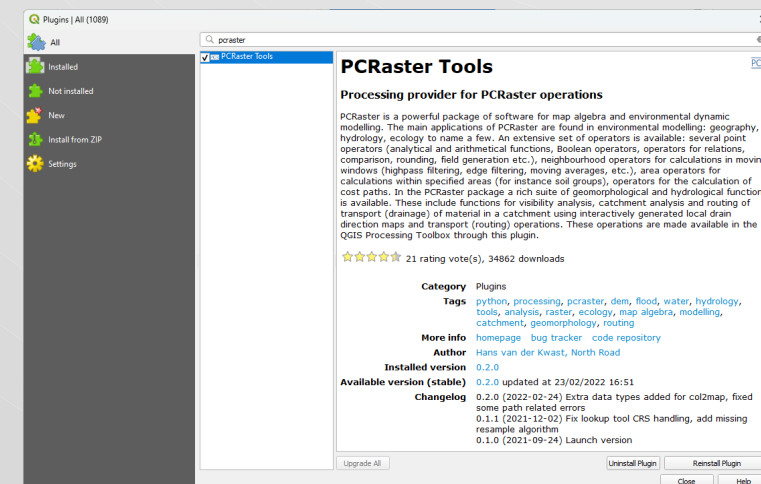
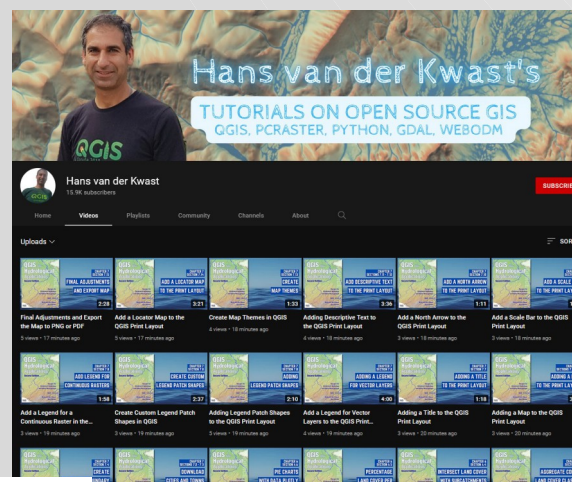
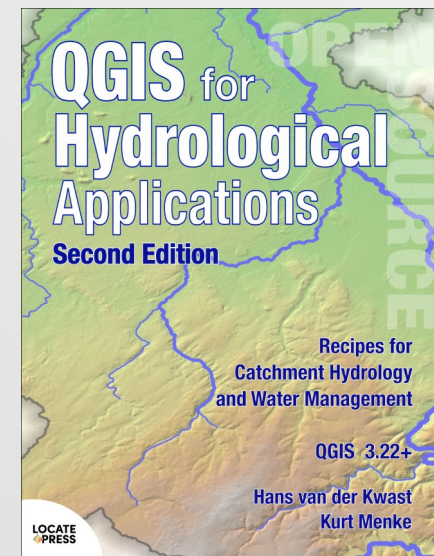


POINT CLOUDS EN 3D VISUALISATIE IN QGIS

Hans van der Kwast
FOSS4GNL 2026
8 April 2026

HANS VAN DER KWAAT

- Fysisch Geograaf, Associate Professor of Open Science and Digital Innovation bij IHE Delft
- MSc, PhD Universiteit Utrecht
- Bestuurslid QGIS Gebruikersgroep Nederland
- Co-auteur van QGIS for Hydrological Applications met Kurt Menke (Septima)
- OSGeo Charter Member
- QWAST-GIS en QCooperative
- Officiële partner van Mergin Maps
- PCRaster Tools plugin
- E-mail:
hans@qwast-gis.com



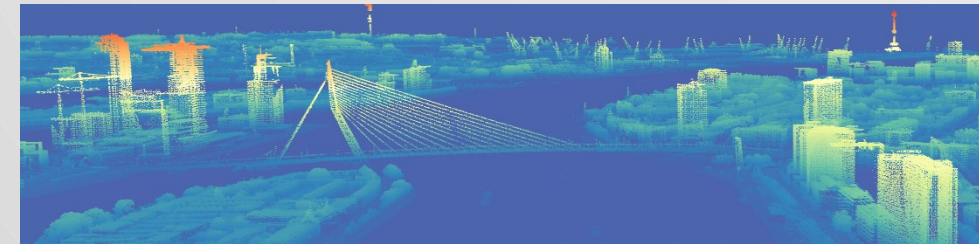
Vector en Raster formaten (Geospatial Data Abstraction Library - GDAL)



