# Applying MapCalc Map Analysis Software

<u>Modeling Visual Exposure from Roads and Houses</u>: *A natural resource manager needs a map that identifies the relative visual exposure of forested lands in the county. This information is important in deciding where visually sensitive activities should and shouldn't be located.*

<<u>click here</u>> for a printer friendly version (.pdf)
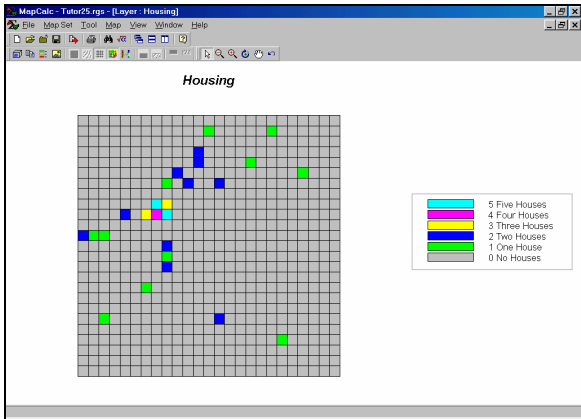
<u>Base Maps</u>. The *Base Maps* needed include:
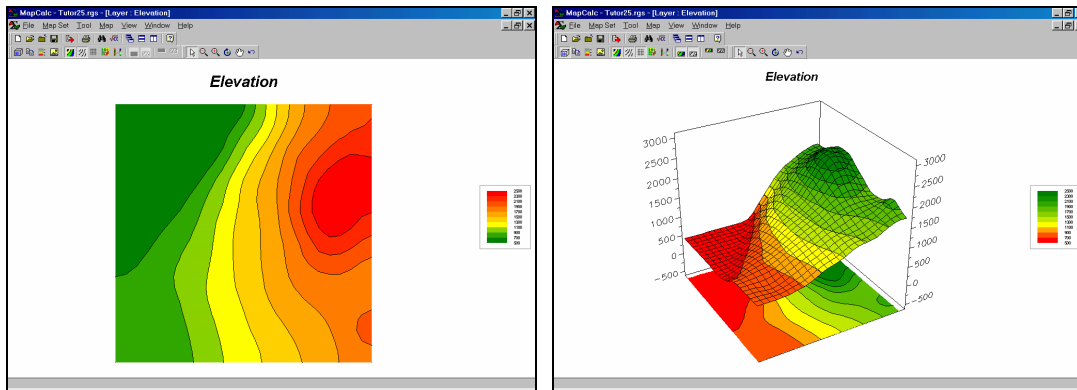
Elevation Map. The terrain configuration affects the visual connection from each road location to all other grid cells in the area.
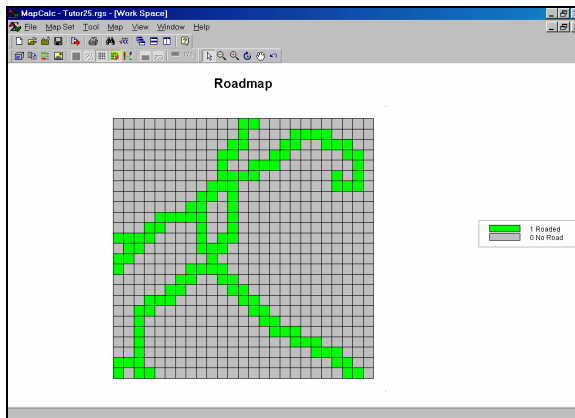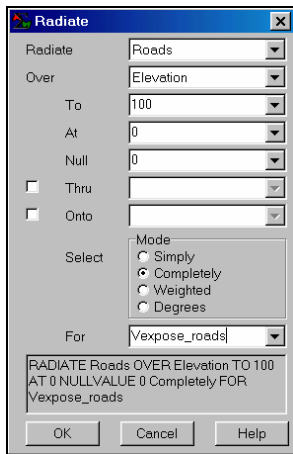

