



# OCAD 10

## 14th ICOM Trondheim

### 11 August 2010

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# Agenda

1. Garmin Custom Maps
2. Rubbersheeting
3. LIDAR Data (Review and Preview)



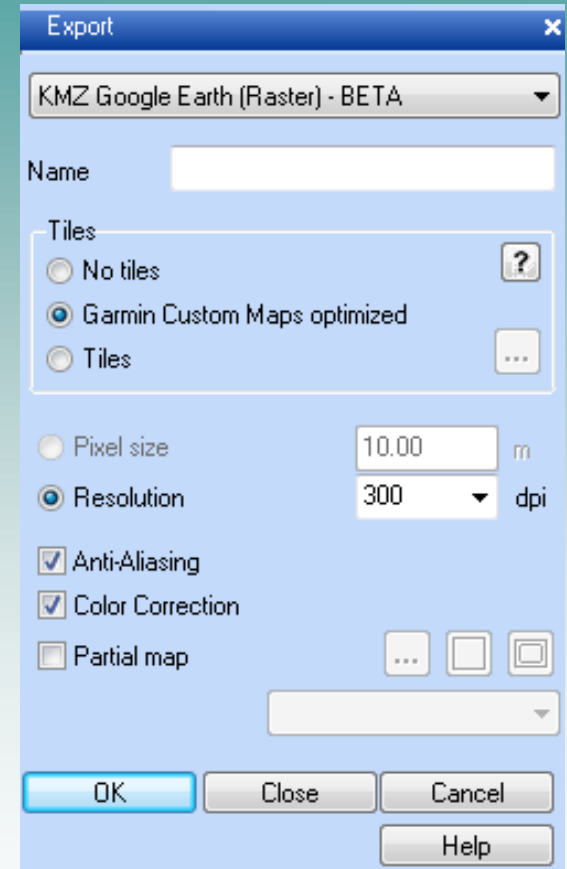
# 1. Garmin Custom Maps

# What is Garmin Custom Maps?

- New feature from Garmin to load raster maps onto GPS devices
- Compatible Garmin devices: Dakota, Oregon, Colorado, GPSMAP 62 series and GPSMAP 78 series
- Garmin Custom Maps are geo-referenced raster maps in kmz format (Google Earth)

# kmz Export in OCAD

- OCAD 10.3.0 and later
- Map must be geo-referenced (set real world coordinates and grid in *Map -> Scale and Coordinate System*)
- *Export -> KMZ Google Earth*  
Choose tile option ,Garmin Custom Maps optimized'
- Save kmz file in Garmin GPS folder  
(\Garmin\CustomMaps\)



# Garmin OREGON 300



- Sprint map „Baar“ 1:5000, OLV Zug

# Fields of Application

Use GPS with your drawn OCAD map as localizer!

- Map maker with LIDAR base map, photogrammetric base map or the old map
- Map checker with new orienteering map
- Course planner, controller or control, putter-outer' with orienteering map and all controls
- NOT ORIENTEERING RUNNER during competition...

# Links

Garmin Custom Maps on Garmin website:

<http://www.garmin.com/garmin/cms/site/us/onthetraill/custommaps>

OCAD HowTos about KMZ export:

<http://www.ocad.com/howtos/125.htm>





## 2. Rubbersheeting

# What is Rubbersheeting?

- OCAD 10.2.4 and later
- Rubbersheeting is a process to georeference distorted OCAD maps
- Affine transformation (since OCAD 9):  
One transformation for the entire map
- Rubbersheeting:  
Transformation for the entire map or only for a part of the map, more flexible

# Example in OCAD

The screenshot displays the OCAD 10.3.0 Professional interface. The main window shows a topographic map with various features like contour lines, roads, and water bodies. A dialog box titled "Rubbersheeting Transformation" is open in the foreground, showing a table of points used for the transformation.

Rubbersheeting Transformation

Rubbersheeting perimeter

Define Remove

Rubbersheeting points

Used	Nr.	x-Old	y-Old	x-New	y-New	Distance [m]
<input checked="" type="checkbox"/>	1	710369.30	231724.30	710375.60	231719.20	8.11
<input checked="" type="checkbox"/>	2	710079.40	231608.30	710086.10	231589.80	19.68
<input checked="" type="checkbox"/>	3	710379.80	231565.90	710387.40	231556.20	12.32
<input checked="" type="checkbox"/>	4	710622.20	231639.40	710622.20	231639.40	0.00

Add Load... Remove Remove all Save... Transform

Close Help

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# Fields of Application

Use Rubbersheeting to geo-reference your ,old' map!

