The OpenGeoSys Data Explorer

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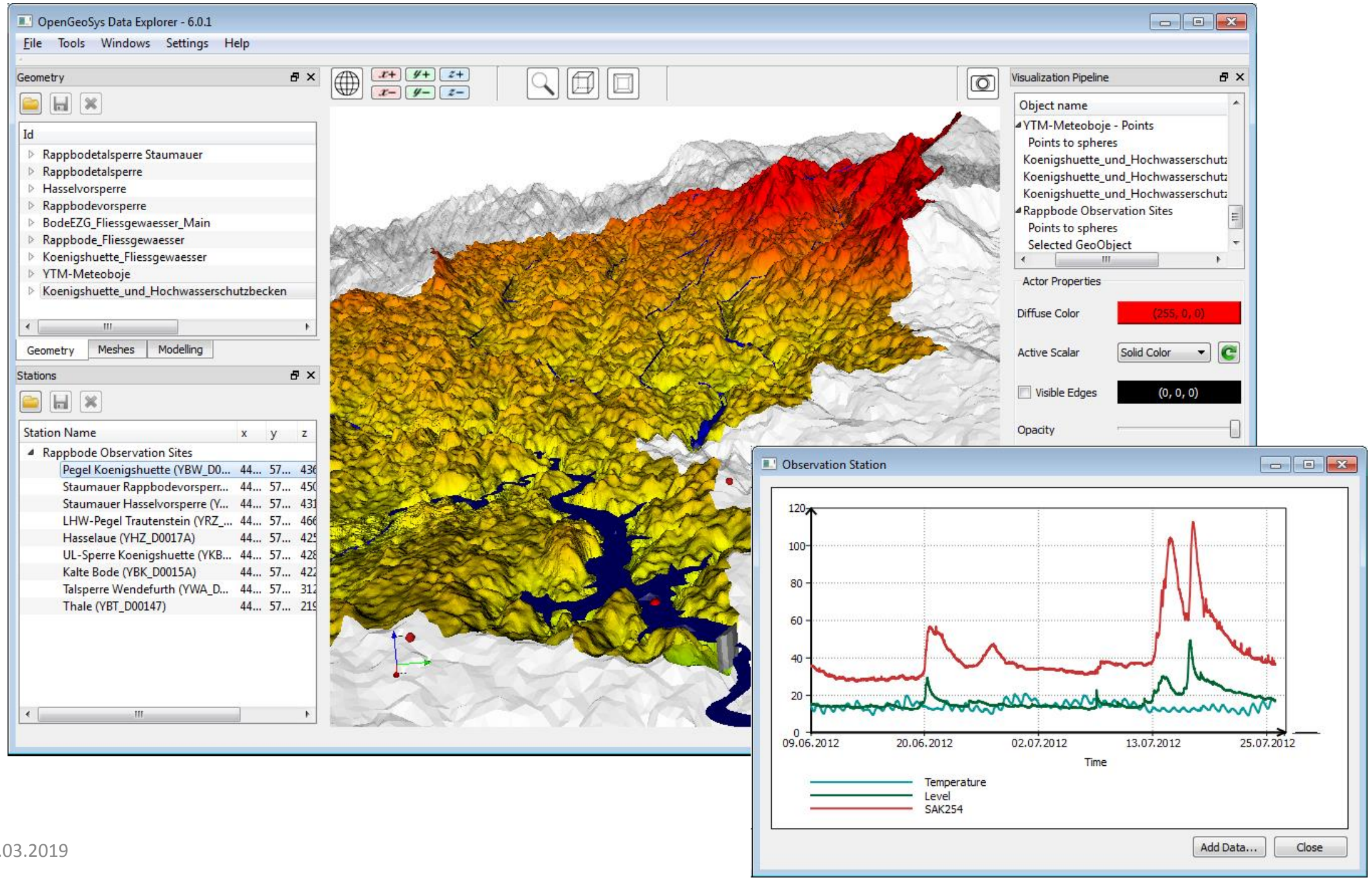
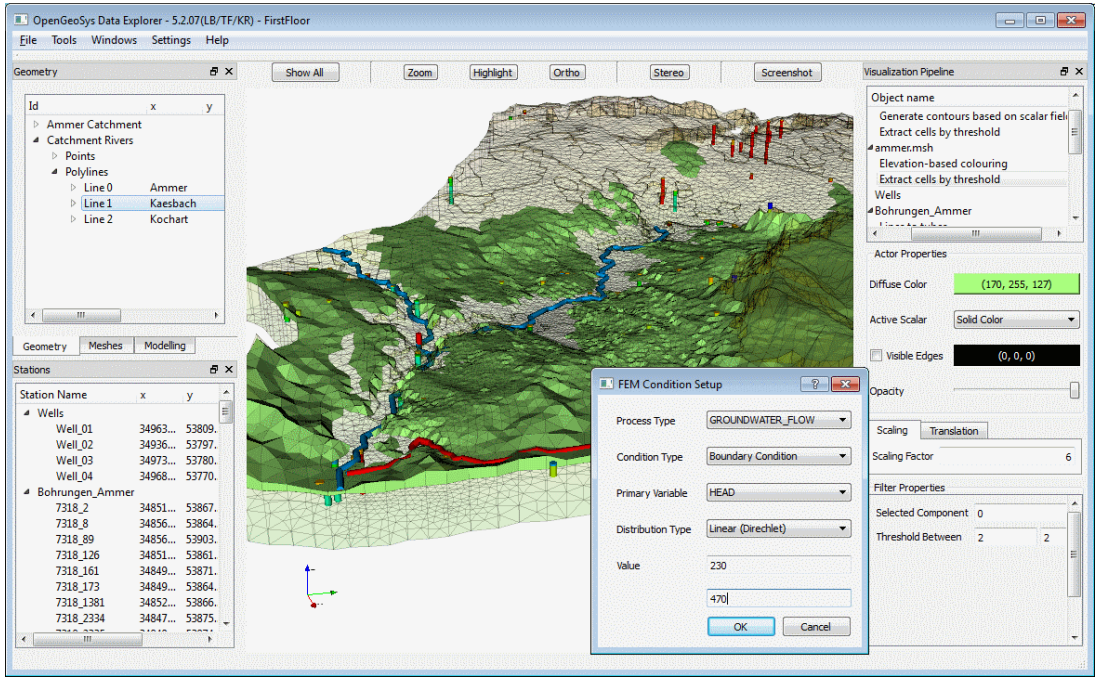
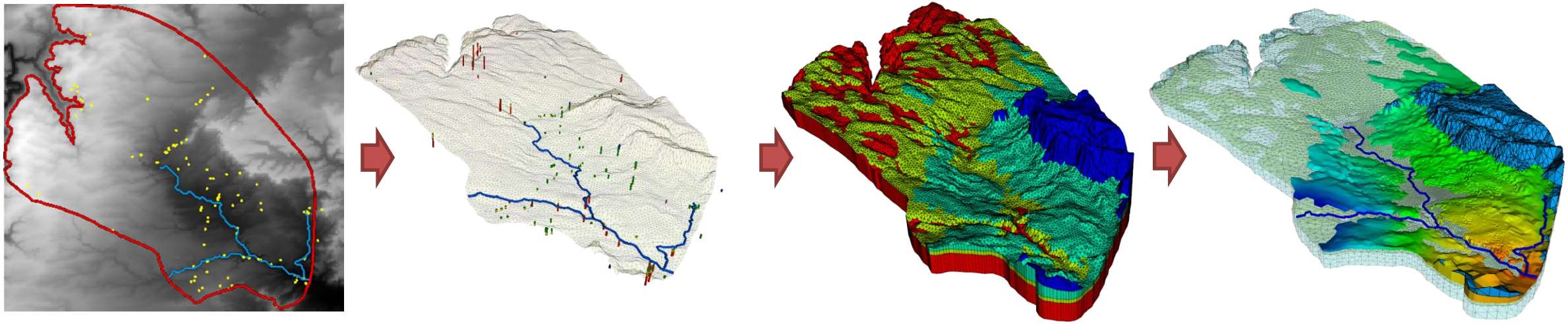

OpenGeoSys Data Explorer - 6.0.1
File Tools Windows Settings Help
Geometry
Id
Rappbodetalsperre Staumauer
Rappbodetalsperre
Hasselvorsperre
Rappbodevorsperre
BodeEZG_Fliessgewaesser_Main
Rappbode_Fliessgewaesser
Koenigshuette_Fliessgewaesser
YTM-Meteoboje
Koenigshuette_und_Hochwasserschutzbecken
Geometry Meshes Modelling
Stations
Station Name x y z
Rappbode Observation Sites
Pegel Koenigshuette (YBW_D0... 44... 57... 436
Staumauer Rappbodevorsperr... 44... 57... 450
Staumauer Hasselvorsperre (Y... 44... 57... 431
LHW-Pegel Trautenstein (YRZ_... 44... 57... 466
Hasselaue (YHZ_D0017A) 44... 57... 425
UL-Sperre Koenigshuette (YKB... 44... 57... 428
Kalte Bode (YBK_D0015A) 44... 57... 422
Talsperre Wendefurth (YWA_D... 44... 57... 312
Thale (YBT_D00147) 44... 57... 219
Visualization Pipeline
Object name
YTM-Meteoboje - Points
Points to spheres
Koenigshuette_und_Hochwasserschutz
Koenigshuette_und_Hochwasserschutz
Koenigshuette_und_Hochwasserschutz
Rappbode Observation Sites
Points to spheres
Selected GeoObject
Actor Properties
Diffuse Color
(255, 0, 0)
Active Scalar
Solid Color
Visible Edges
(0, 0, 0)
Opacity
Observation Station
120
100
80
60
40
20
0
09.06.2012
20.06.2012
02.07.2012
13.07.2012
25.07.2012
Time
Temperature
Level
SAK254
Add Data...
Close

The Data Explorer

A Graphical User Interface for Pre- and Postprocessing of OGS Models





Import data

Interfaces to the following file formats:

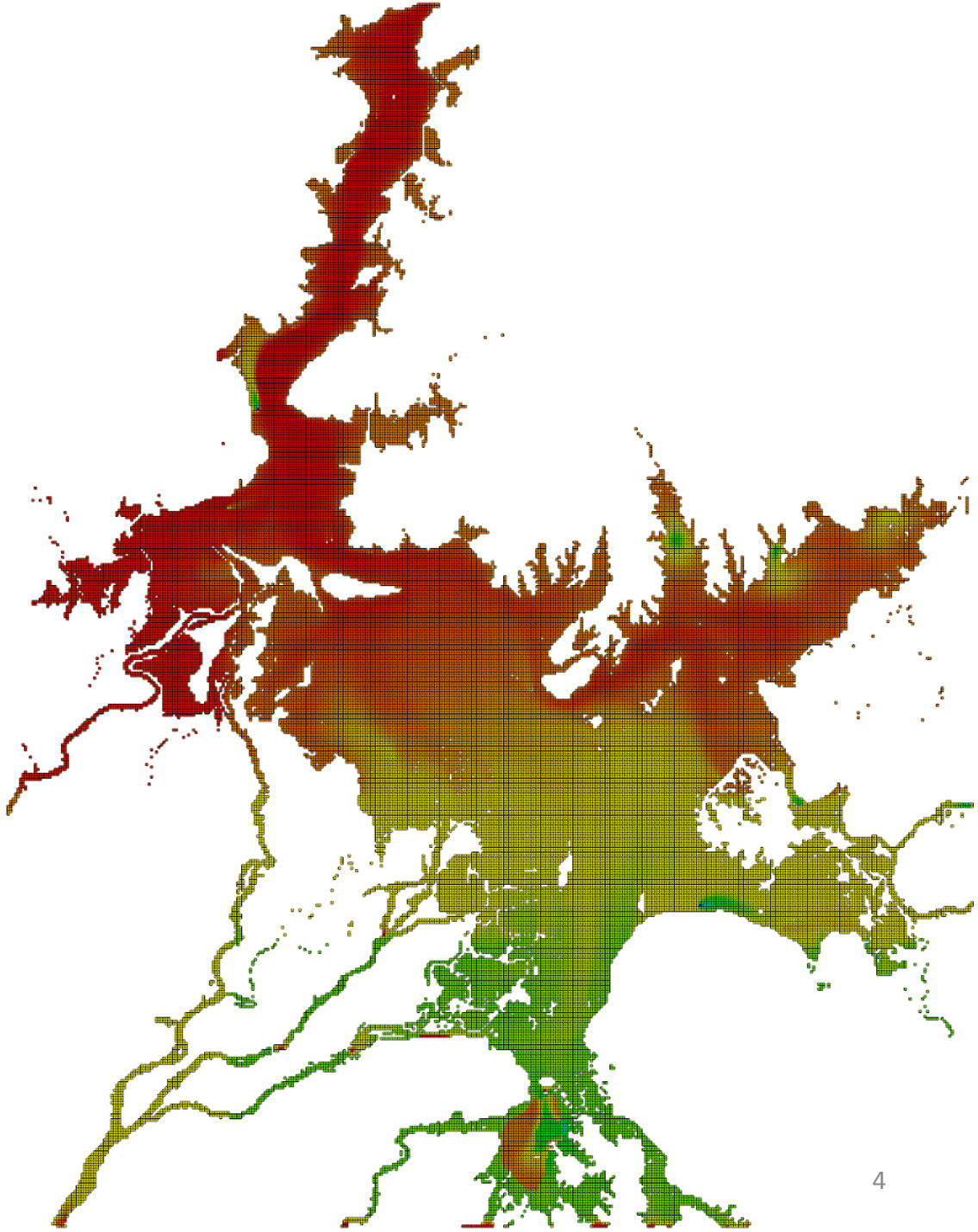
File type	Extension	Software supporting these files
Shape files	*.shp	ArcGIS, QGIS, …
Raster files	*.asc, *.grd, *.tif,	ArcGIS, QGIS, Surfer, …
NetCDF (raster only)	*.nc	GETM, WRF, …
TecPlot (raster only)	*.plt	COAST2D, …
VTK	*.vtu, *.vtp, *.vtk	ParaView, OpenFOAM, …
Meshes	*.msh, *.geo	GMSH
	*.smesh, *.node, *.poly, *.ele	TetGen
Modelling data	*.fem	FEFLOW
	*.3dm, *.txt	GMS
	*.sg	GoCAD
	*.inp, *.out	SWMM

Via GINA:

