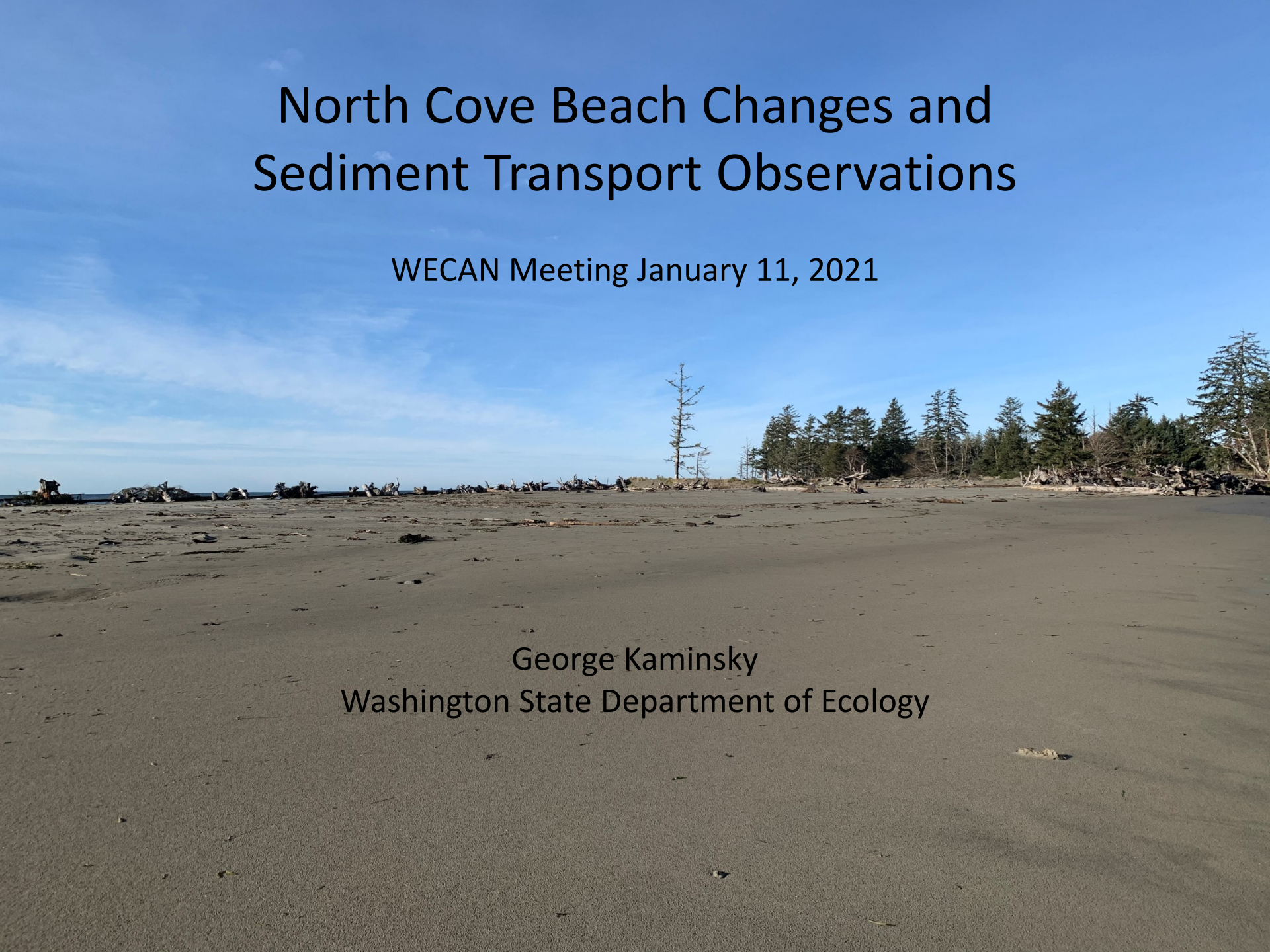
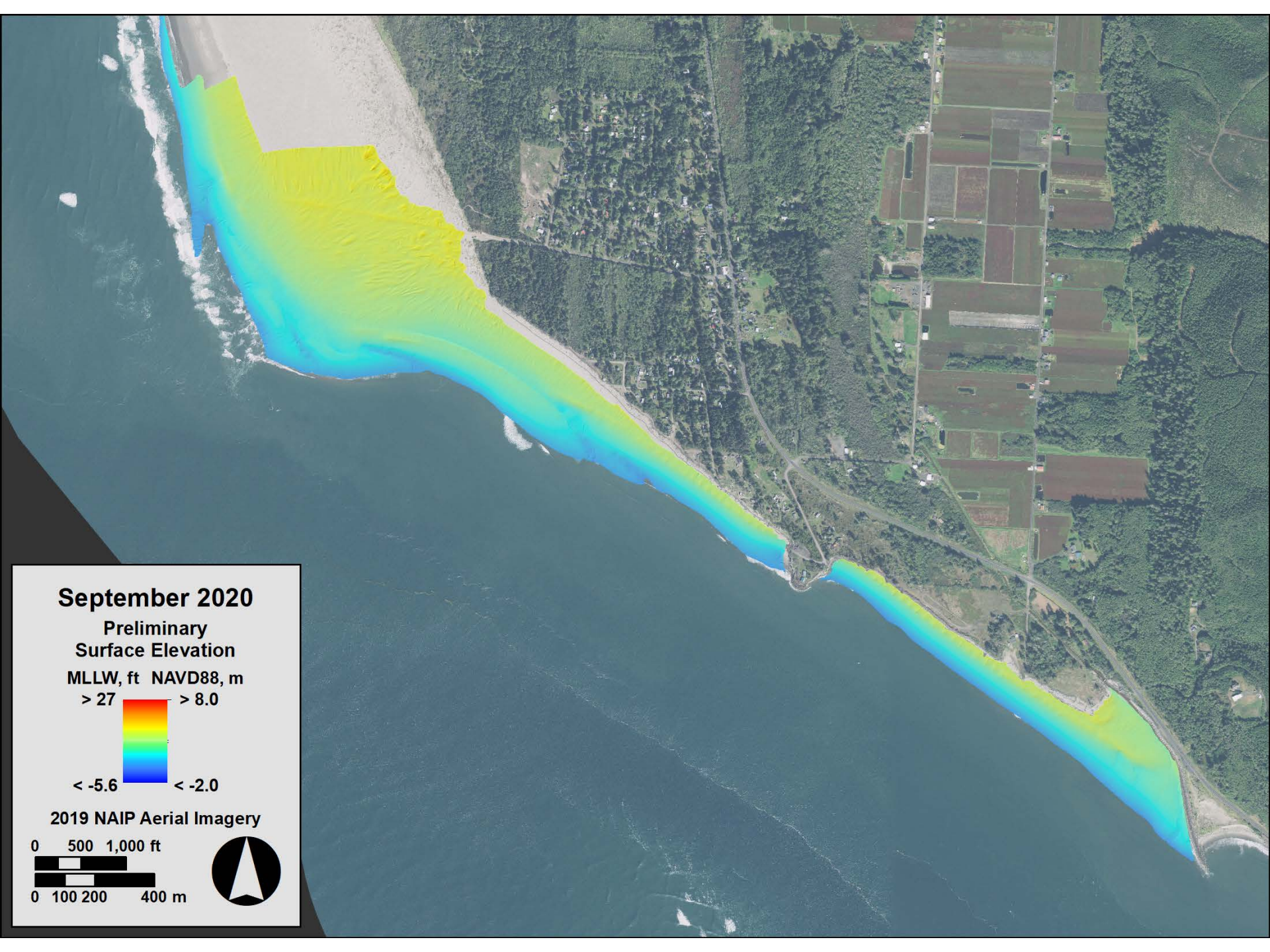


North Cove Beach Changes and Sediment Transport Observations

WECAN Meeting January 11, 2021

A wide, flat beach with scattered driftwood and a line of trees in the background under a blue sky.

