PHOTOMOD 6.2

New functionality

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PHOTOMOD 6.2

New easy-to-use PHOTOMOD UAS interface

New fast and reliable AT algorithm for UAS imagery

Capability to generate 3D-point clouds in LAS format

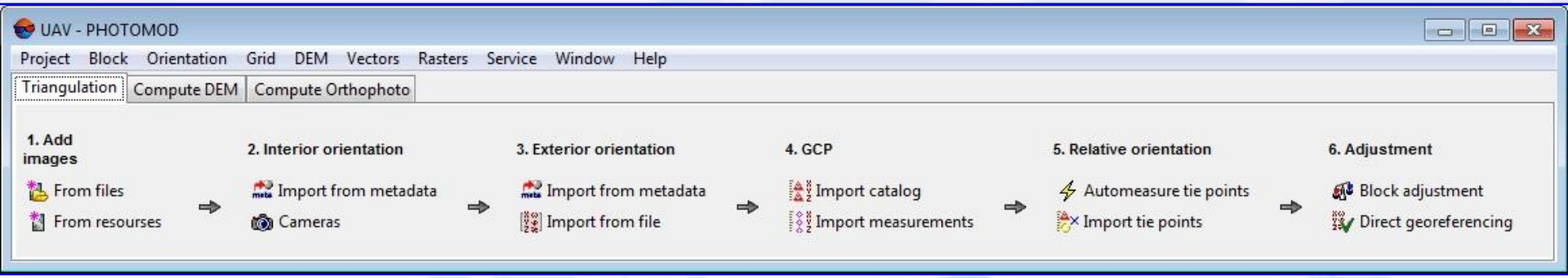
Subpixel accuracy for dense DSM by SGM method

New AT tool of automatic strip-by-strip block layout for oblique images

Full GDAL library support

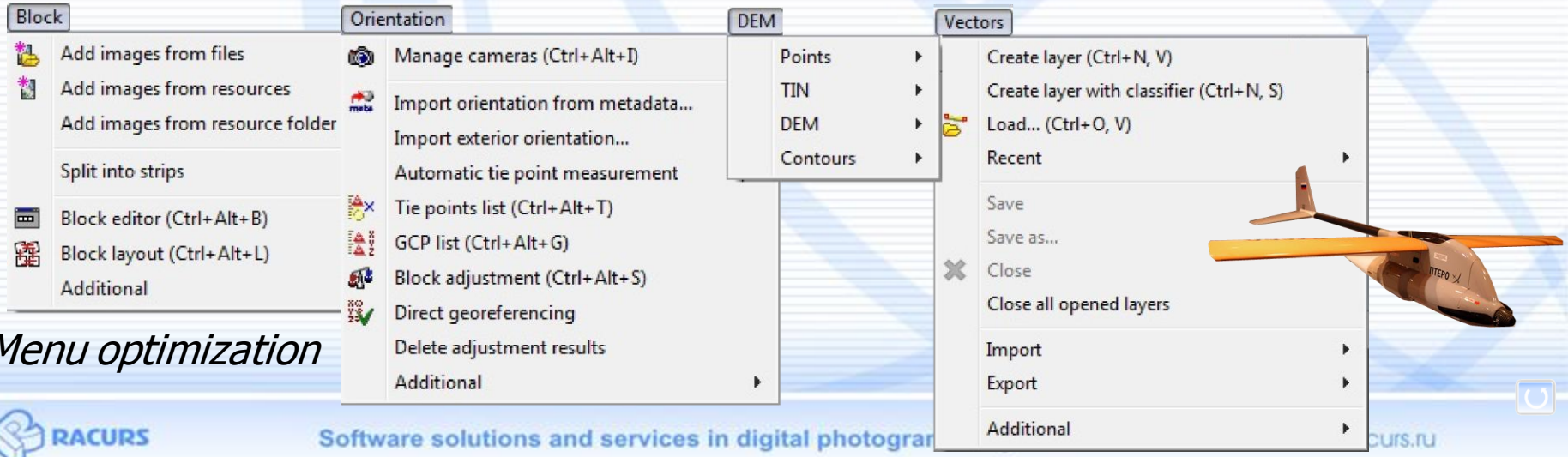
Forestry taxation product – PHOTOMOD StereoMeasure

New PHOTOMOD UAS interface



Main panel

Easy-to-use workflow



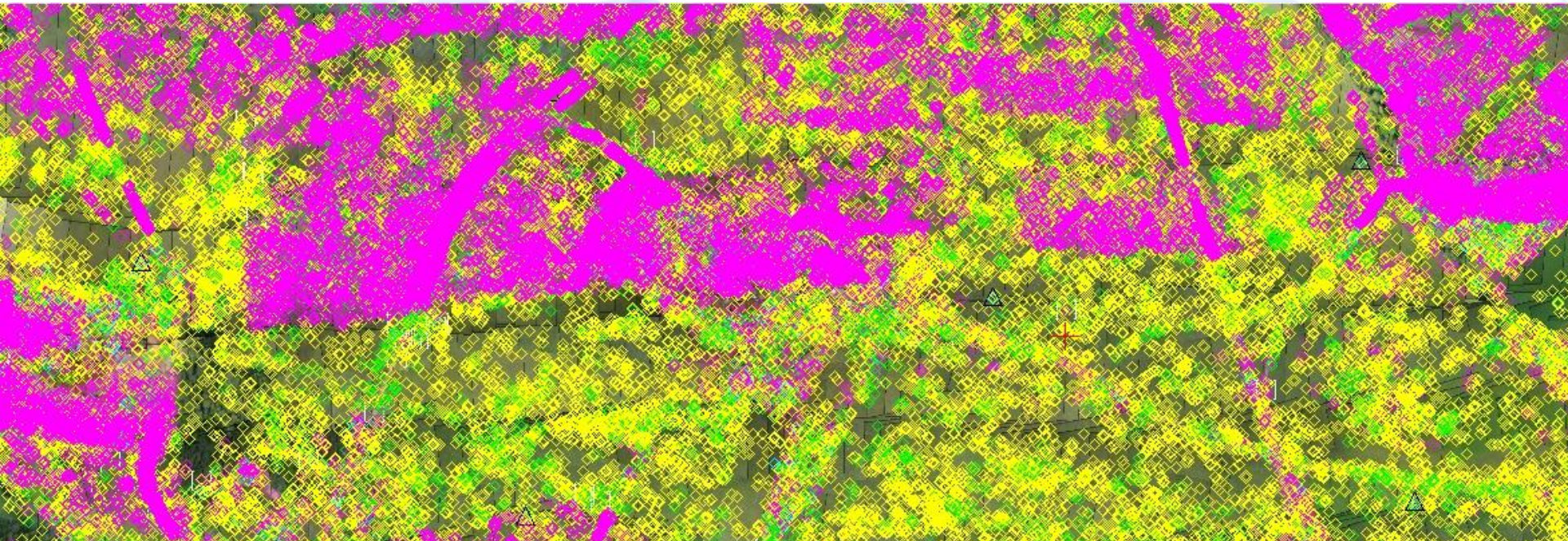
Menu optimization

Feature-based AT correlator for UAS imagery

Perfect reliability
(*large number of measurements: > 150 per stereopair*)

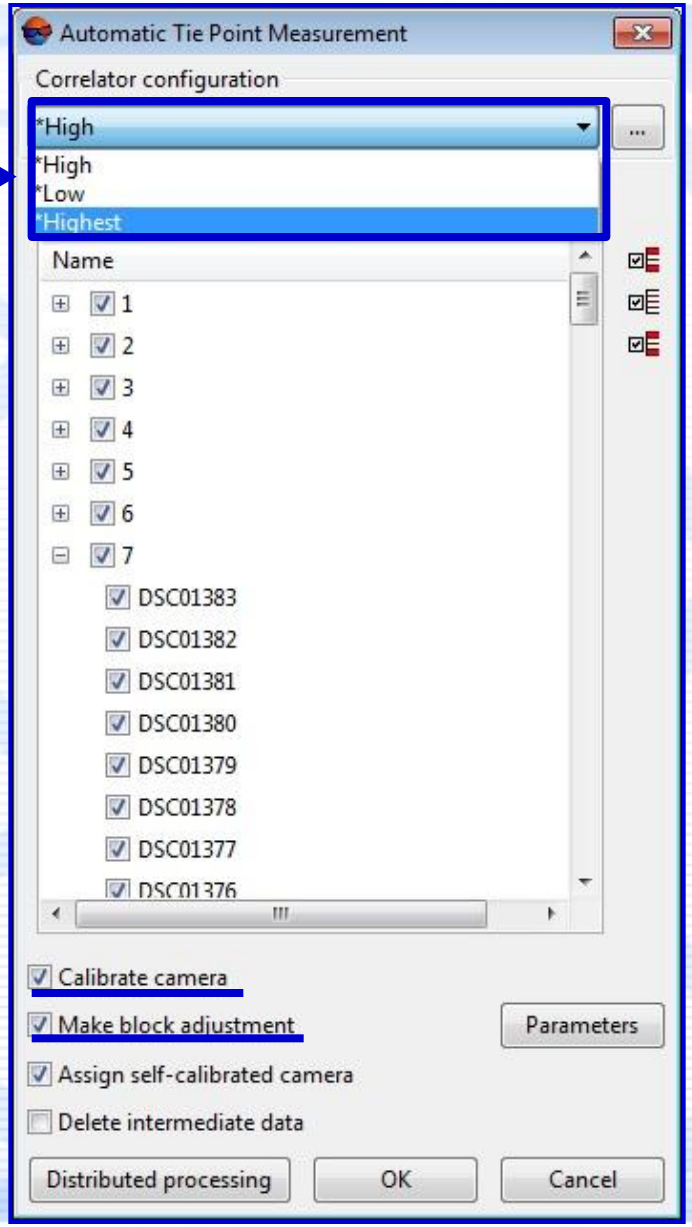
Good for low accurate data
(*big EO angle values or no angle values*)

Full automation (*distributed processing available*)

