

# 2008 Denver LIDAR Project

## SEMSWA GIS & Master Planning

11/2008

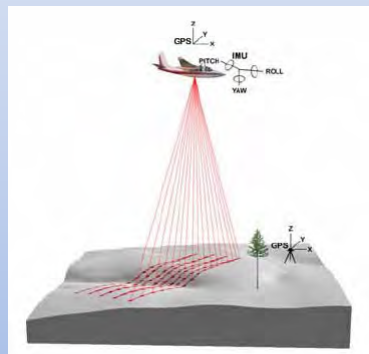


## Outline

- What is LIDAR?
- Products
- Denver (DNC) Project
- SEMSWA Participation
- Uses
- Challenges

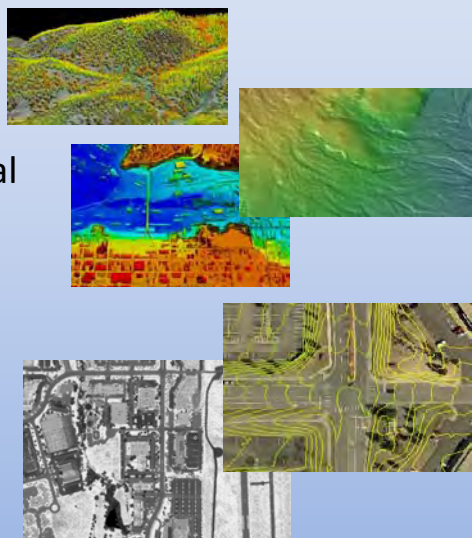
## LIDAR

- Light Detection and Ranging
- A Remote Sensing technique that measures properties (time, intensity) of lasers shot at distant targets
- X,Y,Z Coordinates determined for all points collected



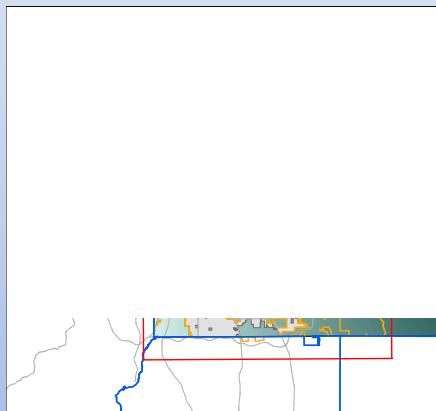
## Typical Products

- Point Cloud
- Bare Earth DEM (Digital Elevation Model) and Standard DEM
- Contours
- Intensity Images



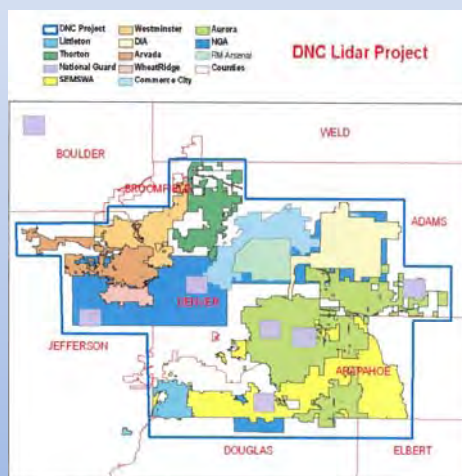
## Denver Project

- Managed by USGS, acquired by Sanborn
- Metro area flown spring 2008, in part for DNC
- Vertical Accuracy
  - < 15cm
  - ~12cm for test pts.
- Horizontal
  - ~ 1 m
- Deliverables
  - Point Cloud (all returns)
  - 2 Ft. Contours
  - Bare Earth DEM / pts
  - Intensity Images
  - GIS and CAD Formats



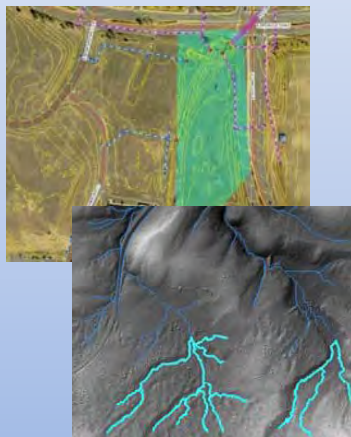
## SEMSWA Participation Benefits

- Multiple agency approach
- Cost savings
- Data sharing opportunities with Arapahoe County and City of Centennial



## Uses

- **General:** forestry, geology, landforms, terrain, emergency services, utilities, inventory, and more...
- **SEMSWA:**
  - Master Planning for watersheds
  - Assistance with floodplain delineation
  - Watershed delineation and analysis
  - GIS feature extraction (ponds, drainage, bridges, walls, etc...)
  - CIP project planning (not quite detailed enough for actual engineering)
  - Elevation component to Stormwater Infrastructure (3D Modeling)
  - Impervious surface mapping
  - Other???



## Challenges

- Large file sizes (server and desktop computer demands)
- Static data in a rapidly changing landscape – how do we best maintain this data?

# Thanks!

Questions?

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