George Kaminsky
Washington State Department of Ecology



September 2020

**Preliminary
Surface Elevation**

MLLW, ft NAVD88, m

> 27 > 8.0



< -5.6 < -2.0

2019 NAIP Aerial Imagery

0 500 1,000 ft



0 100 200 400 m



December 2020

**Preliminary
Surface Elevation**

MLLW, ft NAVD88, m

> 27 > 8.0



< -5.6 < -2.0

2019 NAIP Aerial Imagery

0 500 1,000 ft

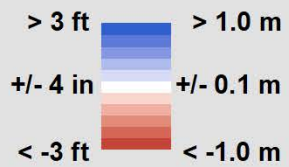


0 100 200 400 m



Net Change June 2018 - Dec 2020

Preliminary
Surface Difference



2019 NAIP Aerial Imagery

0 500 1,000 ft

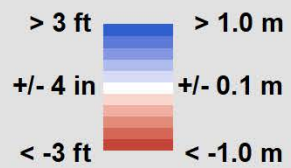


0 100 200 400 m



Annual Change Aug 2019 - Sep 2020

Preliminary
Surface Difference



2019 NAIP Aerial Imagery

0 500 1,000 ft



0 100 200 400 m



Annual Change Nov 2019 - Dec 2020

Preliminary
Surface Difference

> 3 ft > 1.0 m

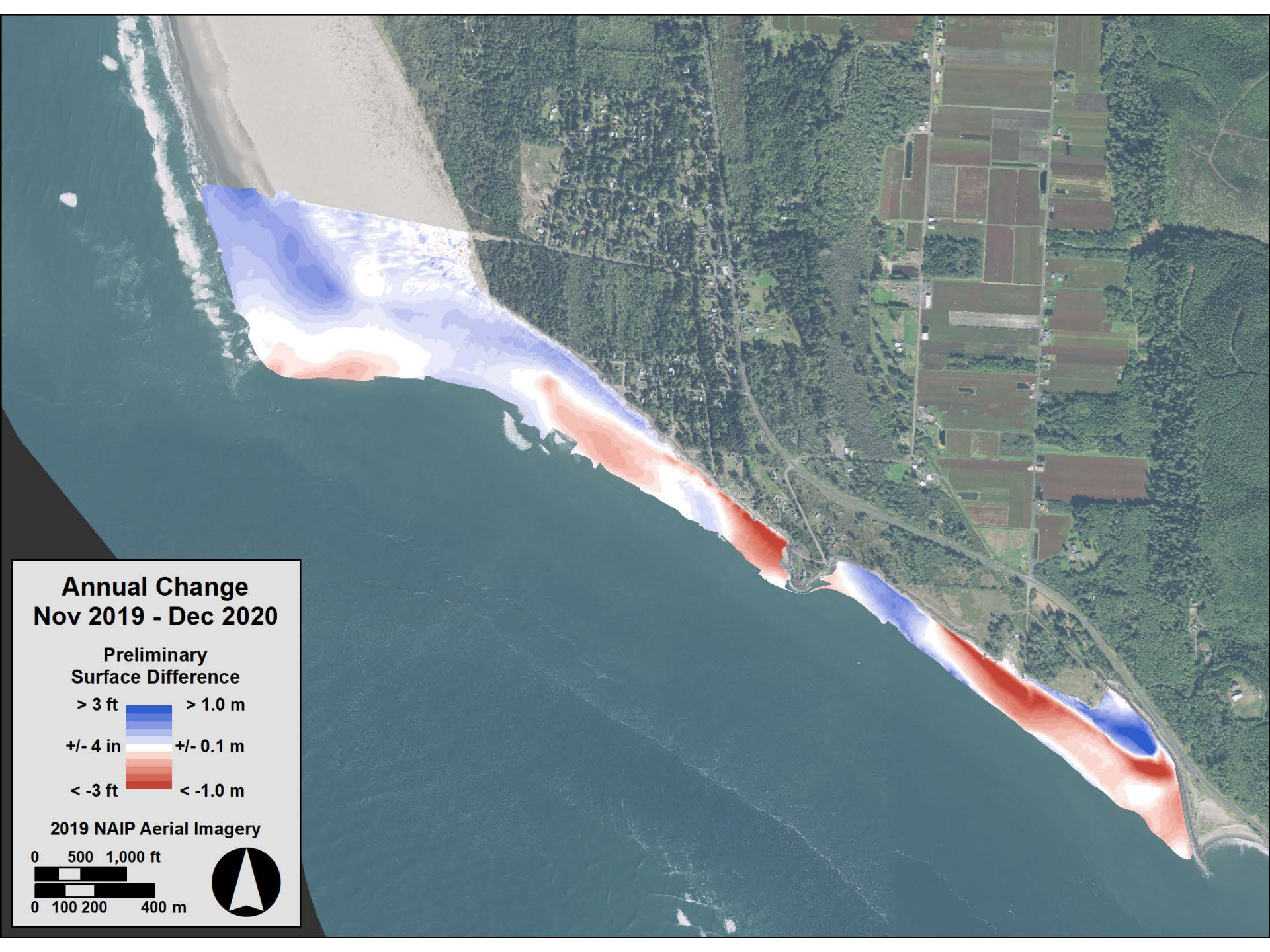
+/- 4 in +/- 0.1 m

< -3 ft < -1.0 m

2019 NAIP Aerial Imagery

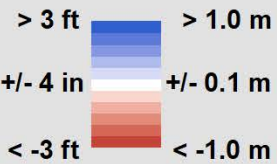
0 500 1,000 ft

0 100 200 400 m



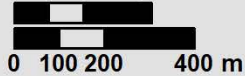
Quarterly Change Sep 2020 - Dec 2020

Preliminary
Surface Difference



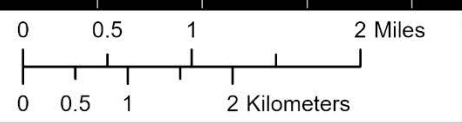
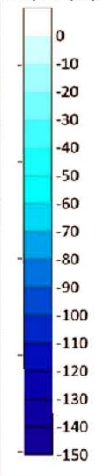
2019 NAIP Aerial Imagery

