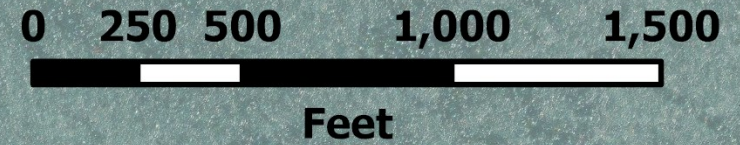
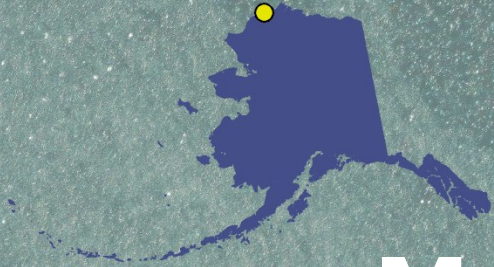


Wainwright



Monitoring Event-driven Erosion in Wainwright, Alaska



The importance of high-resolution data for capturing change on the Arctic Coast

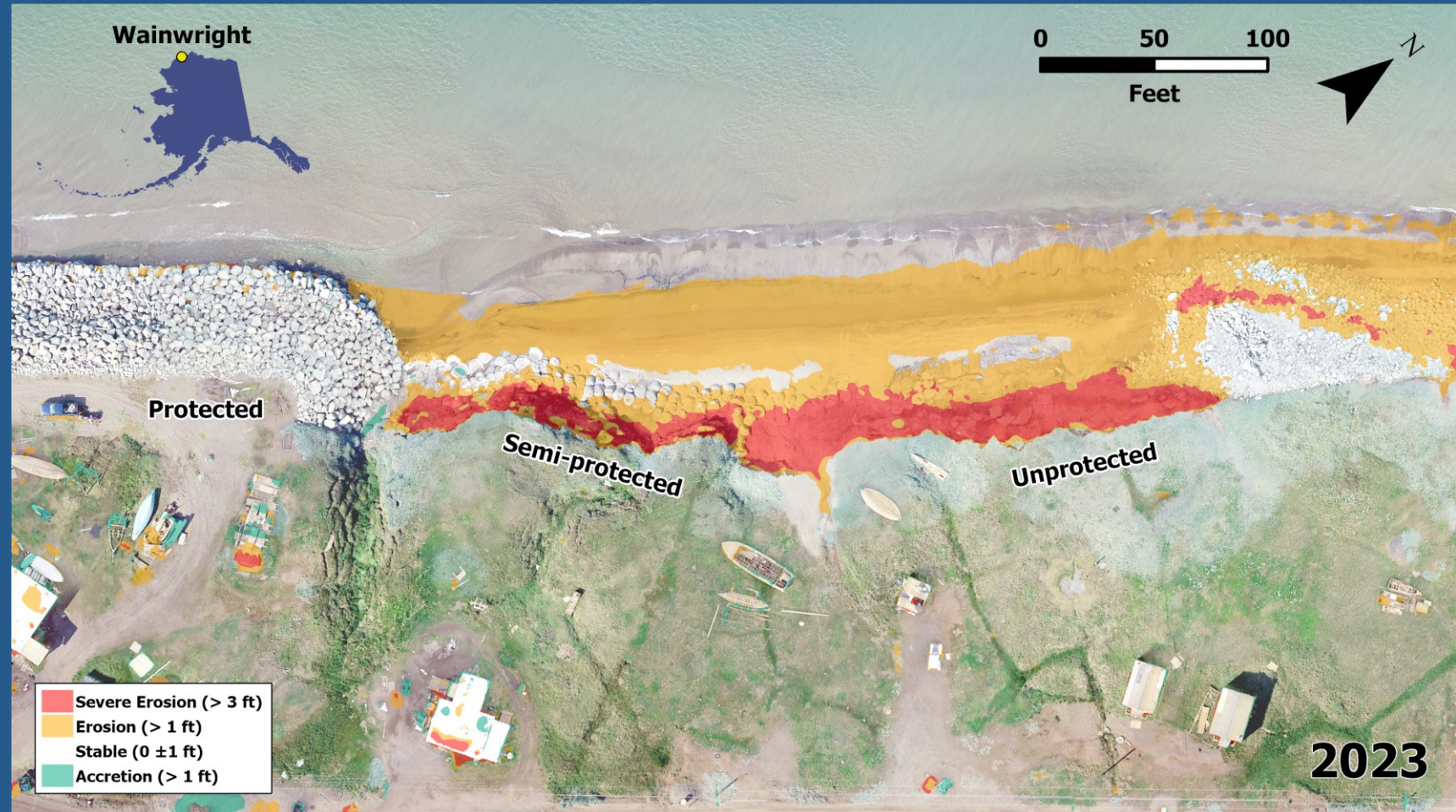
Why do these data matter?

