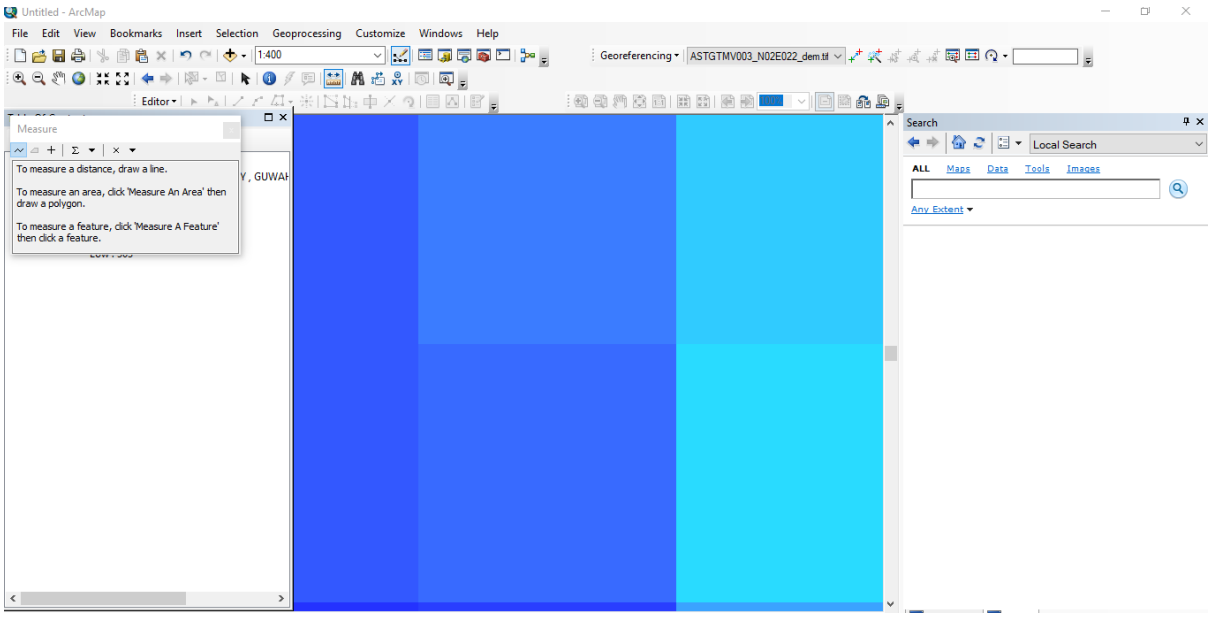
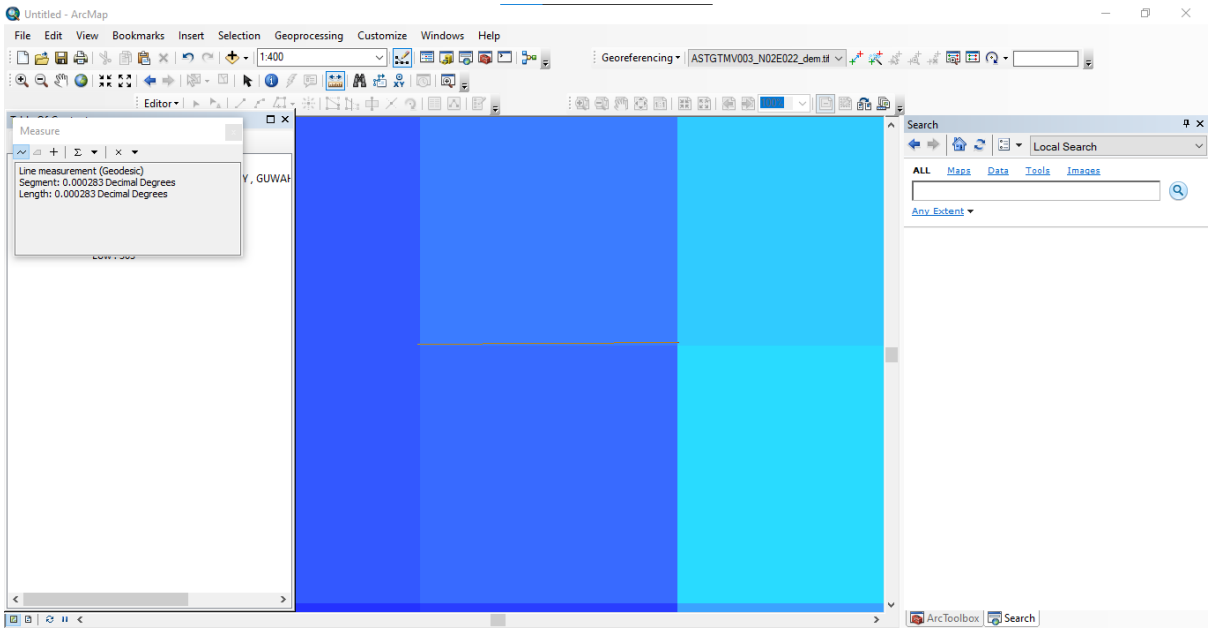
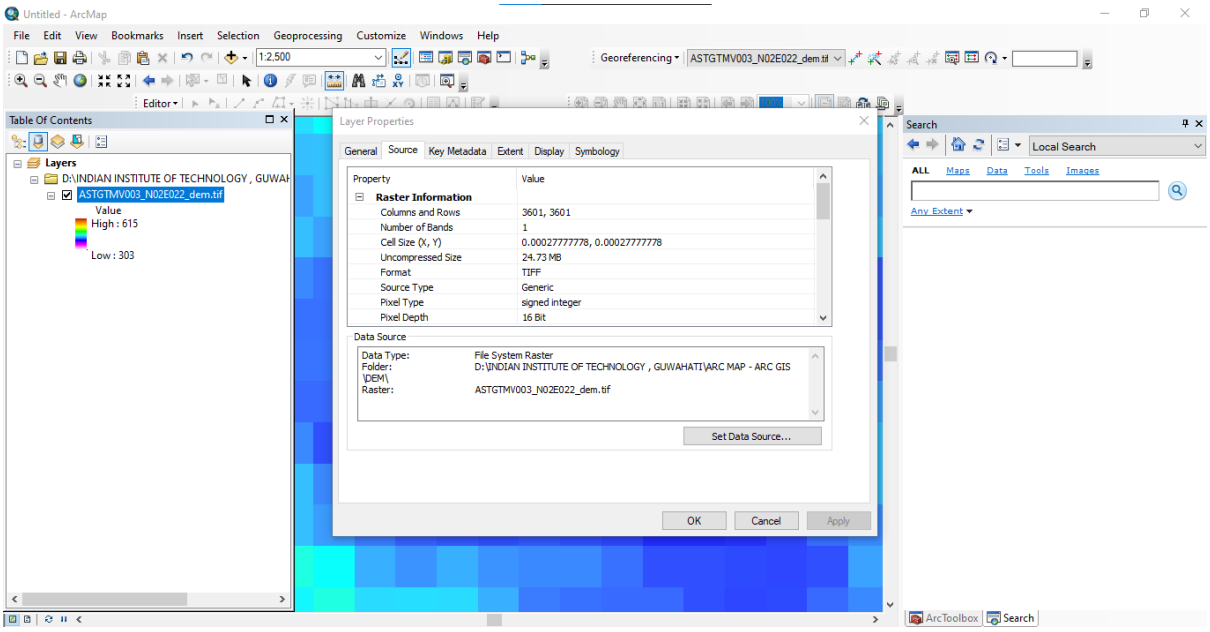
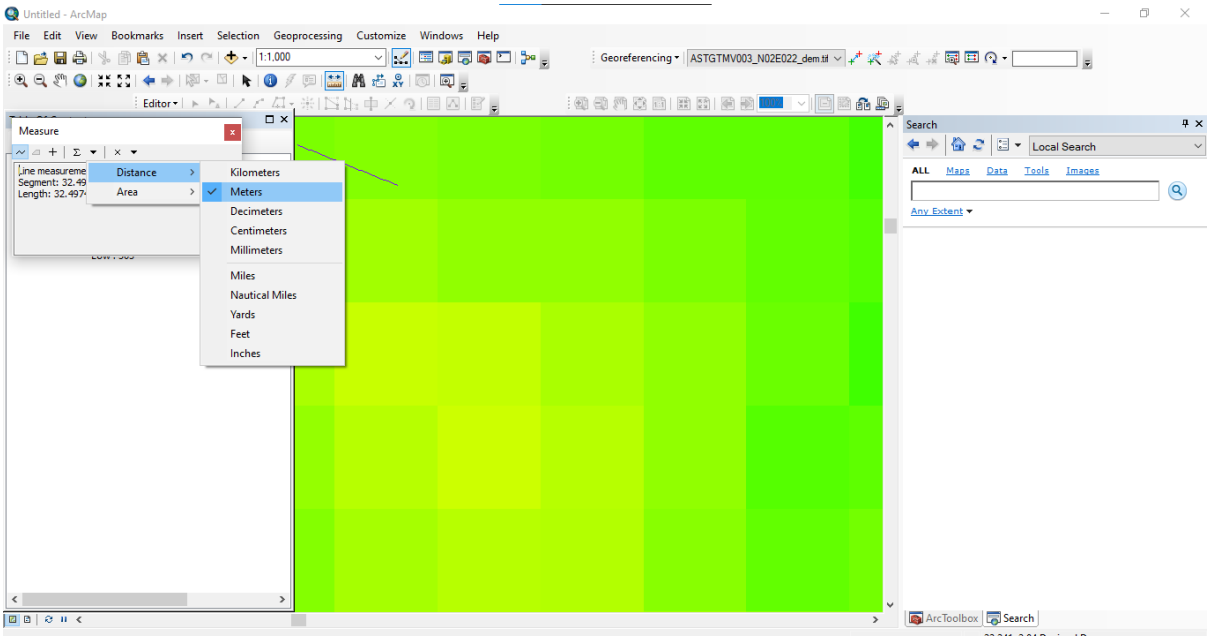
Changing the cell size of a Raster (Resampling) using ArcGIS

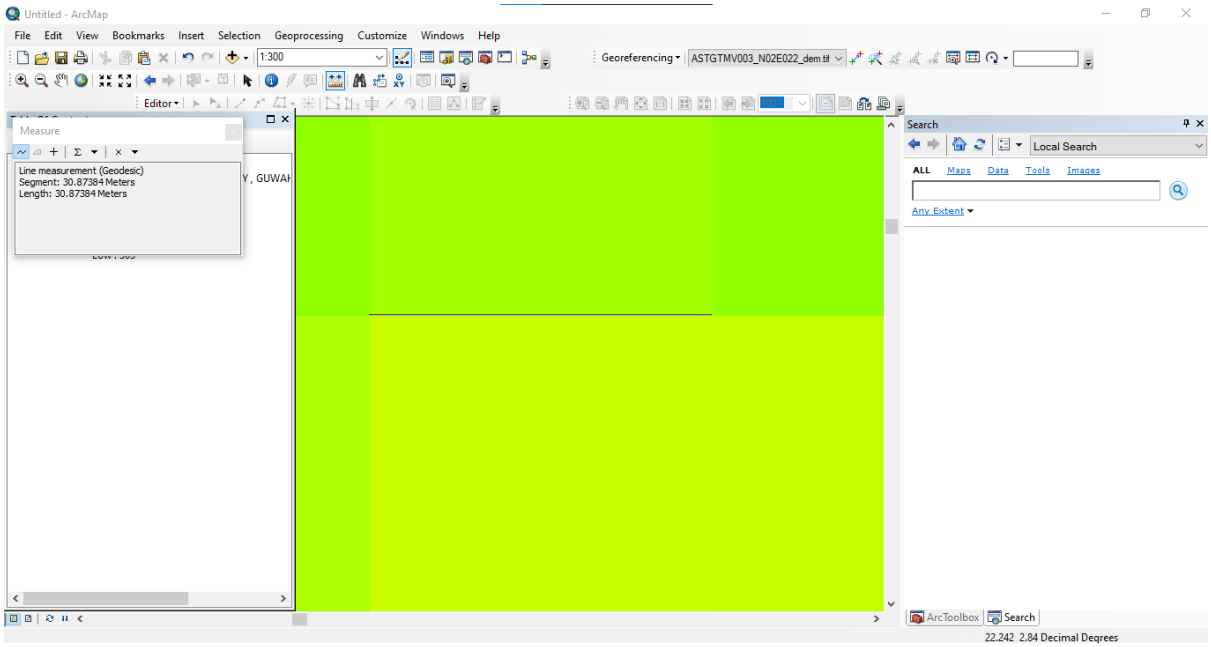
how to increase the pixel size of a Rasta using a technique called resampling with the help of ArcGIS as our primary GIS tool



