

Subdivision Analysis with subdiv.avx Extension for ArcView 3.x**Programming:**

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Conceptual work:

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Development:

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This contribution is a Help File for executing the subdiv.avx in ArcView 3.x

1. Get the ArcView Extension subdiv.avx
2. Copy the file to the ESRI's Ext32 folder (e.g. C:\ESRI\AV_GIS30\ARCVIEW\EXT32)
3. Load ArcView 3.x and launch under "File" the "Extensions ..." manager.

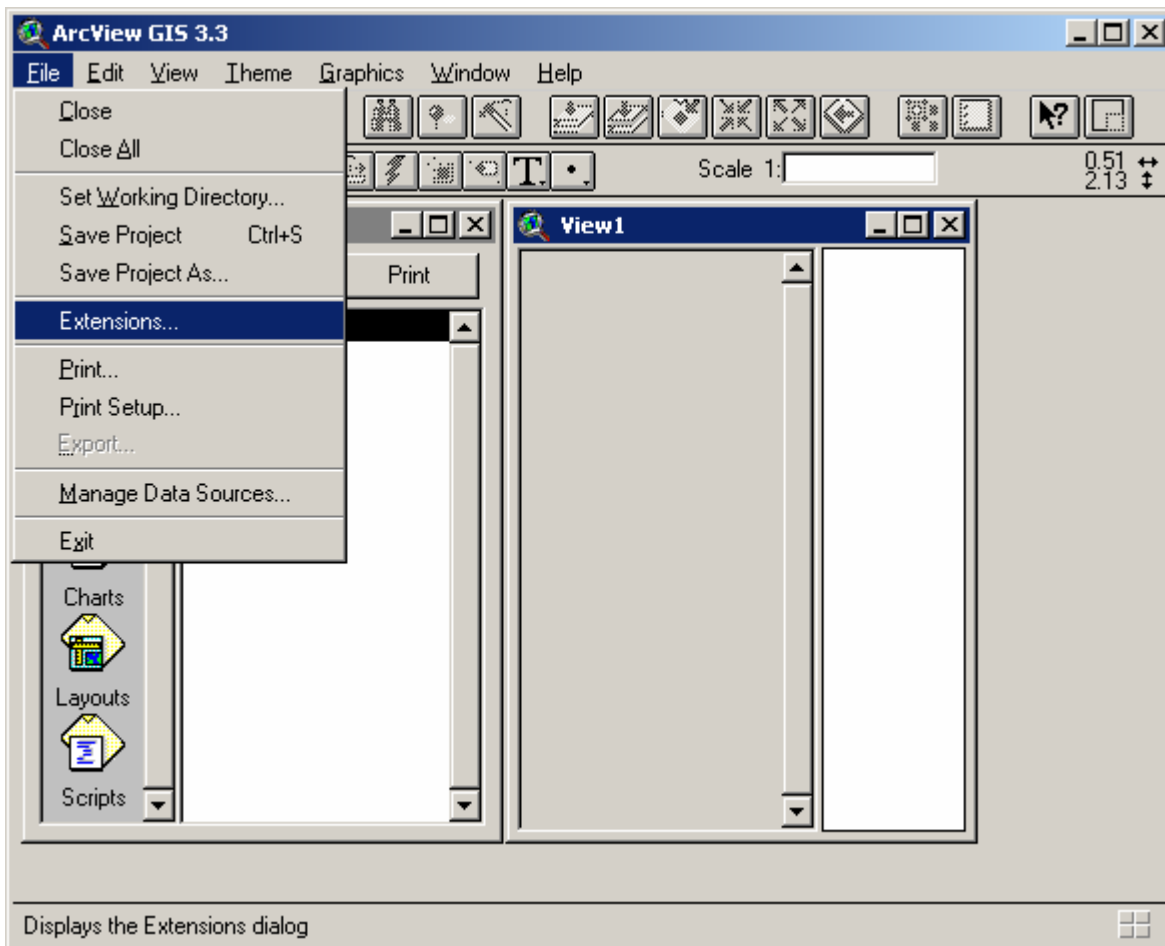


Figure 1: Launching the "Extension ..." - Manager

4. Activate the "Subdivision Analysis" Extension.

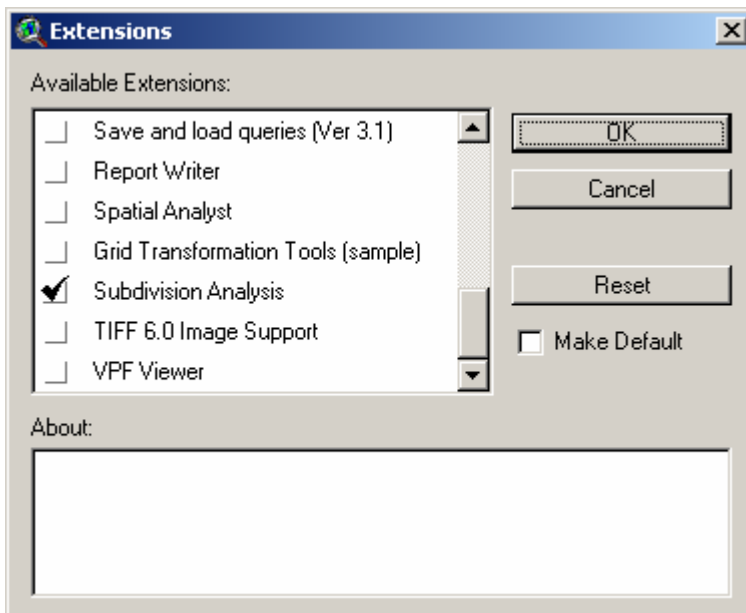


Figure 2: Choosing the Subdivision Analysis Extension

5. Find the Subdiv-button and launch the tool after inserting a vector dataset.

