
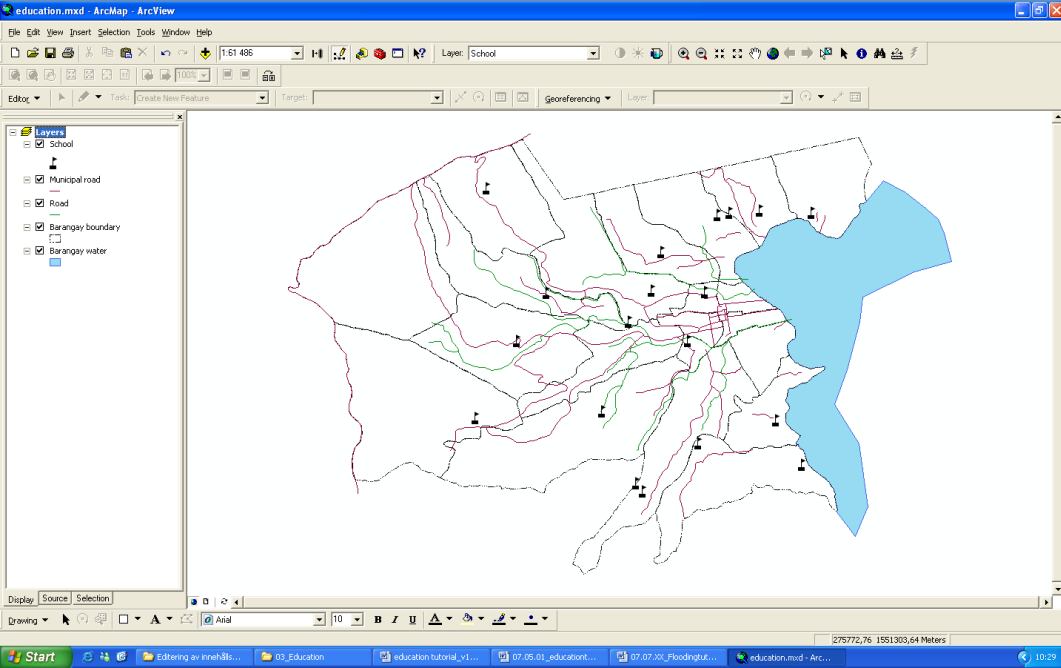
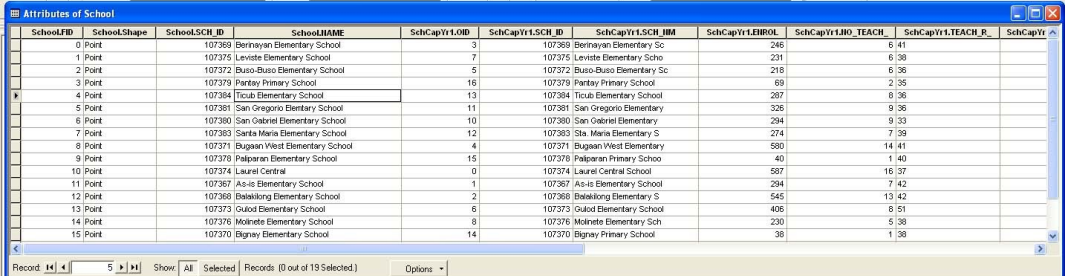