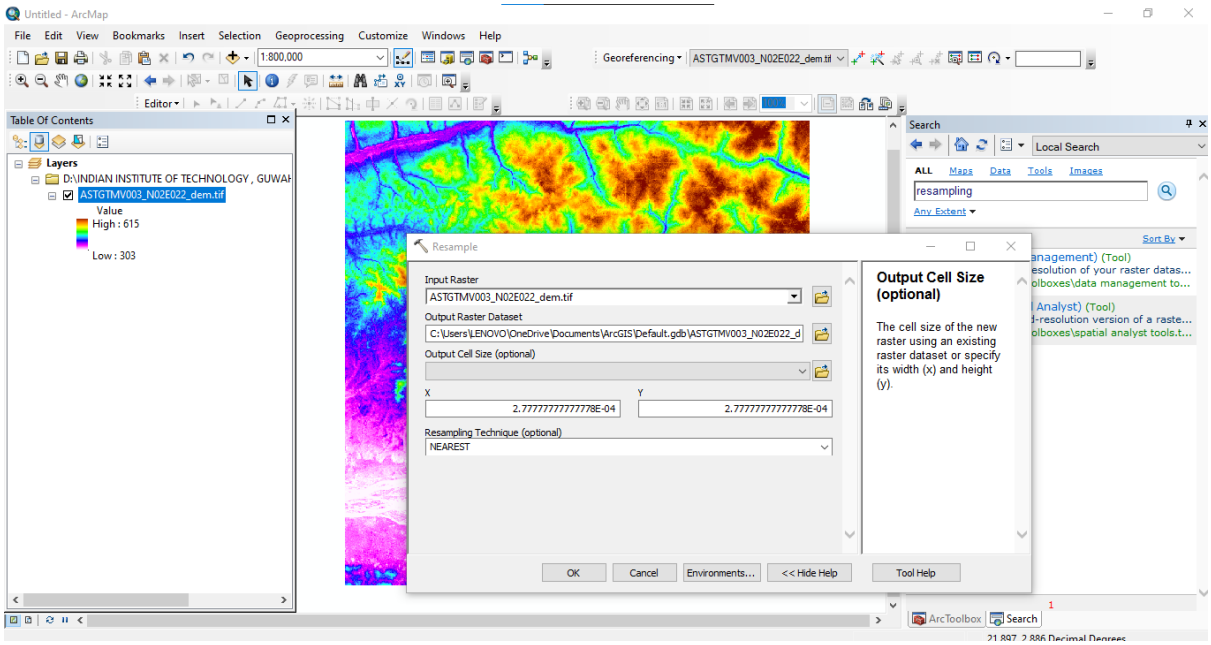


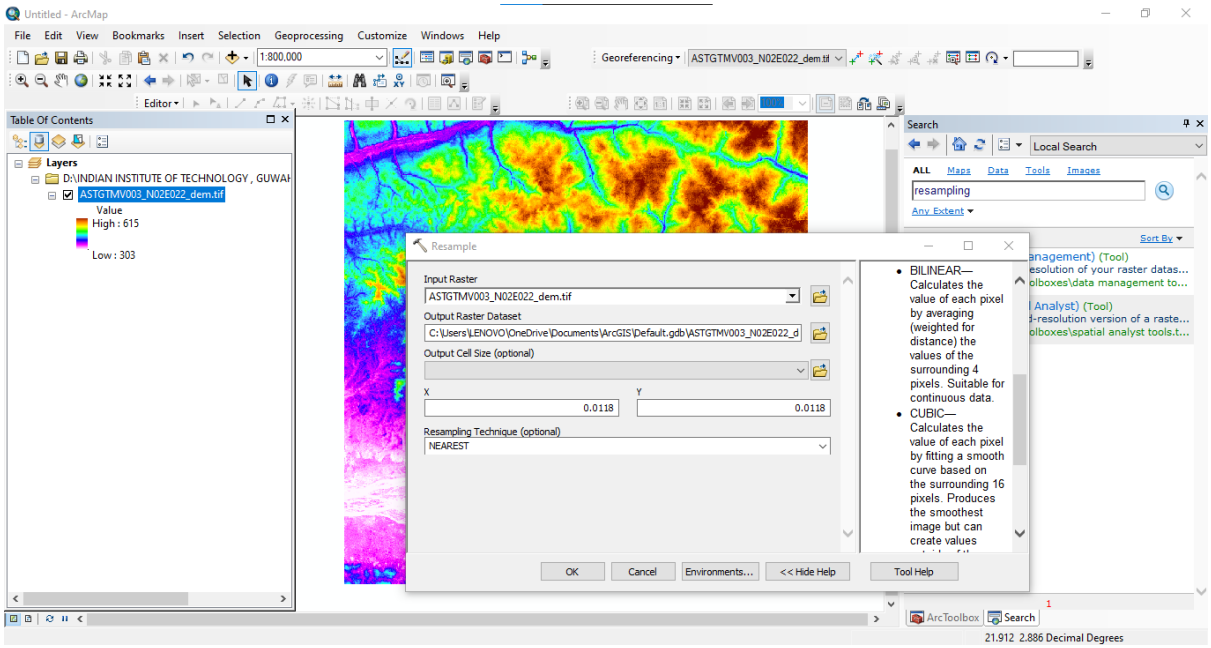

Untitled - ArcMap
File Edit View Bookmarks Insert Selection Geoprocessing Customize Windows Help
Table Of Contents
Layers
ASTGTMV003_N02E022_dem.tif
Value
High : 615
Low : 303
Layer Properties
General Source Key Metadata Extent Display Symbology
Property Value
Raster Information