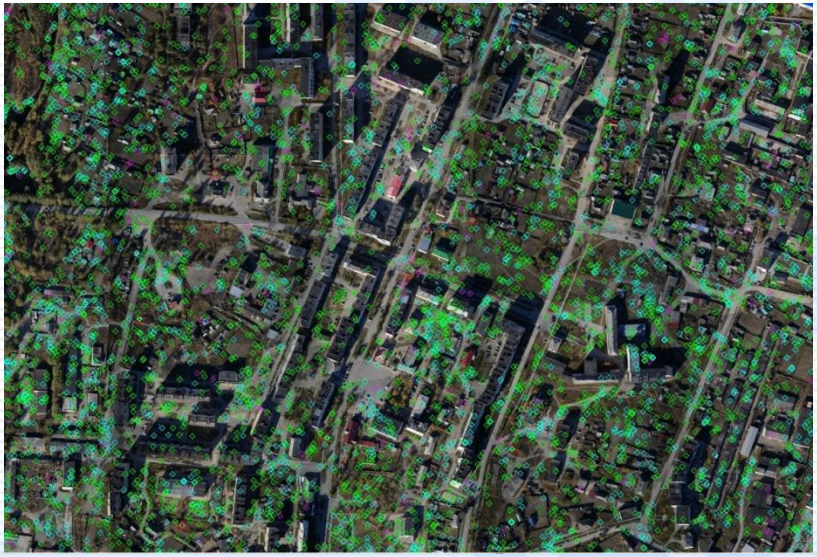
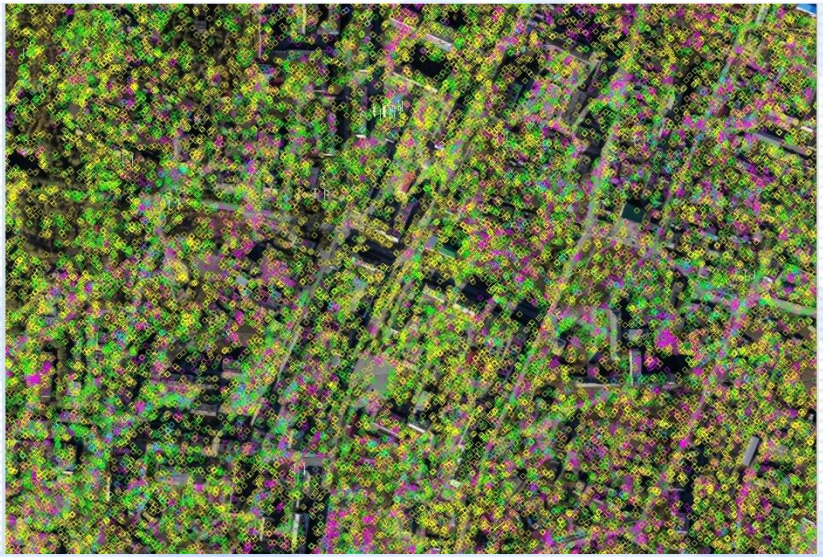


New feature-based AT correlator

- ✓ Three preinstalled correlator presets depending on accuracy required
- ✓ Camera self-calibration included
- ✓ Immediate block adjustment

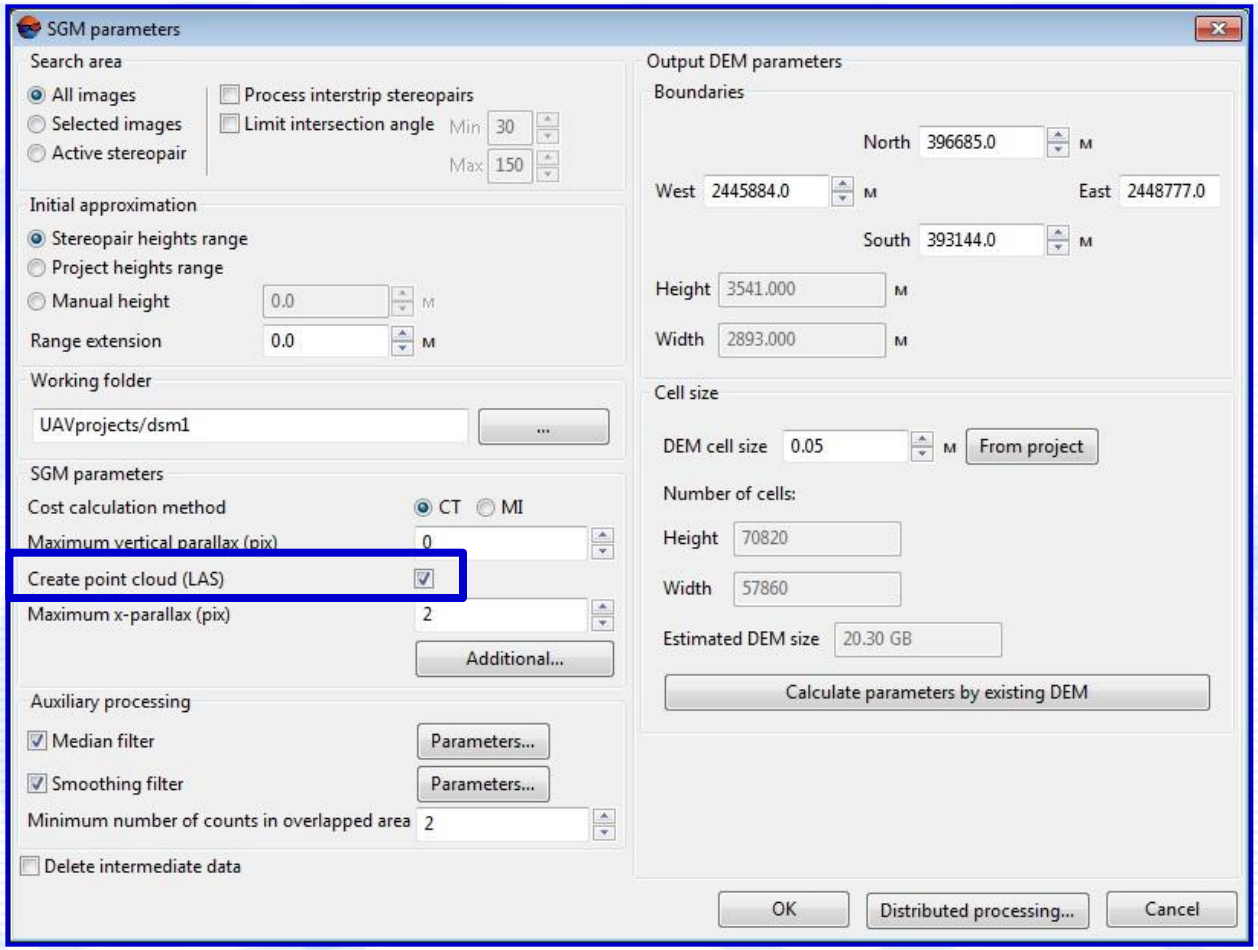


Old AT correlator vs. New AT correlator

Delta M UAV, SONY DSC-RX1 1212 images, 9.7 sq. km, 5 cm GSD	
Area-based	Feature-based
~ 40 000 tie points	~ 200 000 tie points
	

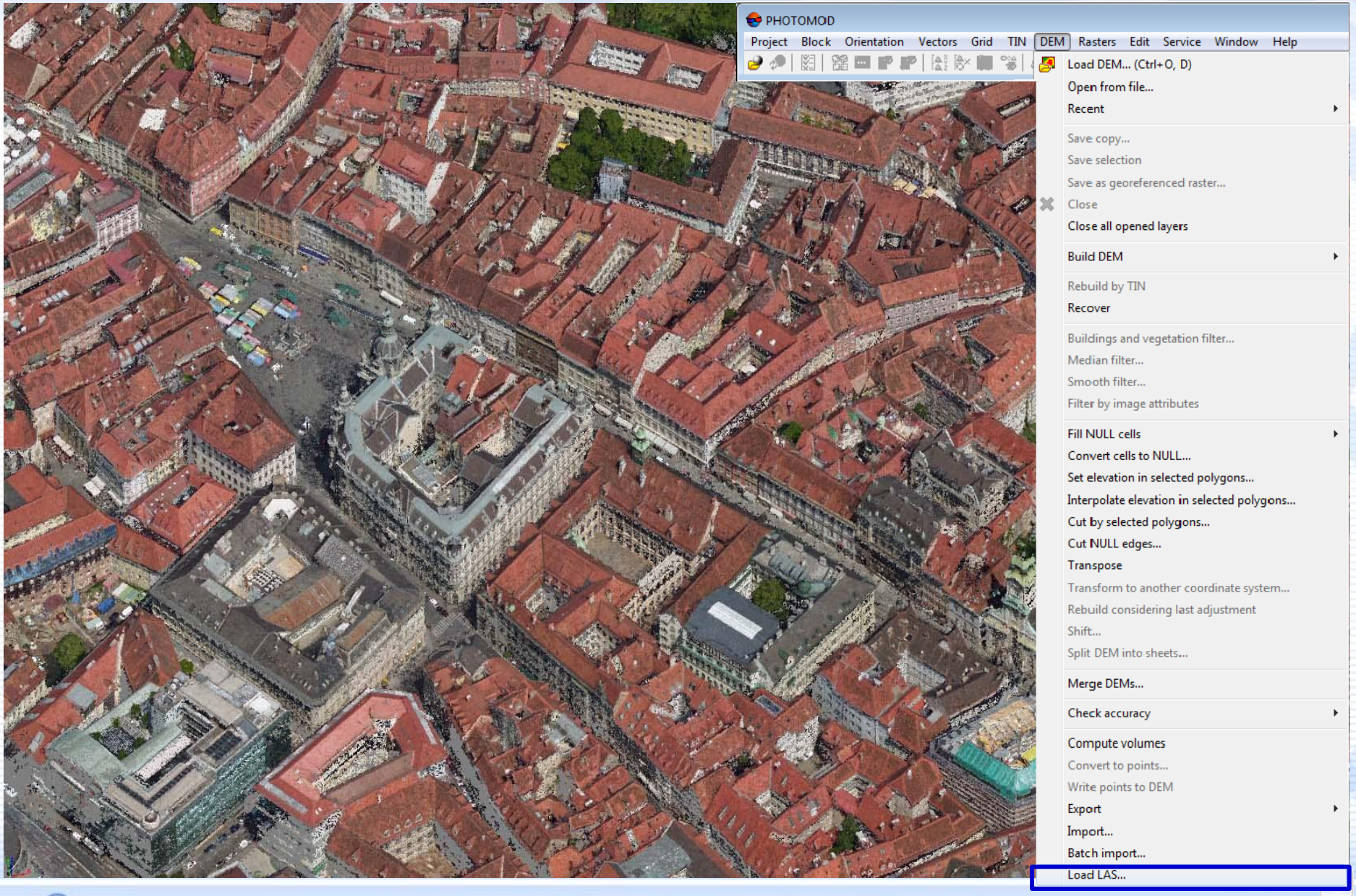
Dense 3D-point cloud

- ✓ Option in *Dense DSM (SGM method)*
- ✓ Pixel density
- ✓ Subpixel accuracy



- ✓ Available for all imagery data types (aerial, UAS, satellite)
- ✓ Best for oblique aerial imagery