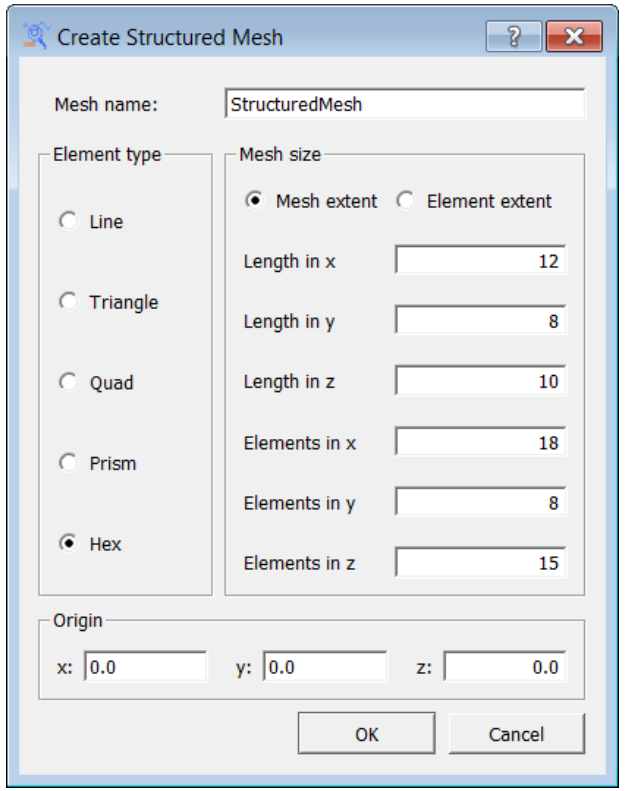
Meshes	*.dxf	AutoCad
Modelling data	*.f3grid	Flac3D
	*.wrl	VRML

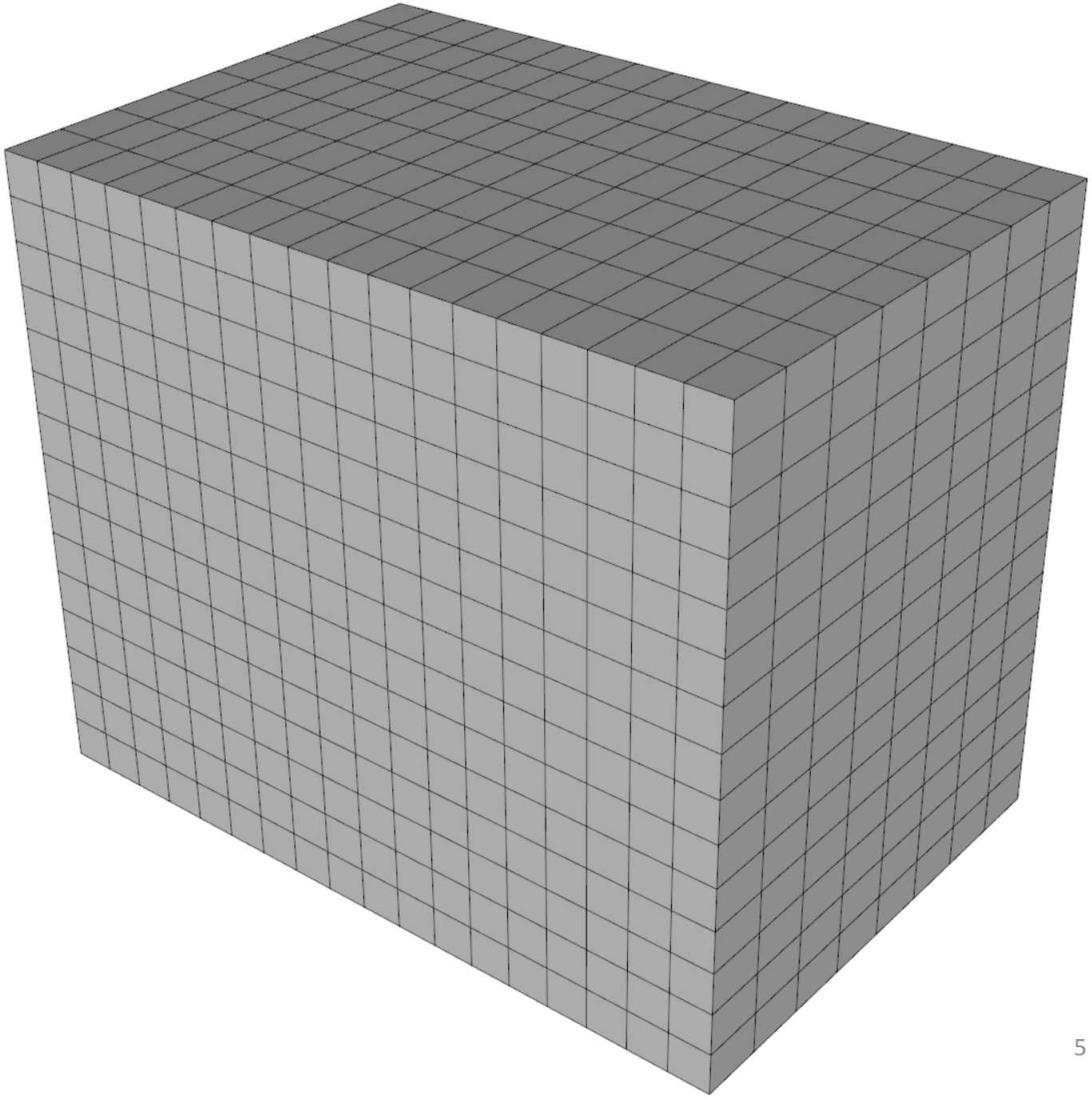
Functionality to read generic file formats:

Comma-/tab-seperated values	*.csv	(lots of software)
XML	*.xml, *.gml, *.wml, …	(lots of software)