0 500 1,000 ft



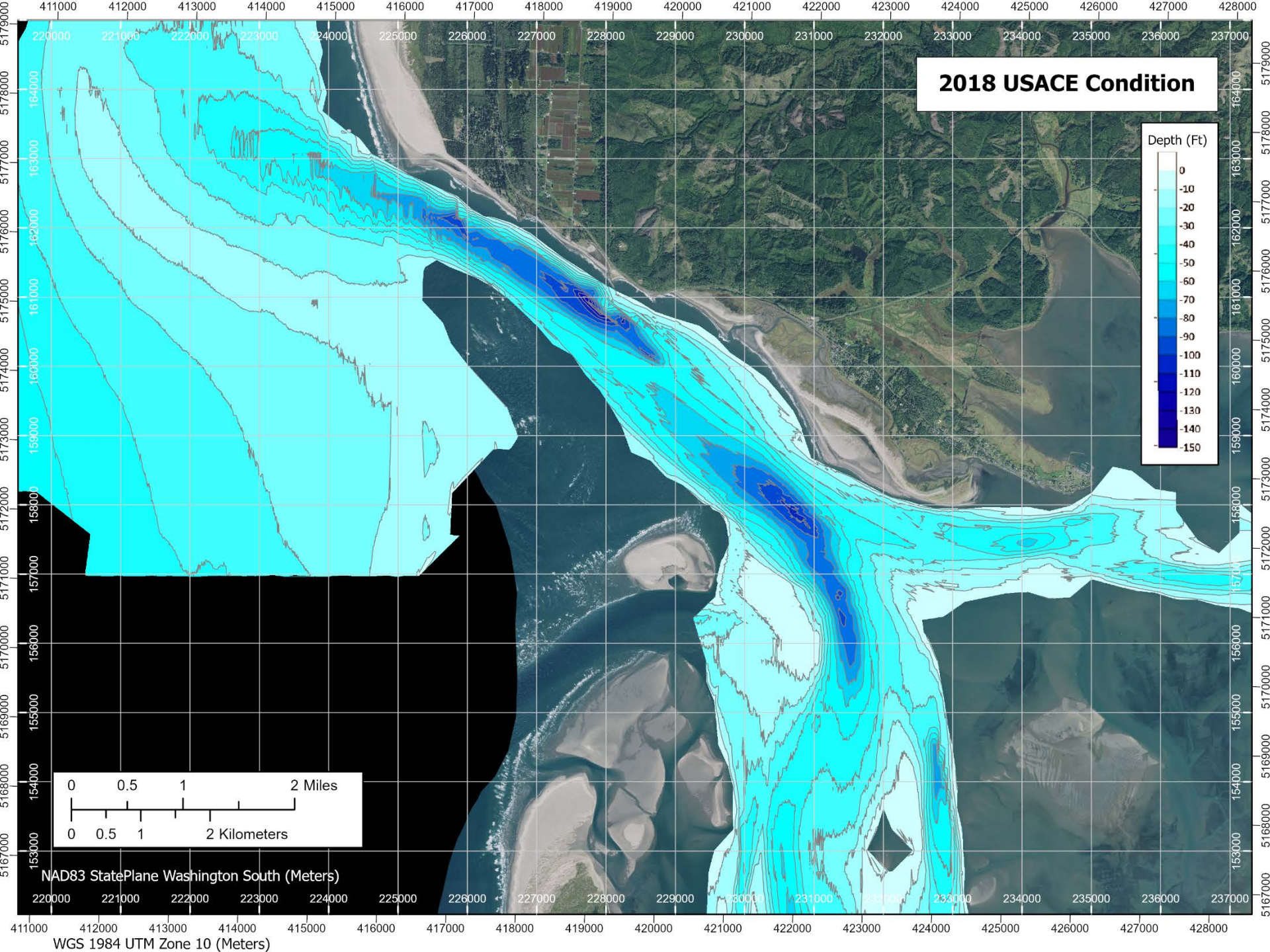
2018 USACE Condition

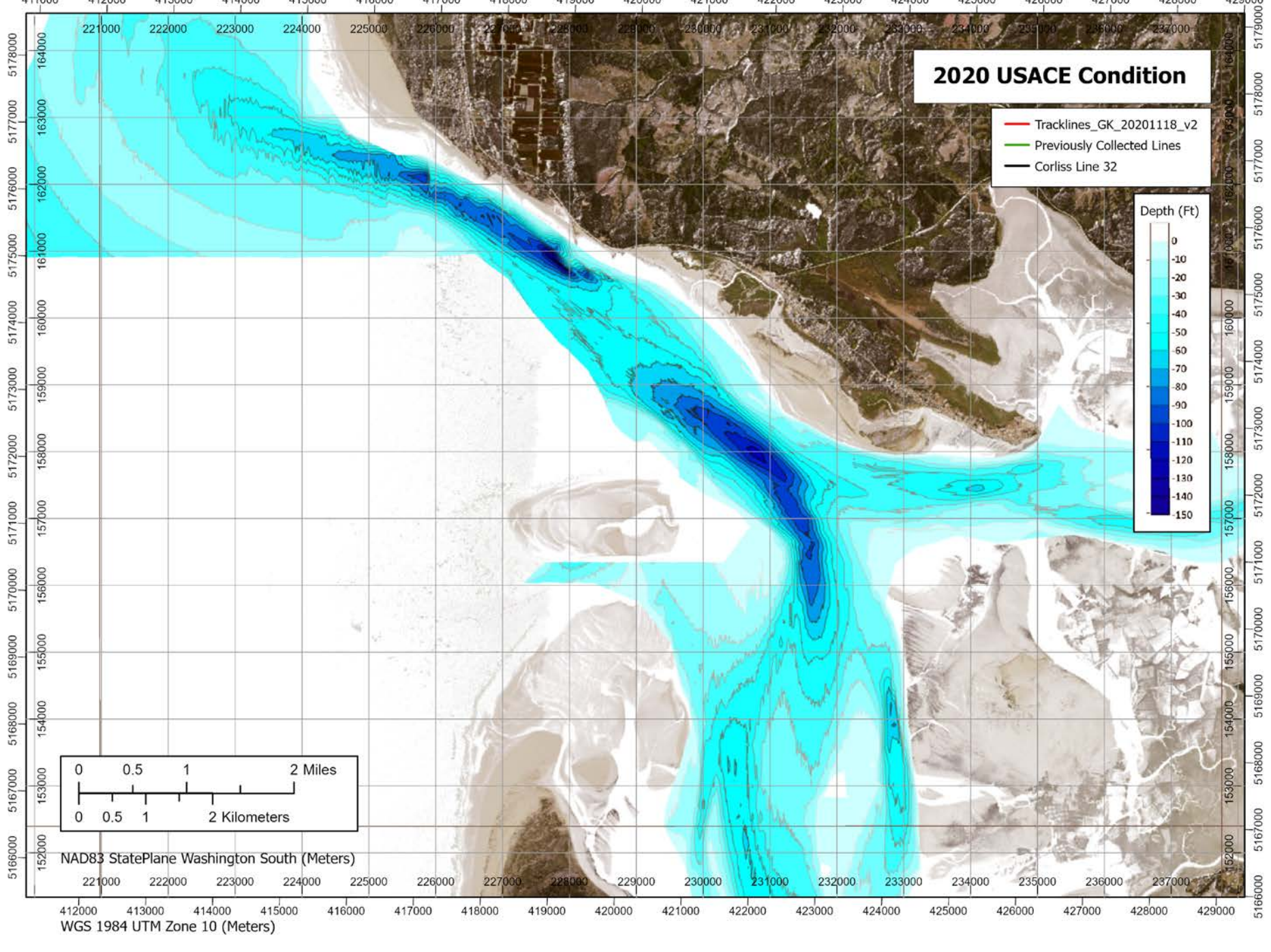
Depth (Ft)



