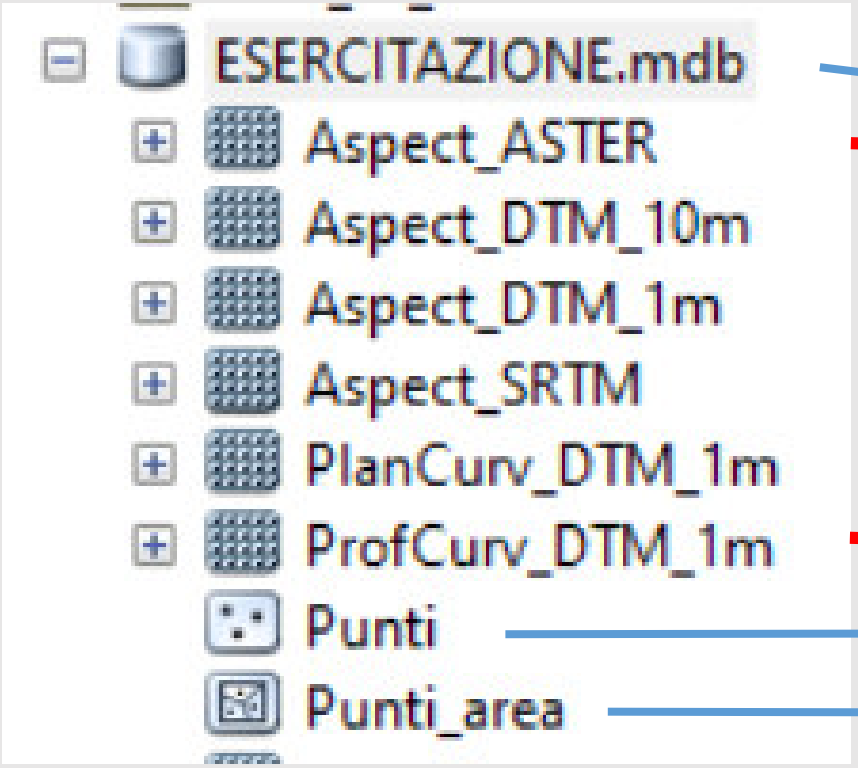
ESERCITAZIONI

importazioni punti da LiDAR
estrazione profilo topografico
verifica accuratezza verticale

Geodatabase

I geodatabase (database spaziali o Spatial DBMS) sono archivi di dati geografici memorizzati su database relazionali (RDBMS, Relational DataBase Management System) e non su file system (come, ad esempio, gli Shapefile).

Geodatabase



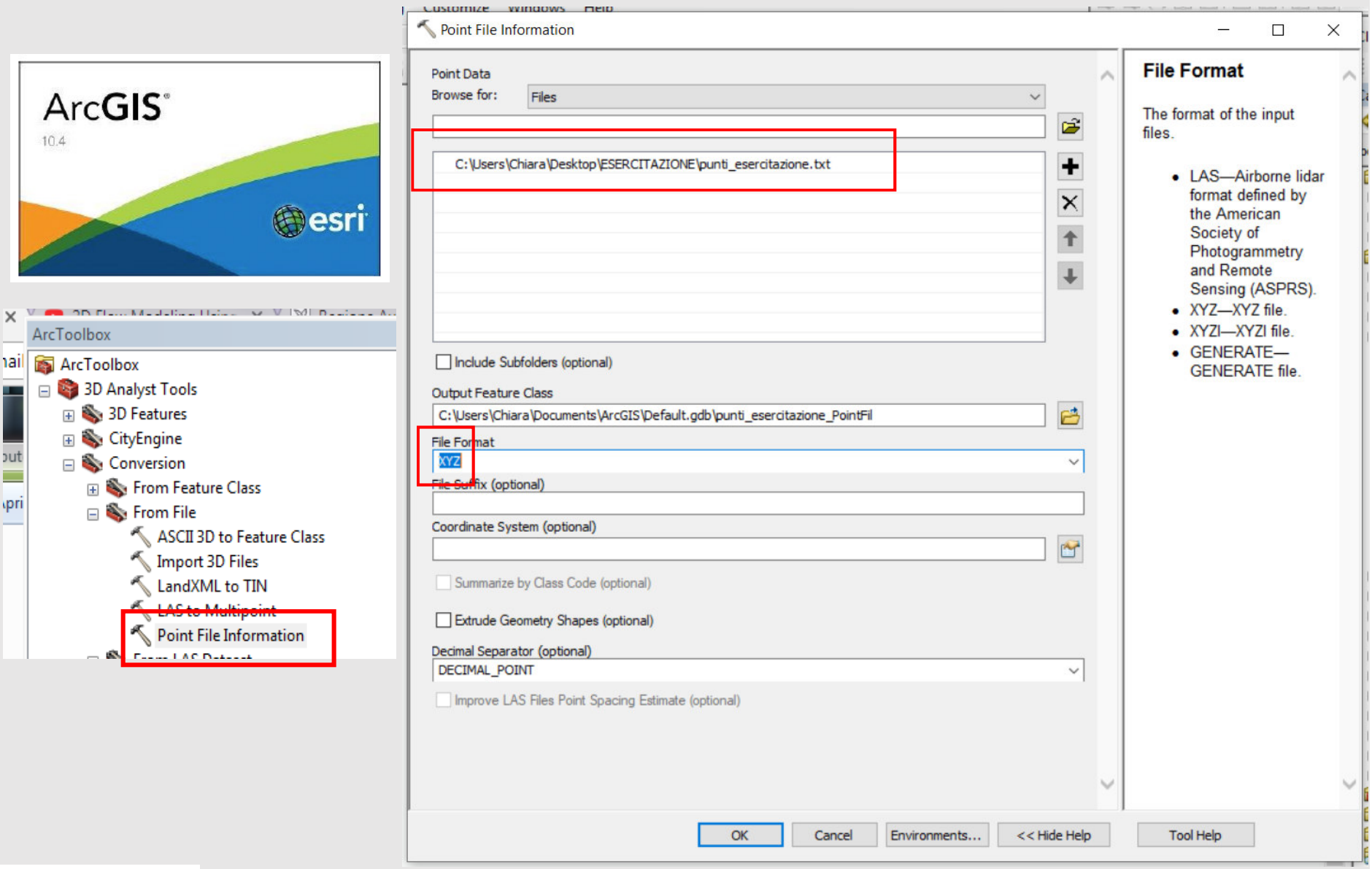
geodatabase

raster

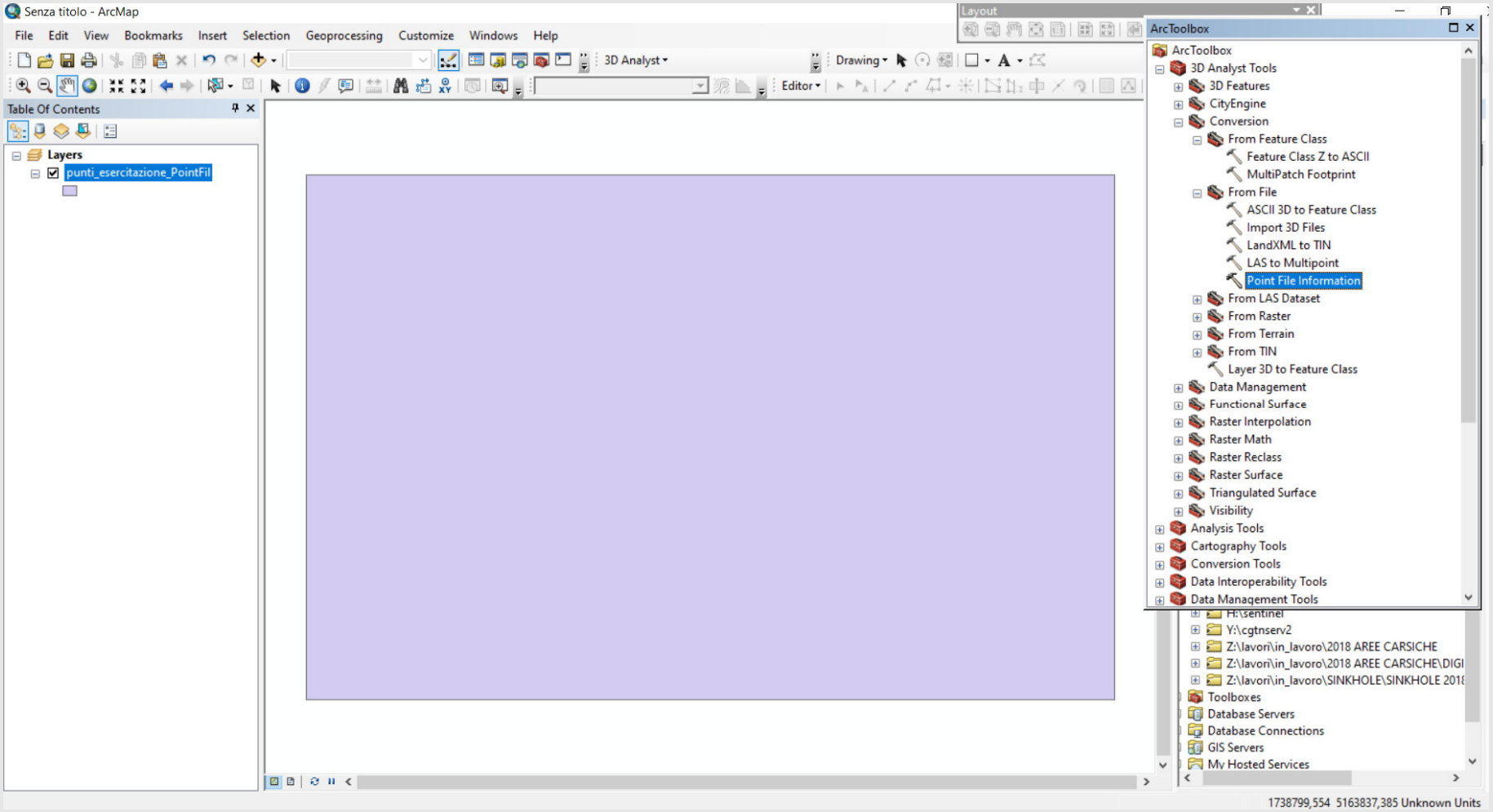
Feature class puntuale

Feature class areale

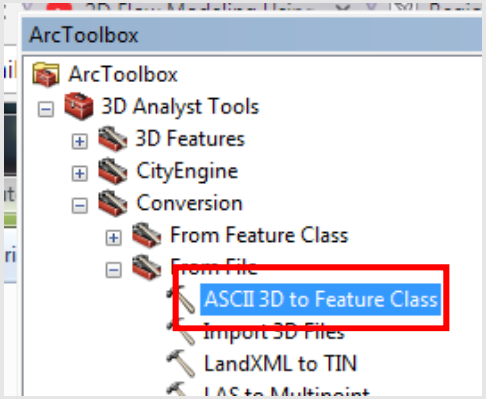
Importazione punti LiDAR, dominio di esistenza dei punti