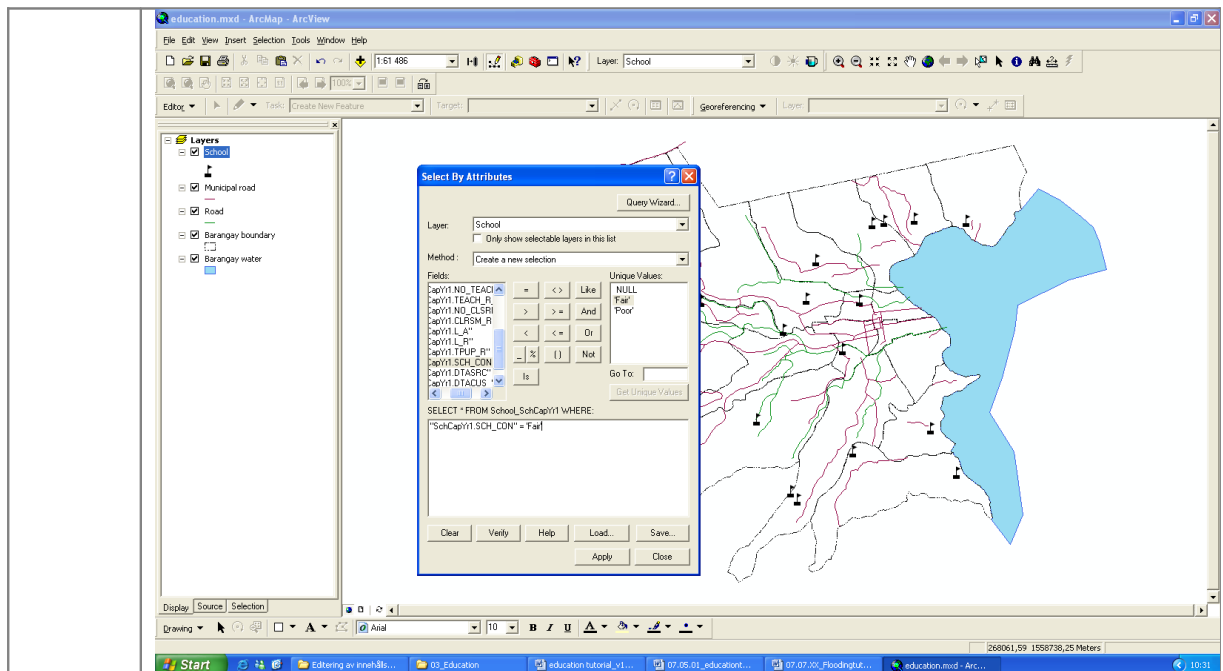


7.05.01 Educational

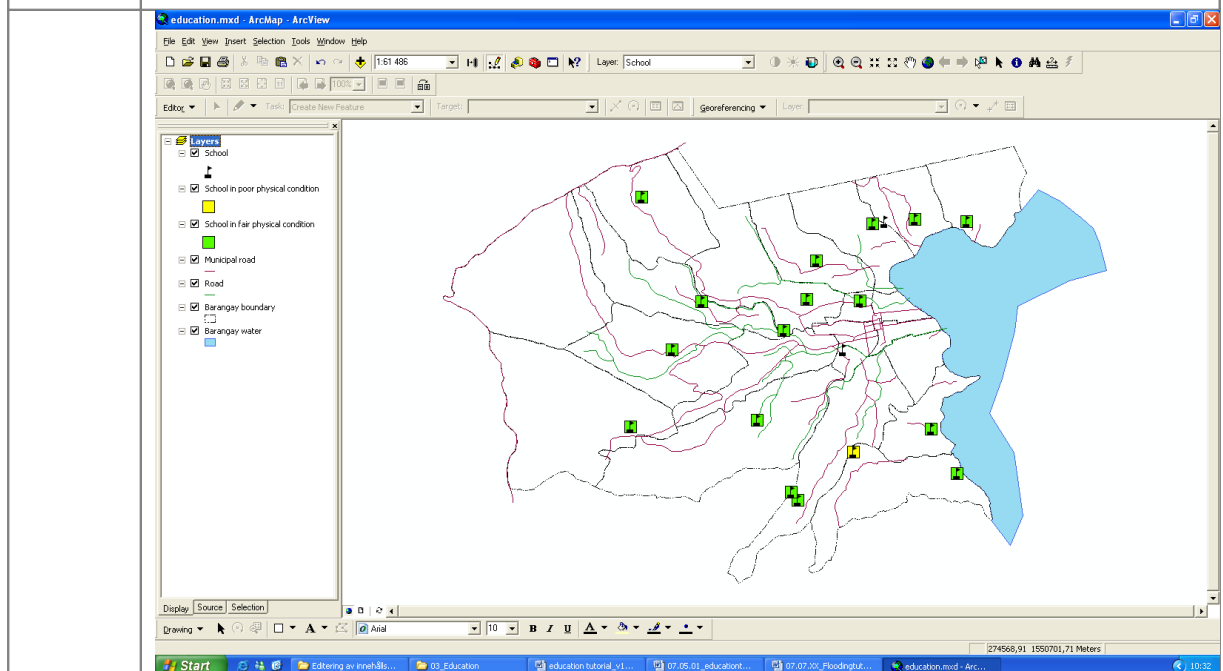
	<p>Disclaimer</p>
	<p><i>The objective of this tutorial is to get familiar with the GIS software. The tutorial only covers some parts that are being done in a real analysis. The results that are being displayed in the tutorial can't be compared with the results a real analysis would generate.</i></p>
	<p>Introduction</p>
	<p><i>The Output map of this tutorial is a map showing the physical condition of the schools in the area and a 1000 meters buffer around the schools, illustrating the schools catchments area.</i></p>
	<p><i>All map layers are presumed to have been digitized, projected and georeferenced before proceeding to this tutorial.</i></p>
	<p>The screenshot shows the ArcMap interface with a map titled 'education.mxd'. The map displays several green square markers representing schools, each surrounded by a circular hatched buffer. The map also shows a network of roads (pink lines), a blue water body on the right, and various administrative boundaries. The Layers panel on the left lists the following layers: 1km Buffer, School, School in poor physical condition, School in fair physical condition, Municipal road, Road, Barangay boundary, and Barangay water. The status bar at the bottom indicates a scale of 1:61,486 and a coordinate of 271071,22 1548261,47 Meters.</p>
<p>1</p>	<p>Getting started</p>
<p>1.1</p>	<p>Open ArcMap, select a new empty map. You will now save the map file. Click on File>Save as... in the menu bar. Browse to the folder C:\HLURB\CLUP\01_CLUPGIS (Laurel)\06_Workfolder\ and type 'Educational_v1.mxd'. Click Save/OK.</p>
<p>1.2</p>	<p>Add the files..... . Click on the add data button  and browse to C:\HLURB\CLUP\01_CLUPGIS and select the files.</p>

