

“No Sediment Augmentation” Final Monitoring Report, 2025

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No-aug Monitoring Report: Purpose

The goal of reporting is to:

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

Today: summarize progress, TAC discussion/evaluation

Full evaluation and synthesis of impacts planned for 2028

One-page Summary

- No downstream progression of incision area, change in incision area very low
- Net sediment volume loss low to normal
 - dry year
- No *new* concerns, but discussion on better ties between area/volume changes and habitat metrics – geomorph report
- New/supplemental data acquisition going well

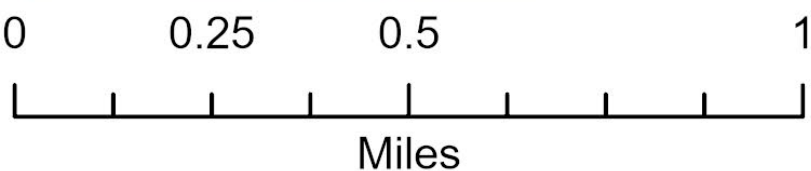
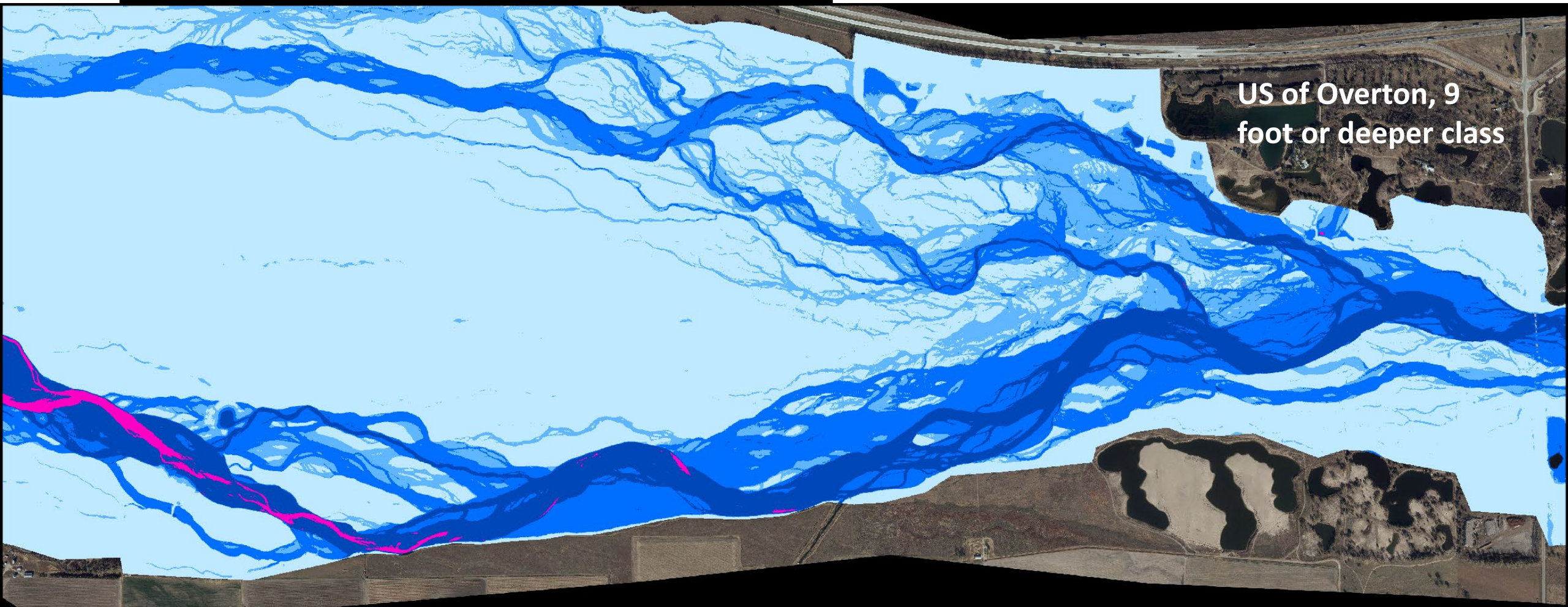


Flow context


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

Lidar – Incisional Classes




delta datum (ft)

