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ITE LAND CLASSIFICATION: CLASSIFICATION OF ALL 1KM SQUARES IN GB

Merlewood Research Station
Grange-over-Sands
Cumbria LA11 6JU

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CONTENTS

1. INTRODUCTION

The aim of the project has been to classify all 1 km squares in Great Britain , ie to allocate each 1 km square to a land class. It was calculated that classification of all squares using the original approach would take c. 20 man years. Thus, whatever method of classification was eventually used would have to use automated methods and would be based upon machine readable data and available datasets which covered every square. It was decided, within ITE, from the outset that any classification used should simulate or reproduce the original classification for the following reasons:

a. The original classification had been used in a large number of studies (see Appendix A) representing a range of applications, continuity is therefore important. The experience gained from the existing classification showed that it expressed the required level of detail and that users had gained confidence in its application.

b. Extensive databases had been built up based on the original classification.

c. Use of the field data from the sample squares necessitated the retention of the relative distribution of these sample squares between land classes.

d. An exercise as part of the Devon study had shown that an expanded version of the original classification was more efficient than a new, unsupervised classification.

e. The initial classification made the dissection of GB using detailed variables measured in individual squares - a classification on the restricted data would not be able to make such a refined division.

Over the past 15 months a variety of different classificationary approaches, summarised in 2 below, have been tried. Each of these various approaches have been evaluated using the following criteria.

1. The geographical distribution of squares within each land class.

2. The dispersion of the land class, as measured by the means and standard errors of locational variables and the variability of the initial data.

3. The allocation of the originally classified 1212 squares between land classes as compared with the classifications of all squares, including the movements of the square into different classes.

4. The relative proportions of the squares in each class in GB.

5. The relationship between the principal environmental gradient and the land classes together with an expression of variability.

6. The proportion of field sampled squares in 1978, 1984 and 1990 in each of the classes.

7. The efficiency of prediction of the areas of land cover features.

8. The relationship between the principal environmental gradient of the land classes and the vegetation composition, as reflected by the sampling programme.

9. Ecological characteristics of the land classes from three data sets to show comparisons between classification.

2. STRUCTURE OF THE DATA SET USED IN THE CLASSIFICATIONS

The requirement for the data to be used in the classification was that either (a) it could be acquired from an existing data set or (b) that the feature could be recorded automatically. The initial classification was based on data that were recorded in detail from each 1Km square and with over 240 000 squares this procedure was impractical. The following data were those used in the classification:-

COASTAL

Coastal cliff
Coastal sand
Coastal shingle
Coastal rock
Coastal mud
Tidal

ALTITUDE

Height of hill behind
Distance to hill behind
Gradient
Distance from hill behind to valley behind
Mean altitude
Height of valley behind
Distance to valley behind
Aspect
Slope length

MAPDATA

Sea
Woodland
Villages
A roads
Minor roads
Canals
Inland water
Towns
Motorways
B roads
Railways
Rivers

All these held as <u>area</u> information in units of 0.1 hectare.

DISTANCE

Distance to south coast (Km)

Distance to west coast (Km)

ISLAND

Where island = 1 or 0 (is, is not, respectively)

CLIMATE

Mean hours of sunshine in year

Mean days of snow falling

Mean min Jan. temp

GEOLOGY

1,3,4,5-Tertiary, non-calcareous sandy deposits, clay-rich, mesozoic cretaceous (but not chalk)

2-Oolitic and friable limestones

6-Devonian sandstones

7-Chalk

8-Dominated by massive limestones

9-Carboniferous, non-calcareous and shales, grits and sandstones

10-Basic and intermediate igenous rock and basic metamorphic

11-Acid igneous and metamorphic rock

12-15-Cambrian grits and sandstones, Lower palaeozoic slates and mudstones

13-Metamorphic slates and phyllite

14-Metamorphic limestones

DRIFT

%drift-free

%blown sand

%lacustrine clays silts & sands

%river-terrace deposits

%glacial sand and gravel

%sand and gravel

%brick-earth mainly loess

%landslip

%peat

%alluvium

%raised beach and marine deposits

%boulder clay and morraine drift

%clay-with-flints

%crag

Altitude - Altitude data from MOD 100m DTM

Mapdata and Coast - from OS digital data (1:250000) through Readers Digest contract with company called "Mapdata"

Distance - distance (Km) of grid squares from south and west mainland coasts. Coastal and island squares are 0

Climate - Climate contour maps digitised. ARC/INFO used to locate nearest contour to centre points of 1km grid squares

3. SUMMARY OF THE CLASSIFICATIONARY PROCEDURES EXPLORED

3.1 Twinspan

The original intention was to repeat the initial analysis using the data set listed in 2.0 above and the TWINSPAN programme, the updated version of Indicator Species Analysis (ISA).

The advantages were:

1. The original procedure was to be followed as closely as possible.

2. The whole data set could be run on a super-computer.

Results:

The classes did not correspond with those of the original ISA because:

1. The balance in the data sets was different.

2. The scale at which the information was recorded was different in the two datasets.

3. Detailed information for the squares was not available from the digitised data.

4. The algorithm for computing the ordination scores differed between TWINSPAN and ISA.

Whilst each of these individual differences were small, the cumulative effect of the divisions within TWINSPAN caused the eventual classification to be different.

3.2 The Discriminant Function

In late 1989 an initial study based on Discriminant Function and using 7 variables suggested that this procedure would be suitable and would have the following advantages:

1. The use of data variables as continuous rather than discrete attributes would reduce the possibility of misclassification.

2. The procedure was fast and experience was available for its use.

3. One of the outputs summarised the relationships with other classes.

4. Use of a new data set differing from the original would not be a problem.

However, the disadvantage is that the original sites are reallocated to form the groups defined by the distance measure used in the analysis.

Results

The first analysis showed:

1. A 43% correspondence with the initial classification of the allocation between land classes of the originally classified 1212 squares.

2. Wide difference in class size with the initial classification.

Tests showed that:

a. The standard error of estimates declined because of the simpler nature of the distribution patterns.

b. The mean area for land areas per class remained similar.

A wide variety of options and transformations were then examined to improve the correspondence in the classifications of the original 1212 squares, with the maximum value of 64% being attained. The application of this final transformation at a regional level gave unsatisfactory results because:

1. The balance of classes in the region were very different from the original classification.

2. Undivided classes were assigned well out of their original range.

It was then established that the divergence of a small number of squares was due to the zeros in the data. Accordingly, these were removed and an acceptable classification was produced that was used as a basis for comparison with section 3.4 below.

3.3 Other multivariate techniques

A range of algorithms were obtained from phytosociological studies, although it had been emphasised that their use would involve exploratory work. The most appropriate of these was selected and had the following advantages:

1. The original classification was unchanged and used as the test data.

2. Both variables and attributes could be used.

3. The multidimensionality of the groups was considered.

Results

The approach was rejected because land classes 11 and 12 (Midlands, England) were dispersed throughout southern Scotland. The distance measures were however useful and showed potential for future analysis of inter-class relationships.

3.4 Logistic Regression/Discriminant Function

Logistic Regression (see attached appendix) was applied to the first 3 divisions and Discriminant Function at the final 2 levels.

Results

This analysis proved satisfactory giving a correspondence of 62% with the original classification. It was therefore used in the comparisons below.

3.5 Simulation of the original ISA

a. Indicators

The application of the indicators proved satisfactory at the high levels and gave good results in terms of groupings in regions and their distribution. Problems were encountered at the lower levels although the results were comparable to those achieved in the classification of the additional 4800 squares.

b. Simulation of ordination axes

The original ISA is based upon divisions at the centre of gravity of progressive indicators through the divisions of the ordination axes. This approach has the advantage of minimising misclassifications due to the selective use of indicators and copying the original method as closely as possible. This procedure has been applied to the whole data set.

Results

This approach gave good results for most classes but diverged widely in the case of land classes 25 and 26 which extended into southern England whereas they should have been restricted to the north. This approach was therefore rejected.

4. COMPARISON OF THE ORIGINAL CLASSIFICATION BASED ON 1212 SQUARES WITH THE DISCRIMINANT FUNCTION AND LOGISTIC/DISCRIMINANT FUNCTION TECHNIQUES

4.1 CROSS-TABULATION BETWEEN ORIGINAL AND DERIVED CLASSIFICATIONS

Cross tabulation of the comparisons between the Discriminant Function and Logistic/Discriminant methods against the original classification with the land classes ranked according to their positions on the principal environmental gradient. The Logistic/ Discriminant shows a better diagonal with less outliers reflecting its higher correspondence with the initial classification.

COMPARISON OF OLD AND NEW CLASS FREQUENCIES FOR
LOGISTIC REGRESSION OF ORIGINAL 1212 SQUARES

	NEW CLASS																																	
	4	2	3	8	1	12	7	11	5	14	6	9	13	15	16	10	26	29	31	27	30	25	17	18	32	28	19	20	21	22	24	23	ALL
	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
OLD CLASS																																	
4	29	3	14	5	1	.	.	.	.	.	1	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	54
2	1	32	.	.	6	.	.	3	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	43
3	5	5	46	1	.	.	1	.	.	.	2	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	61
8	1	.	.	29	.	.	3	.	.	.	.	.	1	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	36
1	1	16	2	.	39	.	.	2	3	.	9	2	.	3	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	78
12	.	1	.	.	.	13	.	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	19
7	1	.	.	2	.	.	36	.	.	.	.	.	2	.	1	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	44
11	.	1	1	.	.	2	.	22	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	28
5	5	7	3	1	10	.	.	.	7	.	6	.	2	2	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	45
14	.	.	.	5	1	1	.	.	.	8	.	2	.	.	1	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	19
6	1	2	.	.	3	.	.	.	1	.	34	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	42
9	.	.	.	.	.	1	.	7	.	.	.	26	.	1	1	11	2	.	.	.	.	2	1	.	.	.	1	.	.	.	.	.	53
13	.	.	.	1	.	.	.	.	.	3	2	.	24	.	.	2	3	1	.	.	.	.	.	1	.	.	.	.	.	.	.	.	37
15	.	.	.	.	1	.	.	.	.	.	1	4	1	10	1	4	.	.	.	1	1	.	4	.	.	.	.	.	.	.	.	.	28
16	.	.	.	.	1	.	1	.	.	.	.	2	2	.	9	2	1	.	.	.	.	1	.	.	.	.	.	2	.	.	.	.	21
10	.	.	.	.	2	.	.	3	.	.	.	7	1	.	.	36	1	.	.	3	.	1	.	1	.	.	.	.	.	.	.	.	55
26	.	.	.	.	.	.	.	.	.	.	.	.	3	.	.	5	16	1	.	2	.	5	.	1	1	.	.	.	.	.	.	.	34
29	.	.	.	.	.	.	1	.	.	1	.	.	.	.	.	.	1	31	1	1	5	1	.	.	.	1	.	.	.	.	.	.	43
31	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	22	.	.	.	.	.	.	.	.	.	.	.	.	.	22
27	.	.	.	.	.	.	.	.	.	.	.	3	.	.	.	.	3	.	1	14	.	12	.	.	.	6	.	.	1	.	.	.	40
30	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	1	1	.	21	.	.	1	1	.	.	.	.	.	1	.	28
25	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	1	4	.	.	3	.	24	2	.	1	3	2	1	3	.	.	.	45
17	.	.	.	.	.	.	.	.	.	.	2	.	.	1	.	.	.	.	.	.	.	.	43	6	.	.	2	.	.	.	.	.	54
18	.	.	.	.	.	.	.	.	1	.	.	.	.	1	.	.	.	.	.	.	2	1	2	18	.	1	1	1	2	.	1	1	32
32	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	1	.	.	.	.	.	15	1	.	.	.	.	.	.	19
28	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	1	.	.	2	5	.	.	1	19	.	.	2	.	.	.	32
19	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	1	.	2	1	3	.	1	8	.	2	6	.	1	26
20	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	3	.	.	1	1	.	.	2	7	1	2	.	.	18
21	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	1	.	31	5	5	.	43
22	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	1	.	.	.	1	1	.	3	37	2	3	50
24	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	1	.	5	1	22	5	35
23	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4	23	28
ALL	44	67	66	44	64	17	42	42	12	12	58	48	40	20	14	61	34	40	26	30	33	56	57	32	20	33	19	11	50	52	35	33	1212

Figure 4.1.1

COMPARISON OF OLD AND NEW CLASS FREQUENCIES FOR
DISCRIMINANT ANALYSIS OF ORIGINAL 1212 SQUARES

	NEW CLASS																																	
	4	2	3	1	8	5	12	7	11	14	6	9	13	10	15	26	16	29	27	31	30	25	17	32	18	20	28	19	21	22	24	23	ALL
	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
OLD CLASS																																	
4	28	1	14	3	2	2	1	1	.	1	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	54
2	1	18	3	18	.	2	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	43
3	10	8	38	1	1	1	.	1	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	61
1	1	14	4	35	2	4	.	.	4	.	7	.	1	3	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	78
8	5	.	2	3	12	1	.	4	.	1	1	.	5	.	.	.	.	1	.	.	1	.	.	.	.	.	.	.	.	.	.	.	36
5	2	3	2	15	.	13	.	.	.	.	4	.	1	.	2	.	.	1	.	.	.	.	2	.	.	.	.	.	.	.	.	.	45
12	.	.	.	1	.	.	12	.	6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	19
7	3	2	1	1	1	.	.	22	.	.	4	.	2	.	.	.	1	1	.	.	3	.	.	.	.	.	.	.	.	.	.	.	44
11	.	.	1	1	.	.	4	.	15	.	.	6	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	28
14	.	.	.	1	3	.	1	.	.	7	.	1	2	1	.	1	.	1	.	.	1	.	.	.	.	.	.	.	.	.	.	.	19
6	.	2	.	7	1	2	.	4	.	.	24	.	.	.	1	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	42
9	.	.	.	.	.	.	1	.	4	2	.	28	.	12	1	2	.	.	1	.	.	1	1	.	.	.	.	.	.	.	.	.	53
13	.	.	.	.	1	.	.	.	.	3	.	1	22	4	.	1	2	2	.	.	.	.	.	.	1	.	.	.	.	.	.	.	37
10	.	.	.	1	.	.	3	.	2	.	.	16	.	24	1	4	.	.	2	.	.	1	.	.	.	.	.	1	.	.	.	.	55
15	.	.	.	2	.	.	.	.	.	.	.	5	4	3	7	.	1	.	1	.	.	.	1	.	2	2	.	.	.	.	.	.	28
26	.	.	.	.	.	.	1	.	.	1	.	1	2	3	.	18	.	.	2	.	2	3	.	.	1	.	.	.	.	.	.	.	34
16	.	.	.	.	1	.	1	.	.	2	.	2	1	3	.	.	9	.	.	.	.	.	.	.	1	1	.	.	.	.	.	.	21
29	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	.	29	.	1	7	1	.	2	.	.	.	.	.	.	.	.	43
27	.	.	.	.	.	.	.	.	.	.	.	.	.	4	.	3	1	2	17	.	.	8	.	.	.	2	2	.	.	.	1	.	40
31	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	20	.	.	.	1	.	.	.	.	.	.	.	.	22
30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	8	.	.	18	.	.	1	1	.	.	.	.	.	.	.	28
25	.	.	.	.	.	.	.	.	.	.	.	.	.	3	1	1	.	1	9	2	1	17	1	.	.	2	4	1	2	.	.	.	45
17	.	.	.	.	.	1	.	.	.	.	2	.	.	.	2	.	.	.	.	.	.	.	42	.	4	.	.	2	.	.	1	.	54
32	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	4	1	.	.	12	.	.	.	.	.	.	.	.	19
18	.	.	.	.	.	.	.	1	.	.	.	.	.	.	2	.	.	.	2	.	2	1	6	.	15	2	.	.	.	.	.	1	32
20	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	1	.	.	12	.	2	.	1	1	.	18
28	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1	2	4	1	2	6	.	1	.	1	11	1	1	.	.	.	32
19	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	1	2	3	.	4	1	.	7	.	5	1	.	26
21	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	1	2	3	2	25	4	5	.	43
22	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1	1	4	3	34	6	.	50
24	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1	.	2	4	1	21	5	35
23	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	4	20	28
ALL	50	48	65	89	24	26	24	33	32	17	42	60	41	62	20	34	16	54	41	28	39	40	57	17	33	27	21	22	35	49	40	26	1212

Figure 4.1.2

4.2 ENVIRONMENTAL GRADIENT POSITION

The coherence of the classes can be assess by comparing the analysis of the original environmental variables by ordination, which expresses the overall relationship of the squares. The environmental gradient identified by the first axis, from the lowlands of the south and east to the uplands of the north and west, is a convenient measure. If the mean values are compared per land class between the original and new procedures, then a useful test of the overall simulation of the classes is achieved. The correlations were (30 DF).