- Revise your old map and use new geo-referenced data (e.g. orthophoto, LIDAR, GPS)
- Compose two old maps to a new map
- Use Garmin Custom Maps



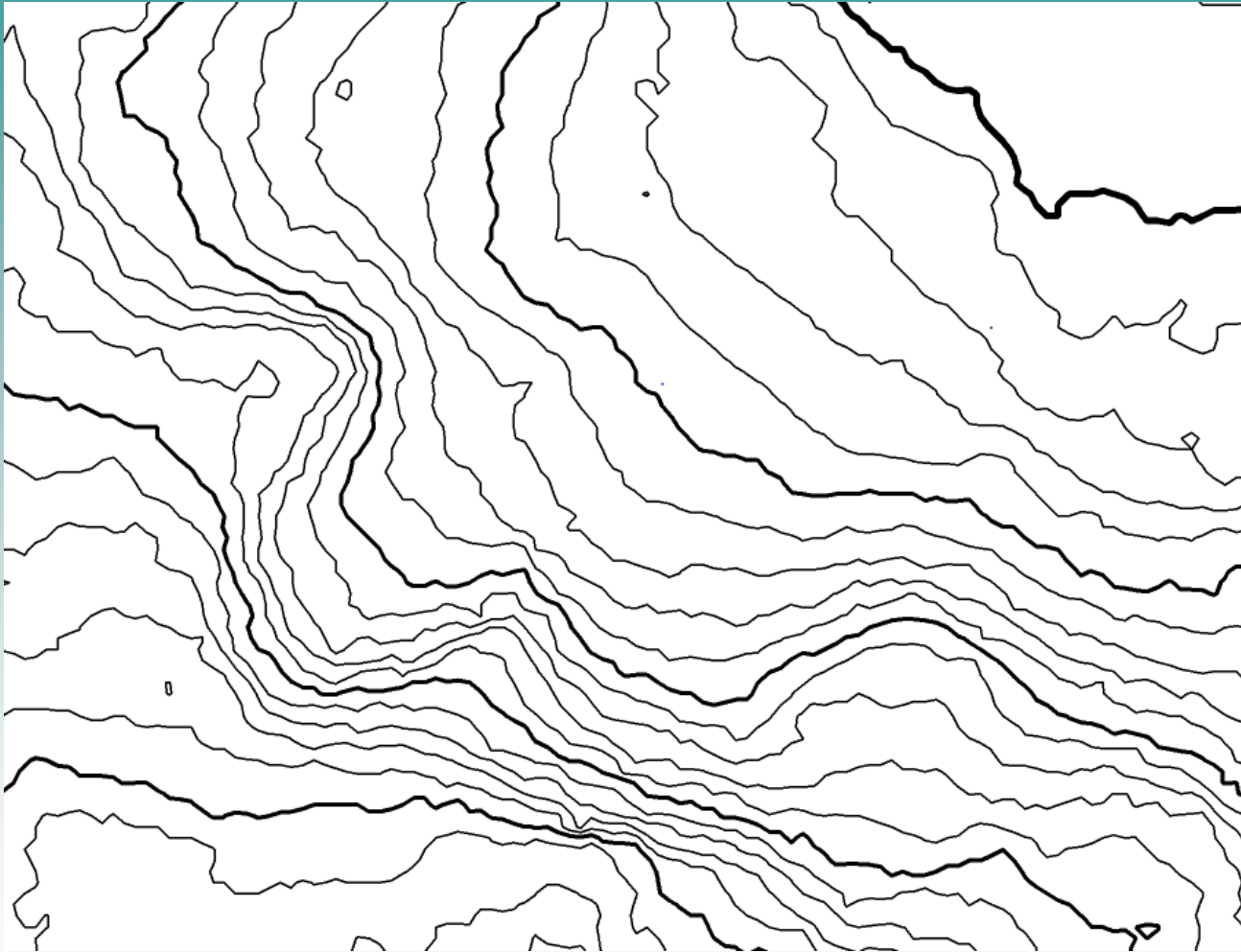