Point cloud data (Point Data Abstraction Library - PDAL)



- .LAS: point cloud
- .LAZ: compressed LAS
- .ept: Entwine Point Tile



Mesh formaten (Mesh Data Abstraction Library - MDAL)

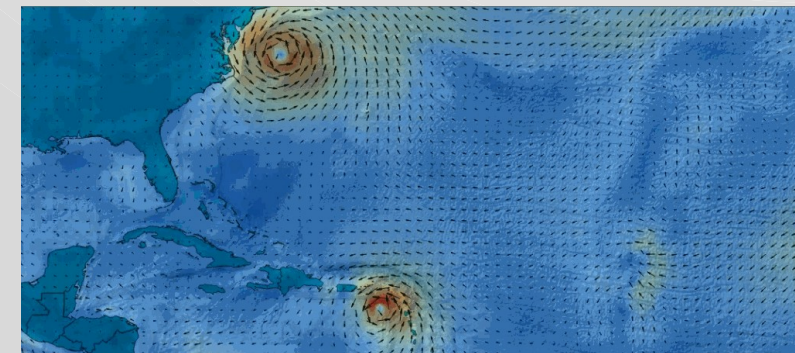
- .GRIB
- .NetCDF



M D A L

Cloud optimised formaten

- Cloud Optimized Point Cloud (COPC)
- Cloud Optimized GeoTIFF (COG)



CROWDFUNDING



New point clouds and mesh features in QGIS 3.36

FEBRUARY 05, 2024

QGIS 3.36 is round the corner and as usual, there will be several new exciting...



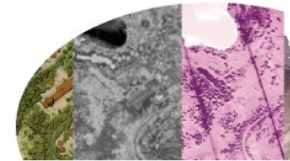
3D Tiles in QGIS

NOVEMBER 16, 2023

Earlier this year, in collaboration with North Road we were awarded a grant from Cesium...

WEBINAR

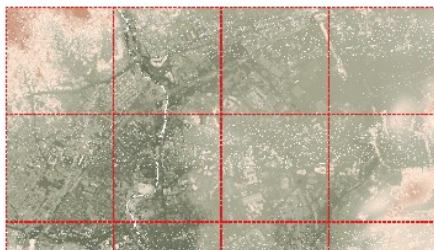
PROCESSING LIDAR DATA IN QGIS 3.32



Webinar: Processing LiDAR data in QGIS 3.32

JUNE 12, 2023

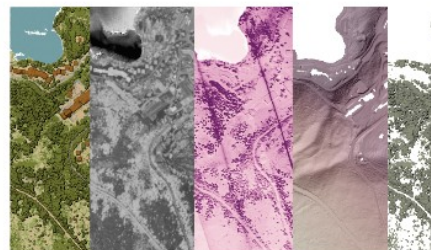
Join this webinar to learn more about the new features in QGIS to process LiDAR...



Virtual Point Clouds (VPC)

JUNE 08, 2023

As a part of our crowdfunding campaign we have introduced a new method to handle...