Columns and Rows 3601, 3601
Number of Bands 1
Cell Size (X, Y) 0.00027777778, 0.00027777778
Uncompressed Size 24.73 MB
Format TIFF
Source Type Generic
Pixel Type signed integer
Pixel Depth 16 Bit
Data Source
Data Type: File System Raster
Folder: D:\INDIAN INSTITUTE OF TECHNOLOGY , GUWAHATI\ARC MAP - ARC GIS \DEM\
Raster: ASTGTMV003_N02E022_dem.tif
Set Data Source...
OK Cancel Apply
Search
Local Search
ALL Maps Data Tools Images
Any Extent
ArcToolbox Search

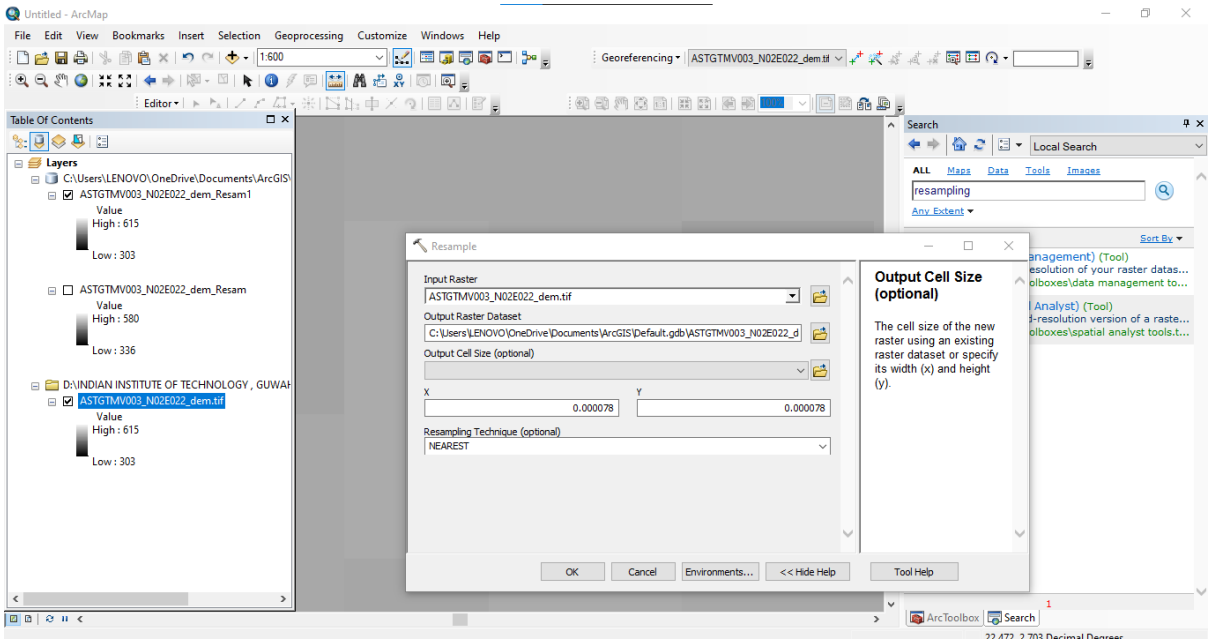

Untitled - ArcMap
File Edit View Bookmarks Insert Selection Geoprocessing Customize Windows Help
Measure
Distance
Area
Kilometers
Meters
Decimeters
Centimeters
Millimeters
Miles
Nautical Miles
Yards
Feet
Inches
Search
Local Search
