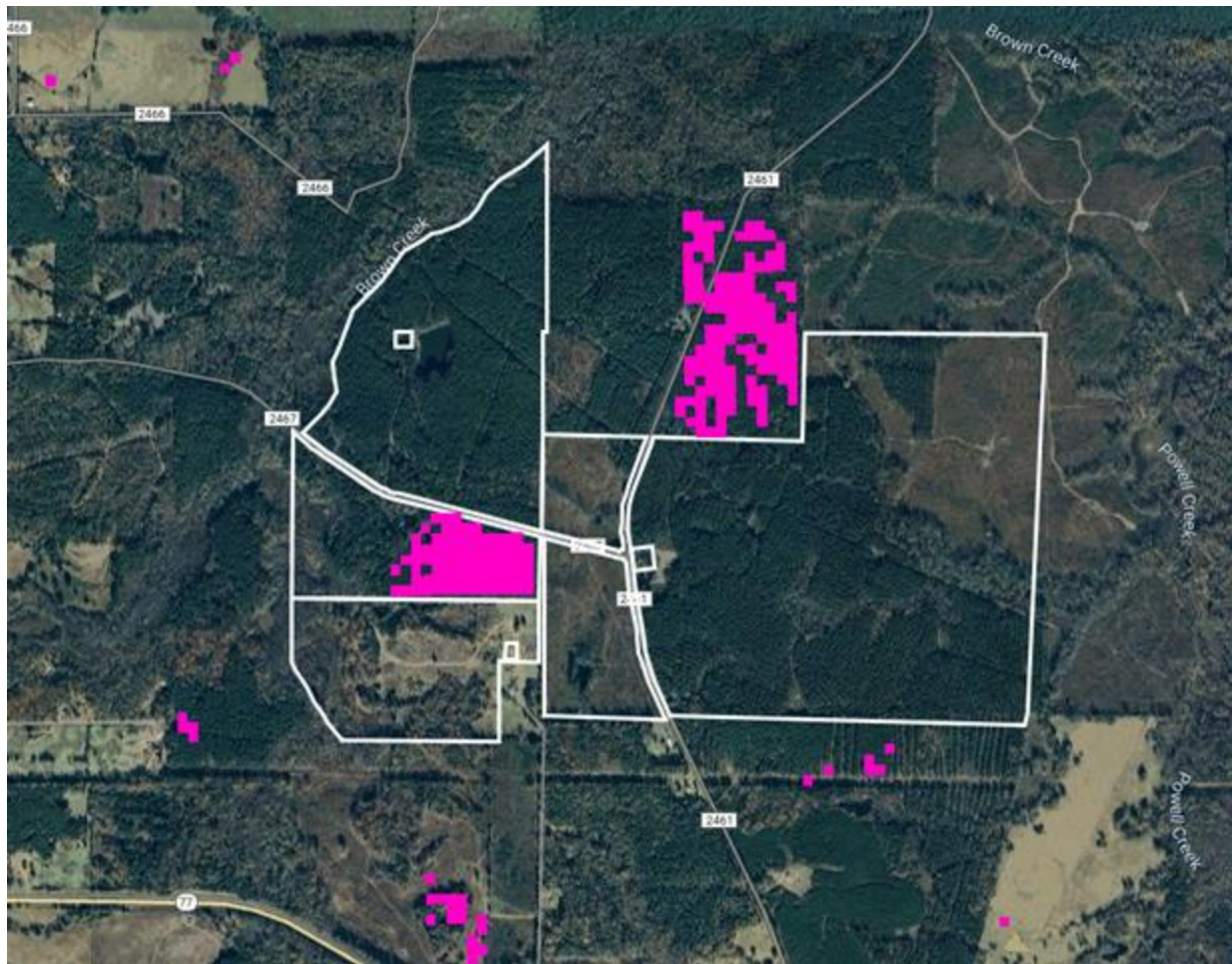
4) Check each parcel has
harvestable forest