New 3D-viewer for LAS data

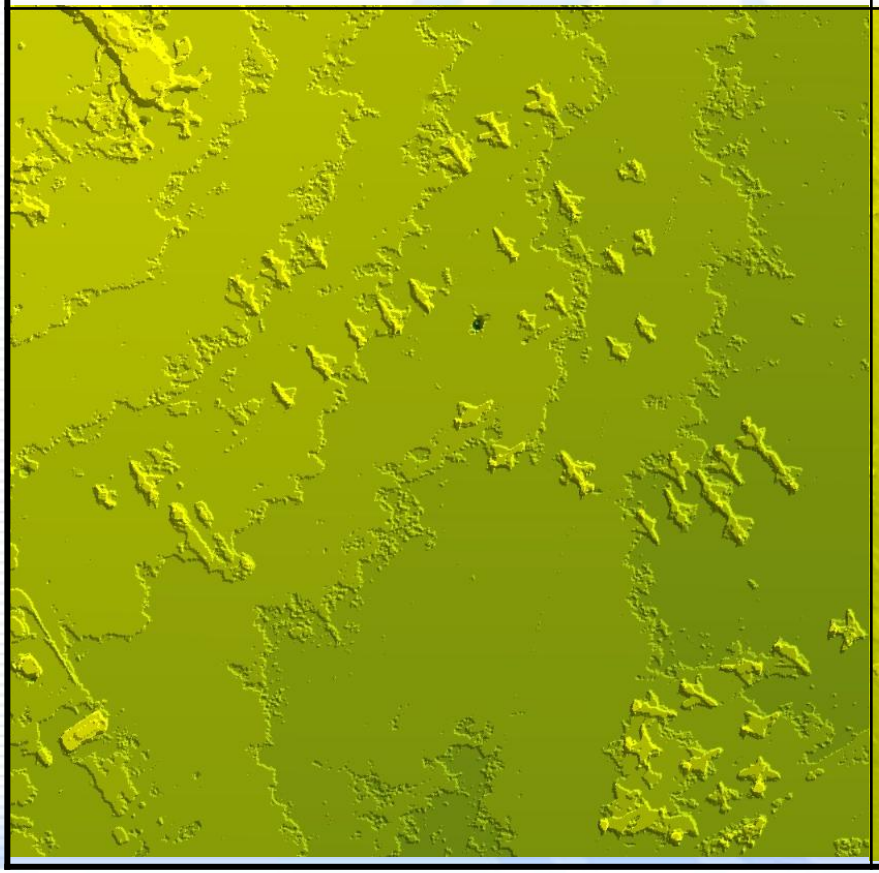
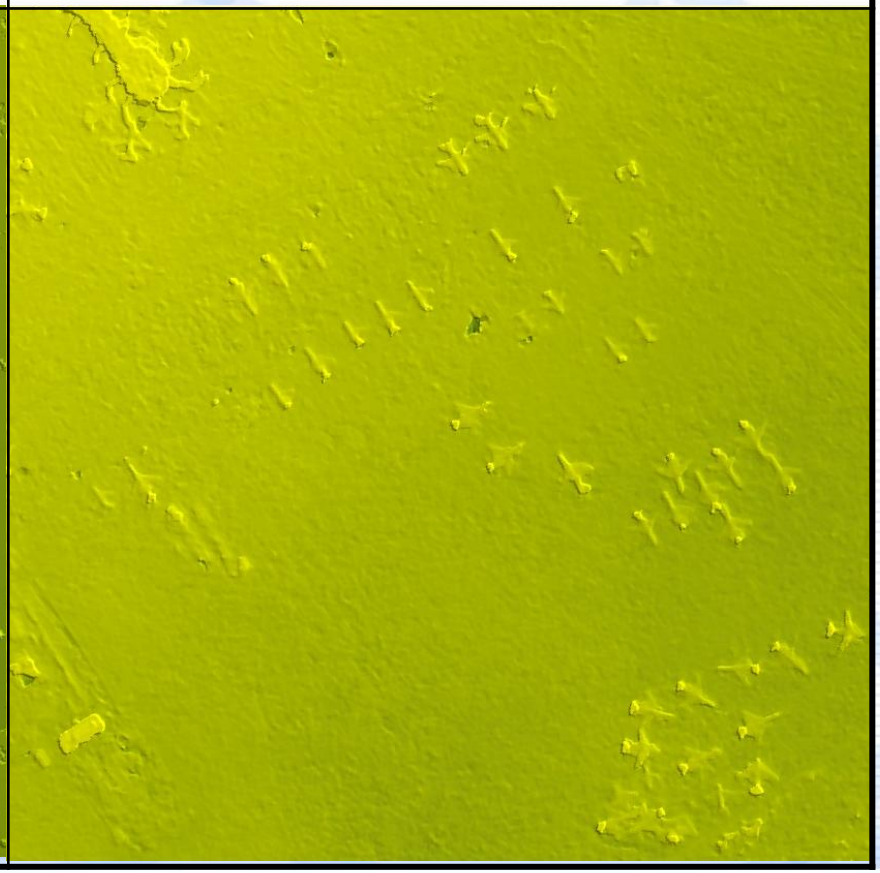


3D-point cloud (Graz, UltraCam Osprey Prime II)

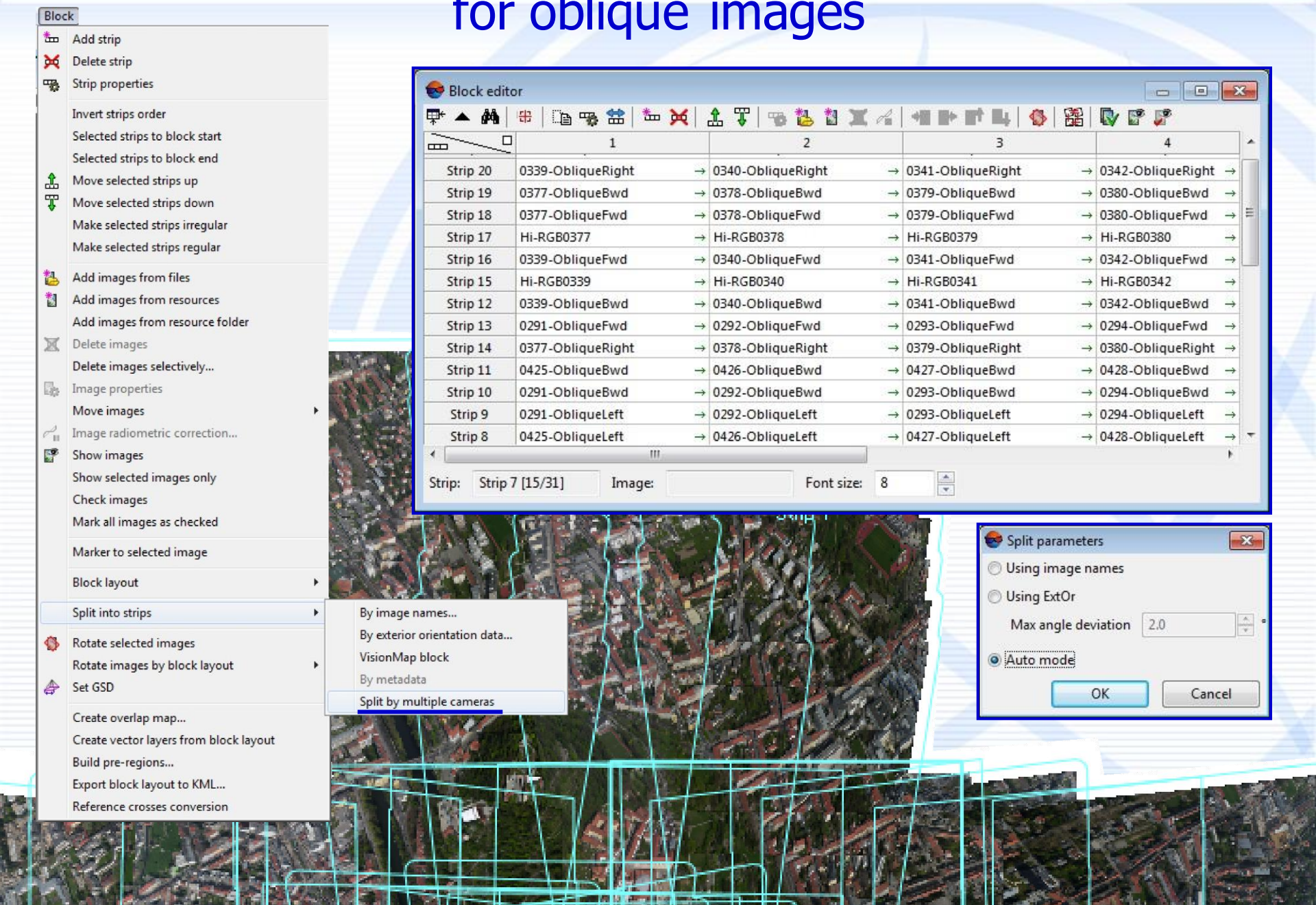
Subpixel accuracy of dense DSM (SGM method)

