



Upstream Tech

What we've learned about detecting easement encroachments with aerial imagery

Saving time and catching issues earlier

Miles van Blarcum

miles@upstream.tech

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Upstream Tech

We are a software company helping organizations **make more efficient natural resource management decisions.**

Our 30+ person team has expertise in:

- Land conservation and management
- Environmental science & engineering
- Hydrology
- Forestry
- Software engineering
- Machine learning



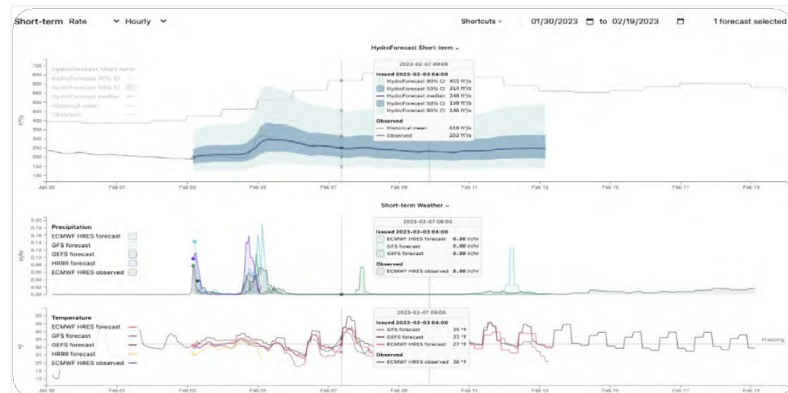
Our products



Software platform for monitoring land, water, and assets at scale



AI hydrology model creating the world's most accurate water forecast



Difficulties with dam easement monitoring

- Development is accelerating and easements aren't always flagged by title companies
- Driving to each dam site is inefficient for district managing dozens or hundreds of dams
- Sites can be difficult to access and view from public roads
- Commonly used imagery sources are out of date and don't reflect active development
- Large portfolios with a small team = time is limited and needs to be spent where it's needed most

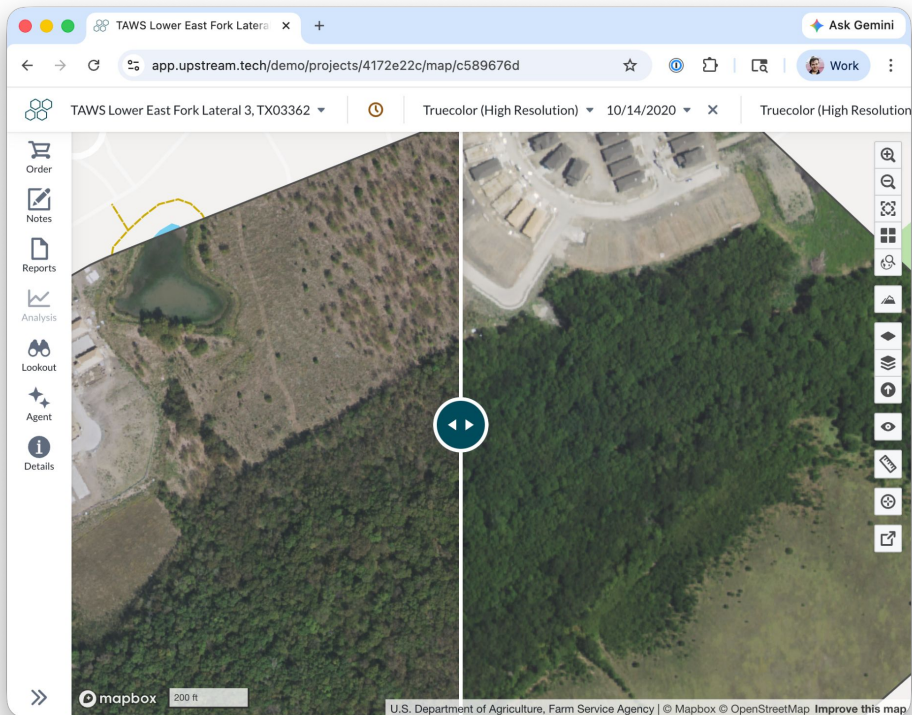


Difficulties with imagery access

- Composite imagery sources make it difficult to identify capture date
- Spatial and order minimum requirements leading to five-figure costs for a single image
- Complex user interfaces and the need for GIS expertise
- Relying on a single vendor = putting all of your eggs in one basket
- Lack of automated alerting tools



Lens: purpose-built tool for easement monitoring



- **Access imagery from dozens of sources in one place**
- **Low to no minimum order requirements**
- **Easy to use with no GIS expertise needed**
- **Monitor entire sites in minutes and prioritize where time is spent on the ground**
- **Easily access tax parcel data**
- **Automated alerts for owner changes and vegetation removal**



The value of Lens

Access the best available geospatial data

Harness the power of cost effective, integrated public and commercial geospatial datasets, flexible ordering with **no to low minimum area requirements**, and extensive historical archives all in Lens.