Discriminant Function - original 0.995
Logistic/Discriminant - original 0.997

The correspondence is therefore very close.

The standard errors of the values are useful in indicating the variability in the positions of the classes on the radiant and are given in the following Table.

4.3 PROPORTIONAL REPRESENTATION

The proportion of squares in the land classes and their relationship with the original.

The original proportions were determined by

a. the number of squares in the 1212 classification (1:225);

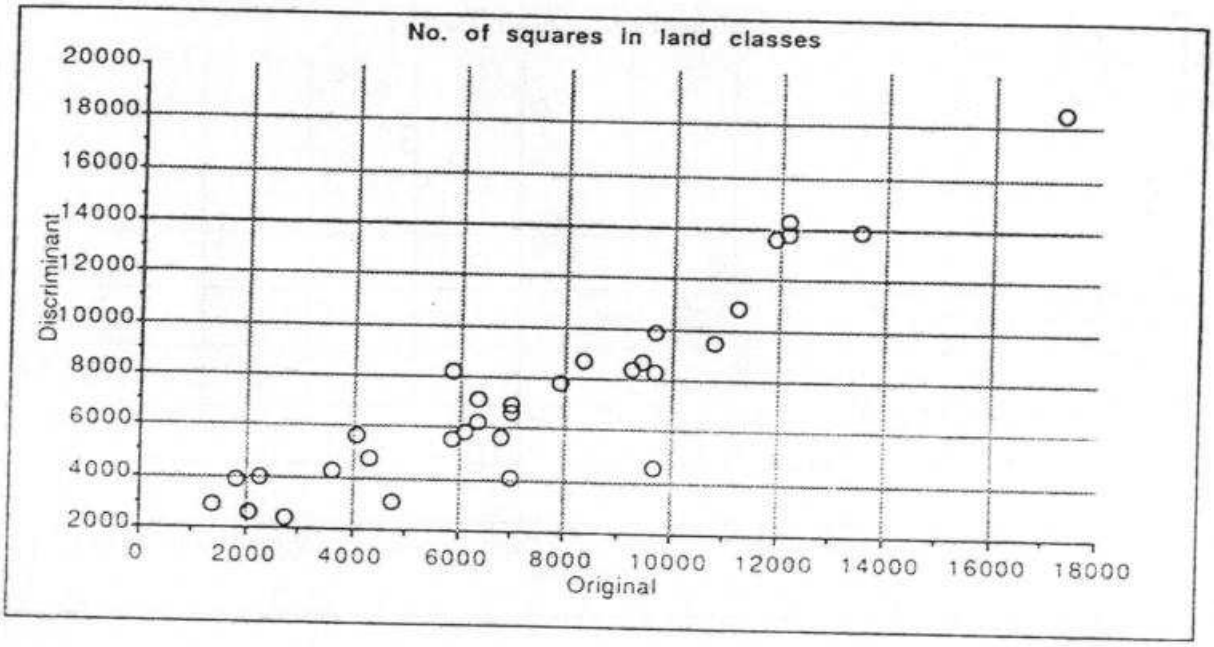
b. the number of squares in a further 4800 squares identified by the 76 Indicator Attributes.

The discriminant functions shows the highest correlation with the original but the difference is small.

Figure 4.3.1 Total number of squares and percentage of GB

Land Class	Original (km)	(%GB)	Discriminant (km)	(%GB)	Logistic (km)	(%GB)
1	17325	7.3	18500	7.7	14159	5.9
2	9675	4.1	9833	4.1	14463	6.0
3	13500	5.7	13949	5.8	15452	6.4
4	10800	4.5	9431	3.9	9012	3.8
5	9675	4.1	4539	1.9	3877	1.6
6	9225	3.9	8362	3.5	10360	4.3
7	2250	0.9	3978	1.7	2532	1.1
8	2025	0.9	2576	1.1	4406	1.8
9	11925	5.0	13620	5.7	11781	4.9
10	12150	5.1	14307	6.0	13905	5.8
11	6300	2.6	7089	3.0	8895	3.7
12	4275	1.8	4778	2.0	3543	1.5
13	6975	2.9	6924	2.9	7268	3.0
14	1350	0.6	2860	1.2	933	0.4
15	6075	2.6	5819	2.4	4195	1.7
16	4725	2.0	3051	1.3	3089	1.3
17	12150	5.1	13836	5.8	12999	5.4
18	6975	2.9	6623	2.8	6732	2.8
19	5850	2.5	5548	2.3	5421	2.3
20	4050	1.7	5655	2.4	2508	1.0
21	9675	4.1	8327	3.5	9717	4.0
22	11250	4.7	10889	4.5	12549	5.2
23	6300	2.6	6214	2.6	6951	2.9
24	7875	3.3	7841	3.3	7207	3.0
25	9450	4.0	8650	3.6	10552	4.4
26	6750	2.8	5622	2.3	6876	2.9
27	8325	3.5	8645	3.6	6881	2.9
28	6975	2.9	4032	1.7	7464	3.1
29	5850	2.5	8203	3.4	5465	2.3
30	3600	1.5	4226	1.8	4254	1.8
31	1800	0.8	3907	1.6	3016	1.3
32	2700	1.1	2407	1.0	3779	1.6
GB Total	237825	100.0	240241	100.0	240241	100.0

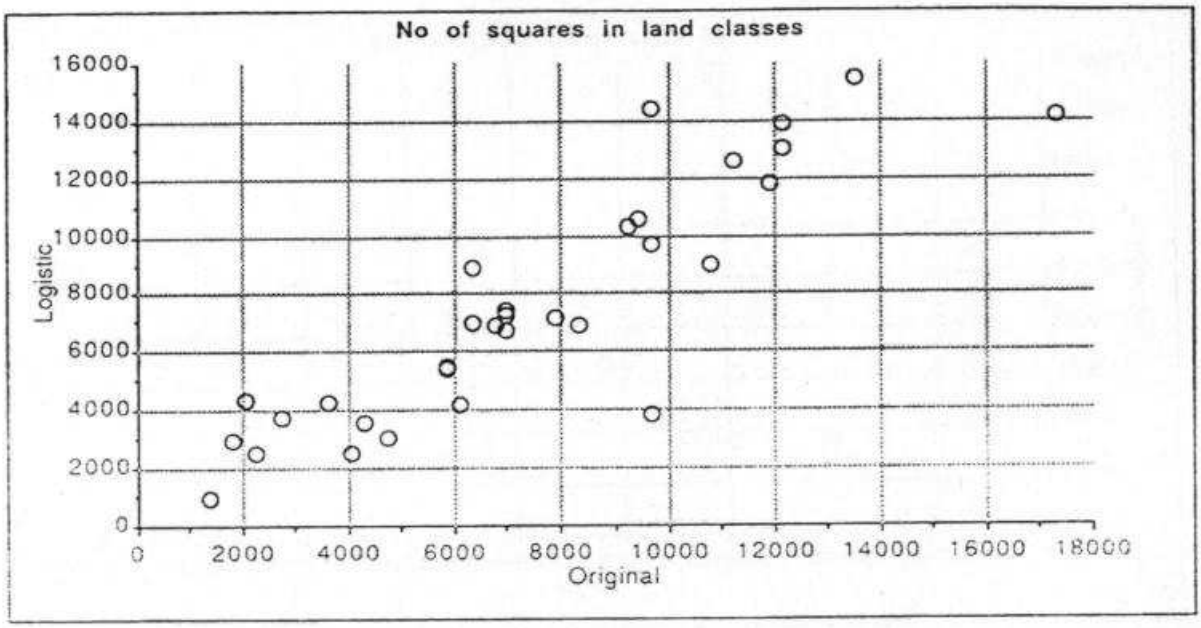
Figure 4.3.2 Scatter diagram and correlation coefficient for Discriminant Classification v. Original Classification using data from Figure 4.3.1.



Corr. Coeff. X_1: Original Y_1: Discriminant

Count:	Covariance:	Correlation:	R-squared:
32	13837162.273	.919	.845

Figure 4.3.3. Scatter diagram and correlation coefficient for Logistic Classification v. Original Classification using data from Figure 4.3.1.



Corr. Coeff. X_1: Original Y_1: Logistic

Count:	Covariance:	Correlation:	R-squared:
32	13770909.299	.888	.788

4.4 DISTRIBUTION MAPS

The geographical distribution of squares within each land class. is presented from the Logistic/Discriminant method only.

Conclusion

The original classification showed outliers from the main geographical centre that were amplified using the indicator attributes. Whilst being used on a sampling classification these discrepancies have not been identified as a problem but when increased to all square key represent large blocks of squares that can be in a misclassified position. The Discriminant Function shows much tighter clusters and only in the classes 7 and 8 which are no longer coastal does it diverse greatly from the original. This does however represent a significant difference as these classes would have to be redefined.

The following maps are also available from ITE Merlewood on request.

a. The original 32 classes from ISA derived from 1212 squares and based on 282 attributes

b. The original 1212 squares plus a further 4800 squares identified from the 76 key attributes.

c. Classification of all squares trained in the original 1212 squares by the Discriminant Function.

4.5 GEOGRAPHICAL DISPERSION

The dispersion of the land classes as measured by the distance to west and south coasts, together with standard errors. Also presented are altitude and drift-free land. The standard errors are much higher for the original classification but are similar between the Logistic/Discriminant Function. Also presented are the standard errors of the ordination scores on the principal environmental gradient derived from the map data of section 2. The results are comparable to the dispersion analysis above and therefore confirm the value of the 2 methods.

Figure 4.5.1 Distance from the south and west coast and standard errors as a mean of dispersion

LAND	SOUTH COAST			SE			WEST COAST			SE		
CLASS	OR	DF	LR	OR	DF	LR	OR	DF	LR	OR	DF	LR
1	91	81	101	8	6	8	170	166	81	10	5	8
2	63	48	55	7	5	4	212	228	215	11	9	9
3	118	111	116	9	8	8	319	354	344	10	4	6
4	122	111	108	13	11	13	320	352	320	11	6	13
5	113	80	101	17	8	22	136	77	45	16	8	9
6	81	51	101	14	8	14	46	35	36	7	4	4
7	204	148	181	33	19	31	69	39	67	17	11	17
8	245	276	224	38	34	31	124	68	145	26	25	23
9	266	244	259	13	8	10	171	161	163	6	6	5
10	324	320	321	16	11	11	159	152	140	6	6	5
11	196	181	189	10	10	8	248	257	250	9	5	4
12	206	251	223	12	10	12	259	235	257	6	10	6
13	402	395	423	19	18	22	67	41	52	11	7	8
14	394	408	425	31	23	30	132	189	130	24	14	30
15	310	248	267	22	14	25	85	54	57	11	6	10
16	391	446	384	17	22	16	86	51	75	15	8	17
17	234	212	217	20	11	13	74	78	78	6	5	6
18	482	526	472	37	26	35	40	25	39	7	6	8
19	524	543	428	29	22	25	103	102	104	12	11	11
20	489	462	495	18	16	23	133	130	112	11	10	19
21	771	833	793	18	10	13	67	57	61	6	6	5
22	623	599	591	19	17	16	130	144	138	8	6	6
23	662	655	638	25	27	25	112	115	120	9	9	8
24	726	717	740	14	17	9	51	54	43	5	6	4
25	659	671	642	24	18	15	147	168	160	9	7	7
26	594	604	606	25	14	17	130	153	143	12	10	11
27	620	604	613	21	12	18	149	153	160	8	9	11
28	733	826	731	27	12	28	89	88	94	9	7	8
29	766	765	775	14	12	13	21	21	17	7	5	5
30	755	738	759	16	15	15	2	1	0.2	2	1	0.1
31	963	955	951	16	13	14	11	12	14	6	5	7
32	959	963	947	18	21	22	3	2	2	3	1	5

OR - Original Land Classification
DF - Classification by Discriminant Function
LR - Classification by Logistic Regression

SE - Standard Error of Mean

Figure 4.5.2 Altitude and drift - means and standard errors

LAND	ALTITUDE			SE			DRIFT			SE		
CLASS	OR	DF	LR	OR	DF	LR	OR	DF	LR	OR	DF	LR
1	93	86	74	6	6	6	76	75	77	4	4	4
2	97	97	99	8	7	6	75	83	73	5	5	4
3	52	52	50	4	4	3	41	41	41	6	5	5
4	27	21	23	4	4	4	26	22	22	5	5	5
5	83	59	67	10	10	10	69	47	72	6	5	10
6	115	121	116	8	9	8	86	96	84	4	2	4
7	40	42	38	4	5	4	64	57	67	7	8	7
8	12	19	16	3	4	3	40	40	41	7	9	6
9	94	104	89	7	6	7	49	52	47	6	6	6
10	93	82	94	8	6	7	47	50	53	6	6	6
11	79	78	82	9	9	7	44	50	50	8	7	6
12	28	16	19	6	3	4	18	8	1	8	4	1
13	51	49	44	6	5	4	19	13	19	5	4	5
14	31	15	23	8	5	8	24	21	7	9	9	5
15	131	168	137	8	9	10	50	58	47	9	11	11
16	82	102	74	14	10	14	45	59	49	10	10	12
17	337	339	324	12	12	13	74	79	77	5	4	5
18	287	293	285	21	15	12	72	72	73	7	7	7
19	296	287	288	16	13	12	57	43	55	8	8	9
20	256	233	247	15	9	21	52	47	56	10	8	12
21	308	294	294	14	13	12	39	31	36	7	7	6
22	357	381	358	12	11	10	48	61	56	6	6	7
23	595	655	620	28	28	15	48	49	48	9	9	7
24	412	376	380	29	19	19	60	48	57	7	6	7
25	116	110	118	12	10	9	17	7	14	5	3	4
26	62	49	53	9	7	6	34	28	28	8	7	7
27	114	124	132	9	9	11	32	17	27	6	5	7
28	124	159	137	11	16	10	26	42	23	7	11	7
29	37	24	33	7	4	6	74	81	79	6	4	6
30	82	104	82	15	12	13	49	56	42	8	7	8
31	23	33	33	5	7	4	53	57	59	7	8	8
32	65	61	63	9	9	10	47	36	53	11	10	10

OR - Original Land Classification
DF - Classification by Discriminant Function
LR - Classification by Logistic Regression

SE - Standard Error of Mean

Figure 4.5.3 Standard error of the mean of the first axis value of the principal environmental gradient.