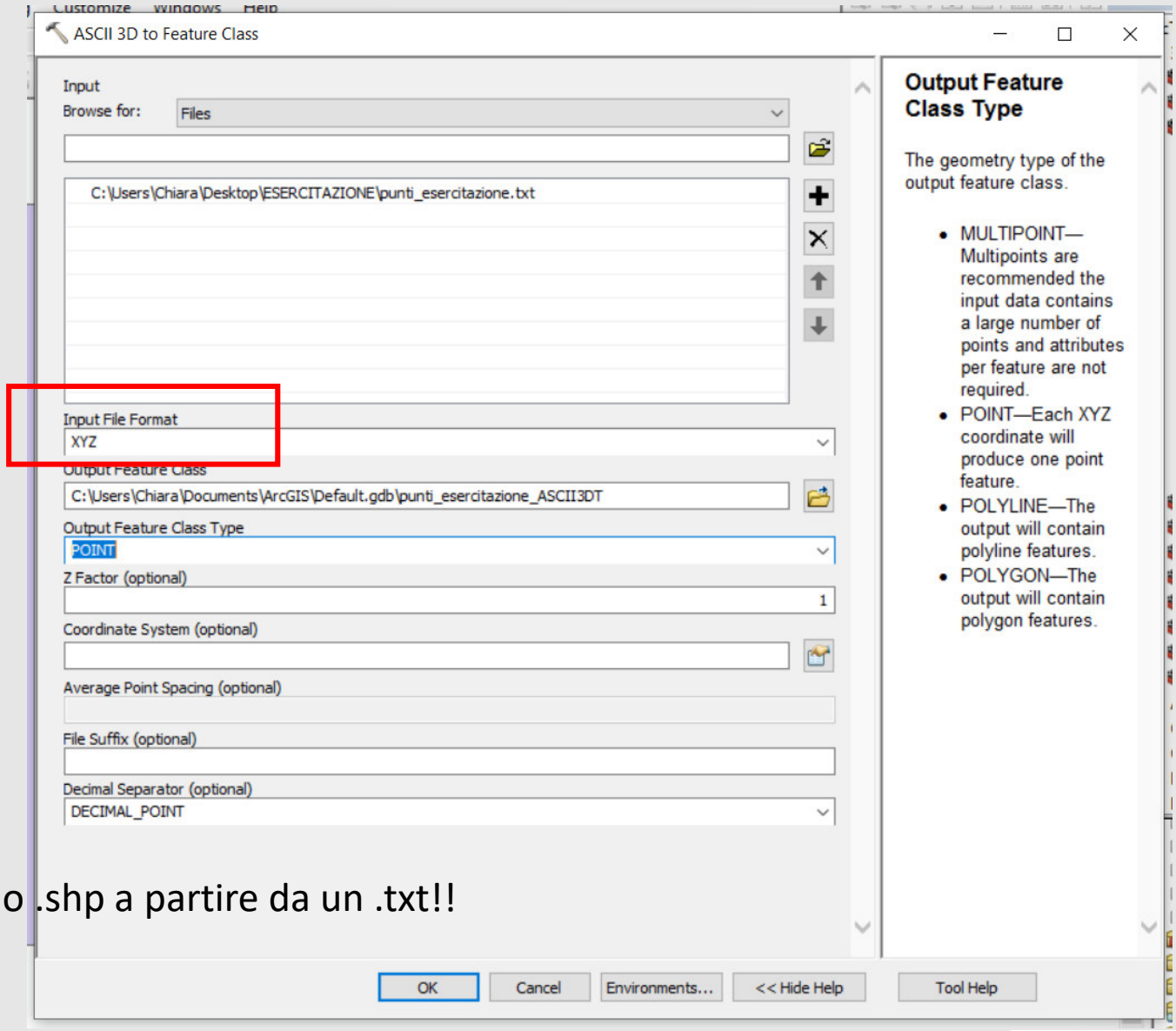


Importazione punti LiDAR, dominio di esistenza dei punti



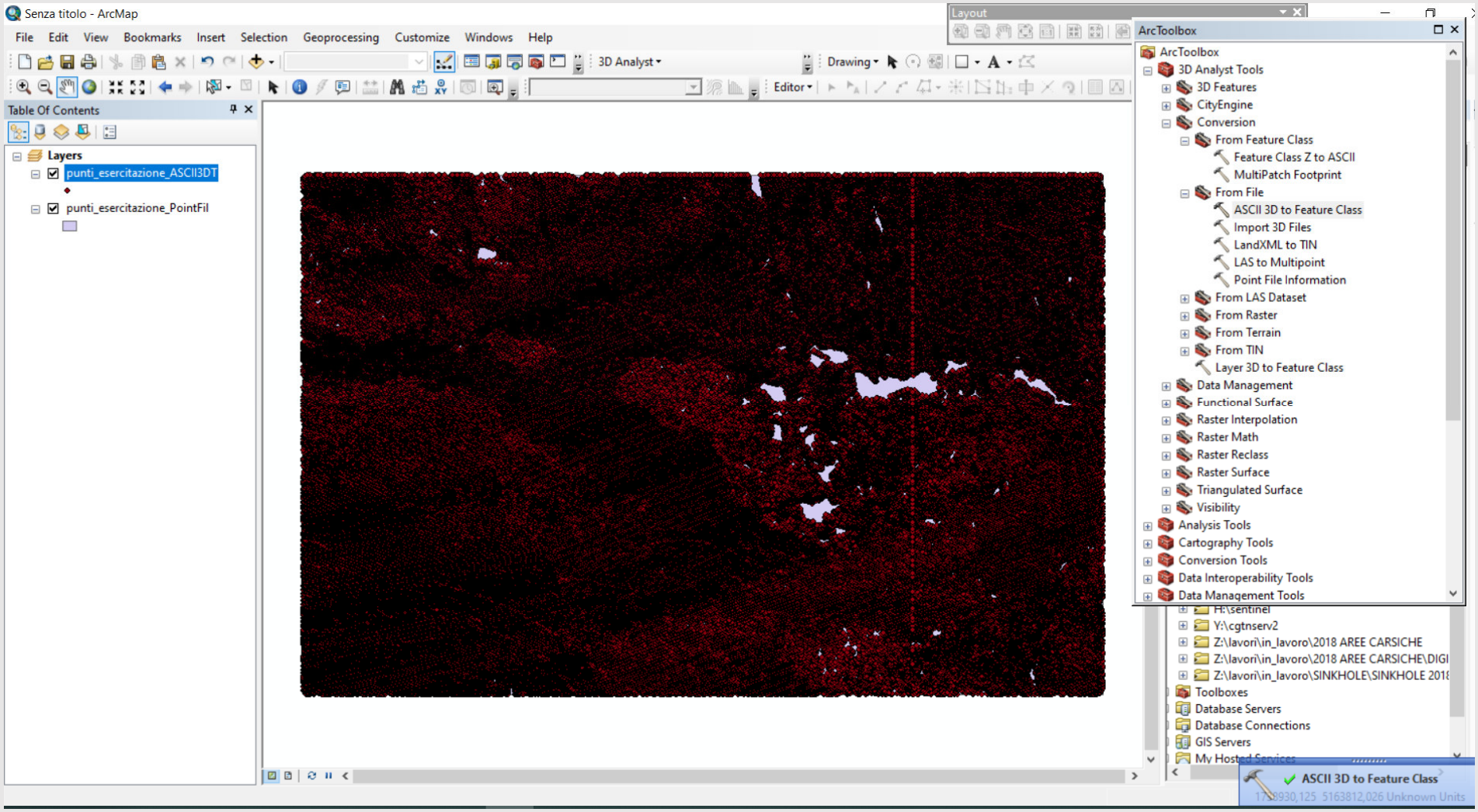
Importazione file ASCII punti LiDAR



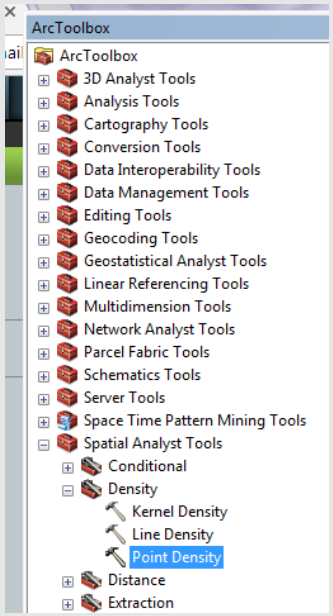


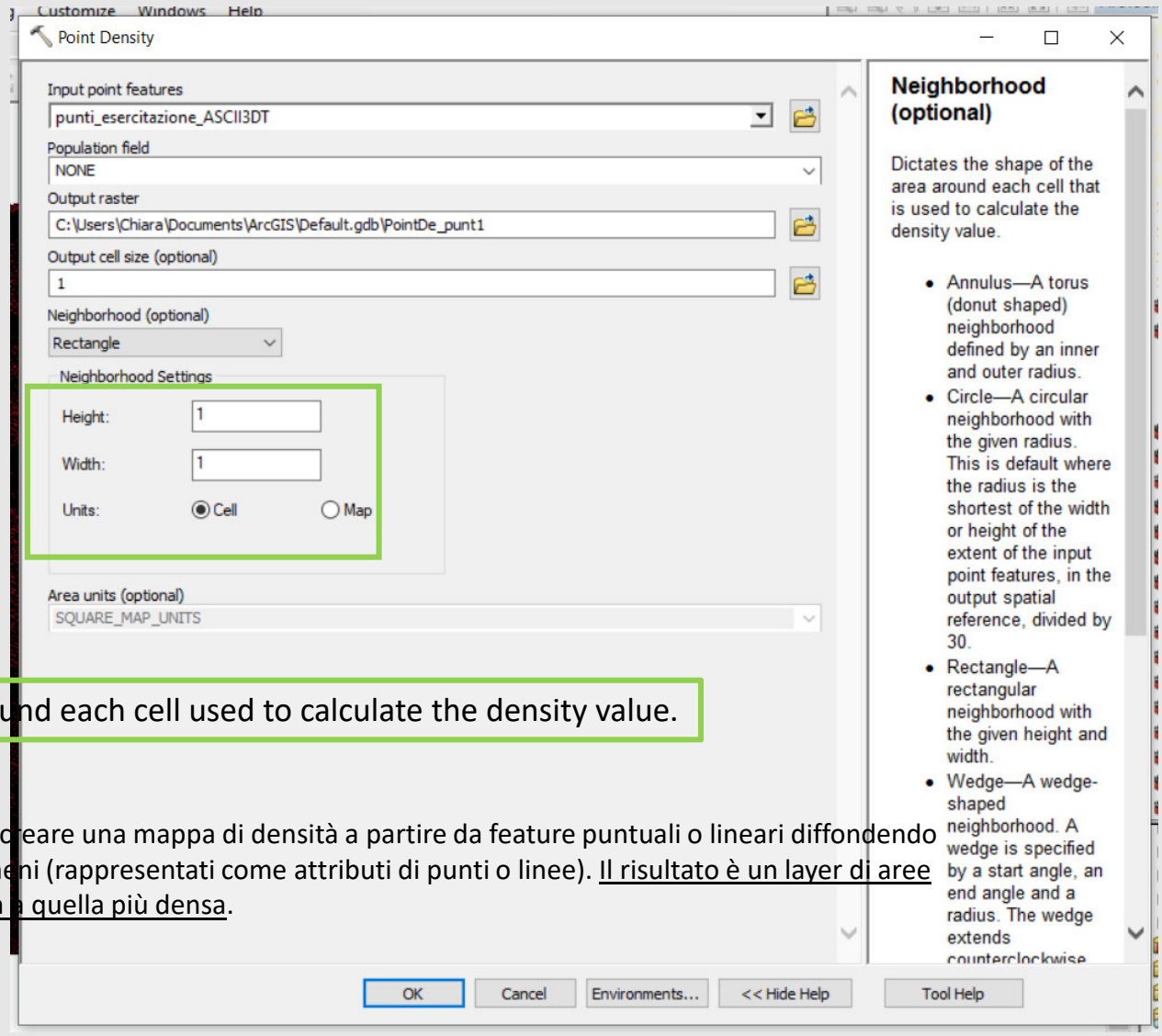
In questo modo creo uno .shp a partire da un .txt!!

Nuvola di punti LiDAR



Verifico la DENSITA' dei miei dati

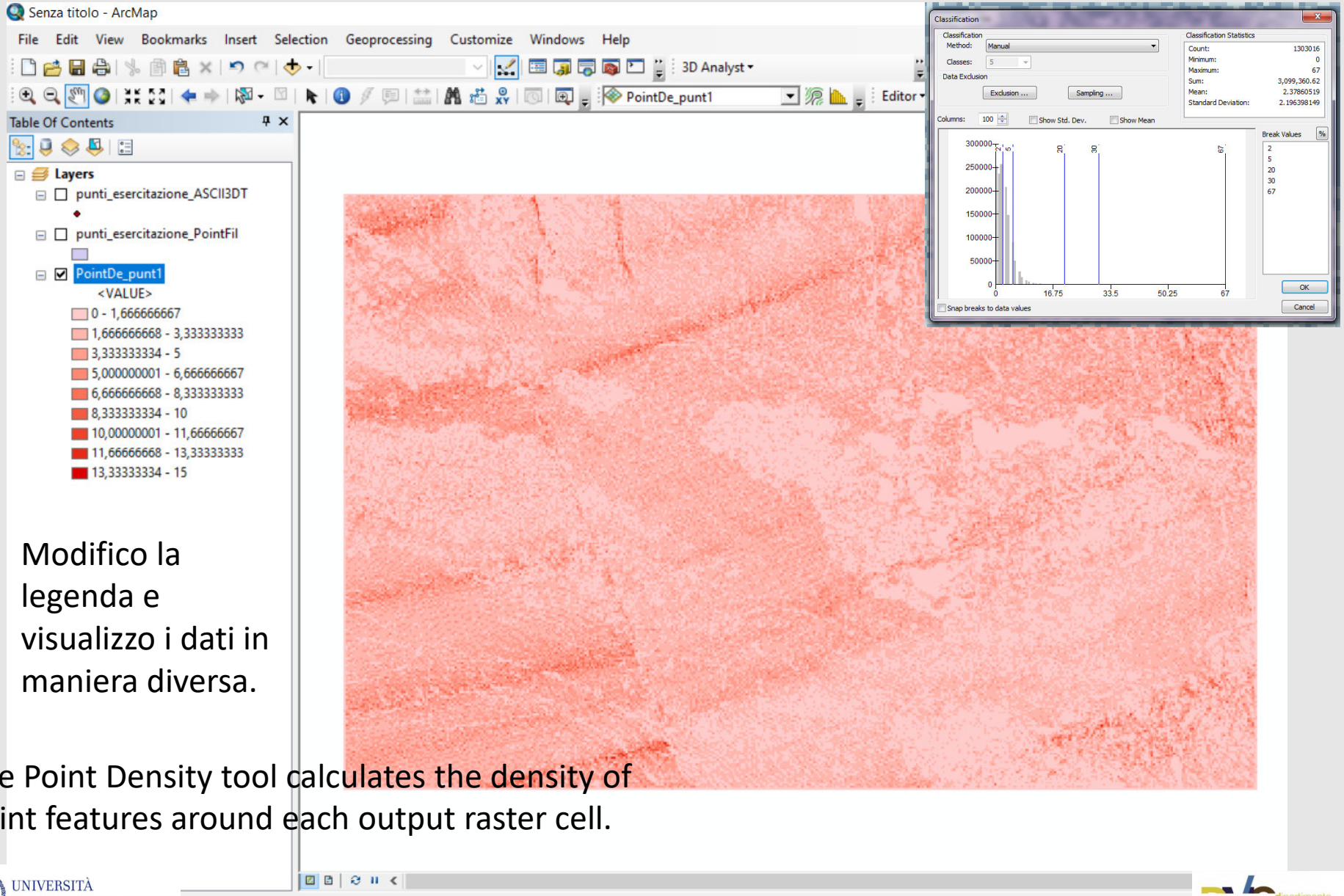




Dictates the shape of the area around each cell used to calculate the density value.