***Roadmap***. Each grid cell serves as a "viewer location."

Housing Map. Grid cells containing houses are assigned a value indicating the number of houses. Note the cluster of houses in the northwest portion of the map area.
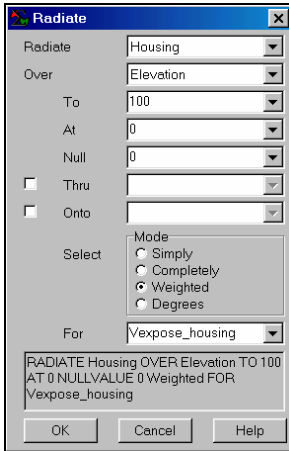
<u>***Step 1.***</u> The MapCalc operation…

Radiate roads to 100 over elevation completely for V_expose

…creates a visual exposure map identifying how many road locations are seen from each grid cell in the area.
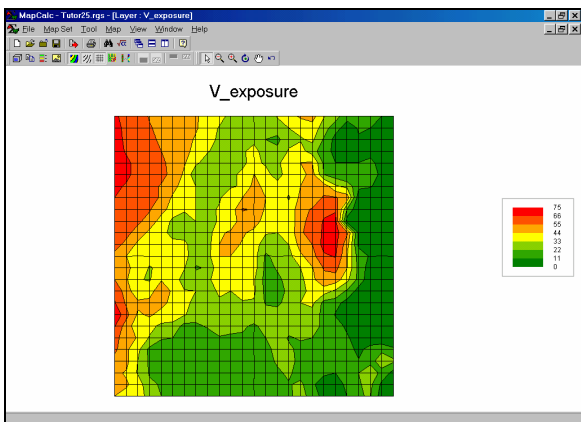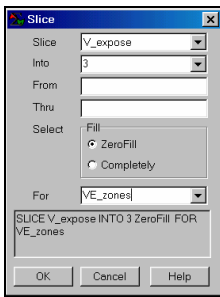

V_expose Map. Note that the highest visual exposure (red) is occurs along the western edge and central portions of the area. The least visually exposed areas (green) are on the southern and eastern edges.

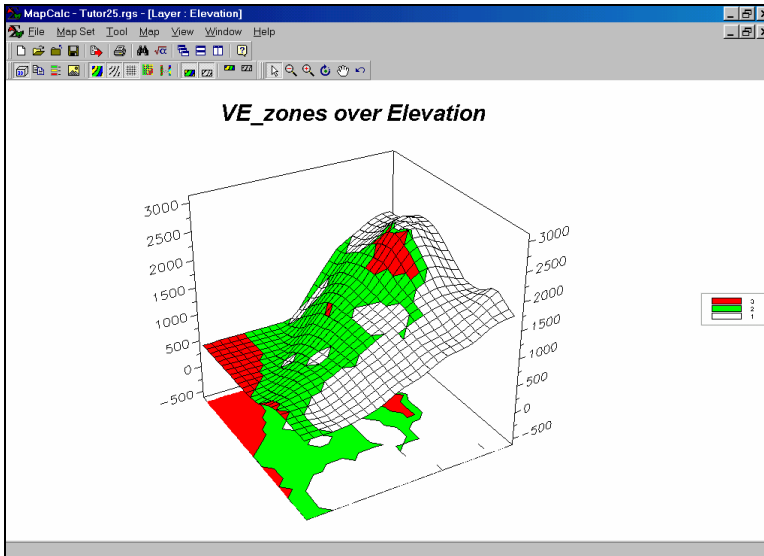***Step 2***. The MapCalc operation…

Step 3. The MapCalc operation…

Slice V_exposure into 3 for VE_zones

…creates a map of low, medium and high visual exposure to roads.

VE_zones draped over the Elevation Map. The color zones draped on a 3D surface identify areas of high visual exposure (red), medium exposure (green) and low exposure (   ). The areas of high and medium exposure can be exported in a variety of vector and grid formats for use in other GIS systems.

Summary. By completing two short dialog boxes, a land planner can determine visually sensitive areas and direct unsightly development elsewhere. Visual exposure is an import consideration in many aspects of land planning. Until recently, these capabilities were only offered in complex and expensive full GIS systems.