# 3. LIDAR

## Airborne Laserscanning

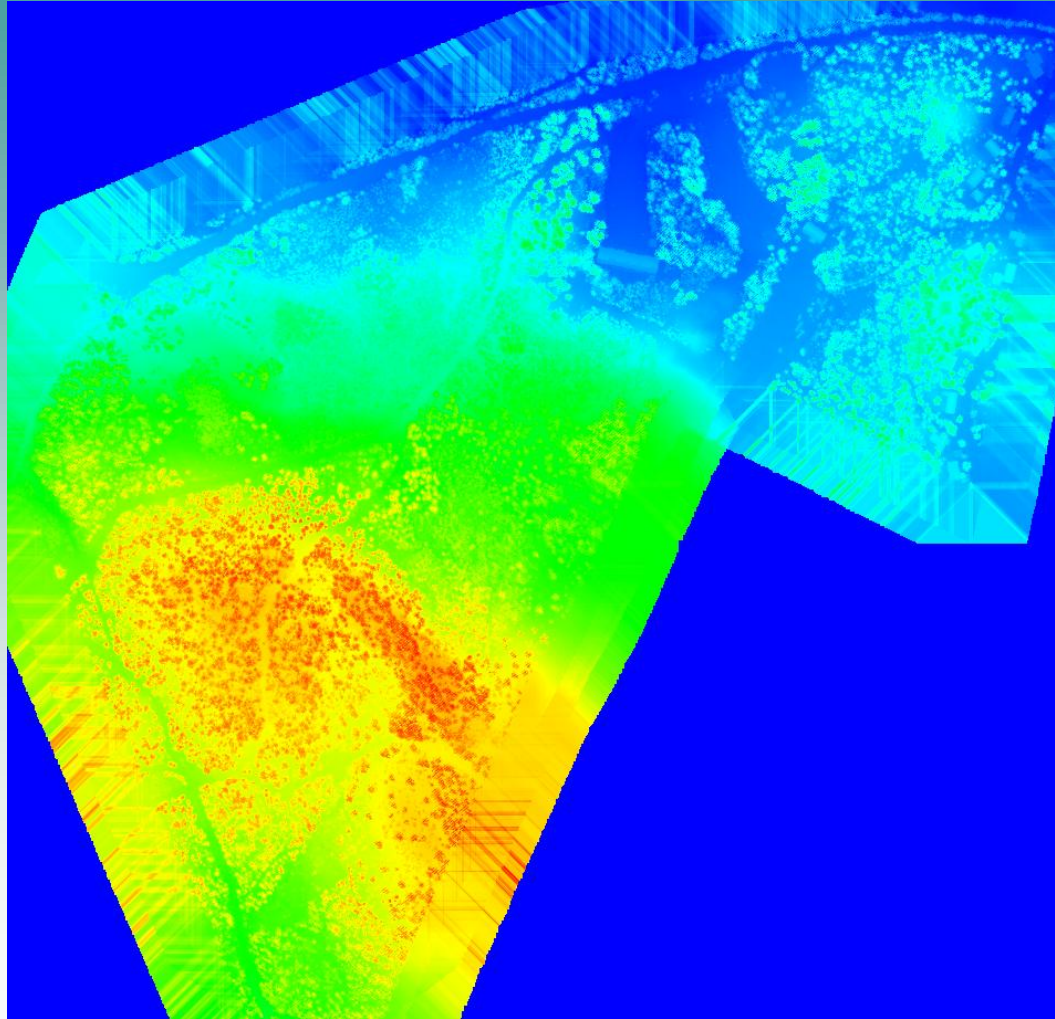
# DEM in OCAD 10 (Review)

- OCAD 10 (Standard and Professional edition) supports DEM and LIDAR data
- Import (Raw data ASCII xyz, ASCII grid xyz and ESRI ASCII xyz)