Native point cloud processing in QGIS

MAY 30, 2023

After the addition of support for visualising



Summary of the 3D features & enhancements in QGIS 3.30

MARCH 07, 2023

QGIS 3.30 was released late last week and we

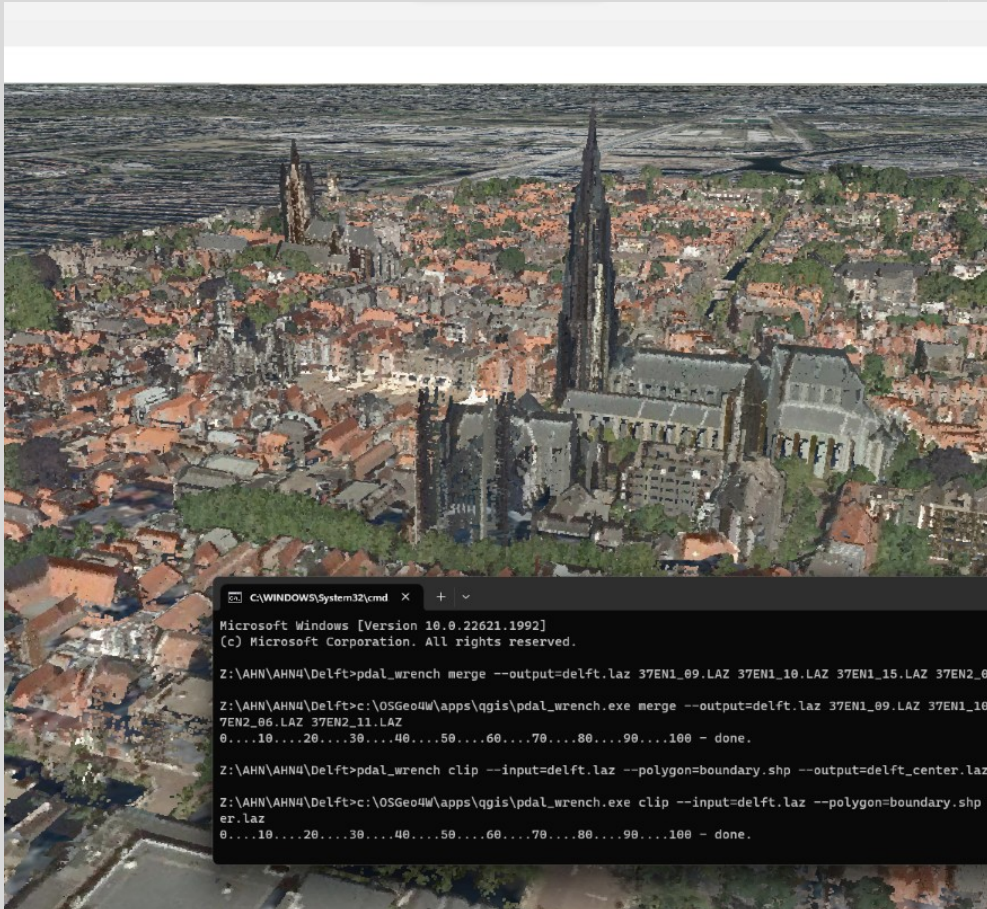
<https://www.lutraconsulting.co.uk/blog/>

SINDS QGIS 3.32

POINT CLOUD TOOLS IN DE
PROCESSING TOOLBOX

- ▼  Point cloud conversion
 -  Convert format
 -  Export to raster