 -9 or deeper

 -8.999 - -5

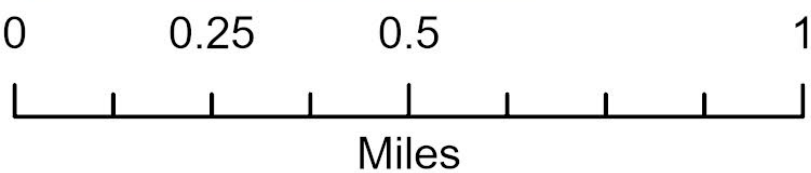
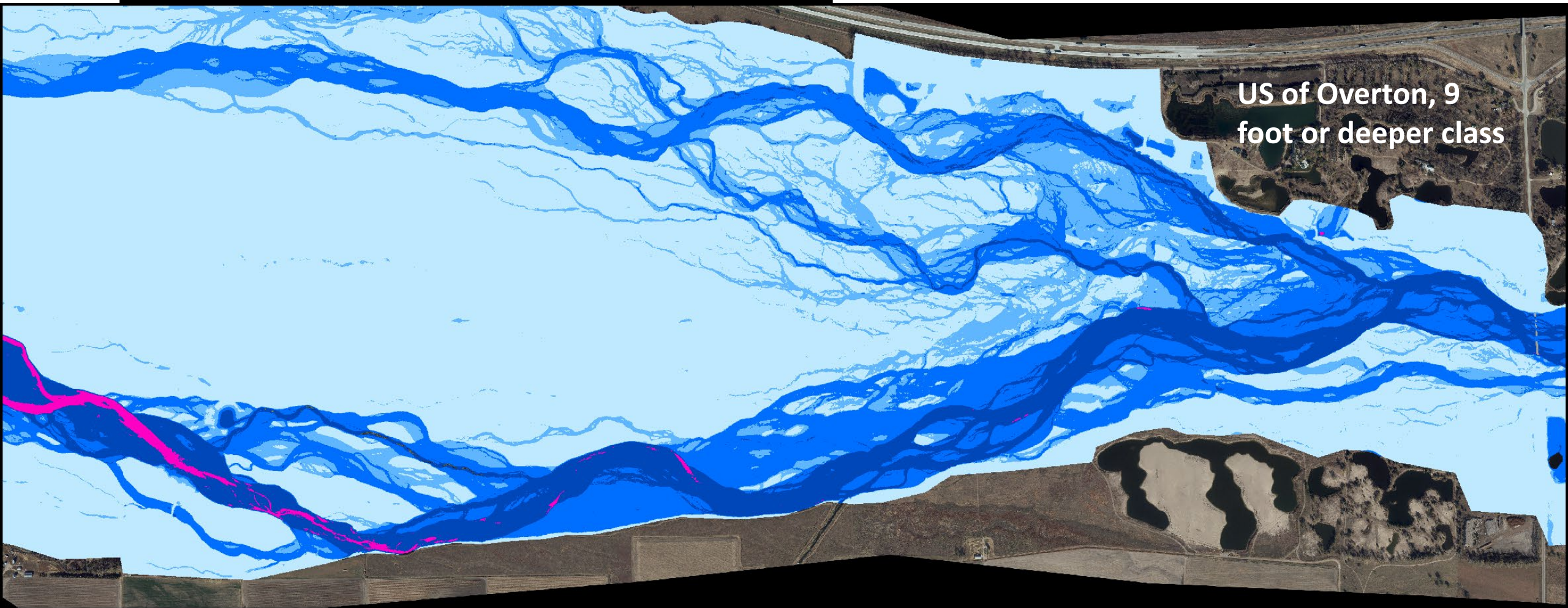
 -4.999 - -2

 -1.999 - 0

 0.001 - 1

2023

Lidar – Incisional Classes



delta datum (ft)