	<p>Barangay boundary</p> <p>Roads</p> <p>Rivers</p> <p>SE19-20</p> <p>Click OK. (See image below.)</p>
	
<p>2</p>	<p>Joining the tables</p>
	<p><i>We are now going to join the table containing the schools (SE19) with the table containing the physical condition of the schools (SE20). Both these tables have one column in common and that is the SCH_ID column. We are joining these two tables based on this.</i></p>
<p>2.1</p>	<p>In the layer menu right click on the school layer, select Joins and Relates>Join... In the field “What do you want to join to this layer?”, mark Join attributes from a table</p>
<p>2.2</p>	<p>In the field “Choose the field in this layer that the join will be based on”, mark SCH_ID</p>
<p>2.3</p>	<p>In the field “Choose the table to join to this layer, or load the table from disk”, mark SchCapYr1</p>
<p>2.4</p>	<p>In the field “Choose the field in the table to base the join on:”, mark SCH_ID</p>

2.5	Press the Ok button																																																																																																																																																																																											
2.6	Open up the attribute table of the school layer to see if the two tables have joined correctly. If they have done this, your attribute table should look like the one below.																																																																																																																																																																																											
	 <table border="1"> <thead> <tr> <th>SchoolID</th> <th>SchoolShape</th> <th>SchoolSCH_ID</th> <th>SchoolNAME</th> <th>SchCapYr1.00</th> <th>SchCapYr1.SCH_ID</th> <th>SchCapYr1.SCH_IBM</th> <th>SchCapYr1.EIBROL</th> <th>SchCapYr1.HO_TEACH</th> <th>SchCapYr1.TEACH_P</th> <th>SchCapYr</th> </tr> </thead> <tbody> <tr><td>0</td><td>Point</td><td>107369</td><td>Berinyan Elementary School</td><td>3</td><td>107369</td><td>Berinyan Elementary Sc</td><td>246</td><td>6</td><td>41</td><td></td></tr> <tr><td>1</td><td>Point</td><td>107375</td><td>Leviste Elementary School</td><td>7</td><td>107375</td><td>Leviste Elementary Scho</td><td>231</td><td>6</td><td>38</td><td></td></tr> <tr><td>2</td><td>Point</td><td>107372</td><td>Buso-Buso Elementary School</td><td>5</td><td>107372</td><td>Buso-Buso Elementary Sc</td><td>218</td><td>6</td><td>36</td><td></td></tr> <tr><td>3</td><td>Point</td><td>107379</td><td>Pantay Primary School</td><td>16</td><td>107379</td><td>Pantay Primary School</td><td>89</td><td>2</td><td>35</td><td></td></tr> <tr><td>4</td><td>Point</td><td>107384</td><td>Ticub Elementary School</td><td>13</td><td>107384</td><td>Ticub Elementary School</td><td>287</td><td>8</td><td>36</td><td></td></tr> <tr><td>5</td><td>Point</td><td>107381</td><td>San Gregorio Elementary School</td><td>11</td><td>107381</td><td>San Gregorio Elementary</td><td>326</td><td>9</td><td>36</td><td></td></tr> <tr><td>6</td><td>Point</td><td>107380</td><td>San Gabriel Elementary School</td><td>10</td><td>107380</td><td>San Gabriel Elementary</td><td>294</td><td>9</td><td>33</td><td></td></tr> <tr><td>7</td><td>Point</td><td>107383</td><td>Santa Maria Elementary School</td><td>12</td><td>107383</td><td>Sa. Maria Elementary S</td><td>274</td><td>7</td><td>39</td><td></td></tr> <tr><td>8</td><td>Point</td><td>107371</td><td>Buguan West Elementary School</td><td>4</td><td>107371</td><td>Buguan West Elementary</td><td>580</td><td>14</td><td>41</td><td></td></tr> <tr><td>9</td><td>Point</td><td>107378</td><td>Palparan Elementary School</td><td>15</td><td>107378</td><td>Palparan Primary Schoo</td><td>40</td><td>1</td><td>40</td><td></td></tr> <tr><td>10</td><td>Point</td><td>107374</td><td>Laurel Central</td><td>0</td><td>107374</td><td>Laurel Central School</td><td>587</td><td>16</td><td>37</td><td></td></tr> <tr><td>11</td><td>Point</td><td>107367</td><td>As-is Elementary School</td><td>1</td><td>107367</td><td>As-is Elementary School</td><td>294</td><td>7</td><td>42</td><td></td></tr> <tr><td>12</td><td>Point</td><td>107368</td><td>Babalang Elementary School</td><td>2</td><td>107368</td><td>Babalang Elementary S</td><td>545</td><td>13</td><td>42</td><td></td></tr> <tr><td>13</td><td>Point</td><td>107373</td><td>Gulod Elementary School</td><td>6</td><td>107373</td><td>Gulod Elementary School</td><td>406</td><td>8</td><td>51</td><td></td></tr> <tr><td>14</td><td>Point</td><td>107376</td><td>Molnete Elementary School</td><td>8</td><td>107376</td><td>Molnete Elementary