 -  Export to raster (using triangulation)
 -  Export to vector
- ▼  Point cloud data management
 -  Assign projection
 -  Build virtual point cloud (VPC)
 -  Clip
 -  Create COPC
 -  Information
 -  Merge
 -  Reproject
 -  Thin (by sampling radius)
 -  Thin (by skipping points)
 -  Tile
- ▼  Point cloud extraction
 -  Boundary
 -  Density
 -  Filter

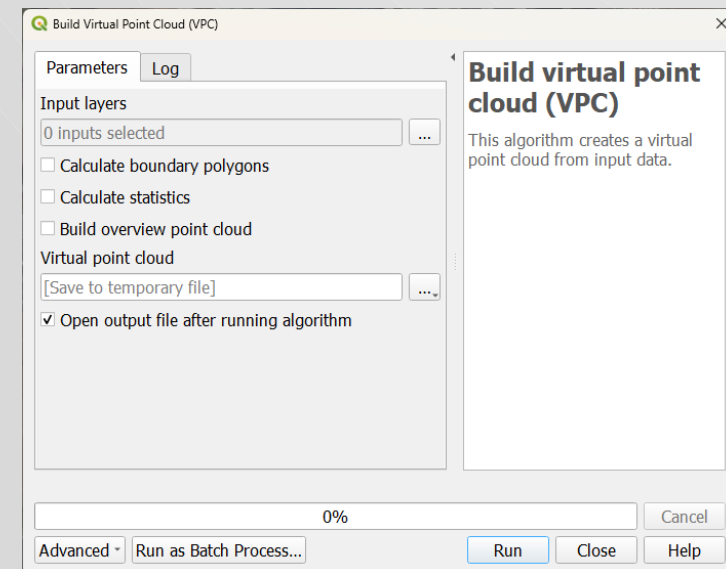
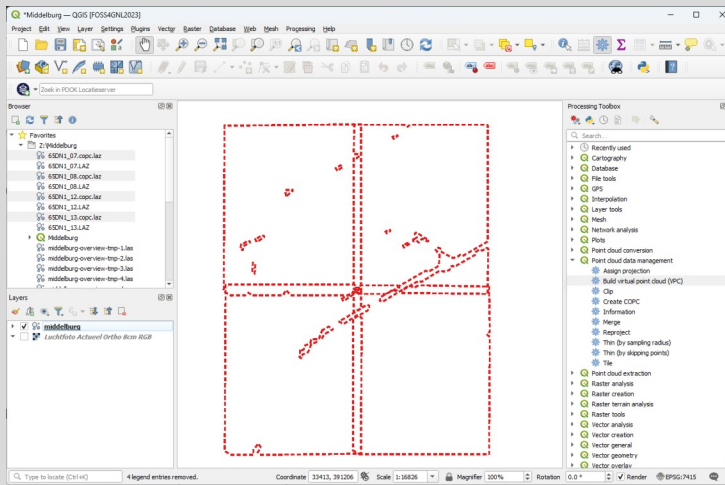
PDAL WRENCH