Lo strumento **Calcolo densità** consente di creare una mappa di densità a partire da feature puntuali o lineari diffondendo nella mappa quantità note di alcuni fenomeni (rappresentati come attributi di punti o linee). <u>Il risultato è un layer di aree classificate a partire da quella meno densa a quella più densa</u>.

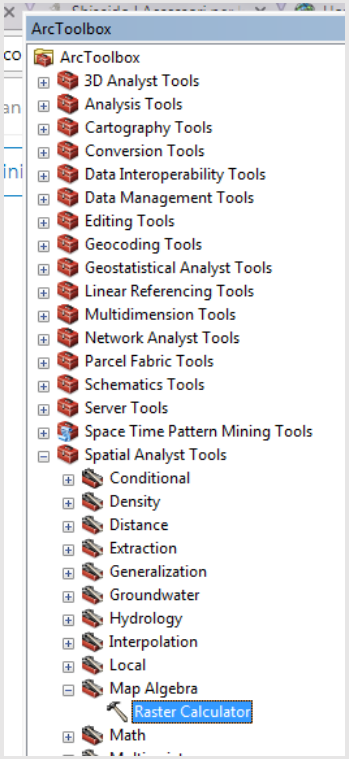
Verifico la DENSITA' dei miei dati

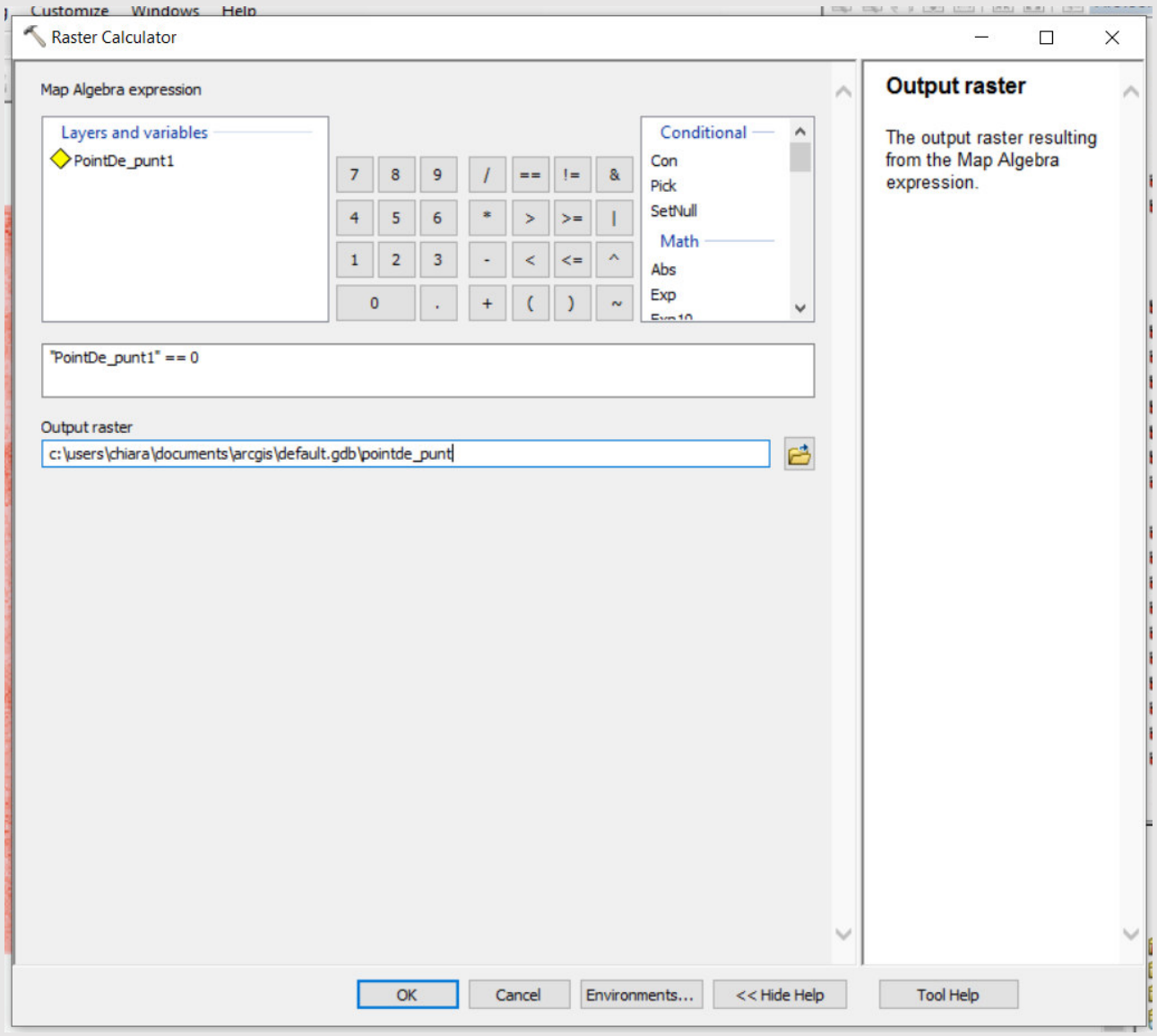


Modifico la legenda e visualizzo i dati in maniera diversa.

