**Methodology for generating spatial predictions from a Bayesian network (BN)**

These descriptions accompany Fig. 12.1 in the printed text.

Stage 1: Extract spatial information
- Combine (grid) or union (vector) key environmental variables (KEVs) into one grid/layer within the geographic information system (GIS) package.
- Export attribute table as text file.
- Open text file in Excel and ensure column headings of KEVs match those with BN nodes.
- Change value heading (grid) or RowID heading (vector) into IDNum. Save text file.

Stage 2: Evaluate each spatial unit and its KEVs with the BN
- Go to 'Cases' drop-down list in NETICA and click 'Process Cases'.
- Navigate to control file previously created (search for 'Process Cases' in NETICA help for explanation and an example in creating a control file); click 'Open'.
- Navigate to and select text file created above (Stage 1) and click 'Open'.
- Choose an appropriate name to call the output text file. Click 'Save'.
- Open output text file in Excel. Make sure IDNum column is the same as the original file (change if necessary).
- Label columns appropriately, save as a text file or an Excel file and close.

Stage 3: Generate risk map
- In GIS, join output text file (created in Stage 2) to combined layer (created in Stage 1) by using a join option (this comes under 'Joins and relates' in ARCGIS when you right-click on the layer).
- Export data to new data layer, save new data layer and display results.