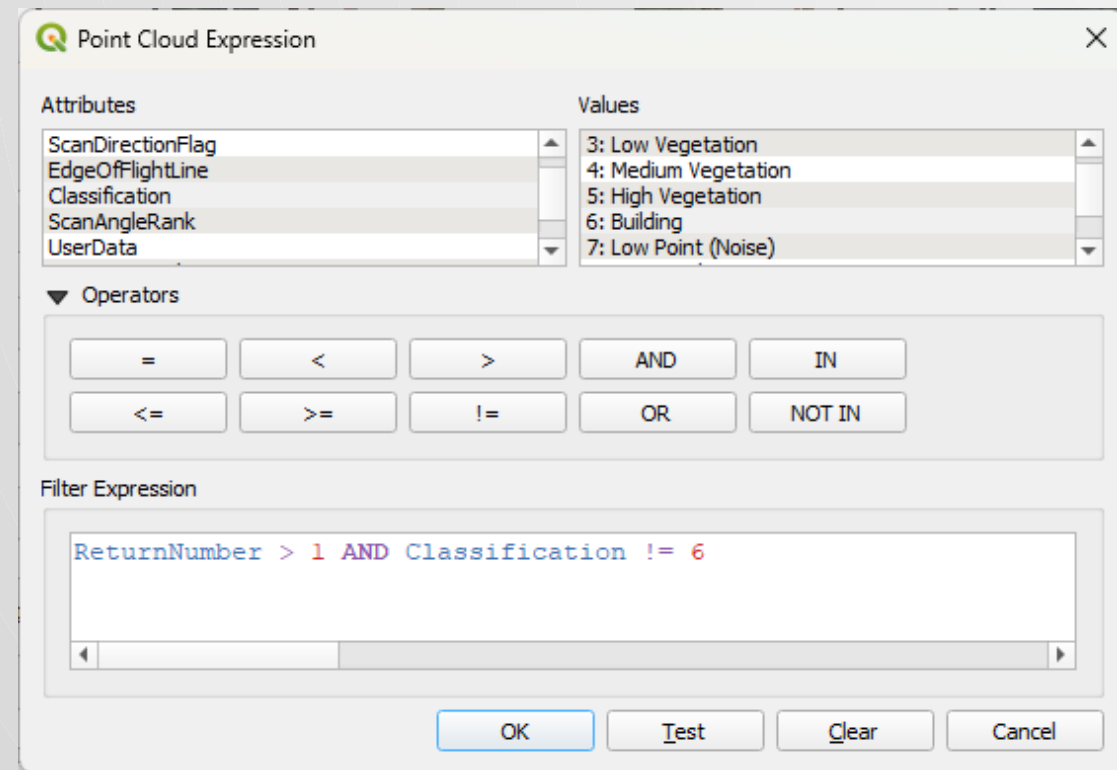
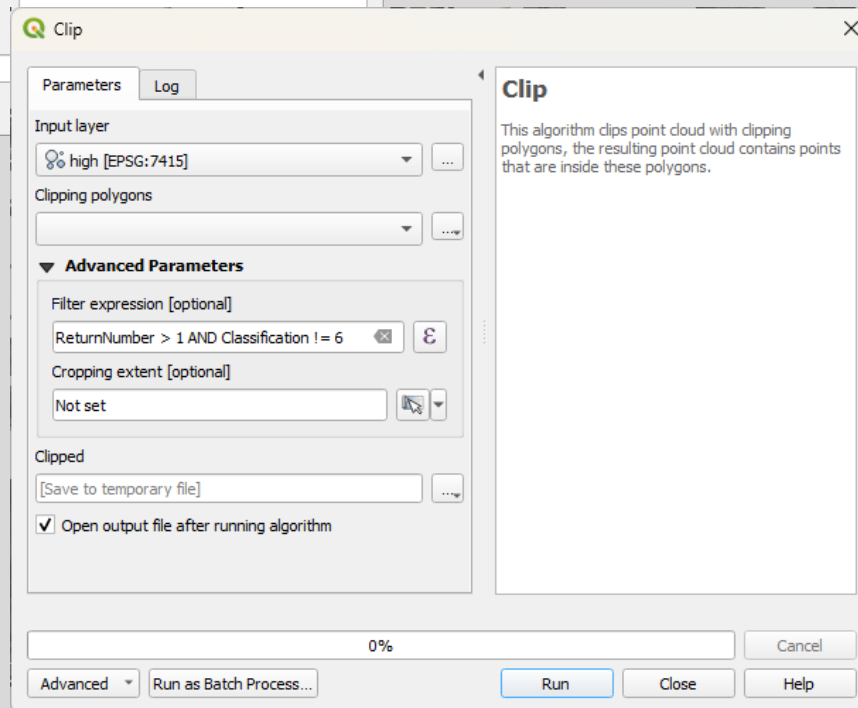
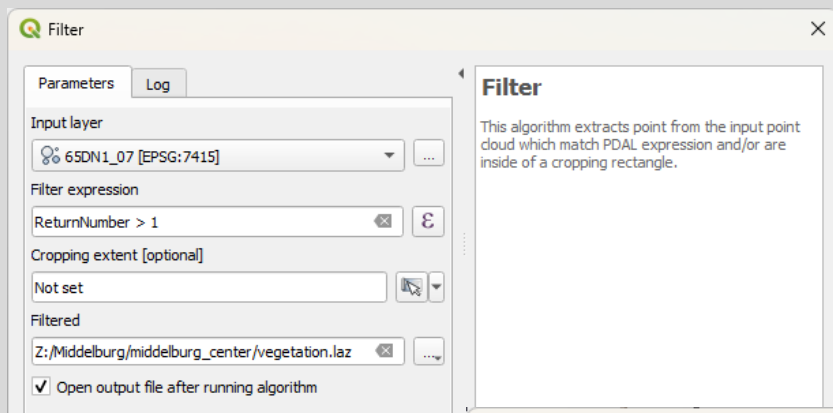
- Een verzameling van eenvoudig te gebruiken command-line tools voor de verwerking van point cloud data, gebaseerd op PDAL-pipelines
- Dezelfde functies als de tools in de toolbox als commando's voor automatiseren in batch scripts
- Multi-threaded
- Vergelijkbaar met GDAL commando's