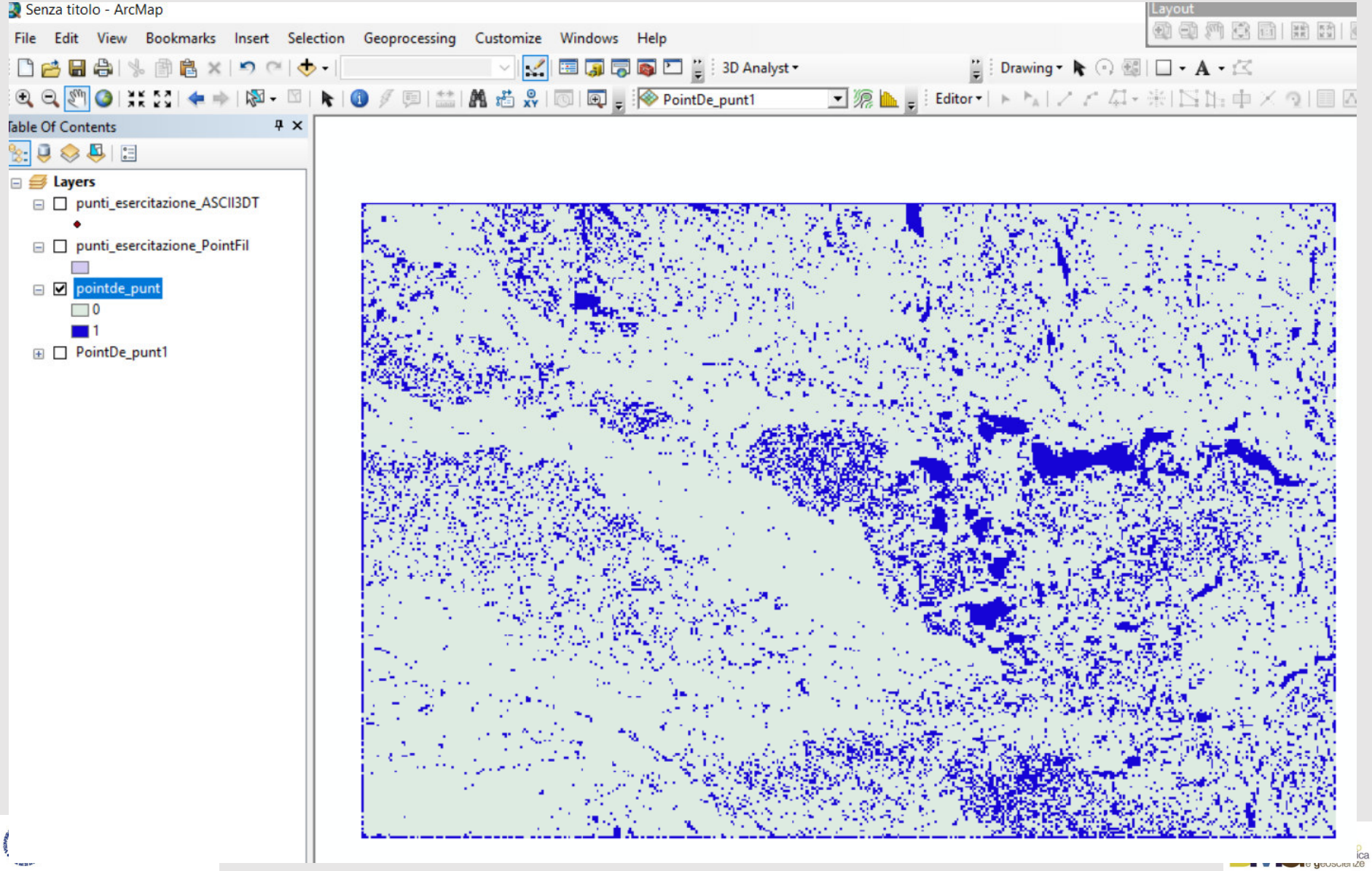
The Point Density tool calculates the density of point features around each output raster cell.

Individuazione dei «data voids»

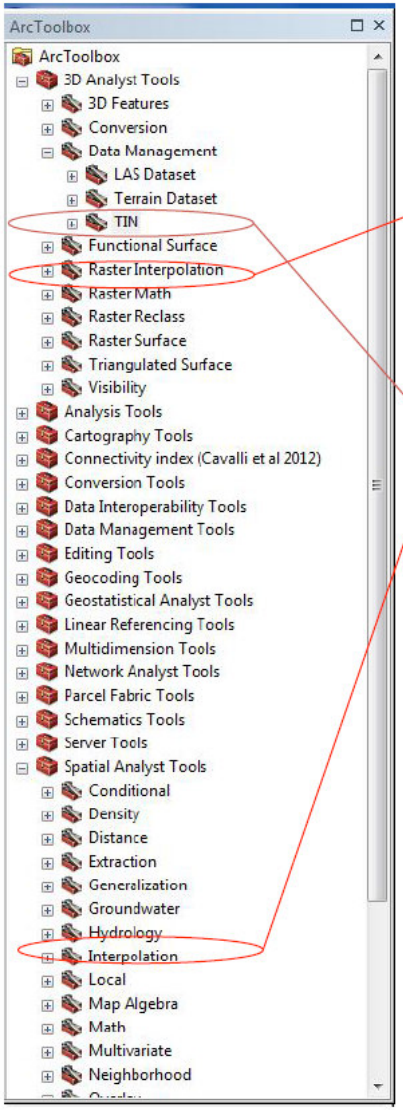




Individuazione dei «data voids»



Interpolazione

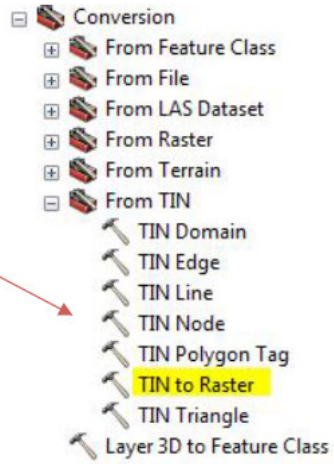


Disponibili diversi algoritmi di interpolazione.
<u>Tenere in considerazione densità e presenza “data voids” nella scelta di:</u>

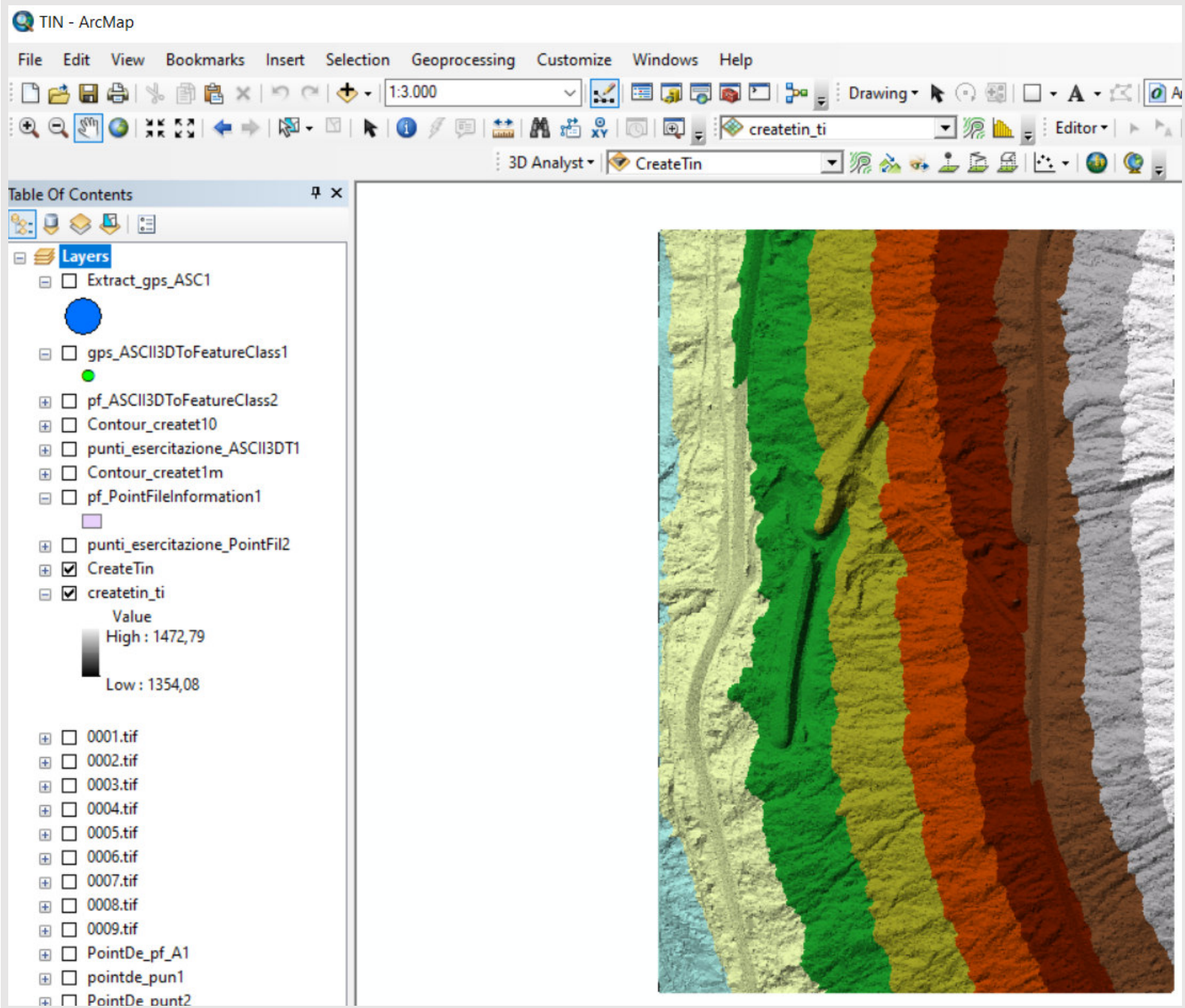
1 dimensione della cella del modello digitale
2 algoritmo di interpolazione (e relativi parametri)