Land Class	Original	Discriminant	Logistic
1	0.792	0.566	0.545
2	0.637	0.472	0.558
3	0.623	0.455	0.355
4	0.755	0.701	0.732
5	1.206	0.960	1.402
6	0.764	0.689	0.729
7	1.364	1.125	1.286
8	1.617	2.087	1.413
9	1.057	0.913	0.897
10	0.970	0.937	0.869
11	0.701	0.751	0.623
12	0.827	0.789	0.832
13	1.244	1.178	1.454
14	1.688	1.038	1.800
15	1.327	1.478	1.249
16	2.200	1.310	2.154
17	1.259	1.196	1.232
18	1.877	1.548	1.741
19	1.553	1.459	2.180
20	2.403	2.048	3.284
21	1.347	1.382	1.254
22	1.192	1.008	0.867
23	1.354	1.438	1.357
24	2.179	1.651	1.786
25	1.315	1.052	0.700
26	1.215	1.133	1.251
27	1.341	0.938	1.212
28	1.913	1.323	1.200
29	0.928	0.643	0.909
30	1.242	1.355	1.180
31	0.856	0.969	0.748
32	1.747	2.117	1.690

4.6 FIELD SURVEYS SQUARES

The proportion is shown of the proportion of the survey squares in each land class at the three sample dates together with the proportions if they are proportional to the size of the land classes. The first two surveys were not proportional to size, so are constant. As the sample size increases, with the discriminant function and logistic regression, so does the correspondence with proportional sampling get closer - as would be expected from previous work because small samples are less likely to have efficient coverage. For estimating error terms the move towards proportional sampling increases efficiency.

Percentage of field squares at each sampling date compared with the percentage of the squares which would have been allocated if the samples had been proportional to the size of the land classes.

ORIG - Original Classification DF - Discriminant Function LR - Logistic Regression

LAND CLASS	1978 ORIG	PROP	DF	PROP	LR	PROP	1984 ORIG	PROP	DF	PROP	LR	PROP	1990 ORIG	PROP	DF	PROP	LR	PROP
1	3.1	7.2	6.3	7.7	3.3	5.9	4.6	7.2	5.9	7.7	4.0	5.9	6.2	7.2	8.4	7.7	5.6	5.9
2	3.1	5.1	3.7	4.1	4.4	6.0	4.6	5.1	3.2	4.1	3.5	6.0	4.0	5.1	4.1	4.1	5.1	6.0
3	3.1	5.2	4.4	5.8	4.1	6.4	4.6	5.2	4.5	5.8	4.5	6.4	4.0	5.2	5.9	5.8	5.6	6.4
4	3.1	3.6	3.7	3.9	2.6	3.8	4.6	3.6	3.2	3.9	2.2	3.8	4.0	3.6	2.4	3.9	2.4	3.8
5	3.1	4.6	2.6	1.9	1.1	1.6	4.6	4.6	2.5	1.9	1.0	1.6	3.2	4.6	2.4	1.9	1.1	1.6
6	3.1	1.0	2.6	3.5	3.3	4.3	4.6	1.0	2.2	3.5	3.2	4.3	2.2	1.0	3.1	3.5	4.3	4.3
7	3.1	1.0	1.1	1.7	3.0	1.1	4.6	1.0	1.7	1.7	3.7	1.1	2.2	1.0	1.6	1.7	2.8	1.1
8	3.1	4.6	1.1	1.1	5.2	1.8	4.6	4.6	1.2	1.1	4.5	1.8	4.4	4.6	0.8	1.1	3.9	1.8
9	3.1	4.5	3.3	5.7	4.8	4.9	4.6	4.5	4.5	5.7	4.0	4.9	4.4	4.5	4.1	5.7	3.9	4.9
10	3.1	1.9	5.2	6.0	4.4	5.8	4.6	1.9	4.5	6.0	4.2	5.8	2.3	1.9	4.3	6.0	4.3	5.8
11	3.1	1.8	4.4	3.0	5.2	3.7	4.6	1.8	4.0	3.0	5.2	3.7	2.3	1.8	3.3	3.0	4.5	3.7
12	3.1	3.0	2.6	2.0	2.2	1.5	4.6	3.0	3.0	2.0	2.5	1.5	2.1	3.0	2.8	2.0	2.1	1.5
13	3.1	1.1	3.7	2.9	3.7	3.0	4.6	1.1	3.5	2.9	3.7	3.0	2.1	1.1	2.6	2.9	3.4	3.0
14	3.1	2.1	1.8	1.2	2.2	1.0	4.6	2.1	2.0	1.2	2.0	1.0	2.1	2.1	1.4	1.2	1.5	1.0
15	3.1	2.1	3.0	2.4	1.8	1.8	4.6	2.1	2.2	2.4	1.7	1.8	2.1	2.1	2.6	2.4	1.7	1.8
16	3.1	2.1	3.3	1.3	3.0	1.3	4.6	2.1	3.0	1.3	2.5	1.3	2.1	2.1	2.4	1.3	2.1	1.3
17	3.1	6.7	4.1	5.8	3.7	5.4	4.6	6.7	4.2	5.8	4.0	5.4	6.0	6.7	5.3	5.8	5.3	5.4
18	3.1	3.8	1.1	2.8	2.2	2.8	4.6	3.8	2.0	2.8	2.2	2.8	3.1	3.8	2.2	2.8	2.4	2.8
19	3.1	2.2	2.2	2.3	0.7	2.3	4.6	2.2	1.5	2.3	1.0	2.3	2.1	2.2	2.0	2.3	1.3	2.3
20	3.1	1.9	2.2	2.4	0.7	1.0	4.6	1.9	3.2	2.4	1.0	1.0	2.1	1.9	2.9	2.4	0.8	1.0
21	3.1	2.9	2.2	3.5	3.3	4.0	4.6	2.9	3.0	3.5	4.0	4.0	2.5	2.9	2.8	3.5	3.6	4.0
22	3.1	5.9	4.1	4.5	4.1	5.2	4.6	5.9	3.7	4.5	4.0	5.2	5.2	5.9	4.3	4.5	4.7	5.2
23	3.1	3.5	2.6	2.6	3.7	2.9	4.6	3.5	2.7	2.6	3.5	2.9	3.3	3.5	2.6	2.6	3.2	2.9
24	3.1	2.3	3.3	3.3	3.0	3.0	4.6	2.3	3.0	3.3	3.0	3.0	2.1	2.3	3.3	3.3	2.8	3.0
25	3.1	3.8	4.1	3.6	4.4	4.4	4.6	3.8	4.0	3.6	4.5	4.4	3.5	3.8	3.9	3.6	4.5	4.4
26	3.1	3.3	4.1	2.3	3.3	2.9	4.6	3.3	3.7	2.3	3.7	2.9	3.3	3.3	2.9	2.3	3.0	2.9
27	3.1	3.7	2.2	3.6	3.0	2.9	4.6	3.7	2.7	3.6	3.0	2.9	3.5	3.7	2.9	3.6	2.8	2.9
28	3.1	2.6	1.5	1.7	3.0	3.1	4.6	2.6	2.0	1.7	3.0	3.1	2.1	2.6	1.6	1.7	2.6	3.1
29	3.1	1.8	4.1	3.4	3.3	2.3	4.6	1.8	4.0	3.4	3.0	2.3	2.1	1.8	3.3	3.4	2.3	2.3
30	3.1	1.0	4.4	1.8	3.3	1.8	4.6	1.0	4.5	1.8	3.5	1.8	2.1	1.0	3.9	1.8	2.6	1.8
31	3.1	1.0	3.0	1.6	1.8	1.3	4.6	1.0	3.0	1.6	2.2	1.3	2.1	1.0	2.4	1.6	1.7	1.3
32	3.1	1.0	2.2	1.0	2.2	1.6	4.6	1.0	2.0	1.0	2.5	1.6	2.1	1.0	1.6	1.0	1.9	1.6

Figure 4.6

4.7 ESTIMATE OF LAND COVER FOR GB

These figures present a comparison between the different approaches using the data from 1978 as these were then collected from the initial sample of 256 squares and represent the most stringent test. Both the Discriminant Function and the Logistic/Discriminant show lower standard errors and coefficients of variation than the original. The other two methods are comparable with the former having somewhat lower errors overall.

	Area (km x 1000)			% GB			Standard Error			Coefficient of variation		
	OR	DF	LR	OR	DF	LR	OR	DF	LR	OR	DF	LR
Agricultural grass	70.0	64.1	65.7	30.0	26.7	27.3	4.2	3.7	4.1	6.0	5.7	6.3
Semi-natural vegetation	53.9	61.0	60.0	23.1	25.4	25.0	3.9	3.2	4.2	7.2	5.2	7.0
Cultivated	45.0	44.2	45.3	19.2	18.4	18.9	3.2	3.0	3.1	7.2	6.8	6.7
Built up	27.7	29.7	29.1	11.8	12.4	12.1	2.3	2.3	2.2	8.2	7.7	7.7
Natural	7.2	11.8	9.8	3.1	4.9	4.1	1.4	1.7	1.6	18.9	14.5	16.5
Woodland	25.1	22.5	24.5	10.7	9.4	10.2	3.4	2.6	2.9	13.4	11.5	12.0
Total GB	228.9	233.3	234.4	97.9	97.2	97.6						
Leys	34.5	32.0	32.3	14.8	13.3	13.5	2.8	2.4	2.7	8.2	7.5	8.5
Permanent grass	35.5	32.1	33.4	15.2	13.4	13.9	3.1	2.5	2.6	8.8	7.9	7.8
Upland grass	17.0	17.7	17.9	7.3	7.4	7.5	2.2	1.8	2.0	12.8	10.3	11.0
Moorland	14.0	15.9	16.0	6.0	6.6	6.8	1.6	1.8	1.8	11.3	11.5	11.0
Heath/shrub	13.3	15.7	15.0	5.7	6.5	6.2	2.1	2.0	2.8	15.7	12.7	18.9
Bog	9.6	11.7	11.0	4.1	4.9	4.6	1.9	1.9	1.7	20.1	16.3	15.8
Miscellaneous cultivatec	12.2	11.6	12.6	5.2	4.8	5.2	1.6	1.5	1.6	13.0	12.6	12.5
Wheat	11.2	11.3	11.4	4.8	4.7	4.7	1.6	1.5	1.6	14.7	13.4	13.7
Barley	21.7	21.3	21.4	9.3	8.8	8.9	2.2	2.0	2.0	10.0	9.3	9.3
Built up	27.7	29.7	29.1	11.8	12.4	12.1	2.3	2.3	2.2	8.2	7.7	7.7
Natural	7.2	11.8	9.8	3.1	4.9	4.1	1.4	1.7	1.6	18.9	14.5	16.5
Broadleaved woodland	9.8	9.4	10.2	4.2	3.9	4.2	1.1	1.1	1.4	11.7	11.8	13.3
Coniferous woodland	15.3	13.1	14.4	6.6	5.5	6.0	3.2	2.3	2.6	20.8	17.7	17.8
Total GB	229.0	233.3	234.5	98.1	97.1	97.7						

Figure 4.7 Estimates of the total area in GB (km x 1000), percent, standard error of mean and coefficient of variation from 1978 field survey. Appropriate stratum sizes for each classification applied.

Figure 4.7

4.8 CORRELATION WITH VEGETATION

The data from the 5 vegetation quadrats in the 256 squares surveyed in 1928 were analysed by an ordination procedure which extracted the principal gradient, which was from quadrats containing available weeds, through to species typical of cultivated grasslands, upland grasslands and eventually moorland.

The data from the environmental variables used to create the classification were analysed by the same procedure identifying a gradient from the lowlands of the south and east to the uplands of the north and west.

The correlations between the gradients express the overall ability of the classification to predict species assemblages and are given below:

Original classification - .827
Discriminant Function - .845
Logistic Regression - .813

The negative sign reflects the polarity of the axes.

4.9 ECOLOGICAL CHARACTERISTICS OF THE CLASSES

The average composition of the land classes according to the comparison of the pH values in the five sample soil pits in each of the 256 sample squares,ie 5 x 32 x 8 soil pits in 1978 by OR, the original allocation of squares to land classes and LR to Logistic/Discriminant.

The average composition of the land classes is based on the description of the 5 soil pits in each of the 256 sample squares.

The average cover of plant species is based on the cover recorded in each of the 5 x 32 x 8 quadrats in 1978.

Figure 4.9.1 Comparison of ph values in the 5 sample soil pits in each of 256 sample squares in 1978 by the original allocation of squares to land classes and the logistic regression.

