“No Sediment Augmentation” Final Monitoring Report, 2025

July 23, 2025

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No-aug Monitoring Report: Purpose

The goal of no-aug monitoring reporting is to:

- identify issues during the no-augmentation period that could impact decision making and influence continuation of the experiment

- May – Initial monitoring report to TAC
- July – Full monitoring report to TAC (**Today**)

Full evaluation and synthesis of no-aug experiment's impacts to come in 2028, after the 2027 data collection

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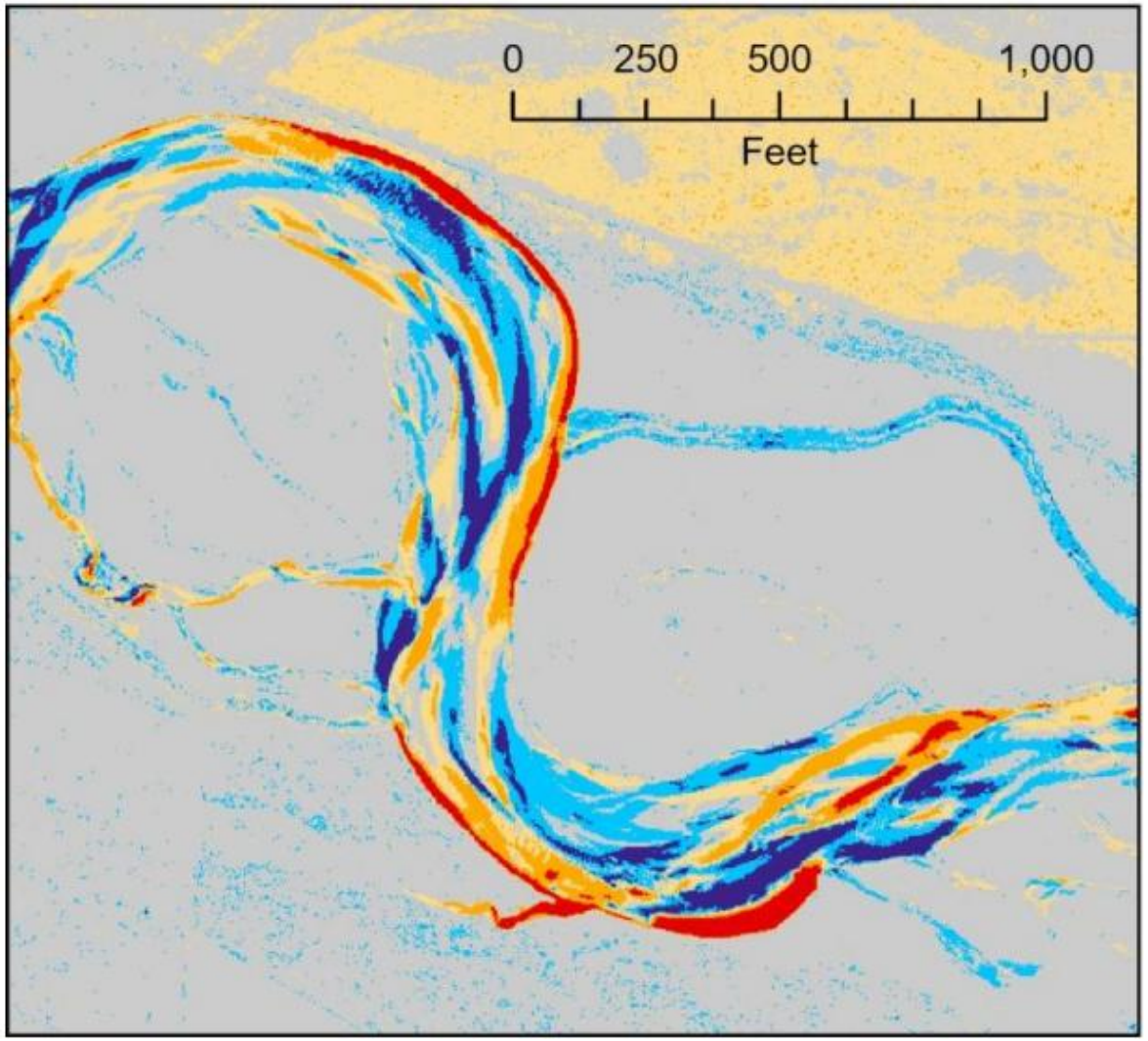
What's new from April?



- The report is out
- Info on volume change
  - Similar story to area change
- Improved, new figures
- Summary and conclusions
  - No internal EDO concerns
  - New data acquisition going well
  - Request to reduce in-channel XS surveying

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What we learned, did, and will do

What did we learn from the 2024 lidar and aerial photos?

- Lower flows = lower magnitude of incision and volume change

What did we do?

- Field efforts in July and Nov 2024, Apr 2025
- XS surveys and drone imagery each visit, sediment samples during July visits

Going forward? No changes except for request to reduce XS surveys

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Flow context

Table 1: Summary of flow metrics at the USGS Overton (06768000) gage including mean annual value for period of 1958-2024 and annual values from 2009 to 2024.

Water Year	Mean Annual Discharge	Annual Volume (ac-ft)	Mean Daily Peak Discharge	Return Interval (Years)	40-Day Max Discharge	Mean June flow (germination)
1958-2024	1,660	1,202,733	6,224	2.8	3,757	2,670
2009	942	681,929	3,600	1.5	1,811	1,282
2010	2,157	1,561,636	7,370	3.6	4,108	4,536
2011	3,877	2,807,022	8,720	4.9	7,503	7,675
2012	1,114	808,918	3,430	1.4	2,796	319
2013	1,140	824,993	12,400	10.5	4,129	303
2014	1,249	904,100	7,360	3.6	3,150	3,822
2015	3,506	2,538,111	15,300	18.0	12,708	12,920
2016	2,950	2,141,887	8,600	4.8	7,364	6,433
2017	1,550	1,122,462	4,440	1.8	2,768	2,069
2018	1,415	1,024,114	2,960	1.3	1,834	1,343
2019	2,274	1,646,138	9,750	6.0	3,089	2,822
2020	1,800	1,306,550	3,820	1.6	2,977	1,966
2021	1,011	731,760	2,540	1.2	1,676	1,676
2022	646	467,461	2,300	1.2	1,383	1,533
2023	1,139	824,452	6,570	3.0	3,702	3,348
2024	975	708,151	2,370	1.2	1,591	1,553

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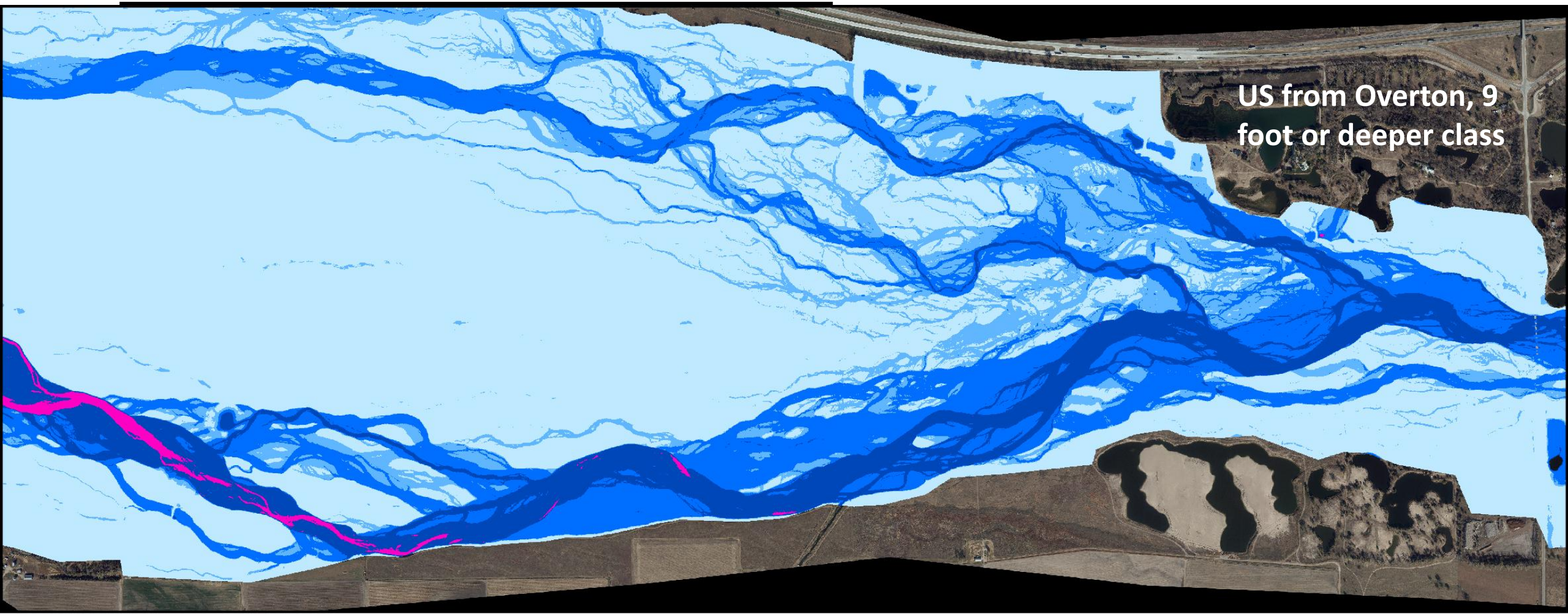
Lidar – Incisional Classes



0 0.25 0.5 1

Miles

delta datum (ft)