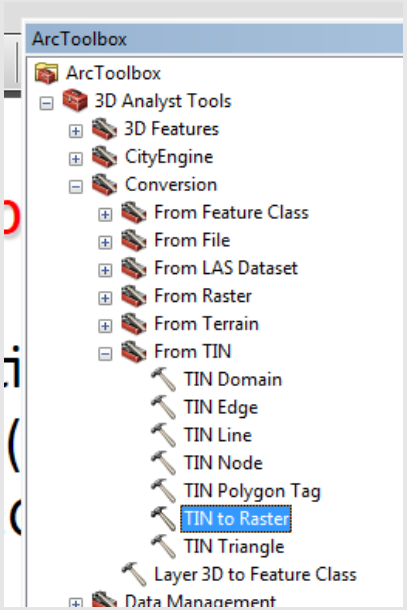
È possibile creare un TIN da 3D Analyst tools -> Data Management

E convertire il TIN in raster

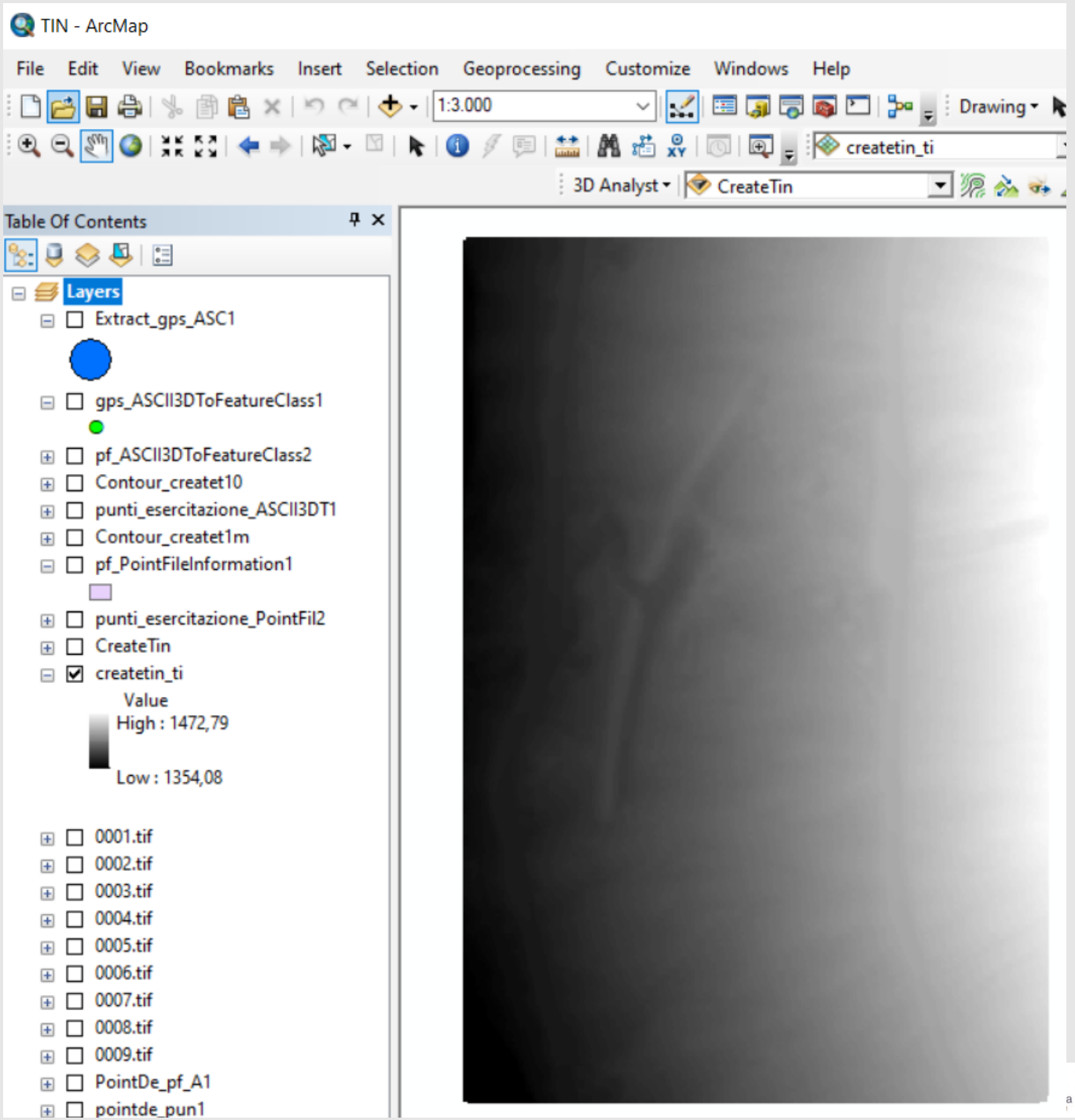


TIN


TIN - ArcMap
File Edit View Bookmarks Insert Selection Geoprocessing Customize Windows Help
1:3.000
Drawing
createtin_ti
Editor
3D Analyst
CreateTin
Table Of Contents
Layers
Extract_gps_ASC1
gps_ASCII3DToFeatureClass1
pf_ASCII3DToFeatureClass2
Contour_createt10
punti_esercitazione_ASCII3DT1
Contour_createt1m
pf_PointFileInformation1
punti_esercitazione_PointFil2
CreateTin
createtin_ti
Value
High : 1472,79
Low : 1354,08
0001.tif
0002.tif
0003.tif
0004.tif
0005.tif
0006.tif
0007.tif
0008.tif
0009.tif
PointDe_pf_A1
pointde_pun1
PointDe_punt2



TIN to RASTER



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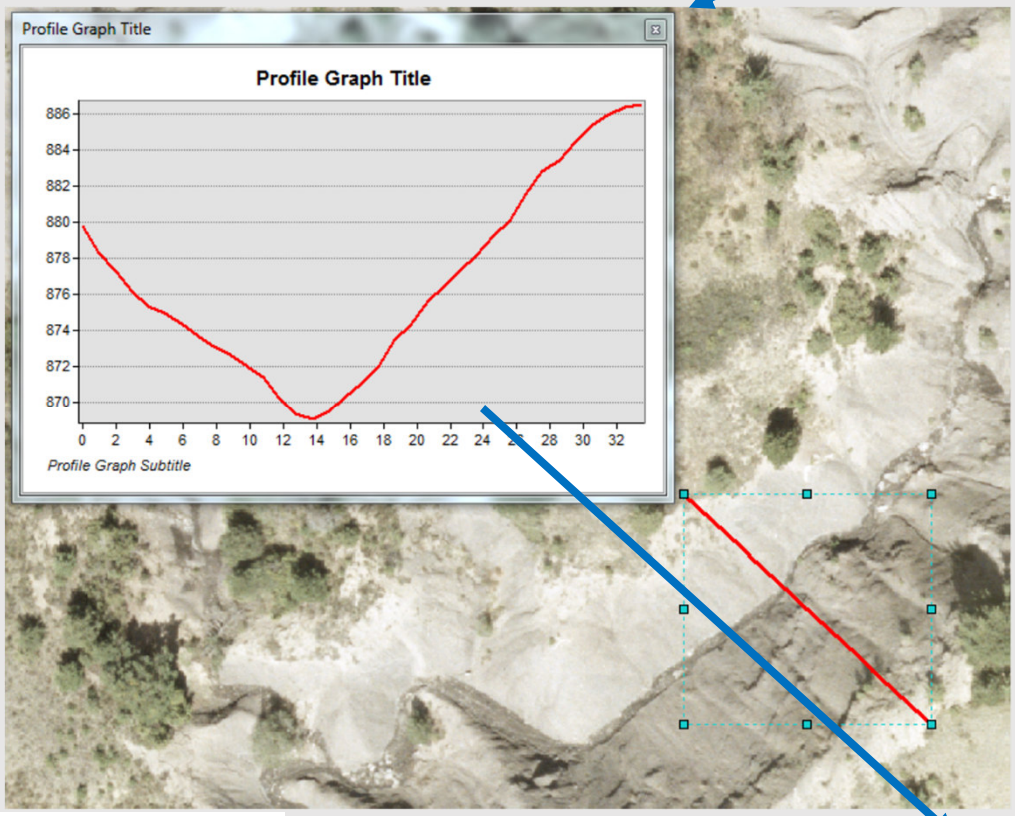
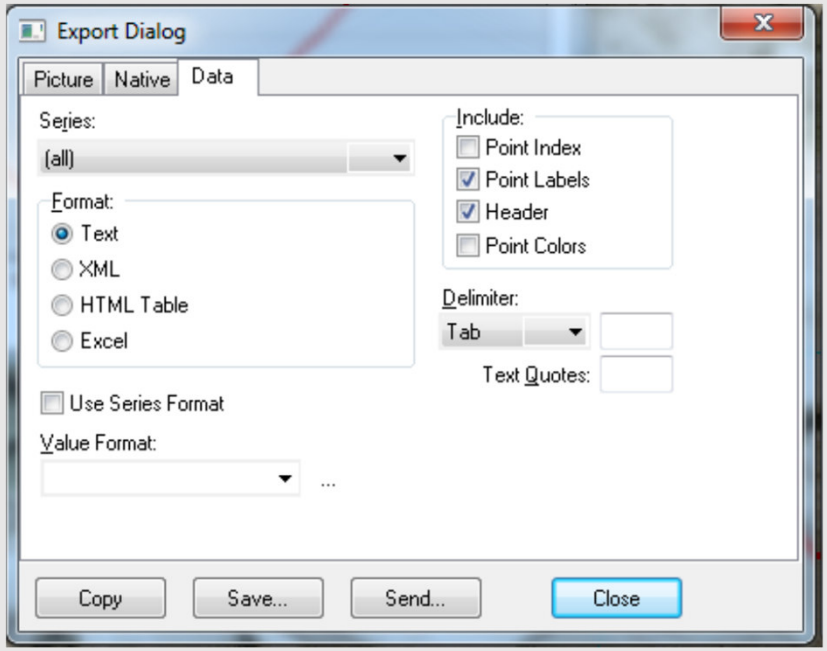
Estrazione di un profilo topografico