ALL Maps Data Tools Images
Any Extent
ArcToolbox Search

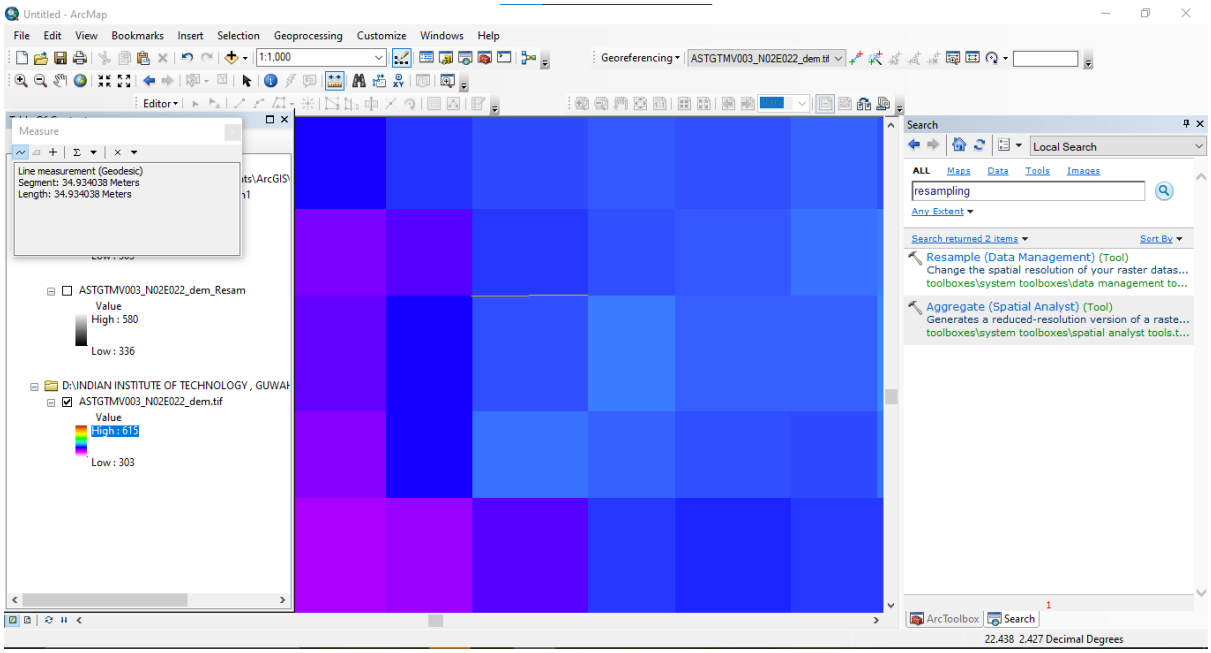


the pixel is pixel has a resolution of 30 meters by 30 meters so for this tutorial the technique that I'm going to use is called resampling now there could be a couple of reasons why you would want to decrease the resolution of your roster by increasing the pixel size for example if you are planning to use this DM in a 3d numerical model you know that the the more precise the more accurate the data is the higher the computational time gets so you might want to reduce the the resolution of the raster by a little bit so that it will add in reducing your computational time and that's just one reason why you would in why you would want to increase the pixel size.