-9 or deeper

-8.999 - -5

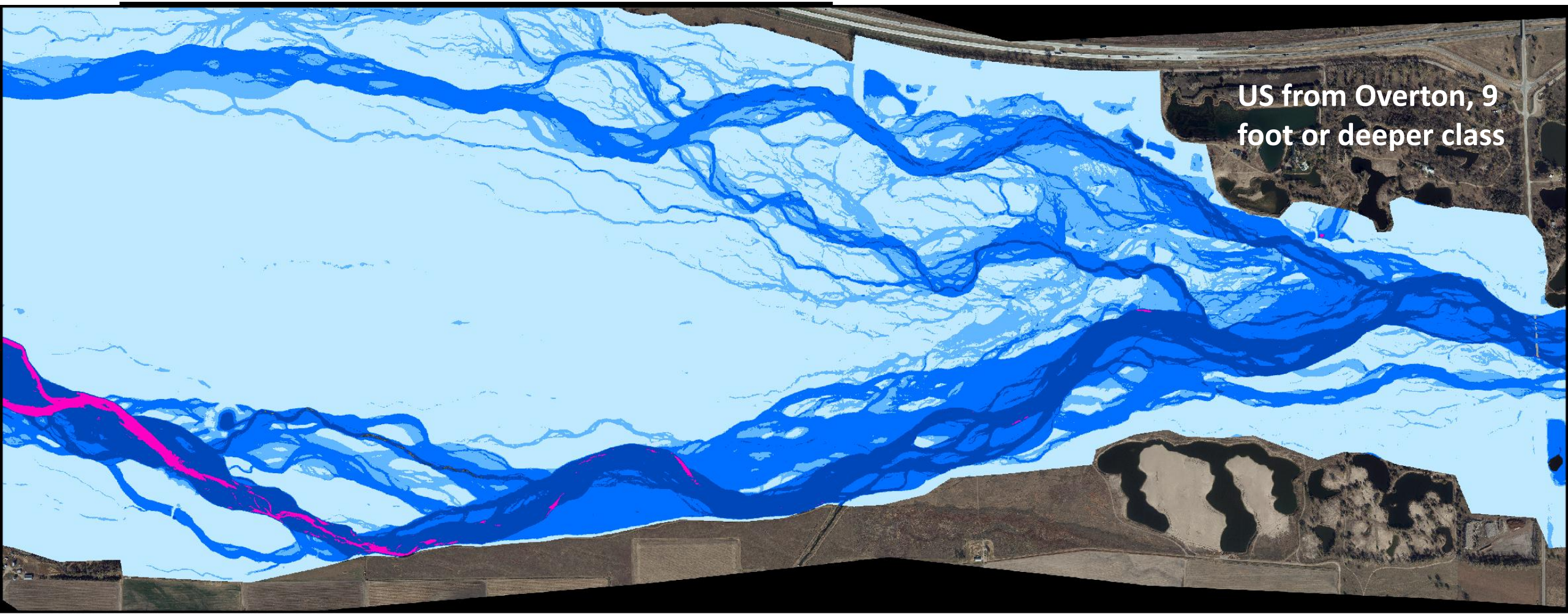
-4.999 - -2

-1.999 - 0

0.001 - 1

2023

Lidar – Incisional Classes



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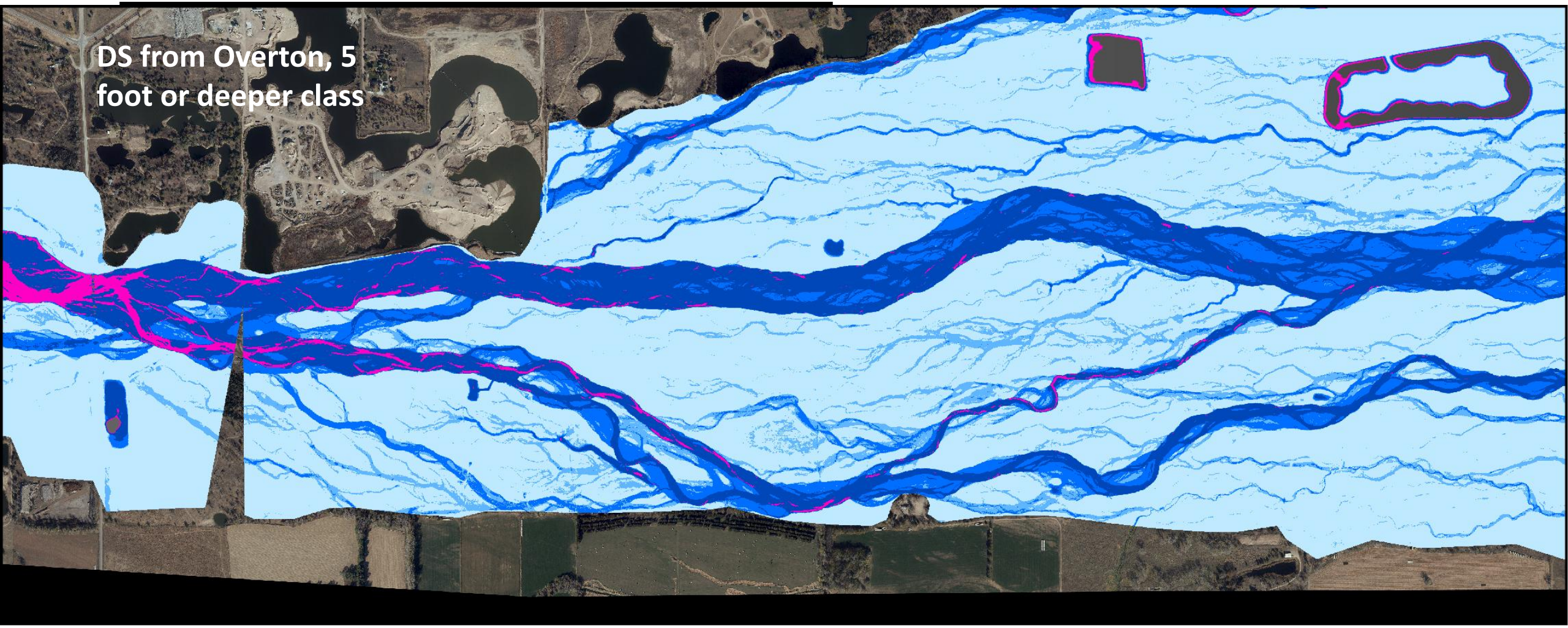
2024

Lidar – Incisional Classes



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-4.999 - -3

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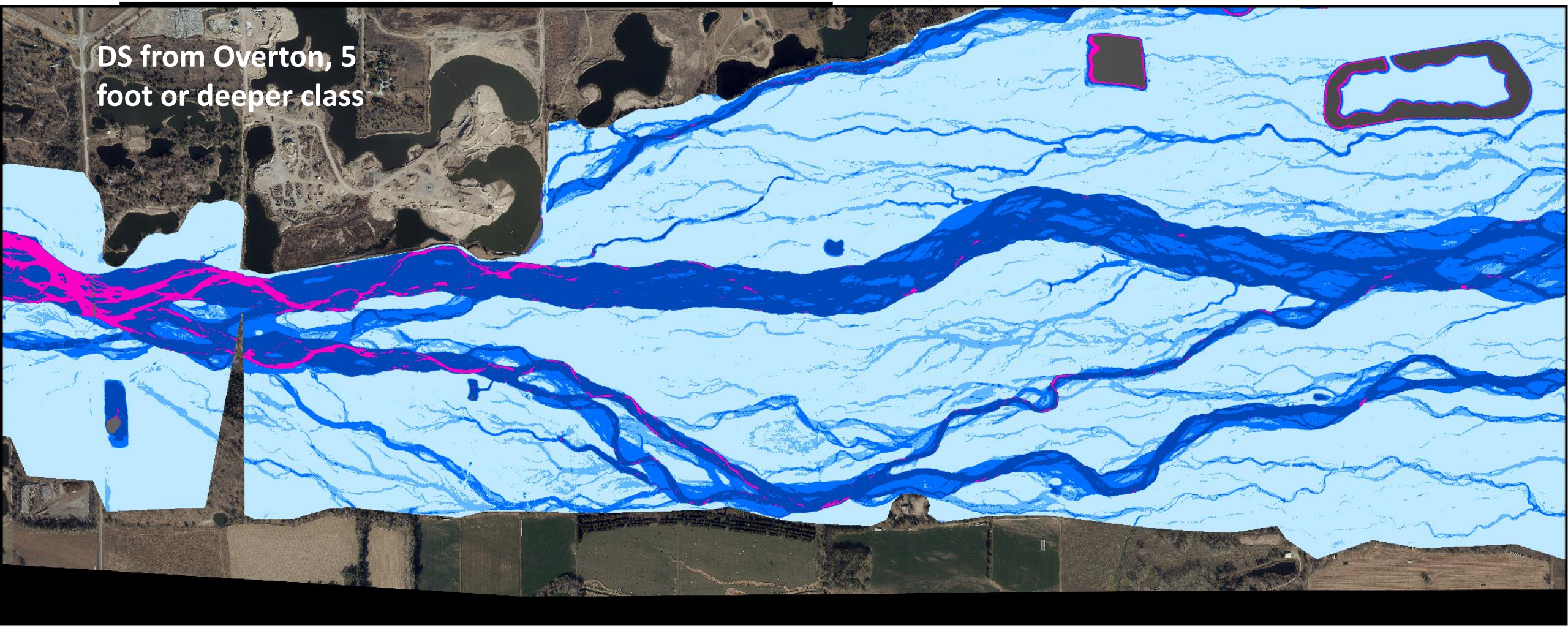
2023

Lidar – Incisional Classes



0 0.25 0.5 1

Miles

delta datum (ft)