- Alaskan coastal communities are increasingly more vulnerable to erosion associated with flooding, permafrost degradation, and increased storm impacts.
- Impacts include loss of land, and access to cultural, social, health, and economic resources.
- Accurate and timely datasets are essential for communities to identify appropriate mitigative measures to protect their coastlines and livelihood.
- DGGS collected coastline data before and after a significant storm that hit Alaska's North Slope in October 2022.



What can these data tell us?

- Collecting repeat imagery and elevation data can help document coastal change.
- Pre- and post-storm documentation can help assess how existing mitigation methods are performing.
- Understanding types of coastal protection and to what degree they are effective can inform communities on how best to implement protective measures to enhance their coastal resilience.



What can these data tell us?

Elevation profiles acquired across:

- 1) Protected – Revetment
- 2) Semi-Protected – Sandbags
- 3) Unprotected

make it possible to quantitatively compare mitigation methods.

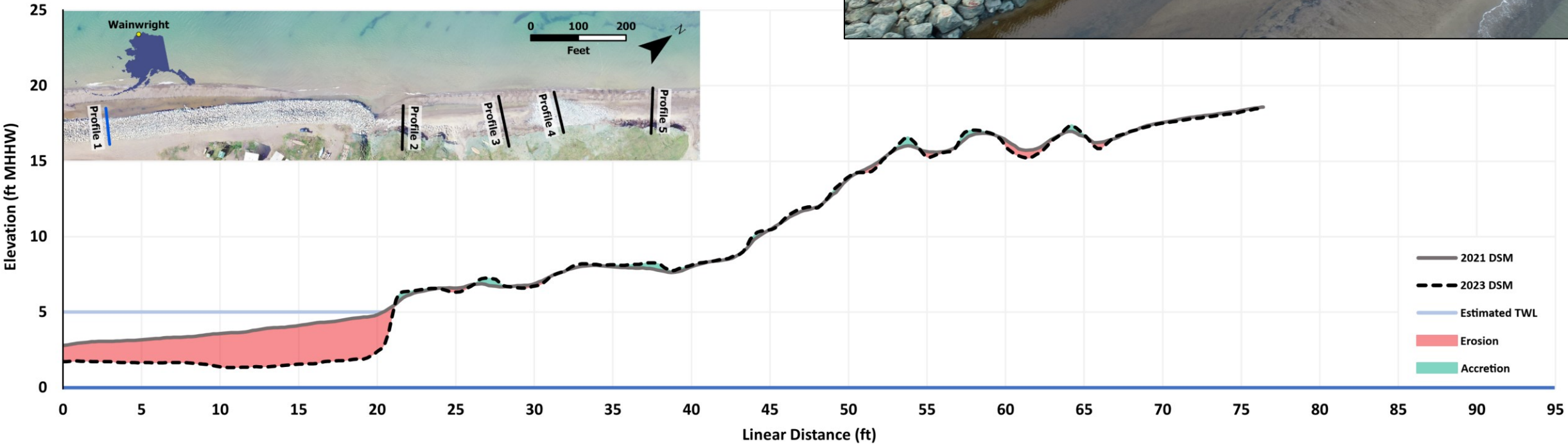


Protected Coastline

Seaward erosion; no coastal bluff erosion



Profile 1

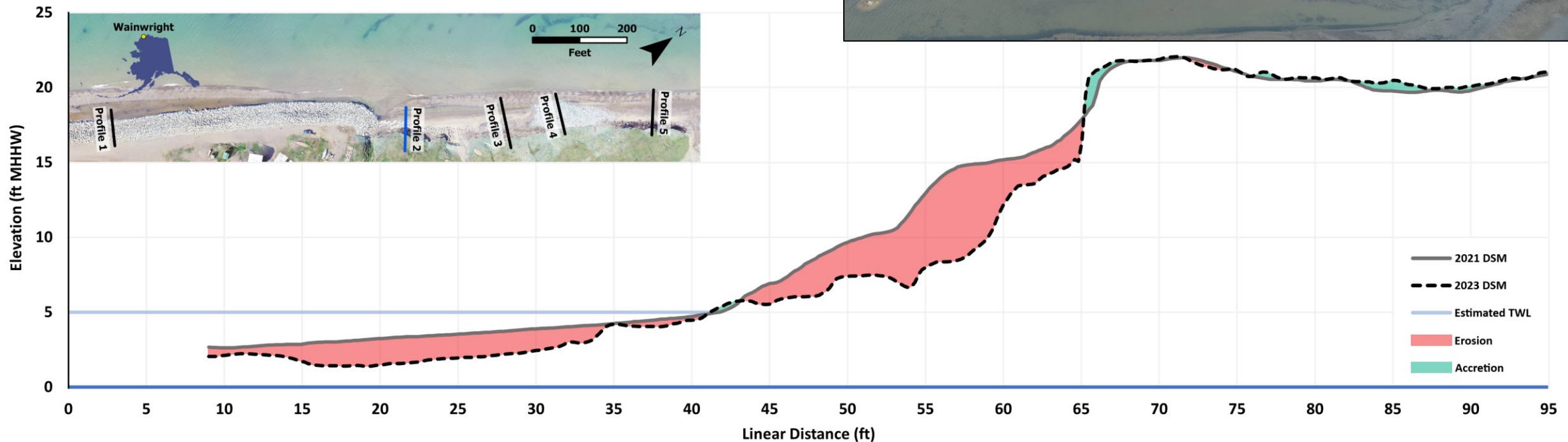


Semi-Protected Coastline

Beach erosion; no coastal bluff erosion



Profile 2

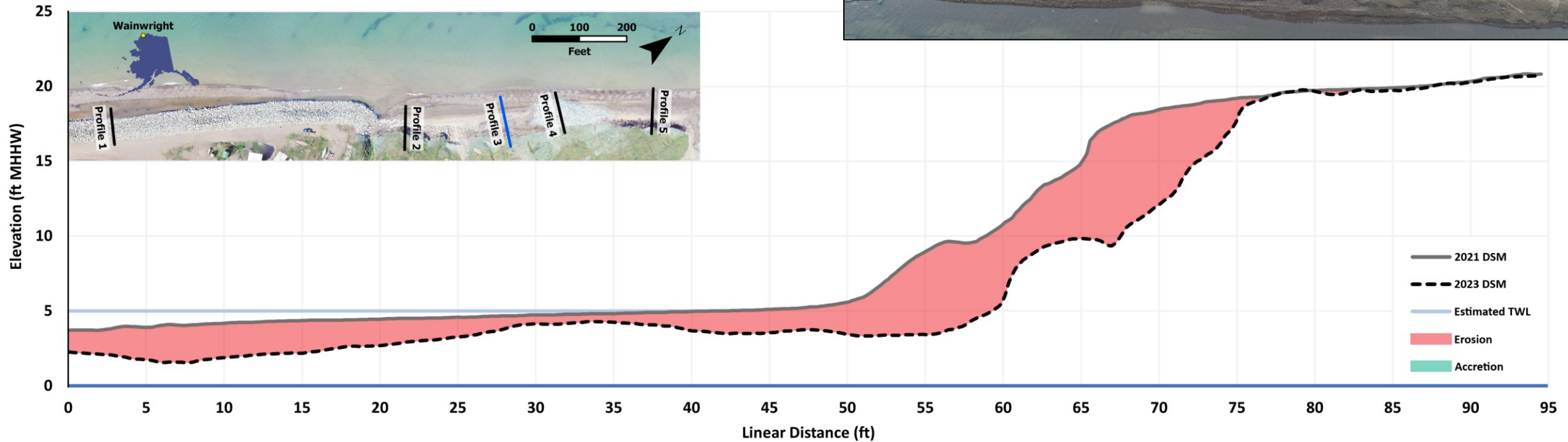


Unprotected Coastline

Severe coastal bluff erosion



Profile 3





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