

## Calculating impervious surface by polygon using Hawth's Tools in ArcGIS

### Impervious Surface Raster Dataset:

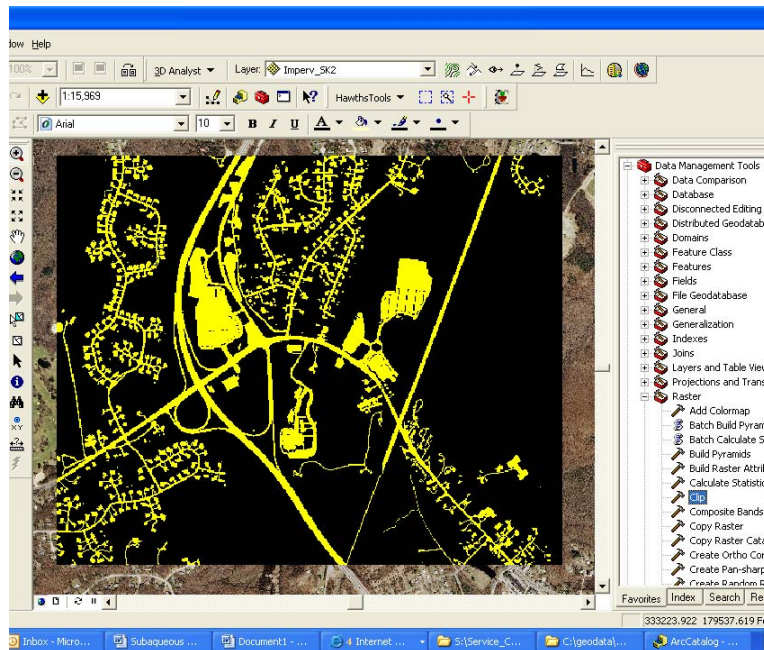
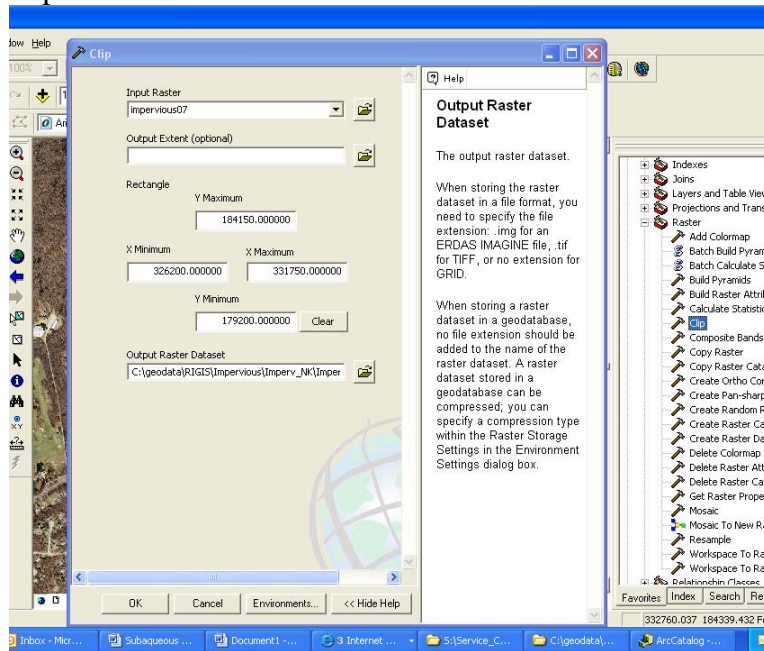
This is a statewide, seamless digital dataset of the impervious surfaces for the State of Rhode Island derived using semin-automated methods and based on imagery captured in 2003-2004. Geographic feature accuracy meets the National Mapping Standards for 1:5000 scale mapping with respect to base level data (roads, hydrography, and orthos). This raster dataset has two classes - pervious and impervious. Impervious surfaces are human-created surfaces that do not allow water to permeate through them. **The dataset has a spatial resolution of 2 ft.**