-5 or deeper

-4.999 - -3

-2.999 - -1

-0.999 - 0

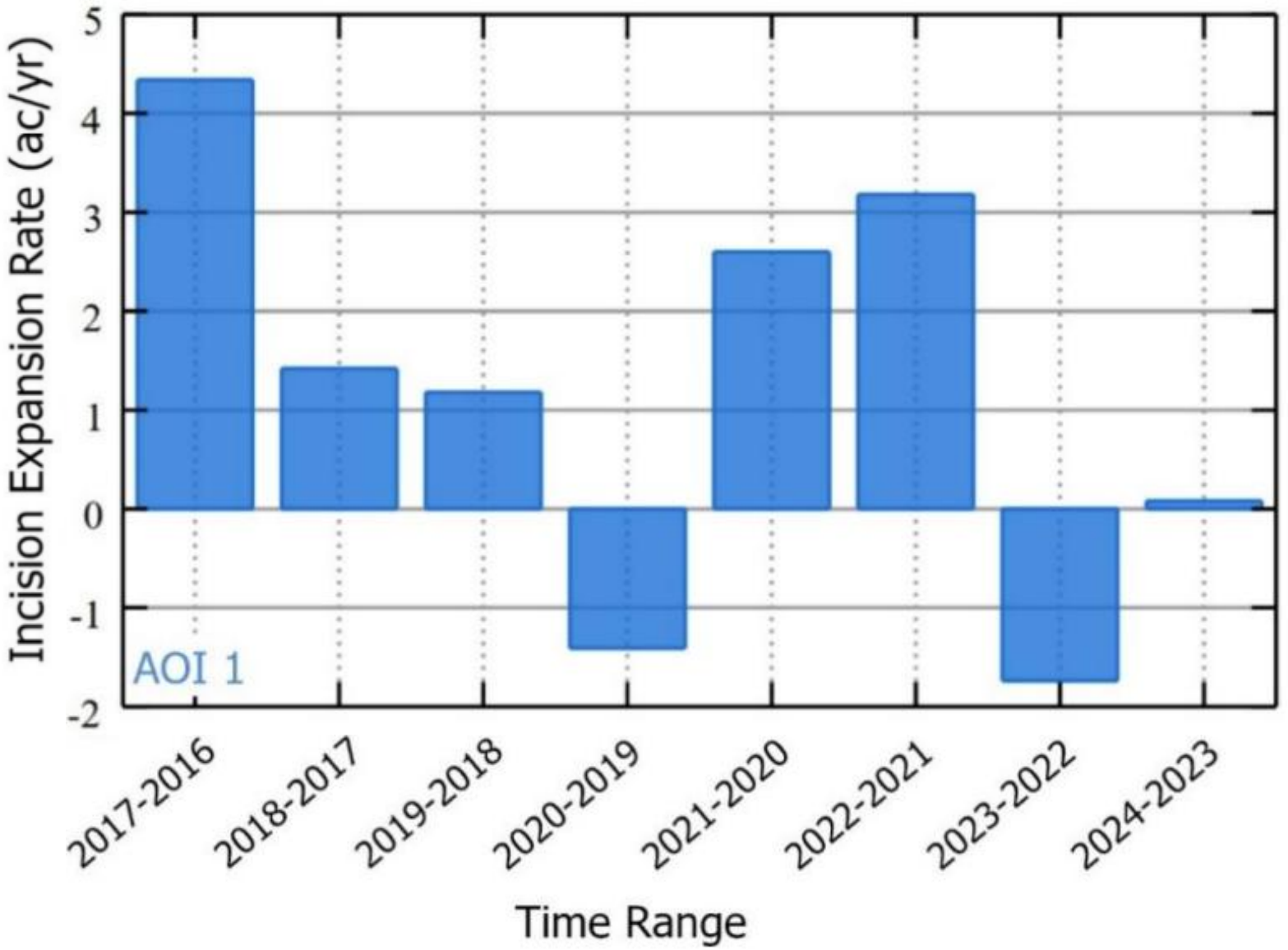
0.001 - 1

2024

Lidar Area Calculations

Summed **area** of 9 foot or deeper class upstream of Overton Bridge = almost no change

14.20 to 14.28 acres;
0.08 ac/yr expansion



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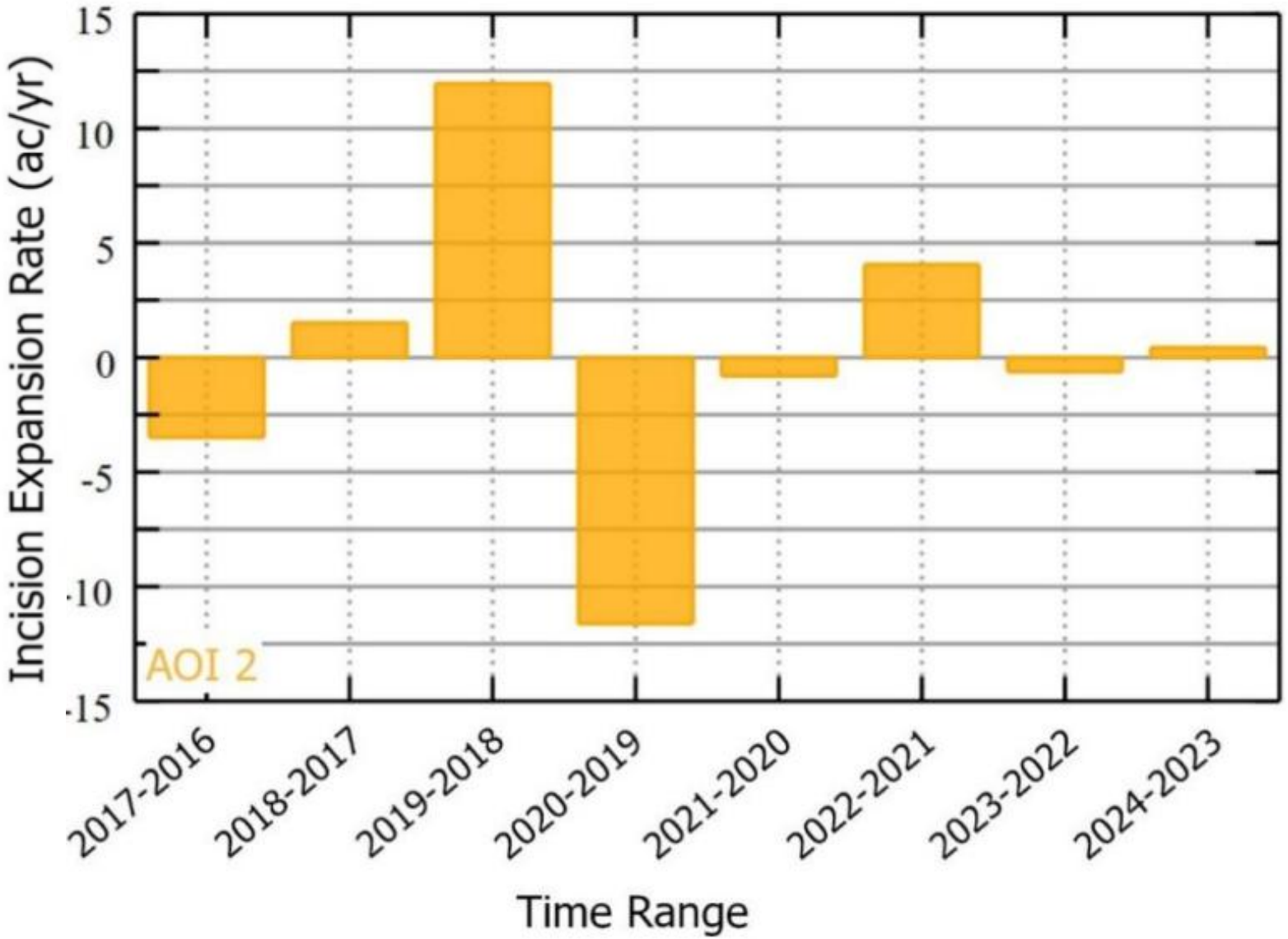
Lidar Area Calculations

Summed **area** of 5 foot or deeper class downstream of Overton Bridge = almost no change