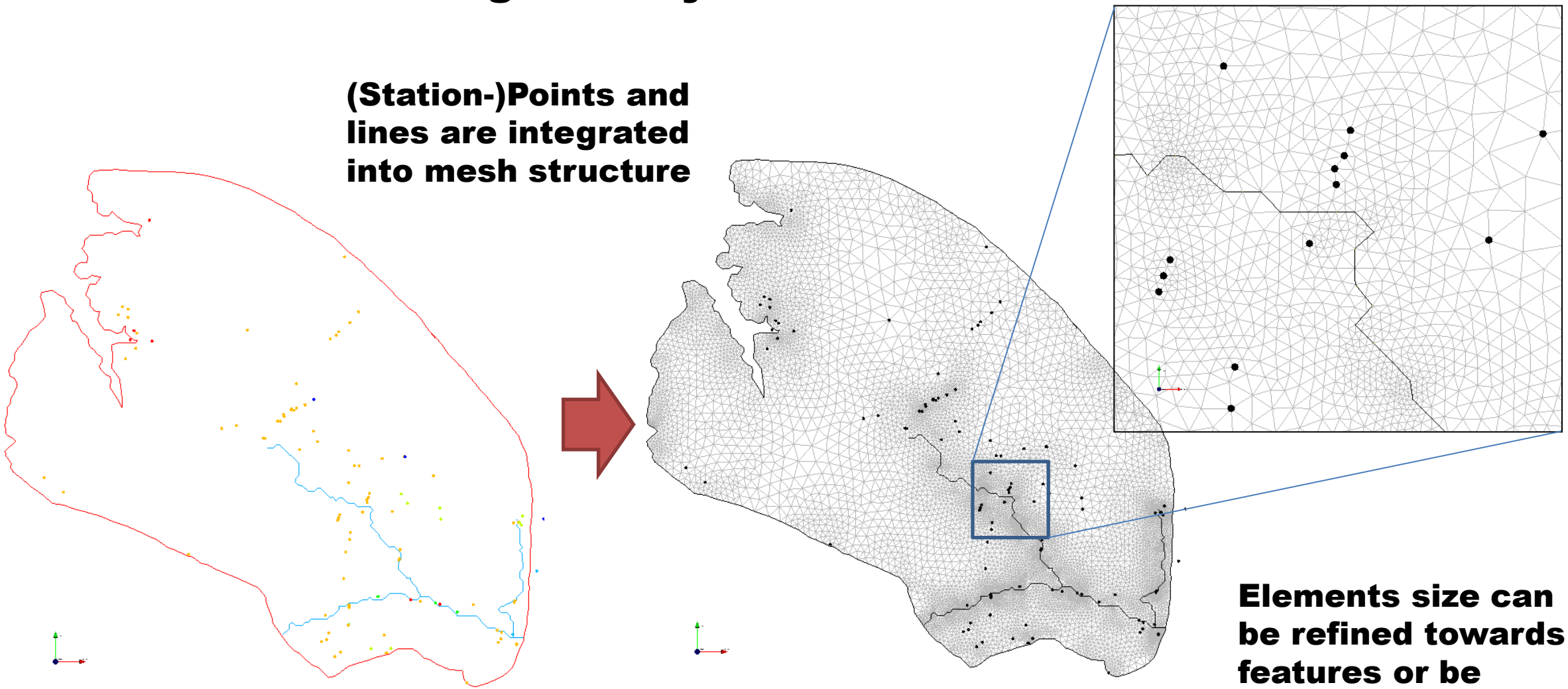
Creating structured grids



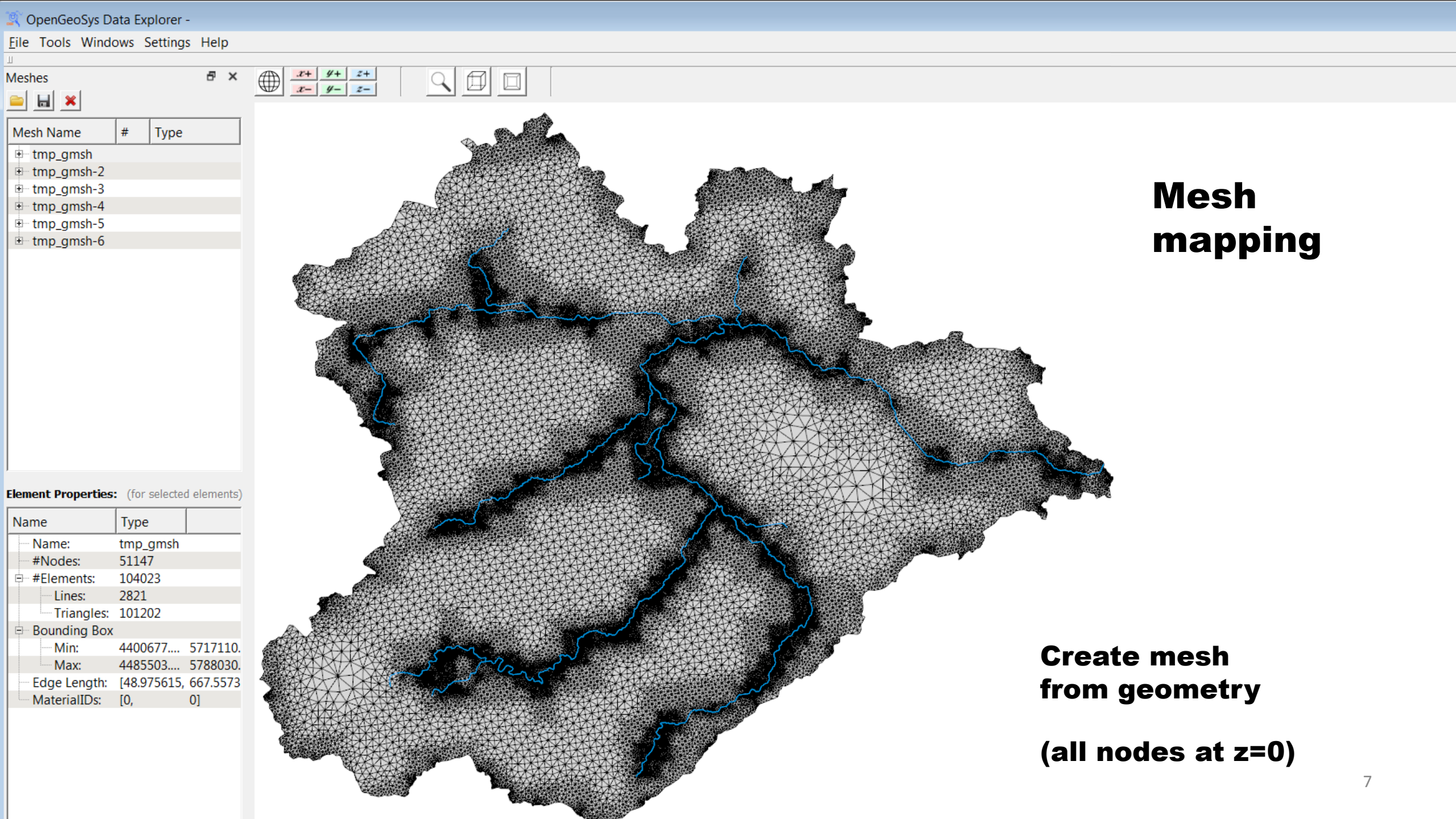


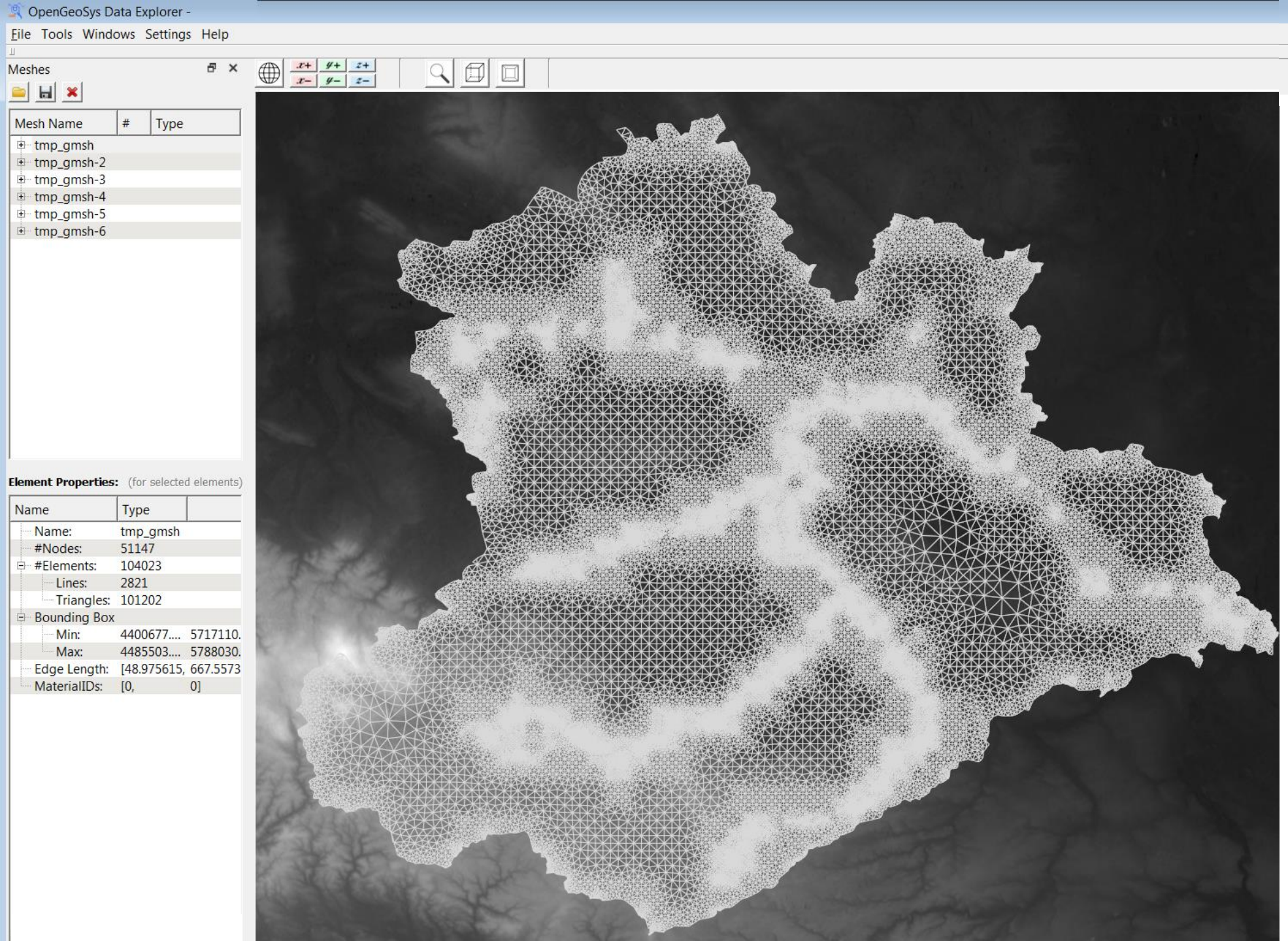
Create meshes from geometry

(Station-)Points and lines are integrated into mesh structure



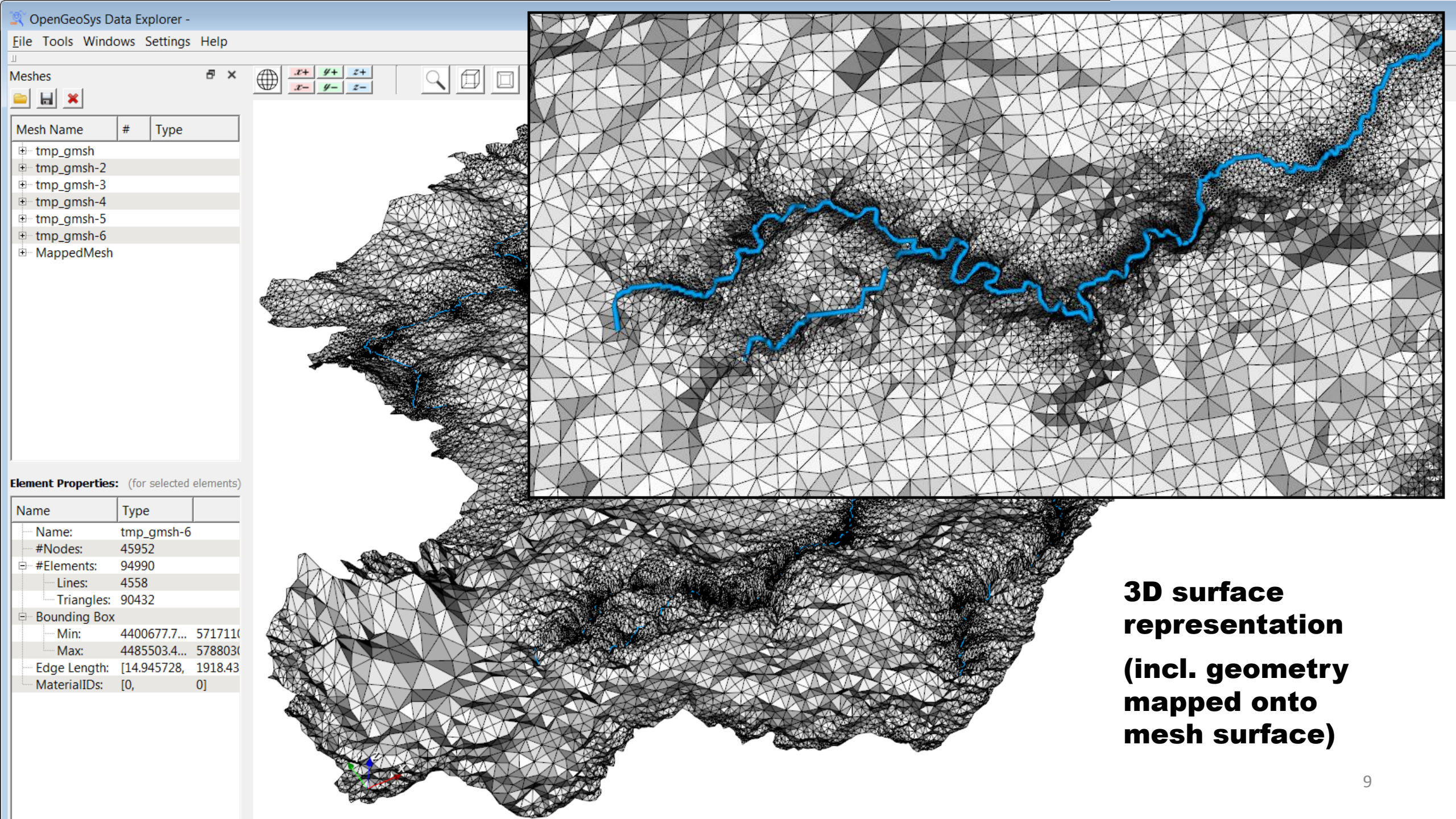
Elements size can be refined towards features or be homogeneous

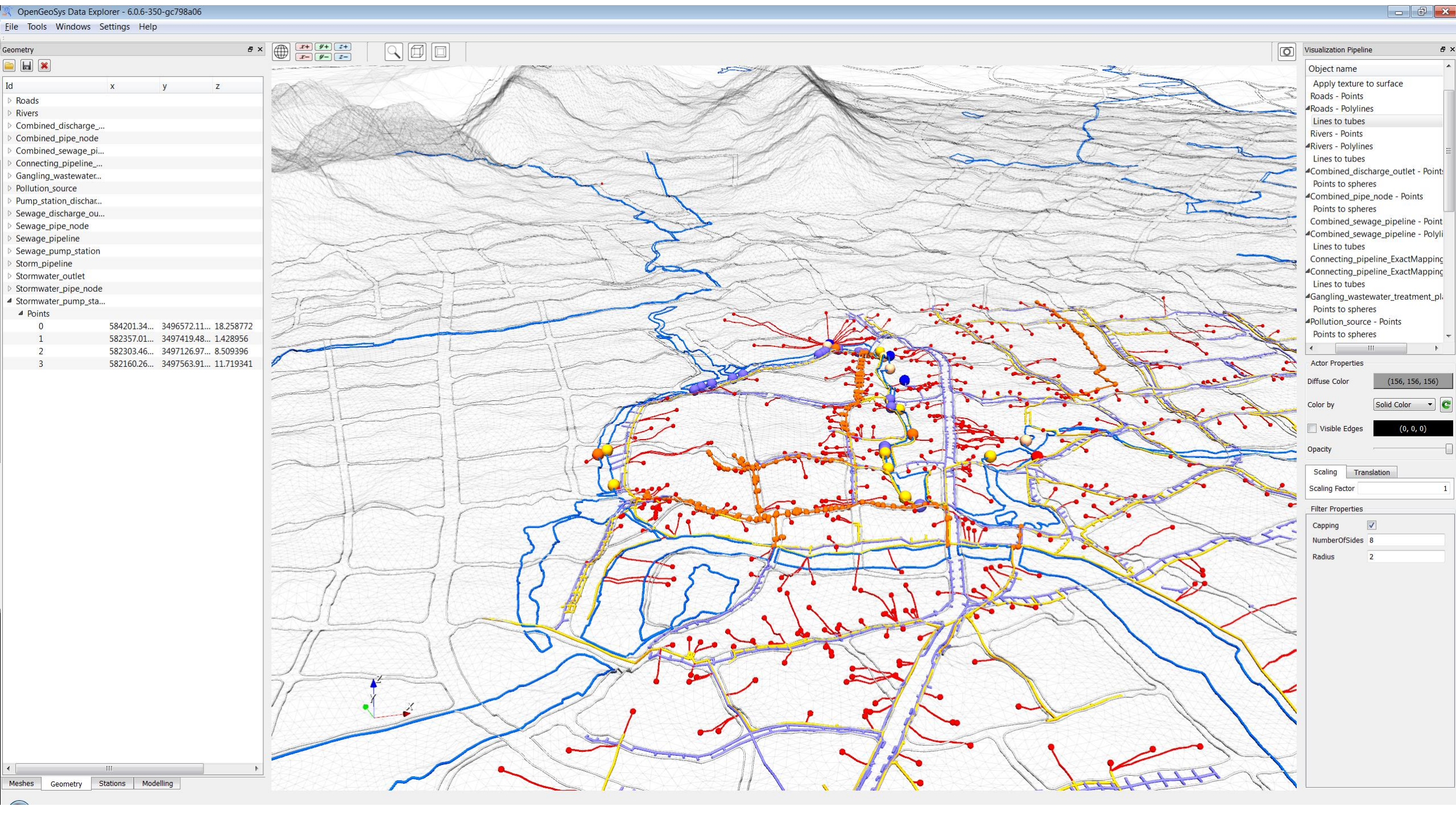

OpenGeoSys Data Explorer -
File Tools Windows Settings Help
Meshes
Mesh Name # Type
tmp_gmsh
tmp_gmsh-2
tmp_gmsh-3
tmp_gmsh-4
tmp_gmsh-5
tmp_gmsh-6
Element Properties: (for selected elements)
Name Type
Name: tmp_gmsh
#Nodes: 51147
#Elements: 104023
Lines: 2821
Triangles: 101202
Bounding Box
Min: 4400677.... 5717110.
Max: 4485503.... 5788030.
Edge Length: [48.975615, 667.5573
MaterialIDs: [0, 0]
Mesh mapping
Create mesh from geometry
(all nodes at z=0)