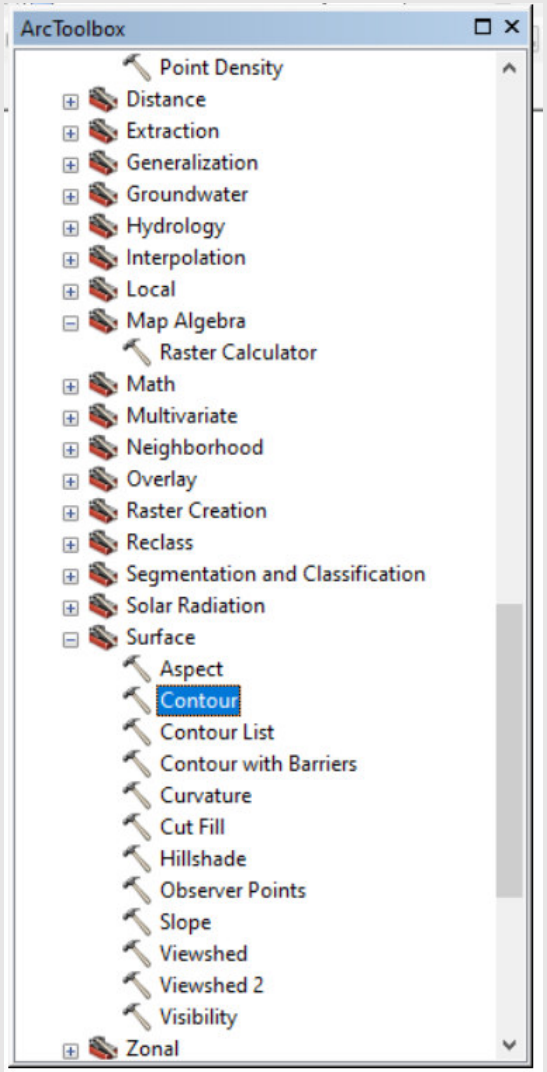
E' un'operazione estremamente utile e veloce che permette di verificare la qualità del dato che si sta utilizzando.





Per esportare utilizzo il tasto dx sul grafico

CONTOUR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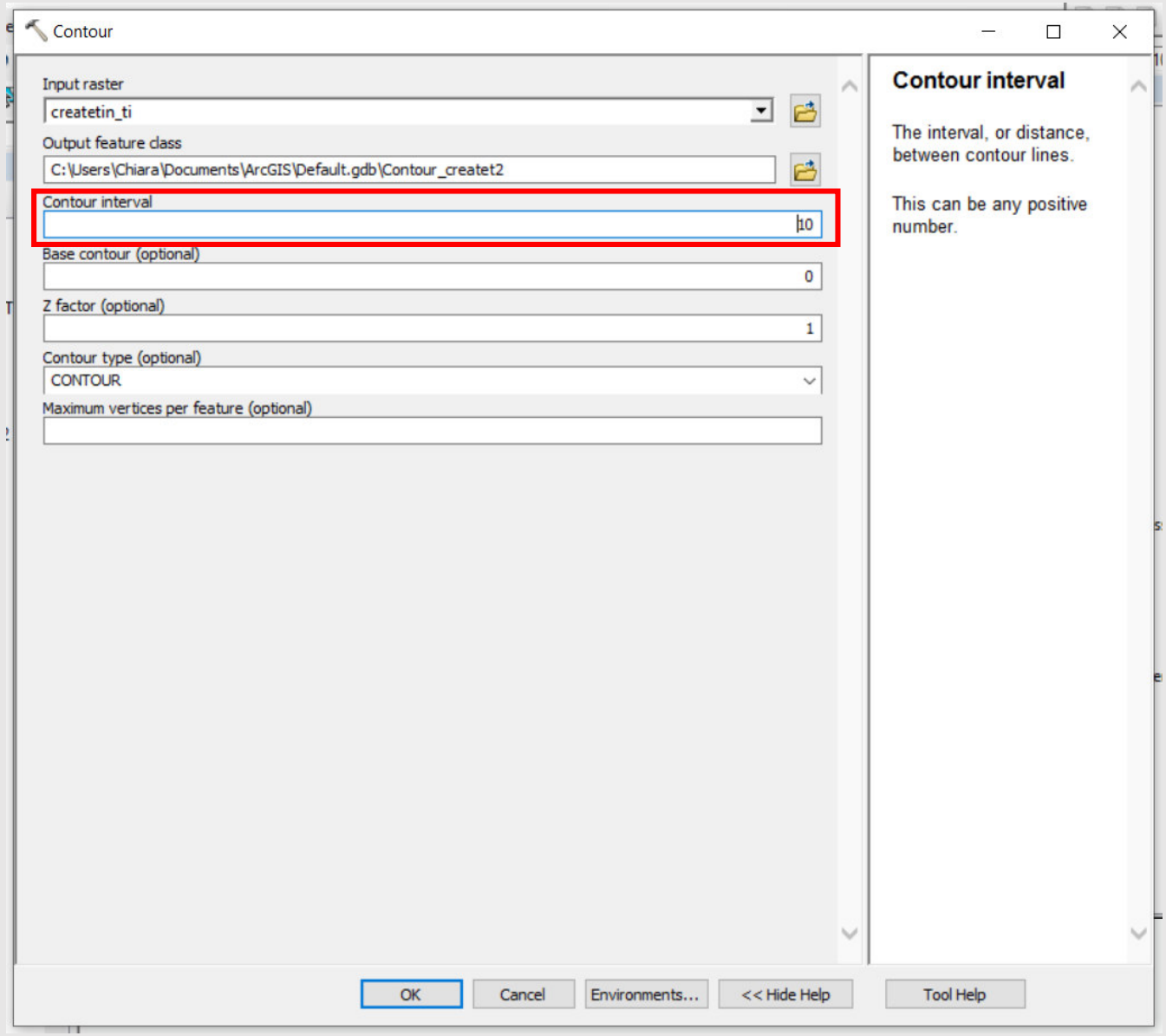
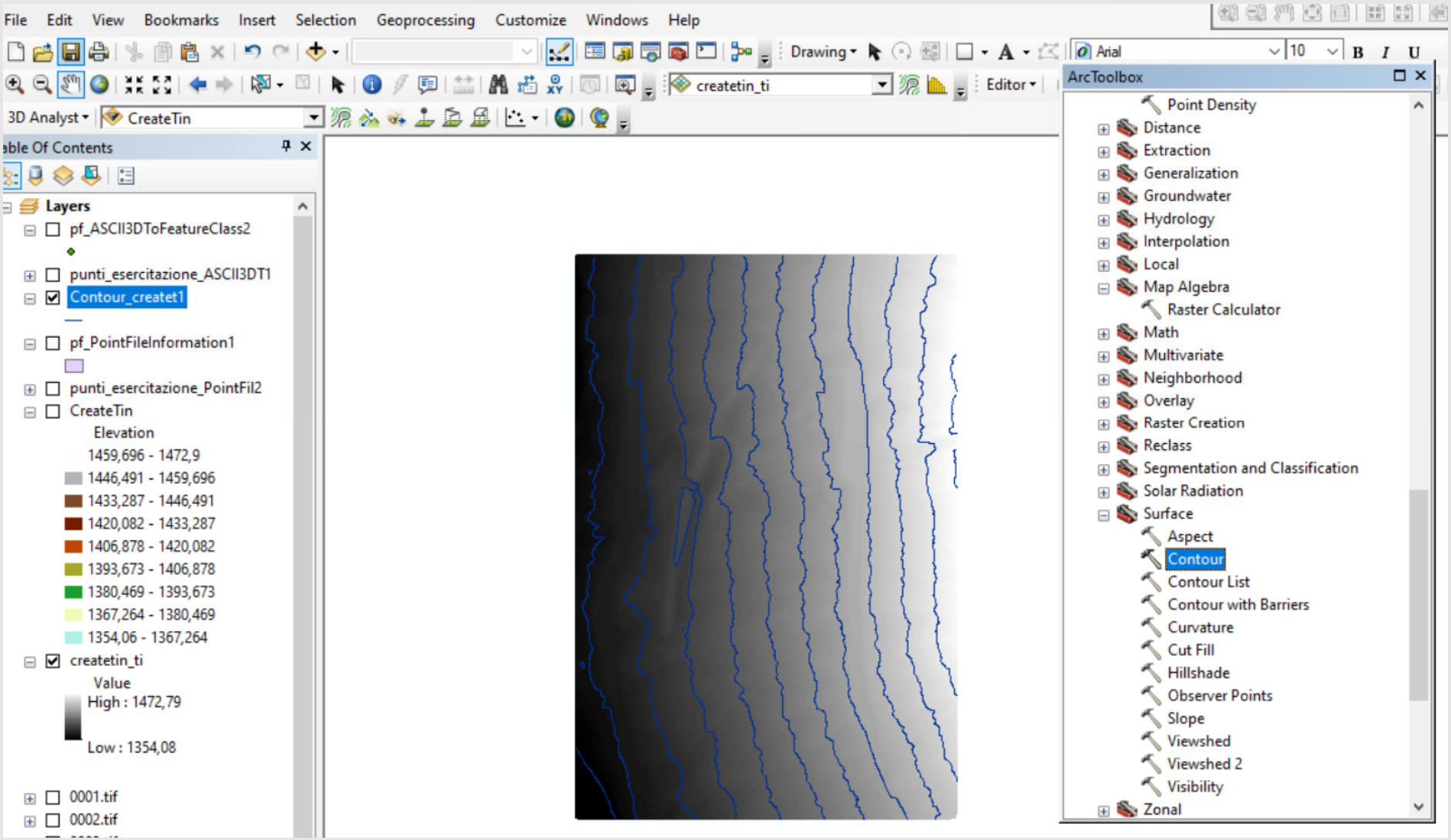
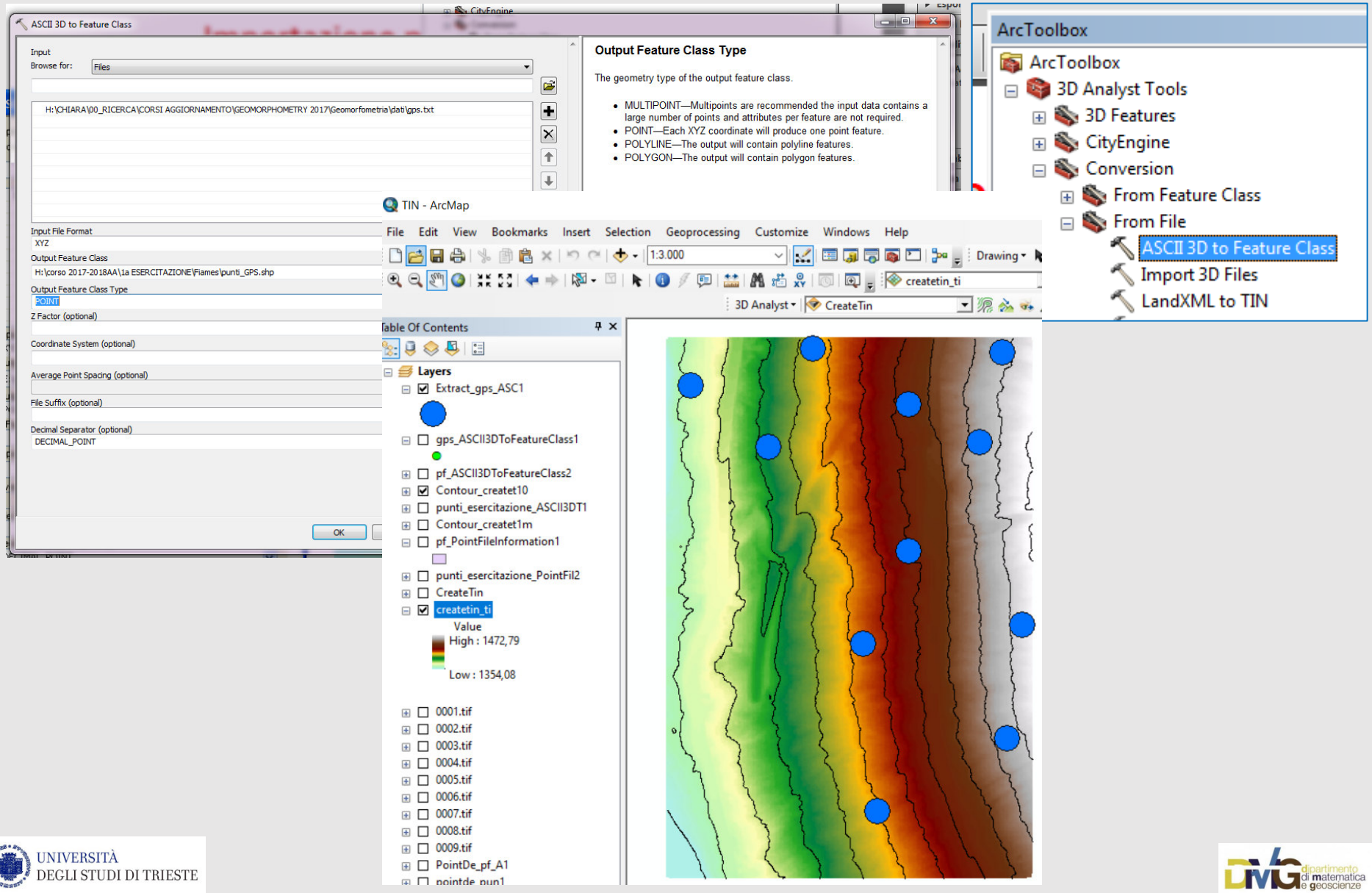
Point Density
Distance
Extraction
Generalization
Groundwater
Hydrology
Interpolation
Local
Map Algebra
Raster Calculator
Math
Multivariate
Neighborhood
Overlay
Raster Creation
Reclass
Segmentation and Classification
Solar Radiation
Surface
Aspect
Contour
Contour List
Contour with Barriers
Curvature
Cut Fill
Hillshade
Observer Points
Slope
Viewshed
Viewshed 2
Visibility
Zonal