We team up with satellite and aerial partners so you can get the insights you need, compare datasets, and purchase imagery all in one place.



Chambers Creek in Texas | Le

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app.upstream.tech/demo/projects/191d7ec3/map/078fcd70

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Chambers Creek in Texas ▾

Truecolor (High Resolution) ▾

05/20/2025 ▾

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Help ▾

📏 Miles ▾

🛒

Order

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Notes

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Reports

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Analysis

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Lookout

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Details

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Source

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Status

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2025

📷

10/13/2025

Maxar WorldView (0.3m)

Preview

📷

10/08/2025

Airbus Pléiades Neo, Extended Archive (0.3m)

Preview

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10/08/2025

Maxar WorldView (0.5m)

Preview

📷

08/27/2025

Airbus Pléiades Neo, Extended Archive (0.3m)

Preview

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08/27/2025

Airbus Pléiades Neo, Extended Archive (0.3m)

Preview

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08/11/2025

Airbus Pléiades Neo, Extended Archive (0.3m)

Preview

📷

07/29/2025

Maxar WorldView (0.3m)

Preview

Need older imagery? We can process the archive further back. Email us at lens@upstream.tech.

Not seeing exactly what you need? Learn more about tasking [here](#).

Overwhelmed by the options? Check out our [guide to choosing imagery](#).

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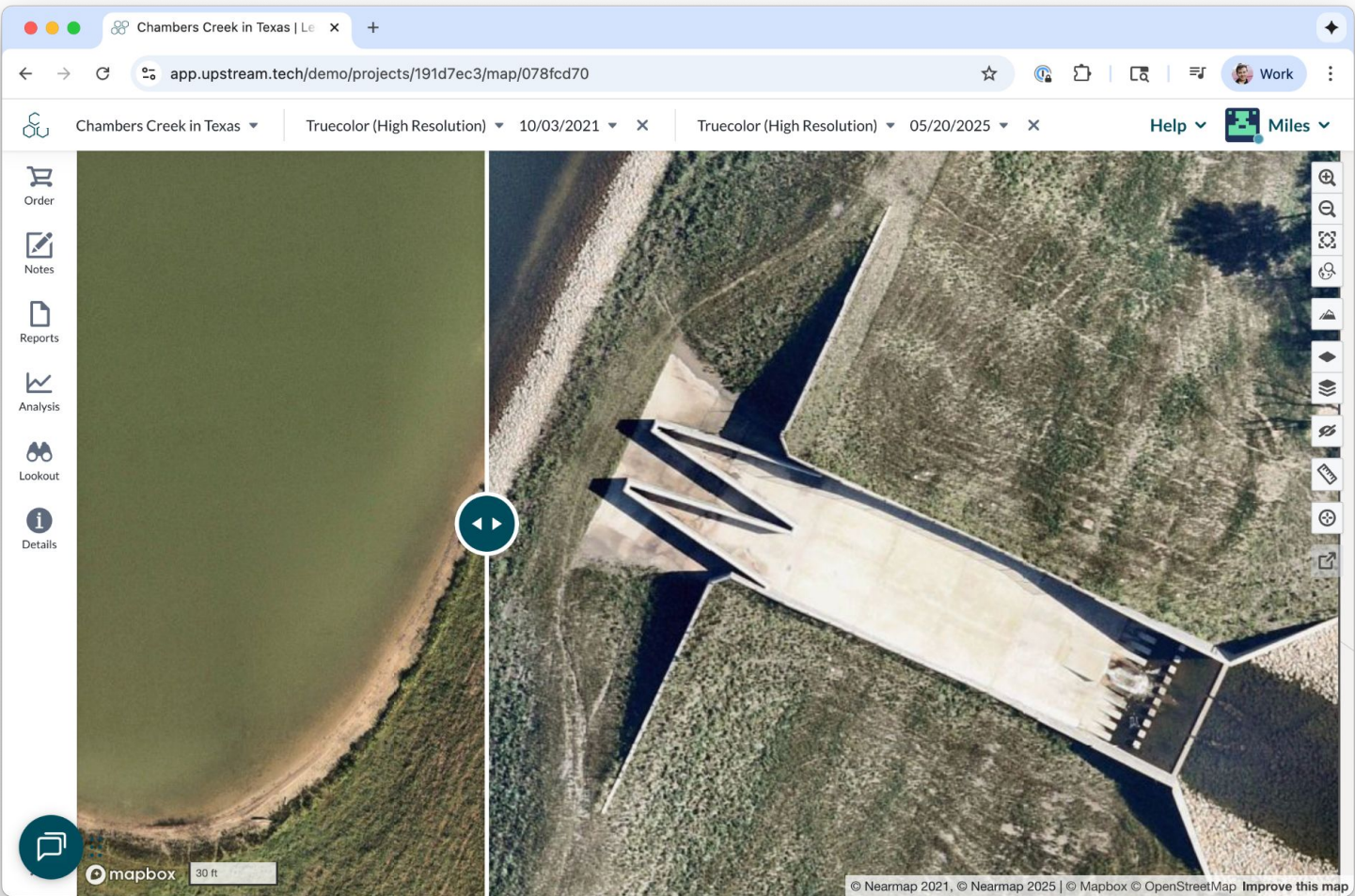
mapbox