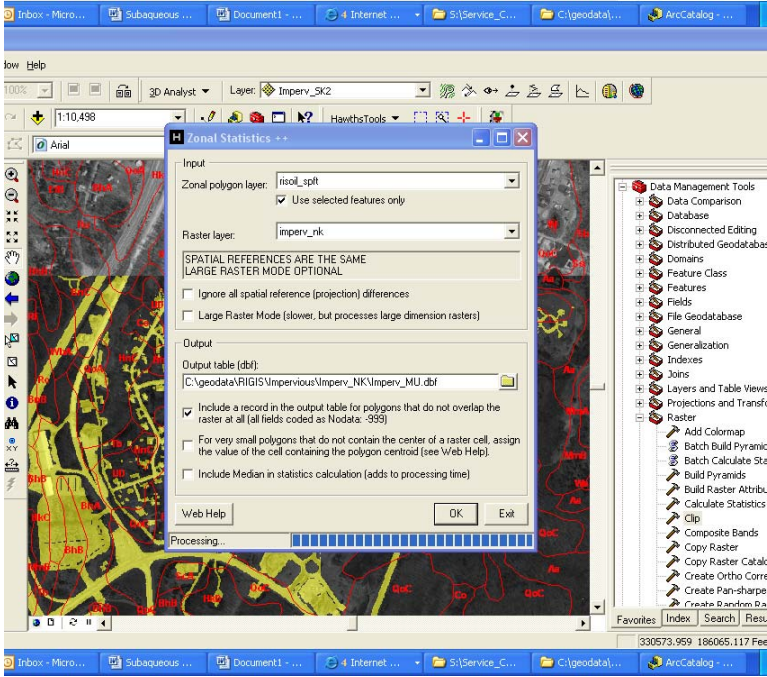
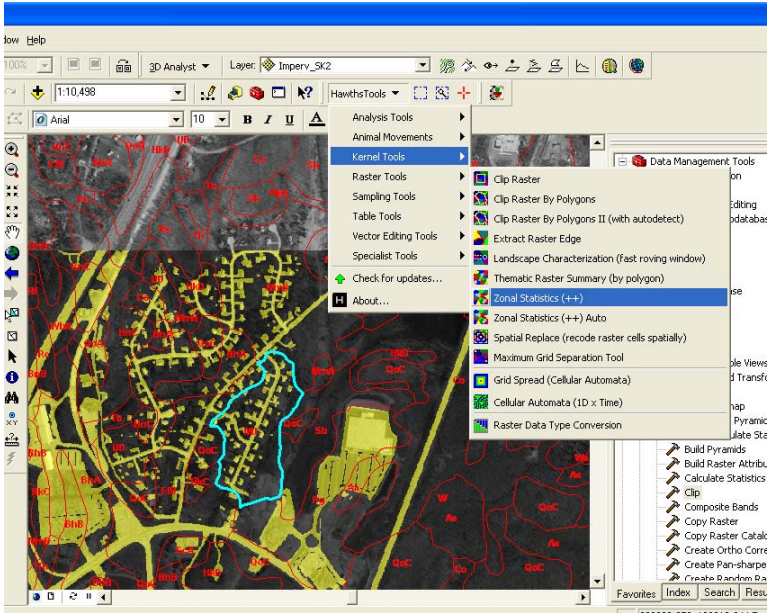
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1. Clip raster to a small area of interest using ArcToolbox; Data Management Tools, Raster, Clip.
2. Select soil polygon(s) to analyze if already mapped. In Hawth's Tools, select Raster tools, Zonal Statistics.
3. Enter soils layer as zonal polygons, check selected polygons only, and enter clipped raster for raster layer
4. Select output folder and file and run.
5. Output will be a .dbf file, listing minimum, maximum, average, standard deviation, sum, and count. In our case, the raster is coded with 0 being non-impervious, and 1 being