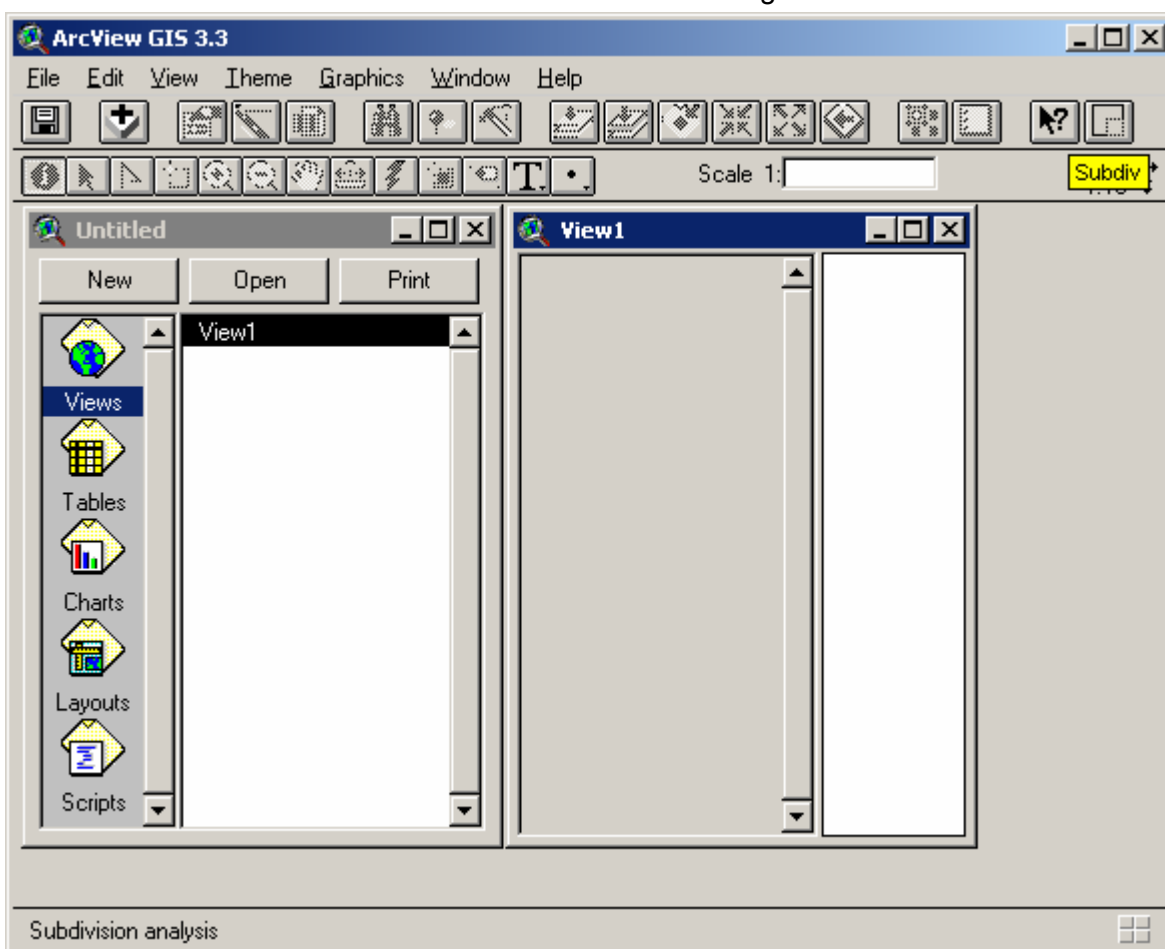


Figure 3: Find the Subdivision Analysis Button

6. Find the Subdiv-button and launch the tool. Note that a polygon theme must be active in the view.

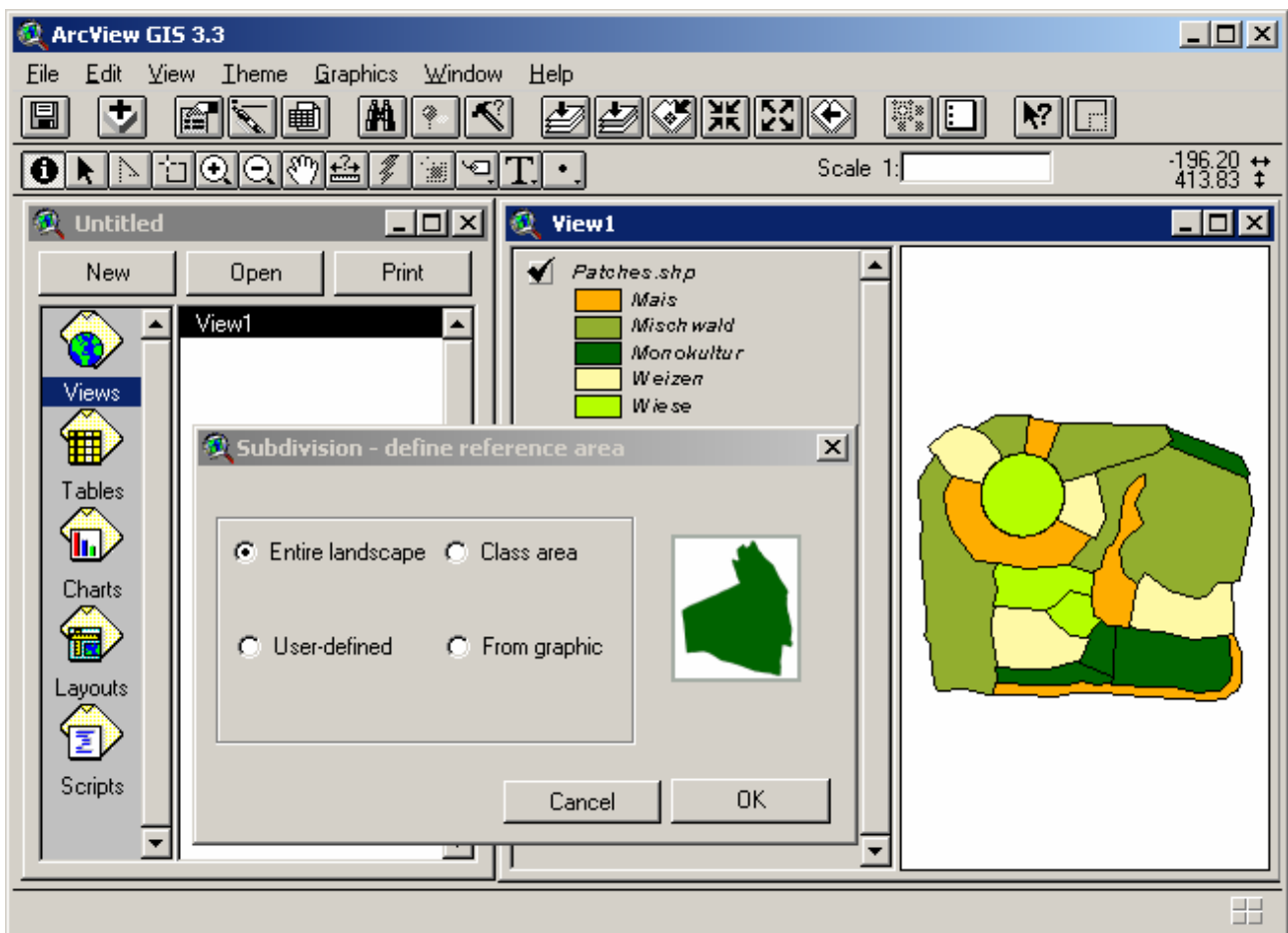


Figure 4: The Subdivision Analysis Tool

7. The whole extend of the landscape is shown.

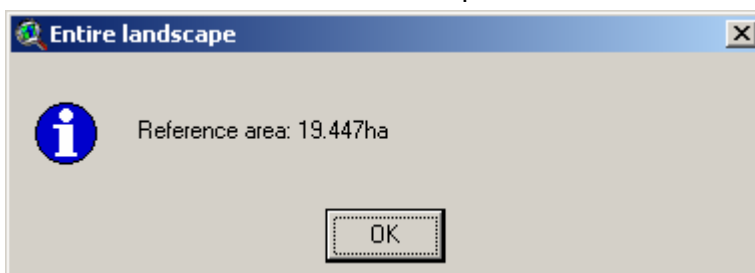


Figure 5: The reference area of the whole case study

You can choose between various concepts of reference areas. Those will be explained as follows:

ENTIRE LANDSCAPE: The whole area of the landscape is used as reference area.

CLASS AREA: The area of a specified category or class is used as reference area.

USER DEFINED: The user can define a reference area (in ha).