# Calculate Contour Lines

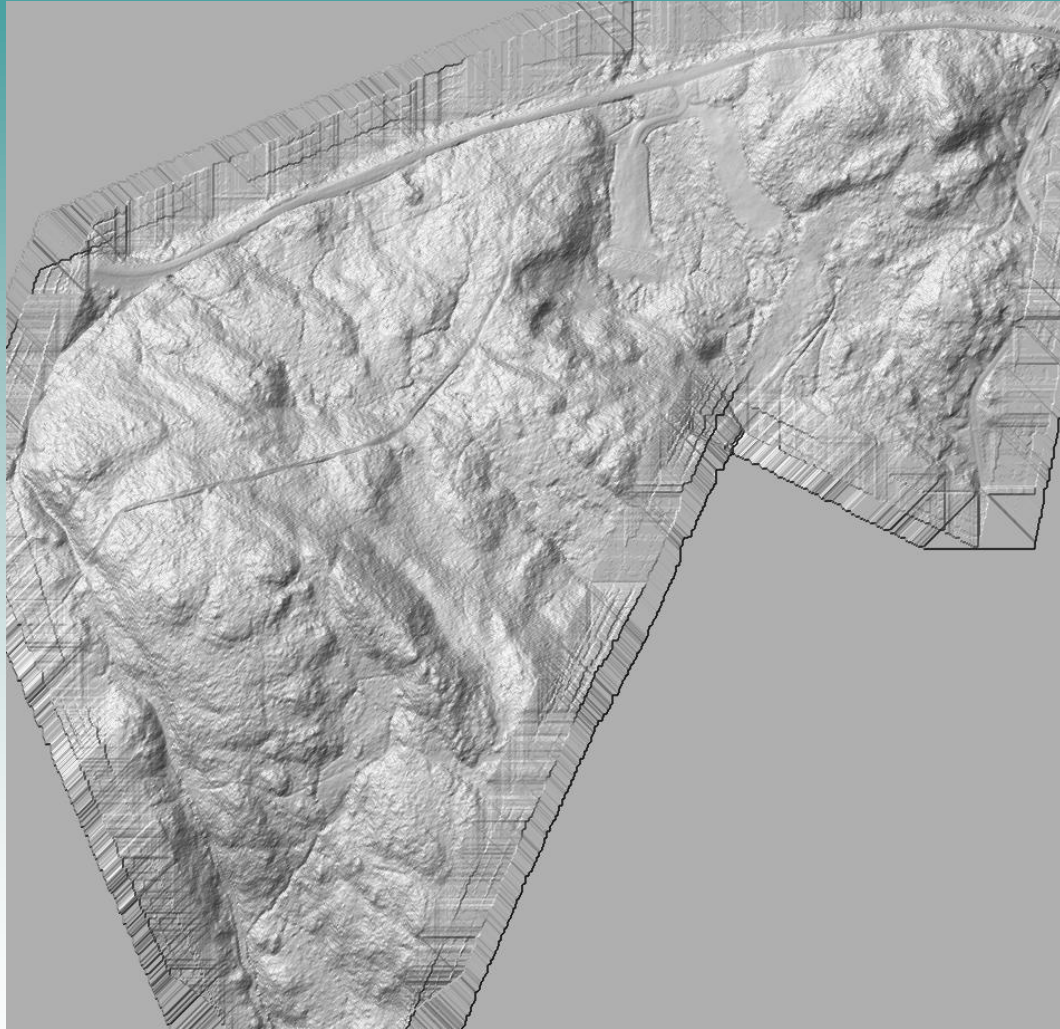


# Calculate Hypsometric Map





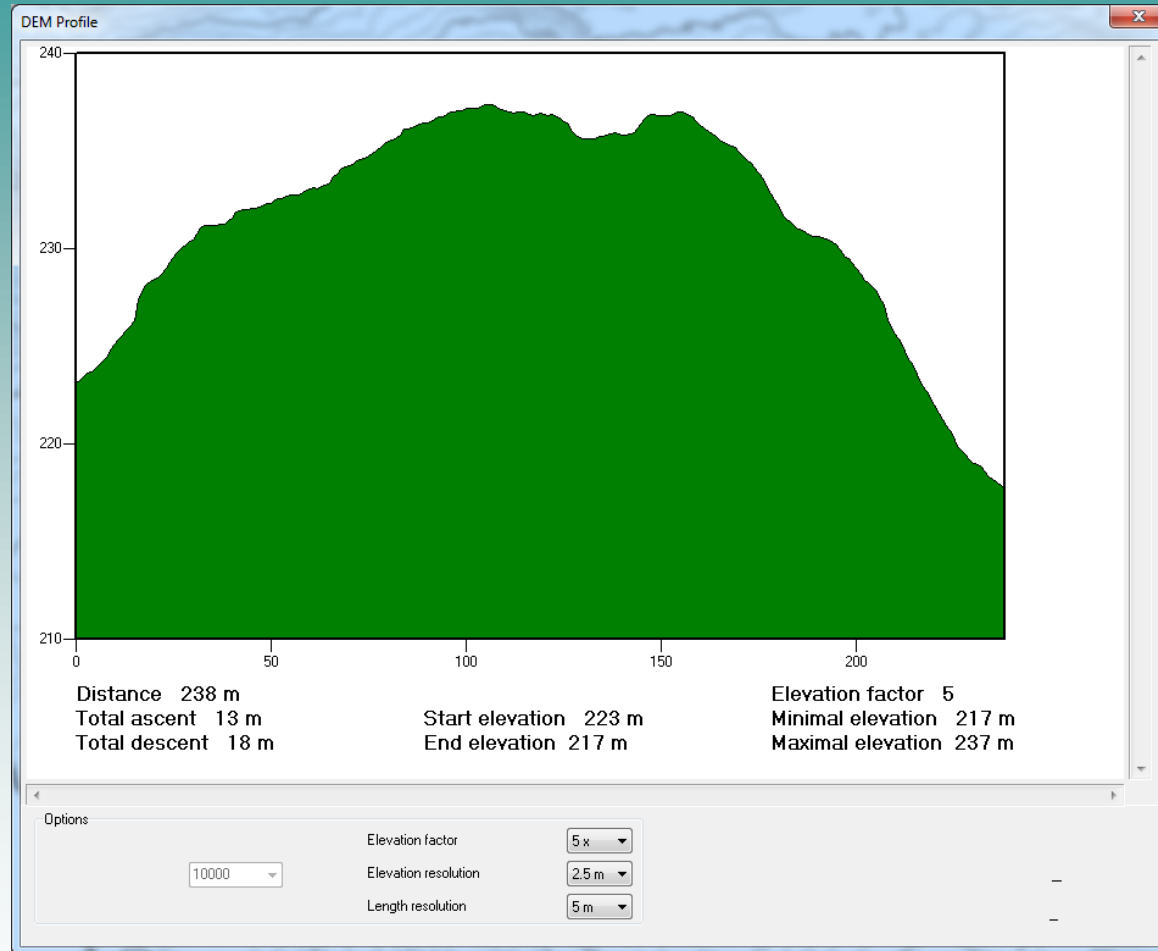