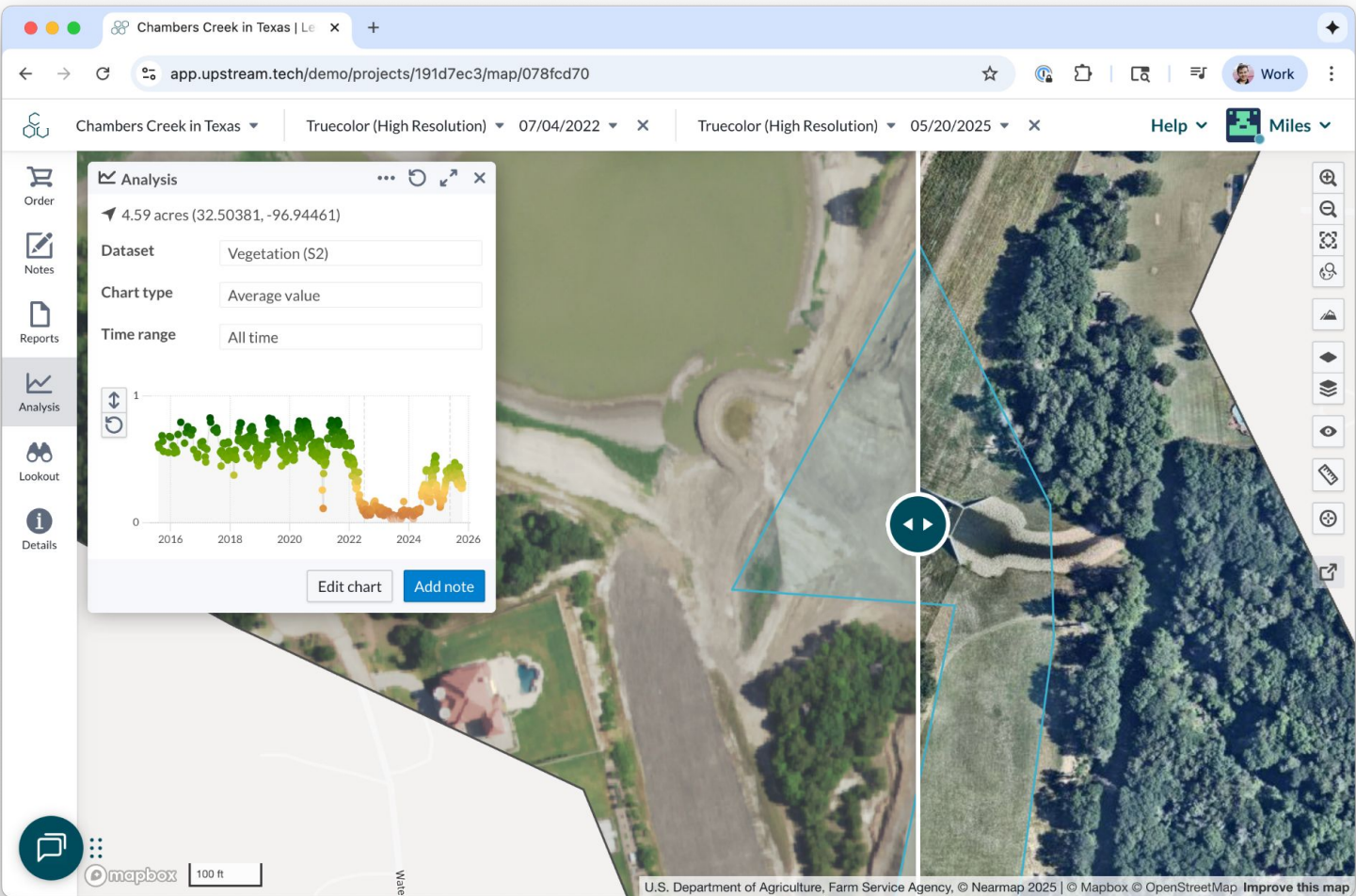
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