-9 or deeper

-8.999 - -5

-4.999 - -2

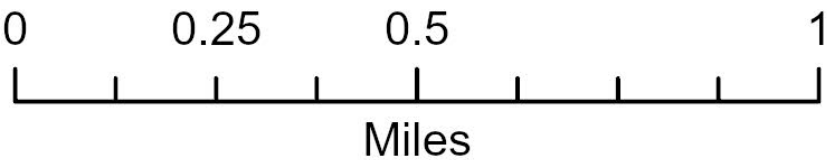
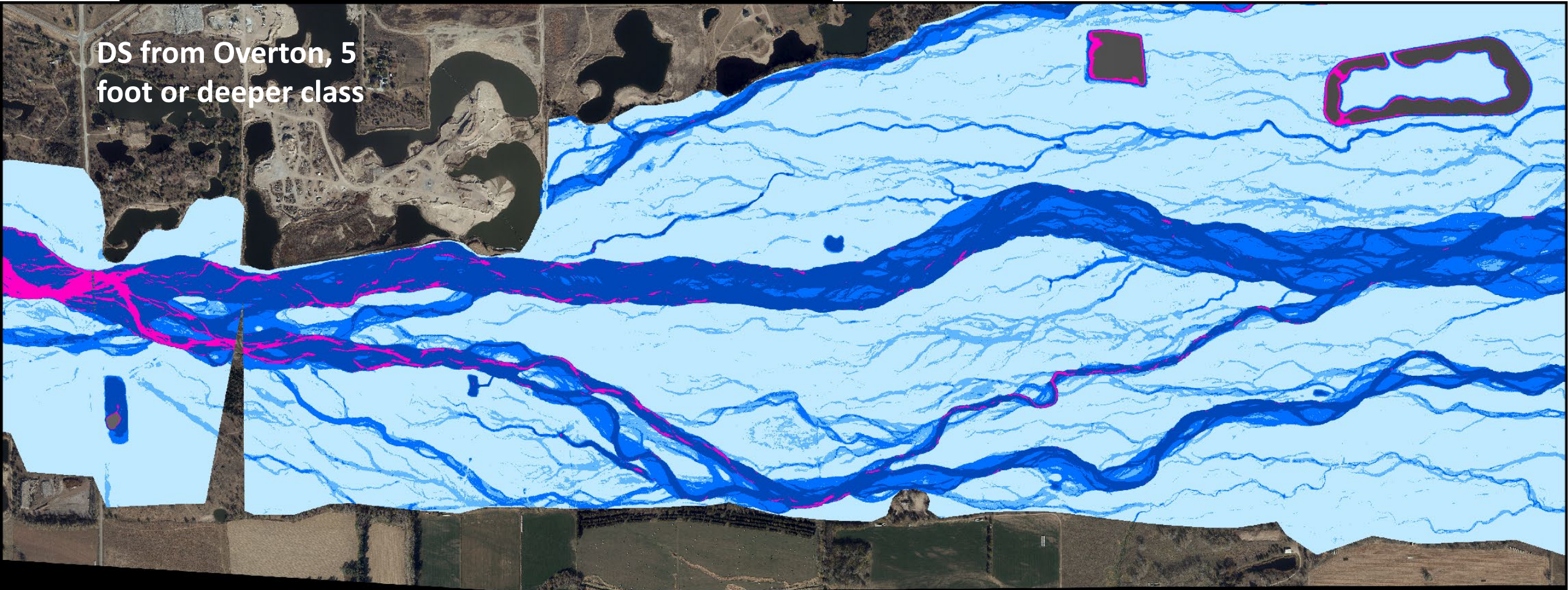
-1.999 - 0

0.001 - 1

2024

Lidar – Incisional Classes

DS from Overton, 5
foot or deeper class



delta datum (ft)

— -5 or deeper

— -4.999 - -3

— -2.999 - -1

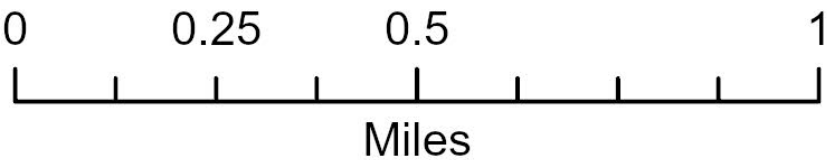
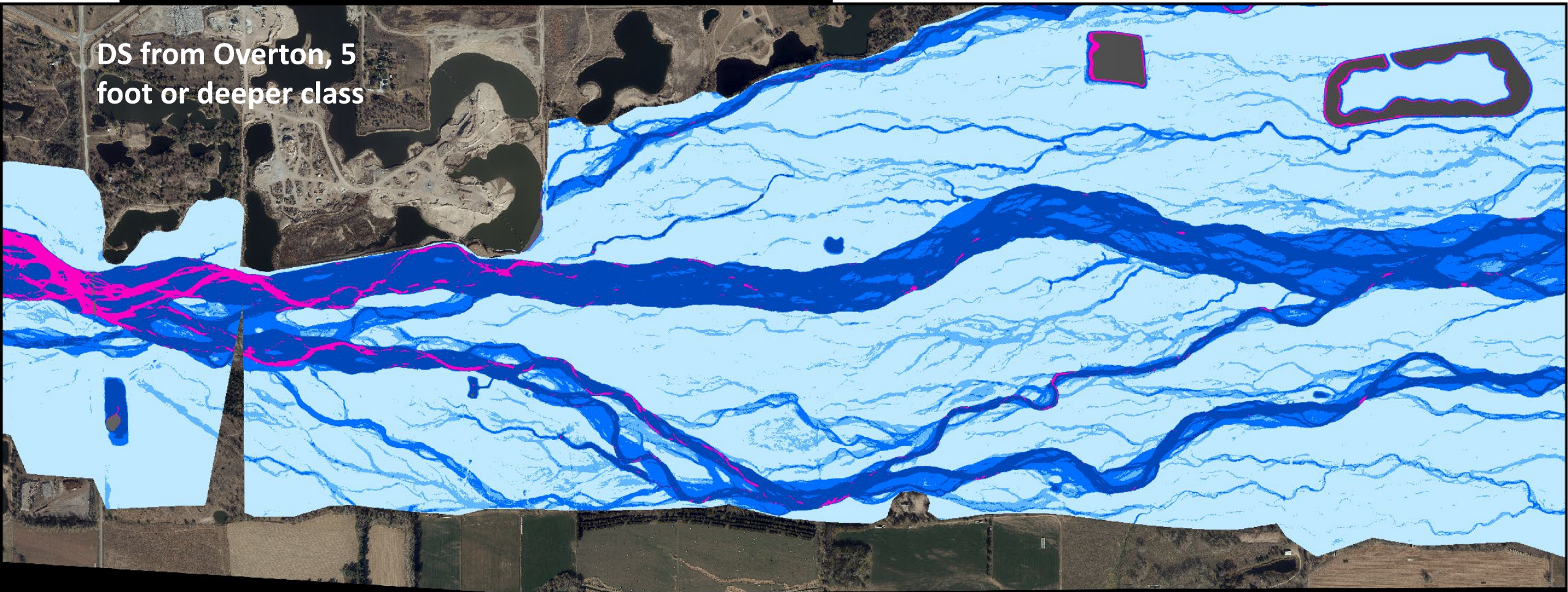
— -0.999 - 0