Land Class	Original	Logistic Regression
1	5.8	5.9
2	6.5	6.6
3	6.9	7.0
4	7.0	7.5
5	5.6	5.5
6	5.0	4.7
7	6.1	6.0
8	6.2	6.3
9	6.0	6.3
10	5.7	5.9
11	6.6	6.6
12	7.2	7.4
13	5.4	5.3
14	6.4	6.1
15	5.7	5.1
16	5.7	5.3
17	4.9	5.0
18	4.0	4.3
19	4.2	4.4
20	4.9	4.3
21	4.3	4.3
22	4.5	4.2
23	4.4	4.3
24	4.6	4.7
25	6.0	5.4
26	5.7	5.7
27	5.6	6.0
28	4.6	4.4
29	4.6	4.6
30	4.5	4.3
31	4.0	4.1
32	4.5	4.6

SOIL TYPES FOR OLD AND NEW CLASSIFICATIONS

Figure 4.9.2

Land Class	Soil Type	Old	New
1	B earths	67.5	62.5
	Gleys	25	32.5
	Rendzina	7.5	5
2	B earths	50	52
	Gleys	17.5	16
	Peat	0	2
	Podzols	7.5	6
	Rendzina	25	24
3	B earths	57.5	54.8
	Gleys	42.5	45.5
4	B earths	35.9	26.7
	Gleys	59	73.3
	Peat	5.1	0
5	B earths	45	53.3
	Gleys	32.5	40
	Peat	5	6.7
	Podzols	12.5	0
	Rendzina	5	0
6	B earths	55	44.4
	Gleys	25	17.8
	Podzols	12.5	35.6
	Ranker	2.5	2.2
	Rendzina	5	0
7	B earths	56.4	52.5
	Gleys	12.8	20
	Podzols	10.3	7.5
	Ranker	7.7	7.5
	Rendzina	12.8	12.5
8	B earths	45	51.9
	Gleys	50	42.6
	Peat		3.7
	Ranker	5	1.9
9	B earths	47.5	56.9
	Gleys	42.5	36.9
	Podzols	10	6.2
10	B earths	35	45
	Gleys	57.5	50
	Podzols	7.5	5
11	B earths	50	41.5
	Gleys	47.5	56.9
	Ranker	2.5	1.5
12	B earths	35.9	45.8
	Gleys	61.5	50
	Peat	2.6	4.2
13	B earths	32.5	13.3
	Gleys	50	55.6
	Peat	0	8.9
	Podzols	15	15.6
	Ranker	2.5	6.7
14	B earths	68.6	73.3
	Gleys	31.4	26.7
15	B earths	40	48
	Gleys	40	20
	Podzols	12.5	24
	Ranker	5	4
	Rendzina	2.5	4
16	B earths	40	51.4
	Gleys	42.5	22.9
	Peat	5	5.7
	Podzols	5	11.4
	Ranker	7.5	8.6
17	B earths	55	48
	Gleys	12.5	18
	Peat	0	2
	Podzols	30	28
	Ranker	2.5	4
18	B earths	10	20
	Gleys	20	43.3
	Peat	15	0
	Podzols	40	36.7
	Ranker	15	0
19	B earths	25	50
	Gleys	10	0
	Peat	20	30
	Podzols	32.5	20
	Ranker	12.5	0
20	B earths	32.5	20
	Gleys	45	70
	Peat	7.5	10
	Podzols	12.5	0
	Ranker	2.5	0
21	B earths	7.5	0
	Gleys	22.5	11.1
	Peat	40	53.3
	Podzols	22.5	22.2
	Ranker	7.5	13.3
22	B earths	12.5	16.4
	Gleys	45	43.6
	Peat	15	12.7
	Podzols	25	25.5
	Ranker	2.5	1.8
23	B earths		6
	Gleys	10	8
	Peat	35	36
	Podzols	37.5	32
	Ranker	17.5	18
24	B earths	5	10
	Gleys	22.5	22.5
	Peat	30	22.5
	Podzols	27.5	22.5
	Ranker	15	22.5
25	B earths	56.4	33.9
	Gleys	33.3	40.7
	Podzols	2.6	11.9
	Ranker	7.7	13.6
26	B earths	48.7	53.9
	Gleys	33.3	33.3
	Peat	2.6	2.6
	Podzols	10.3	7.7
	Ranker	5.1	2.6
27	B earths	63.2	60.5
	Gleys	21.1	31.6
	Podzols	10.5	5.3
	Ranker	5.3	2.6
28	B earths	22.5	25
	Gleys	40	25
	Peat	20	17.5
	Podzols	15	30
	Ranker	2.5	2.5
29	B earths	20	15.9
	Gleys	12.5	13.6
	Peat	32.5	27.3
	Podzols	10	11.4
	Ranker	25	31.8
30	B earths	7.5	2.2
	Gleys	2.5	2.2
	Peat	57.5	66.7
	Podzols	12.5	11.1
	Ranker	20	17.8
31	B earths	35	48
	Gleys	7.5	8
	Peat	27.5	12
	Podzols	22.5	28
	Ranker	7.5	4
32	B earths	15	20
	Gleys	12.5	16.7
	Peat	55	50
	Podzols	7.5	6.7
	Ranker	10	6.7

Figure 4.9

VEGETATION COVER FOR ORIGINAL (OR) AND LOGISTIC (LR) CLASSIFICATIONS

Land Class	Species	Cover : OR	LR
1	Creeping Bent	1.3	0
	Common Bent	1.9	2.1
	Heather	1.4	0
	Crested Dog's-tail	0.8	0.3
	Cock's-foot	1.4	1.5
	Sheep's-fescue	1.3	1.3
	Yorkshire-fog	3.6	3.9
	Italian Rye-grass	3	2.4
	Perennial Rye-grass	10.5	15.6
	Purple Moor-grass	1.6	0
	Timothy	2.1	2.6
	Deergrass	0.1	0
	Bracken	0	2.5
	White Clover	2.5	1.4
2	Creeping Bent	2.7	2.1
	Common Bent	1.8	1.7
	Cock's-foot	1.5	1.5
	Sheep's-fescue	1.2	0.8
	Yorkshire-fog	1.8	3.4
	Italian Rye-grass	6.7	7
	Perennial Rye-grass	11.4	11.6
	Timothy	1.2	1.3
	Bracken	5.3	4.1
	White Clover	1.9	2.6
3	Creeping Bent	1.4	1.4
	Crested Dog's-tail	0.8	0.6
	Cock's-foot	1.4	1
	Yorkshire-fog	0.6	0.5
	Italian Rye-grass	0	0.4
	Perennial Rye-grass	13.2	12.2
	Timothy	0.3	0.2
	White Clover	0.3	0.4
4	Creeping Bent	8.1	6.5
	Common Bent	3.8	0
	Crested Dog's-tail	0.8	0
	Cock's-foot	0.6	1.5
	Sheep's-fescue	0.1	0
	Yorkshire-fog	0.3	0
	Italian Rye-grass	0.7	0
	Perennial Rye-grass	5.6	3.1
	Timothy	0.6	0
	White Clover	0.4	0
5	Creeping Bent	1.1	9
	Common Bent	10.8	21.3
	Crested Dog's-tail	1.8	4
	Cock's-foot	2	1.3
	Sheep's-fescue	1.6	1
	Yorkshire-fog	6.5	3.3
	Italian Rye-grass	1.5	0.3
	Perennial Rye-grass	13.5	11
	Purple Moor-grass	1	2.7
	Mat-grass	0.1	0
	Timothy	1.3	3.3
	Bracken	2.3	0
	White Clover	2.3	1.3
6	Creeping Bent	3.4	2.6
	Common Bent	6.5	7.4
	Heather	0.1	1.3
	Crested Dog's-tail	1.8	1.8
	Cock's-foot	3.8	3.8
	Sheep's-fescue	0.6	1.8
	Yorkshire-fog	6.4	6.3
	Italian Rye-grass	2.5	1.8
	Perennial Rye-grass	19.9	15
	Purple Moor-grass	0.6	2
	Mat-grass	0	0.1
	Timothy	3.1	1.8
	Bracken	1.5	2.2
	Deergrass	0	0.1
	White Clover	3	2.4
7	Creeping Bent	2.1	0.8
	Common Bent	3.2	3.1
	Heather	4.4	3.1
	Crested Dog's-tail	0.8	0.5
	Cock's-foot	1.4	1.4
	Sheep's-fescue	4.7	4.4
	Yorkshire-fog	2.8	1.8
	Italian Rye-grass	4.2	4.1
	Perennial Rye-grass	18.2	15.8
	Purple Moor-grass	0.6	0
	Mat-grass	0.3	0.1
	Bracken	1.3	1.1
	White Clover	3.1	3.3
8	Creeping Bent	2.6	4.6
	Common Bent	1.9	1.5
	Crested Dog's-tail	2.5	1.8
	Cock's-foot	1.6	1.3
	Sheep's-fescue	0.3	0.3
	Yorkshire-fog	1.3	1.6
	Italian Rye-grass	1.8	1.3
	Perennial Rye-grass	16.5	20.1
	Timothy	3.4	2.9
	White Clover	1.4	0.8
9	Creeping Bent	0.1	0.5
	Common Bent	4.8	3.9
	Crested Dog's-tail	1.5	0.7
	Cock's-foot	4.8	0.3
	Sheep's-fescue		
	Yorkshire-fog	2	1.2
	Italian Rye-grass	0.4	0.2
	Perennial Rye-grass	19.1	10.5
	Timothy	0.9	0.2
	Bracken	2.1	1.3
	White Clover	3.9	1.3
10	Creeping Bent	1.6	0.8
	Common Bent	2.4	1.4
	Heather	4.9	3.3
	Crested Dog's-tail	1.3	0.6
	Cock's-foot	0.9	2.4
	Yorkshire-fog	3.5	4.9
	Italian Rye-grass	1.4	0.6
	Perennial Rye-grass	14.5	17
	Timothy	2	2.3
	Bracken	0.8	0.5
	White Clover	3	3.7
11	Creeping Bent	0.3	0.6
	Common Bent	2.6	1.8
	Crested Dog's-tail	0	0.6
	Cock's-foot	3.1	3.5
	Sheep's-fescue	1.3	0.9
	Yorkshire-fog	1.7	1.5
	Italian Rye-grass	1	3.3
	Perennial Rye-grass	5.9	7.8
	Timothy	1.3	1.3
	Bracken	0	0.1
	White Clover	1.9	2.1
12	Creeping Bent	0.8	0.2
	Common Bent	0.5	0.8
	Cock's-foot	0.9	0.2
	Sheep's-fescue	0.1	0
	Yorkshire-fog	0.5	0.4
	Italian Rye-grass	4.2	0
	Perennial Rye-grass	3.5	2.4
	Timothy	0.8	0

VEGETATION COVER FOR ORIGINAL (OR) AND LOGISTIC (LR) CLASSIFICATIONS

Land Class	Species	Cover : OR	LR
13	Creeping Bent	1.8	1.6
	Common Bent	2.9	3.8
	Heather	0.5	2.8
	Crested Dog's-tail	1.1	1.6
	Cock's-foot	1.9	0.3
	Sheep's-fescue	0.3	0.8
	Yorkshire-fog	4	2.6
	Italian Rye-grass	0.3	0.2
	Perennial Rye-grass	27.1	29.7
	Purple Moor-grass	0.3	6
	Mat-grass	0.3	0.2
	Timothy	2.1	1.9
	Bracken	6.9	6.1
	Deergrass	0	0.1
	White Clover	2.8	2.4
14	Creeping Bent	0.1	2.7
	Common Bent	0.3	2
	Cock's-foot	0.4	8
	Sheep's-fescue	0.1	0
	Yorkshire-fog	0.1	2.7
	Italian Rye-grass	1.1	0.7
	Perennial Rye-grass	21.4	18
	Timothy	1	1.3
	White Clover	2.1	2
15	Creeping Bent	0.5	2.8
	Common Bent	7.6	12.4
	Crested Dog's-tail	1.1	2.6
	Cock's-foot	2.6	3.8
	Sheep's-fescue	2.4	5
	Yorkshire-fog	2.9	3.2
	Italian Rye-grass	0	0.8
	Perennial Rye-grass	19	12.8
	Purple Moor-grass	0.3	0
	Timothy	2.1	1
	Bracken	1.9	0.8
	White Clover	2	3.2
16	Creeping Bent	0.1	0.1
	Common Bent	1.6	1.6
	Heather	1	1
	Crested Dog's-tail	0.6	0.6
	Cock's-foot	0.4	0.8
	Sheep's-fescue	2.1	2.1
	Yorkshire-fog	2.3	2.6
	Italian Rye-grass	0.4	2.9
	Perennial Rye-grass	27.4	34.4
	Purple Moor-grass	1.8	1.8
	Mat-grass	1.8	1.8
	Timothy	2.8	3.3
	Bracken	1.1	1.1
	Deergrass	1	1
	White Clover	1.5	1.5
17	Creeping Bent	0.8	0.8
	Common Bent	14.4	14.3
	Heather	2.3	1.8
	Crested Dog's-tail	7.8	6.3
	Cock's-foot	3.9	3.4
	Sheep's-fescue	1.9	3.3
	Yorkshire-fog	4.1	3.9
	Perennial Rye-grass	14.5	19
	Purple Moor-grass	1.1	5.4
	Mat-grass	2.4	2.8
	Timothy	1	1.2
	Bracken	2.1	2.2
	White Clover	3.9	4.5
18	Common Bent	3.4	4.7
	Heather	16.6	13.5
	Crested Dog's-tail	0.4	2.2
	Cock's-foot	1.4	1.8
	Sheep's-fescue	3.6	0.8
	Yorkshire-fog	0.1	1
	Italian Rye-grass	0	1
	Perennial Rye-grass	2.4	6.5
	Purple Moor-grass	1.3	0
	Mat-grass	10.6	6.2
	Timothy	0	2.8
	Bracken	0.6	1.7
	Deergrass	2.5	0.3
	White Clover	0.1	2.5
19	Common Bent	3	1.5
	Heather	25.6	38.5
	Crested Dog's-tail	1.6	5
	Sheep's-fescue	2.1	0
	Yorkshire-fog	1.8	0
	Perennial Rye-grass	10.8	29
	Purple Moor-grass	1.4	0
	Mat-grass	4	0
	Timothy	0.3	1
	Bracken	3.8	0
	White Clover	1.1	2
20	Common Bent	4.9	3.5
	Heather	0.9	3.5
	Crested Dog's-tail	2	0
	Cock's-foot	1.5	0
	Sheep's-fescue	2.4	0
	Yorkshire-fog	2.3	[illegible]
	Italian Rye-grass	2.5	0
	Perennial Rye-grass	18.5	9
	Purple Moor-grass	10.4	6
	Mat-grass	7.4	22
	Timothy	0.8	0
	Bracken	1.3	0
	Deergrass	0.5	2
	White Clover	4.1	0.5
21	Creeping Bent	0.1	0.1
	Common Bent	1	0.4
	Heather	35.9	35.4
	Sheep's-fescue	1.5	1.3
	Yorkshire-fog	0.1	0
	Purple Moor-grass	1.9	2.7
	Mat-grass	1.5	1.2
	Bracken	1.3	1
	Deergrass	10.8	10.6
	White Clover	0.1	0
22	Common Bent	0.4	1.7
	Heather	26.5	22.1
	Crested Dog's-tail	0.5	0.5
	Cock's-foot	0.1	0
	Sheep's-fescue	1.1	2.5
	Yorkshire-fog	0.8	1.8
	Perennial Rye-grass	2.8	2.8
	Purple Moor-grass	3.9	7.3
	Mat-grass	0.3	2.8
	Timothy	0.3	0
	Bracken	1.8	1.5
	Deergrass	1.8	2.1
	White Clover	3.3	0.6
23	Common Bent	0.6	1.4
	Heather	28	23.4
	Sheep's-fescue	0.4	1
	Yorkshire-fog	0	0.4
	Purple Moor-grass	1.1	0.9
	Mat-grass	8.3	11.8
	Bracken	0	3
	Deergrass	1.9	1.5
	White Clover	0.3	0.2

