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| New York Great Lakes-Pilot Delivery ReportDelivery Report Produced for USGS |
| Report Date: 1/23/2015 |
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**NY Great Lakes LiDAR –Deliverables Overview Checklist**

[x]  **Raw Point Cloud Data**

 [x]  LAS version 1.2

 [x]  Georeferenced

[x]  GPS Times are included

[x]  Intensity values are included

[x]  Full swaths

[x]  1 file per swath, 1 swath per file

[x]  **Classified Point Cloud Data**

 [x]  LAS Version 1.2

 [x]  Correct Georeference Information

 [x]  Contains GPS Times

 [x]  Contains Intensity Values

 [x]  Tile to 1500m x 1500m Tile Grid

 [x]  Classified with class 1 – Unclassified, class 2 – Bare-Earth Ground, 7 – Noise, 9 –

 Water, 10-Ignored Ground, 11- Withheld

[x]  **Bare Earth Surface (Raster DEM)**

[x]  Cell size of 1m

[x]  IMG File format

[x]  Georeferenced

 [x]  Tiled with no overlap

 [x]  Reviewed for edge-matching and artifacts

 [x]  Free of void areas

 [x]  Hydrographic features have been flattened according to SOW

[ ]  **Survey Data**

 [ ]  Surveyed Quality Check point report, photos, and coordinate listing

 [ ]  Check points as a shapefile

[x]  **Metadata**

 [x]  FGDC Compliant metadata for:

[x]  Deliverables (Lift Data, LAS, Bare Earth DEM, Breaklines, Intensity Imagery, Contours and Project)

[ ]  **Project Reports**

 [ ]  Collection Report detailing mission planning, flight logs, acquisition, and calibration

 [ ]  Control Points used by Acquisition Partner are listed

 [ ]  Processing report

 [ ]  QA/QC Reports

[x]  **Extents**

 [x]  Tile grid in Shapefile format derived from the LiDAR Deliverable

 [x]  Project Boundary delivered as shapefile

 [x]  Tile grid, 1500m x 1500m, named according to USNG naming conventions and in Shapefile format

[x]  **Breakline Data**

 [x]  3D Breakline Data for Ponds and Lakes, Streams and Rivers, and Bridge Breaklines in GDB format

[x]  **Intensity Imagery**

[x]  Intensity imagery in GeoTIFF format with 0.25m pixel size

[x]  **Contours**

 [x]  1ft contours in GDB format

 [x]  Index and Intermediate Coding

 [x]  Contours are 3D

# Raw Point Cloud Data

Raw Point Cloud Data has been included as part of the full delivery. The Raw Point Cloud Data is delivered in LAS v1.2 with all required header information including: Georeference information, GPS times, and Intensity Values. Swaths under 2GB in size will be delivered for the full project but we did not want to delay the pilot so swaths greater than 2GB are included in this delivery. Only swaths covering the 218-tile pilot area (29) have been delivered.

# Classified Point Cloud

Classified point cloud data has been delivered tiled to 1500m x 1500m tiles and named according to US National Grid Standards. The pilot delivery consists of 218 LiDAR tiles. The tiles have been delivered in LAS format.

# Bare Earth Surface (Raster DEM)

A total of 218 1500m x 1500m tiled bare earth raster DEMs in IMG format have been delivered for this pilot. All tiles have a cell size of 1m and have been reviewed to ensure that they meet the project required specifications.

# Survey Data

All survey control data, reports and photos will be included in the delivery of the full project. Accuracy assessment points will be in ESRI shapefile.

# Metadata

Project level metadata for each of the deliverables (Swath Data, LAS, Bare Earth DEM, Breaklines, Intensity Imagery, and Project) is included in XML format as part of the pilot delivery. Metadata was reviewed through the USGS metaparser tool to ensure that it is FGDC compliant.

# Project Report

A comprehensive project report will be delivered in PDF format as part of the final delivery for the full project. This report will include the LiDAR acquisition and processing information along with detailed information on the production and quality control process used for the development of all deliverables.

# Extents

Three ESRI shapefiles are included with this delivery. One shapefile is the boundary of the pilot area. The second shapefile is the tile grid of the pilot tiles, extracted from the tile grid that meets the 1500m x 1500m tile grid specifications. The third shapefile is derived from the extents of the actual LAS deliverable to ensure that all delivered LiDAR for this pilot has been accounted for. The extents have been verified against the project boundary to ensure that there is full coverage for the pilot.

# Breakline Data

3D breaklines identifying ponds and lakes have been delivered in an ESRI file geodatabase. All breaklines and polygons were derived to meet the project specifications as outlined in the SOW.

# Intensity Imagery

Intensity imagery is delivered tiled to 1500m x 1500m tiles that are named according to the final tile USNG name tile grid. The imagery is in GeoTIFF format with 0.25m pixel size. The intensity imagery is created from the first returns of the full point cloud LiDAR data. The pilot delivery consists of 218 GeoTIFF tiles.

# Contour data

Contours have been delivered in geodatabase format. The contours are in 1-foot intervals, coded as intermediate or index (every 5th interval), and are 3D. The contours were verified to cover the full project area and created according to project specifications. The contour file is too large to create in a useable shapefile so they are being delivered in a useable GDB format.

# Other Comments

All Pilot Data was delivered on one hard drive.