NAD83 StatePlane Washington South (Meters)

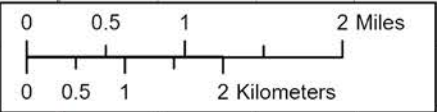
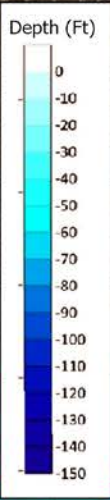
WGS 1984 UTM Zone 10 (Meters)





2020 USACE Condition

- Tracklines_GK_20201118_v2
- Previously Collected Lines
- Corliss Line 32



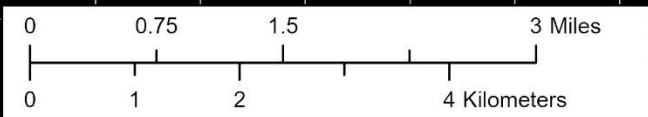
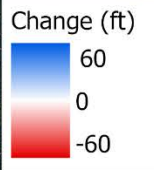
NAD83 StatePlane Washington South (Meters)

221000 222000 223000 224000 225000 226000 227000 228000 229000 230000 231000 232000 233000 234000 235000 236000 237000

412000 413000 414000 415000 416000 417000 418000 419000 420000 421000 422000 423000 424000 425000 426000 427000 428000 429000

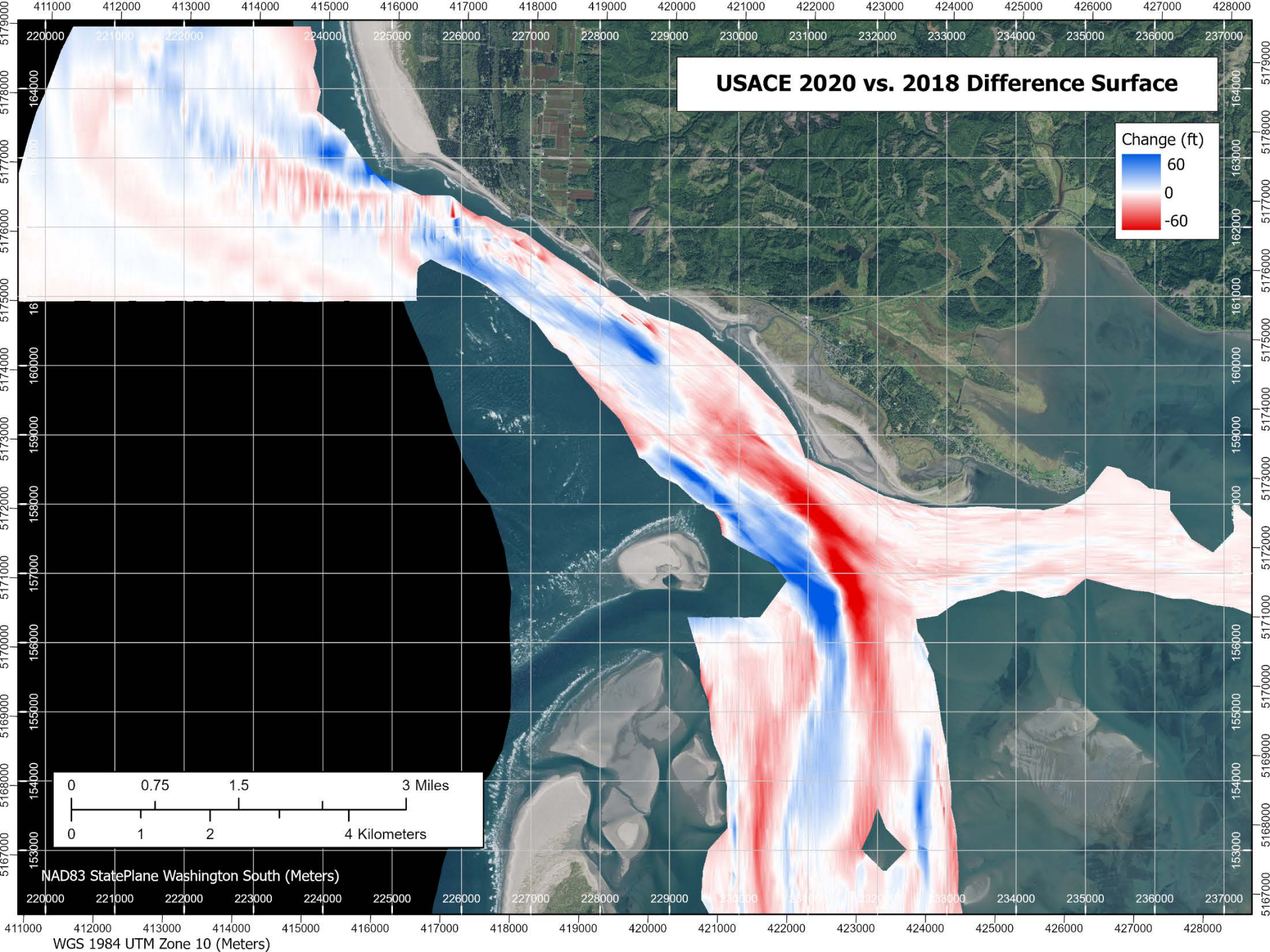
WGS 1984 UTM Zone 10 (Meters)

USACE 2020 vs. 2018 Difference Surface

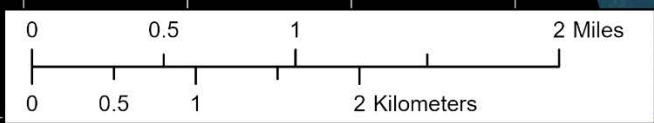
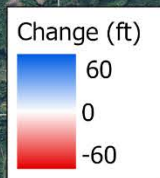


NAD83 StatePlane Washington South (Meters)

WGS 1984 UTM Zone 10 (Meters)

