

Geodetic Control/2022 Reference Frame



North Carolina Emergency Management



New Reference Frame Names

NAD 83 becomes:

- North American Terrestrial Reference Frame (NATR2022)
- Caribbean Terrestrial Reference Frame (CTRF2022)
- Mariana Terrestrial Reference Frame (MTRF2022)
- Pacific Terrestrial Reference Frame (PTRF2022)

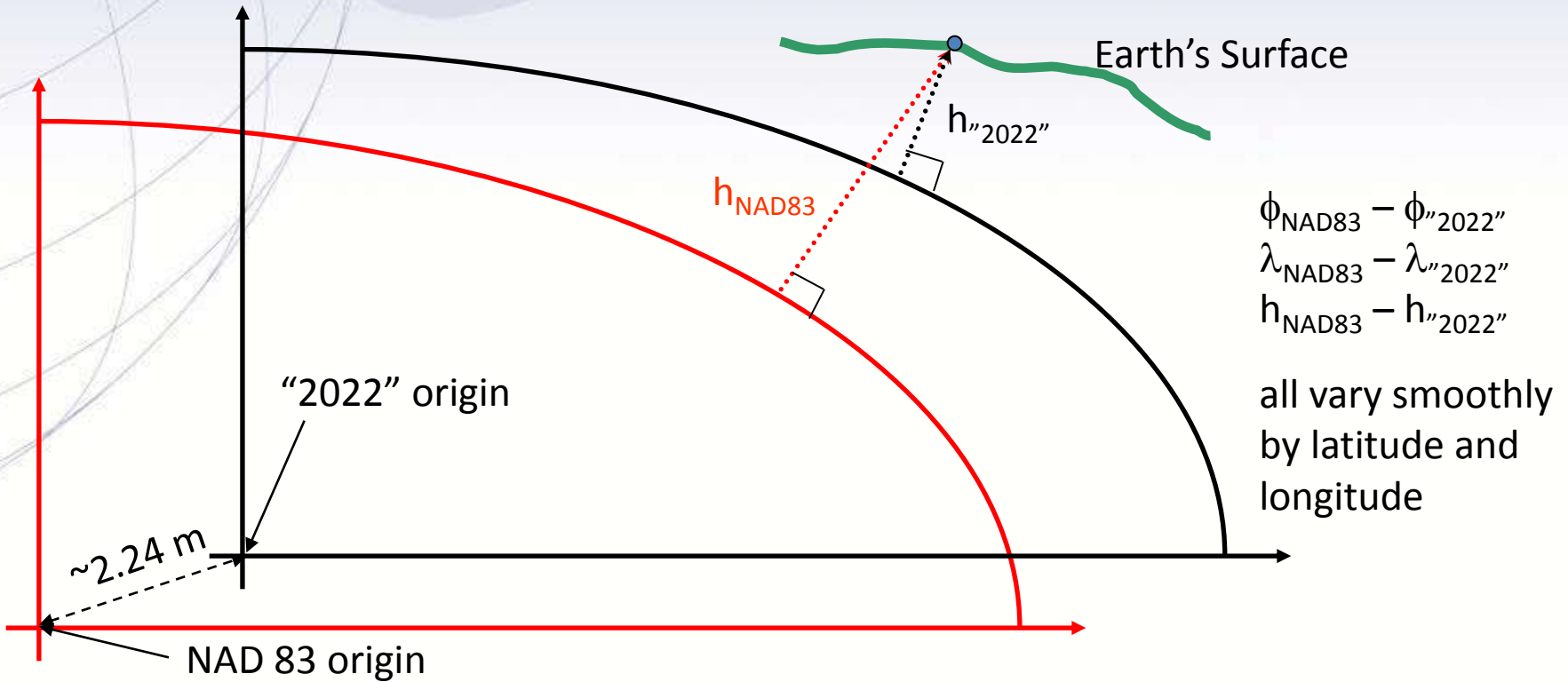
NAVD88 becomes:

- North American-Pacific Geopotential Datum of 2022 (NAPGD2022)