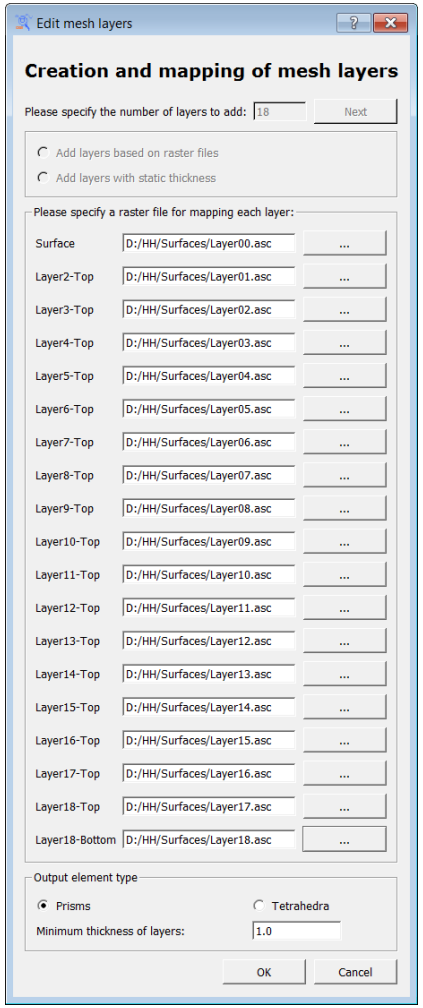
Mesh mapping

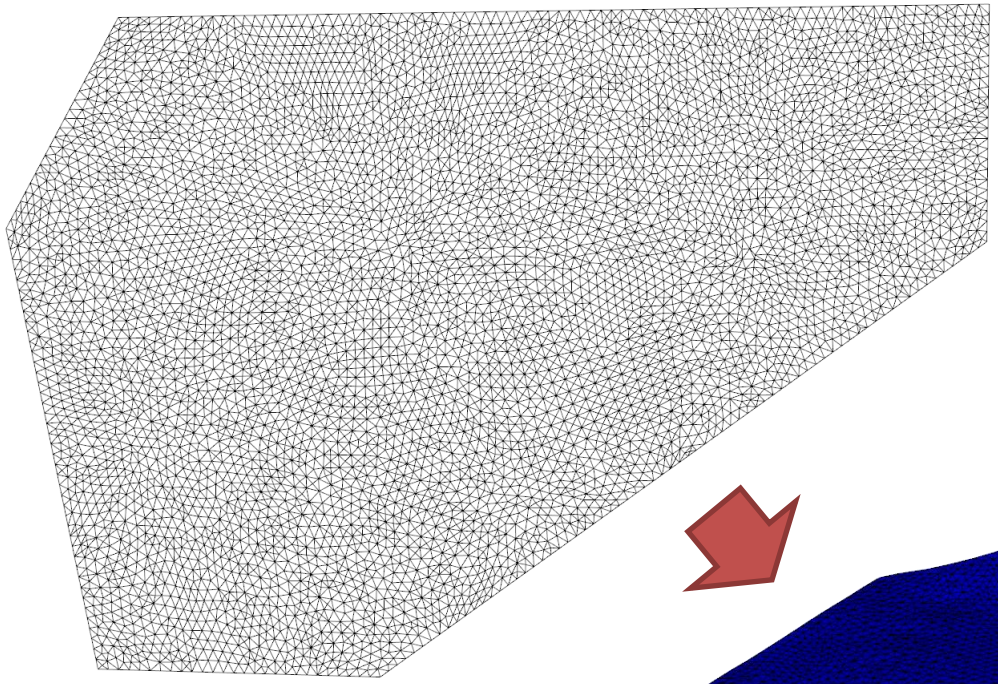
Map mesh nodes based on DEM

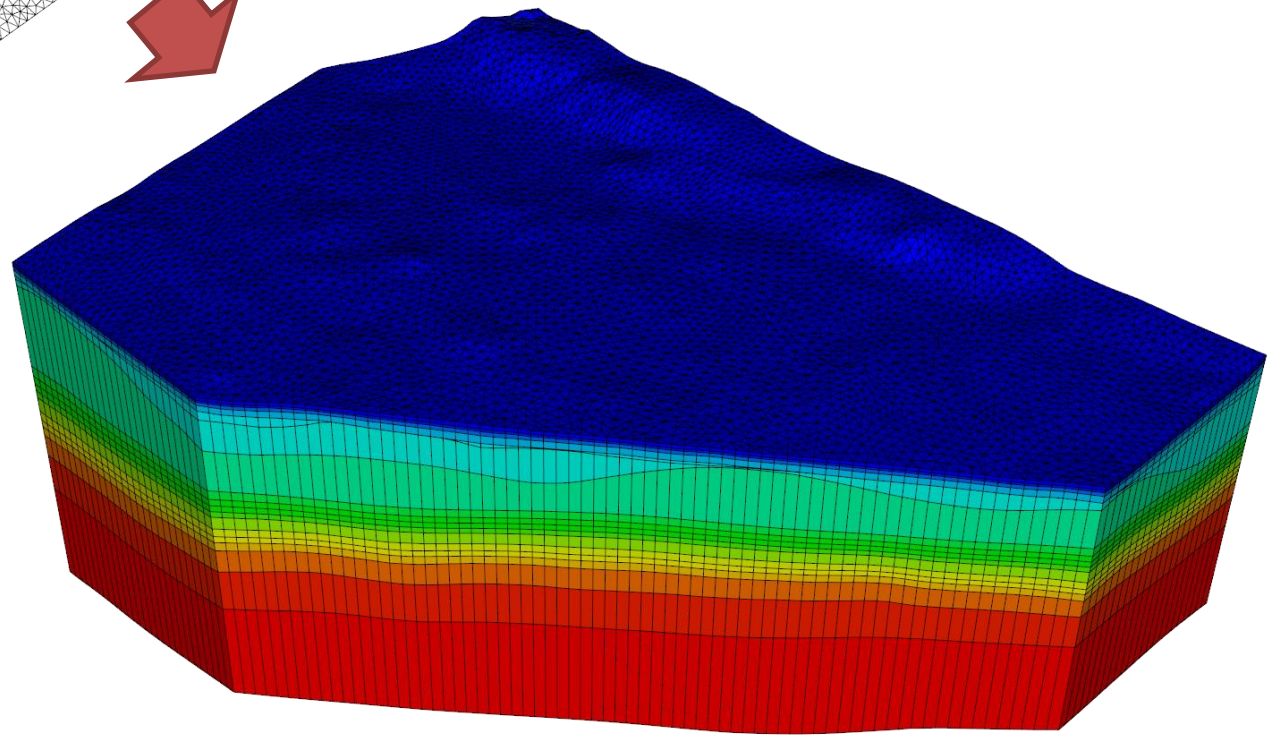

OpenGeoSys Data Explorer -
File Tools Windows Settings Help
Meshes
Mesh Name # Type
tmp_gmsh
tmp_gmsh-2
tmp_gmsh-3
tmp_gmsh-4
tmp_gmsh-5
tmp_gmsh-6
MappedMesh
Element Properties: (for selected elements)
Name Type
Name: tmp_gmsh-6
#Nodes: 45952
#Elements: 94990
Lines: 4558
Triangles: 90432
Bounding Box
Min: 4400677.7... 571711(
Max: 4485503.4... 578803(
Edge Length: [14.945728, 1918.43
MaterialIDs: [0, 0]
3D surface representation
(incl. geometry mapped onto mesh surface)


OpenGeoSys Data Explorer - 6.0.6-350-gc798a06
File Tools Windows Settings Help
Geometry
Id x y z
Roads
Rivers
Combined_discharge_...
Combined_pipe_node
Combined_sewage_pi...
Connecting_pipeline_...
Gangling_wastewater...
Pollution_source
Pump_station_dischar...
Sewage_discharge_ou...
Sewage_pipe_node
Sewage_pipeline
Sewage_pump_station
Storm_pipeline
Stormwater_outlet
Stormwater_pipe_node
Stormwater_pump_sta...
Points
0 584201.34... 3496572.11... 18.258772
1 582357.01... 3497419.48... 1.428956
2 582303.46... 3497126.97... 8.509396
3 582160.26... 3497563.91... 11.719341
Meshes Geometry Stations Modelling
Visualization Pipeline
Object name
Apply texture to surface
Roads - Points
Roads - Polylines
Lines to tubes
Rivers - Points
Rivers - Polylines
Lines to tubes
Combined_discharge_outlet - Points
Points to spheres
Combined_pipe_node - Points
Points to spheres
Combined_sewage_pipeline - Point
Combined_sewage_pipeline - Polyli
Lines to tubes
Connecting_pipeline_ExactMapping
Connecting_pipeline_ExactMapping
Lines to tubes
Gangling_wastewater_treatment_pl
Points to spheres
Pollution_source - Points
Points to spheres
Actor Properties
Diffuse Color (156, 156, 156)
Color by Solid Color
Visible Edges (0, 0, 0)
Opacity
Scaling Translation
Scaling Factor 1
Filter Properties
Capping
NumberOfSides 8
Radius 2
Z
Y
X