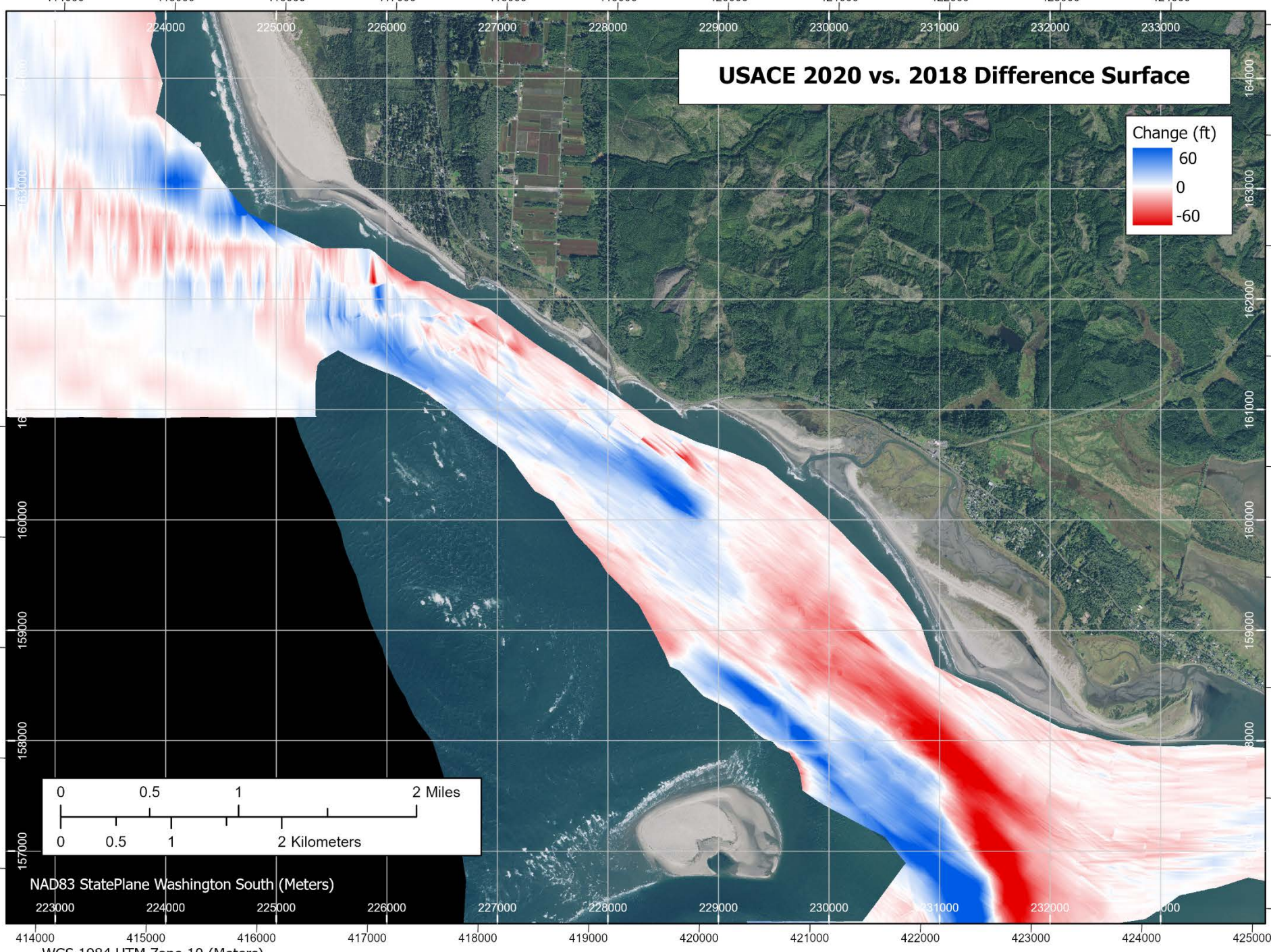


USACE 2020 vs. 2018 Difference Surface

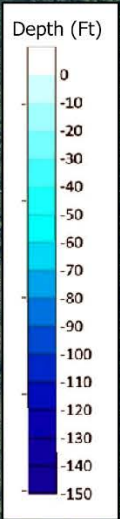


NAD83 StatePlane Washington South (Meters)

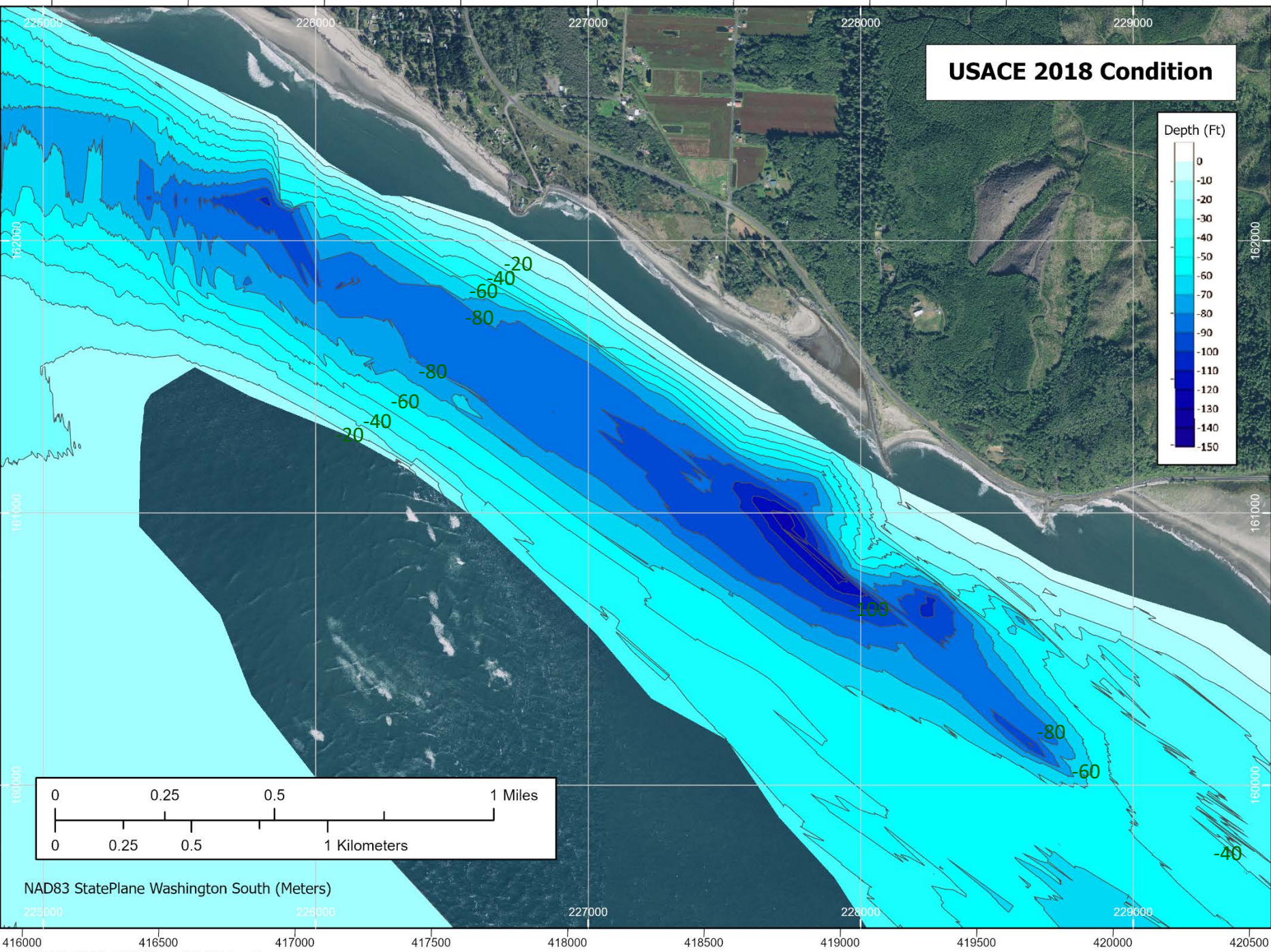
WGS 1984 UTM Zone 10 (Meters)