Domodedovo Airport, IKONOS, 1 m GSD

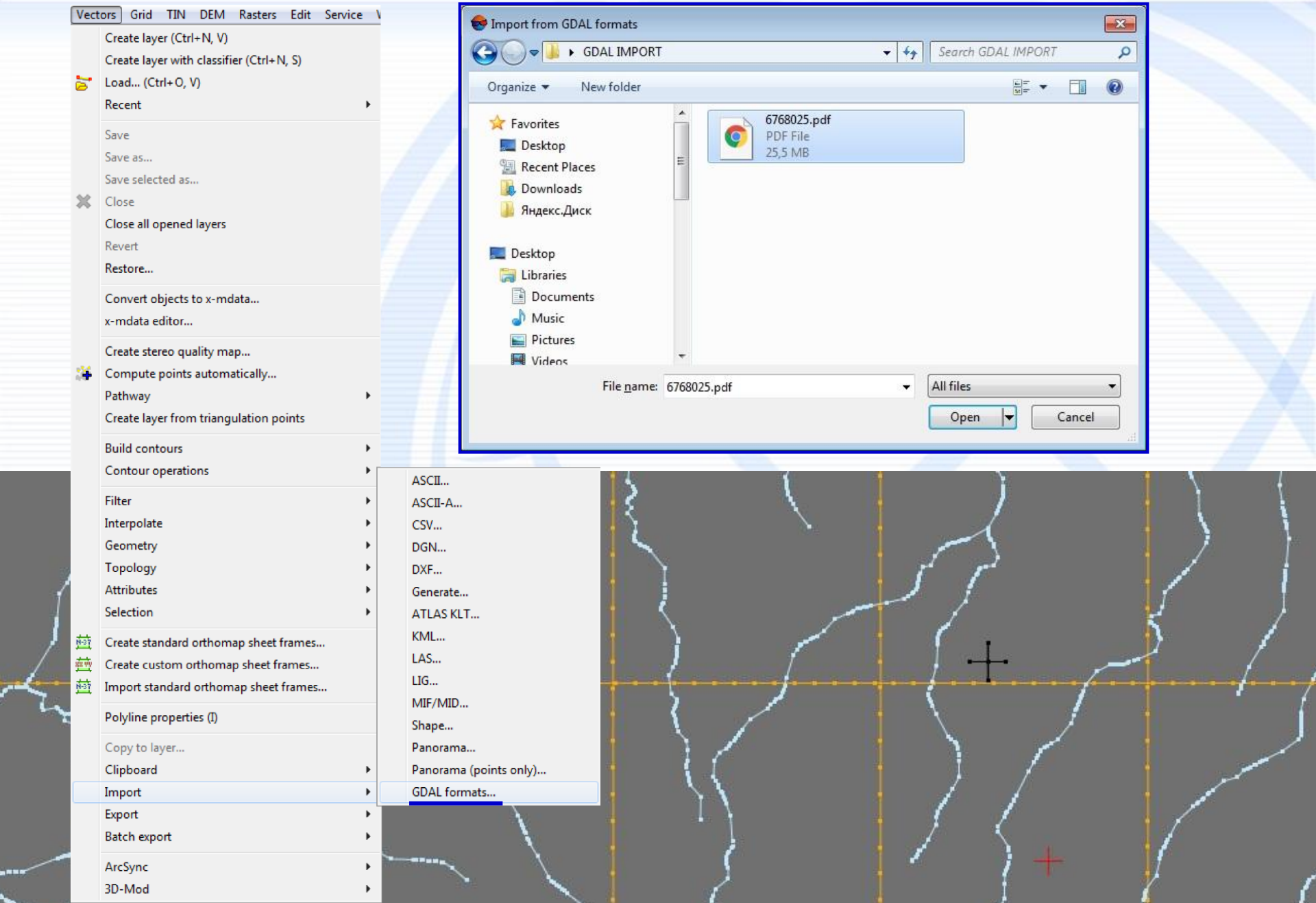
1 x 1 m DSM

PHOTOMOD 6.0 – 6.1	PHOTOMOD 6.2
	

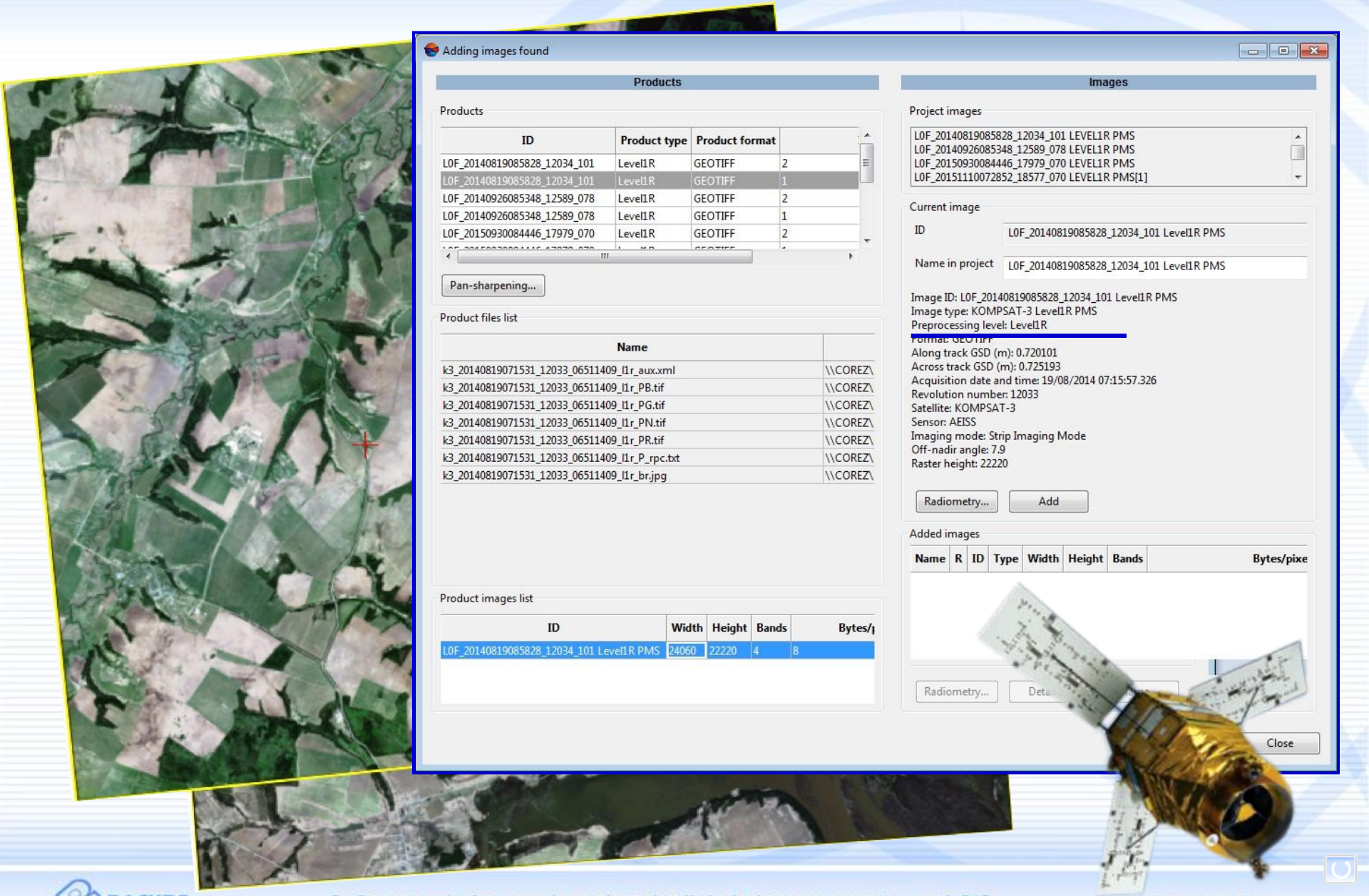
Automatic strip-by-strip block layout for oblique images