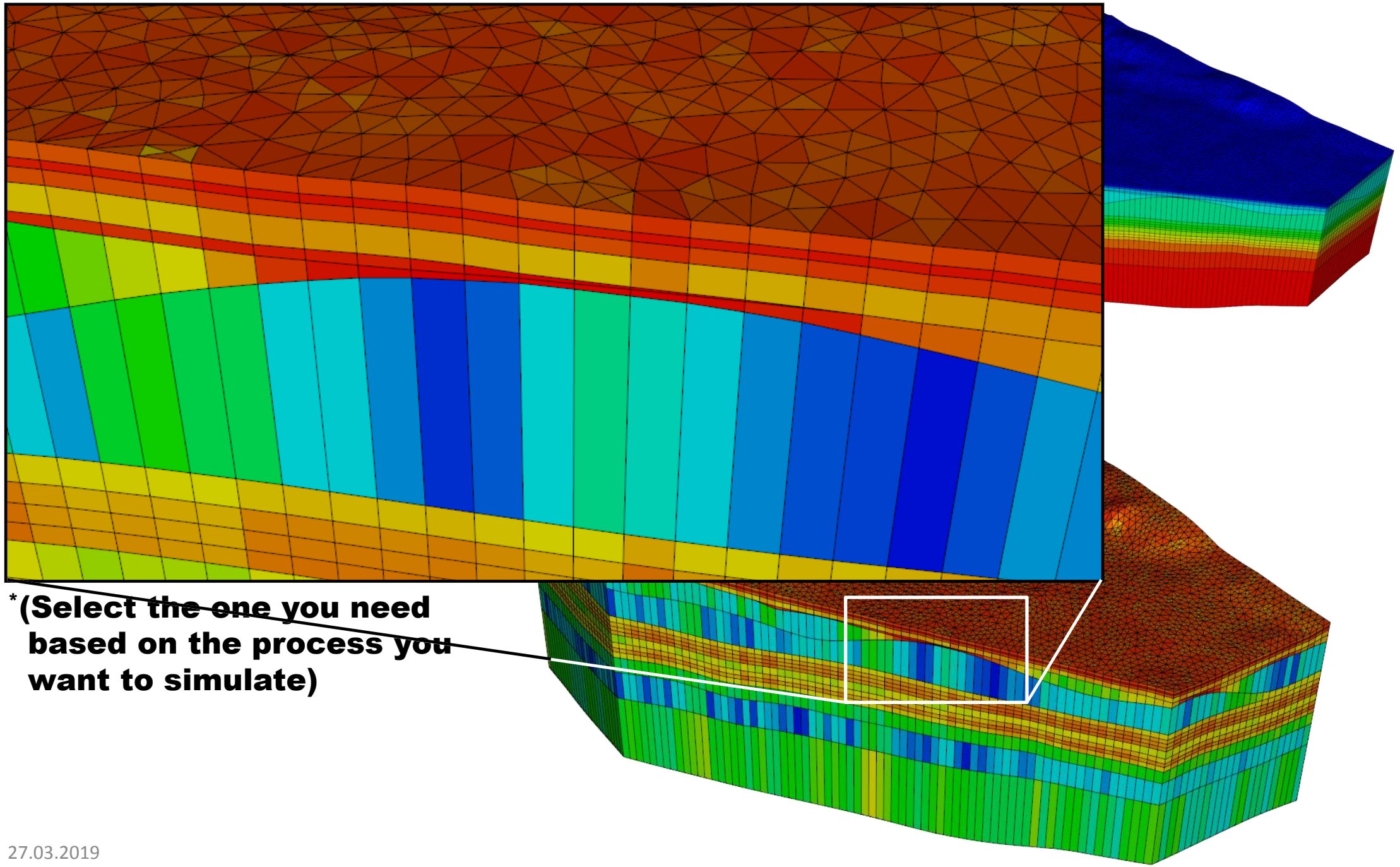
Adding layers



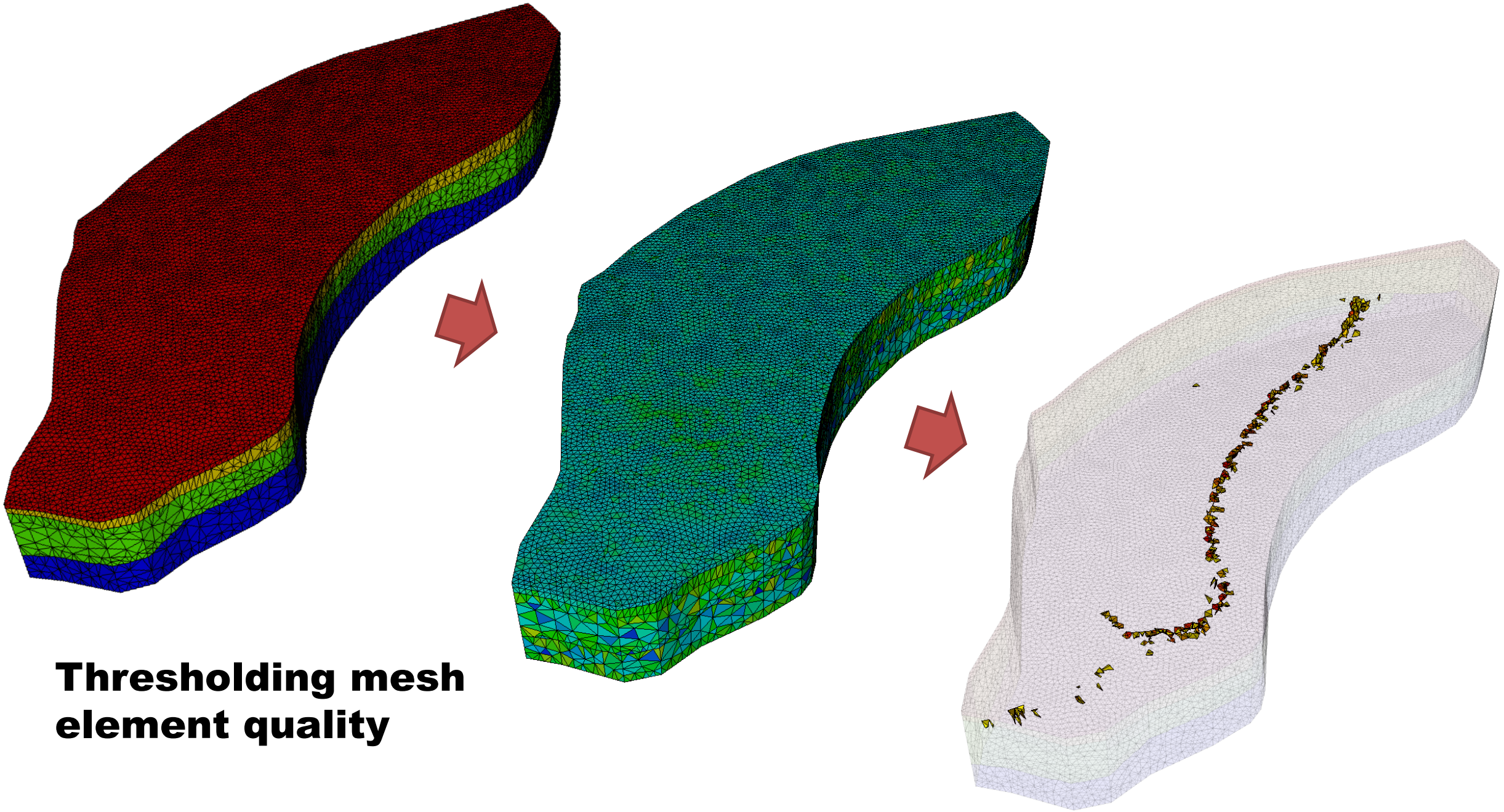




Thickness is either or based on specified rasters

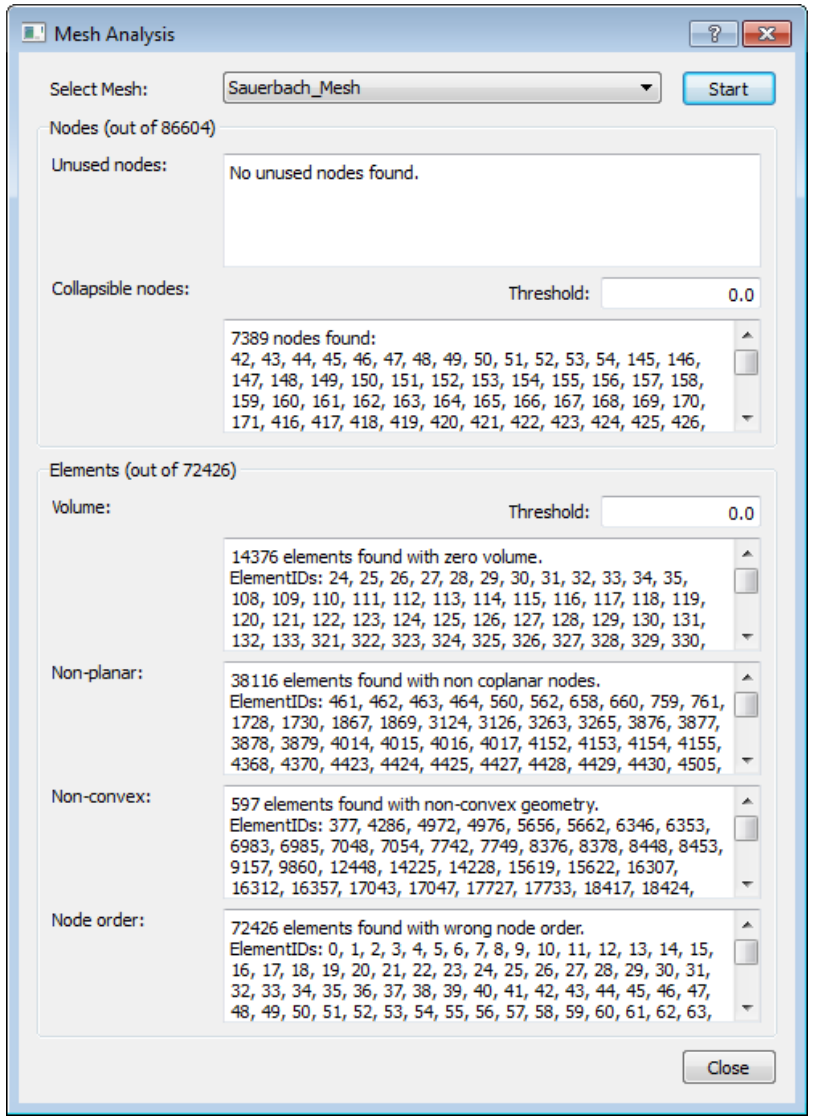


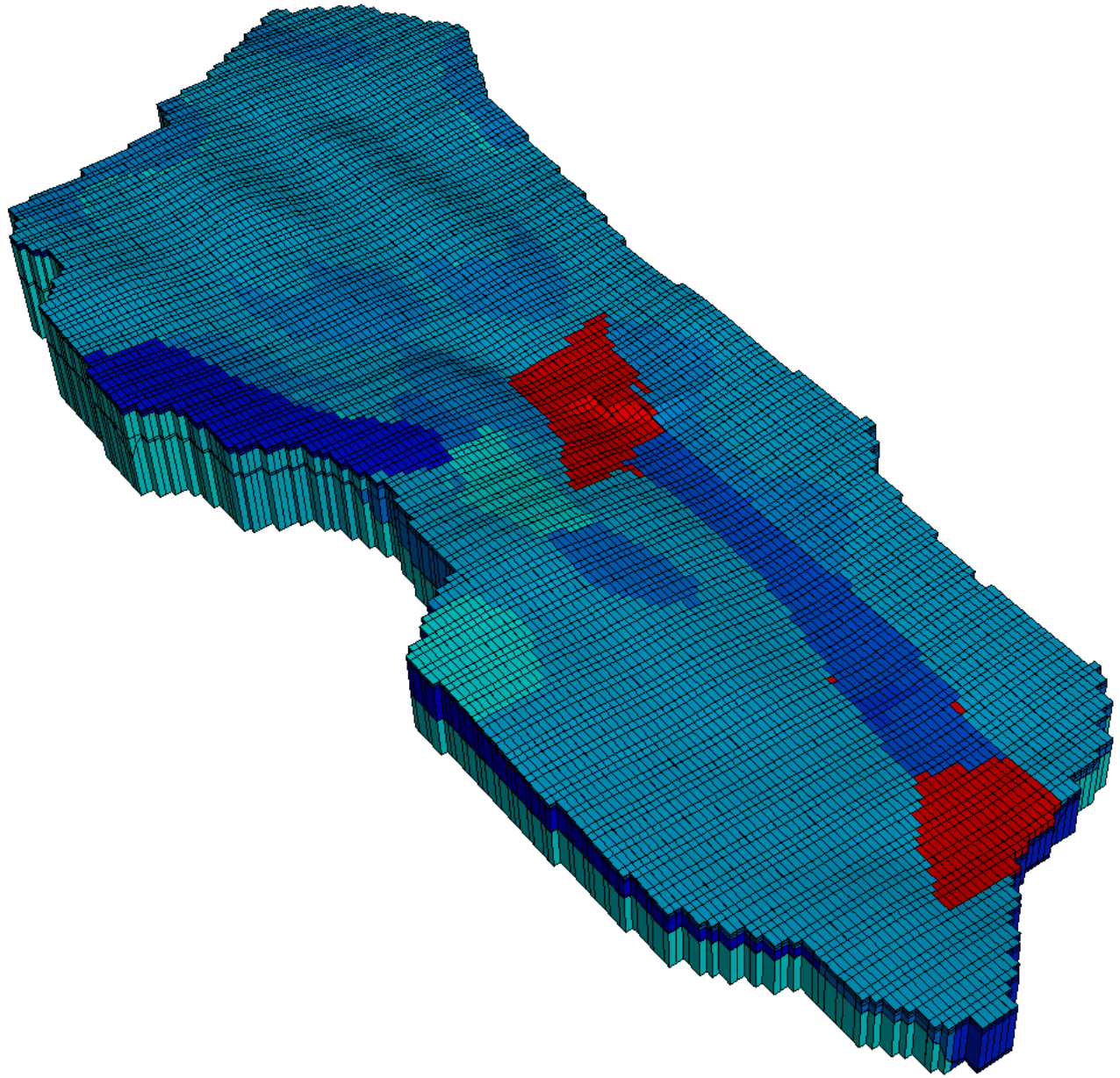
*(Select the one you need based on the process you want to simulate)



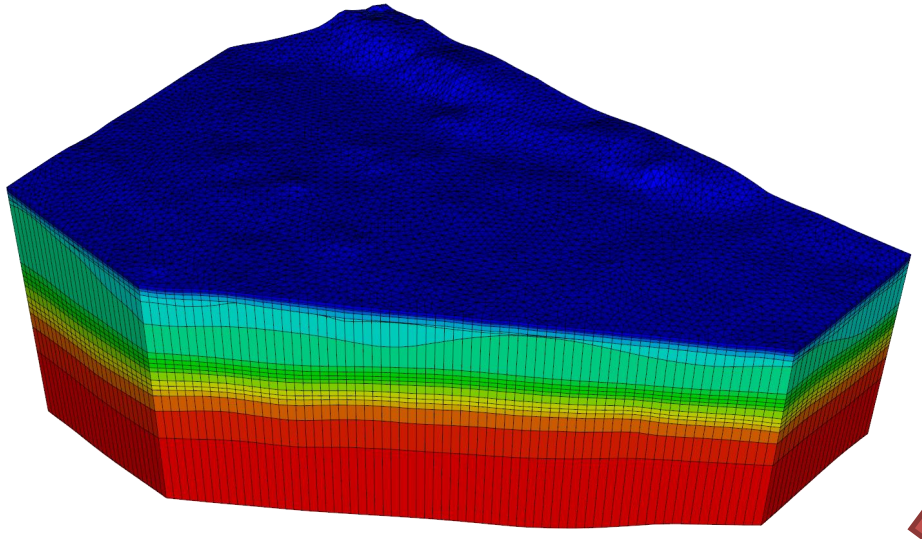
Thresholding mesh element quality

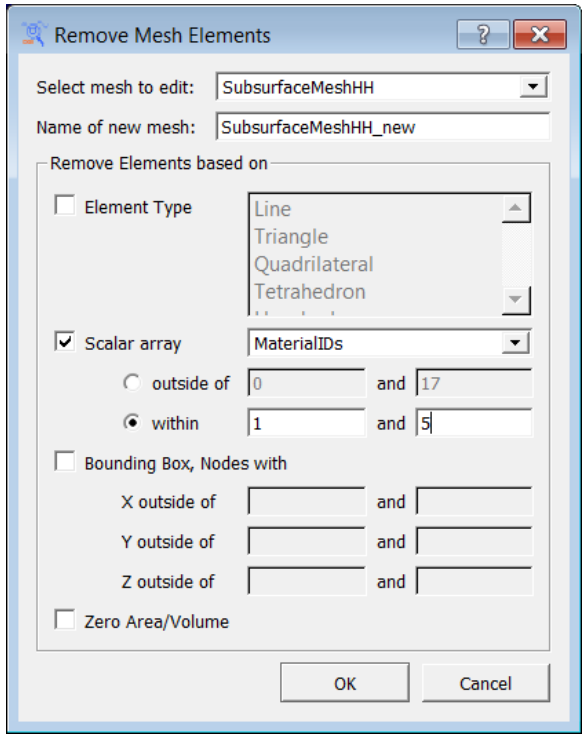
Analysis of mesh elements

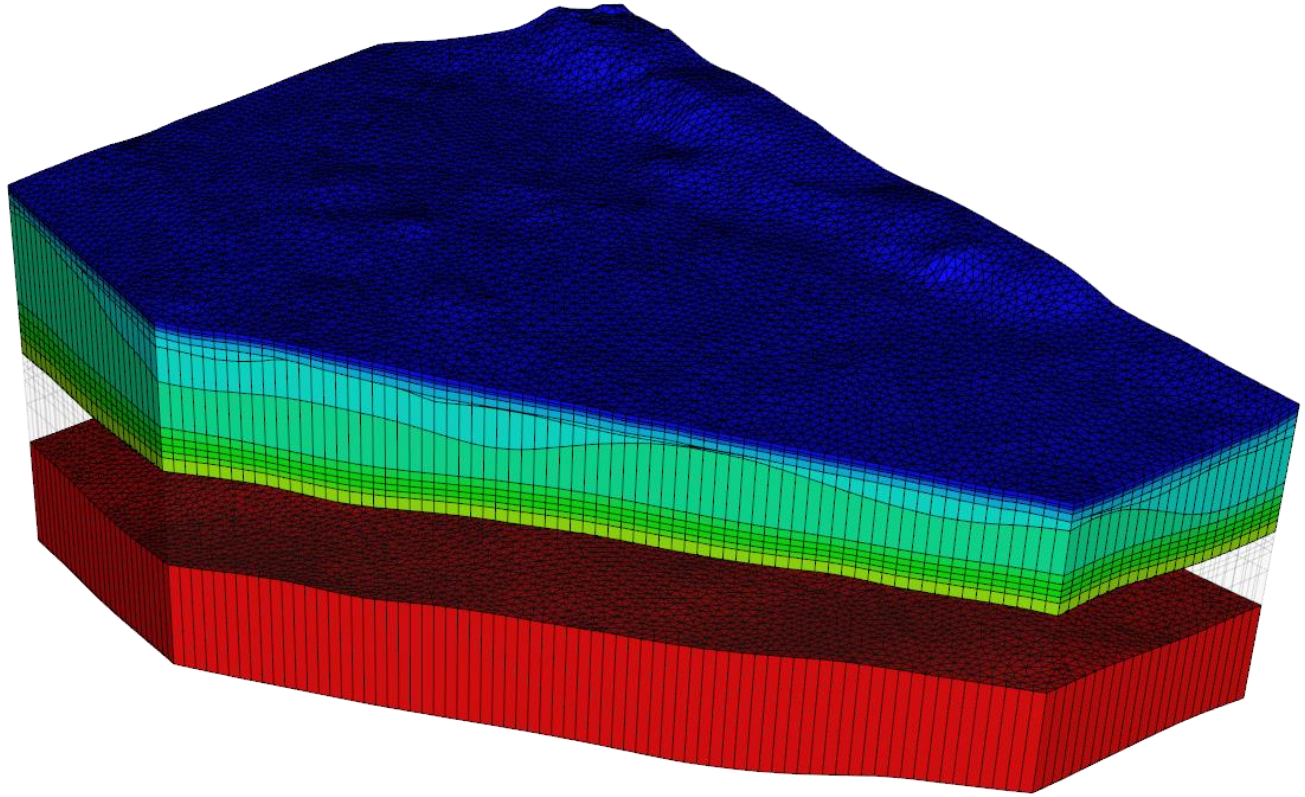




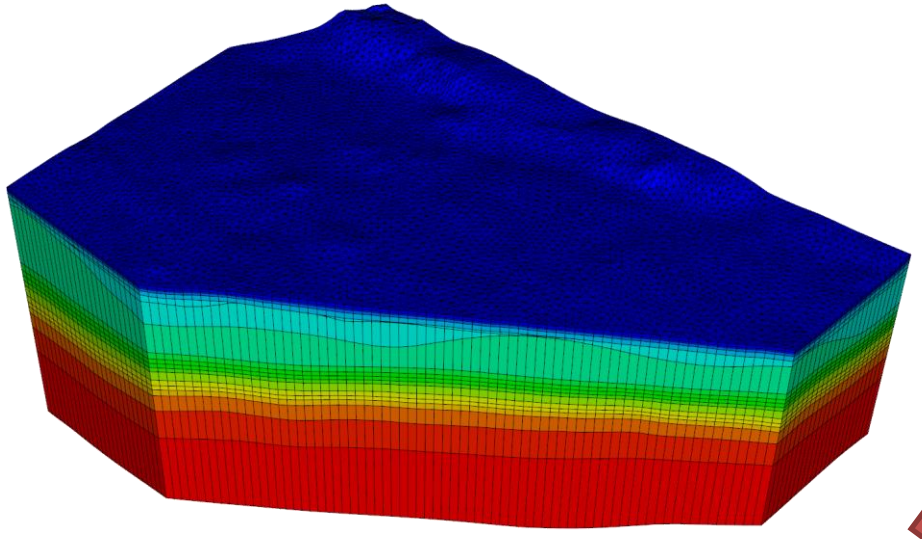
Removing mesh elements based on scalar information

