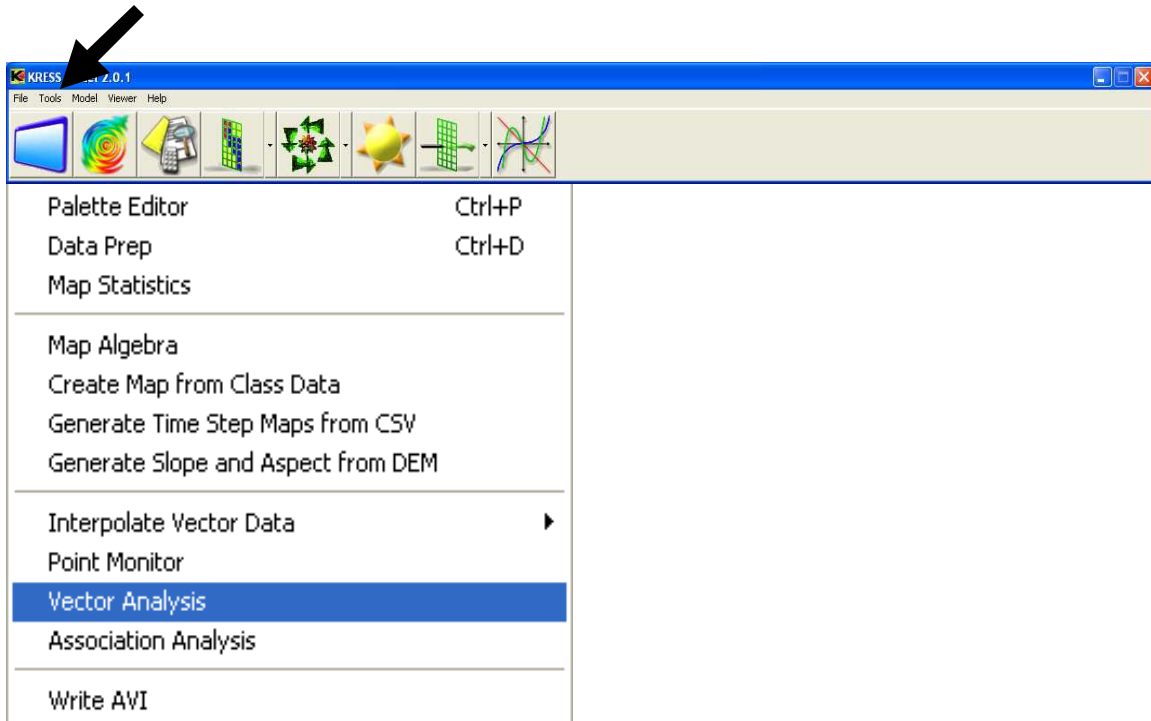


Vector Analysis

The **Vector Analysis** form can be reached by clicking on the **Vector Analysis** button or by clicking **Vector Analysis** under the **Tools** menu. This form allows the user to analyze vector overlays to find animal home range and animal distribution patterns. First, the user must select the vector overlay files by clicking the **Add** button above the image box. The user has the option of adding CSV files or shapefiles by changing the type on the **List Files of Type** dropdown menu while browsing for vector files. If a CSV file is chosen, the user must specify which column in the CSV file corresponds to **Easting** and **Northing**. If all the CSV files are in the same format, then the user only needs to specify easting and northing on one, and the rest will be determined automatically. The user can change the color of the points by clicking the colored box next to the **Color** label. The size of the point can also be adjusted by clicking the up or down arrows next to the **Point Size** label.



It is also important that the correct projection is being used. The user must fill in the projection by specifying whether the files are in latitude and longitude, or in UTM, in which case the datum and zone are also required.

The user also has the option of viewing the vector overlays on top of a map. If there is a specific raster map the user wants to view, they can click the **Load Raster Background** button and browse for their map. The user can also get an

aerial photograph for the background by clicking the **Get Background from Web** button. The program will automatically download the specific area for the user. This form can do two types of analysis on the vector data. The first is to calculate the minimum convex polygon, or the smallest polygon that has only convex angles. This information is useful for estimating home range area. The user runs this process by selecting the desired vector file under the **Overlay** label, then clicking the **Minimum Convex Polygon** button. The polygon is exported as a shapefile.

The other type of analysis is the Ripley's K analysis. To run the **Ripley's K** analysis, the user must specify minimum and maximum distances as well as an increment. The user also has the option of running the Ripley's K analysis on all the vector data, or just one specific file. To run it on all the files, the user must click the **Analyze All Relevant Files** checkbox. After the specifications have been set, the user must click the **Ripley's K** button to run the analysis.

