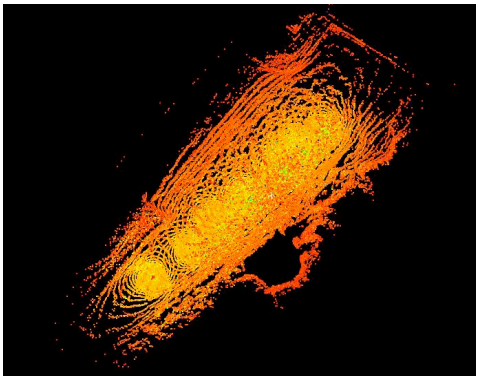
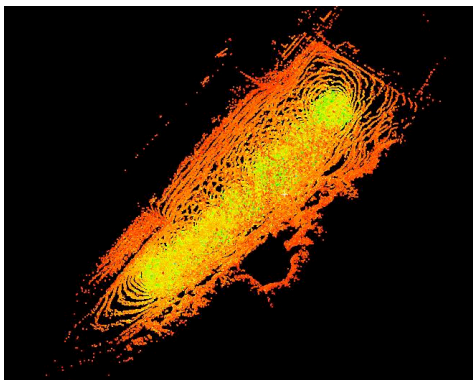
Summary Vlugtenburg beach scans 2011

Campaign	February 2011	June 2011
Acquisition date	February 8, 2011	June 1, 2011
Contact Persoon	r.c.lindenbergh@tudelft.nl	r.c.lindenbergh@tudelft.nl
Type scanner	Leica Scanstation C10	Leica Scanstation C10
Type GPS points	RTK GPS walking surveys	RTK GPS walking surveys
Registration type	Manual via targets	Automatic Targets by scanner software
Registration quality	0.019 m (RMS tie point errors, targets and GPS at once)	0.04 m (RMS GPS tie points) 0.05 m (RMS target tie points)
Number of scans	8	10
Pointcount	75345118	47975558
Registered	yes	yes
Geo referenced	yes	yes
CRS	Rijkdriehoekstelsel, EPSG:28992	Rijkdriehoekstelsel, EPSG:28992
Bounding box $[X_{min}, X_{max}]$ x $[Y_{min}, Y_{max}]$ x $[Z_{min}, Z_{max}]$	[68134.085741, 68803.217365] x [446035.667026, 446815.209728] x [1.895529, 213.421431]	[68127.062081, 69085.054780] x [446100.840955, 446875.316285] x [0.985192, 482.990111]
Files	*Raw point cloud zipped ascii:* Vlugtenburg2011FebGeoReferenced.xyzi.zip *0.5 meter NetCDF Grid:* Vlugtenburg2011FebGeoReferenced.nc	*Raw point cloud zipped ascii:* Vlugtenburg2011JunGeoReferenced.xyzi.zip *0.5 meter NetCDF Grid:* Vlugtenburg2011JunGeoReferenced.nc
Topview Raw Pointcloud		

Creation of 50 cm grid from raw pointcloud
Raw point cloud is delivered as zipped ascii file with columns x-y-z-intensity.

Use LAS Tools (http://www.cs.unc.edu/~isenburg/lastools/) and GDAL (http://www.gdal.org, with netcdf support enabled):

```
txt2las -i Vlugtenburg2011FebGeoReferenced.xyzi -o
Vlugtenburg2011FebGeoReferenced.las -parse xyz

lasgrid -i Vlugtenburg2011FebGeoReferenced.las -o
Vlugtenburg2011FebGeoReferenced_50cm_grid.tif -step 0.5 -meter -elevation_meter
-nodata -999 -clip_z_above 20

gdal_translate -a_srs EPSG:28992 -of netCDF
Vlugtenburg2011FebGeoReferenced_50cm_grid.tif
Vlugtenburg2011FebGeoReferenced_50cm_grid.nc
```

LAS Tools are windows executables that can also be run under linux/unix using WINE.