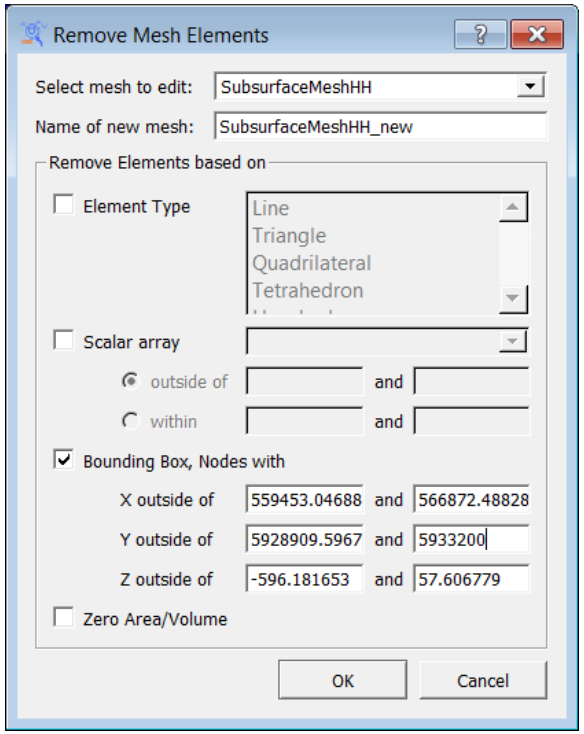


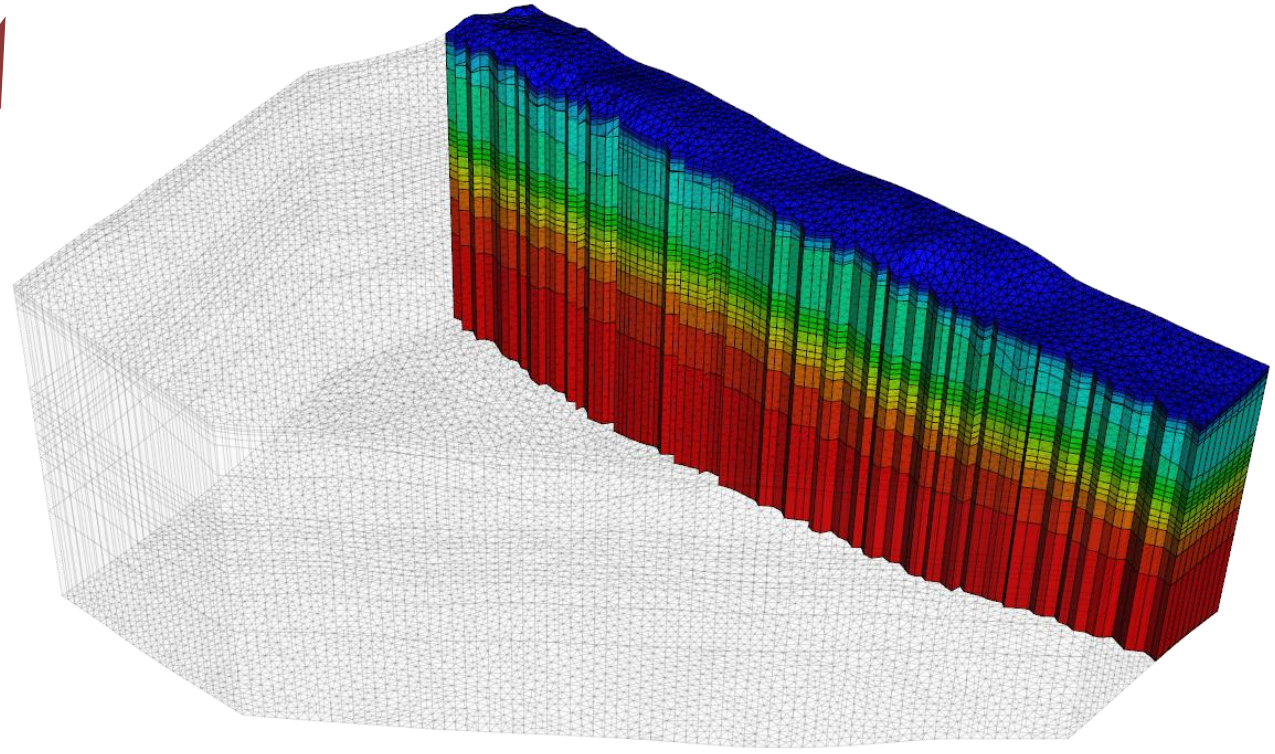




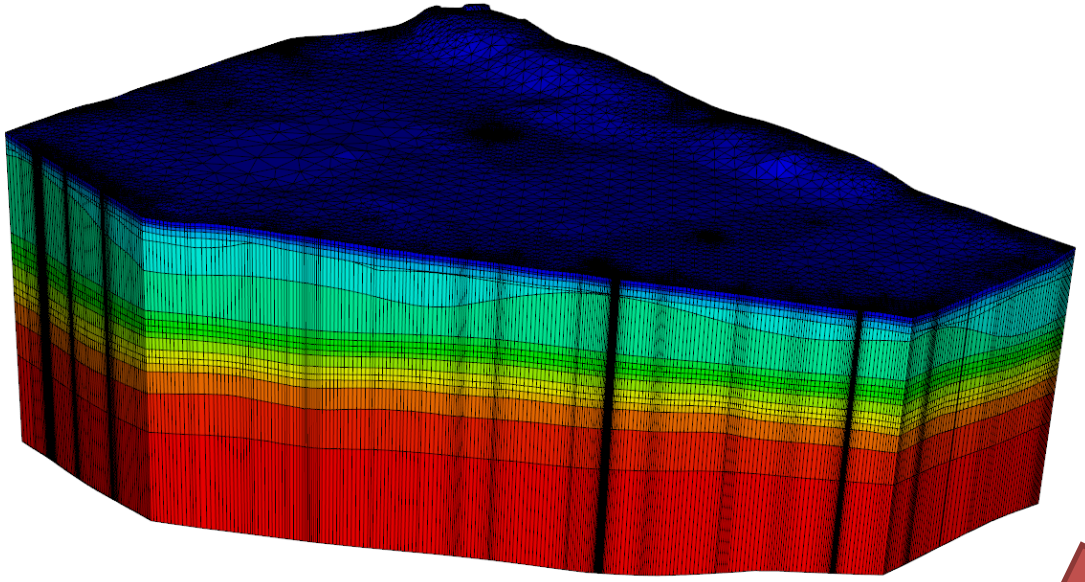
Removing mesh elements based on coordinates