Sch</td><td>230</td><td>5</td><td>38</td><td></td></tr> <tr><td>15</td><td>Point</td><td>107370</td><td>Bignay Elementary School</td><td>14</td><td>107370</td><td>Bignay Primary School</td><td>38</td><td>1</td><td>38</td><td></td></tr> </tbody> </table>	SchoolID	SchoolShape	SchoolSCH_ID	SchoolNAME	SchCapYr1.00	SchCapYr1.SCH_ID	SchCapYr1.SCH_IBM	SchCapYr1.EIBROL	SchCapYr1.HO_TEACH	SchCapYr1.TEACH_P	SchCapYr	0	Point	107369	Berinyan Elementary School	3	107369	Berinyan Elementary Sc	246	6	41		1	Point	107375	Leviste Elementary School	7	107375	Leviste Elementary Scho	231	6	38		2	Point	107372	Buso-Buso Elementary School	5	107372	Buso-Buso Elementary Sc	218	6	36		3	Point	107379	Pantay Primary School	16	107379	Pantay Primary School	89	2	35		4	Point	107384	Ticub Elementary School	13	107384	Ticub Elementary School	287	8	36		5	Point	107381	San Gregorio Elementary School	11	107381	San Gregorio Elementary	326	9	36		6	Point	107380	San Gabriel Elementary School	10	107380	San Gabriel Elementary	294	9	33		7	Point	107383	Santa Maria Elementary School	12	107383	Sa. Maria Elementary S	274	7	39		8	Point	107371	Buguan West Elementary School	4	107371	Buguan West Elementary	580	14	41		9	Point	107378	Palparan Elementary School	15	107378	Palparan Primary Schoo	40	1	40		10	Point	107374	Laurel Central	0	107374	Laurel Central School	587	16	37		11	Point	107367	As-is Elementary School	1	107367	As-is Elementary School	294	7	42		12	Point	107368	Babalang Elementary School	2	107368	Babalang Elementary S	545	13	42		13	Point	107373	Gulod Elementary School	6	107373	Gulod Elementary School	406	8	51		14	Point	107376	Molnete Elementary School	8	107376	Molnete Elementary Sch	230	5	38		15	Point	107370	Bignay Elementary School	14	107370	Bignay Primary School	38	1	38	
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3	Making selection by attributes																																																																																																																																																																																											
	<i>In this example we are analyzing the following aspects of the educational sector: Schools in fair, poor or critical condition.</i>																																																																																																																																																																																											
	The schools physical condition Since none of the schools in the area are in critical condition, we only have to make two layers. One that contains schools in fair physical condition, and a second layer that contains schools in poor physical condition. To do this you have to do the following query.																																																																																																																																																																																											
3.1	Open the selection menu >selection by attribute																																																																																																																																																																																											
3.2	The layer that we are making our selection from is the school .layer In the operator window type "SchCapYr1.SCH_CON" = 'Poor'																																																																																																																																																																																											
3.3	Press the Apply button																																																																																																																																																																																											
3.4	In the layer menu right click on the school layer, then > Selection >Create Layer From Selected Features.																																																																																																																																																																																											
3.5	Rename the newly created layer Schools in poor physical condition. The symbol for the new layer should be a yellow square																																																																																																																																																																																											
3.6	Repeat step 1-5 but change the operator window to "SchCapYr1.SCH_CON" = 'fair' in number 2. The symbol for schools in fair physical condition should be a green square																																																																																																																																																																																											