— 0.001 - 1

2023

Lidar – Incisional Classes

DS from Overton, 5
foot or deeper class



delta datum (ft)

magenta -5 or deeper

dark blue -4.999 - -3

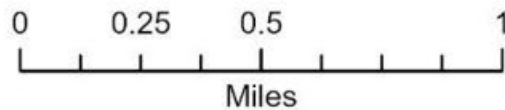
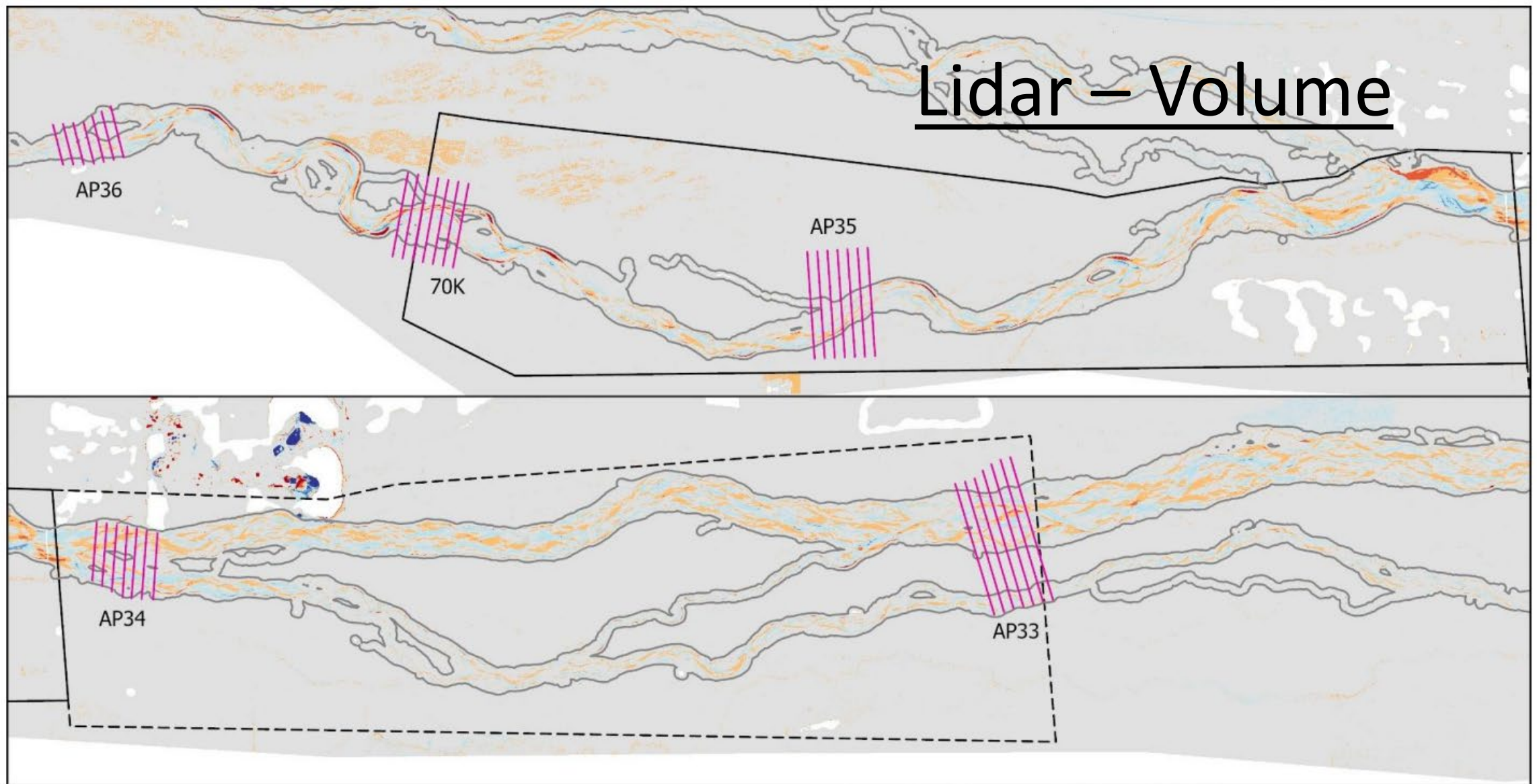
blue -2.999 - -1