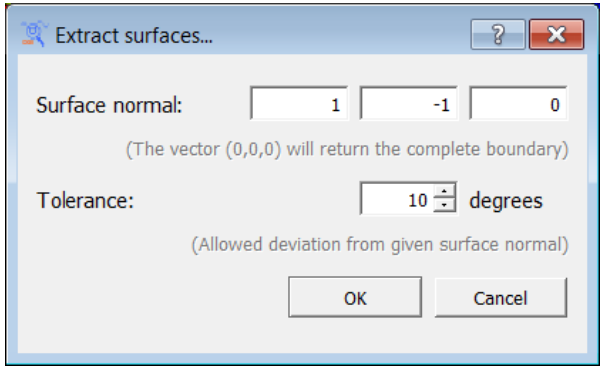


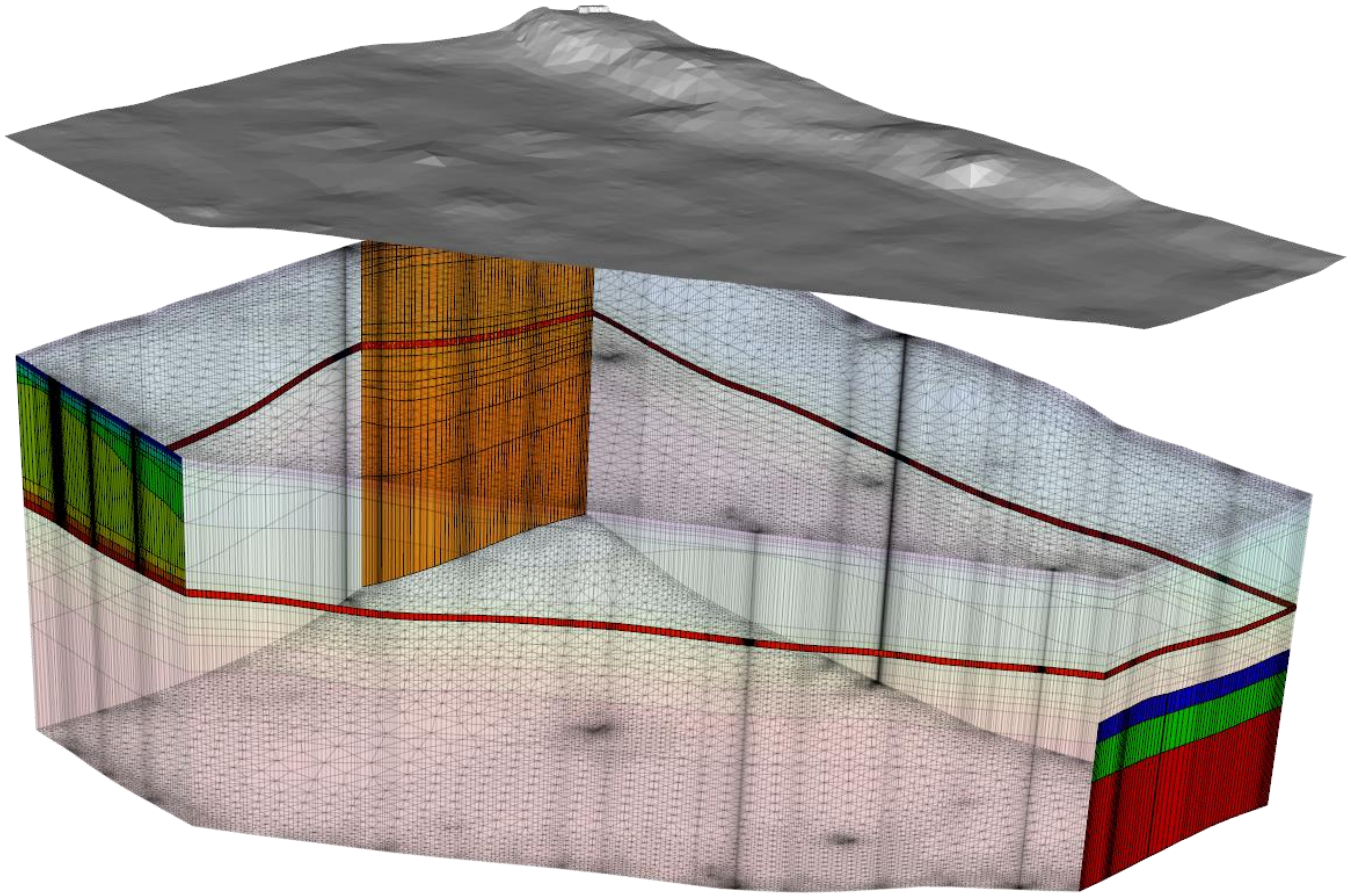




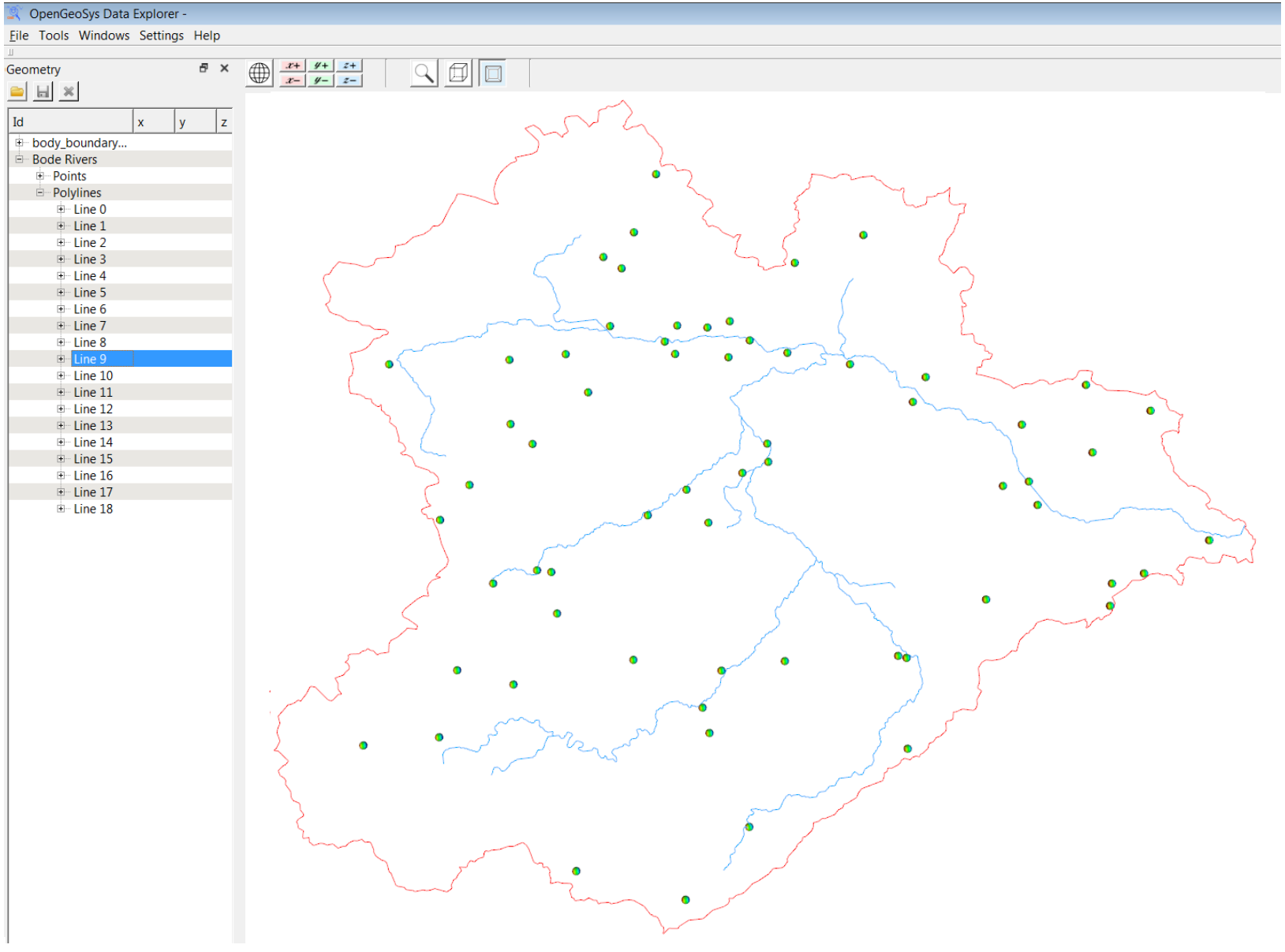
Extracting (almost) arbitrary surfaces



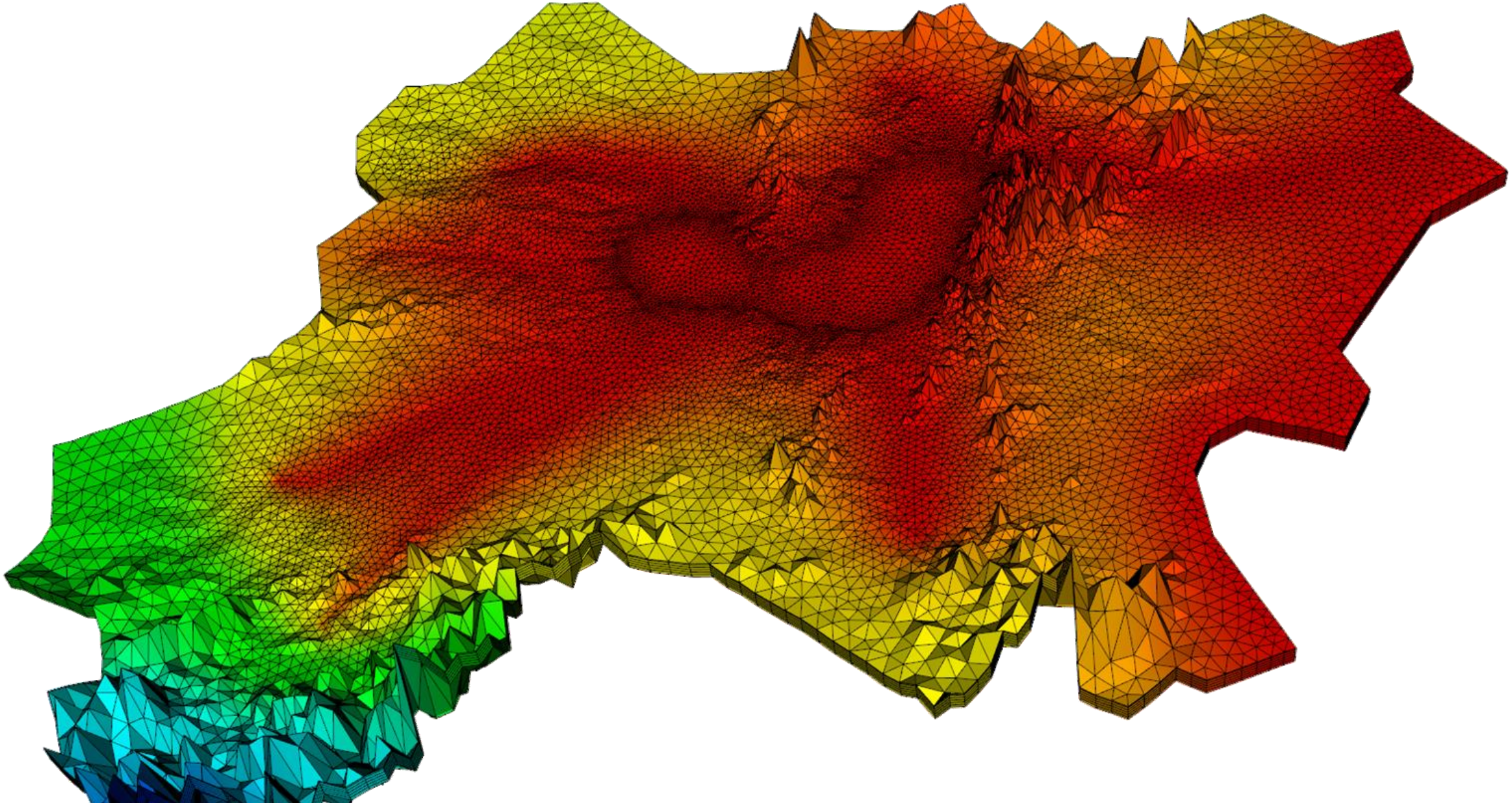




Visualisation: Highlighting Objects

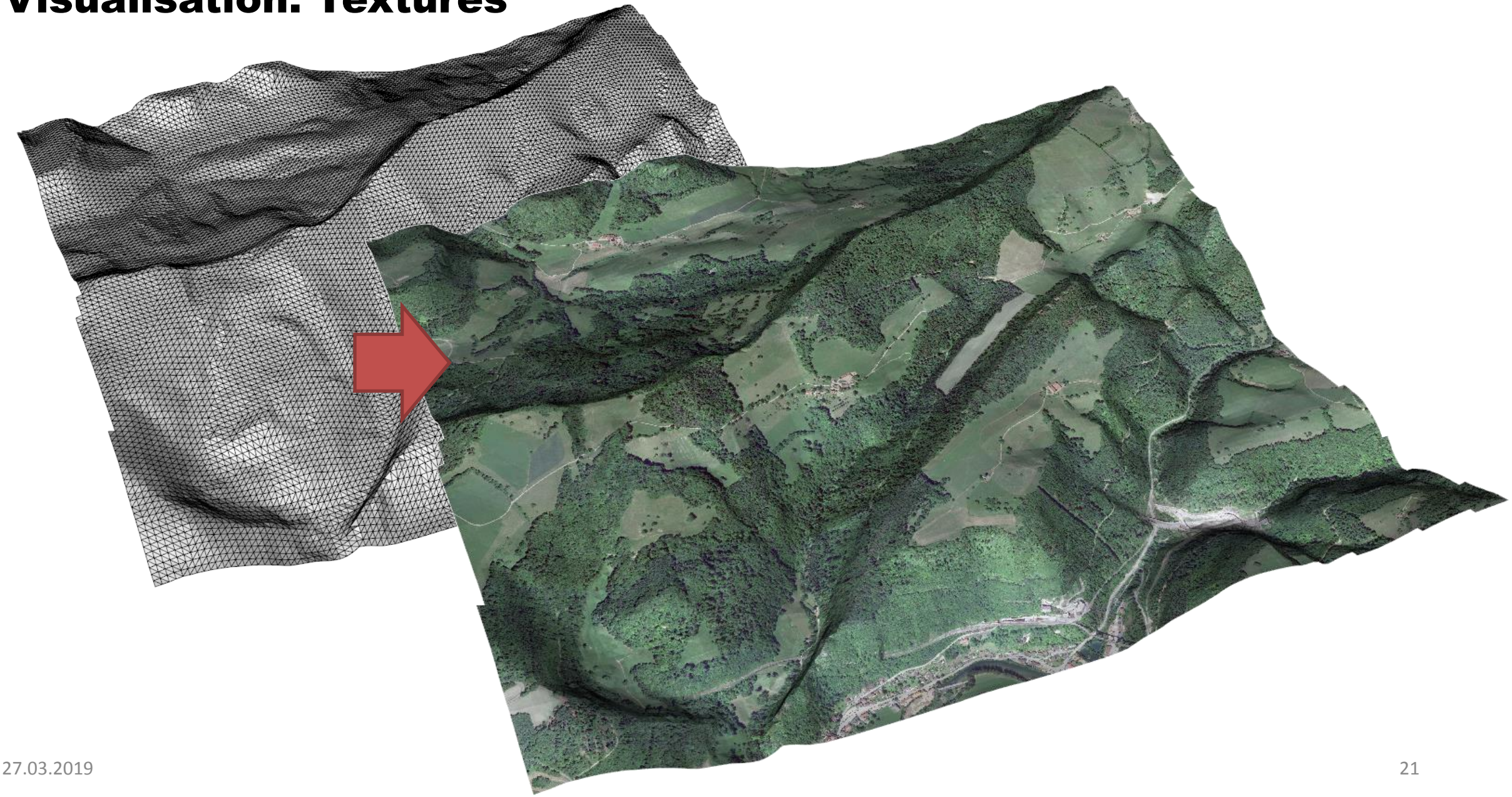


Visualisation: Simulation results

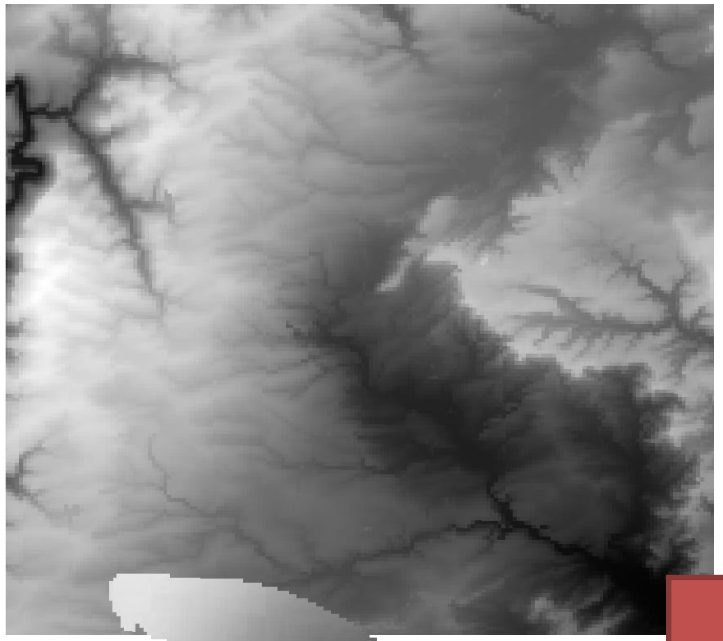


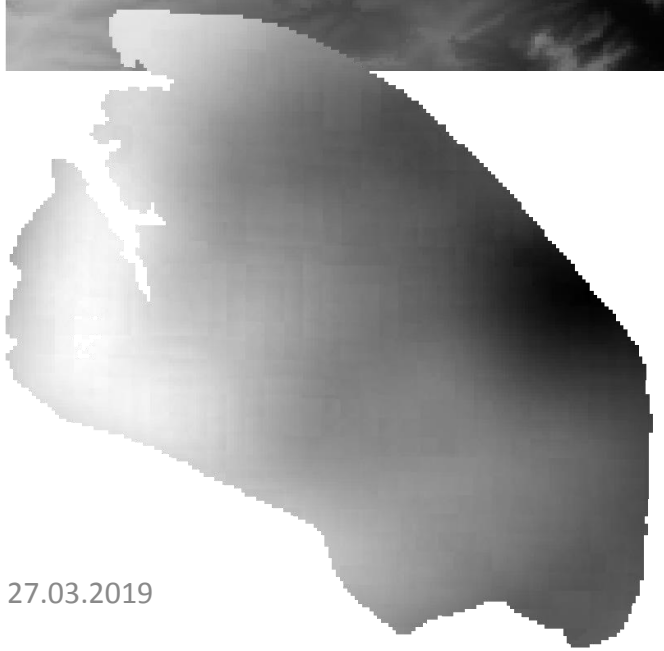
Visualisation: Simulation results

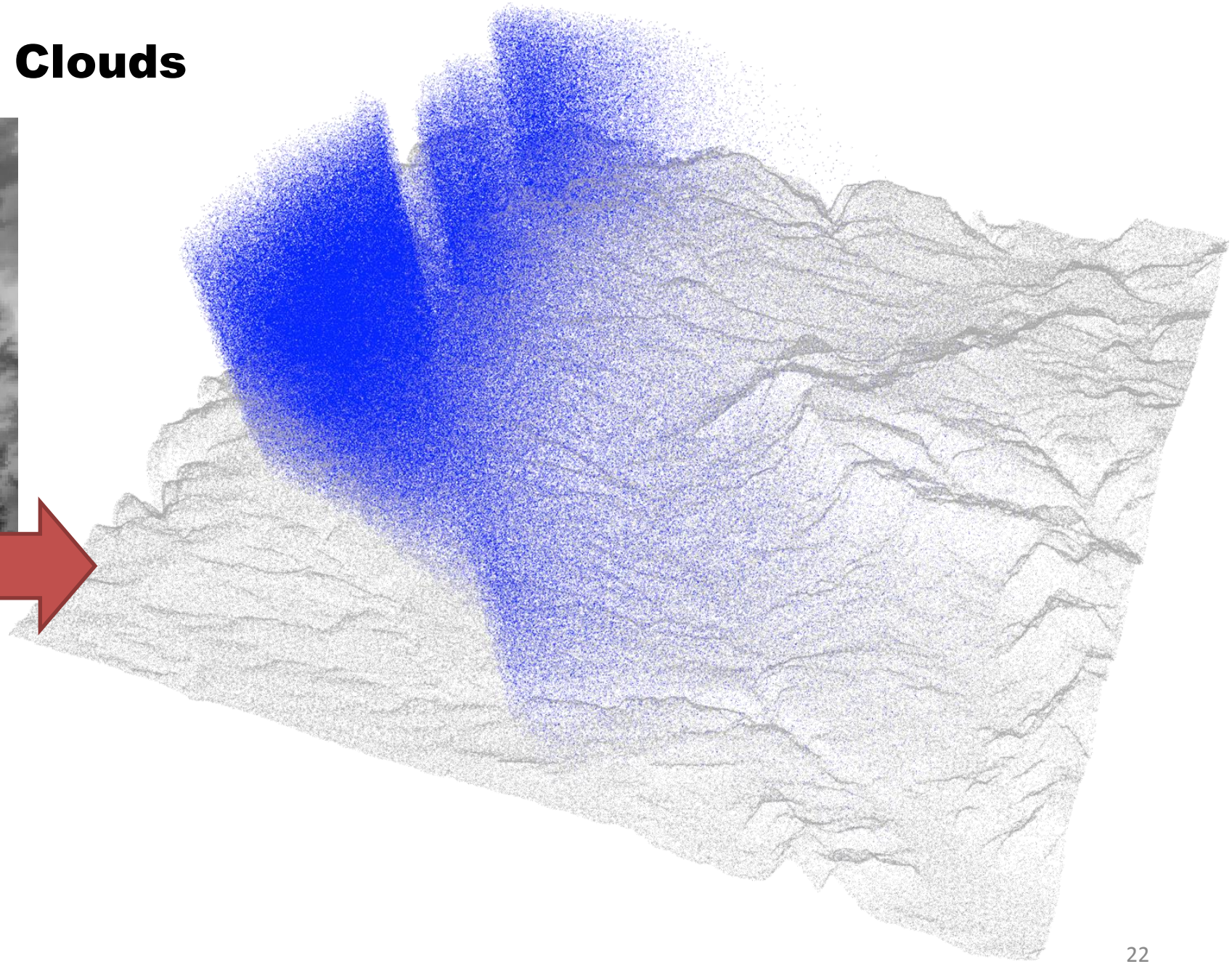
Visualisation: Textures



Visualisation: Point Clouds



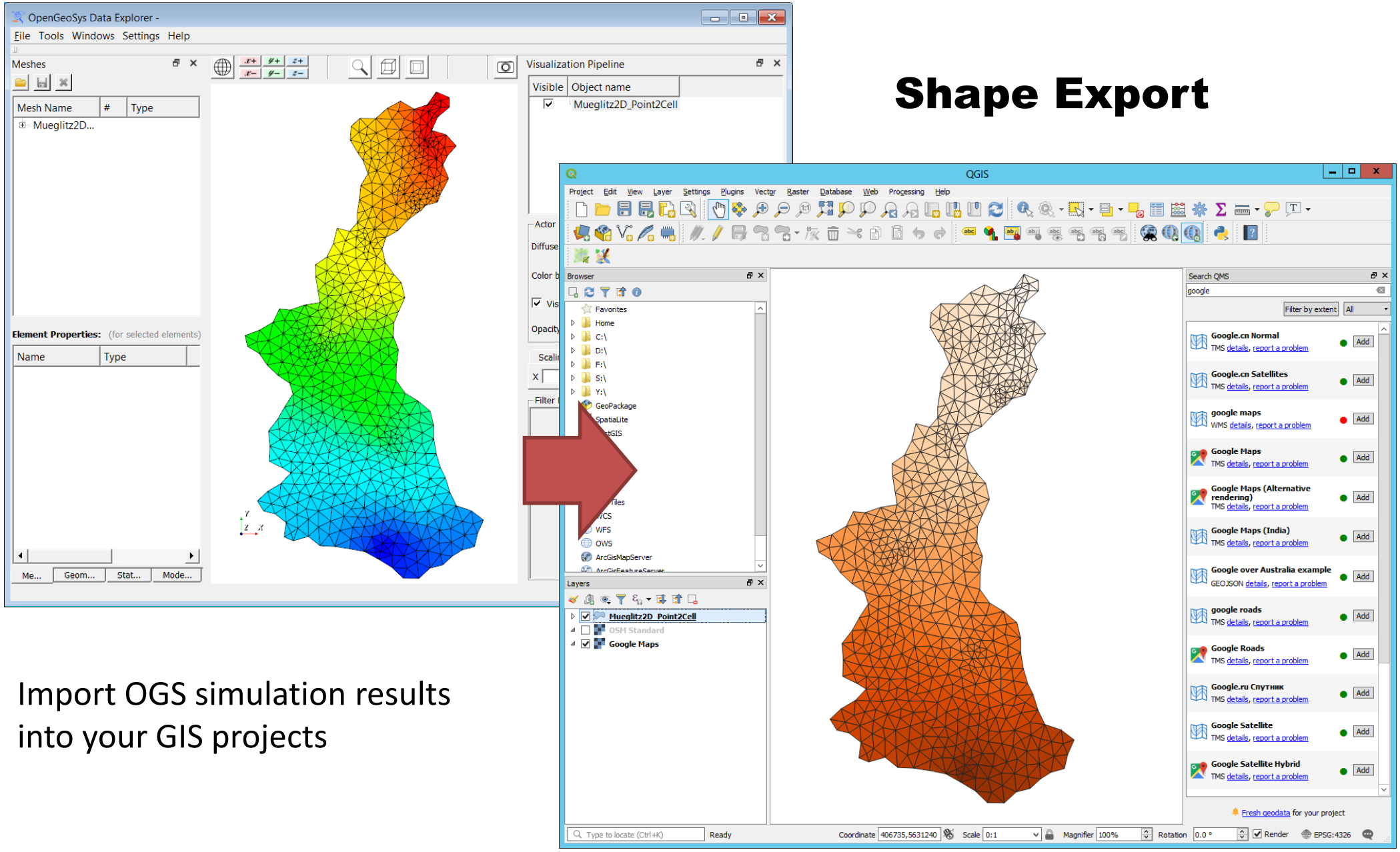




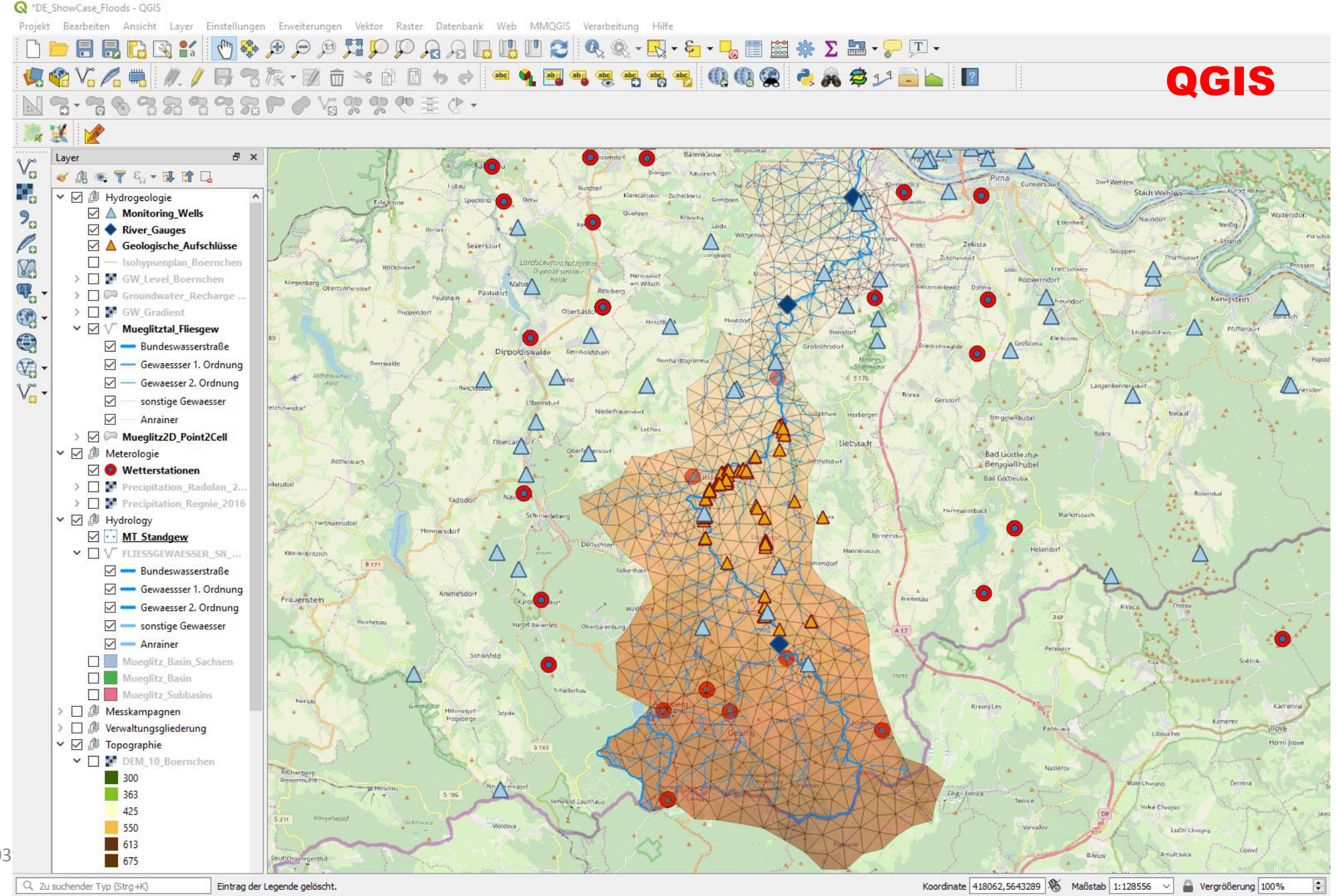
Exporting data

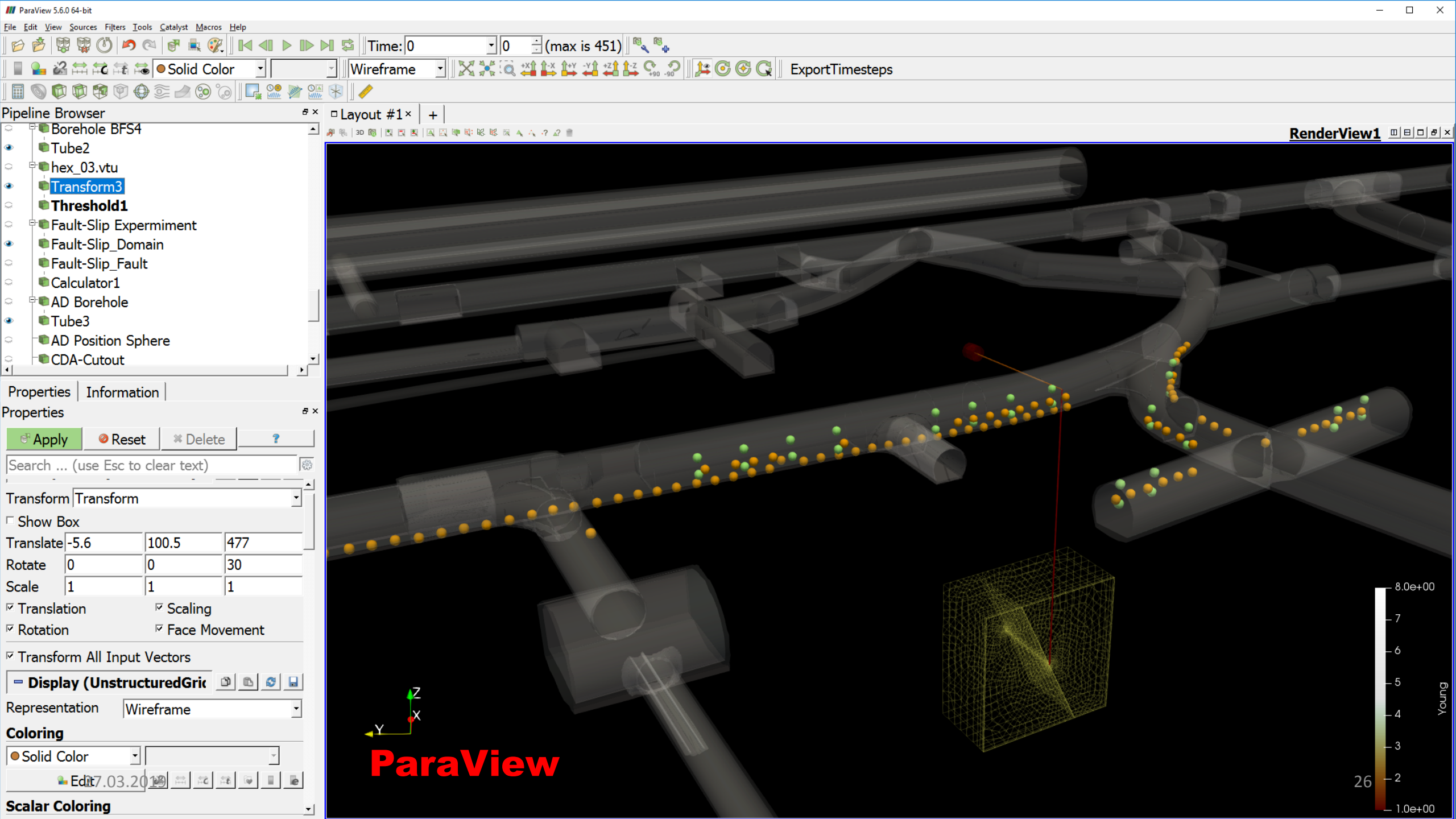
OGS file type	Format	Software supporting these files
(everything)	*.vtk, *.vtu, *.vtp	VTK/ParaView
(everything)	*.fbx	Unity
Meshes / Simulation results	*.shp	ArcGIS, QGIS, …
Boreholes	*.txt	GMS

Shape Export

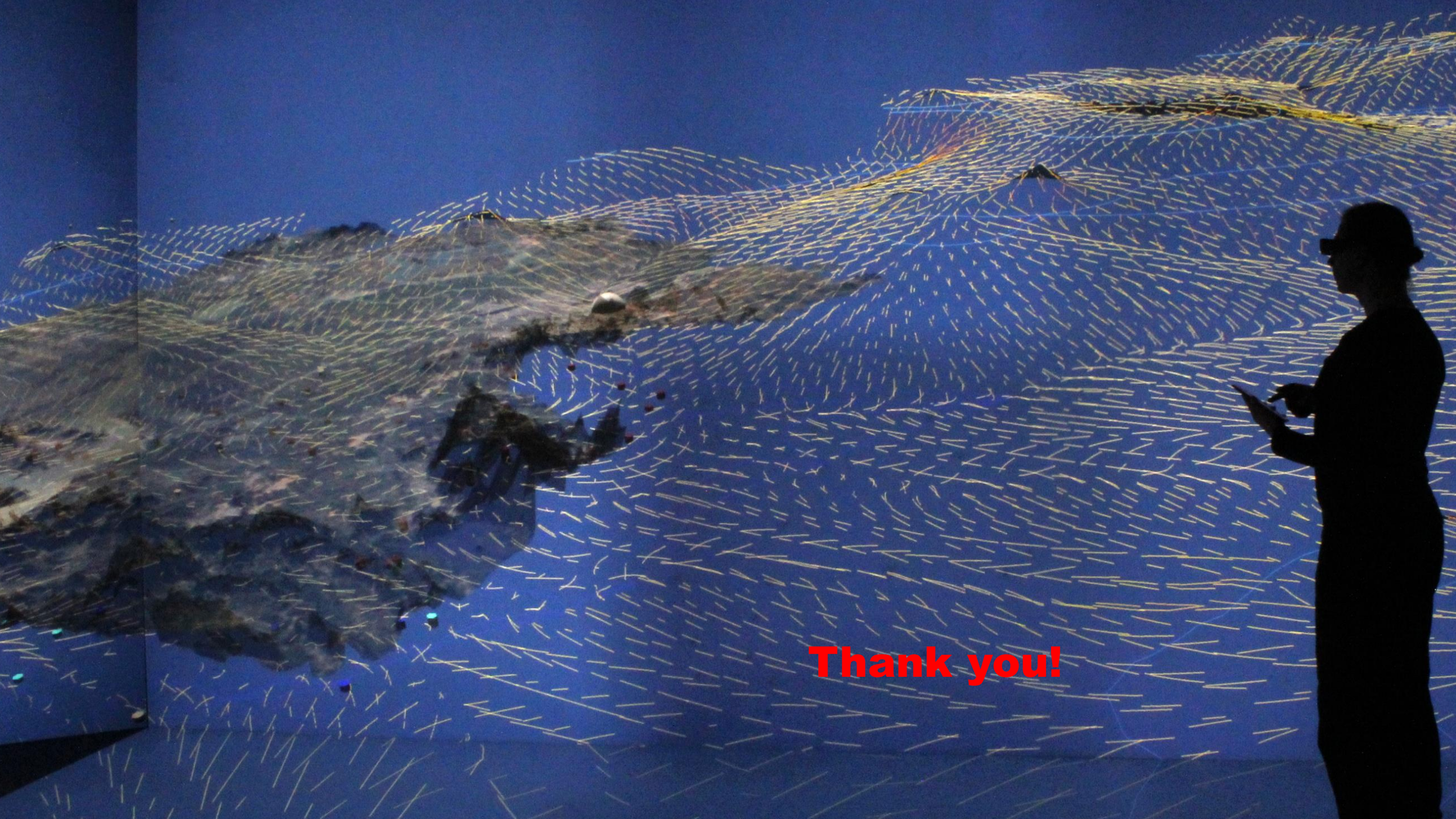


Import OGS simulation results into your GIS projects


*DE_ShowCase_Floods - QGIS
Projekt Bearbeiten Ansicht Layer Einstellungen Erweiterungen Vektor Raster Datenbank Web MMQGIS Verarbeitung Hilfe
QGIS
Layer
Hydrogeologie
Monitoring_Wells
River_Gauges
Geologische_Aufschlüsse
Isohypsenplan_Boernchen
GW_Level_Boernchen
Groundwater_Recharge ...
GW_Gradient
Mueglitztal_Fliesgew
Bundeswasserstraße
Gewaessser 1. Ordnung
Gewaesser 2. Ordnung
sonstige Gewaesser
Anrainer
Mueglitz2D_Point2Cell
Meterologie
Wetterstationen
Precipitation_Radolan_2...