16.60 to 17.03 acres;
0.43 ac/yr expansion



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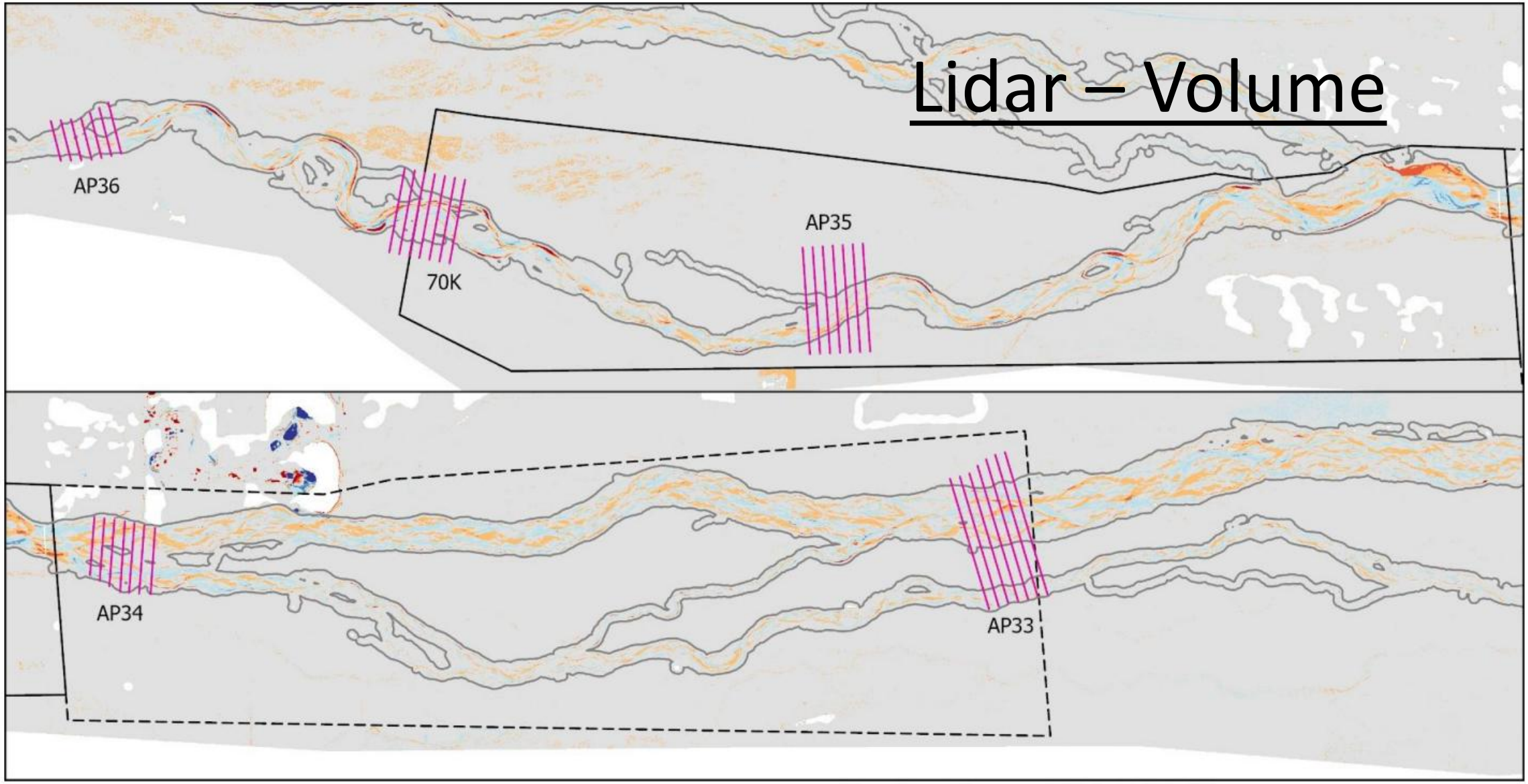
Lidar – Incisional Classes

What did we learn?

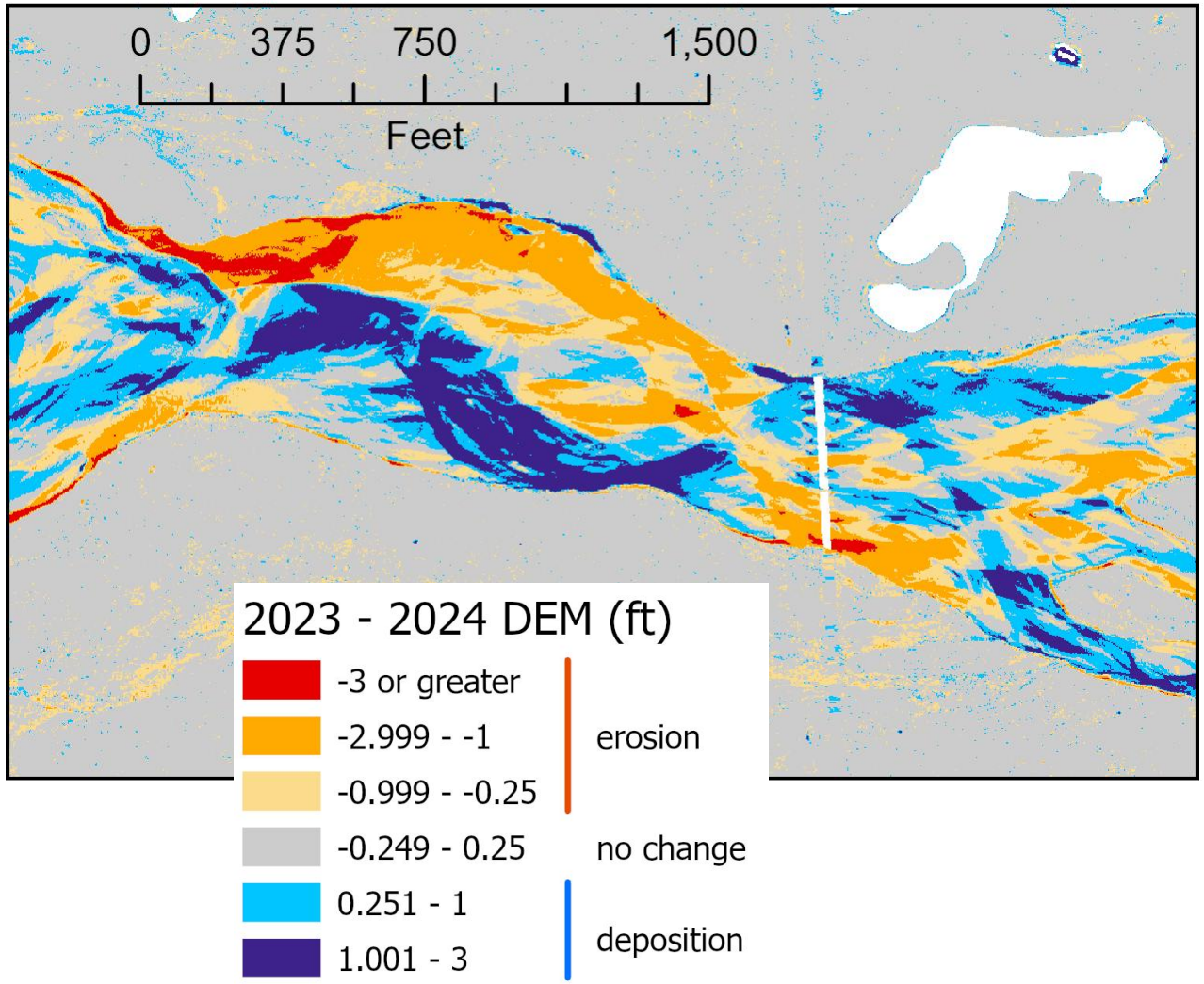
- No significant downstream progression in these depth classes (very little change at all)
- Some DS translation of deeper pools, mostly lateral erosion and shifting of thalweg (e.g. at the Overton Bridge)

Lidar – Volume



Lidar and Aerial Photos – Volume, Planform

- Lots of typical channel shifting through both AOIs
- Lateral erosion continues, mainly in & US of AOI 1
- Shifting @ Overton Bridge; no other obvious specific regions of high-magnitude erosion or deposition