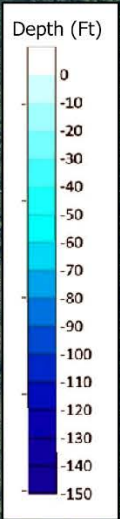
USACE 2018 Condition



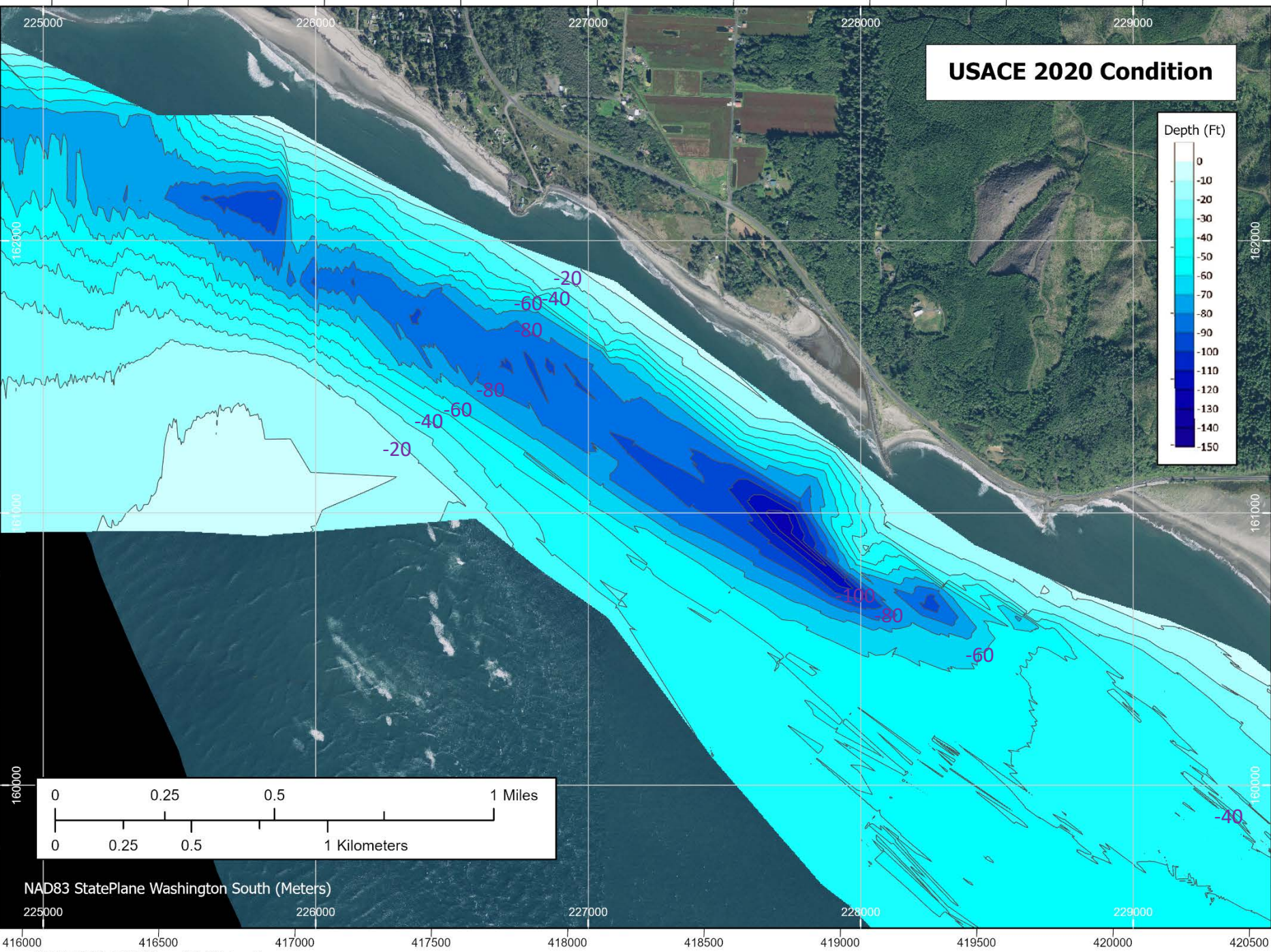
NAD83 StatePlane Washington South (Meters)
WGS 1984 UTM Zone 10 (Meters)



USACE 2020 Condition

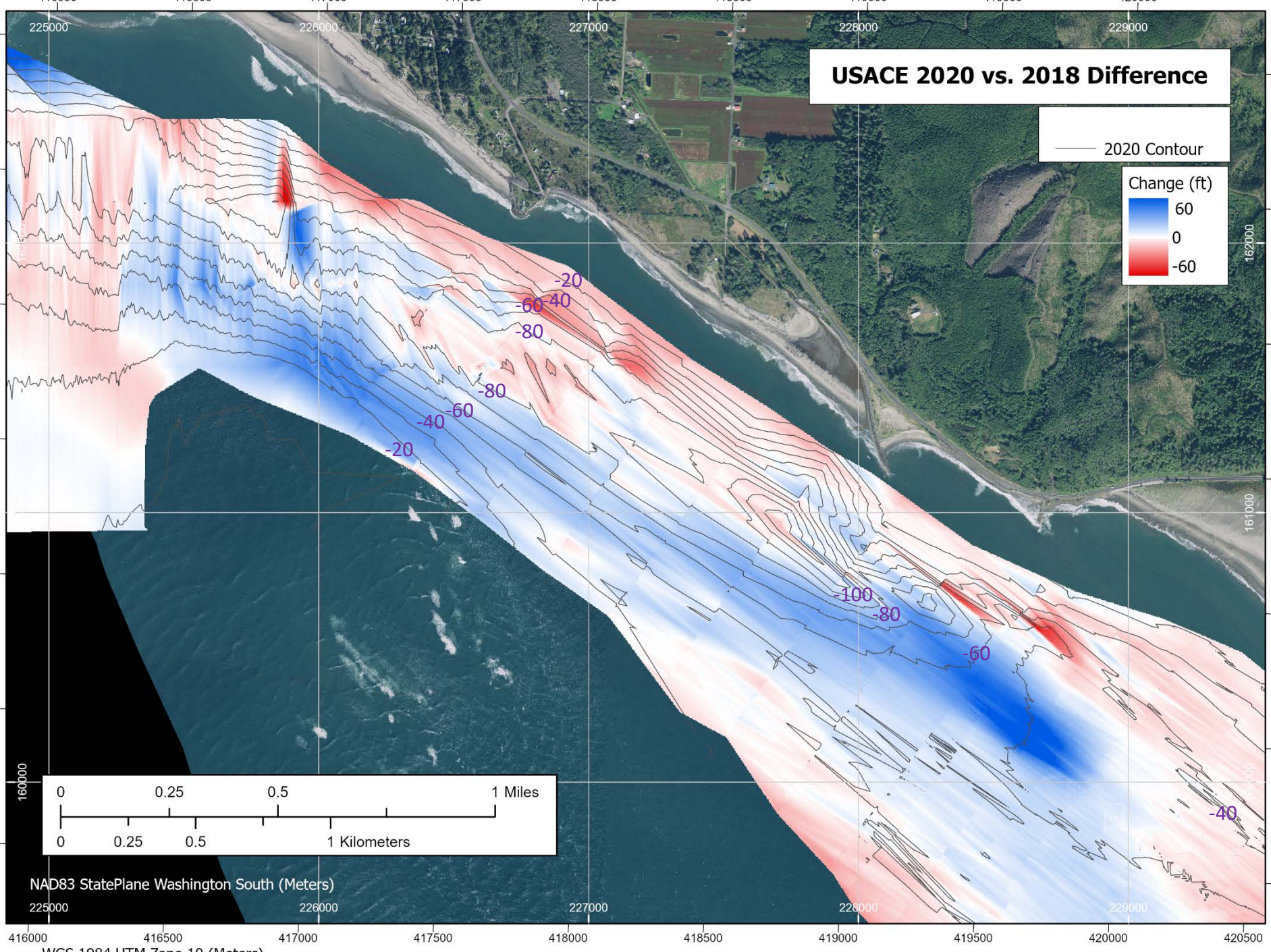
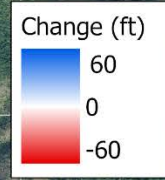