Precipitation_Regnie_2016
Hydrology
MT_Standgew
FLIESSGEWAESSER_SN_...
Bundeswasserstraße
Gewaessser 1. Ordnung
Gewaesser 2. Ordnung
sonstige Gewaesser
Anrainer
Mueglitz_Basin_Sachsen
Mueglitz_Basin
Mueglitz_Subbasins
Messkampagnen
Verwaltungsgliederung
Topographie
DEM_10_Boernchen
300
363
425
550
613
675
Dippoldiswalde
Pirna
Königstein
Liebstadt
Bad Gottleuba-Berggießhübel
Frauenstein
Geising
Zu suchender Typ (Strg+K)
Eintrag der Legende gelöscht.
Koordinate 418062,5643289
Maßstab 1:128556
Vergrößerung 100%


ParaView 5.6.0 64-bit
File Edit View Sources Filters Tools Catalyst Macros Help
Time: 0 (max is 451)
Solid Color
Wireframe
ExportTimesteps
Pipeline Browser
Borehole BFS4
Tube2
hex_03.vtu
Transform3
Threshold1
Fault-Slip Expermiment
Fault-Slip_Domain
Fault-Slip_Fault
Calculator1
AD Borehole
Tube3
AD Position Sphere
CDA-Cutout
Properties
Information
Properties
Apply
Reset
Delete
Search ... (use Esc to clear text)
Transform Transform
Show Box
Translate -5.6 100.5 477
Rotate 0 0 30
Scale 1 1 1
Translation
Scaling
Rotation
Face Movement
Transform All Input Vectors
Display (UnstructuredGrid
Representation Wireframe
Coloring
Solid Color
Edit
Scalar Coloring
Layout #1
RenderView1
Z
X
Y
ParaView
8.0e+00
7
6
5
4
3
2
1.0e+00
Young
26

Meigang Station
Hydrograph for Meigang station
« Backward
Forward »
1 / 1
Close
Shangxo Station
Hydrograph for Shangxo station
« Backward
Forward »
1 / 1
Close
Yiyang Station
Hydrograph for Yiyang station
« Backward
Forward »
1 / 1
Close
Unity


Thank you!