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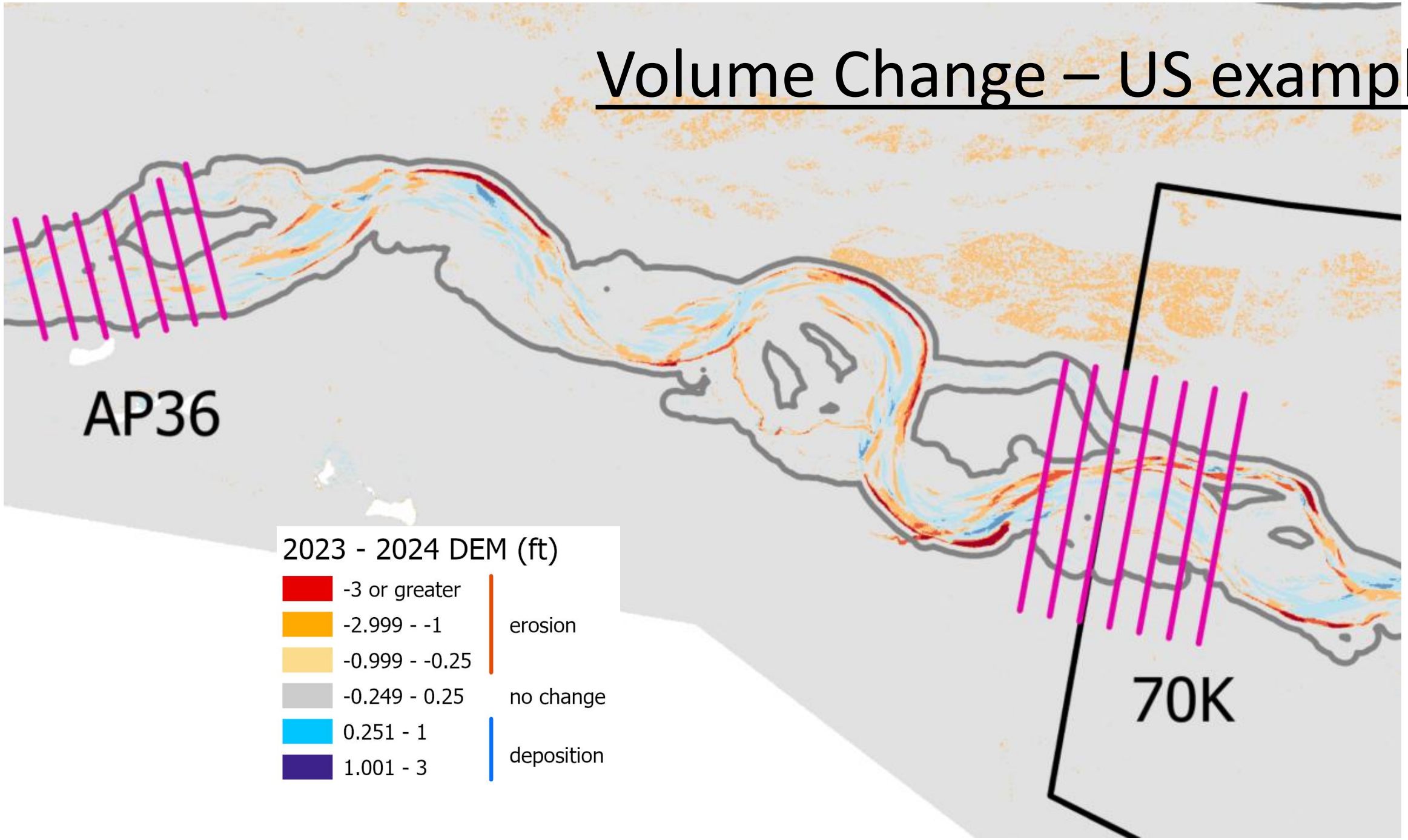
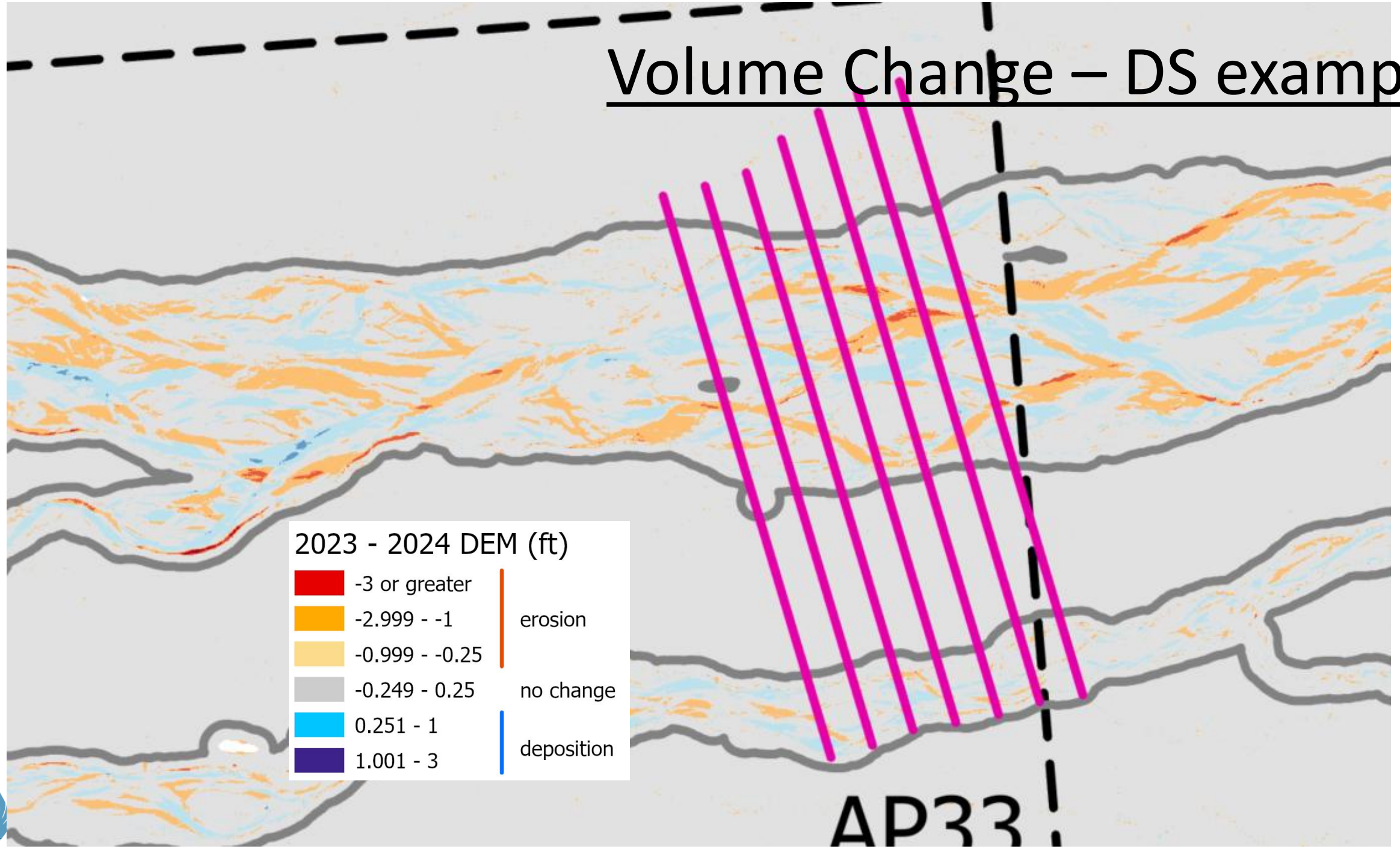
Volume Change – US example



Volume Change – DS example

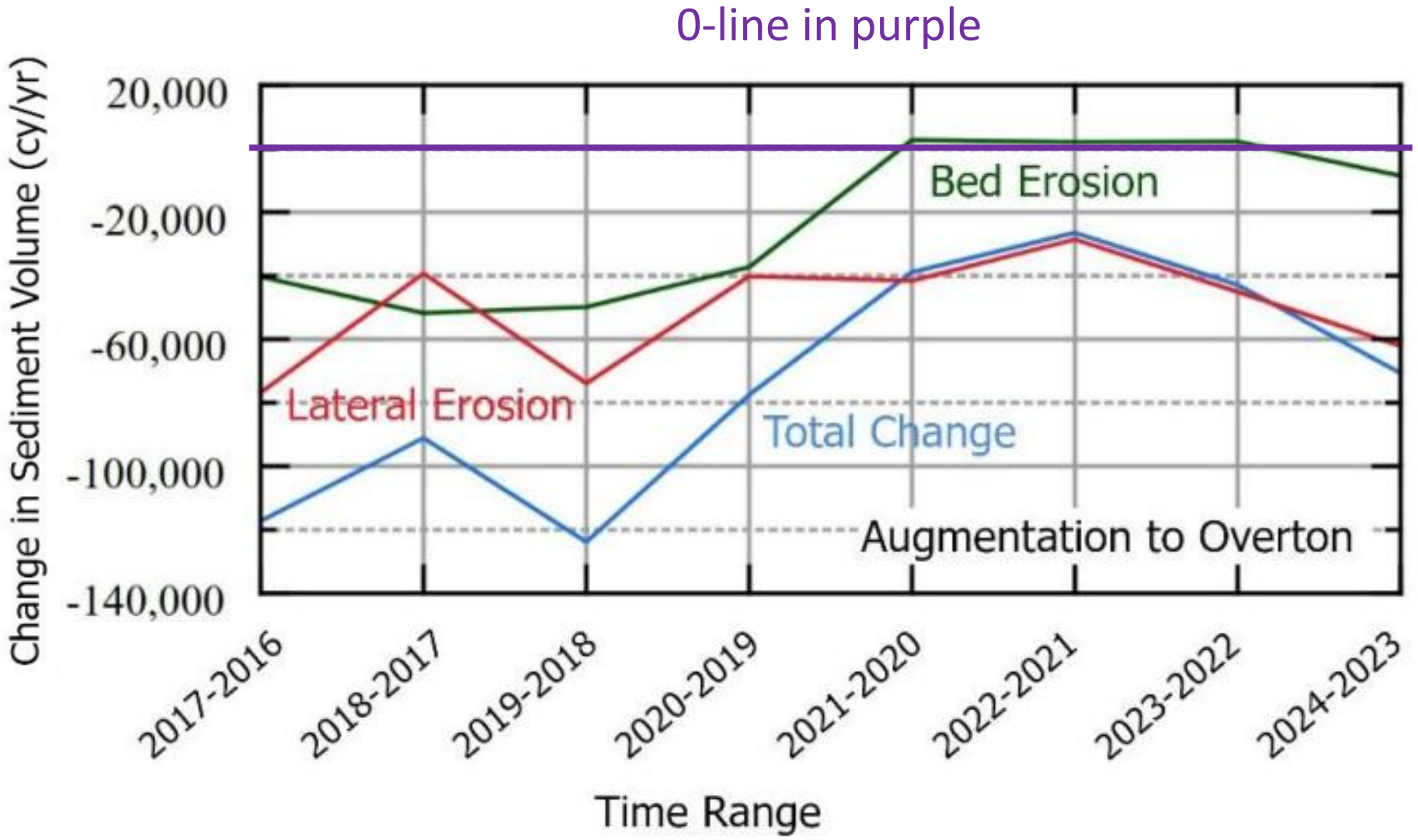


Lidar Volume – Sedaug to Overton Bridge

Within range of previous years (but highest since 2020-2019)