light blue -0.999 - 0

very light blue 0.001 - 1

2024

Lidar – Volume



- Anchor Points
- AOI_1
- AOI_2

Elevation Change, 2024 - 2023 (ft)

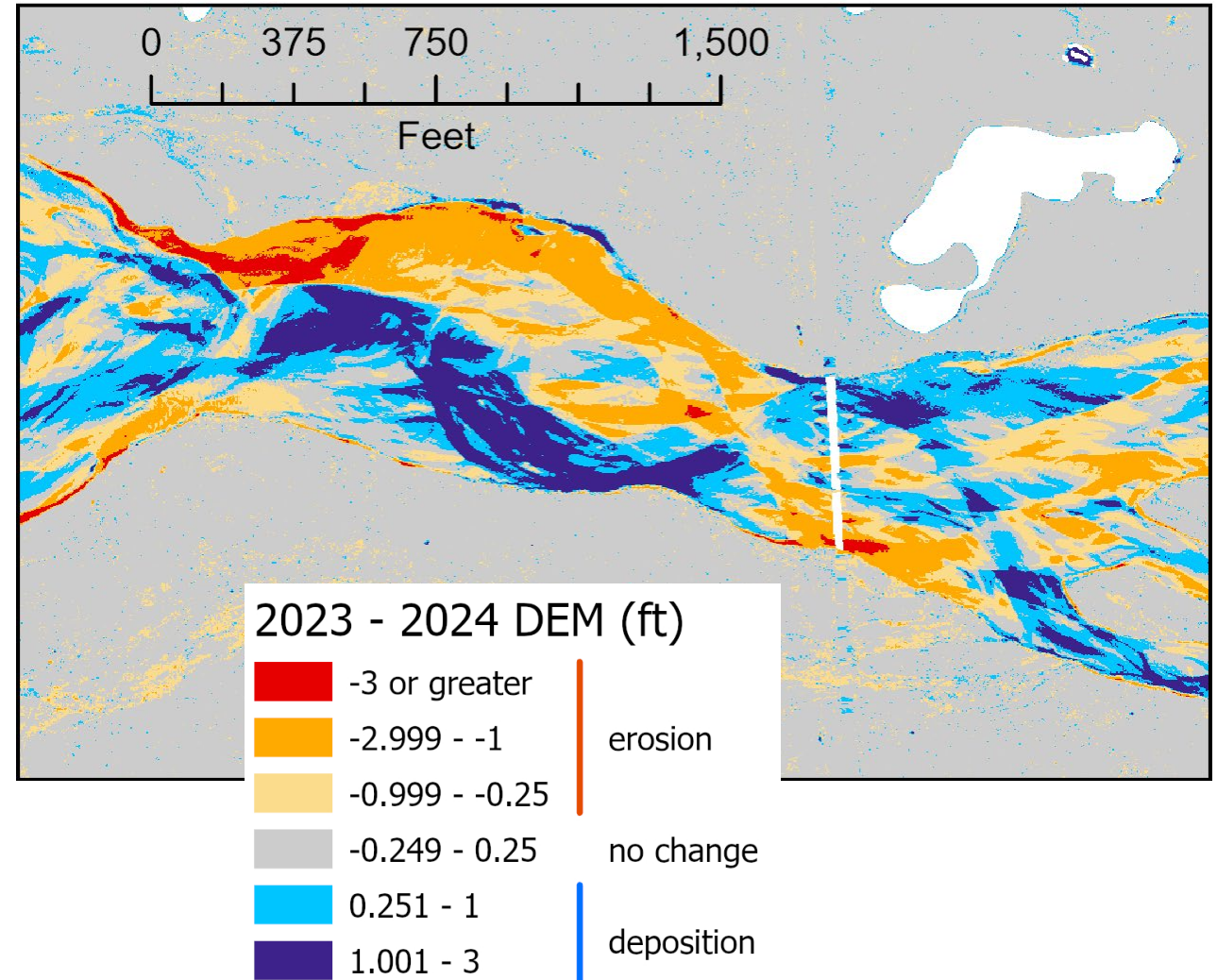
- 29.6 - -5 erosion
- 4.99 - -2
- 1.99 - -0.5
- 0.49 - 0.5 no/small change