NAD83 StatePlane Washington South (Meters)
WGS 1984 UTM Zone 10 (Meters)

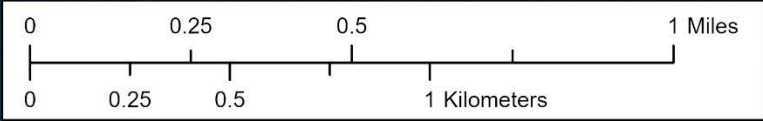
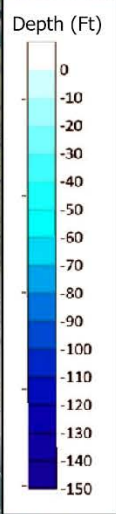


USACE 2020 vs. 2018 Difference

— 2020 Contour

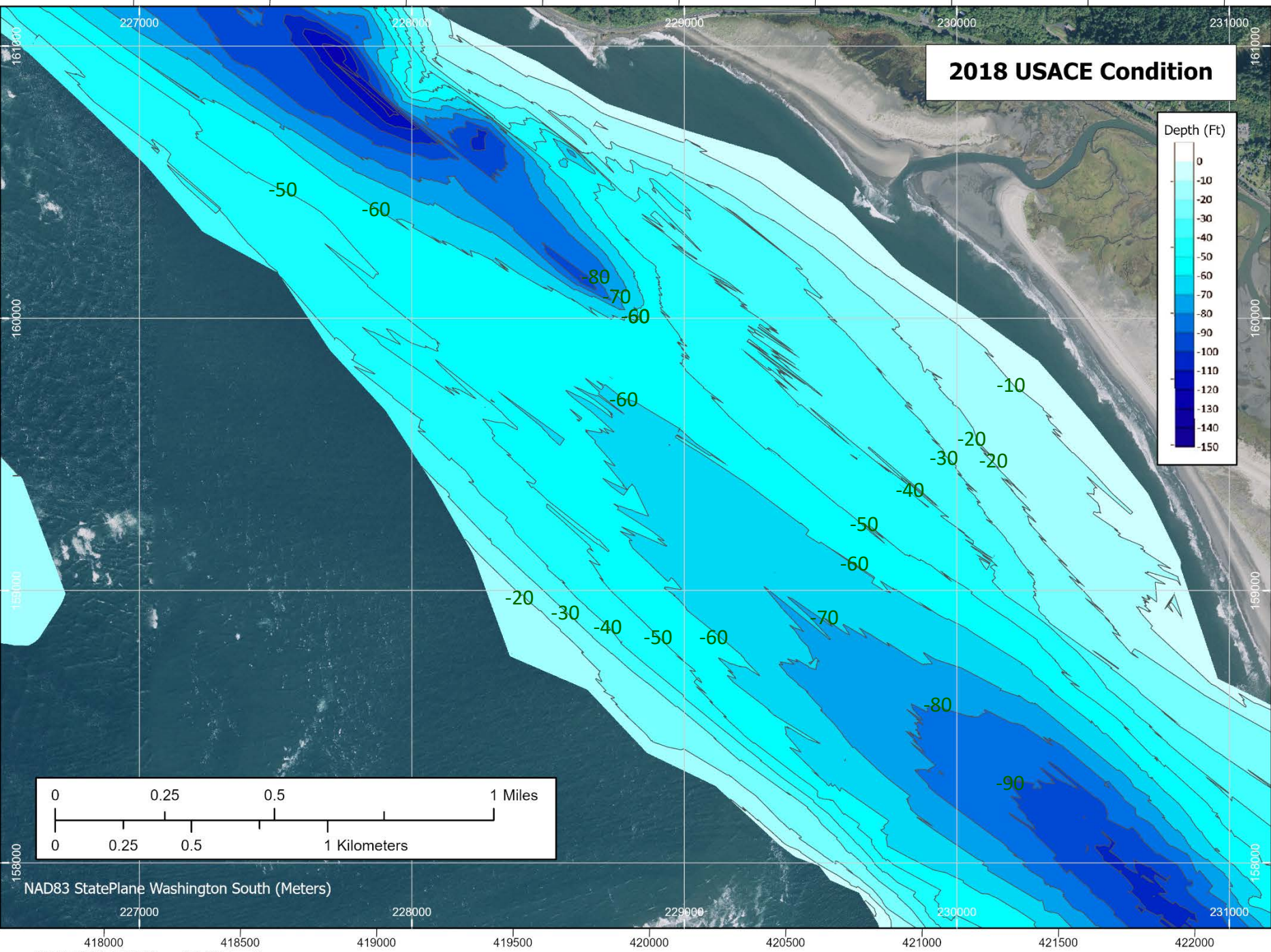


2018 USACE Condition

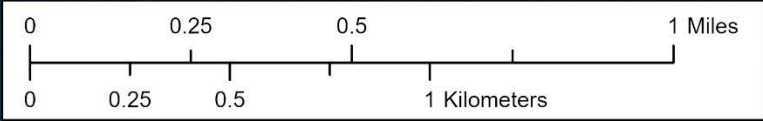
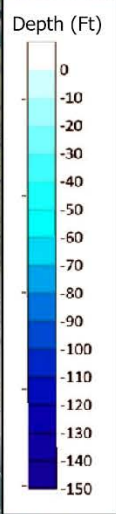


NAD83 StatePlane Washington South (Meters)

WGS 1984 UTM Zone 10 (Meters)