70K CY net erosion

62K from lateral erosion, 8K vertical



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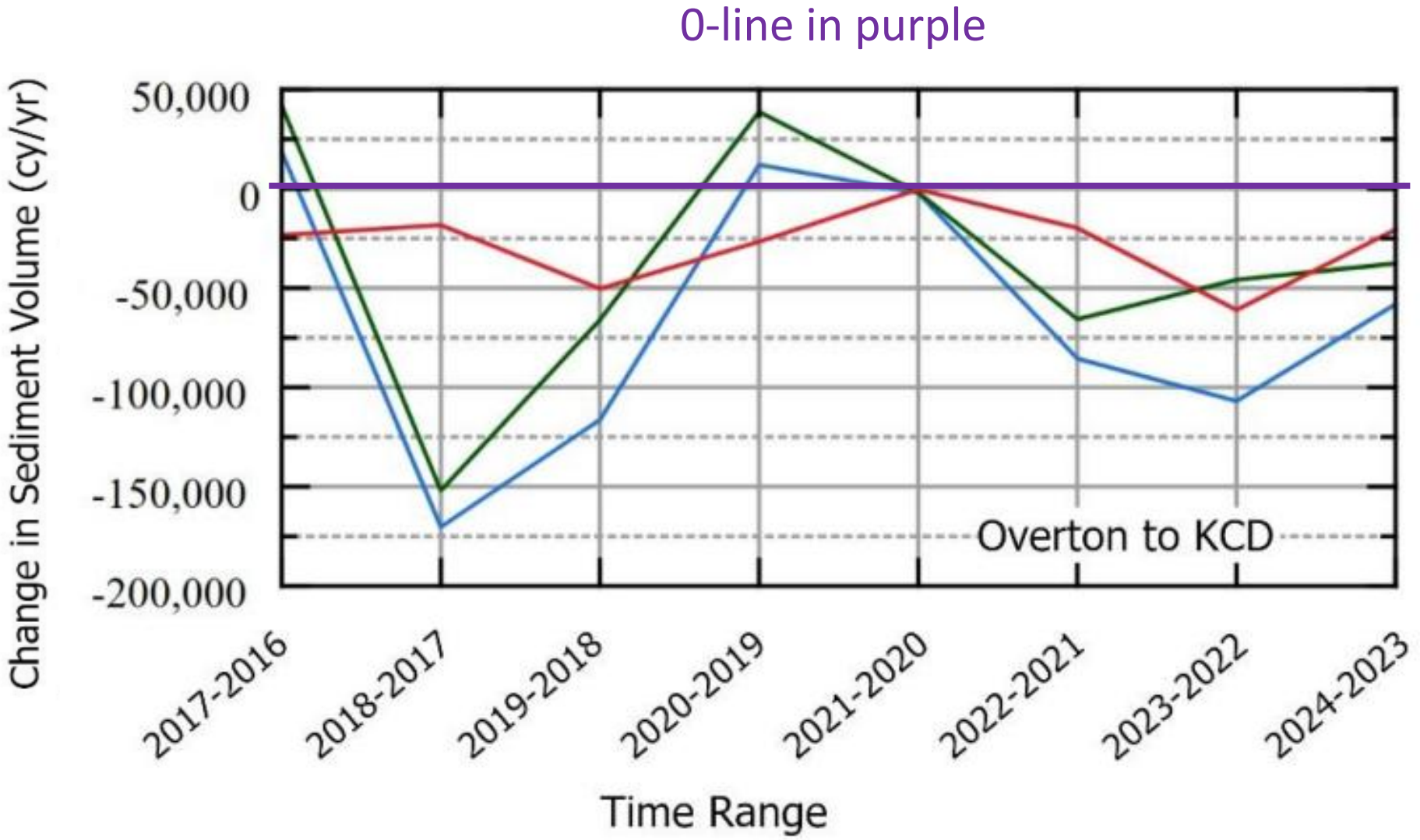
Lidar Volume – Overton Bridge to KCD

Within range of previous years, but less loss than last year

58K CY net erosion

38K from lateral erosion, 20K vertical



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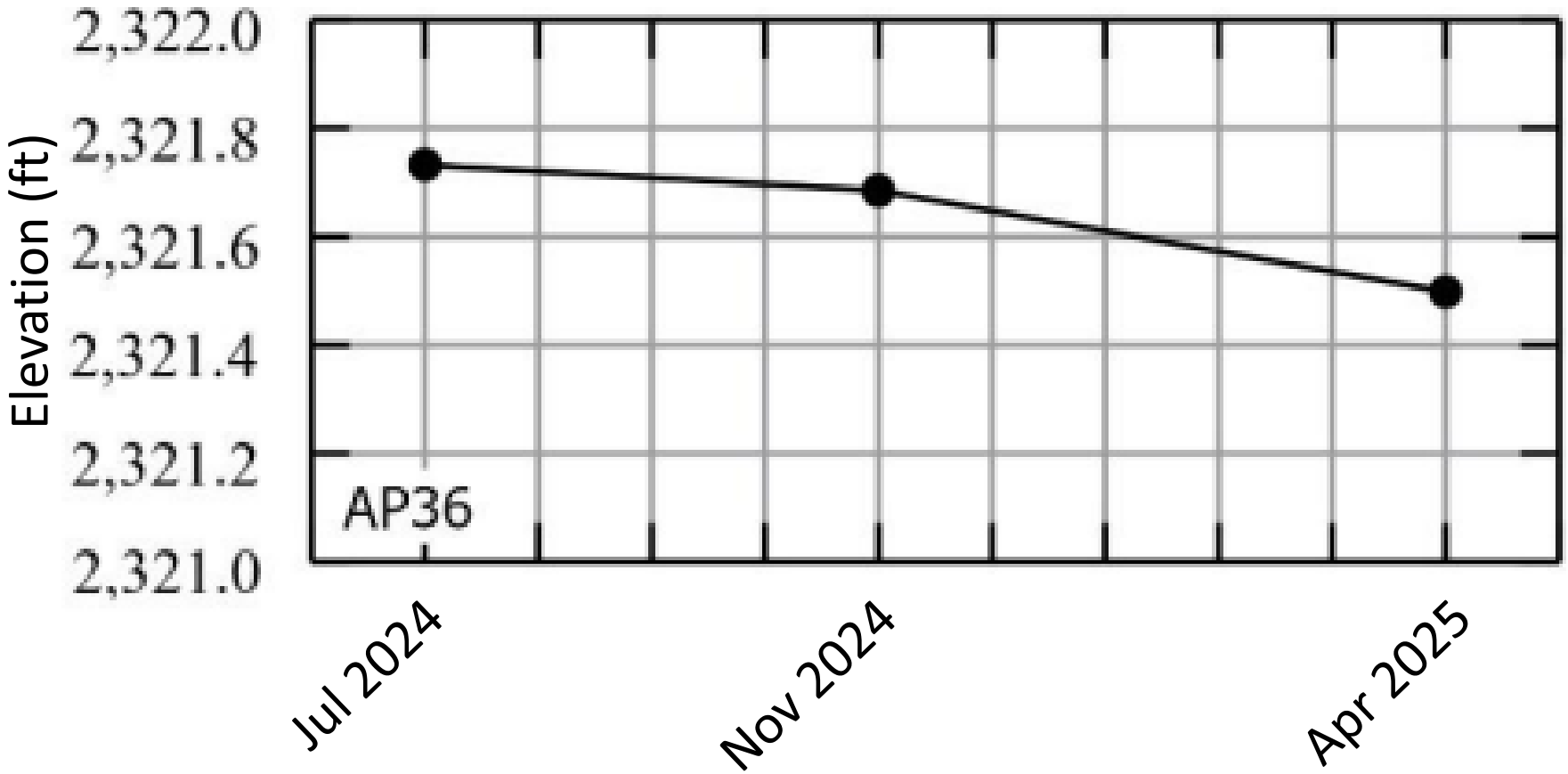
Lidar Volume – both reaches

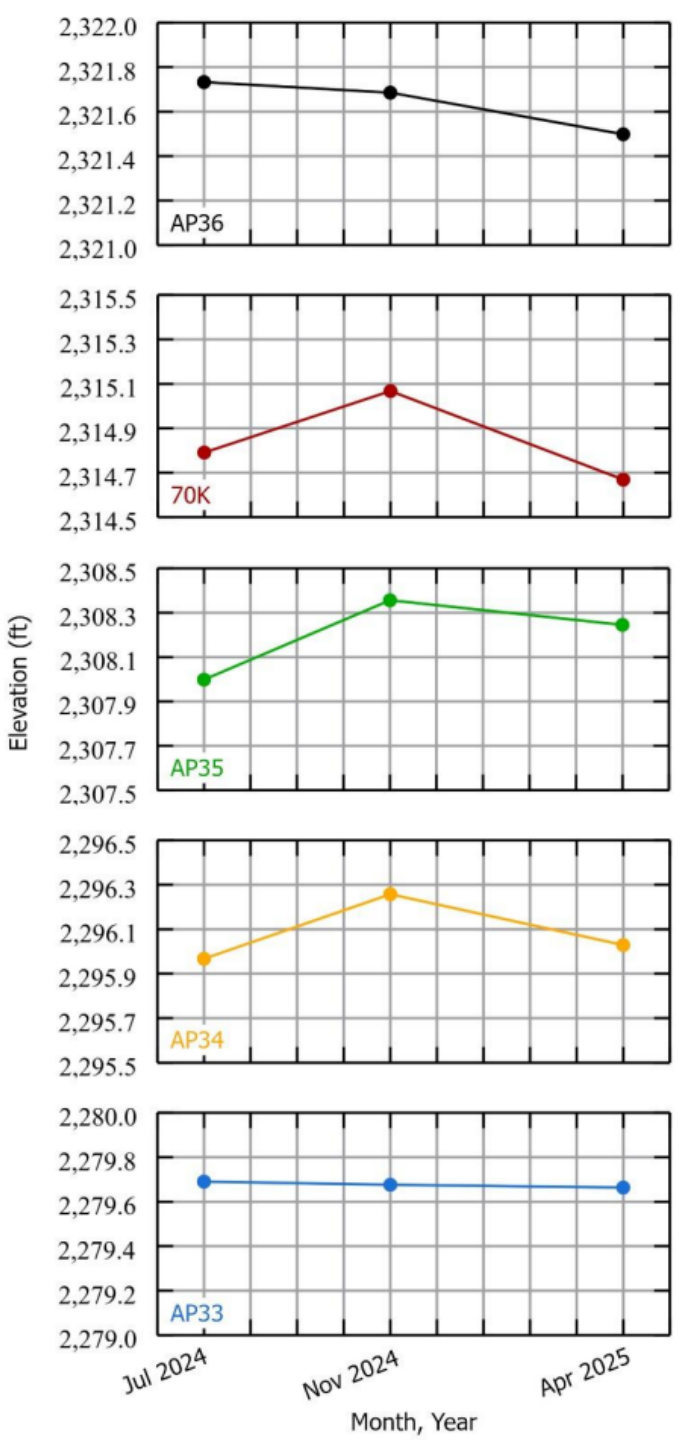
What did we learn?

