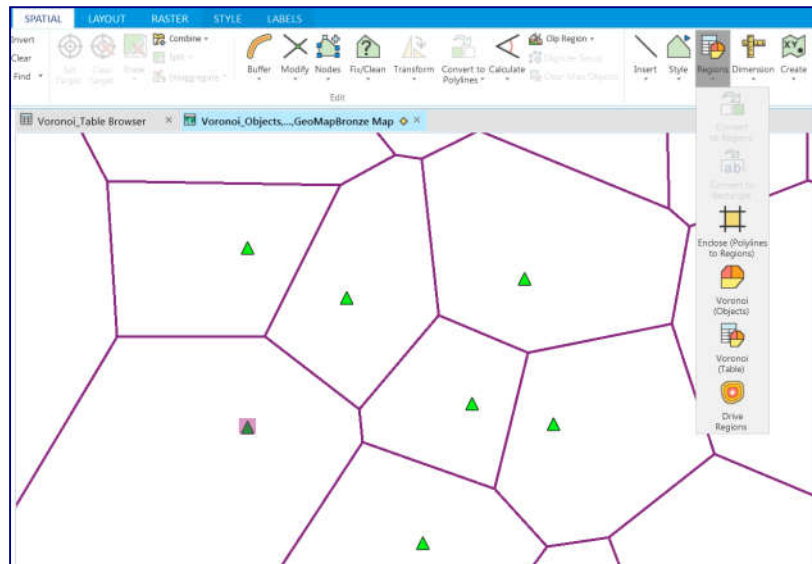# This Week's Wisdom:

Voronoi and Closest Regions

You may remember the term "Voronoi" from your school maths lessons. Sometimes referred to as Thiessen polygons, you are able to take a set of points and create polygons such that each polygon contains exactly one generating point and every point in a given polygon is closer to its generating point than to any other.

There are a couple of functions to create Voronoi polygons in MapInfo Pro; Voronoi (Objects) that will process a selection of points (3 or more); or Voronoi (Table) to process a table of points. You have options to save the results into a new table, the same table or other existing table. Find these on the Spatial Ribbon, in the Create section.
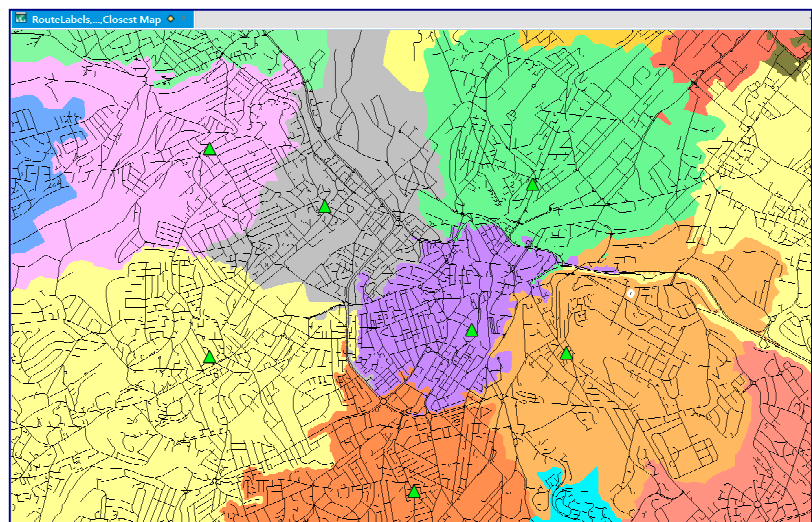

A well established process that can be attributed to the Ukrainian mathematician Georgy Vorony back in 1908 and even earlier in 1644 by René Descartes. However, in GIS terms, this takes no account of other geographic data. Therefore, you may want to look at the RouteFinder for MapInfo functions that analyse road (or any) networks.

Closest Regions or Service Areas using RouteFinder for MapInfo

Whether you are using the full OS Highways data or OS Open Roads, you can utilise the road network to determine closest centres to points with RouteFinder for MapInfo. In GIS terms, these centres may be libraries, depots, leisure centres, retail outlets, schools, distribution centres, etc.

RouteFinder allows you to click interactively on a number of point locations or you can perform this as a Batch job for a whole table. You may choose Drive Distance polygons from your set of points with the option of overlapping polygons or not. However, if you choose the Service Area option, then you will have a result of the entire region defined, as with the simpler Voronoi polygons. Once created, you can save the table as a permanent layer.

Top tip: Use a Boundary layer to clip your polygons to to get a tidier visual output, especially if you are close to the coast. If you are analysing walking distances, then you will not need to be restricted to one-way streets. You will find these settings in the RouteFinder Preferences.