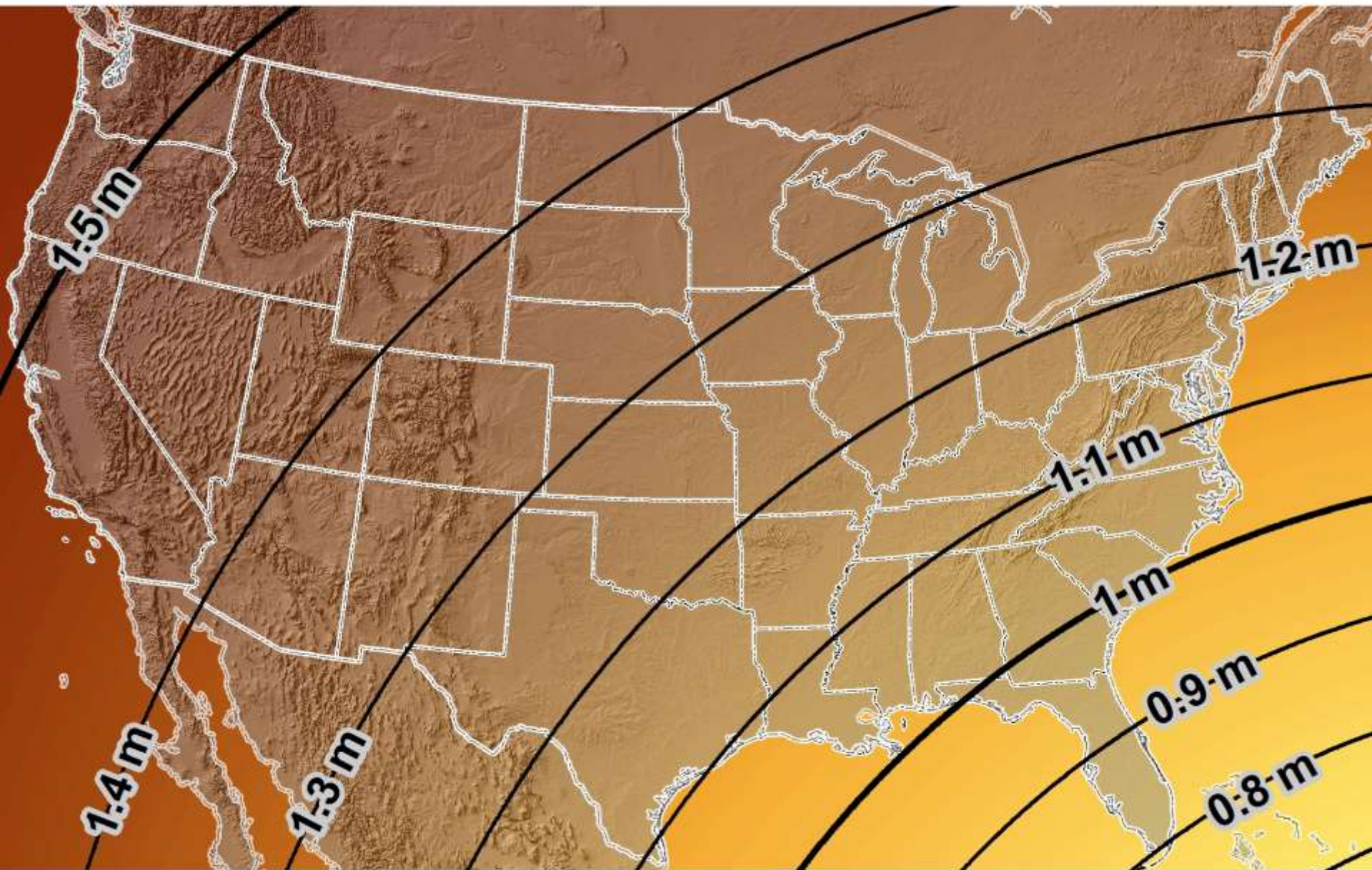
(Realized by GEOID2022)

Replace NAD 83

Simplified concept of NAD 83 vs. "2022"



