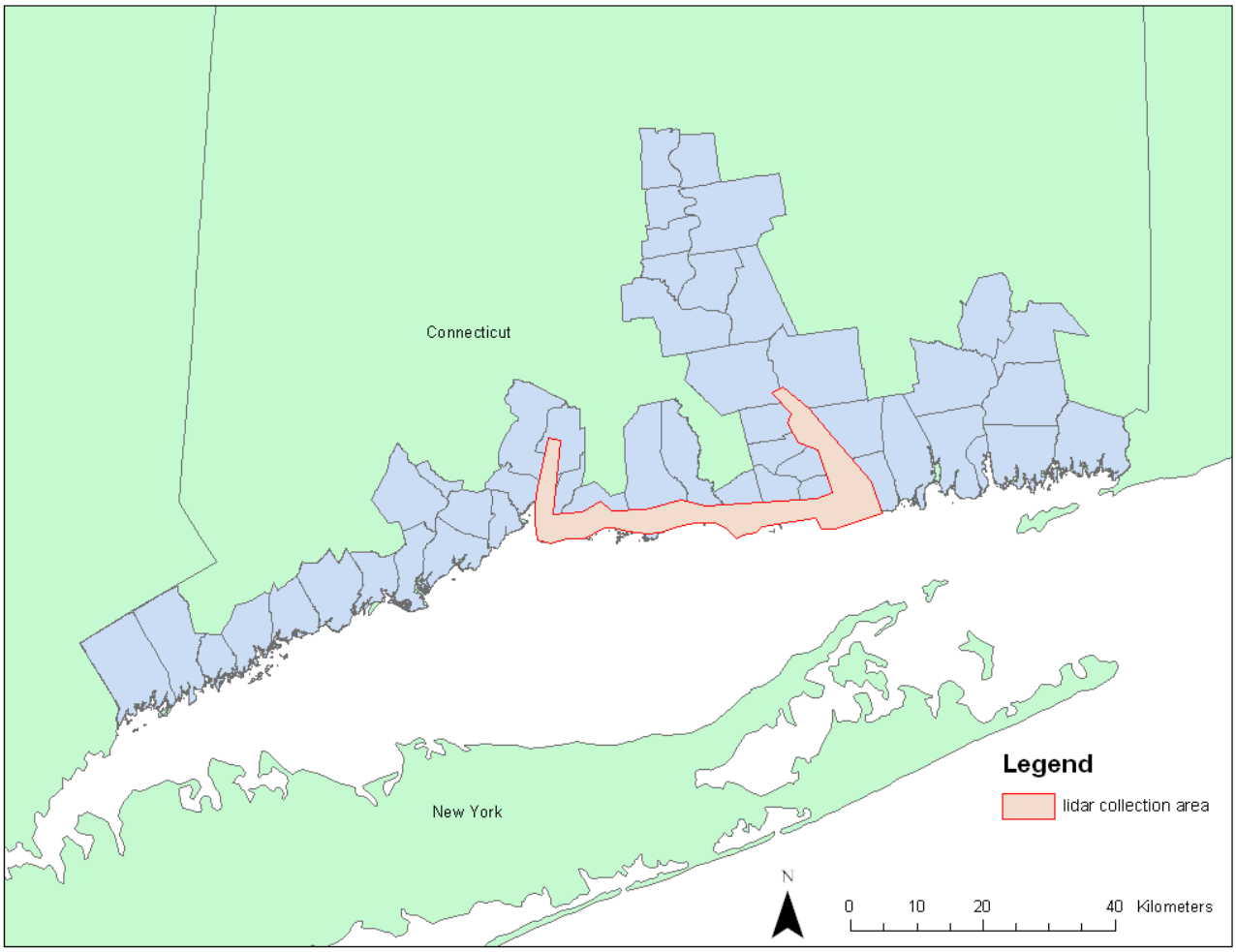
Connecticut Coastal LIDAR Project
LAS Formatted Data

Delivery Notes:

1. **Collection Area**
   This data set includes LAS formatted LIDAR data for the Connecticut Coastal LIDAR area shown in the graphic below.



Connecticut Coastal LIDAR Study Area

2. Collection Information:

Collector:	Woolpert LLP
Sensor:	LH Systems ALS50 LiDAR
Resolution:	1-meter
Parameters:	no up-sampling, no cross track collection
Collection date:	October 8, 2004

Projection and Datum Reference:

File Format:	LAS v1.0
Projection:	Geographic
Horizontal Datum:	NAD1983
Vertical Datum:	NAVD88/GEOID03 (Mean Sea Level)
Horizontal Units:	Decimal Degrees
Vertical Units:	meters

The data included in this delivery is random point LIDAR data in ASPRS LIDAR data exchange format (LAS) version 1.0. This format preserves the true location of each pulse as recorded by the LIDAR sensor, avoiding the approximations caused by fitting the collected points into a surface model and fitting the surface into a regularly spaced grid. Following the collection flight, the collected time measurement data collected by the LIDAR sensor is merged with the GPS data and IMU data to create a “point cloud” of geo-referenced LIDAR data. Adjacent flight lines are seamed together to form a continuous point cloud surface covering the study area. Data is tiled into smaller files per the tiling schema described in the **Tile_layout.pdf**. Each LAS file contains header information and point specific information readable with a LAS file reader. Additionally, each LAS file has a corresponding SGML formatted FDGC compliant metadata file that describes in detail the characteristics, collection and processing steps and accuracy information associated with the collection. Each point includes information on x, y, and z position, intensity, return number and number of returns, classification and flight line as described in the following table.

Attribute	Units	Description
X	Decimal Degrees	Easting
Y	Decimal Degrees	Northing
Z	Meters	Elevation
Intensity	Relative Intensity	Intensity of LIDAR reflectance
Return number and number of returns	Coded Value	First Return: return number = 1, total number of returns = 2
		Last Return: return number = 2, total number of returns = 2
		Only Return: return number = 1, total number or returns = 1
Classification	Coded Value	1 – non-ground which comes from LiDAR last and only returns - useful to detect man-made features such as buildings, bridges,low vegetation and portions of trees
		2 - ground
		3 - outliers
		4 – water
		5 – non-ground from LiDAR first return - useful to detect above ground features such as trees and powerlines which are penetrated by Laser pulses
		7 - low point outliers
Flight Line	number	Flight line information exists in User Bit Field of LAS Point DATA Record.

Data Produced by:
SAIC Division 0519
January 2, 2014

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