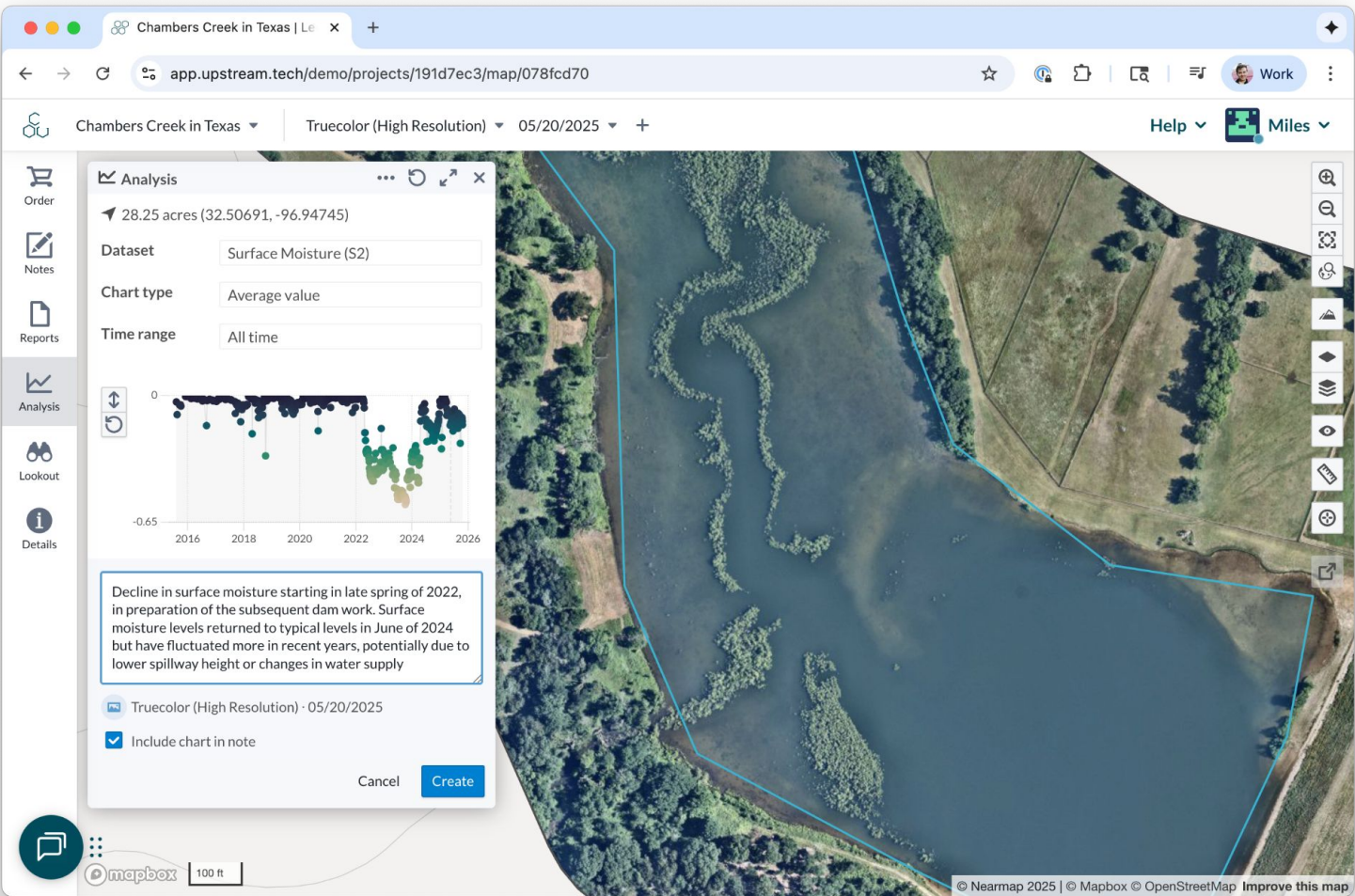
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