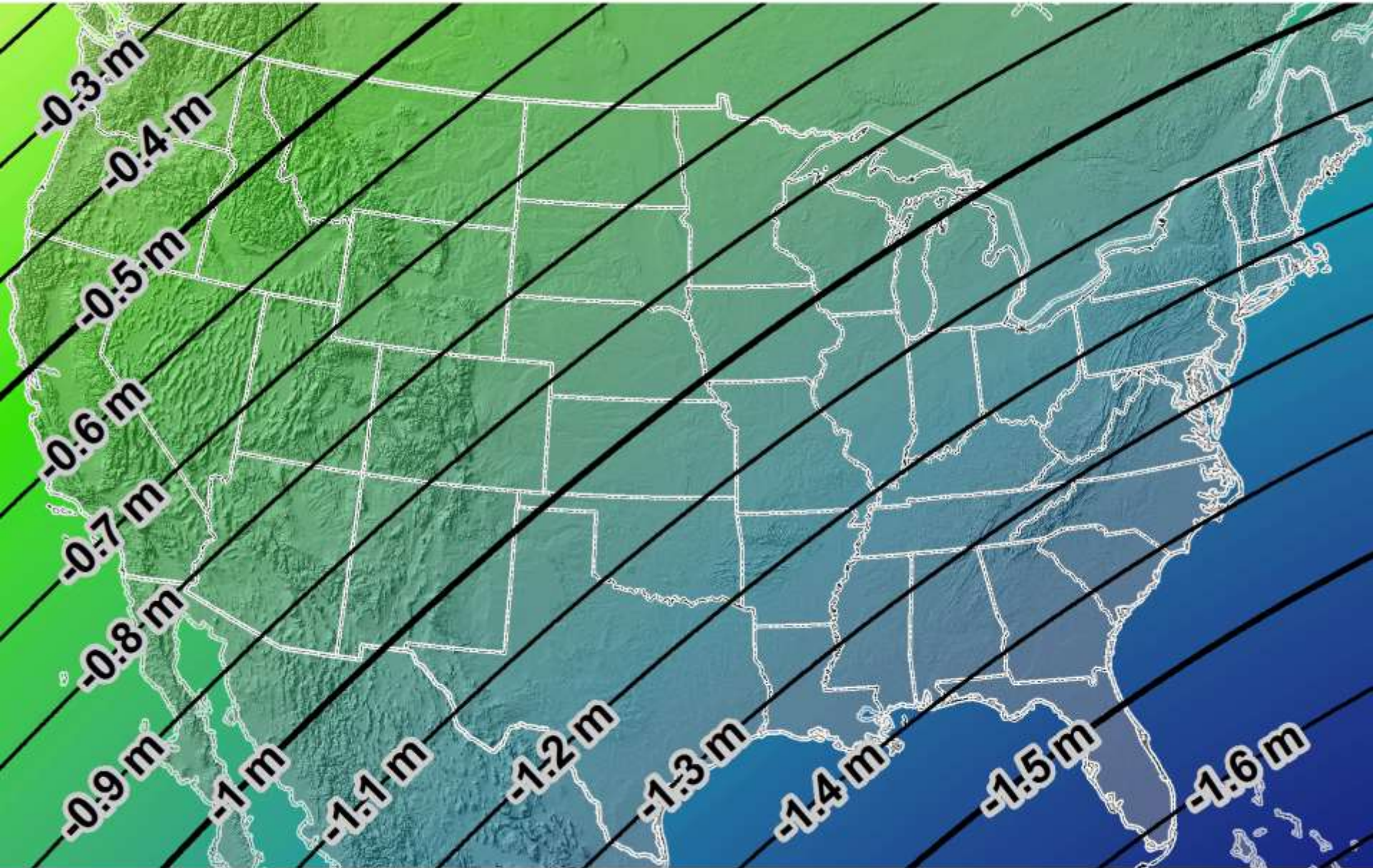
Estimated horizontal change from NAD 83 to new geometric datum