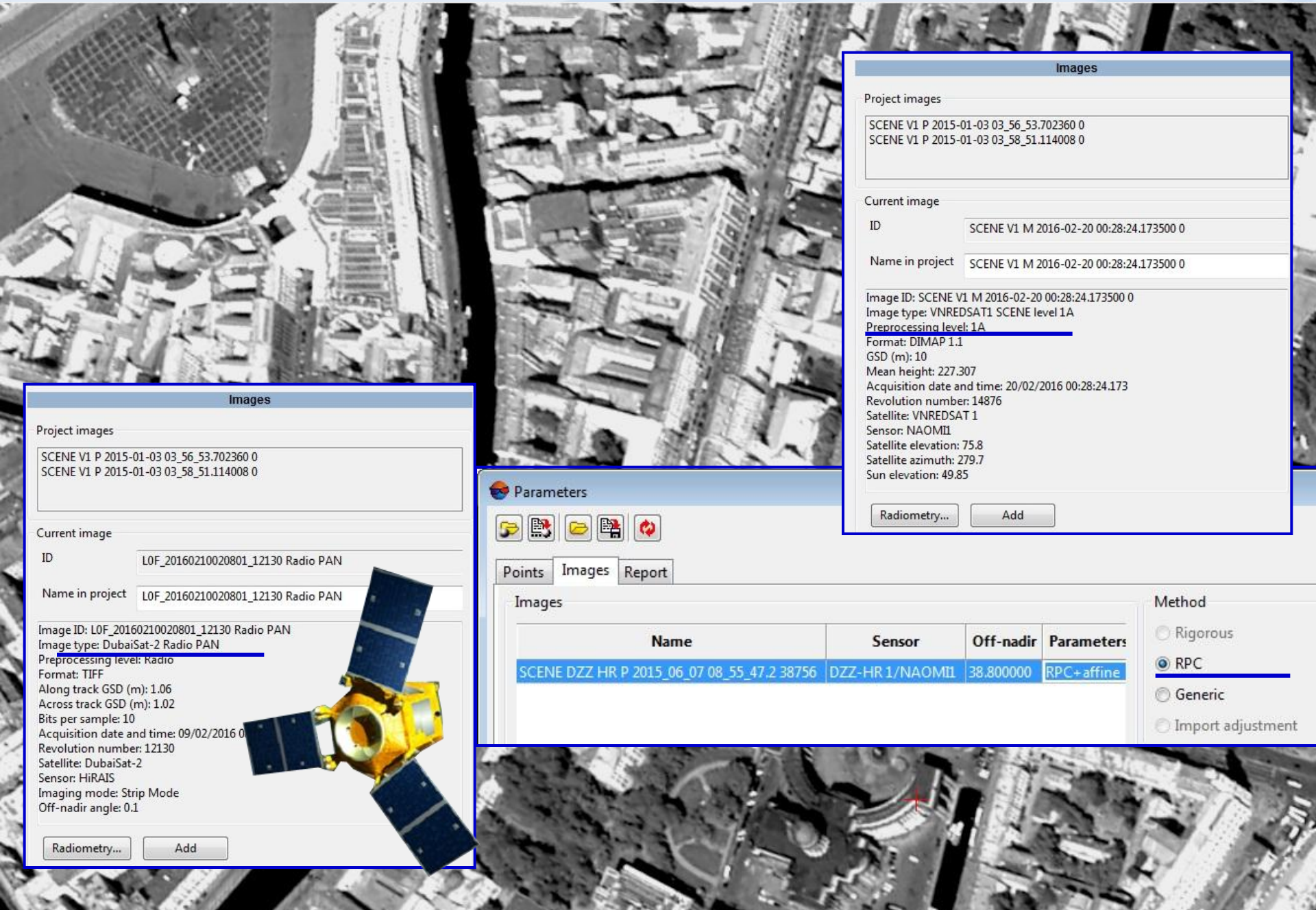
Full GDAL library



Support of KOMPSAT-3 pan-sharpened product



VNREDSat-1, DubaiSat-2, KazEOSat (RPC)



Images

Project images

SCENE V1 P 2015-01-03 03_56_53.702360 0
SCENE V1 P 2015-01-03 03_58_51.114008 0

Current image

ID: SCENE V1 M 2016-02-20 00:28:24.173500 0

Name in project: SCENE V1 M 2016-02-20 00:28:24.173500 0

Image ID: SCENE V1 M 2016-02-20 00:28:24.173500 0
Image type: VNREDSAT1 SCENE level 1A
Preprocessing level: 1A
Format: DIMAP 1.1
GSD (m): 10
Mean height: 227.307
Acquisition date and time: 20/02/2016 00:28:24.173
Revolution number: 14876
Satellite: VNREDSAT 1
Sensor: NAOMI1
Satellite elevation: 75.8
Satellite azimuth: 279.7
Sun elevation: 49.85

Radiometry... Add

Images

Project images

SCENE V1 P 2015-01-03 03_56_53.702360 0
SCENE V1 P 2015-01-03 03_58_51.114008 0

Current image

ID: L0F_20160210020801_12130 Radio PAN

Name in project: L0F_20160210020801_12130 Radio PAN

Image ID: L0F_20160210020801_12130 Radio PAN
Image type: DubaiSat-2 Radio PAN
Preprocessing level: Radio
Format: TIFF
Along track GSD (m): 1.06
Across track GSD (m): 1.02
Bits per sample: 10
Acquisition date and time: 09/02/2016 0
Revolution number: 12130
Satellite: DubaiSat-2
Sensor: HiRAIS
Imaging mode: Strip Mode
Off-nadir angle: 0.1

Radiometry... Add

Parameters

Points | Images | Report

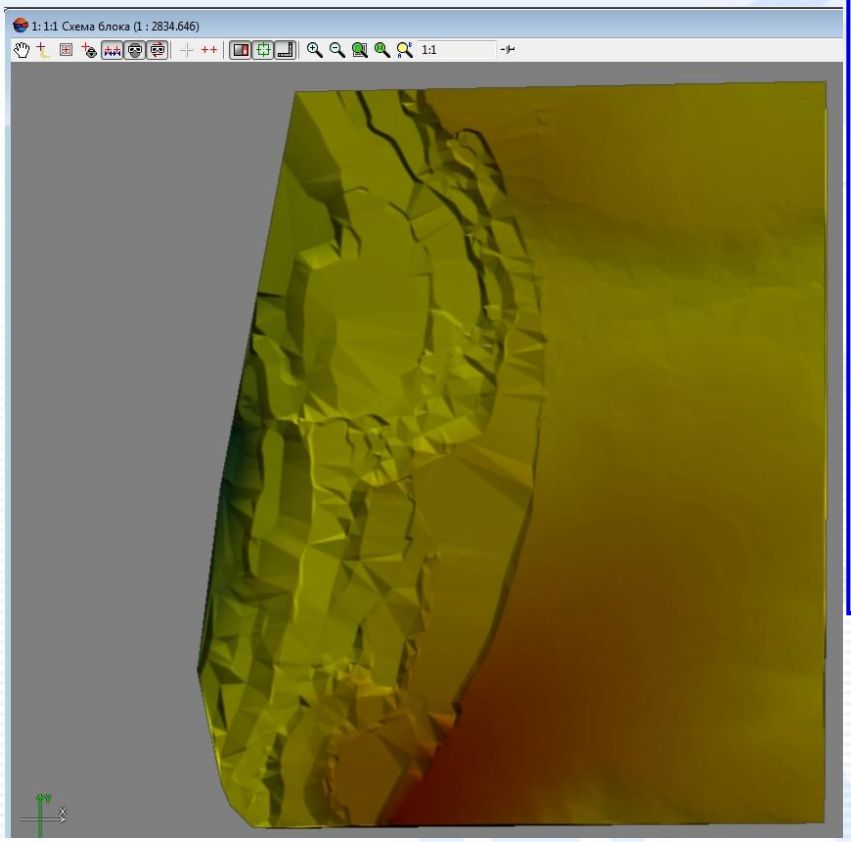
Images

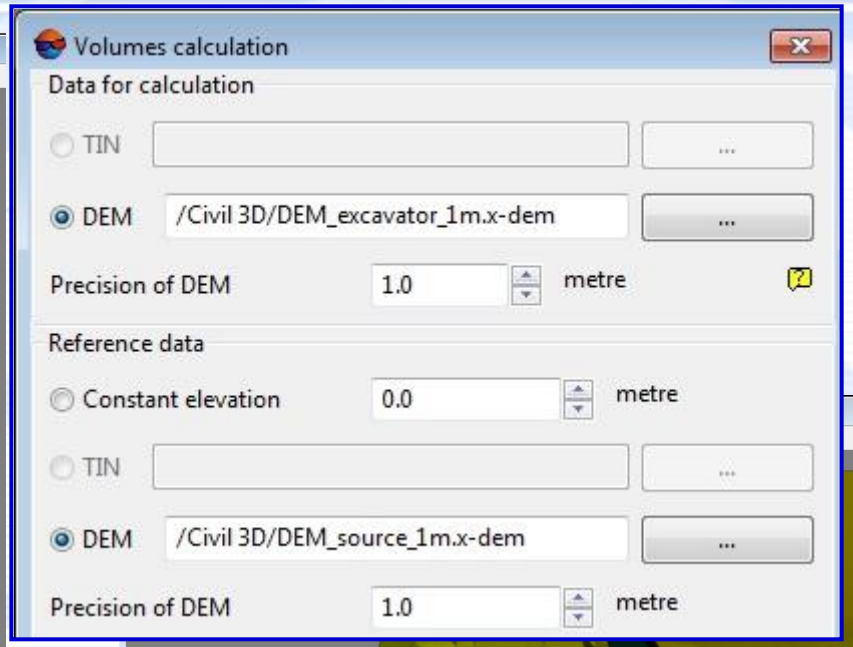
Name	Sensor	Off-nadir	Parameters
SCENE DZZ HR P 2015_06_07 08_55_47.2 38756	DZZ-HR 1/NAOMI1	38.800000	RPC+affine