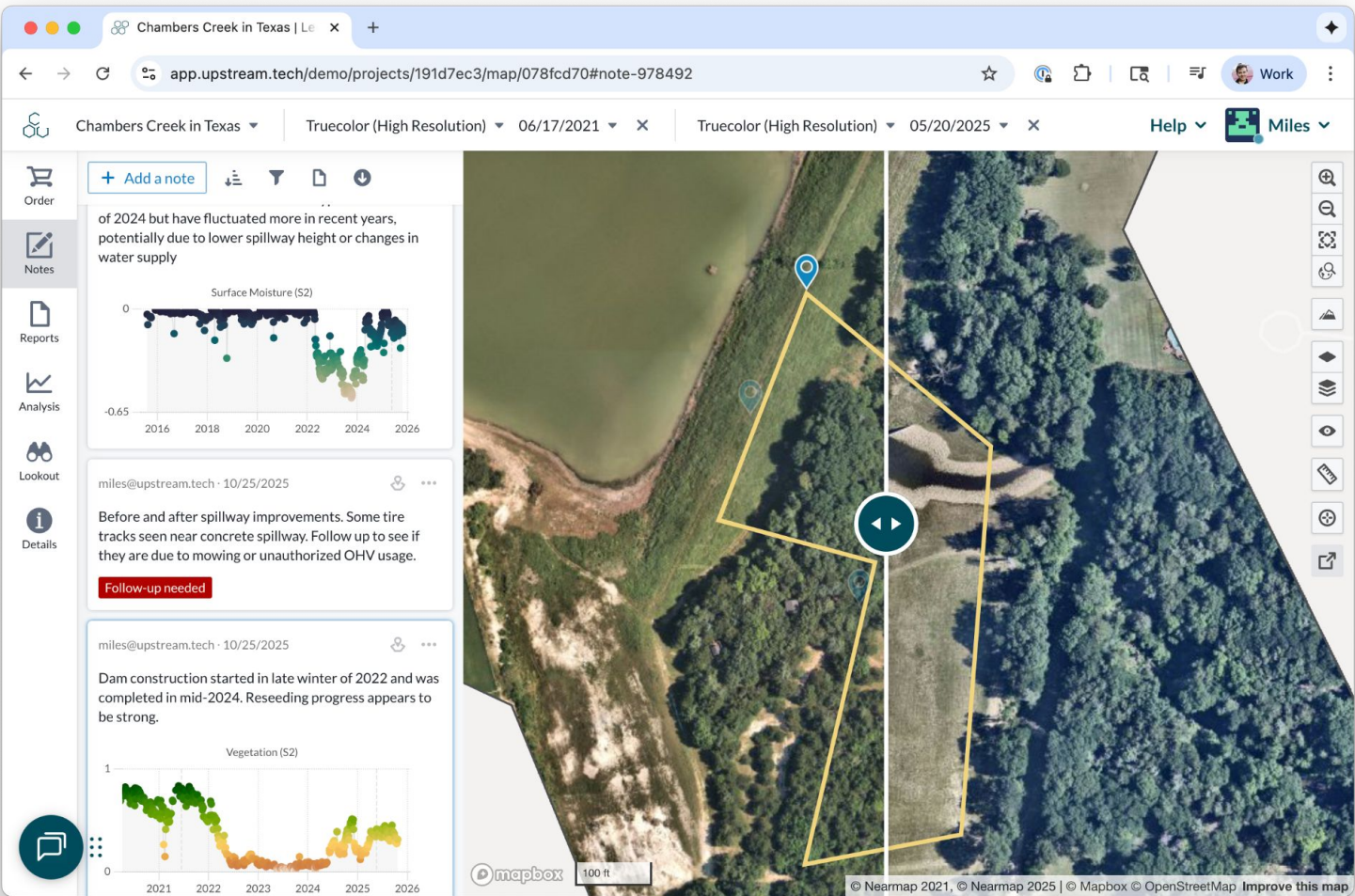
Improve this map