April 5, 2017

Delta Horizontal = (ITRF 05) minus (NAD 83) at 2020.0

Estimated ellipsoid height change from NAD 83 to new geometric datum



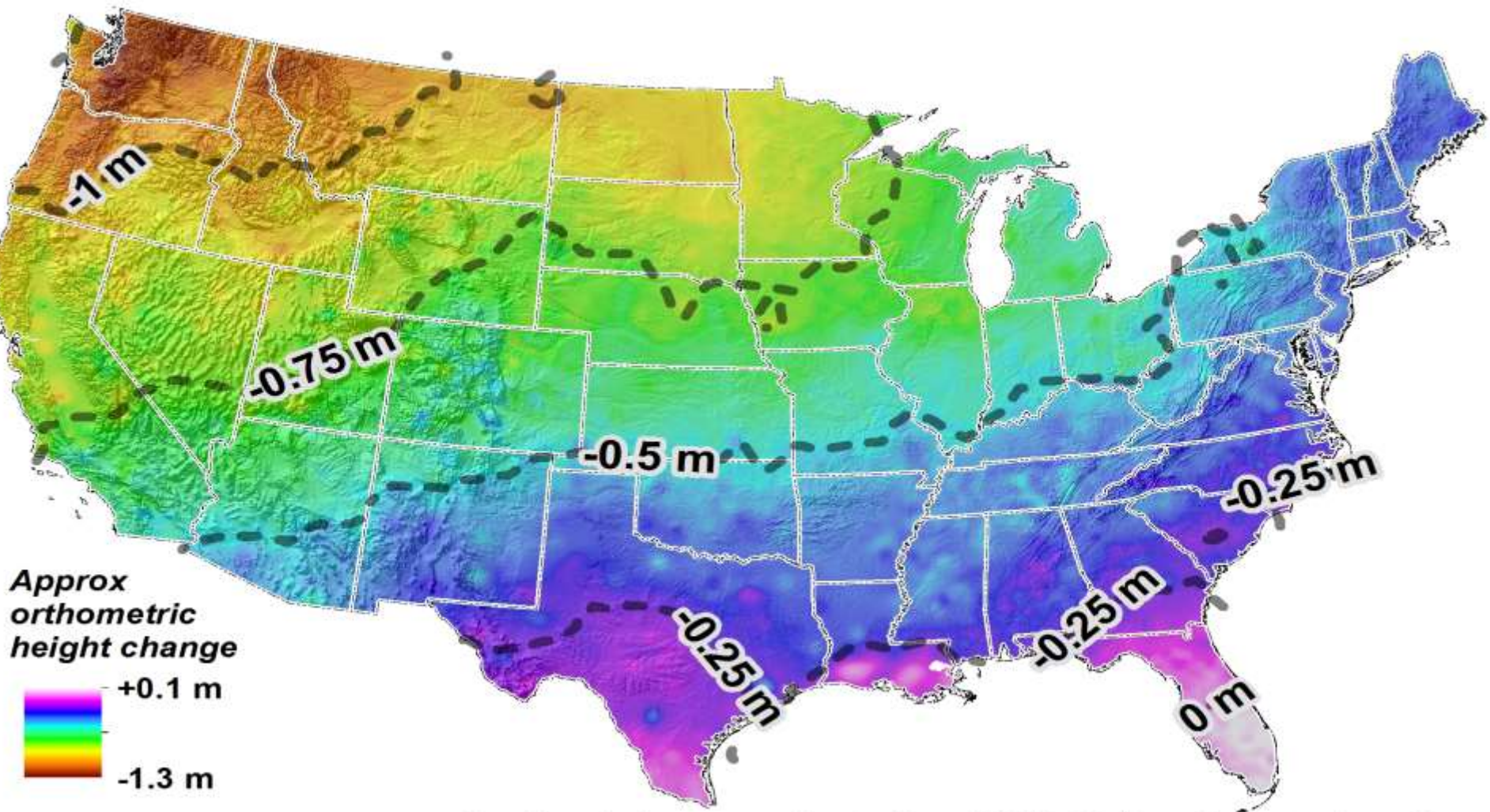
April 5, 2017

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$\Delta h = h(\text{ITRF 05}) \text{ minus } h(\text{NAD 83}) \text{ at } 2020.0$

New Vertical Datum

Approximate predicted change from NAVD 88 to new vertical datum



0 500 1000
April 5, 2017
km

Predicted change estimated as NAVD 88 "zero" (datum) surface minus most recent NGS gravimetric geoid (USGG2009)

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