VIRTUAL POINT CLOUD SUPPORT

- Virtuele puntenwolken maken van een lijst afzonderlijke bestanden
- Virtuele puntenwolken laden als een enkele kaartlaag
- Processing algoritmes toepassen op VPC's
- VPC's in PDAL Wrench commando's gebruiken voor tussenresultaten
- Efficiënte visualisatie
- Vergelijkbaar concept als virtuele rasters (.vrt)
- Eenvoudig JSON-bestand met een .vpc extensie, gebaseerd op de STAC specificatie (STAC API ItemCollection)
- Een VPC is gebonden aan LAS, LAZ, COPC of andere PDAL formaten

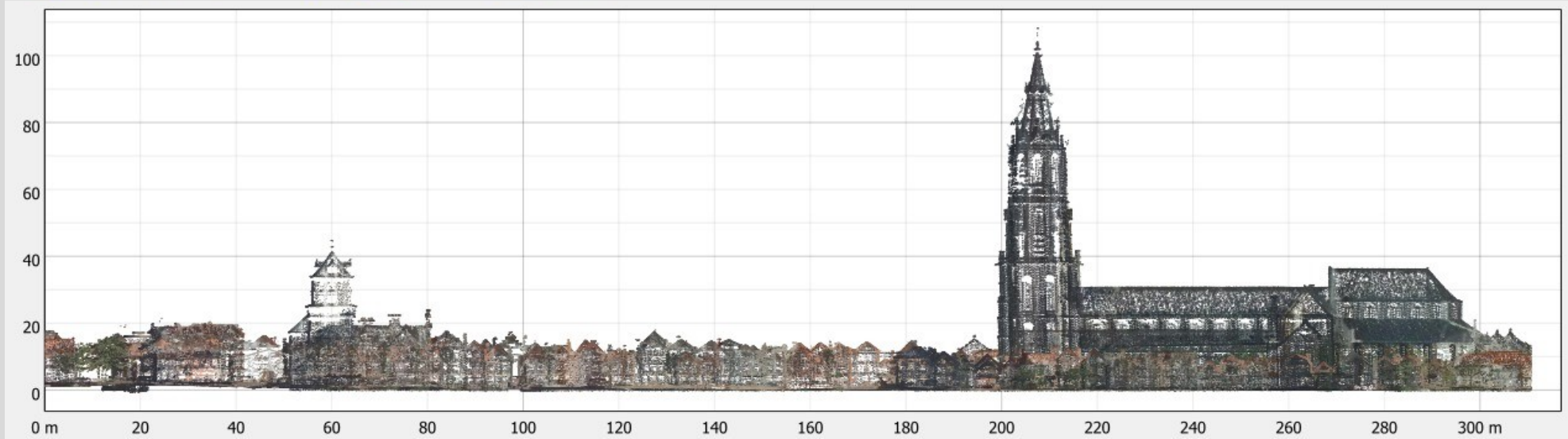


FILTEREN MET EXPRESSIES



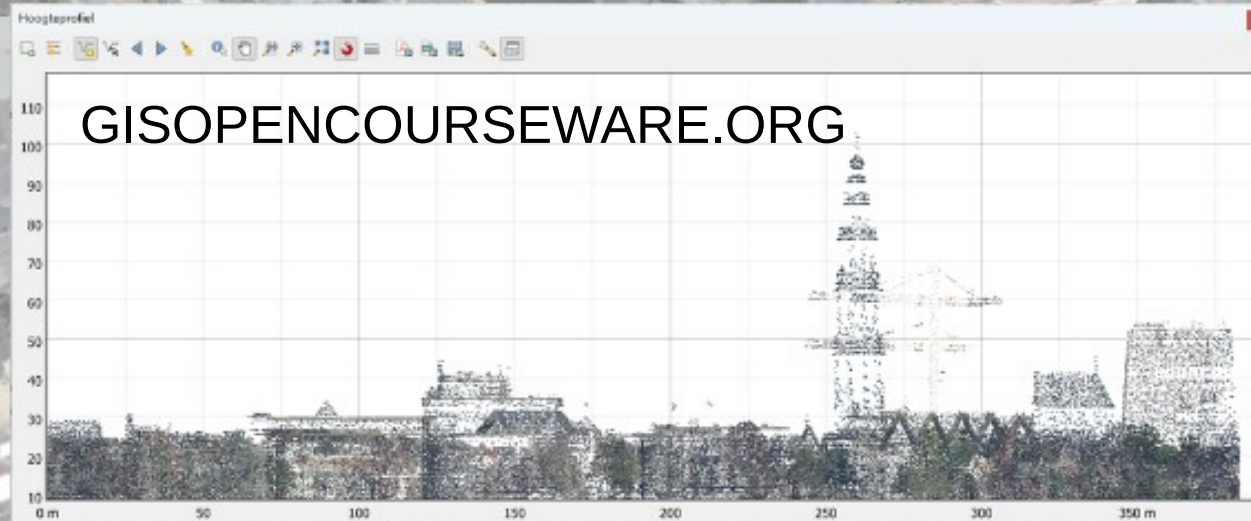
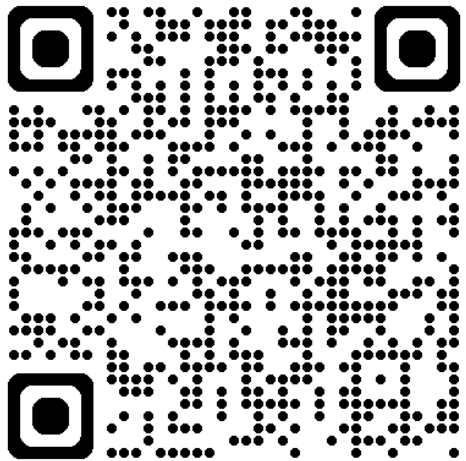


Elevation Profile



Point Cloud Processing in QGIS

FOSS4G NL
2026
Groningen
Workshop





Gebruikers
Nederland

BEDANKT!