Contour
Input raster
createtin_ti
Output feature class
C:\Users\Chiara\Documents\ArcGIS\Default.gdb\Contour_createt2
Contour interval
10
Base contour (optional)
0
Z factor (optional)
1
Contour type (optional)
CONTOUR
Maximum vertices per feature (optional)
Contour interval
The interval, or distance, between contour lines.
This can be any positive number.
OK
Cancel
Environments...
<< Hide Help
Tool Help

CONTOUR lines 10m spaced



Importazione punti di controllo



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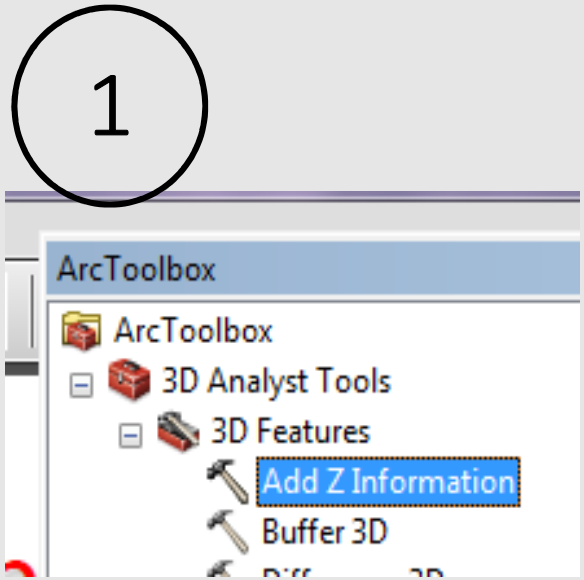
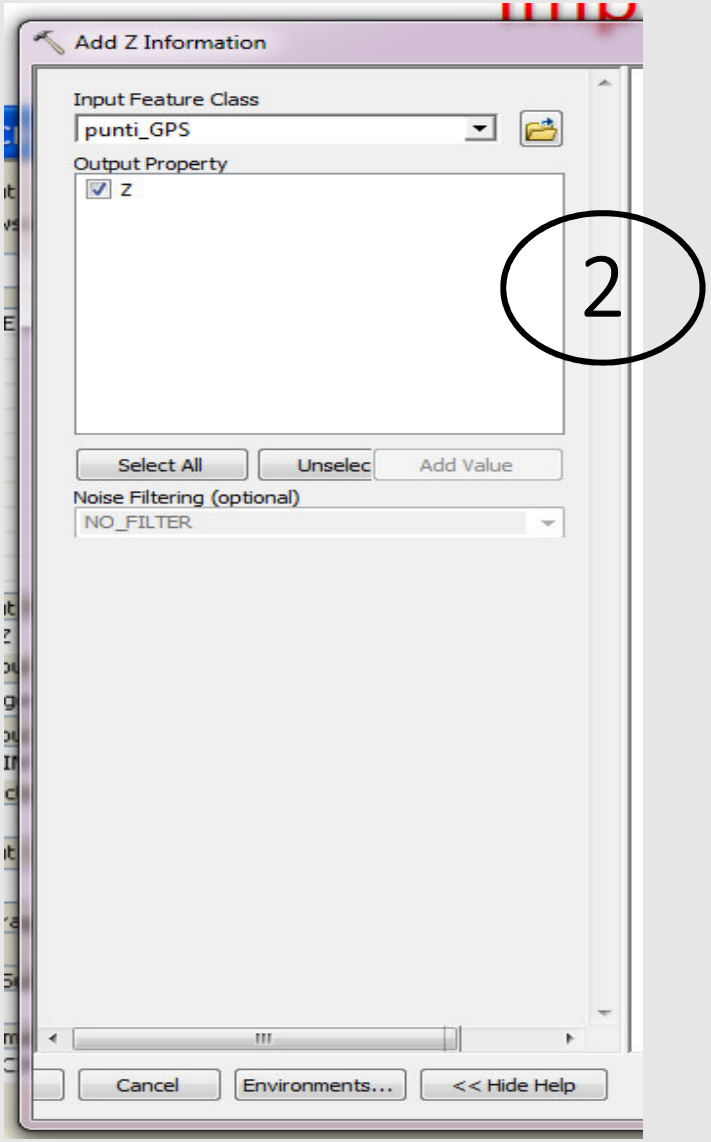
dipartimento di matematica e geoscienze