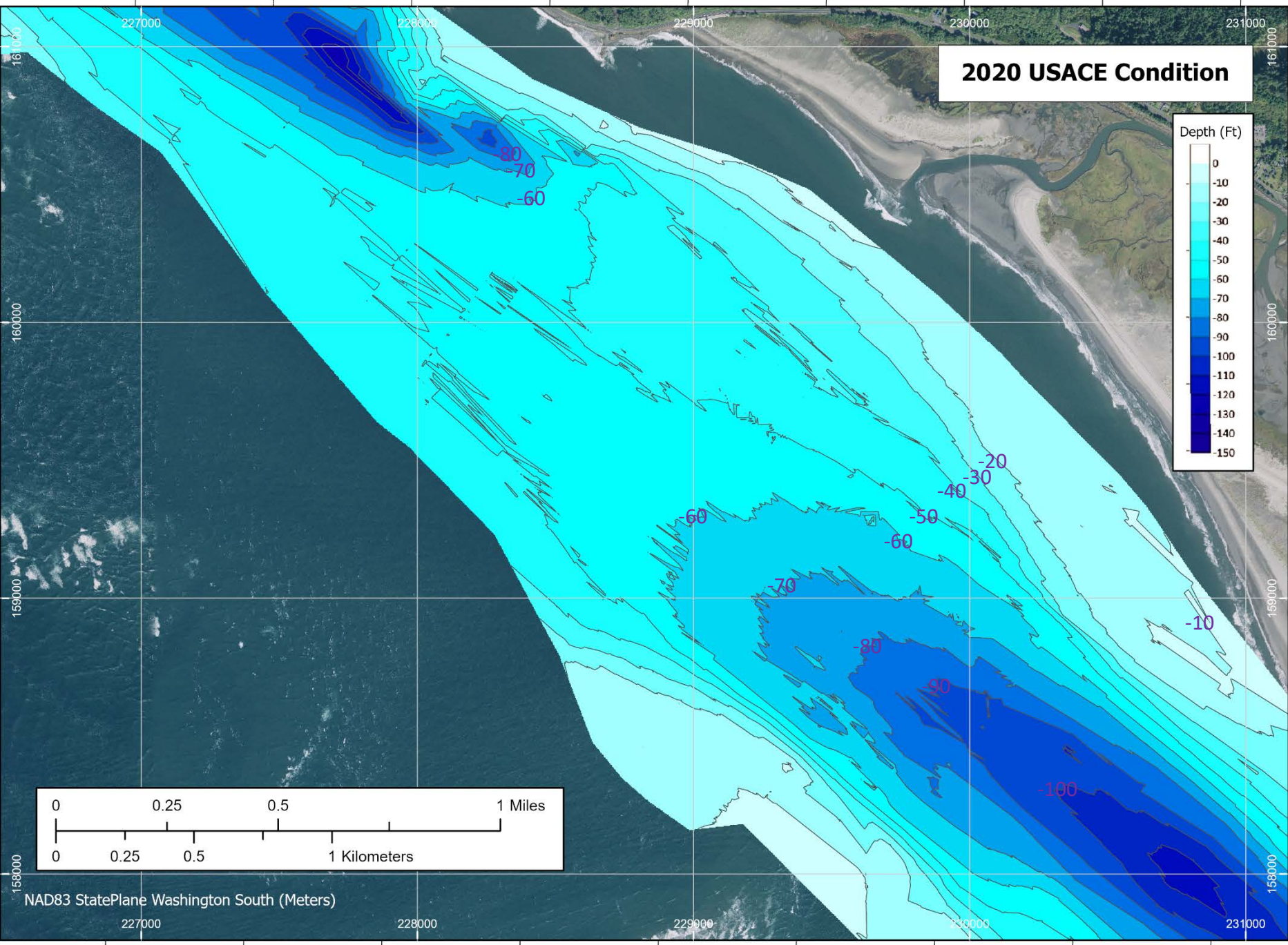


2020 USACE Condition

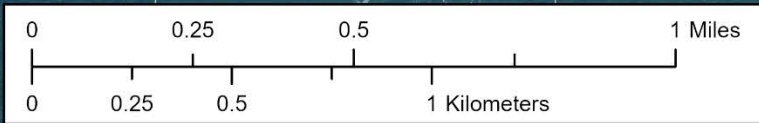
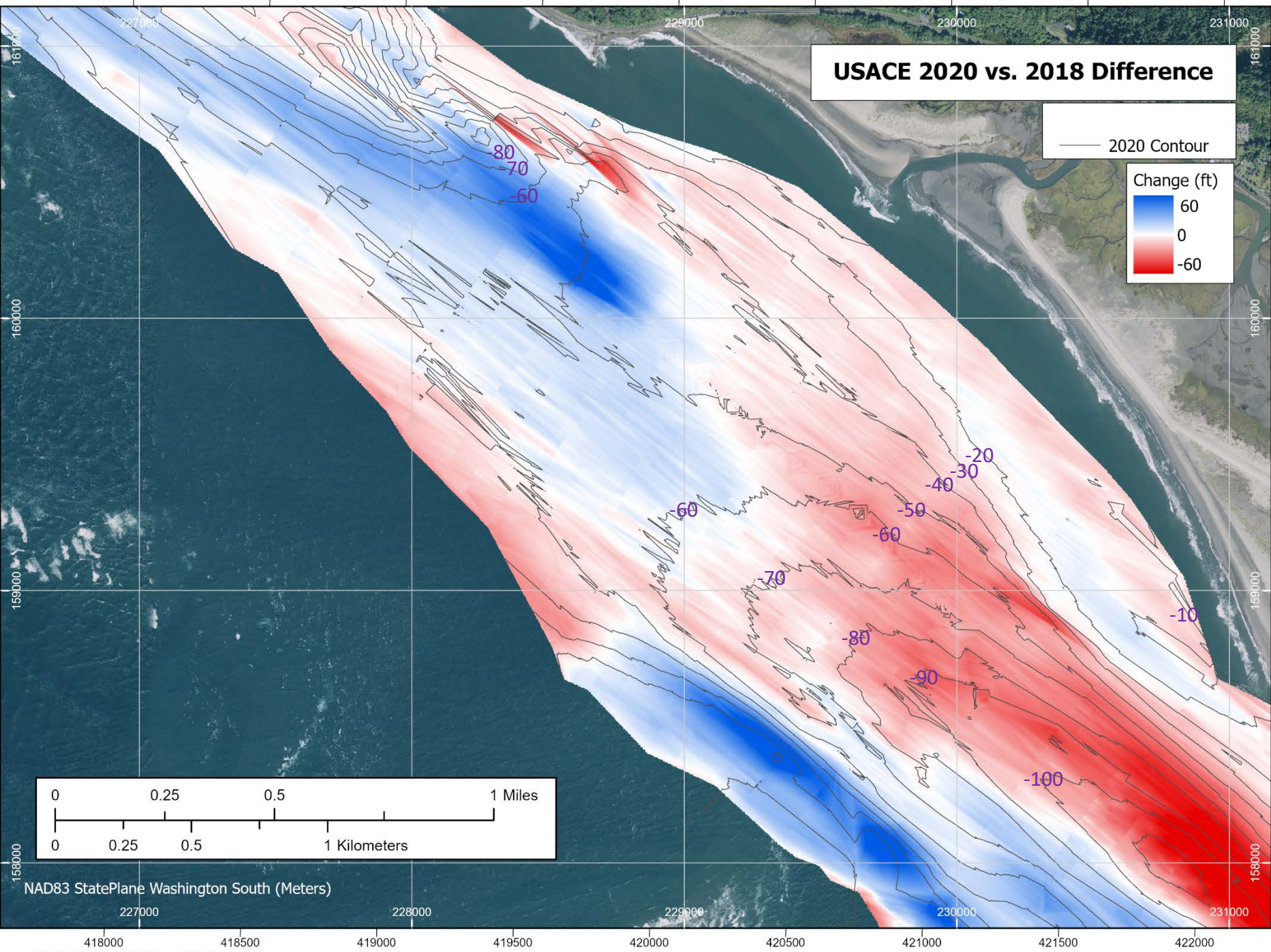
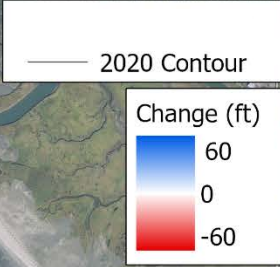


NAD83 StatePlane Washington South (Meters)

WGS 1984 UTM Zone 10 (Meters)



USACE 2020 vs. 2018 Difference



NAD83 StatePlane Washington South (Meters)

WGS 1984 UTM Zone 10 (Meters)