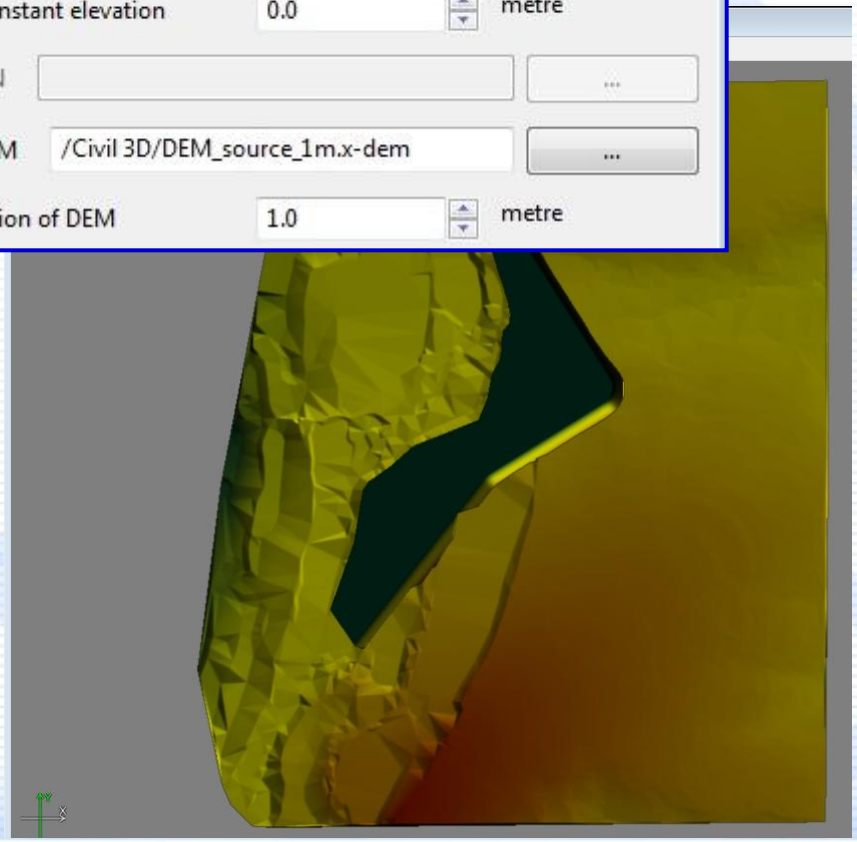
Method

- Rigorous
- RPC
- Generic
- Import adjustment

Cut and fill volume calculations







Embankment volume: 244.99m³

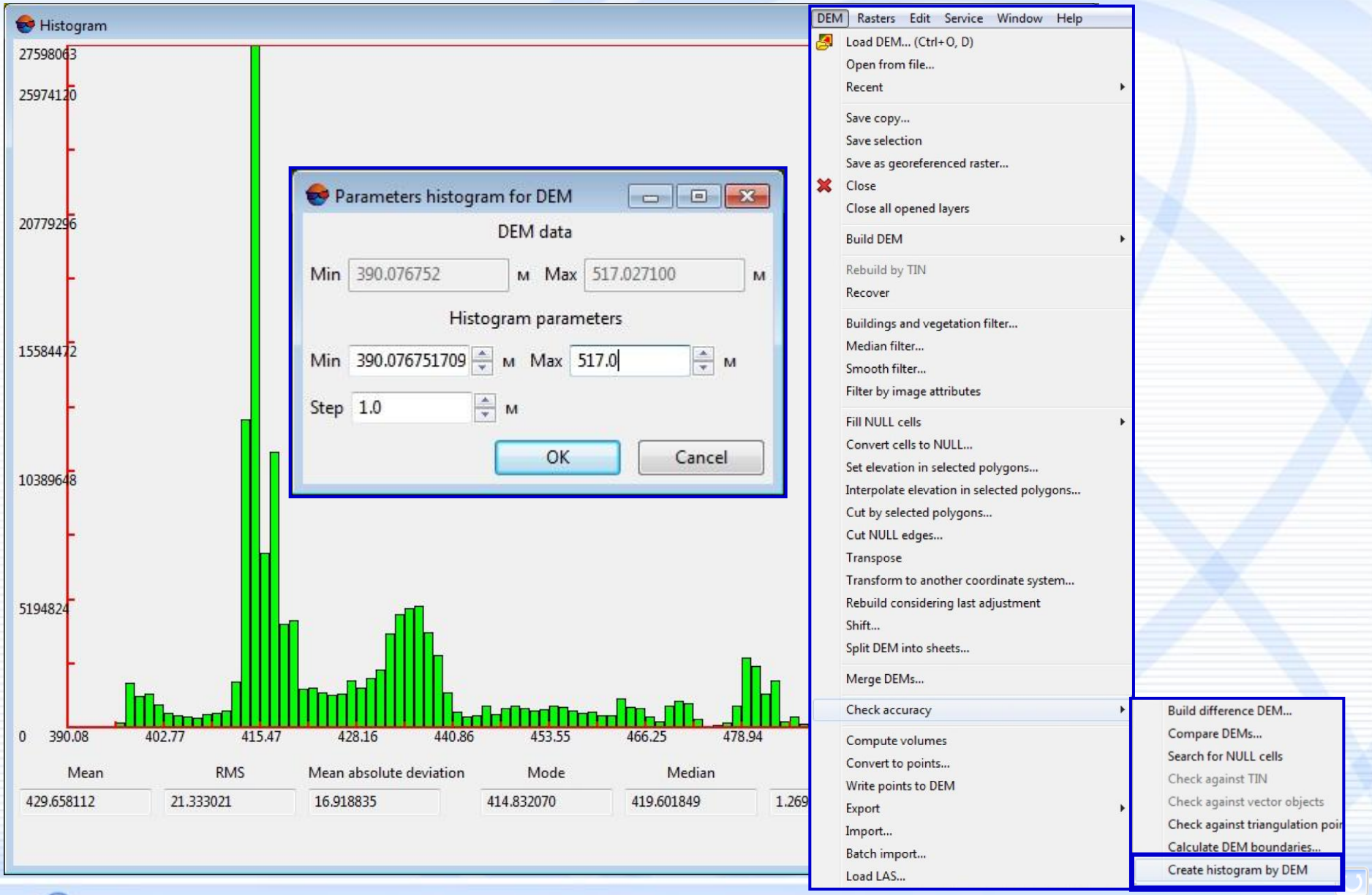
Excavation volume: 386109m³

Relative volume of changes: -385864m³

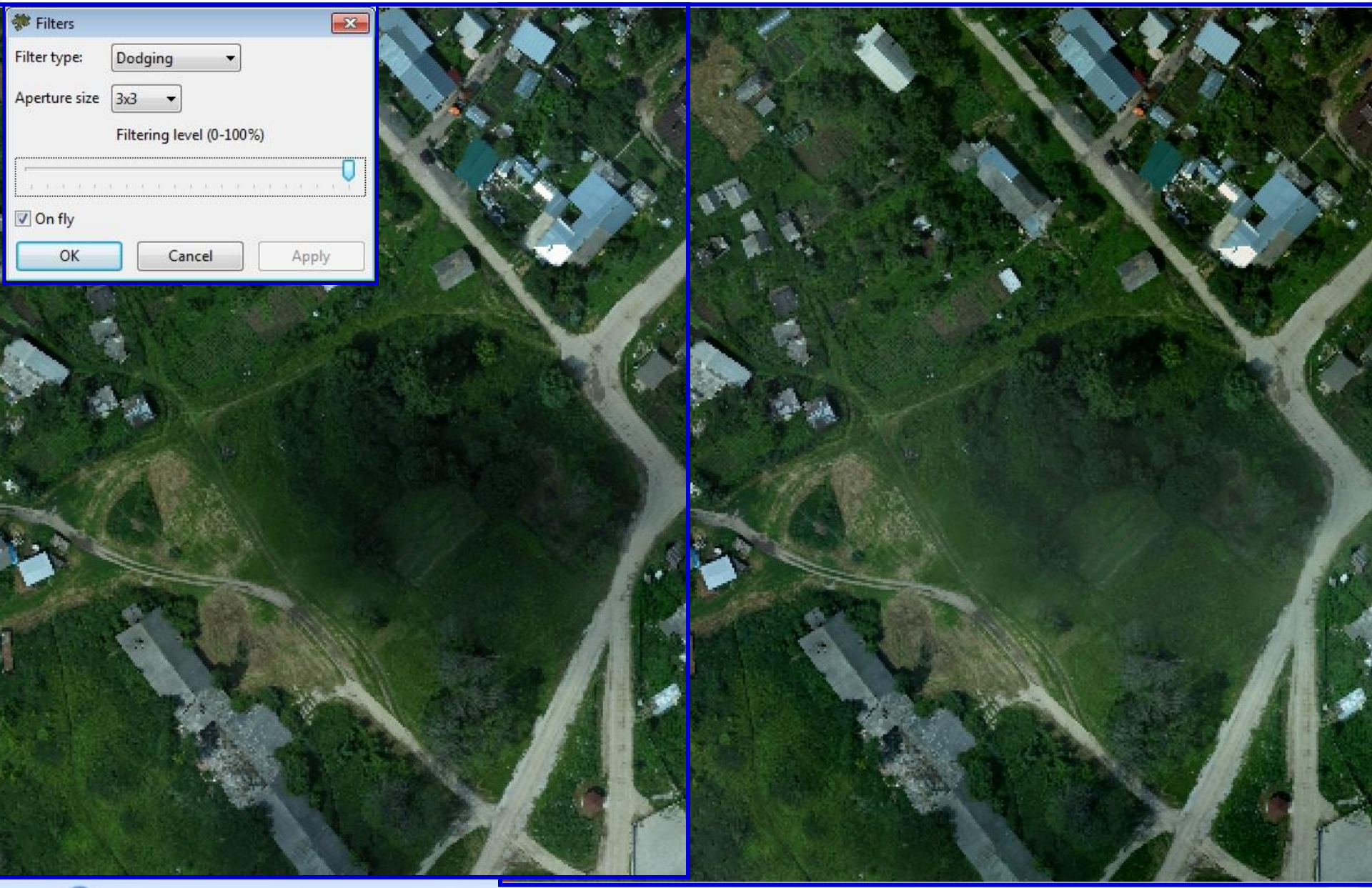
Absolute volume of changes: 386354m³

Target area: 39995m²

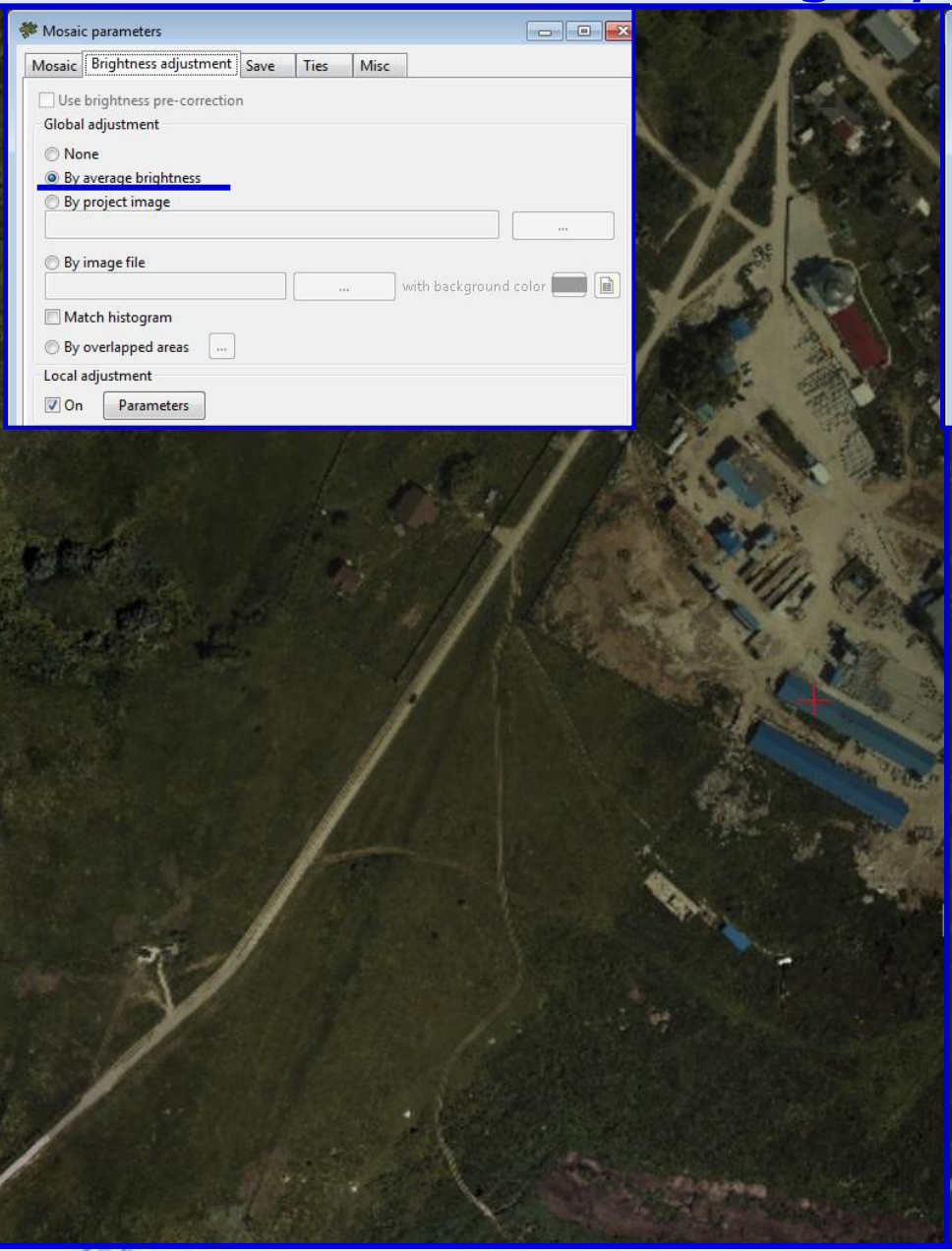
Histogram by DEM

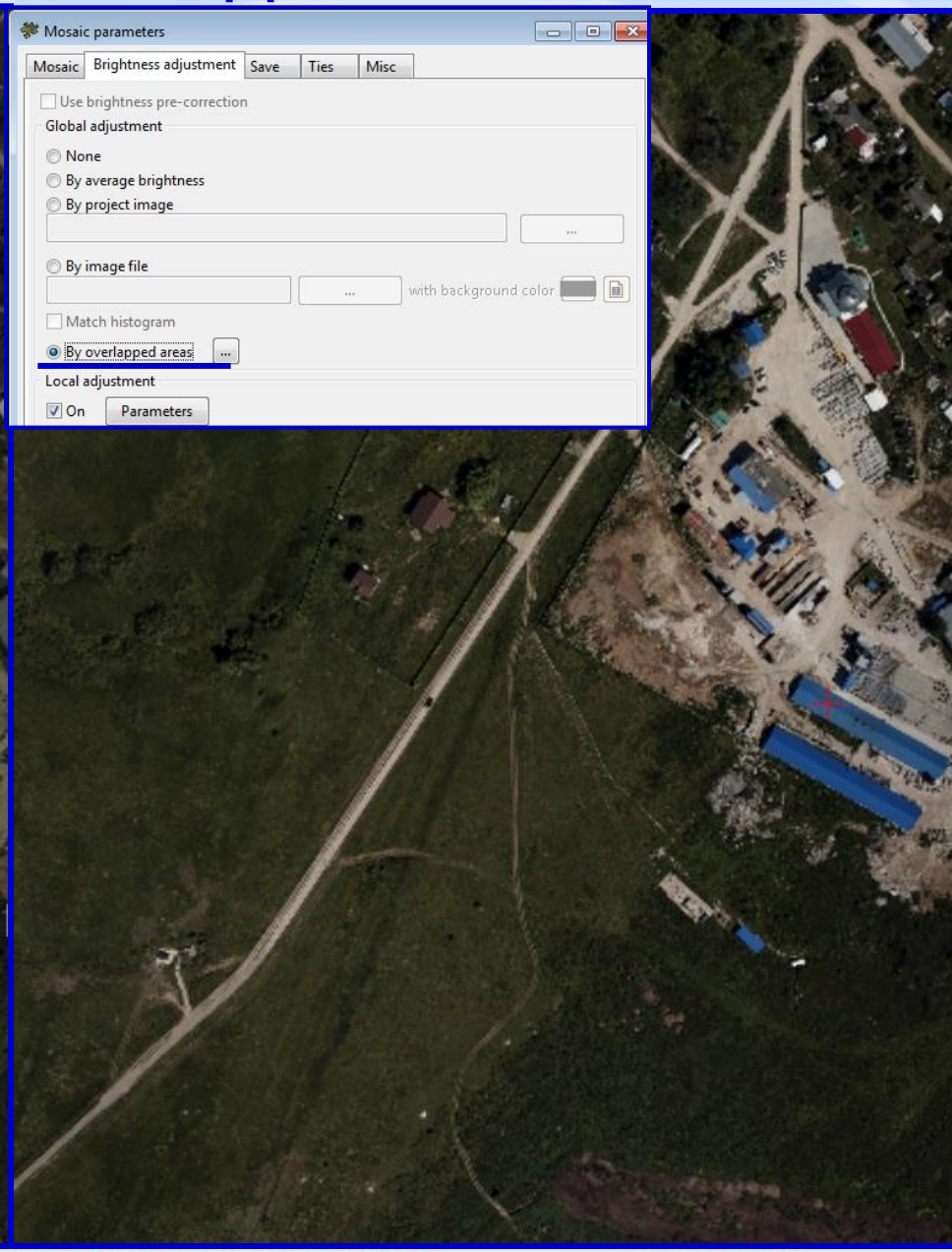


Dodging


Filters
Filter type:
Dodging
Aperture size
3x3
Filtering level (0-100%)
On fly
OK
Cancel
Apply

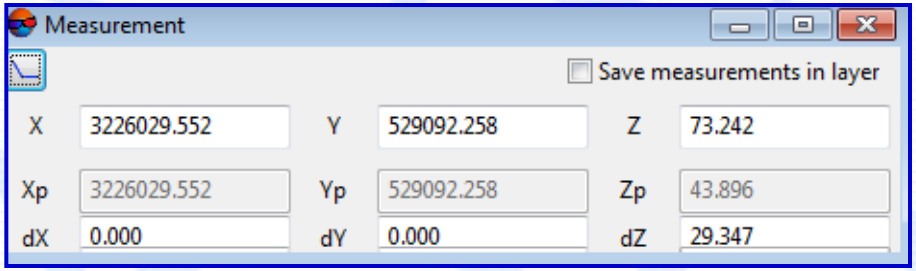
Color balancing by overlapped areas