When you have created the two new layers your screen should look like the one below.

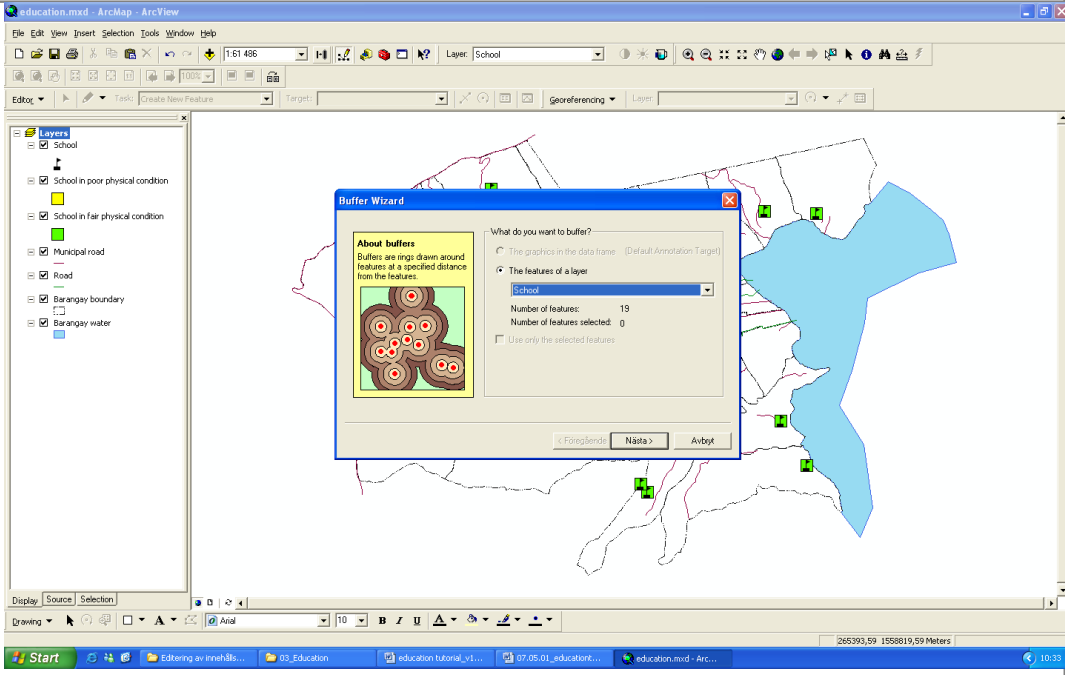
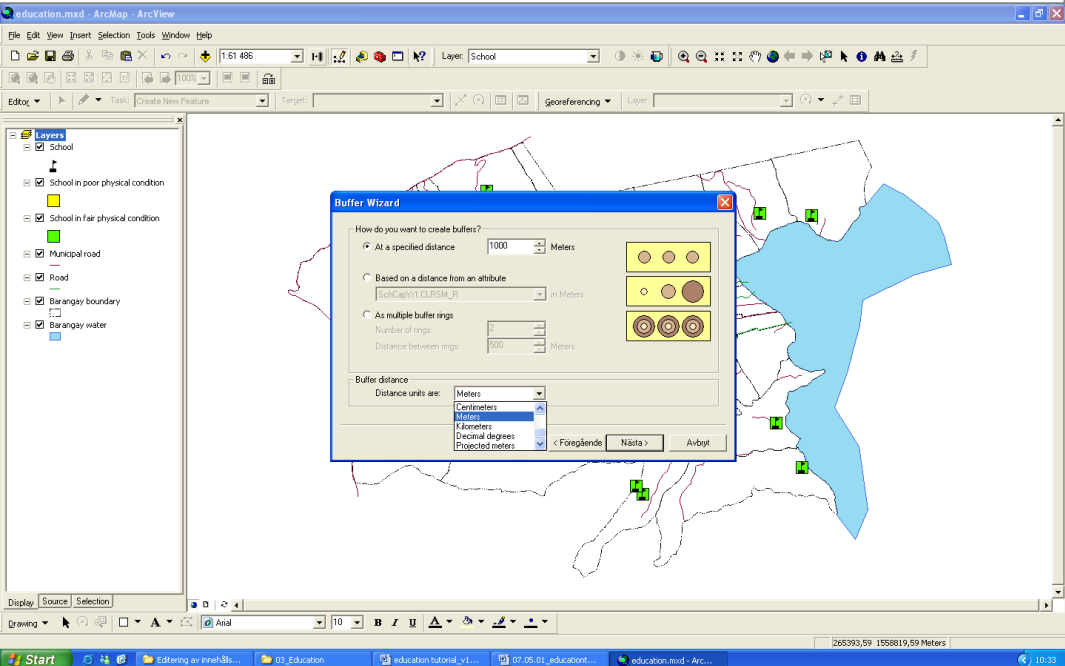


