

Lidar Fact Sheet: Chambers County, Texas

Overview

The Chambers County lidar data set was received from the Texas Water Development Board (TWDB). It was reviewed by the National Oceanic and Atmospheric Administration (NOAA) Coastal Services Center at a macro level, which involves checking for format and point characteristics in about 5% of the tiles. In addition, the entire data set is reviewed to establish that bare-earth processing and proper classification of the points has been performed. This review does not include accuracy or data-processing (e.g., bare-earth quality, flightline mismatch, feature removal) assessments.

Data Attributes

The Texas county data were delivered as bare-earth processed data sets. However, no accuracy or qualitative assessment information was provided. The data were flown and processed to meet Federal Emergency Management Agency (FEMA) flood mapping standards (root mean square error of 18.5 centimeters in open, bare terrain). Point spacing is nominally on the order of 1.5 to 2.0 meters. For full metadata, follow this link:

www.csc.noaa.gov/crs/tcm/ldartdat/metatemplate/tx2006_chambers_template.html

Review Results

According to the macro review, the data set on average appears to be of fair quality. This overall determination is a qualitative assessment of the results from the reviews described below. No accuracy assessment was performed.

Tile Review

Some formatting issues were noted: 1) no flightline source information, 2) some noisy two-return data, and 3) the majority of ground points were first of two (i.e., first of many) returns. These issues all appeared to be systematic, which, although not necessarily affecting accuracy, raises flags about overall data quality. Water was in some areas (tiles) classified as “unclassified,” which is acceptable but does not conform to the American Society for Photogrammetry and Remote Sensing (ASPRS) standard of class 9 for water values. High values also remain in the data set, although correctly classified (unclassified).

Bare Earth Point Density Review

There appears to be a strong “tile”-specific level of classification as evidenced by the bare-earth point densities (color variations; Figure 1). Water points have been removed to some degree in many tiles; however, in adjacent tiles no apparent effort was made to remove water points. In either case, bare-earth points in water still largely remain.

The largest issue is the lack of proper return number information, which raises flags about the accuracy of the data. Additional data issues include the coastal portions of the county where water was randomly classified (Figure 1) and a tile-to-tile variation in classification “aggressiveness.” There are also some missing data on the southwestern edge of the county and a low density strip (yellow) running through the middle-eastern portion of the county.

For More Information

NOAA Coastal Services Center
Coastal Remote Sensing Program
(843) 740-1200 • www.csc.noaa.gov/crs/



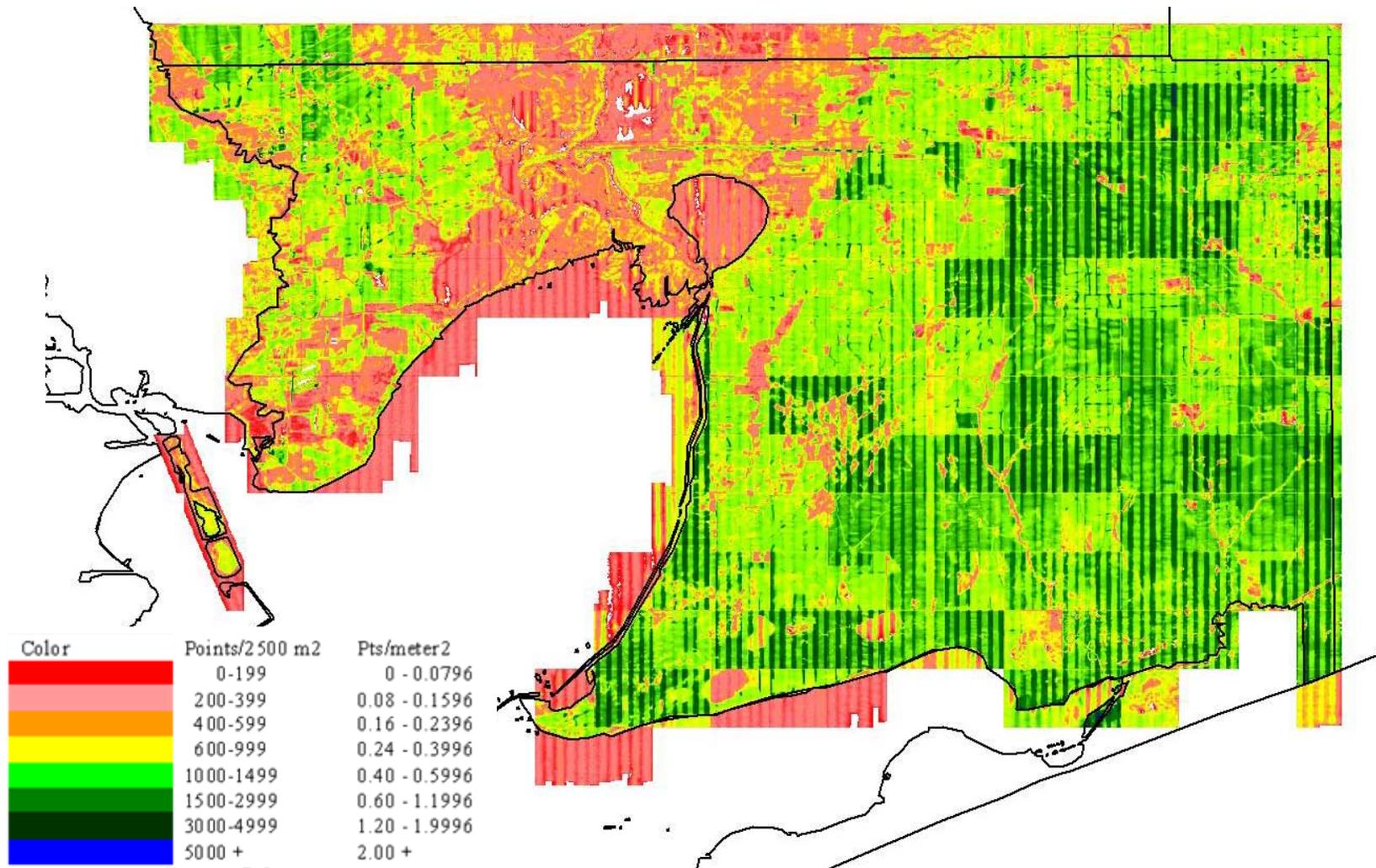


Figure 1. Bare-earth point count density (pts/2500 square meters) in Chambers County.