# Calculate Hill Shading



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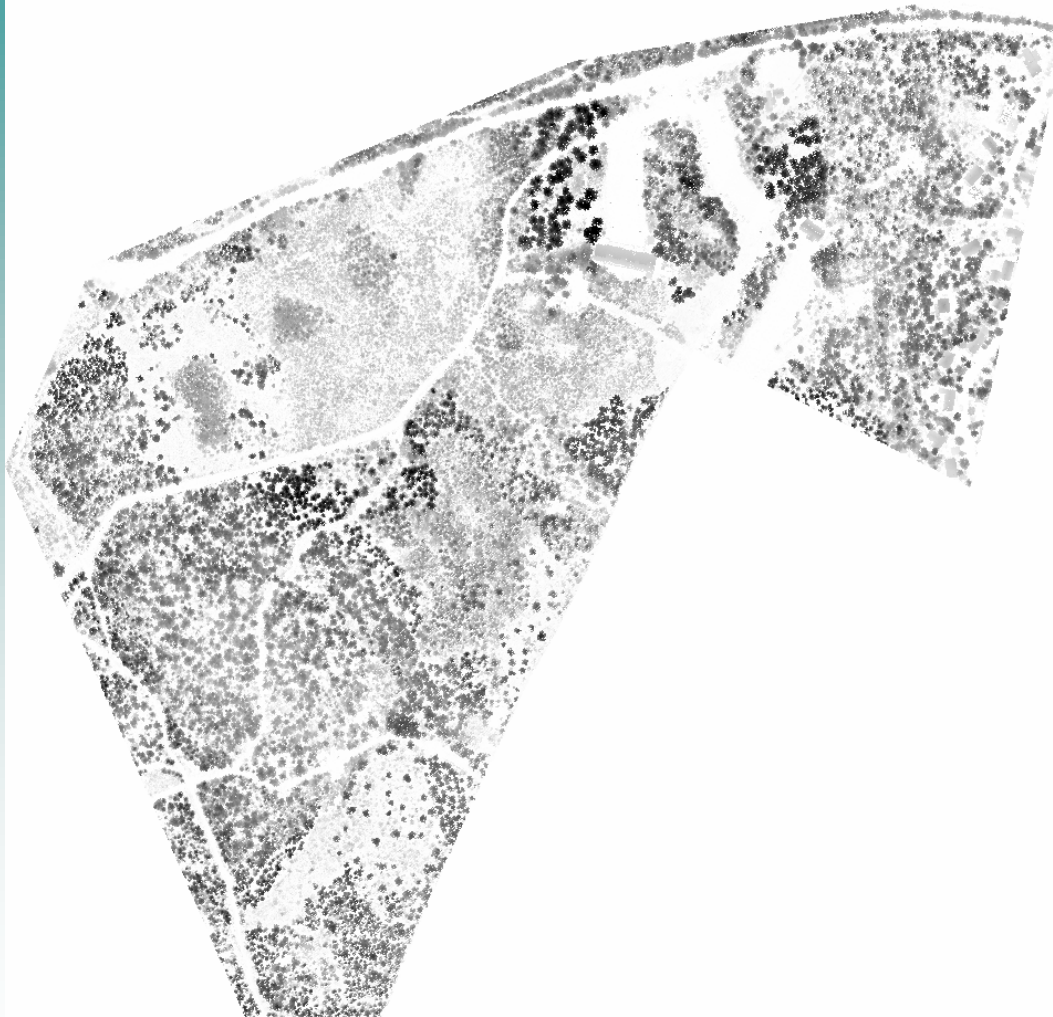
# Create Profile