VEGETATION COVER FOR ORIGINAL (OR) AND LOGISTIC (LR) CLASSIFICATIONS

Land Class	Species	Cover : OR	LR
24	Creeping Bent	0	0.3
	Common Bent	1	2.3
	Heather	5.6	5.8
	Sheep's-fescue	2	2.9
	Yorkshire-fog	0.1	1
	Purple Moor-grass	36.1	36
	Mat-grass	8.1	6.2
	Bracken	4.1	4.4
	Deergrass	8.5	6.3
25	Creeping Bent	2.3	1.4
	Common Bent	6	5.3
	Heather	0	8.7
	Crested Dog's-tail	1.8	1.8
	Cock's-foot	1	0.9
	Sheep's-fescue	0	1.6
	Yorkshire-fog	3.1	2.3
	Italian Rye-grass	0	3.4
	Perennial Rye-grass	22.3	19.3
	Purple Moor-grass	0	1.3
	Mat-grass	0	0.3
	Timothy	2.4	1.3
	Bracken	0	0.3
	Deergrass	0	0.2
	White Clover	4.6	6.3
26	Creeping Bent	1.9	2
	Common Bent	4.3	2.5
	Heather	1.8	0
	Crested Dog's-tail	2.4	2.3
	Cock's-foot	0.8	0.8
	Sheep's-fescue	0.6	0
	Yorkshire-fog	3	1.9
	Italian Rye-grass	0.8	0.8
	Perennial Rye-grass	16.4	14.6
	Purple Moor-grass	0.8	0
	Timothy	1.3	0.9
	Deergrass	0.1	0
	White Clover	5.3	4.4
27	Creeping Bent	0.1	0.1
	Common Bent	7.3	8.1
	Crested Dog's-tail	1.5	2.4
	Cock's-foot	3.4	3.3
	Sheep's-fescue	0.3	1.1
	Yorkshire-fog	4.3	4.4
	Italian Rye-grass	4.6	0.1
	Perennial Rye-grass	12.1	12.8
	Purple Moor-grass	0.6	2
	Timothy	3.3	3.3
	White Clover	2.4	3.5
28	Creeping Bent	0.1	0.1
	Common Bent	4.1	3.6
	Heather	7	8.4
	Crested Dog's-tail	1.8	1
	Cock's-foot	0.1	1.1
	Sheep's-fescue	4	2.3
	Yorkshire-fog	2.1	1.5
	Italian Rye-grass	0.9	0.9
	Perennial Rye-grass	11	10.6
	Purple Moor-grass	6.8	11.6
	Mat-grass	1.3	0.9
	Timothy	1.8	1.8
	Bracken	0.9	0.4
	Deergrass	5.8	2.9
	White Clover	1.3	0.9
29	Creeping Bent	1.3	0.3
	Common Bent	2.4	2.5
	Heather	24.8	23.4
	Crested Dog's-tail	0	0.3
	Cock's-foot	1.4	0.1
	Sheep's-fescue	0.4	2.1
	Yorkshire-fog	0.5	0.6
	Perennial Rye-grass	4.8	1.4
	Purple Moor-grass	15.3	14.2
	Mat-grass	2	2.3
	Timothy	0.1	0
	Bracken	4.3	6.6
	Deergrass	5.6	5.6
	White Clover	0.4	0.3
30	Creeping Bent	0.3	0
	Common Bent	1.3	0
	Heather	20.6	24.7
	Sheep's-fescue	1.4	0.3
	Yorkshire-fog	0.9	0
	Purple Moor-grass	24	16.7
	Mat-grass	0	2.6
	Bracken	2	1.6
	Deergrass	6.8	10.8
31	Common Bent	5.9	4.8
	Heather	13.6	11.4
	Crested Dog's-tail	0.6	1
	Cock's-foot	1.1	1.8
	Sheep's-fescue	2.6	1.4
	Yorkshire-fog	4.6	6.6
	Italian Rye-grass	1.6	2.6
	Perennial Rye-grass	2.3	3.6
	Purple Moor-grass	0.1	0
	Mat-grass	5.4	3.4
	Timothy	1.6	2.6
	Bracken	2.9	0
	Deergrass	0.3	0
	White Clover	6.4	9.4
32	Common Bent	0.6	0.8
	Heather	13.8	11.3
	Crested Dog's-tail	0.1	0.2
	Cock's-foot	0.5	0.7
	Sheep's-fescue	1.1	1.5
	Yorkshire-fog	0.4	0.5
	Italian Rye-grass	1.3	1.7
	Perennial Rye-grass	5.5	7.3
	Purple Moor-grass	12.4	3.8
	Mat-grass	1.8	2.3
	Timothy	3.1	4.2
	Deergrass	4.6	5
	White Clover	1.5	2

4.10 DISTRIBUTION OF COASTAL FEATURES

The following three figures show the distribution of the 1 Km squares containing the 6 coastal features from the main data base. The patterns reflect the different characteristics of the principal coastal environments in Britain and could be incorporated into a more detailed classification of the coast by division of the classes which contain them.

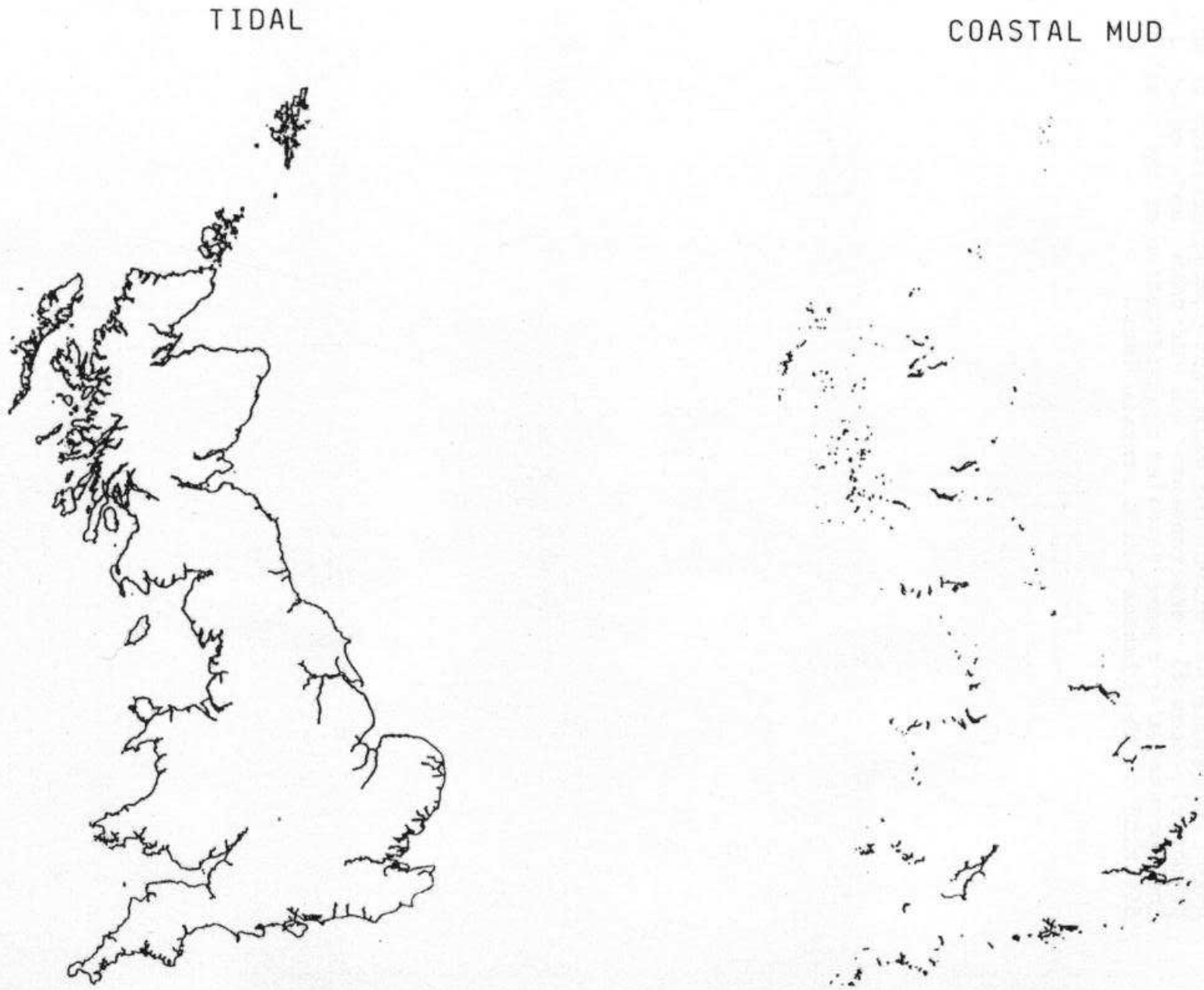


Figure 4.10.1 Distribution of tidal and coastal mud

Figure 4.10.2 Distribution of sand and shingle

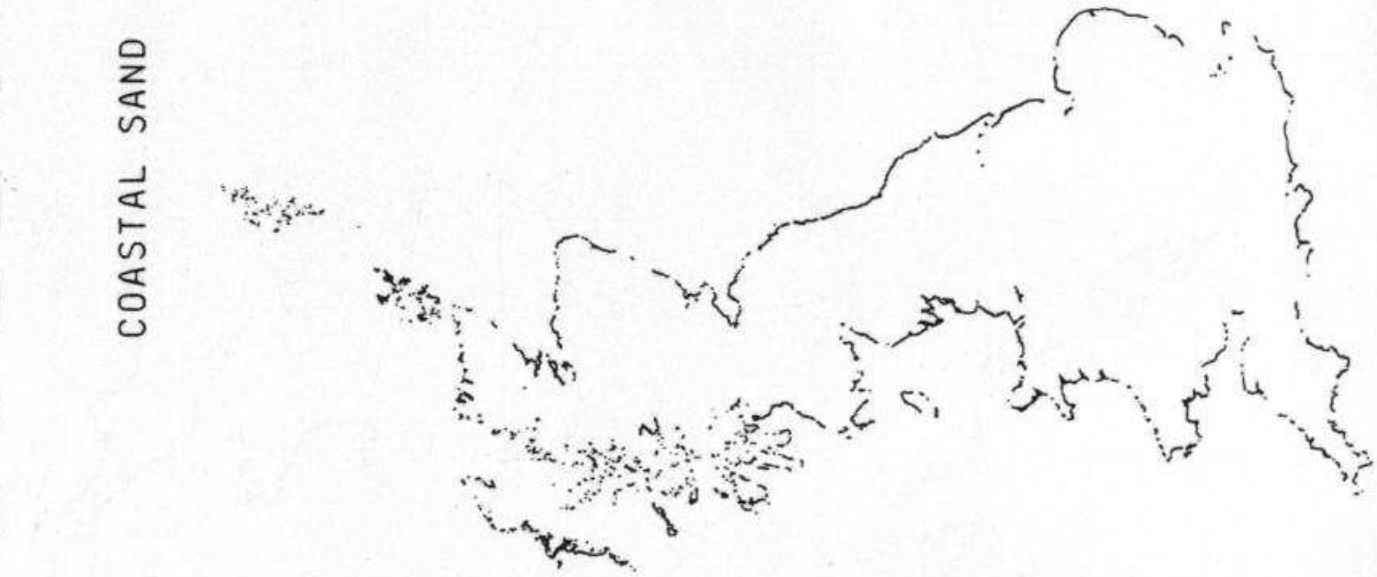
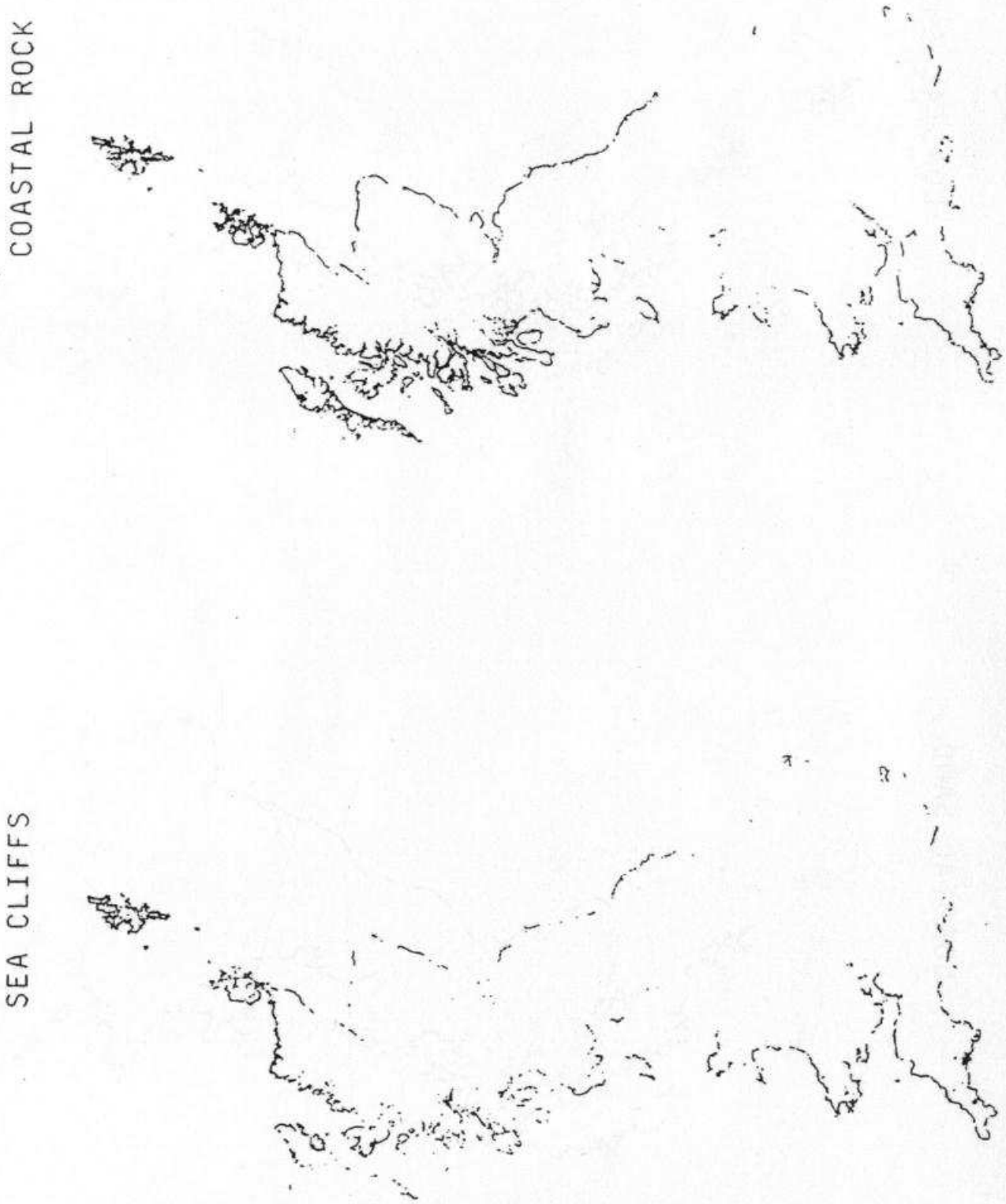


Figure 4.10.3 Distribution of sea cliffs and rock



4.11 OVERLAYING OF INDIVIDUAL ATTRIBUTES

The example given is for the combination of sea cliffs and chalk. There are only 2 areas which satisfy this definition - those on the Kent and Sussex coast in the south and Flanborough Head in the north.

CHALK AND SEA CLIFFS

Flamborough Head

Dorset

Figure 4.11.1 Combined distribution of chalk and sea cliff

4.12 ENVIRONMENTAL MEANS

Tables for all data described in Section 2, except for the figure for geology which is a summary figure and is not interpretable. Tables of the frequency of the geological attributes will be produced in due course.