FROM GRAPHIC: The user can draw a polygon, which represents the reference area. Note that the calculation will be stopped, if the reference area is smaller than the area sum of the polygons under consideration.

8. Choose the category or class. In this example only one is available. Note that fields names “Shape”, “ID”, “Area”, “Perimeter” are not provided in the class field list.

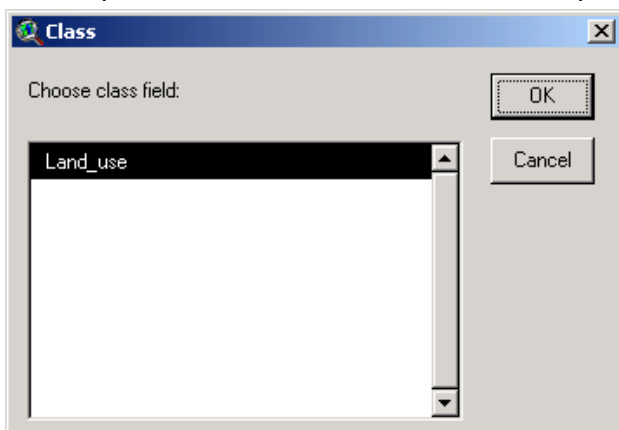


Figure 6: Choosing a class field

9. Choose a class to be analyzed.

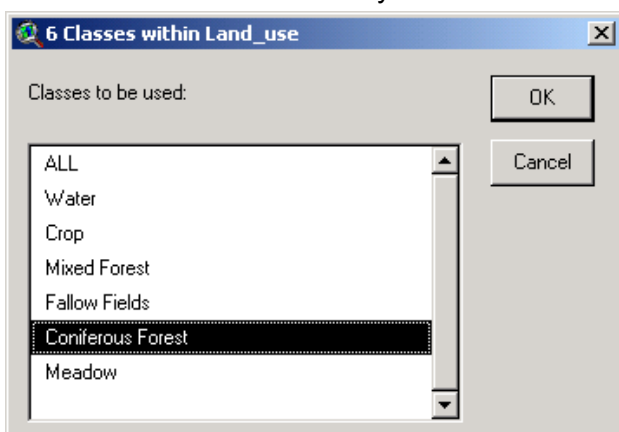


Figure 7: Selecting classes to be used. Choose “ALL” to select all available categories or classes.

10. As a result you can find a DBF file in your ArcView working directory, which looks like that (note that the reference area in this example was the area sum of the category “coniferous forest”):

Subdivision Analysis (Notestsite.shp)				
#Patches	Coherence_ %	Subdivision_ %	SplitIndex	EffMesh_ha
3	59.37	40.63	1.684	1.46150

Figure 8: Dbase table in ArcView

The following lines explain the meaning of the metric and its value.

PATCHES: Number of patches (polygons) under consideration.

COHERENCE %: degree of coherence of the selected class in respect to the specified reference area in percent.

SUBDIVISION %: degree of of the selected class in respect to the specified reference area in percent (equals 1 minus coherence). In other words it is the probability at which two random points are not located in the same un-dissected patch.

SPLITINDEX: The number of patches theoretically remaining at a given degree of division.

EFFMESH HA: The average size of patches within the split class.

References:

Jaeger, J. (2000): Landscape division, splitting index, and effective mesh size: new measures of landscape fragmentation. In: Landscape Ecology, vol. 15, pp 115-130.