Untitled - ArcMap
File Edit View Bookmarks Insert Selection Geoprocessing Customize Windows Help
Table Of Contents
Layers
ASTGTMV003_N02E022_dem.tif
Value
High : 615
Low : 303
Resample
Input Raster
ASTGTMV003_N02E022_dem.tif
Output Raster Dataset
Output Cell Size (optional)
X
Y
2.77777777777778E-04
Resampling Technique (optional)
NEAREST
Output Cell Size (optional)
The cell size of the new raster using an existing raster dataset or specify its width (x) and height (y).
OK
Cancel
Environments...
<< Hide Help
Tool Help
Search
resampling
Local Search
ArcToolbox
Search


Untitled - ArcMap
File Edit View Bookmarks Insert Selection Geoprocessing Customize Windows Help
Table Of Contents
Layers
ASTGTMV003_N02E022_dem.tif
Value
High : 615
Low : 303
Resample
Input Raster
ASTGTMV003_N02E022_dem.tif
Output Raster Dataset
Output Cell Size (optional)
X
Y
0.0118
Resampling Technique (optional)
NEAREST
BILINEAR— Calculates the value of each pixel by averaging (weighted for distance) the values of the surrounding 4 pixels. Suitable for continuous data.
CUBIC— Calculates the value of each pixel by fitting a smooth curve based on the surrounding 16 pixels. Produces the smoothest image but can create values
OK
Cancel
Environments...
<< Hide Help
Tool Help
Search
resampling
Local Search
ArcToolbox
Search
21.912 2.886 Decimal Degrees


Untitled - ArcMap
File Edit View Bookmarks Insert Selection Geoprocessing Customize Windows Help
Table Of Contents
Layers
ASTGTMV003_N02E022_dem_Resam1
Value
High : 615
Low : 303
ASTGTMV003_N02E022_dem_Resam
Value
High : 580
Low : 336
D:\INDIAN INSTITUTE OF TECHNOLOGY , GUWAH
ASTGTMV003_N02E022_dem.tif
Value
High : 615
Low : 303
Resample
Input Raster
ASTGTMV003_N02E022_dem.tif
Output Raster Dataset
C:\Users\LENOVO\OneDrive\Documents\ArcGIS\Default.gdb\ASTGTMV003_N02E022_d
Output Cell Size (optional)
X
0.000078
Y
0.000078
Resampling Technique (optional)
NEAREST
Output Cell Size (optional)
The cell size of the new raster using an existing raster dataset or specify its width (x) and height (y).
OK
Cancel
Environments...
<< Hide Help
Tool Help
Search
Local Search
resampling
Any Extent
ArcToolbox
Search


Untitled - ArcMap
File Edit View Bookmarks Insert Selection Geoprocessing Customize Windows Help
Measure
Line measurement (Geodesic)
Segment: 34.934038 Meters
Length: 34.934038 Meters
ASTGTMV003_N02E022_dem_Resam
Value
High : 580
Low : 336
D:\INDIAN INSTITUTE OF TECHNOLOGY , GUWAH
ASTGTMV003_N02E022_dem.tif
Value
High : 615
Low : 303
Search
Local Search
resampling
Any Extent
Search returned 2 items
Sort By
Resample (Data Management) (Tool)
Change the spatial resolution of your raster datas...
toolboxes\system toolboxes\data management to...
Aggregate (Spatial Analyst) (Tool)
Generates a reduced-resolution version of a raste...
toolboxes\system toolboxes\spatial analyst tools.t...
ArcToolbox
Search
22.438 2.427 Decimal Degrees