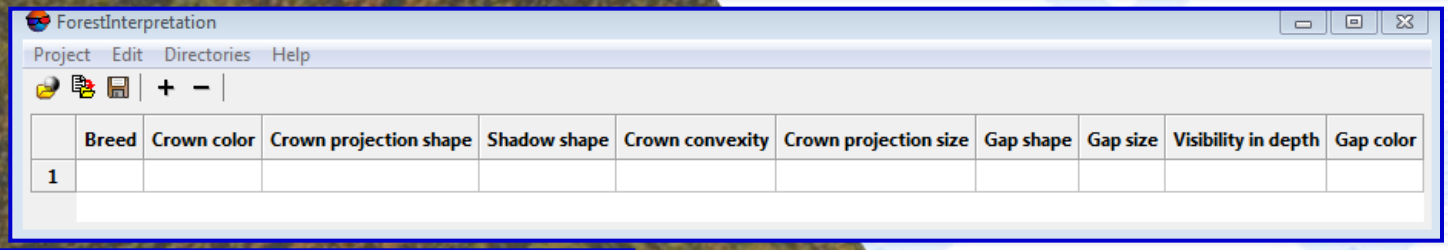


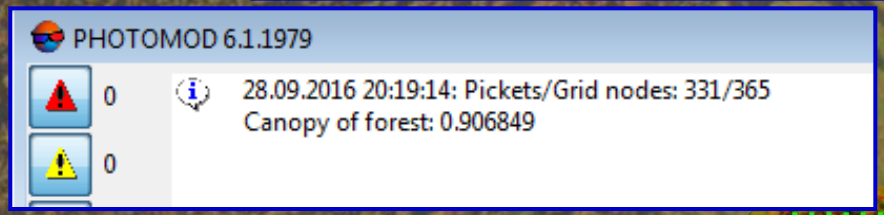


PHOTOMOD StereoMeasure

- Stereomeasurement
- Stereovectorization
- Stereointerpretation







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More features in PHOTOMOD 6.2

Raster operations

- ✓ Loading reference rmc-file to the Radiometric correction window

AT and Block adjustment

- ✓ Export of triangulation points sketches
- ✓ Ability to show adjustment errors and sort points based on them

DTM

- ✓ DEM loading from external sources (SRTM)
- ✓ DEM filtration by radiometric properties
- ✓ Ability to hide TIN with a hot key while editing points

