2012

A GIS BASED SPATIAL DECISION SUPPORT SYSTEM FOR LANDSCAPE CHARACTER ASSESSMENT

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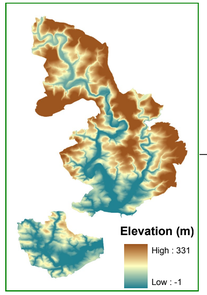
Figure 5.6 Model 1 - Landform

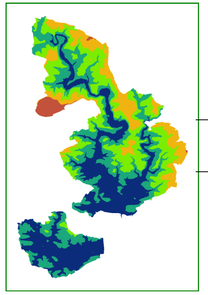
Figure 5.6 Model 1 - Landform (FOLD OUT)



a) The digital Elevation model of the Tamar Valley AONB reveals elevations of up to 331m.

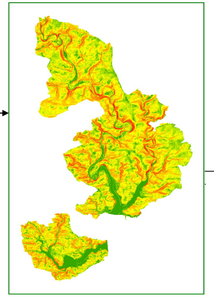
b) A file of elevation zones was created by analysing the data using Natural Breaks classification which identifies natural breaks inherent in the data, five classes were optimal for distinguishing between the river corridor, slopes and upland areas.

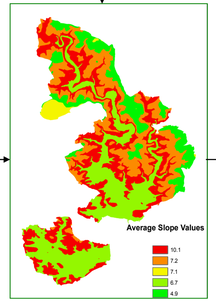
Class	Elevation (m)
1	<=37
2	>=38 and <= 90
3	>=91 and <= 140
4	>=141 and <= 203
5	>=203



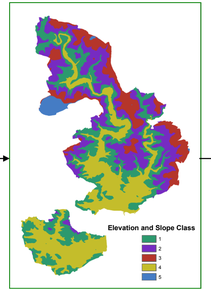
c) Slope values were derived from the digital elevation model and displayed in classes according to standard slope descriptors.

Degrees	Descriptor
0	Level
03 – 1.1	Nearly level
1.1 – 3	Very gentle slope
3 – 5	Gentle slope
5 – 8.5	Moderate slope
8.5 – 16.5	Strong slope
16.5 – 24	Very strong slope
24 – 35	Extreme slope
> 35	Very steep slope



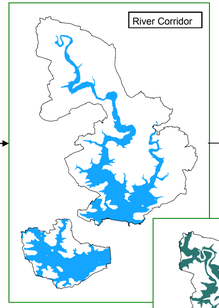


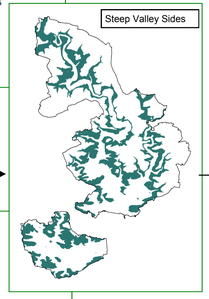
d) Zonal statistics were performed on the slope data to determine the average slope of each elevation zone.

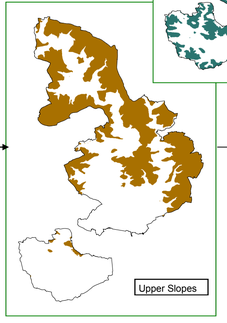


e) Once the zonal statistics had been performed the elevation zone data was combined with the average slope data to give five classes which had both elevation and slope values, these could then be reclassified into landform types.

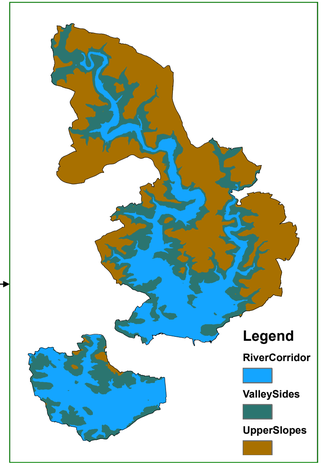
Class	Elevation (m)	Average Slope (°)
1	>= 38 AND <= 90	10
2	>= 91 AND <= 140	7
3	>= 141 AND <= 203	4
4	<= 37	1
5	>= 203	5







f) Three classes were identified from the elevation and slope data. These were the river corridor with the evaluation below 37m with moderate slopes, the steep valley sides from 38m - 90m which has strong slopes, and the upper slopes above a 90m elevation with moderate slopes.



g) The River Corridor, Steep Valley Side and Upper Slopes classes were combined into one file to form a complete picture of the landform in the TVAONB. This file was then processed with the rectification model to re-class small polygons of data that occurred during the classification process.