Lat long point -> EUDR valid polygon

Proprietary + Confidential

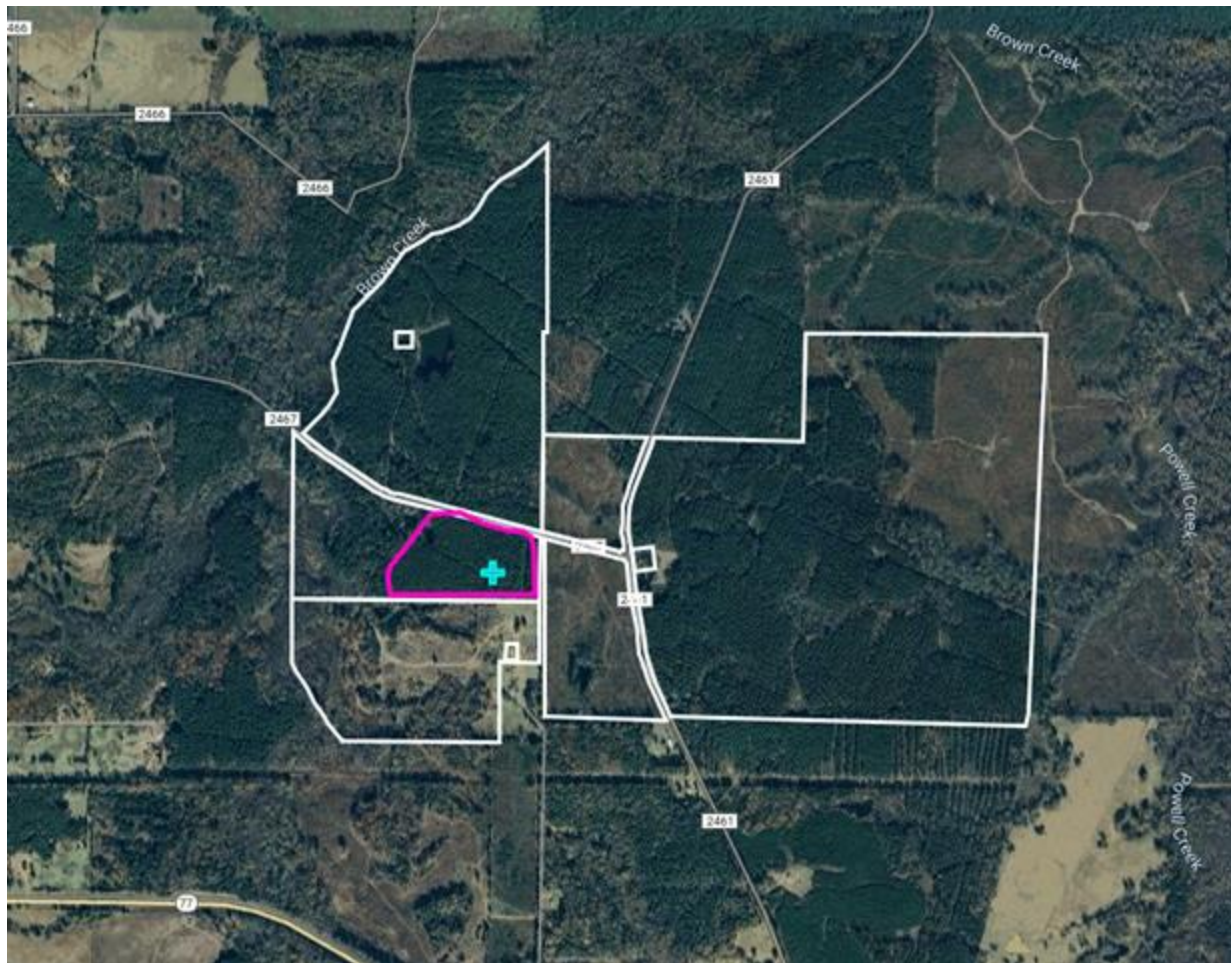
5) Use DIST low - medium confidence alerts to detect harvesting in parcels during time window (Jan - March 2025)

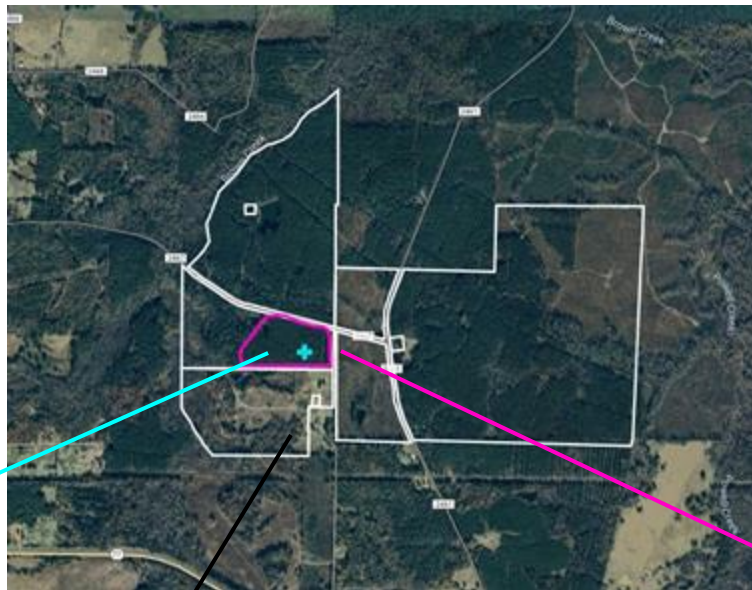


Lat long point -> EUDR valid polygon

Proprietary + Confidential

6) Produce harvest polygon representing the “precise sourcing location” required by EUDR and smooth blocky 30 m pixels





ChipID	Long	Lat
chip-1	-123.818630	48.724313
chip-2	-123.743090	48.692252
chip-3	-123.798331	48.684564
chip-4	-123.854071	48.683026
chip-5	-123.853239	48.715422
chip-6	-123.771210	48.681158