SUMMARY STATS. FOR 1212 SQUARES
ENVIRONMENTAL VARIABLES BY NEW - LOG. REGRESSION - LAND CLASS

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
NEWCLASS=1									
SUN	64	6.12500000	0.46291005	5.5000000	7.500000	0.05786376	392.00000	0.2143	7.558
TEMP	64	1.35937500	0.44067724	0.5000000	3.000000	0.05508465	87.00000	0.1942	32.416
SNOW	64	17.96875000	4.42922742	10.0000000	30.000000	0.55365343	1150.00000	19.6181	24.650
SEA	64	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
INLAND	64	11.68750000	78.75214787	0.0000000	625.000000	9.84401848	748.00000	6201.9008	673.815
TOWN	64	77.03125000	232.95779090	0.0000000	1000.000000	29.11972386	4930.00000	54269.3323	302.420
VILL	64	54.20312500	101.60977014	0.0000000	464.000000	12.70122127	3469.00000	10324.5454	187.461
MOTO	64	1.42187500	5.05777631	0.0000000	25.000000	0.63222204	91.00000	25.5811	355.712
AROAD	64	6.35937500	11.91020263	0.0000000	52.000000	1.48877533	407.00000	141.8529	187.236
BROAD	64	4.26562500	9.85005388	0.0000000	49.000000	1.23125674	273.00000	97.0236	230.917
MROAD	64	19.65625000	17.29135829	0.0000000	56.000000	2.16141979	1258.00000	298.9911	87.969
RAIL	64	0.20312500	1.62500000	0.0000000	13.000000	0.20312500	13.00000	2.6406	800.000
CANAL	64	4.51562500	9.95544389	0.0000000	48.000000	1.24443049	289.00000	99.1109	220.467
RIVER	64	13.06250000	13.53874511	0.0000000	39.000000	1.69234314	836.00000	183.2976	103.646
CLIFF	64	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
ROCK	64	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SAND	64	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
MUD	64	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SHING	64	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
TIDAL	64	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
HHILL	64	135.62500000	72.37742786	0.0000000	270.000000	9.04717848	8680.00000	5238.4921	53.366
HVALL	64	49.14062500	37.36939890	0.0000000	140.000000	4.67117486	3145.00000	1396.4720	76.046
DHILL	64	3039.09375000	2181.10485850	0.0000000	8484.000000	272.63810731	194502.00000	4757218.4038	71.768
DVALL	64	1839.06250000	1711.16156478	0.0000000	6000.000000	213.89519560	117700.00000	2928073.9008	93.045
GRAD	64	0.78144375	0.49690574	0.0000000	2.719500	0.06211322	50.01240	0.2469	63.585
NASP	64	92.81250000	58.30186226	0.0000000	180.000000	7.28773278	5940.00000	3399.1071	62.817
EASP	64	88.59375000	51.31963910	0.0000000	180.000000	6.41495489	5670.00000	2633.7054	57.927
SLOPE	64	6123.96875000	2472.77861812	1000.0000000	14140.000000	309.09732727	391934.00000	6114634.0942	40.379
XMEAN	64	74.60937500	44.42136523	10.0000000	215.000000	5.55267065	4775.00000	1973.2577	59.539
DRFREE	64	77.53125000	34.67123081	0.0000000	100.000000	4.33390385	4962.00000	1202.0942	44.719
DRA	64	0.71875000	5.75000000	0.0000000	46.000000	0.71875000	46.00000	33.0625	800.000
DRB	64	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRC	64	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRD	64	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRE	64	4.06250000	15.45898311	0.0000000	88.000000	1.93237289	260.00000	238.9802	380.529
DRF	64	13.17187500	29.68648599	0.0000000	100.000000	3.71081075	843.00000	881.2875	225.378
DRG	64	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRH	64	3.01562500	13.31724290	0.0000000	84.000000	1.66465536	193.00000	177.3490	441.608
DRI	64	0.21875000	1.75000000	0.0000000	14.000000	0.21875000	14.00000	3.0625	800.000
DRJ	64	0.04687500	0.37500000	0.0000000	3.000000	0.04687500	3.00000	0.1406	800.000
DRK	64	1.23437500	6.95505340	0.0000000	43.000000	0.86938168	79.00000	48.3728	563.447
DRL	64	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRM	64	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SDIST	64	101.96875000	67.13288616	1.0000000	371.000000	3.39161077	6526.00000	4506.8244	65.837
WDIST	64	181.23437500	60.24730573	73.0000000	309.000000	7.53091322	11599.00000	3629.7378	33.243
ISLAND	64	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
GEOLOGY	64	4.10937500	1.71933161	1.0000000	9.000000	0.21491645	263.00000	2.9561	41.839

Figure 4.12 Table of environmental variables and attributes for the logistic discriminant method

NEWCLASS=2

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
SUN	67	6.46268657	0.37247567	6.0000000	7.500000	0.04550515	433.00000	0.1387	5.763
TEMP	67	1.17164179	0.35411262	0.5000000	2.500000	0.04326174	78.50000	0.1254	30.224
SNOW	67	19.25373134	4.37397012	10.0000000	30.000000	0.53436550	1290.00000	19.1316	22.718
SEA	67	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
INLAND	67	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
TOWN	67	67.01492537	185.47502425	0.0000000	996.000000	22.65938066	4490.00000	34400.9846	276.767
VILL	67	27.53731343	70.97317640	0.0000000	352.000000	8.67075353	1845.00000	5037.1918	257.735
MOTO	67	0.95522388	4.58070008	0.0000000	25.000000	0.55962158	64.00000	20.9828	479.542
AROAD	67	6.52238806	11.63765858	0.0000000	45.000000	1.42176628	437.00000	135.4351	178.426
BROAD	67	3.91044776	9.13490035	0.0000000	35.000000	1.11600570	262.00000	83.4464	233.602
MROAD	67	17.86567164	19.23766470	0.0000000	60.000000	2.35025481	1197.00000	370.0877	107.679
RAIL	67	0.80597015	4.30376441	0.0000000	25.000000	0.52578851	54.00000	18.5224	533.986
CANAL	67	1.46268657	5.85255282	0.0000000	25.000000	0.71500313	98.00000	34.2524	400.124
RIVER	67	6.11940299	11.13351804	0.0000000	48.000000	1.36017571	410.00000	123.9552	181.938
CLIFF	67	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
ROCK	67	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SAND	67	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
MUD	67	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SHING	67	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
TIDAL	67	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
HHILL	67	146.79104478	55.66200415	50.0000000	255.000000	6.80019612	9835.00000	3098.2587	37.919
HVALL	67	64.17910448	46.83624774	0.0000000	180.000000	5.72195836	4300.00000	2193.6341	72.977
DHILL	67	2941.04477612	2115.28745402	0.0000000	8484.000000	258.42349291	197050.00000	4474441.0131	71.923
DVALL	67	2647.10447761	2484.53220482	0.0000000	8000.000000	303.53391895	177356.00000	6172900.2768	93.858
GRAD	67	0.72246269	0.38601562	0.1351000	2.147600	0.04715931	48.40500	0.1490	53.431
NASP	67	90.00000000	57.02870091	0.0000000	180.000000	6.96716470	6030.00000	3252.2727	63.365
EASP	67	87.31343284	55.87681499	0.0000000	180.000000	6.82643944	5850.00000	3122.2185	63.996
SLOPE	67	6773.52238806	2635.46024017	2000.0000000	15554.000000	321.97271316	453826.00000	6945650.6775	38.908
XMEAN	67	98.73134328	45.99360367	20.0000000	205.000000	5.61901300	6615.00000	2115.4116	46.585
DRFREE	67	73.41791045	36.51365426	0.0000000	100.000000	4.46085285	4919.00000	1333.2469	49.734
DRA	67	1.62686567	11.20313244	0.0000000	90.000000	1.36868046	109.00000	125.5102	688.633
DRB	67	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRC	67	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRD	67	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRE	67	4.91044776	14.58593277	0.0000000	79.000000	1.78195530	329.00000	212.7494	297.039
DRF	67	10.28358209	28.33447732	0.0000000	100.000000	3.46160735	689.00000	802.8426	275.531
DRG	67	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRH	67	0.04477612	0.27151850	0.0000000	2.000000	0.03317126	3.00000	0.0737	606.391
DRI	67	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRJ	67	0.58208955	4.05697773	0.0000000	33.000000	0.49563871	39.00000	16.4591	696.968
DRK	67	9.13432836	22.63069484	0.0000000	97.000000	2.76477941	612.00000	512.1483	247.754
DRL	67	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRM	67	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SDIST	67	55.97014925	35.19554472	3.0000000	141.000000	4.29982014	3750.00000	1238.7264	62.883
WDIST	67	215.68656716	72.91157138	43.0000000	382.000000	8.90756616	14451.00000	5316.0972	33.804
ISLAND	67	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
GEOLOGY	67	5.31343284	2.19647759	1.0000000	7.000000	0.26834245	356.00000	4.8245	41.338

SUMMARY STATS. FOR 1212 SQUARES
ENVIRONMENTAL VARIABLES BY NEW - LOG. REGRESSION - LAND CLASS

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
NEWCLASS=3									
SUN	66	6.18181818	0.24236596	6.0000000	6.500000	0.02983319	408.00000	0.0587	3.921
TEMP	66	0.46212121	0.30772873	0.0000000	1.000000	0.03787879	30.50000	0.0947	66.590
SNOW	66	20.00000000	0.00000000	20.0000000	20.000000	0.00000000	1320.00000	0.0000	0.000
SEA	66	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
INLAND	66	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
TOWN	66	0.57575758	3.28193473	0.0000000	19.000000	0.40397824	38.00000	10.7711	570.020
VILL	66	32.06060606	81.05779112	0.0000000	484.000000	9.97752436	2116.00000	6570.3655	252.827
MOTO	66	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
AROAD	66	4.56060606	9.71141879	0.0000000	34.000000	1.19539302	301.00000	94.3117	212.941
BROAD	66	5.04545455	9.90016599	0.0000000	34.000000	1.21862619	333.00000	98.0133	196.220
MROAD	66	19.36363636	18.60077448	0.0000000	80.000000	2.28959706	1278.00000	345.9888	96.060
RAIL	66	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
CANAL	66	1.75757576	6.10185497	0.0000000	25.000000	0.75108643	116.00000	37.2326	347.175
RIVER	66	7.21212121	13.25665598	0.0000000	59.000000	1.63178155	476.00000	175.7389	183.811
CLIFF	66	0.01515152	0.12309149	0.0000000	1.000000	0.01515152	1.00000	0.0152	812.404
ROCK	66	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SAND	66	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
MUD	66	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SHING	66	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
TIDAL	66	0.01515152	0.12309149	0.0000000	1.000000	0.01515152	1.00000	0.0152	812.404
HHILL	66	73.33333333	48.35233932	0.0000000	195.000000	5.95176154	4840.00000	2337.9487	65.935
HVALL	66	32.34848485	23.78137113	0.0000000	100.000000	2.92728443	2135.00000	565.5536	73.516
DHILL	66	2255.72727273	2183.96640961	0.0000000	8000.000000	268.82768161	148878.00000	4769709.2783	96.819
DVALL	66	2033.66666667	1588.08198135	0.0000000	5656.000000	195.47937888	134222.00000	2522004.3795	78.090
GRAD	66	0.36569848	0.23976017	0.0000000	1.164800	0.02951244	24.13610	0.0575	65.562
NASP	66	88.63636364	57.44927833	0.0000000	180.000000	7.07151733	5850.00000	3300.4196	64.815
EASP	66	75.00000000	45.57327152	0.0000000	180.000000	5.60968194	4950.00000	2076.9231	60.764
SLOPE	66	5577.93939394	2439.85389146	1000.0000000	11312.000000	300.32525327	368144.00000	5952887.0117	43.741
XMEAN	66	49.54545455	25.83568303	5.0000000	110.000000	3.18015274	3270.00000	667.4825	52.145
DRFREE	66	41.45454545	44.63188988	0.0000000	100.000000	5.49380587	2736.00000	1992.0056	107.665
DRA	66	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRB	66	0.06060606	0.49236596	0.0000000	4.000000	0.06060606	4.00000	0.2424	812.404
DRC	66	0.18181818	1.47709789	0.0000000	12.000000	0.18181818	12.00000	2.1818	812.404
DRD	66	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRE	66	2.51515152	9.57278582	0.0000000	54.000000	1.17832848	166.00000	91.6382	380.605
DRF	66	0.46969697	2.34828708	0.0000000	16.000000	0.28905416	31.00000	5.5145	499.958
DRG	66	4.83333333	19.55000164	0.0000000	100.000000	2.40643885	319.00000	382.2026	404.483
DRH	66	5.53030303	15.17814187	0.0000000	75.000000	1.86830011	365.00000	230.3760	274.454
DRI	66	44.42424242	45.21472211	0.0000000	100.000000	5.56554756	2932.00000	2044.3711	101.779
DRJ	66	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRK	66	0.07575758	0.61545745	0.0000000	5.000000	0.07575758	5.00000	0.3788	812.404
DRL	66	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRM	66	0.46969697	3.81583622	0.0000000	31.000000	0.46969697	31.00000	14.5606	812.404
SDIST	66	116.40909091	62.09149013	15.0000000	228.000000	7.64293410	7683.00000	3855.3531	53.339
WDIST	66	344.28787879	45.70970782	178.0000000	427.000000	5.62647609	22723.00000	2089.3774	13.277
ISLAND	66	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
GEOLOGY	66	4.81818182	2.36584082	1.0000000	7.000000	0.29121487	318.00000	5.5972	49.102