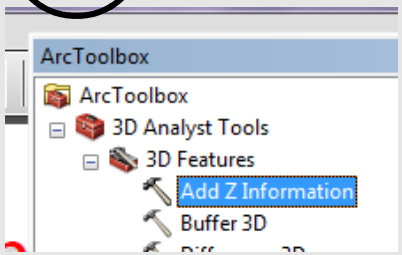
Esplicitare le quote

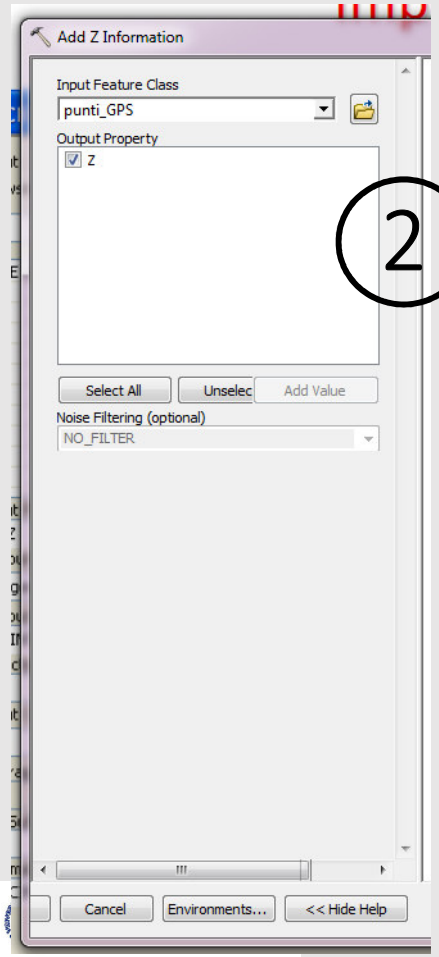




Come assegnare le quote del DTM ai punti di controllo

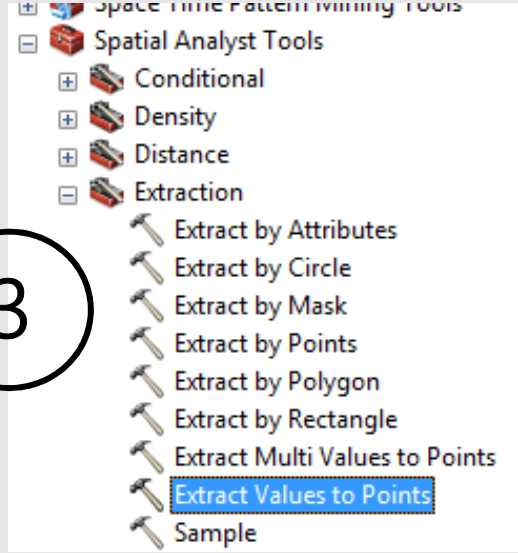
1



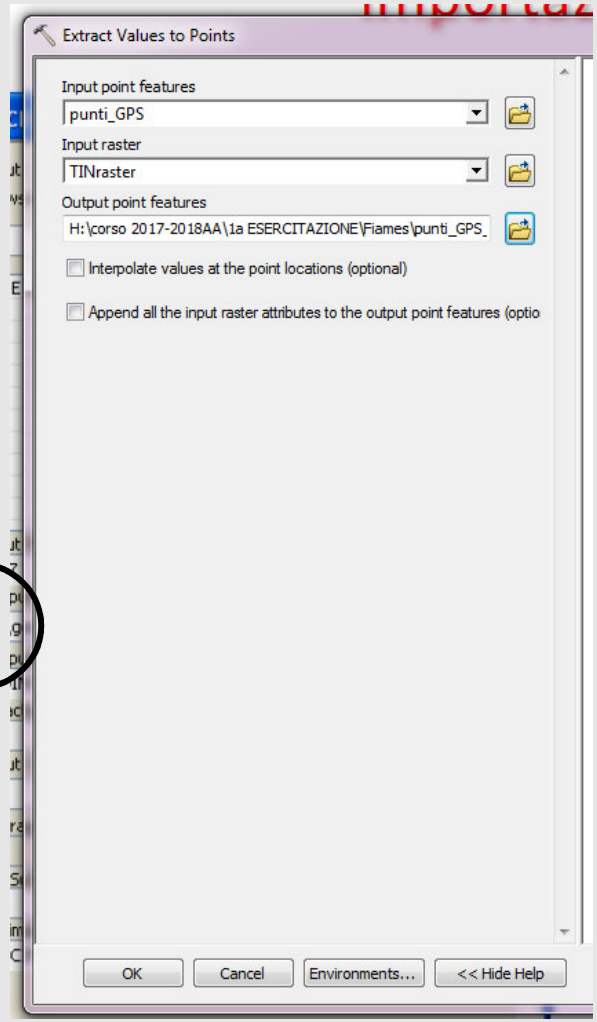


2

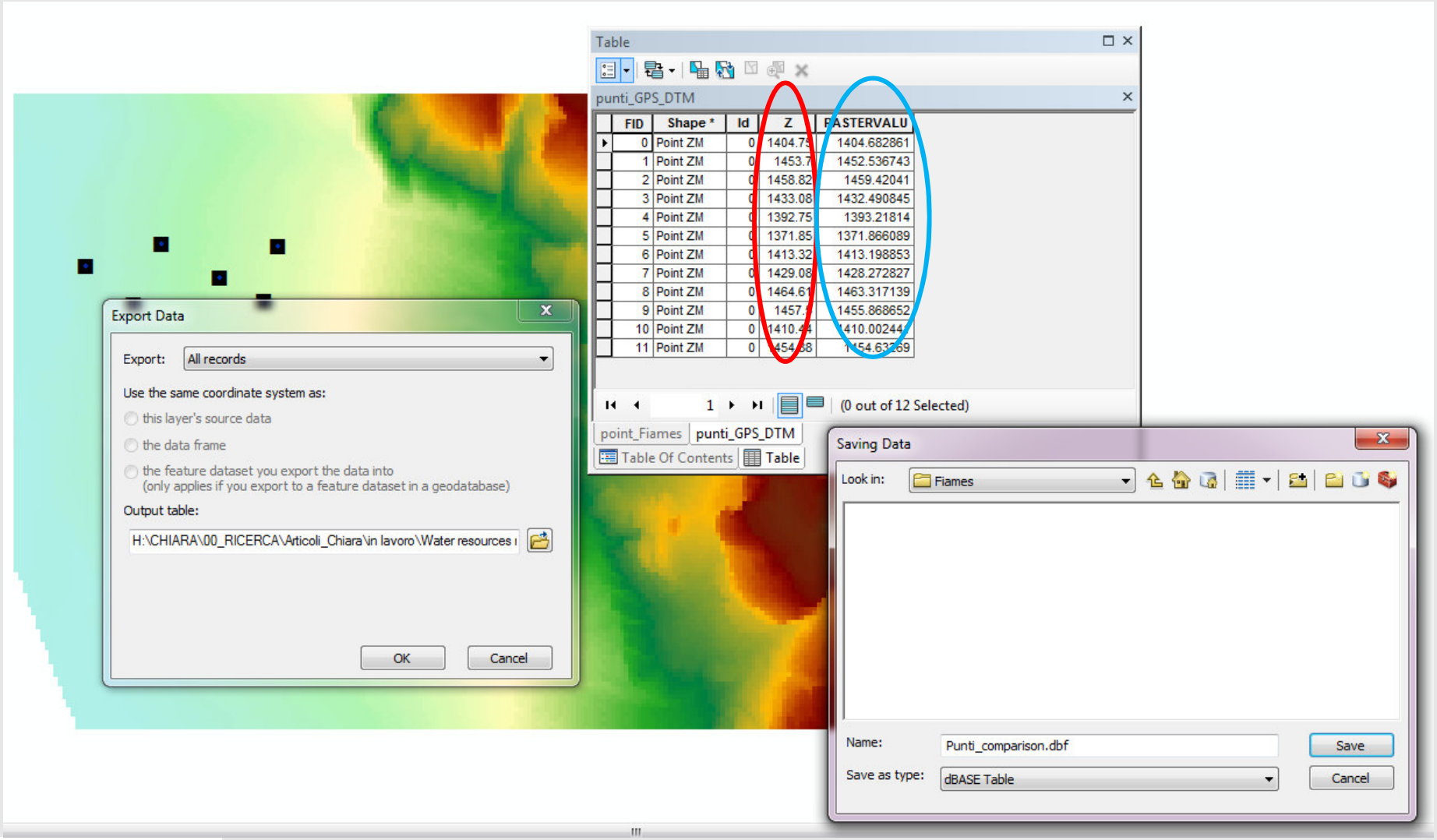
3



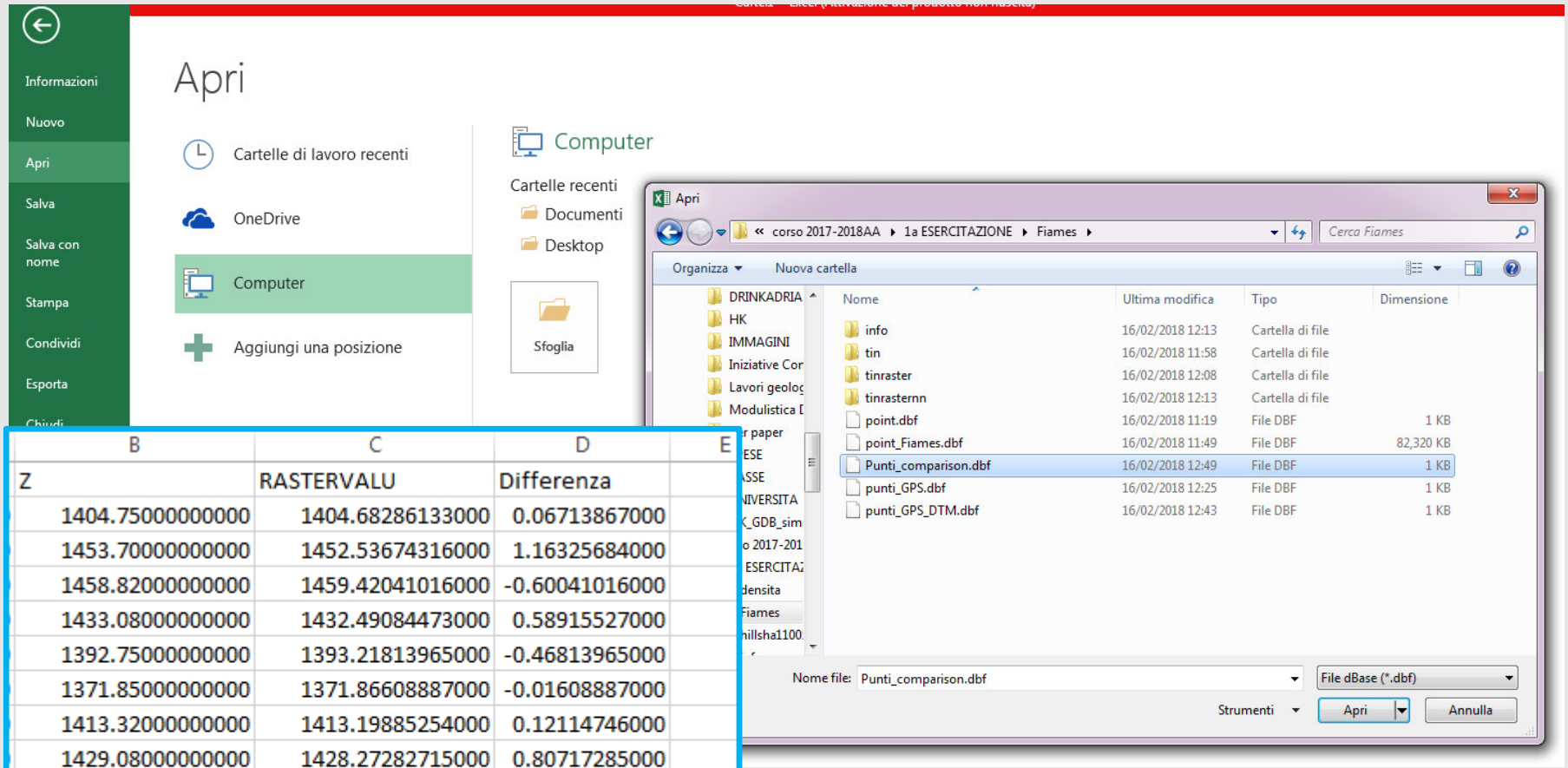
4



Esporto la tabella in .dbf



Analisi di accuratezza verticale



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1453.70000000000	1452.53674316000	1.16325684000	
1458.82000000000	1459.42041016000	-0.60041016000	
1433.08000000000	1432.49084473000	0.58915527000	
1392.75000000000	1393.21813965000	-0.46813965000	
1371.85000000000	1371.86608887000	-0.01608887000	
1413.32000000000	1413.19885254000	0.12114746000	
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1457.50000000000	1455.86865234000	1.63134766000	
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