Lens









Chambers Creek in Texas | Le x +

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🗺️ Chambers Creek in Texas ▾ Truecolor (High Resolution) ▾ 05/20/2025 ▾ + Help ▾ 🗺️ Miles ▾

🛒 Order

📝 Notes

📄 Reports

📈 Analysis

🔭 Lookout

📘 Details

+ Create a policy

☐ 🌲 Unseasonal vegetation drop

☒ 🗺️ Change in parcel ownership

☒ 🗺️ Change in parcel area

☐ 🌊 Flooding

☐ 🌳 Land cover change (IO)

No new changes detected on this property.

• Parcel ID: 260908

• Owner: WATERS EDGE PROPERTY OWNERS ASSOCIATION INC

• Address: 1761 N WALNUT GROVE RD, MIDLOTHIAN, TX, 76065-4764

Click to unpin

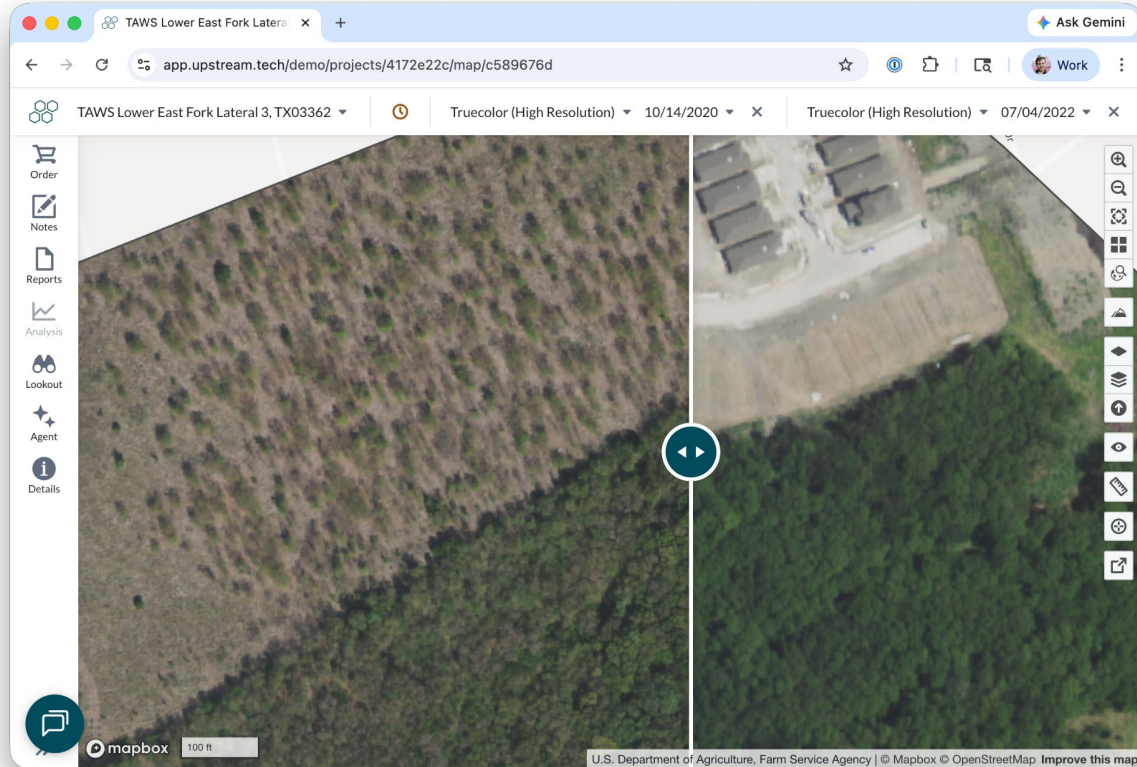
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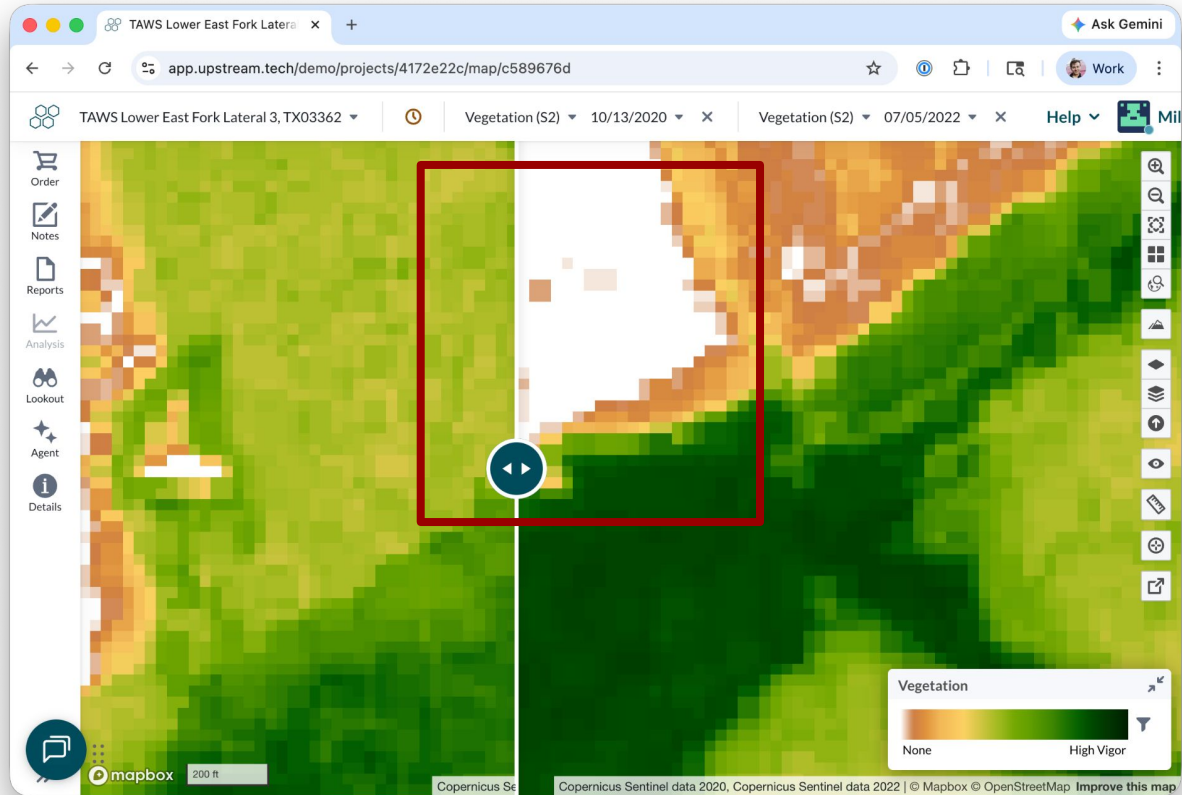
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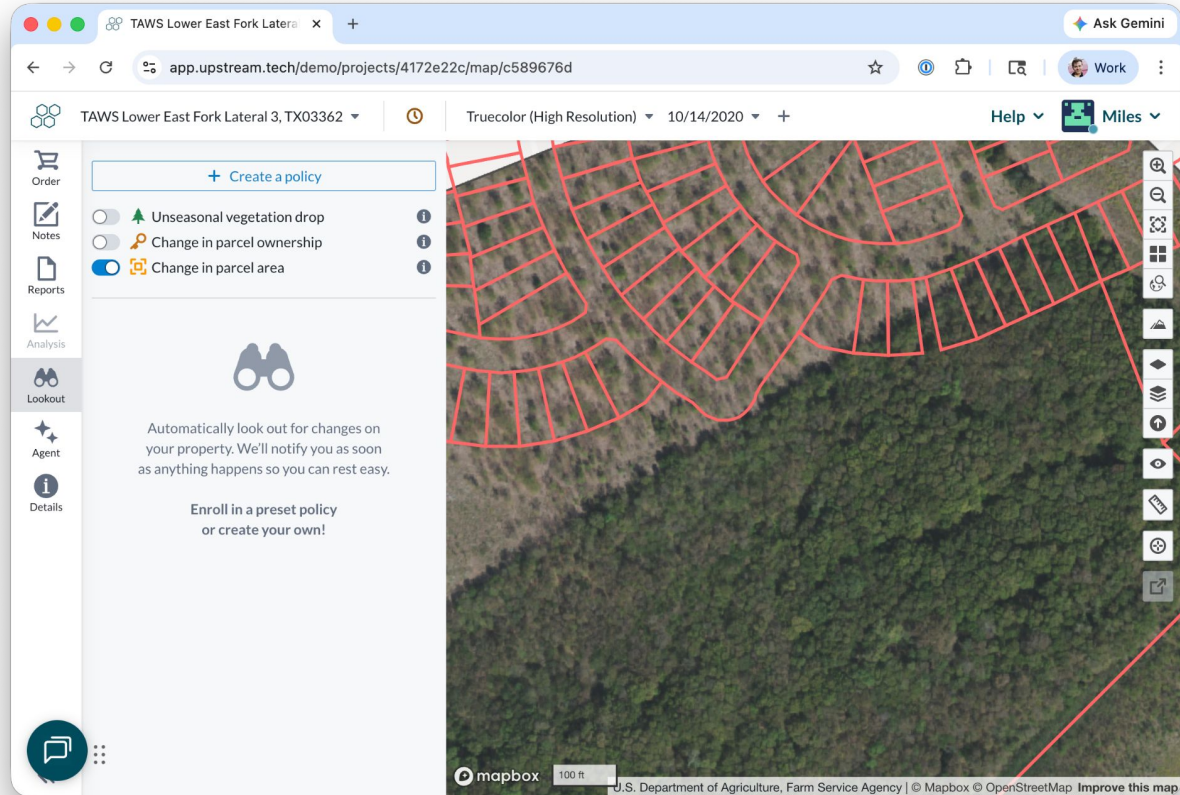
Spotting changes