GPS points

Vendor	Landowner Name
Company1	Company1
Company1	Company1
Company1	Company1
Company1	John Smith
Company2	Company2
Company3	John Doe

Parcel info

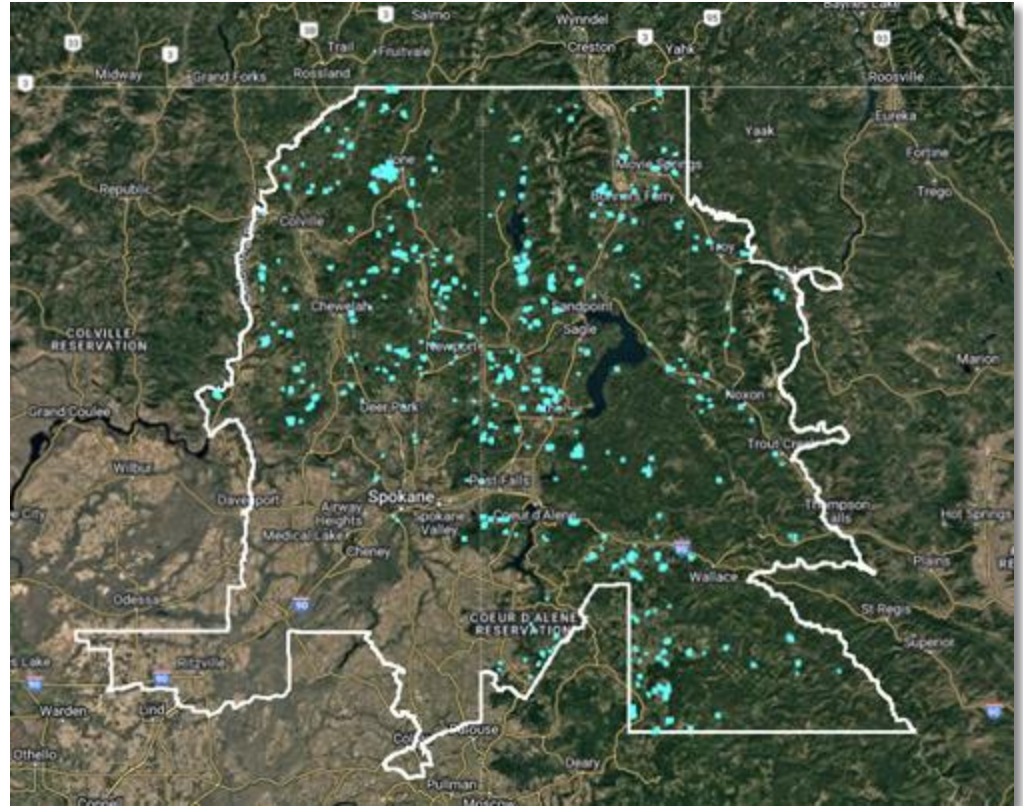
PolygonID	geo
cutblock-1	MULTIPOLYGON (((-123.823232222337 48.7265514256665,-123
cutblock-2	MULTIPOLYGON (((-123.748402016593 48.6941558404467,-123
cutblock-3	MULTIPOLYGON (((-123.797832457615 48.6856092666071,-123
cutblock-4	MULTIPOLYGON (((-123.857545159749 48.6842279568809,-123
cutblock-5	MULTIPOLYGON (((-123.856191441145 48.7171982729706,-123
cutblock-6	MULTIPOLYGON (((-123.778023275177 48.6830318236984,-123

Polygon for EUDR

No information on wood sourcing location

Need all potential harvest polygons around mill

1. Isochrone drive time analysis
 - 3 hour drive time from mill
2. All forestry harvests in the last x months
 - Only take DIST alerts in harvestable forest as of 2024 (tree height and canopy cover thresholds)
 - Use wildfire alerts to remove other deforestation sources



How this helps the forestry sector?

- Forestry companies now have a more complete picture of their supply chain
 - This helps assess sustainability risks to the supply chain
 - Are we using wood from areas which aren't following proper replanting?
 - Are we using wood from forests that are being converted to crops?
 - Are we sourcing from areas that are at high risk of forest degradation?
- DIST alerts provide:
 - Globally available data
 - Data updated with a frequency that meets the needs of wood harvesting and processing
 - Scientifically credible data source



Next steps

- The use of DIST alerts is now being used operationally to trace and map forestry supply chains across North America for our forestry clients
 - Domtar and Billerud have been helpful in testing/validating this work
 - Geospatial data created being used in EUDR submission and risk assessment

The logo for Domtar, featuring the word "Domtar" in a green serif font. A small green leaf icon is positioned above the letter 't'.The logo for Billerud, featuring a green crown icon above the word "BILLERUD" in a grey sans-serif font.

Next steps

- Can we capture more subtle harvest events such as forest thinning?



Next steps

- Can we detect winter harvests in Canada and Northern US?
- Can upcoming DIST-S1 alerts be used to get hardwood leaf-off deforestation detections?



Questions

- Thanks to the NASA OPERA and UMD team!