SUMMARY STATS. FOR 1212 SQUARES
ENVIRONMENTAL VARIABLES BY NEW - LOG. REGRESSION - LAND CLASS

NEWCLASS=4

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
SUN	44	6.37500000	0.49562035	6.0000000	8.000000	0.07471758	280.50000	0.246	7.774
TEMP	44	1.00000000	0.71528170	0.0000000	3.000000	0.10783277	44.00000	0.512	71.528
SNOW	44	18.63636364	4.08679615	10.0000000	30.000000	0.61610770	820.00000	16.702	21.929
SEA	44	86.02272727	243.53744649	0.0000000	991.000000	36.71465147	3785.00000	59310.488	283.108
INLAND	44	42.68181818	171.98225608	0.0000000	884.000000	25.92730064	1878.00000	29577.896	402.940
TOWN	44	124.65909091	278.66808991	0.0000000	994.000000	42.01079524	5485.00000	77655.904	223.544
VILL	44	23.06818182	73.41927943	0.0000000	326.000000	11.06837283	1015.00000	5390.391	318.271
MOTO	44	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
AROAD	44	2.29545455	7.04331960	0.0000000	33.000000	1.06182038	101.00000	49.608	306.838
BROAD	44	4.04545455	8.25453940	0.0000000	26.000000	1.24441864	178.00000	68.137	204.045
MROAD	44	17.11363636	21.43591413	0.0000000	79.000000	3.23158565	753.00000	459.498	125.256
RAIL	44	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
CANAL	44	2.18181818	8.28075024	0.0000000	38.000000	1.24837007	96.00000	68.571	379.534
RIVER	44	14.22727273	18.65084777	0.0000000	92.000000	2.81172109	626.00000	347.854	131.092
CLIFF	44	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
ROCK	44	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
SAND	44	0.02272727	0.15075567	0.0000000	1.000000	0.02272727	1.00000	0.023	663.325
MUD	44	0.09090909	0.29080336	0.0000000	1.000000	0.04384026	4.00000	0.085	319.884
SHING	44	0.02272727	0.15075567	0.0000000	1.000000	0.02272727	1.00000	0.023	663.325
TIDAL	44	0.13636364	0.34714176	0.0000000	1.000000	0.05233359	6.00000	0.121	254.571
HHILL	44	48.75000000	56.67250882	0.0000000	225.000000	8.54370217	2145.00000	3211.773	116.251
HVALL	44	12.15909091	20.04059042	0.0000000	75.000000	3.02123268	535.00000	401.625	164.820
DHILL	44	2247.09090909	2591.17311870	0.0000000	8484.000000	390.63404553	98872.00000	6714178.131	115.312
DVALL	44	993.04545455	1782.11906728	0.0000000	7070.000000	268.66455809	43694.00000	3175948.370	179.460
GRAD	44	0.31372955	0.32218414	0.0000000	1.513900	0.04857109	13.80410	0.104	102.695
NASP	44	67.50000000	62.51976432	0.0000000	180.000000	9.42520910	2970.00000	3908.721	92.622
EASP	44	69.54545455	63.23468821	0.0000000	180.000000	9.53298793	3060.00000	3998.626	90.926
SLOPE	44	4409.50000000	3345.12961128	1000.0000000	14140.000000	504.29726344	194018.00000	11189892.116	75.862
XMEAN	44	22.95454545	25.90946181	0.0000000	95.000000	3.90599833	1010.00000	671.300	112.873
DRFREE	44	21.63636364	34.14544194	0.0000000	100.000000	5.14761905	952.00000	1165.911	157.815
DRA	44	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRB	44	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRC	44	6.31818182	23.78564422	0.0000000	100.000000	3.58582079	278.00000	565.757	376.463
DRD	44	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRE	44	40.81818182	42.05548535	0.0000000	100.000000	6.34010297	1796.00000	1768.664	103.031
DRF	44	0.54545455	3.61813613	0.0000000	24.000000	0.54545455	24.00000	13.091	663.325
DRG	44	5.59090909	21.58198881	0.0000000	100.000000	3.25360723	246.00000	465.782	386.019
DRH	44	6.22727273	20.41871421	0.0000000	100.000000	3.07823699	274.00000	416.924	327.892
DRI	44	13.97727273	30.63930341	0.0000000	100.000000	4.61904878	615.00000	938.767	219.208
DRJ	44	3.29545455	13.88587964	0.0000000	76.000000	2.09337512	145.00000	192.818	421.365
DRK	44	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRL	44	1.59090909	10.55289706	0.0000000	70.000000	1.59090909	70.00000	111.364	663.325
DRM	44	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
SDIST	44	108.22727273	83.90965896	0.0000000	270.000000	12.64985705	4762.00000	7040.831	77.531
WDIST	44	320.70454545	87.55558488	89.0000000	448.000000	13.19950106	14111.00000	7665.980	27.301
ISLAND	44	0.04545455	0.21070705	0.0000000	1.000000	0.03176528	2.00000	0.044	463.556
GEOLOGY	44	3.52272727	2.09638267	1.0000000	7.000000	0.31604158	155.00000	4.395	59.510

SUMMARY STATS. FOR 1212 SQUARES
ENVIRONMENTAL VARIABLES BY NEW - LOG. REGRESSION - LAND CLASS

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
NEWCLASS=5									
SUN	12	6.12500000	0.37688918	5.5000000	6.500000	0.10879853	73.500000	0.142	6.153
TEMP	12	1.79166667	0.33427896	1.0000000	2.000000	0.09649802	21.500000	0.112	18.657
SNOW	12	15.83333333	5.14928651	10.0000000	20.000000	1.48647098	190.000000	26.515	32.522
SEA	12	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.000	.
INLAND	12	2.58333333	8.94892917	0.0000000	31.000000	2.58333333	31.000000	80.083	346.410
TOWN	12	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.000	.
VILL	12	105.83333333	188.87313363	0.0000000	617.000000	54.52297727	1270.000000	35673.061	178.463
MOTO	12	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.000	.
AROAD	12	9.33333333	13.18631062	0.0000000	38.000000	3.80655999	112.000000	173.879	141.282
BROAD	12	2.66666667	6.28610782	0.0000000	18.000000	1.81464302	32.000000	39.515	235.729
MROAD	12	16.58333333	18.08293185	0.0000000	58.000000	5.22009279	199.000000	326.992	109.043
RAIL	12	0.91666667	3.17542648	0.0000000	11.000000	0.91666667	11.000000	10.083	346.410
CANAL	12	1.83333333	6.04277681	0.0000000	21.000000	1.74439941	22.000000	36.515	329.606
RIVER	12	22.16666667	17.86226766	0.0000000	46.000000	5.15639252	266.000000	319.061	80.582
CLIFF	12	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.000	.
ROCK	12	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.000	.
SAND	12	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.000	.
MUD	12	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.000	.
SHING	12	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.000	.
TIDAL	12	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.000	.
HHILL	12	244.16666667	132.83334284	70.0000000	515.000000	38.34568312	2930.000000	17644.697	54.403
HVALL	12	34.16666667	25.48023595	0.0000000	80.000000	7.35551054	410.000000	649.242	74.576
DHILL	12	5132.66666667	3041.71235665	2000.0000000	11312.000000	878.06672396	61592.000000	9252014.061	59.262
DVALL	12	1339.16666667	1580.32619379	0.0000000	4242.000000	456.20087670	16070.000000	2497430.879	118.008
GRAD	12	1.68130833	1.29840438	0.5729000	4.517000	0.37481706	20.175700	1.686	77.226
NASP	12	82.50000000	50.15883861	0.0000000	135.000000	14.47960949	990.000000	2515.909	60.799
EASP	12	75.00000000	61.68099752	0.0000000	180.000000	17.80577026	900.000000	3804.545	82.241
SLOPE	12	7678.83333333	3374.39109210	4000.0000000	14140.000000	974.10280269	92146.000000	11386515.242	43.944
XMEAN	12	67.91666667	35.70449000	30.0000000	150.000000	10.30699846	815.000000	1274.811	52.571
DRFREE	12	72.25000000	33.68065266	6.0000000	100.000000	9.72276694	867.000000	1134.386	46.617
DRA	12	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.000	.
DRB	12	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.000	.
DRC	12	0.58333333	2.02072594	0.0000000	7.000000	0.58333333	7.000000	4.083	346.410
DRD	12	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.000	.
DRE	12	22.33333333	34.68909531	0.0000000	87.000000	10.01387926	268.000000	1203.333	155.324
DRF	12	3.08333333	8.71214756	0.0000000	30.000000	2.51498037	37.000000	75.902	282.556
DRG	12	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.000	.
DRH	12	0.41666667	1.44337567	0.0000000	5.000000	0.41666667	5.000000	2.083	346.410
DRI	12	1.33333333	4.61880215	0.0000000	16.000000	1.33333333	16.000000	21.333	346.410
DRJ	12	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.000	.
DRK	12	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.000	.
DRL	12	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.000	.
DRM	12	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.000	.
SDIST	12	101.08333333	74.70117236	29.0000000	297.000000	21.56437098	1213.000000	5580.265	73.901
WDIST	12	45.25000000	30.52309111	2.0000000	102.000000	8.81125743	543.000000	931.659	67.454
ISLAND	12	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.000	.
GEOLOGY	12	6.00000000	3.83761289	3.0000000	12.000000	1.10782342	72.000000	14.727	63.960

SUMMARY STATS. FOR 1212 SQUARES
ENVIRONMENTAL VARIABLES BY NEW - LOG. REGRESSION - LAND CLASS

NEWCLASS=6

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
SUN	58	6.18103448	0.34664148	5.5000000	7.000000	0.04551626	358.50000	0.1202	5.608
TEMP	58	2.87068966	0.83013603	2.0000000	5.000000	0.10900220	166.50000	0.6891	28.918
SNOW	58	13.79310345	4.89453193	10.0000000	20.000000	0.64268353	800.00000	23.9564	35.485
SEA	58	0.24137931	1.83829006	0.0000000	14.000000	0.24137931	14.00000	3.3793	761.577
INLAND	58	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
TOWN	58	41.41379310	138.00750482	0.0000000	590.000000	18.12127317	2402.00000	19046.0714	333.240
VILL	58	23.10344828	60.69471773	0.0000000	318.000000	7.96960688	1340.00000	3683.8488	262.708
MOTO	58	0.43103448	3.28266082	0.0000000	25.000000	0.43103448	25.00000	10.7759	761.577
AROAD	58	3.81034483	9.23277324	0.0000000	44.000000	1.21232252	221.00000	85.2441	242.308
BROAD	58	2.51724138	6.84987227	0.0000000	25.000000	0.89943229	146.00000	46.9208	272.118
MROAD	58	22.81034483	19.18831598	0.0000000	87.000000	2.51954932	1323.00000	368.1915	84.121
RAIL	58	0.43103448	3.28266082	0.0000000	25.000000	0.43103448	25.00000	10.7759	761.577
CANAL	58	0.10344828	0.78783860	0.0000000	6.000000	0.10344828	6.00000	0.6207	761.577
RIVER	58	9.53448276	13.00366415	0.0000000	43.000000	1.70746475	553.00000	169.0953	136.386
CLIFF	58	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
ROCK	58	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SAND	58	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
MUD	58	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SHING	58	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
TIDAL	58	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
HHILL	58	191.46551724	88.66954530	45.0000000	375.000000	11.64288170	11105.00000	7862.2883	46.311
HVALL	58	58.87931034	59.94912392	0.0000000	235.000000	7.87170562	3415.00000	3593.8975	101.817
DHILL	58	2884.89655172	2205.07663621	0.0000000	8484.000000	289.54074728	167324.00000	4862362.9716	76.435
DVALL	58	2704.13793103	2505.21154654	0.0000000	9898.000000	328.95039174	156840.00000	6276084.8929	92.644
GRAD	58	1.15988621	0.61973108	0.3545000	3.505000	0.08137468	67.27340	0.3841	53.430
NASP	58	100.08620690	59.62964189	0.0000000	180.000000	7.82975557	5805.00000	3555.6942	59.578
EASP	58	89.22413793	48.78166290	0.0000000	180.000000	6.40534614	5175.00000	2379.6506	54.673
SLOPE	58	6810.31034483	2443.75919225	2828.0000000	12000.000000	320.88130230	394998.00000	5971958.9897	35.883
XMEAN	58	116.81034483	60.99826195	20.0000000	245.000000	8.00946419	6775.00000	3720.7880	52.220
DRFREE	58	83.96551724	29.68842028	0.0000000	100.000000	3.89828056	4870.00000	881.4023	35.358
DRA	58	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRB	58	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRC	58	0.17241379	1.31306433	0.0000000	10.000000	0.17241379	10.00000	1.7241	761.577
DRD	58	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRE	58	4.87931034	14.54102193	0.0000000	76.000000	1.90932972	283.00000	211.4413	298.014
DRF	58	2.50000000	14.01409065	0.0000000	100.000000	1.84014025	145.00000	196.3947	560.564
DRG	58	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRH	58	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRI	58	8.36206897	24.40211256	0.0000000	100.000000	3.20415435	485.00000	595.4631	291.819
DRJ	58	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRK	58	0.12068966	0.91914503	0.0000000	7.000000	0.12068966	7.00000	0.8448	761.577
DRL	58	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRM	58	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SDIST	58	101.44827586	110.13471375	1.0000000	441.000000	14.46139640	5884.00000	12129.6552	108.562
WDIST	58	36.77586207	31.41071619	0.0000000	110.000000	4.12442910	2133.00000	986.6331	85.411
ISLAND	58	0.08620690	0.28312063	0.0000000	1.000000	0.03717556	5.00000	0.0802	328.420
GEOLOGY	58	8.24137931	3.28905866	2.0000000	15.000000	0.43187456	478.00000	10.8179	39.909

SUMMARY STATS. FOR 1212 SQUARES
ENVIRONMENTAL VARIABLES BY NEW - LOG. REGRESSION - LAND CLASS

NEWCLASS=7

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
SUN	42	6.26190476	0.70915696	5.0000000	7.500000	0.10942530	263.00000	0.5029	11.325
TEMP	42	2.94047619	1.02530412	0.5000000	5.000000	0.15820786	123.50000	1.0512	34.869
SNOW	42	13.09523810	4.67901138	10.0000000	20.000000	0.72198713	550.00000	21.8931	35.731
SEA	42	270.11904762	220.71261553	0.0000000	973.000000	34.05669595	11345.00000	48714.0587	81.709
INLAND	42	5.97619048	38.73014084	0.0000000	251.000000	5.97619048	251.00000	1500.0238	648.074
TOWN	42	56.33333333	174.80367617	0.0000000	811.000000	26.97279282	2366.00000	30556.3252	310.302
VILL	42	16.78571429	41.43201055	0.0000000	171.000000	6.39309802	705.00000	1716.6115	246.829
MOTO	42	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
AROAD	42	1.59523810	5.97172004	0.0000000	28.000000	0.92145641	67.00000	35.6614	374.347
BROAD	42	4.33333333	9.47053625	0.0000000	30.000000	1.46133547	182.00000	89.6911	218.551
MROAD	42	7.69047619	12.01114949	0.0000000	46.000000	1.85336060	323.00000	144.2677	156.182
RAIL	42	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
CANAL	42	1.73809524	5.84373554	0.0000000	25.000000	0.90170797	73.00000	34.1492	336.215
RIVER	42	3.35714286	7.06700139	0.0000000	28.000000	1.09046199	141.00000	49.9425	210.506
CLIFF	42	0.76190476	0.43108054	0.0000000	1.000000	0.06651717	32.00000	0.1858	56.579
ROCK	42	0.71428571	0.45722996	0.0000000	1.000000	0.07055211	30.00000	0.2091	64.012
SAND	42	0.45238095	0.50376054	0.0000000	1.000000	0.07773194	19.00000	0.2538	111.358
MUD	42	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SHING	42	0.52380952	0.50548674	0.0000000	1.000000	0.07799830	22.00000	0.2555	96.502
TIDAL	42	1.00000000	0.00000000	1.0000000	1.000000	0.00000000	42.00000	0.0000	0.000
HHILL	42	136.90476190	90.39177858	45.0000000	455.000000	13.94775424	5750.00000	8170.6736	66.025
HVALL	42	1.07142857	4.49060188	0.0000000	25.000000	0.69291491	45.00000	20.1655	419.123
DHILL	42	3173.47619048	2077.28237377	1000.0000000	8484.000000	320.53162909	133286.00000	4315102.0604	65.458
DVALL	42	1564.14285714	752.68111252	0.0000000	4242.000000	116.14121711	65694.00000	566528.8571	48.121
GRAD	42	1.34282381	0.69870450	0.3647000	3.195700	0.10781245	56.39860	0.4882	52.032
NASP	42	95.35714286	55.51744240	0.0000000	180.000000	8.56652734	4005.00000	3082.1864	58.221
EASP	42	93.21428571	57.43311517	0.0000000	180.000000	8.86212207	3915.00000	3298.5627	61.614
SLOPE	42	5924.90476190	2038.26278027	3000.0000000	11312.000000	314.51077510	248846.00000	4154515.1614	34.402
XMEAN	42	38.33333333	27.17752539	5.0000000	100.000000	4.19358321	1610.00000	738.6179	70.898
DRFREE	42	67.69047619	45.03683484	0.0000000	100.000000	6.94933449	2843.00000	2028.3165	66.533
DRA	42	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRB	42	7.30952381	25.70611401	0.0000000	100.000000	3.96653951	307.00000	660.8043	351.680
DRC	42	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRD	42	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRE	42	3.59523810	14.57706104	0.0000000	78.000000	2.24928935	151.00000	212.4907	405.455
DRF	42	0.04761905	0.30860670	0.0000000	2.000000	0.04761905	2.00000	0.0952	648.074
DRG	42	0.50000000	2.00304646	0.0000000	11.000000	0.30907678	21.00000	4.0122	400.609
DRH	42	2.38095238	15.43033500	0.0000000	100.000000	2.38095238	100.00000	238.0952	648.074
DRI	42	12.64285714	32.85134398	0.0000000	100.000000	5.06907243	531.00000	1079.2108	259.841
DRJ	42	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRK	42	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRL	42	4.76190476	21.55402687	0.0000000	100.000000	3.32585855	200.00000	464.5761	452.635
DRM	42	1.07142857	6.94365075	0.0000000	45.000000	1.07142857	45.00000	48.2143	648.074
SDIST	42	181.69047619	201.40040062	0.0000000	615.000000	31.07675650	7631.00000	40562.1214	110.848
WDIST	42	67.11904762	108.36798249	0.0000000	371.000000	16.72154273	2819.00000	11743.6196	161.456
ISLAND	42	0.16666667	0.37719547	0.0000000	1.000000	0.05820252	7.00000	0.1423	226.317
GEOLOGY	42	9.38095238	2.91298507	3.0000000	15.000000	0.44948335	394.00000	8.4855	31.052