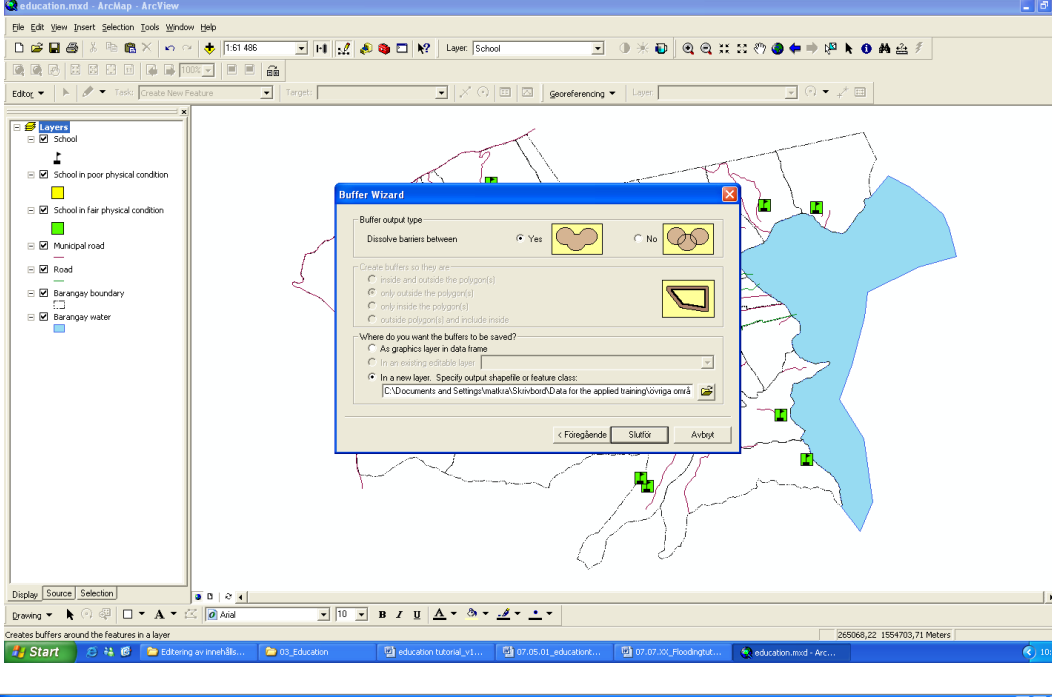
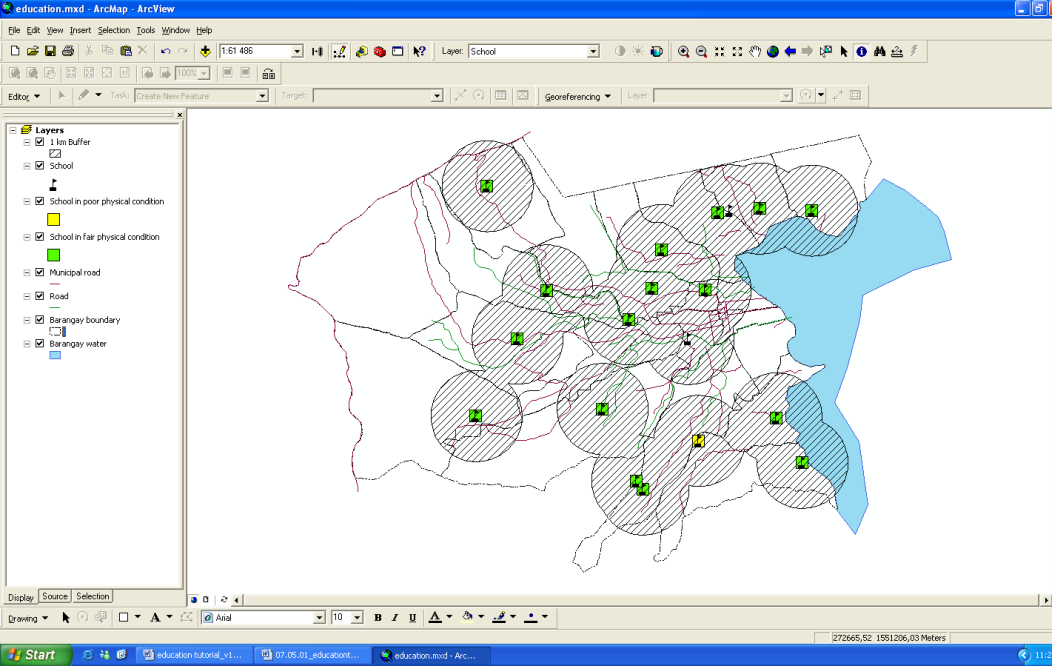
4 Buffering

