
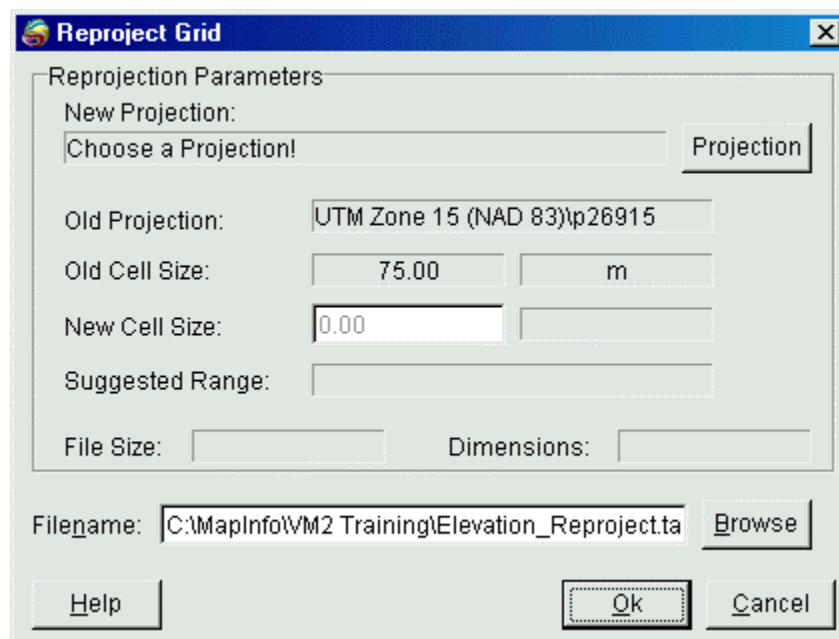


Grid Reproject

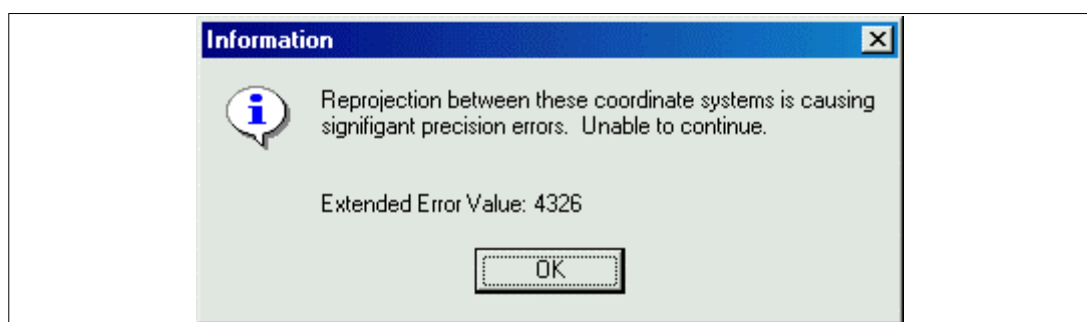
The *Reproject* command is used to transform a grid from its existing coordinate system to another MapInfo supported system and in doing so interpolating new values for each new grid cell. The process involves a complex coordinate transformation that makes use of quadratic surfaces to transform X,Y locations in the original grid to the new coordinate system using four cell blocks. The procedure has been engineered to be accurate to within five percent of the new grid cell size **at any location across the new grid extent**. For example, if the new cell size is chosen to be 100 metres, the cell location will be accurate to within ± 5 metres. The process uses a variation of the bilinear interpolator to re-calculate new cell values at each transformed grid cell. For an instructional lesson on *Grid Reproject* refer to Lesson 15 of the *Installation and Tutorials* manual.

- To access the *Grid Reproject* dialogue, choose the  button from the *Grid Manager* dialogue and select the *Reproject* command from the drop-down menu.

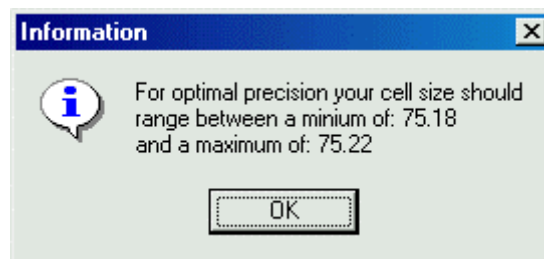


- The *Reproject Grid* dialogue box provides the interface to the command.
 1. The first step in the process is to choose a MapInfo projection by selecting the *Projection* button. The standard MapInfo *Choose Projection* dialogue appears. Select a projection *Category* and *Category Member* and choose *OK*.

Note: The Reproject procedure first performs a preliminary transformation test using the chosen projection. The test calculation involves projecting the bottom left and upper right points of the original grid into the new projection and then back again. The difference in the position between the original and transformed sets of locations is measured and compared to the original. Most coordinate transformations return error values less than 0.0000001%. However, not all transformations are considered “appropriate” and may be characterized by greater error. An example of such a transformation would be reprojecting a map covering a portion of North America in Universal Transverse Mercator (cylindrical) projection to a Lambert Azimuthal (conic) projection centred on the South Pole. This would return a transformation error approaching 10 percent. The *Vertical Mapper* reproject algorithm will return a message if the transformation test returns an error >0.02 percent and will discontinue the calculation.



2. If the transformation test is successful, a dialogue will appear that suggests an appropriate range of cell size values that the user can choose to enter into the *Cell Size* edit box.



This range of values represents the minimum and maximum cell sizes to which any of the original grid cells would be transformed over the area of the new reprojected grid. If the user was to select a new cell size for the reprojected grid that was less than half as small as the minimum recommended value, then the process will return a warning message stating that “***This cell size is not recommended***”. This warning is meant to ensure that grid cells in the new reprojected file approximate as closely as possible the size of the original cells. The same warning message will appear if the user selects a new cell size for the reprojected grid that was greater than twice the maximum recommended value.

3. Enter a new file name, or choose the default name, and select ***OK*** to proceed with file processing.