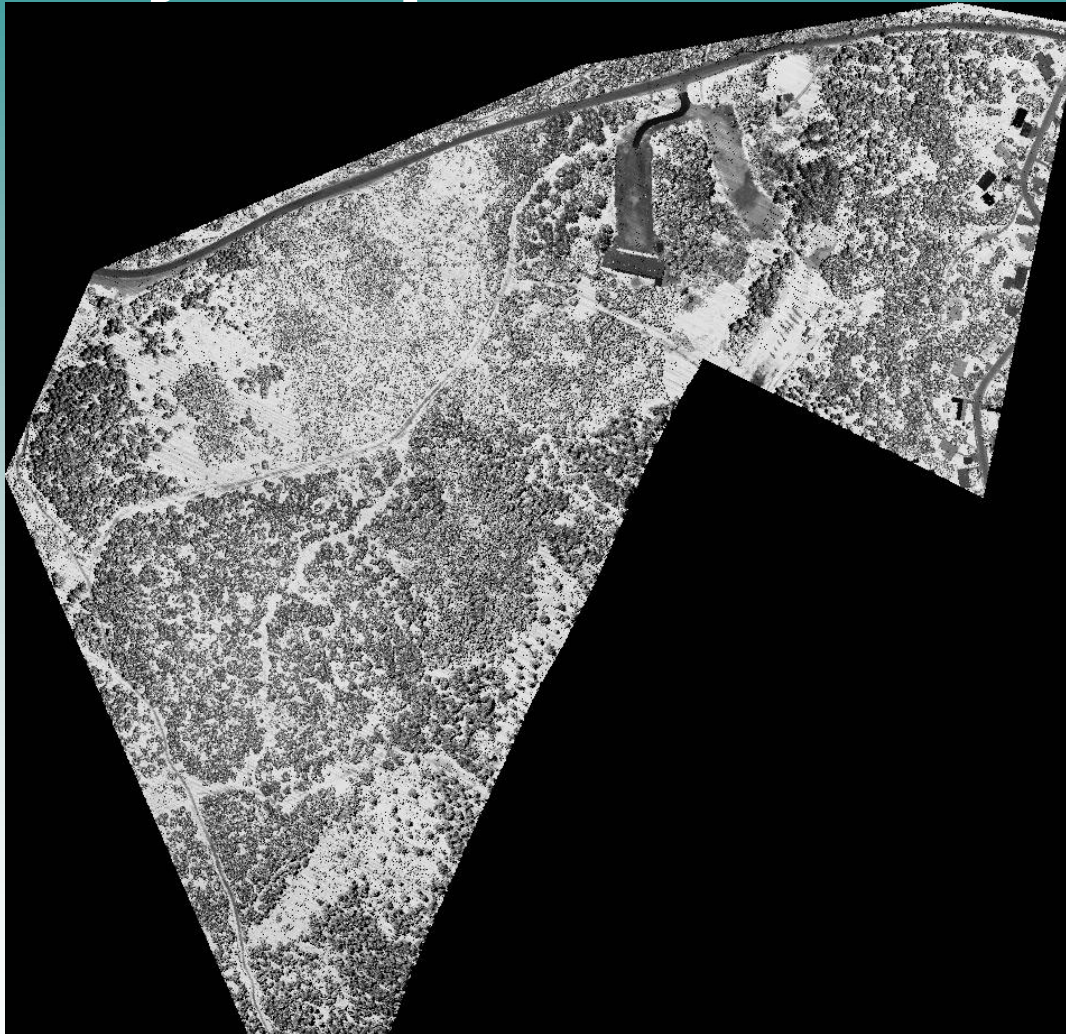
# DEM in OCAD (Preview)