In this example we assume that the catchments areas of the schools are 1000 meters and therefore we create a circular buffer around the schools with a radius of 1000 meters.

4.1 Open the **Buffer Wizard** >The features of a layer.

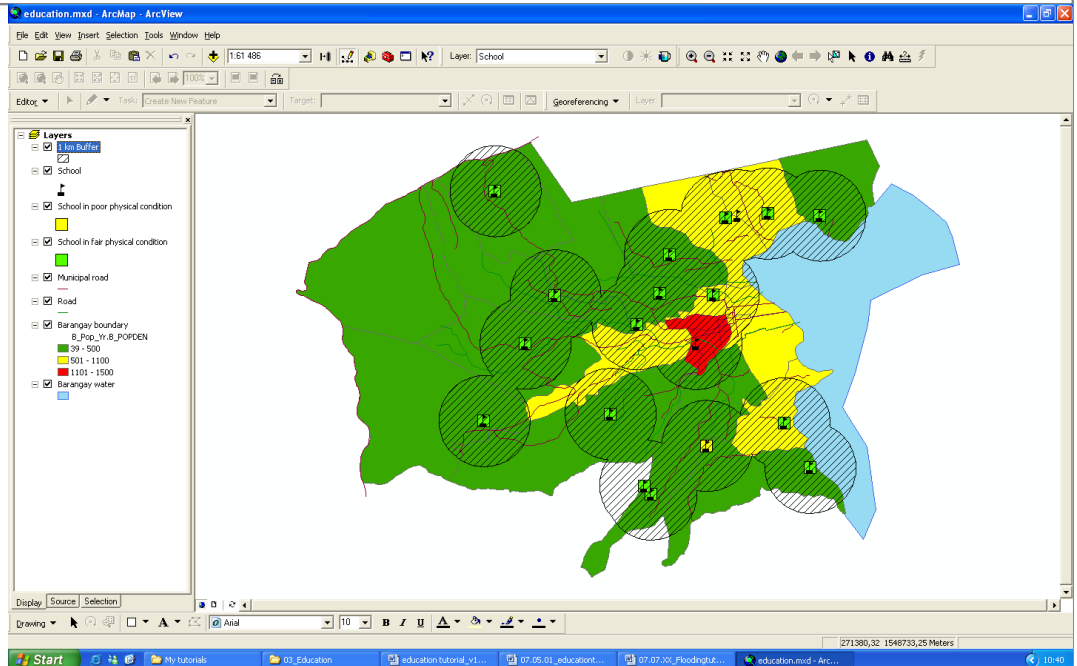
4.2 The selected layer is **School**

<p>4.3</p>	<p>Press the next button.</p> 
<p>4.4</p>	<p>Set the distance units to meters</p>
<p>4.5</p>	<p>Set the distance to 1000 meters in the bullet "At a specified distance"</p>
<p>4.6</p>	<p>Press the next button</p>
<p>4.7</p>	<p>In the "buffer output type" mark yes to the question "Dissolve barriers between".</p> 

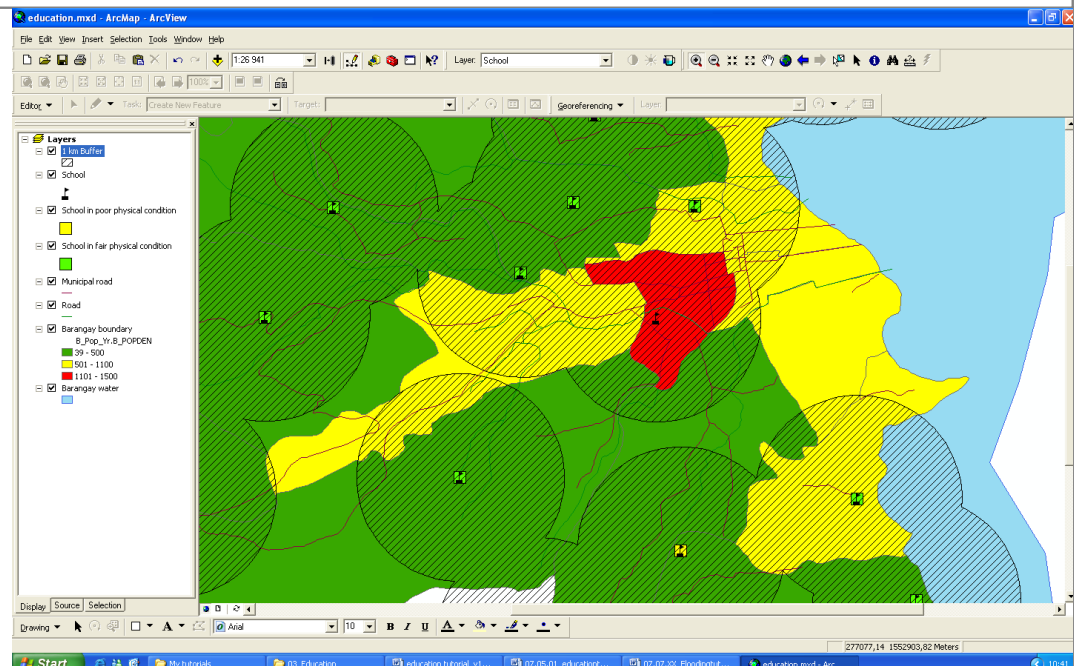
<p>4.8</p>	<p>In the bullet “specify output shapefile or feature class” as C:\HLURB\CLUP\01_1000meter_buffer_of_schools</p>
<p>4.9</p>	<p>Press the Finish button</p>
	
	
<p>5</p>	<p>Presentation</p> <p><i>The final step is to present the results of the analysis. The final products should be effectively communicating the findings to your audience. In most cases, the results of the GIS analysis can best be shown on a map.</i></p>

Charts and reports of selected data are two other ways of presenting the results. Charts and reports can be printed separately, be embedded in the CLUP narrative text or be placed on a map.

The education analysis layers will be put on top of the Base Map. As recommended in Volume two, it is be overlaid with the population density map to show distribution of schools with respect to the number of people residing within an area:



A zoomed screenshot of the map.



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