- 0.51 - 2 deposition
- 2.01 - 5
- 5.01 - 32.2

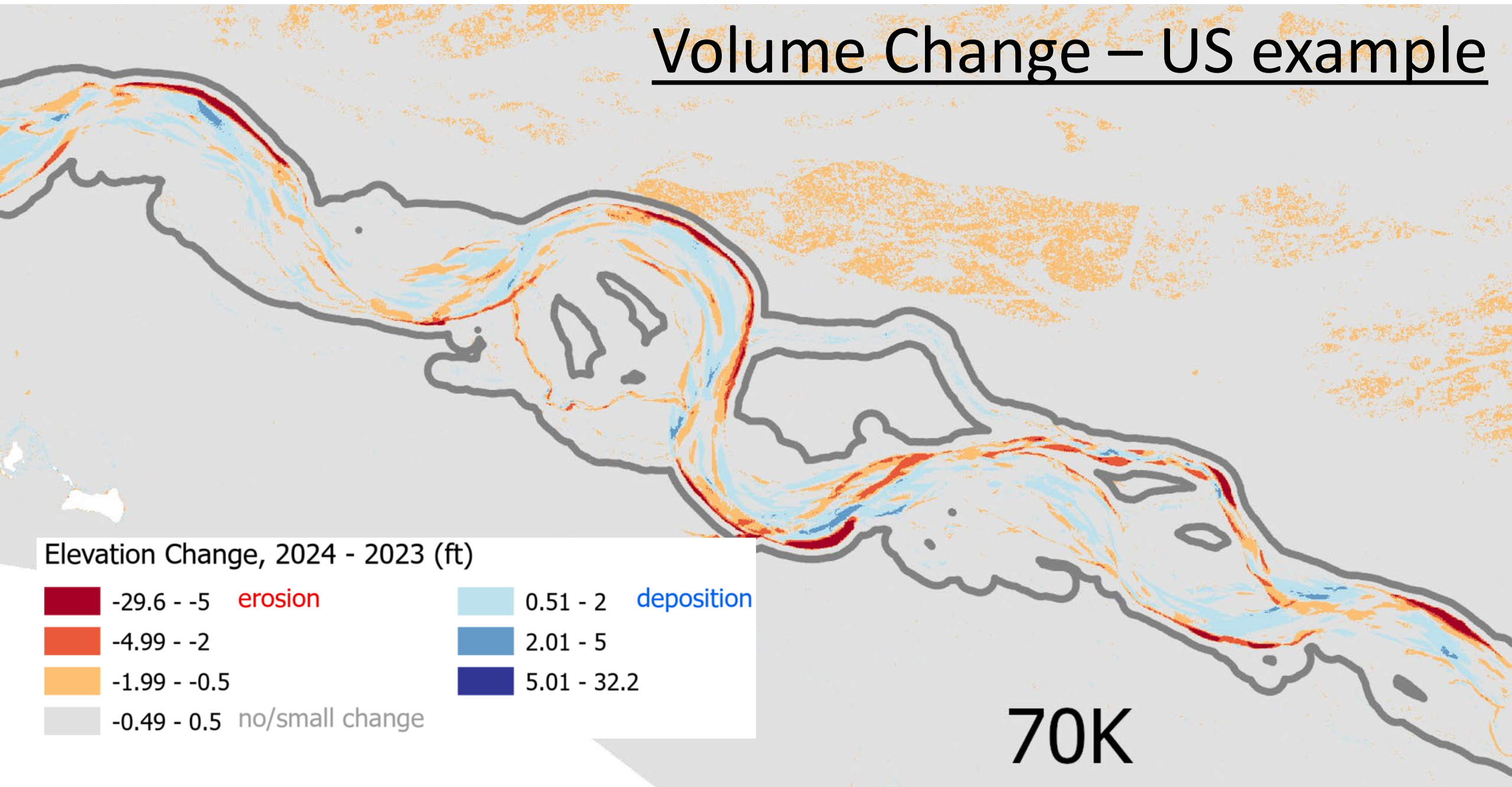


Lidar – Volume

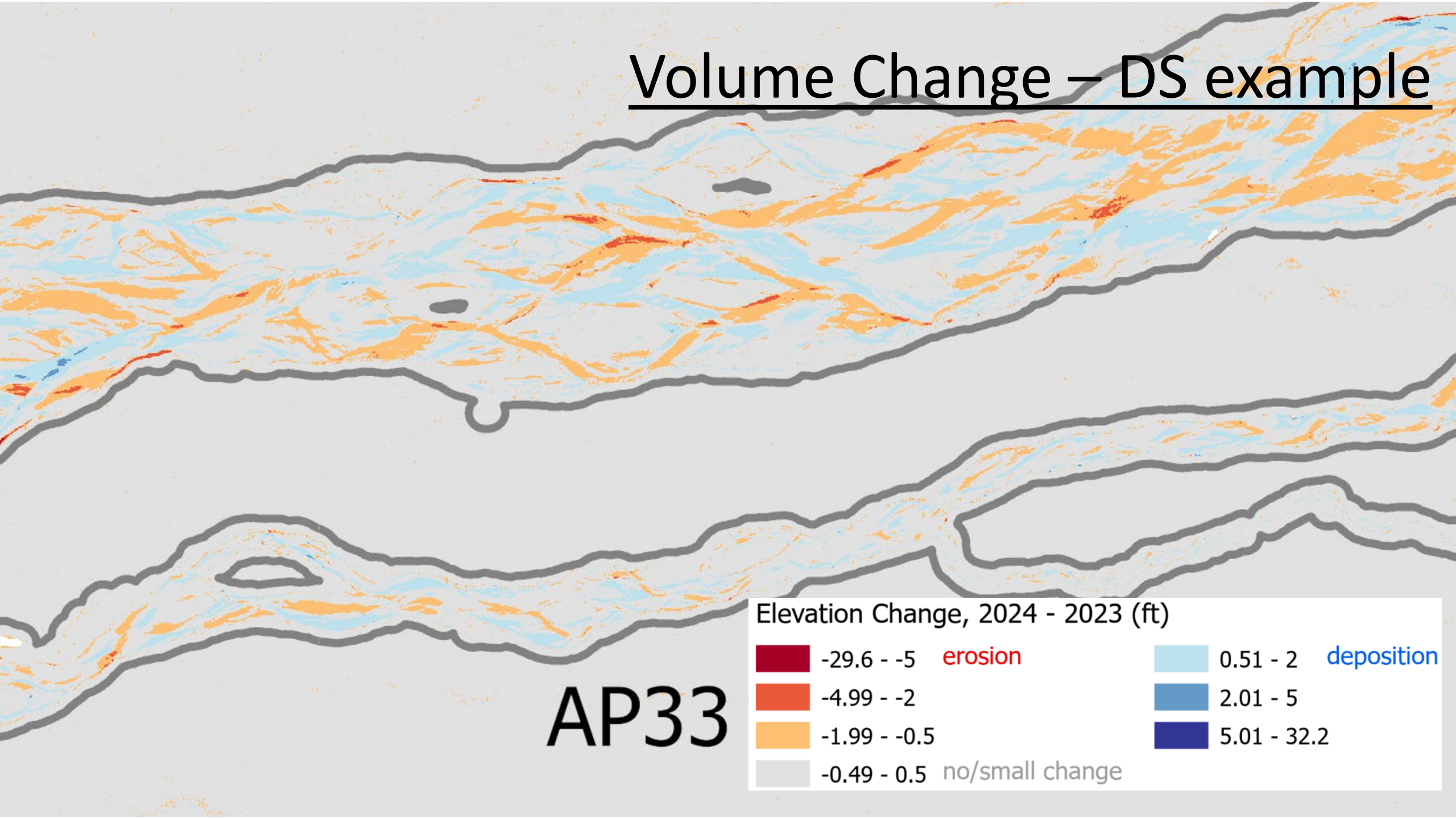
- Typical braided channel shifting in both AOIs
- Lateral erosion continues upstream in J2 return
- Shifting @ Overton Bridge; no other obvious regions of high-magnitude erosion or deposition



Volume Change – US example



Volume Change – DS example



AP33

Lidar Volume – Changes since 2016

Total change (CY)

Bed

Lateral

Augmented (CY)

Year	Aug-Ov	Ov-KCD	Aug-Ov	Ov-KCD	Aug-Ov	Ov-KCD	Aug?
2017-2016	-117200	+18500	-40400	+41800	-76800	-23300	N/A
2018-2017	-91100	-170300	-51800	-152000	-39300	-18300	23000
2019-2018	-123800	-116300	-49900	-66000	-73900	-50300	42900
2020-2019	-77500	+12100	-37300	+38700	-40200	-26600	42300
2021-2020	-38900	-2100	+2700	-1800	-41600	-300	57700
2022-2021	-26500	-85500	+2100	-65700	-28600	-19800	51300
2023-2022	-42900	-106900	+2200	-45800	-45100	-61100	43900
2024-2023	-70700	-58100	-8600	-37600	-62100	-20500	N/A

Lidar Area and Volume

What did we learn?