- Volume change in-line with past data
- More erosion upstream, less downstream – source to sink?
- Context – what do these volume #s mean?

Low relative stream power. Watch erosion in US reach, but most erosion is lateral = natural sediment augmentation?

New: in-channel XS surveys





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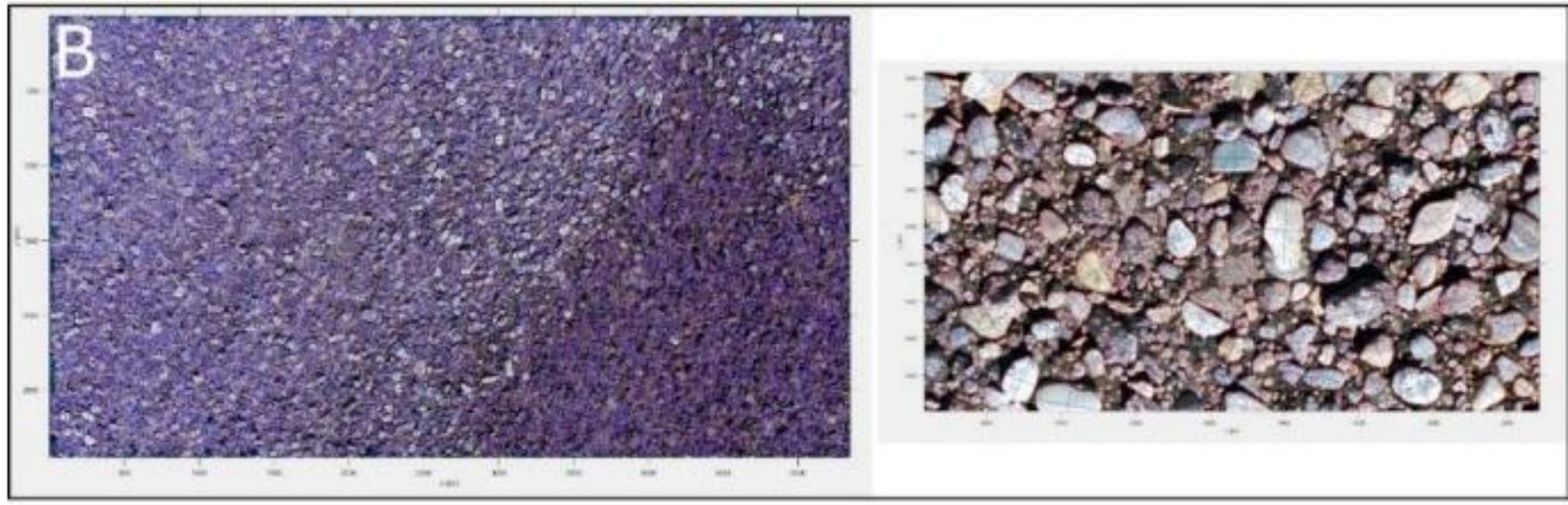
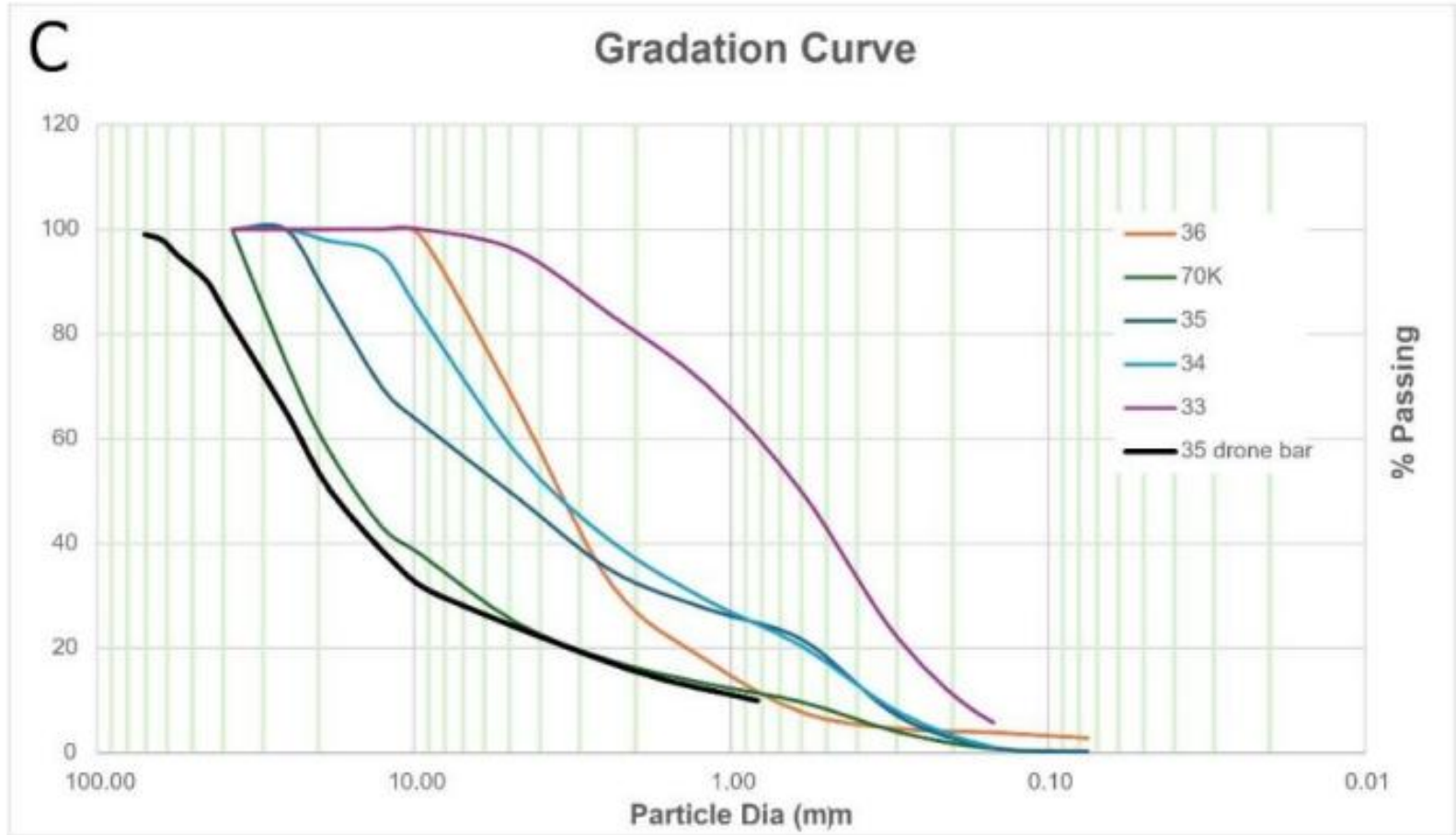
New: sediment samples





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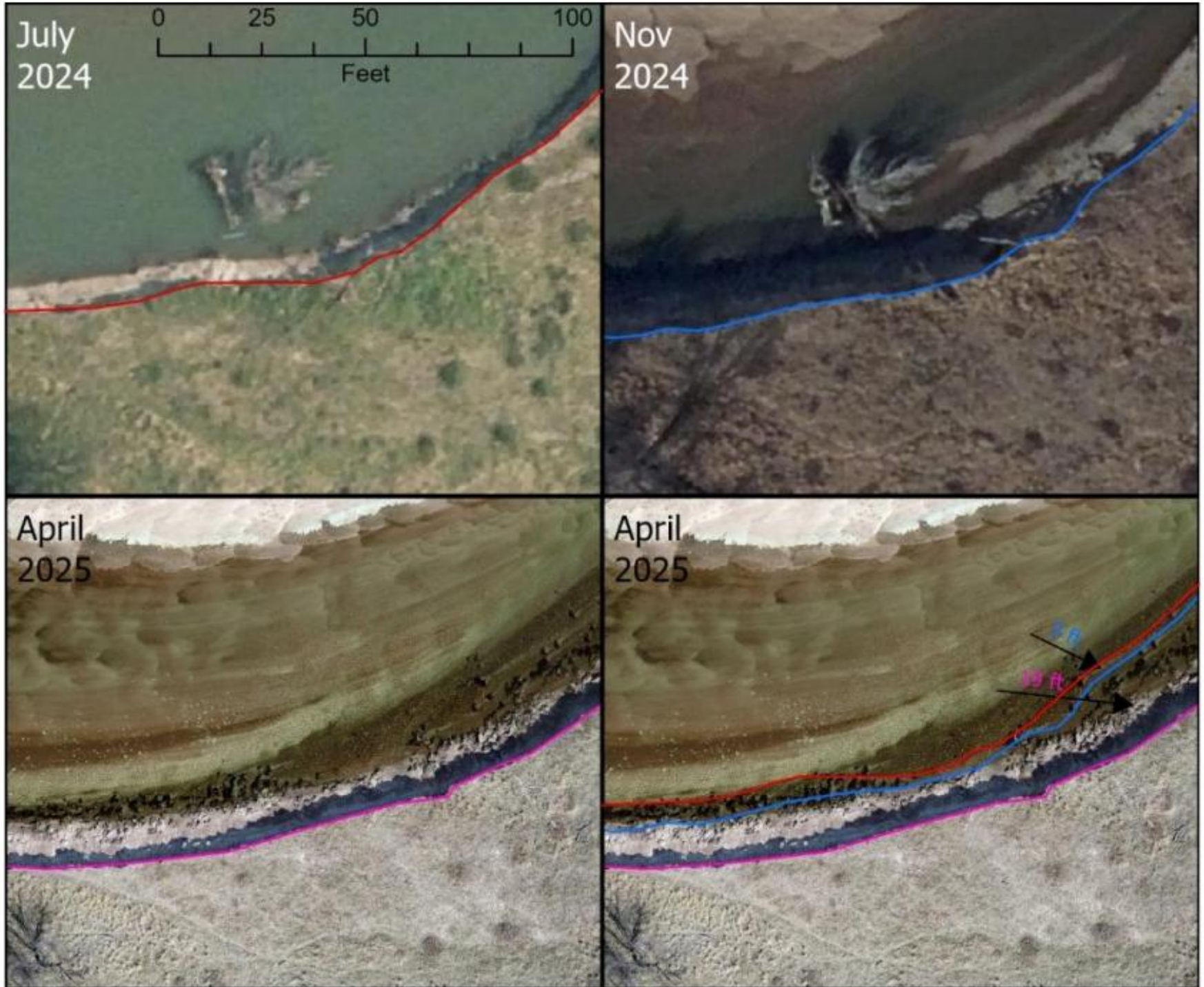
New: high-res drone data, aerial photos



