

APPLIED GIS GEOG3009

Semester 2, 2002

Projects

Due Friday, 25 October, 2002
(this is the second last week of semester)

3000 words.

You are expected to use at least 10 references from the literature (course notes and web sites will not be counted), and draw upon your experience in the field.

Choose one of the following topics:

1. *Implicitly spatial analysis.*
Can implicitly spatial analyses be used to map patterns of Serrated Tussock infestations in the landscape at unsampled locations? If successful, this approach can be used to reduce the volume of sample data required, and therefore costs involved with management. Use Decision Trees or Artificial Neural Networks.
2. *Explicitly spatial analysis - univariate.*
What is the spatial pattern of serrated tussock infestations? Investigate the spatial distribution of serrated tussock in the Snowy River Shire, and attempt to infer what controls their distributions.
3. *Explicitly spatial analysis - network analysis.*
Jindabyne is an expanding town. What will be the effect of changing traffic flow controls on vehicle movements? Use the network analysis tools.
4. *Own topic.*
You may also select your own topic if it can be dealt with using the available datasets. Discuss this with me before you do so.

What else to do?

In each case you are expected to show an understanding of the implications of your results. For example, what are the variables driving the system?

In the case of the serrated tussock data, use your results to devise possible approaches to management.

For the network analysis, use your results to suggest possible impacts on road size, demand for services, etc.

I recommend you use a structure like those used in academic journals.

Datasets and Resources.

Datasets are available under the F:\geog\geog3009\dataset directory, with additional data under the "srsc" and "other" subdirectories. You may have to clip some of the grids so they are small enough to analyse in your workspace. In the case of the serrated tussock data, you must ensure the dataset extent and cellsize are the same for all datasets. You may need to resample the DEM and landsat data to conform here to make sure they are on exactly the same grid. Set this in Arctools (and also Arcview) using the "Analysis -> Properties" menu. If you are in Grid, use the setwindow and setcell commands.

There are also some other resources available from me. These are in the form of reports to the Snowy River Shire covering development in the shire, such as urban expansion etc.