

Lesson plan –New potential Industrial zones – Worksheet


Introduction:

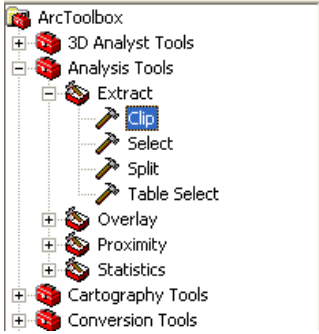
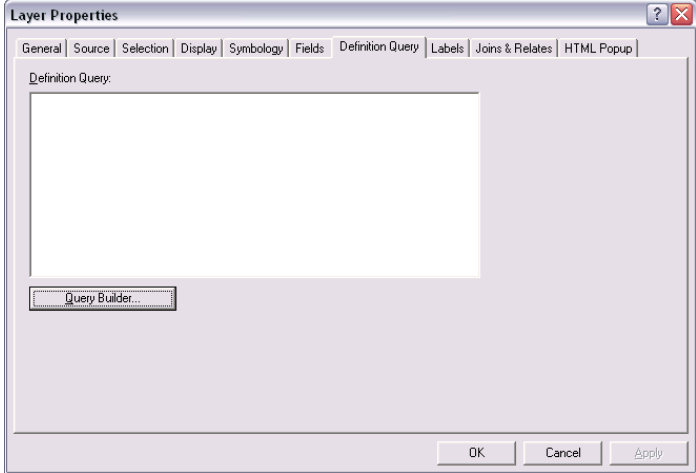

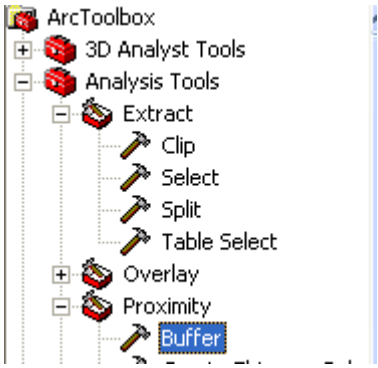
The land suitability analysis is one of the traditional problems solved with GIS support. This is a complex task, involving the use of different analytical spatial operations, such overlay, extracting features and queries.

The decision where to locate some activity depends on many factors such as distance (to or from some important infrastructure or place), type of the landuse etc.

Description of the exercise:

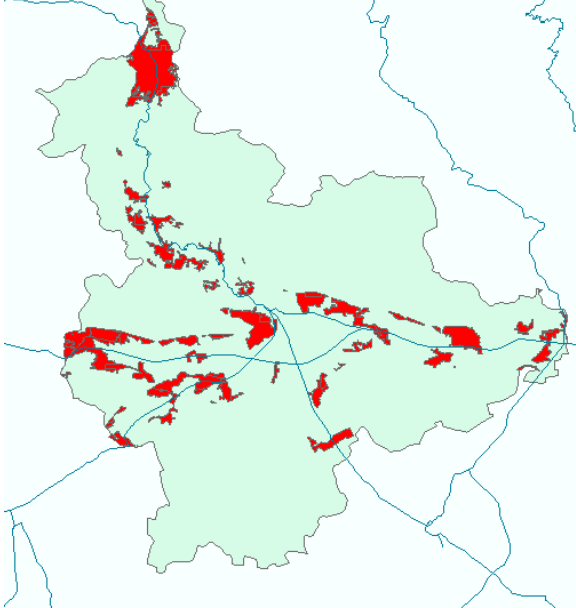
The exercise addresses issues of land suitability analysis by using overlay and definition query operations.

<i>number</i>	<i>Instruction</i>	<i>iNotes</i>	<i>Teachers' / Trainers' activity</i>	<i>Pupils' / participants' activity</i>
1	Open ArcMap from the windows start menu			X
2	Add the data layers <i>municipalities, roads and landuse</i> in ArcMap.	1	<input type="checkbox"/>	X
	<p>In this exercise, we will simulate the hypothetical scenario that we need to select new potential industrial sites in one municipality.</p> <p>There are two basic requirements (conditions):</p> <ul style="list-style-type: none"> <input type="checkbox"/> The new sites should be within 2 km of the main road <input type="checkbox"/> The land use types should be different from any arable land or forest <p>We are going to use the following GIS techniques:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Overlay (Clip) <input type="checkbox"/> Buffering <input type="checkbox"/> Querying 			
3	Select the municipality "Sliven" ("Name = "Sliven") by using a Definition query in the properties of the layer " <i>municipalities</i> ".	6	<input type="checkbox"/>	X
4	Use the "Clip" function to extract the types of land use only for Sliven municipality (it can be accessed from Arc Toolbox ).	45	<input type="checkbox"/>	X

				
5	<p>Select only the first and second class roads by using the definition query from the layer properties menu.</p> <p>In the dialogue box write the expression: "TYPE" = 1 OR "TYPE" = 2</p> 	6	<input type="checkbox"/>	X
6	<p>Use the “Buffer” function to create a 2km buffer around the roads. This tool can be accessed from Arc Toolbox  as well.</p> 	9	<input type="checkbox"/>	X
<p>Now it is time to select the land use only around the major roads:</p>				
7	<p>Use the “Clip” function again to extract only the landuse types within the buffer polygon</p>	45	<input type="checkbox"/>	X

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8	<p>Use the definition query to extract only the lands which are not productive arable land, forests and water. This includes: rare vegetation, not specified, other agricultural lands, pastures and bare rocks.</p> <p>Change the color of the layer in red by clicking on the colourbox next to layer landuse_clip.</p>	6	<input type="checkbox"/>	X
9	Export your map as <code>potentialindustrialzonesyourname.pdf</code> and save it in your portfolio on Moodle.	42	<input type="checkbox"/>	X
<p>Now you can check visually what are the potential new industrial zones.</p> 				

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