## **Topobathymetric Model of the Coastal Carolinas, 1851 to 2020 (ver 2.0, January 2023)**

**Spatial Metadata Data Dictionary**

## Data Delivery Overview**:**

The geospatial data delivery consists of two geodatabases, one for each state (NC and SC). The geodatabases “Hurricane\_Florence\_*[ST]*\_CoNED\_TBDEM\_Spatial\_Metadata{\_version20 for NC}.gdb” *([ST] state abbreviation; NC and SC*) are geospatial polygon (*Figure 1*) feature datasets that contain spatial footprints for each input source dataset (*Table 1*). The attributes for each footprint polygon describe the characteristics of each input dataset used to generate the TBDEM. Detailed descriptions of the coordinate system, survey accuracy, and geodatabase attribute fields are contained in following sections of this document.

**Table 1: Polygon Geodatabase Datasets Summary**

|  |  |  |
| --- | --- | --- |
| **Geodatabase –** *Formats include Esri File-Geodatabase (GDB) and Open Geospatial Consortium’s (OGC) open format GeoPackage (GPKG)* | **Layer Type** | **Number of Polygons[[1]](#footnote-1)+** |
| Hurricane\_Florence\_NC\_CoNED\_TBDEM\_Spatial\_Metadata | Multipart Polygon | 13 |
| Hurricane\_Florence\_SC\_CoNED\_TBDEM\_Spatial\_Metadata | Multipart Polygon | 24 |

## Horizontal Coordinate System:

Transverse Mercator

NAD 1983 (2011) UTM Zone 17N

Horizontal coordinates are provided in UTM northing/easting.

## Attribute Field Data Dictionary (File-Geodatabase, GeoPackage):

*Title* = Source dataset name

*Source\_Project* = Organization major project or activity

*Source\_Organization* = Source dataset organization

Data\_Provider = Organization source data was acquired

*Date\_Acquired* = Date data were acquired

*Source\_Publication\_Date* = Date source data were published

*Source\_Publication* = Online web link to input source dataset

*Data\_Type* = Input elevation type

*Coverage\_Area* = General spatial extent description of input source dataset

*Source\_Projection* = Input source projection

*Source\_Resolution* = Input source horizontal resolution

*Source\_Horizontal\_Datum* = Input source horizontal datum

*Source\_Horizontal\_Units* = Input source horizontal units

*Source\_Vertical\_Units* = Input source vertical units

*Source\_Vertical\_Datum* = Input source vertical datum

*Geoid* = Input source geoid

*Shape\_Length**[[2]](#footnote-2)\** = Perimeter length of spatial polygon feature in meters

*Shape\_Area*\* = Area of spatial polygon feature in square meters

## Example attributes from spatial metadata (File-Geodatabase/GeoPackage):

*Title* = 2018 USACE NCMP Post-Florence Topobathy Lidar (NC, SC, VA)

*Source\_Project* = USACE NCMP

*Source\_Organization* = USACE JALBTCX

*Data\_Provider = NOAA*

*Date\_Acquired* = 2018

*Source\_Publication\_Date* = 20190809 (*Date format YYYYMMDD*)

*Source\_Publication = https://coast.noaa.gov/htdata/lidar1\_z/geoid12b/data/*

*Data\_Type* = Topobathy Lidar

*Coverage\_Area* = Southern Coast (VA, NC, SC)

*Source\_Projection* = Geographic

*Source\_Resolution* = 1/27 arc-second (~1-m)

*Source\_Horizontal\_Datum* = WGS84

*Source\_Vertical\_Units* = Meters

*Source\_Vertical\_Datum* = NAVD88

*Geoid* = GEOID12B

*Shape\_Length*\* = 1345963.036692

*Shape\_Area*\* = 46842673.186489

Map

Description automatically generated

Figure 1: Spatial Metadata (SMD) extent of Hurricane Florence Coastal Carolinas, 1851 to 2022 Topobathymetric Digital Elevation Model (TBDEM). NC Spatial Metadata (SMD) polygons – Yellow boundary, and SC SMD polygons – Purple boundary.

Map

Description automatically generated

Figure 2: Red circles delineate general areas where bathymetry data have been added to version 2.0 of the TBDEM.

Map

Description automatically generated

Figure 3: Red polygons with yellow outlines delineate areas that have been manually voided and refilled in version 2.0 of the TBDEM.

1. + There were 28 data sources used to create these TBDEMs but the sum from the “Number of Polygons” is greater than 28 because some of the individual datasets were in both datasets. [↑](#footnote-ref-1)
2. \* *Inherent Esri File Geodatabase geometry attribute, these are not present in GeoPackage geodatabase*

   Note: Any use of trade, product, or firm names is for descriptive purposes only and does not imply endorsement by the U.S. Government. [↑](#footnote-ref-2)