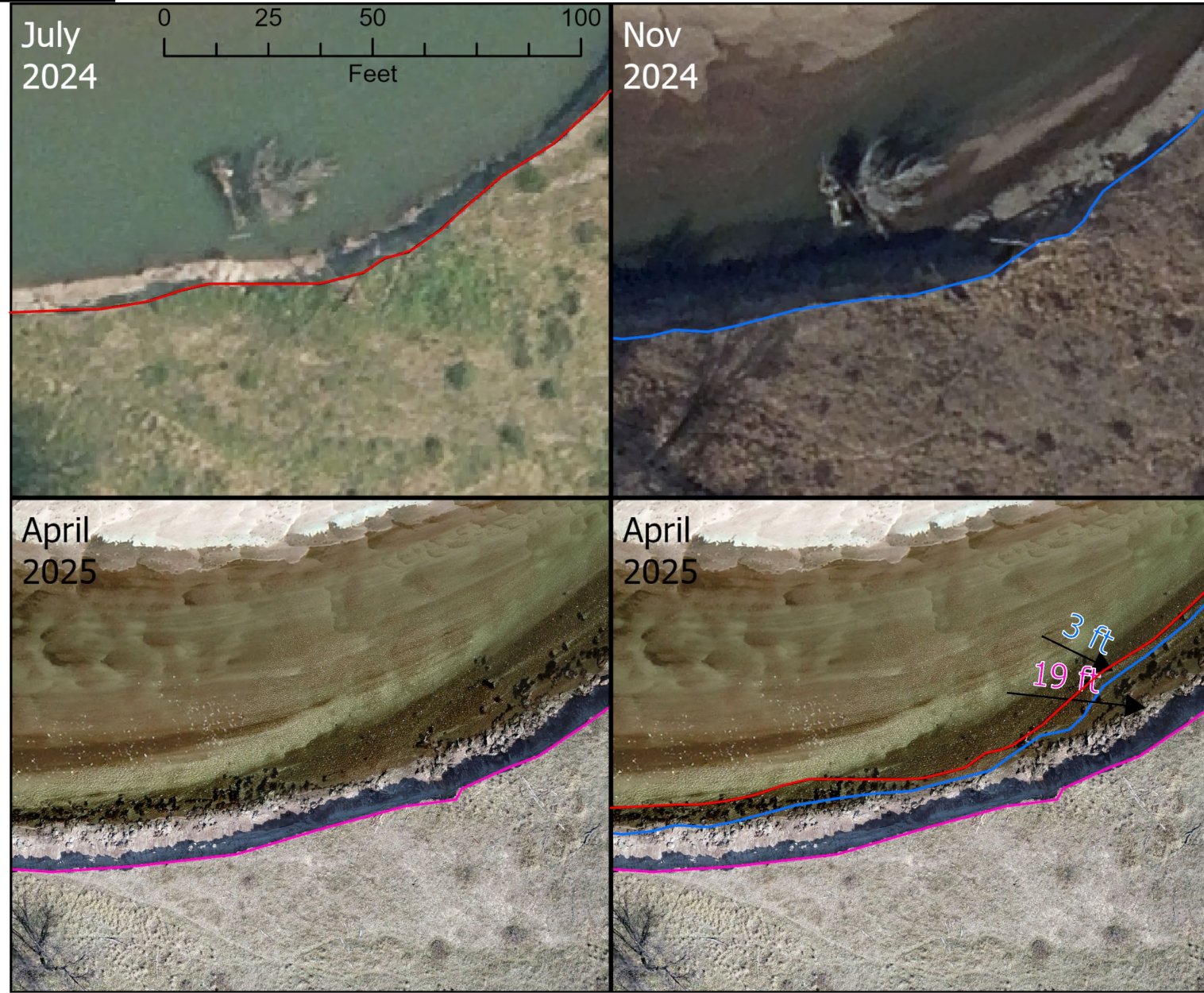
- Little change or downstream progression of incisional area
- Volume change relatively low and in-line with past data

Low relative stream power during dry year. Watch erosion in upstream reach, but most erosion is lateral.

New/Supplemental data

- High spatial and temporal resolution aerial imagery; frequent in-channel surveying

3D texture model



Summary

What did we learn?

- In a dry year, observed typical channel morphology and low rates of change
- New data is complementary and has a good return on investment

Geomorphologically business as usual moving forward, but refine reporting



Feedback and Discussion