Orthorectification

- ✓ Filling invisinble areas by background color

Satellite imagery processing

- ✓ Ability to use image georeference while pan-sharpening

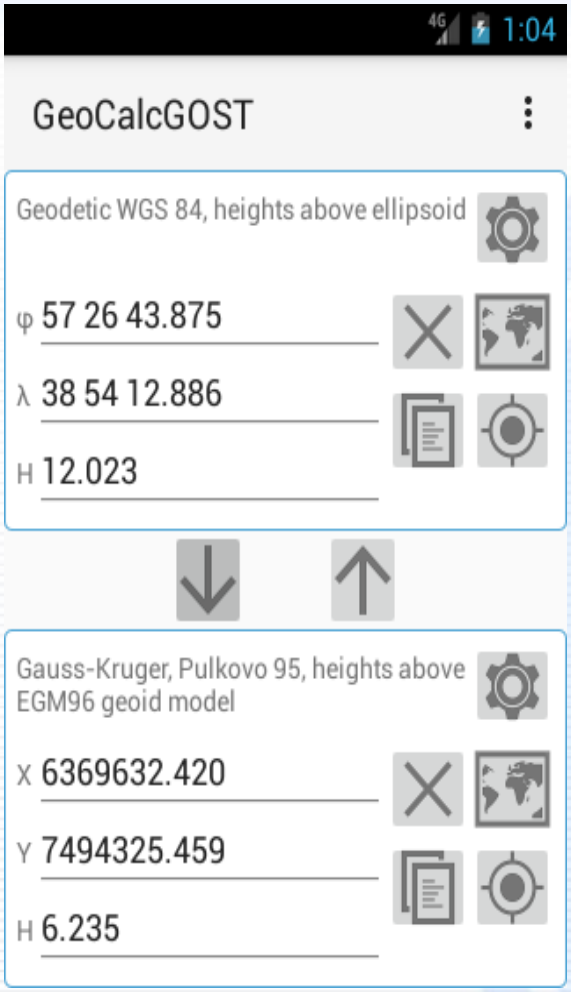
Vector editor

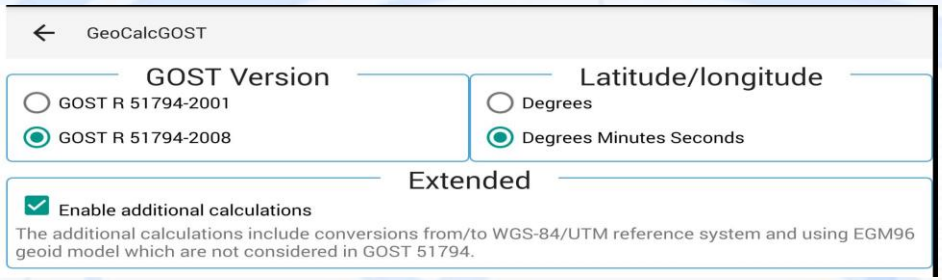
- ✓ Interactive managing settings of vectors interpolation

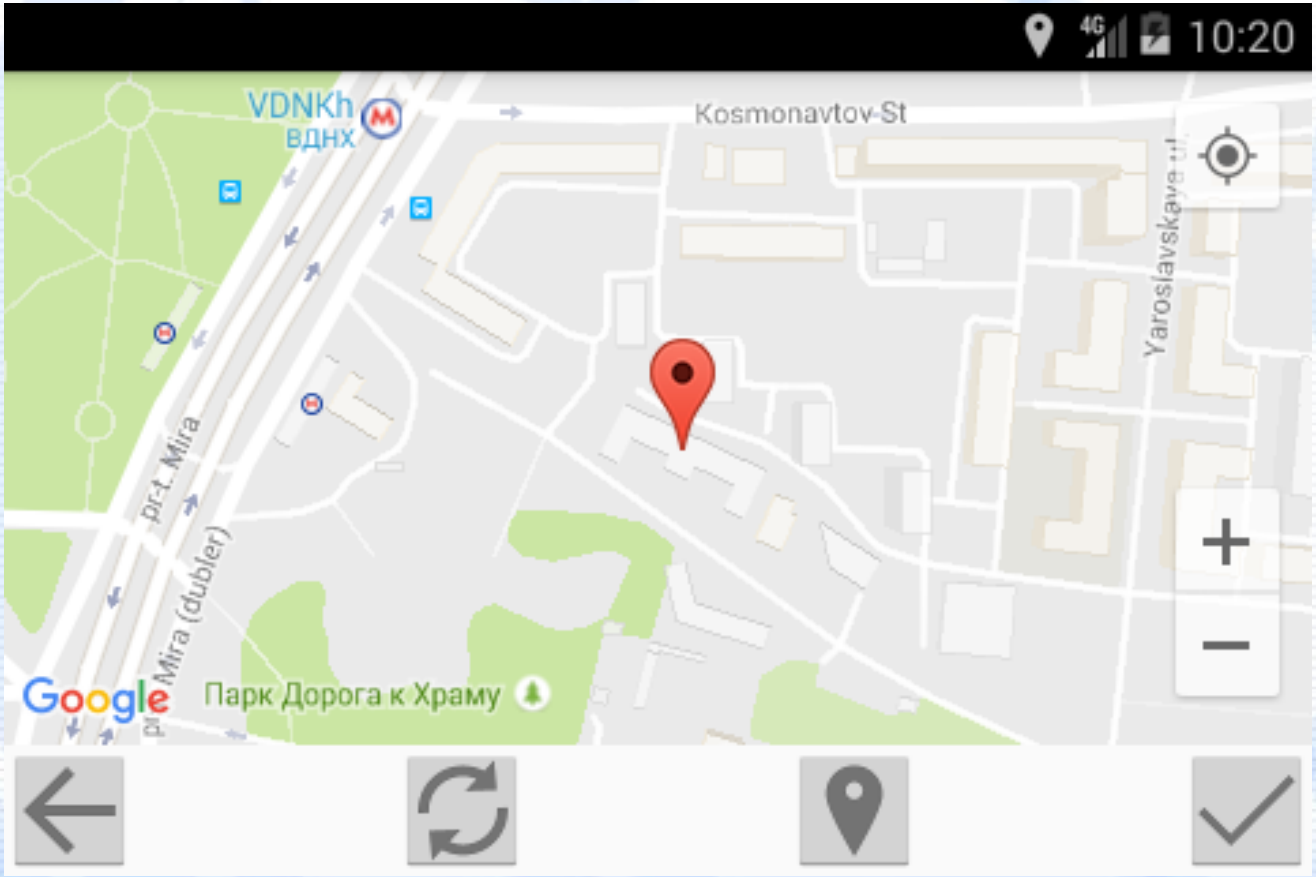
Utilities

- ✓ PHOTOMOD GeoCalculator. First version for Android OS
- ✓ Estimation of AT and SGM calculation productivity in PHOTOMOD system

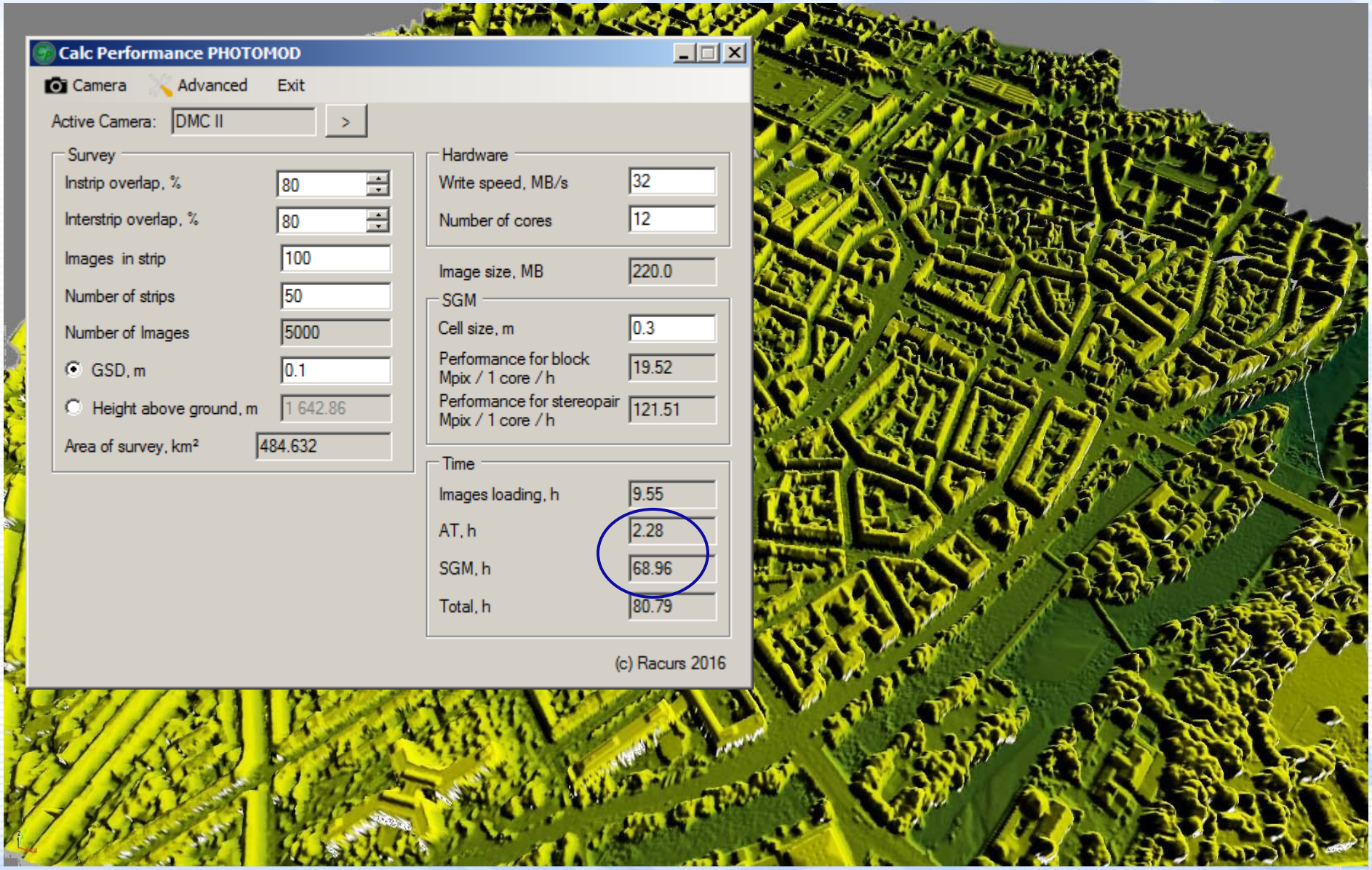
PHOTOMOD GeoCalculator for Android OS







Productivity of AT and SGM in PHOTOMOD



Thank you for attention !