- Import of LAS data format support

# Difference between DTM and DHM



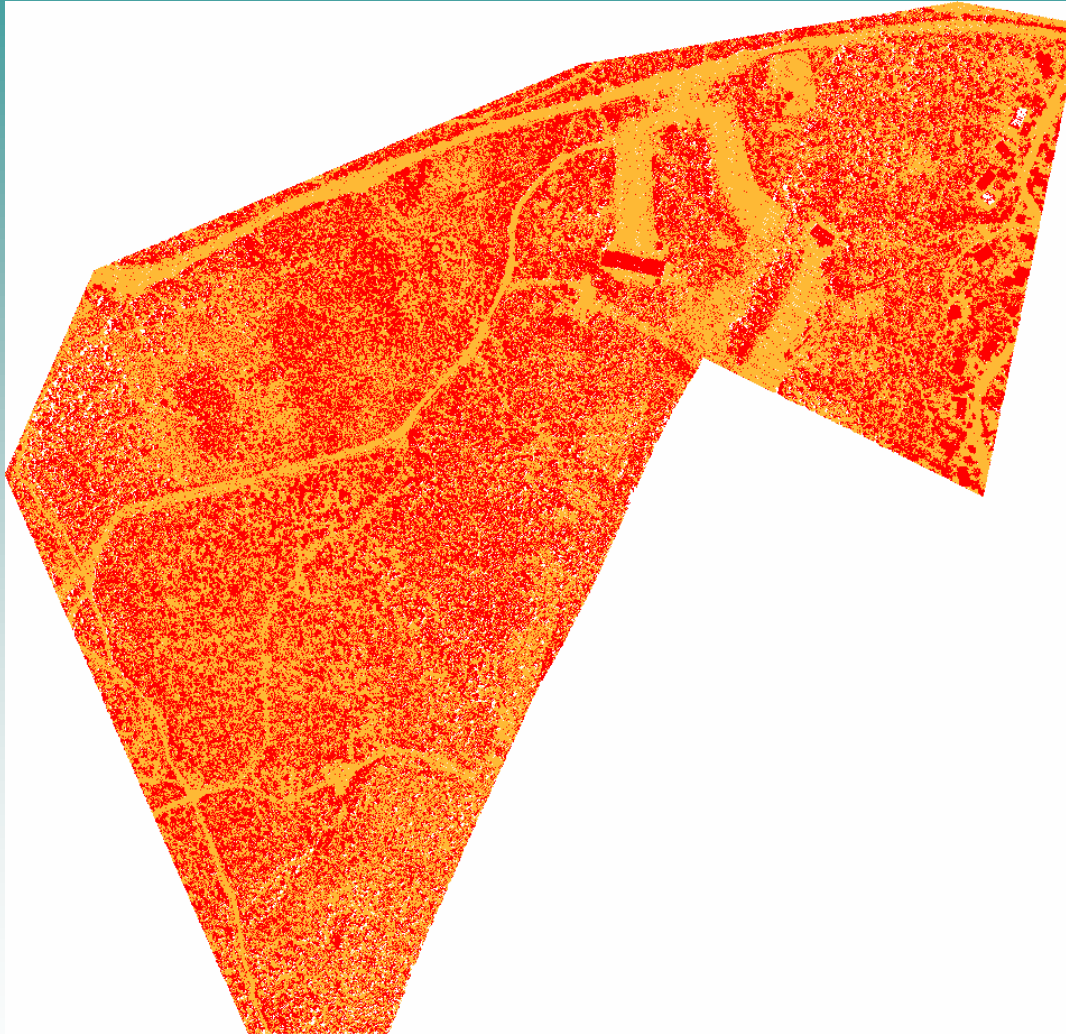
# Intensity Map



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# Classification Map



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# Questions?

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