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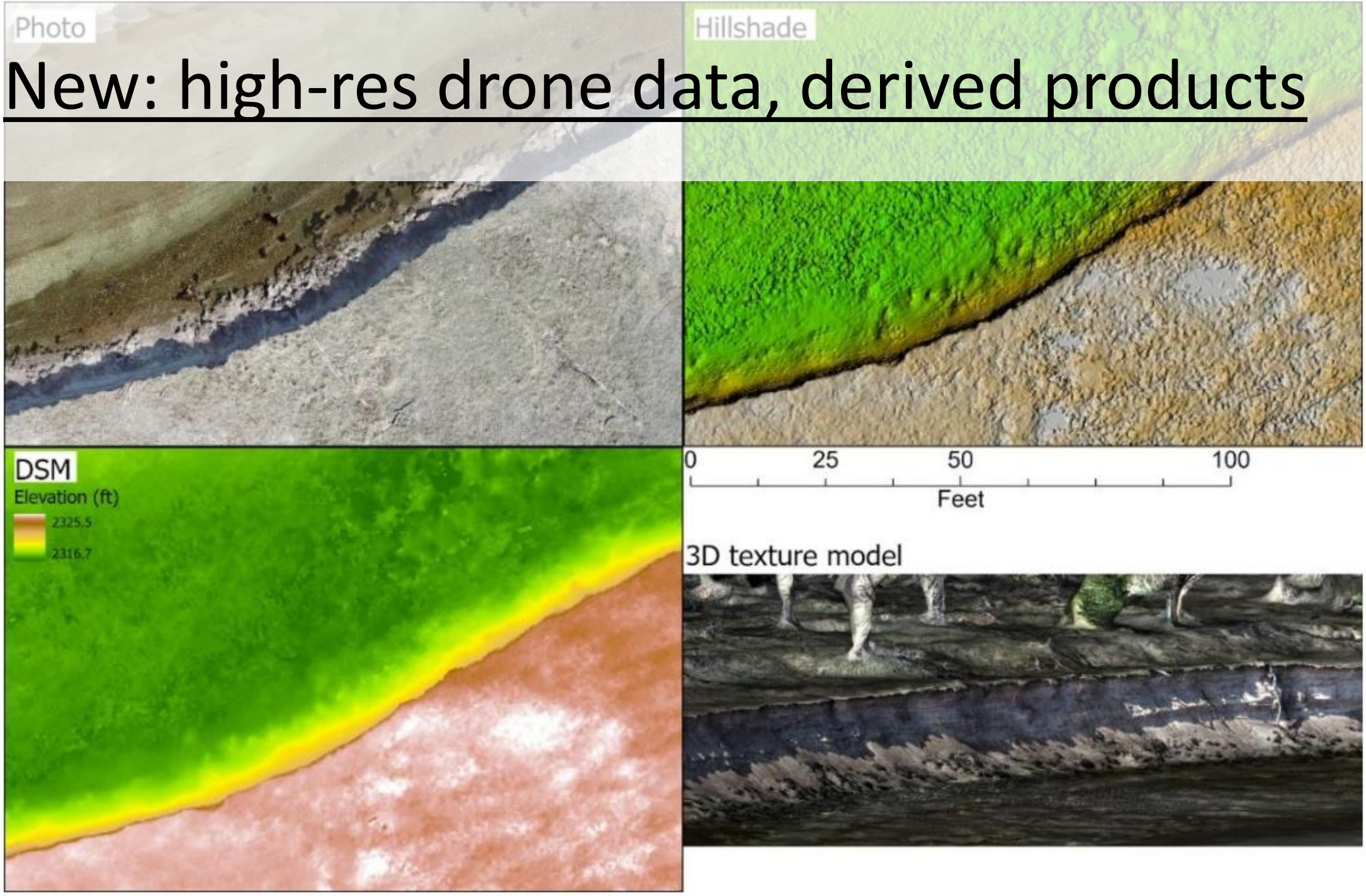
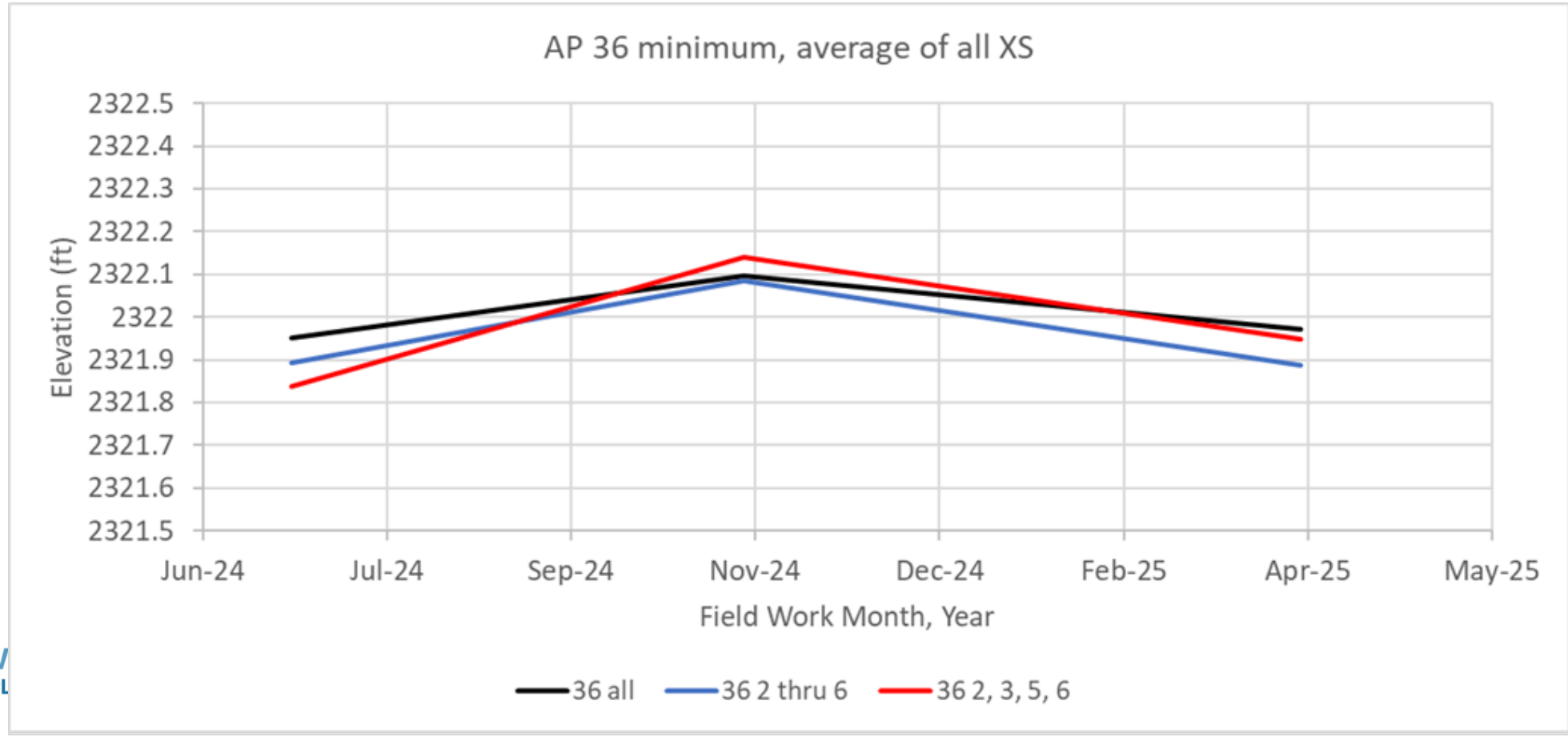
New: high-res drone data, derived products



To Approve: in-channel XS survey reduction

Average of 5 lowest pts at each XS, averaged at each AP.

Black: 7 XS = 35 pts, Blue: 5 XS =25 pts, Red: 4XS = 20 pts



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To Approve: in-channel XS survey reduction

- Removing XS has low impact on AP avg min elevations – a few inches at most
- Unlikely that channel changes enough to warrant concern captured with 7 XS but not with 5
- Reduce time needed by ≈30% → greater flexibility in the field to deal with issue or do other/new things

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Summary

What did we learn in 2024?

- In a typical-to-dry year, observed typical channel morphology

- New data interesting and helpful, XS surveys overkill

Geomorphologically, business as usual moving forward

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Feedback and Discussion