

C-5 Report on Data Voids

The USGS Lidar Base Specification Version 1.3 states: "Data voids in lidar are gaps in the point cloud coverage caused by surface absorbance, scattering, or refraction of the lidar pulse (that is, where laser pulse energy is not returned to the sensor), instrument or processing anomalies or failure, obstruction of the lidar pulse, or improper collection because of flight plans. A data void is considered to be any area greater than or equal to (4 x ANPS) squared), which is measured using first returns only. Data voids within a single swath are not acceptable, except in the following circumstances:

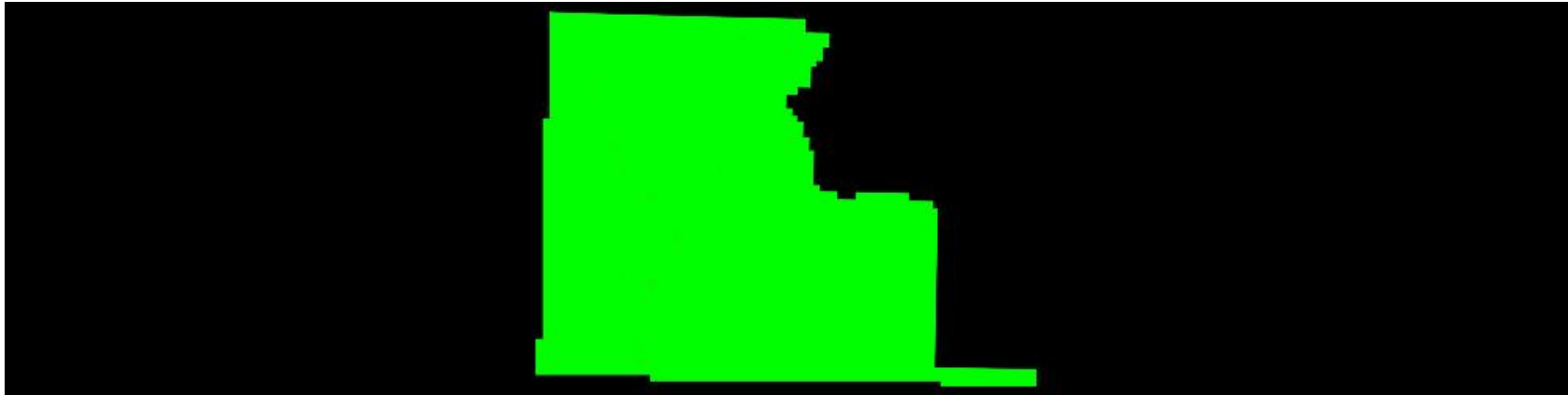
- (1) where caused by waterbodies;
- (2) where caused by areas of low near infrared reflectivity, such as asphalt or composition roofing;
- (3) where caused by lidar shadowing from buildings or other features; or
- (4) where appropriately filled in by another swath."

The purpose of this section is to show graphically where possible lidar data voids are located. Data voids can be caused by a lack of coverage at the time of collection, water bodies not reflecting the laser beam back to the receiver, lidar occlusions caused by objects above ground like tall buildings, etc. Not all data voids are problematic. The intention of this test is to isolate the first example of lidar data voids - a lack of coverage at the time of collection. A close inspection must be done on the results to determine if the lidar coverage was collected and processed to meet the intended specifications.

[Data Source - Z:\MARS_OC\2900112_Lot_8\Generated_Swath](#)

[Result Path - Z:\MARS_OC\2900112_Lot_8\Output_Full\C_5\DataVoids_SingleFile.jp2](#)

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Cell size: 2.840 Meter

- Green: Cells containing at least 1 first return lidar point (number of cells = 956,773,162)
- Red: Cells containing no first return lidar points (number of cells = 230,137)
- Background Color: Null data