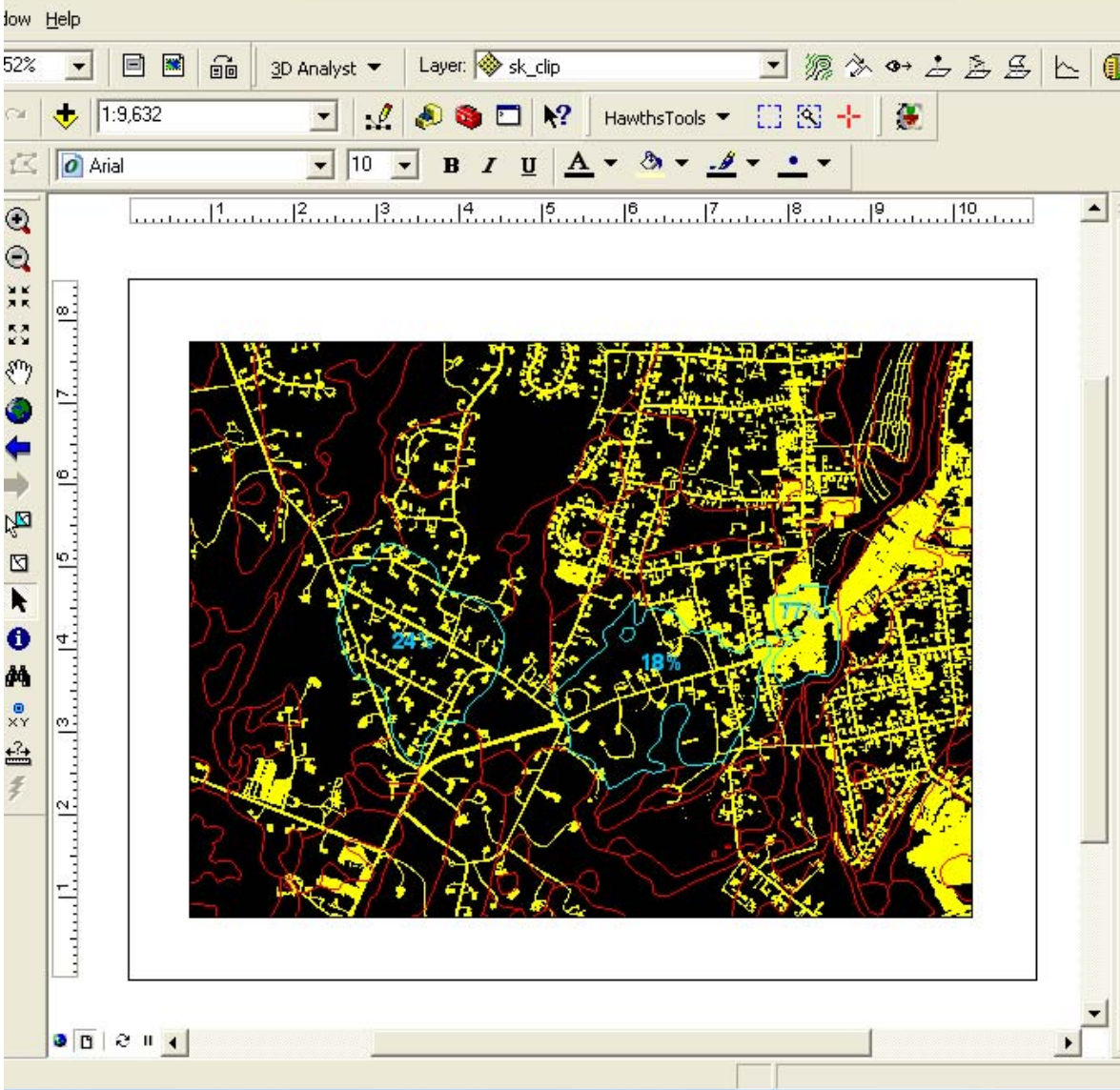
impervious. Therefore, the average multiplied by 100 is the percent impervious cover. This can also be calculated by dividing the count by the sum. In this case = 24% impervious cover.





Microsoft Excel - Imperv\_MU.dbf

	A	B	C	D	E	F	G	H
1	ID	PolyFID	ZSTATS_MIN	ZSTATS_MAX	ZSTATS_AVG	ZSTATS_STD	ZSTATS_SUM	ZSTATS_CNT
2		1	24087	0.00000000000	1.00000000000	0.23845171078	0.42613776959	47780.00000000000
3								
4								
5								
6								
7								
8								
9								
10								
11								



Examples of percent impervious cover of different map units