Spotting changes with change detection



Spotting changes before they happen



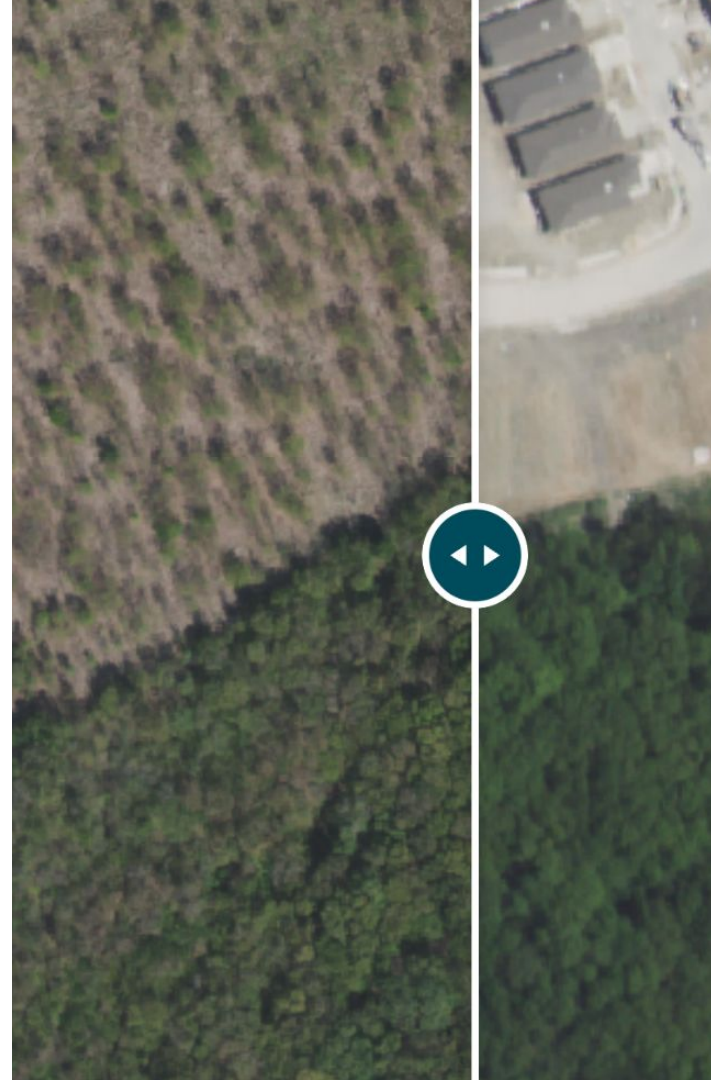
What we've learned

- Both resolution and frequency matter. The more imagery, the better.
- Easy imagery access isn't enough. Automated alerts keep an eye out for changes year-round.
- Catching issues before they happen is best. Parcel data changes can be a helpful warning sign.
- Remote monitoring saves countless hours and thousands of dollars.



How remote monitoring could work

1. Enroll all easements in automated alerts:
 - a. Unseasonal vegetation drop
 - b. Change in parcel ownership
 - c. Change in parcel area automated alerts
2. Perform manual monitoring on a yearly or quarterly basis using high resolution commercial imagery
3. Flag areas for field visits and export reports for easy record keeping



Interested in learning more?

Reach out to me to discuss

20% discount for TAWS members

Miles Van Blarcum

miles@upstream.tech



Upstream Tech



Watershed Restoration in Maryland 2022-02-21
@Nearmap 2022 via Upstream Tech Lens