SUMMARY STATS. FOR 1212 SQUARES
ENVIRONMENTAL VARIABLES BY NEW - LOG. REGRESSION - LAND CLASS

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
NEWCLASS=8									
SUN	44	6.30681818	0.63991196	5.0000000	7.500000	0.09647036	277.50000	0.4095	10.146
TEMP	44	1.87500000	0.67449378	0.0000000	3.000000	0.10168376	82.50000	0.4549	35.973
SNOW	44	17.72727273	4.23915106	10.0000000	20.000000	0.63907607	780.00000	17.9704	23.913
SEA	44	293.75000000	281.25475707	0.0000000	991.000000	42.40074999	12925.00000	79104.2384	95.746
INLAND	44	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
TOWN	44	190.36363636	289.62944175	0.0000000	923.000000	43.66328121	8376.00000	83885.2135	152.145
VILL	44	7.25000000	25.09343007	0.0000000	122.000000	3.78297692	319.00000	629.6802	346.116
MOTO	44	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
AROAD	44	8.95454545	16.52898025	0.0000000	64.000000	2.49183753	394.00000	273.2072	184.588
BROAD	44	2.90909091	7.27793154	0.0000000	25.000000	1.09718946	128.00000	52.9683	250.179
MROAD	44	8.34090909	14.85893855	0.0000000	49.000000	2.24006927	367.00000	220.7881	178.145
RAIL	44	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
CANAL	44	3.25000000	7.85367637	0.0000000	25.000000	1.18398626	143.00000	61.6802	241.652
RIVER	44	4.06818182	9.06154083	0.0000000	33.000000	1.36607868	179.00000	82.1115	222.742
CLIFF	44	0.20454545	0.40803246	0.0000000	1.000000	0.06151321	9.00000	0.1665	199.483
ROCK	44	0.13636364	0.34714176	0.0000000	1.000000	0.05233359	6.00000	0.1205	254.571
SAND	44	0.50000000	0.50578054	0.0000000	1.000000	0.07624929	22.00000	0.2558	101.156
MUD	44	0.18181818	0.39015365	0.0000000	1.000000	0.05881788	8.00000	0.1522	214.585
SHING	44	0.36363636	0.48660710	0.0000000	1.000000	0.07335878	16.00000	0.2368	133.817
TIDAL	44	1.00000000	0.00000000	1.0000000	1.000000	0.00000000	44.00000	0.0000	0.000
HHILL	44	61.70454545	72.43235161	0.0000000	365.000000	10.91958786	2715.00000	5246.4456	117.386
HVALL	44	0.45454545	1.45401682	0.0000000	5.000000	0.21920128	20.00000	2.1142	319.884
DHILL	44	2470.45454545	2530.45251450	0.0000000	11312.000000	381.48007002	108700.00000	6403189.9281	102.429
DVALL	44	968.72727273	726.54161243	0.0000000	2828.000000	109.53026923	42624.00000	527862.7146	75.000
GRAD	44	0.58987500	0.53683131	0.0000000	1.813800	0.08093036	25.95450	0.2882	91.008
NASP	44	109.43181818	54.38039905	0.0000000	180.000000	8.19815362	4815.00000	2957.2278	49.693
EASP	44	84.88636364	55.93277356	0.0000000	180.000000	8.43218288	3735.00000	3128.4752	65.891
SLOPE	44	4655.59090909	2783.03503657	1000.0000000	14140.000000	419.55831794	204846.00000	7745284.0148	59.778
XMEAN	44	15.68181818	20.64627082	0.0000000	80.000000	3.11254244	690.00000	426.2685	131.657
DRFREE	44	41.22727273	42.60192355	0.0000000	100.000000	6.42248163	1814.00000	1814.9239	103.334
DRA	44	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRB	44	10.95454545	27.75972869	0.0000000	100.000000	4.18493656	482.00000	770.6025	253.408
DRC	44	0.77272727	5.12569286	0.0000000	34.000000	0.77272727	34.00000	26.2727	663.325
DRD	44	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRE	44	15.68181818	29.84282293	0.0000000	100.000000	4.49897483	690.00000	890.5941	190.302
DRF	44	1.72727273	11.45743109	0.0000000	76.000000	1.72727273	76.00000	131.2727	663.325
DRG	44	0.09090909	0.60302269	0.0000000	4.000000	0.09090909	4.00000	0.3636	663.325
DRH	44	6.84090909	21.31048784	0.0000000	100.000000	3.21267692	301.00000	454.1369	311.515
DRI	44	10.18181818	25.65991601	0.0000000	100.000000	3.86837789	448.00000	658.4313	252.017
DRJ	44	2.27272727	15.07556723	0.0000000	100.000000	2.27272727	100.00000	227.2727	663.325
DRK	44	2.11363636	11.80109555	0.0000000	77.000000	1.77908209	93.00000	139.2659	558.331
DRL	44	8.13636364	26.57555347	0.0000000	100.000000	4.00641543	358.00000	706.2600	326.627
DRM	44	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SDIST	44	224.56818182	202.86006148	0.0000000	607.000000	30.58230495	9881.00000	41152.2045	90.333
WDIST	44	145.13636364	150.37667294	0.0000000	438.000000	22.67013642	6386.00000	22613.1438	103.611
ISLAND	44	0.20454545	0.40803246	0.0000000	1.000000	0.06151321	9.00000	0.1665	199.483
GEOLOGY	44	5.65909091	3.50377326	1.0000000	15.000000	0.52821369	249.00000	12.2764	61.914

SUMMARY STATS. FOR 1212 SQUARES
ENVIRONMENTAL VARIABLES BY NEW - LOG. REGRESSION - LAND CLASS

NEWCLASS=9

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
SUN	48	5.42708333	0.20601547	5.0000000	6.000000	0.02973577	260.50000	0.0424	3.796
TEMP	48	0.69791667	0.24710200	0.5000000	1.000000	0.03566610	33.50000	0.0611	35.406
SNOW	48	29.37500000	3.19990026	20.0000000	40.000000	0.46186582	1410.00000	10.2394	10.893
SEA	48	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
INLAND	48	4.64583333	32.18727751	0.0000000	223.000000	4.64583333	223.00000	1036.0208	692.820
TOWN	48	79.22916667	213.02854065	0.0000000	944.000000	30.74802132	3803.00000	45381.1591	268.876
VILL	48	30.81250000	69.32582837	0.0000000	366.000000	10.00632142	1479.00000	4806.0705	224.993
MOTO	48	0.52083333	3.60843918	0.0000000	25.000000	0.52083333	25.00000	13.0208	692.820
AROAD	48	6.37500000	11.93533107	0.0000000	49.000000	1.72271665	306.00000	142.4521	187.221
BROAD	48	5.10416667	10.84168391	0.0000000	53.000000	1.56486228	245.00000	117.5421	212.409
MROAD	48	12.54166667	13.28406233	0.0000000	42.000000	1.91738924	602.00000	176.4663	105.919
RAIL	48	1.89583333	6.57279883	0.0000000	28.000000	0.94870179	91.00000	43.2017	346.697
CANAL	48	1.47916667	4.59412012	0.0000000	25.000000	0.66310412	71.00000	21.1059	310.588
RIVER	48	8.41666667	12.56275030	0.0000000	50.000000	1.81327682	404.00000	157.8227	149.260
CLIFF	48	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
ROCK	48	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SAND	48	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
MUD	48	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SHING	48	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
TIDAL	48	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
HHILL	48	141.87500000	92.69387388	0.0000000	410.000000	13.37920826	6810.00000	8592.1543	65.335
HVALL	48	61.97916667	42.82248842	0.0000000	165.000000	6.18089380	2975.00000	1833.7655	69.092
DHILL	48	2766.04166667	2081.58374606	0.0000000	8484.000000	300.45073403	132770.00000	4332990.8918	75.255
DVALL	48	2613.70833333	2108.75480005	0.0000000	8484.000000	304.37253787	125458.00000	4446846.8067	80.681
GRAD	48	0.65369583	0.54630253	0.0000000	2.910000	0.07885198	31.37740	0.2984	83.571
NASP	48	88.12500000	53.29189991	0.0000000	180.000000	7.69202319	4230.00000	2840.0266	60.473
EASP	48	78.75000000	56.84525467	0.0000000	180.000000	8.20490577	3780.00000	3231.3830	72.184
SLOPE	48	6604.00000000	2729.44979258	1000.0000000	14140.000000	393.96214312	316992.00000	7449896.1702	41.330
XMEAN	48	89.68750000	48.39340392	5.0000000	210.000000	6.98498619	4305.00000	2341.9215	53.958
DRFREE	48	47.70833333	43.81487085	0.0000000	100.000000	6.32413187	2290.00000	1919.7429	91.839
DRA	48	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRB	48	7.00000000	23.61481684	0.0000000	94.000000	3.40850522	336.00000	557.6596	337.355
DRC	48	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRD	48	1.41666667	7.29859600	0.0000000	46.000000	1.05346159	68.00000	53.2695	515.195
DRE	48	9.70833333	24.06282410	0.0000000	100.000000	3.47316949	466.00000	579.0195	247.857
DRF	48	0.50000000	3.46410162	0.0000000	24.000000	0.50000000	24.00000	12.0000	692.820
DRG	48	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRH	48	5.66666667	19.82512197	0.0000000	87.000000	2.86150988	272.00000	393.0355	349.855
DRI	48	28.00000000	40.50216700	0.0000000	100.000000	5.84598426	1344.00000	1640.4255	144.651
DRJ	48	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRK	48	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRL	48	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRM	48	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SDIST	48	259.43750000	71.08727218	148.0000000	433.000000	10.26056393	12453.00000	5053.4003	27.401
WDIST	48	163.47916667	37.98543371	56.0000000	237.000000	5.48272509	7847.00000	1442.8932	23.236
ISLAND	48	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
GEOLOGY	48	4.68750000	2.51088058	2.0000000	12.000000	0.36241439	225.00000	6.3045	53.565

SUMMARY STATS. FOR 1212 SQUARES
ENVIRONMENTAL VARIABLES BY NEW - LOG. REGRESSION - LAND CLASS

NEWCLASS=10

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
SUN	61	5.15573770	0.23346991	5.0000000	5.500000	0.02989276	314.50000	0.055	4.528
TEMP	61	0.49180328	0.32264278	0.0000000	1.000000	0.04131017	30.00000	0.104	65.604
SNOW	61	30.81967213	2.76591273	30.0000000	40.000000	0.35413884	1880.00000	7.650	8.975
SEA	61	0.54098361	4.22521704	0.0000000	33.000000	0.54098361	33.00000	17.852	781.025
INLAND	61	0.26229508	1.48213404	0.0000000	10.000000	0.18976782	16.00000	2.197	565.064
TOWN	61	60.63934426	170.63020764	0.0000000	928.000000	21.84695941	3699.00000	29114.668	281.385
VILL	61	53.55737705	104.21652534	0.0000000	527.000000	13.34355874	3267.00000	10861.084	194.589
MOTO	61	2.04918033	6.91478182	0.0000000	25.000000	0.88534709	125.00000	47.814	337.441
AROAD	61	8.73770492	12.20095849	0.0000000	49.000000	1.56217266	533.00000	148.863	139.636
BROAD	61	4.04918033	10.31249441	0.0000000	50.000000	1.32037961	247.00000	106.348	254.681
MROAD	61	25.59016393	14.55950669	0.0000000	66.000000	1.86415381	1561.00000	211.979	56.895
RAIL	61	0.01639344	0.12803688	0.0000000	1.000000	0.01639344	1.00000	0.016	781.025
CANAL	61	2.03278689	6.03315068	0.0000000	25.000000	0.77246579	124.00000	36.399	296.792
RIVER	61	7.73770492	10.94973613	0.0000000	33.000000	1.40197005	472.00000	119.897	141.511
CLIFF	61	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
ROCK	61	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
SAND	61	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
MUD	61	0.01639344	0.12803688	0.0000000	1.000000	0.01639344	1.00000	0.016	781.025
SHING	61	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
TIDAL	61	0.01639344	0.12803688	0.0000000	1.000000	0.01639344	1.00000	0.016	781.025
HHILL	61	139.26229508	90.80123010	0.0000000	350.000000	11.62590620	8495.00000	8244.863	65.202
HVALL	61	59.42622951	40.30196811	0.0000000	150.000000	5.16013825	3625.00000	1624.249	67.818
DHILL	61	2631.70491803	2514.44933232	0.0000000	12726.000000	321.94224726	160534.00000	6322455.445	95.545
DVALL	61	2546.29508197	2367.72176958	0.0000000	9000.000000	303.15570793	155324.00000	5606106.378	92.987
GRAD	61	0.62391148	0.41223985	0.0000000	2.092600	0.05278190	38.05860	0.170	66.073
NASP	61	84.83606557	55.78207010	0.0000000	180.000000	7.14216221	5175.00000	3111.639	65.753
EASP	61	93.68852459	54.68014295	0.0000000	180.000000	7.00107490	5715.00000	2989.918	58.364
SLOPE	61	6429.11475410	3425.40013282	1000.0000000	16000.000000	438.57754553	392176.00000	11733366.070	53.279
XMEAN	61	94.50819672	55.61553229	5.0000000	235.000000	7.12083923	5765.00000	3093.087	58.847
DRFREE	61	53.36065574	45.08474716	0.0000000	100.000000	5.77251036	3255.00000	2032.634	84.491
DRA	61	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRB	61	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRC	61	0.54098361	4.22521704	0.0000000	33.000000	0.54098361	33.00000	17.852	781.025
DRD	61	13.54098361	32.89507246	0.0000000	100.000000	4.21178244	826.00000	1082.086	242.930
DRE	61	1.19672131	5.18272667	0.0000000	31.000000	0.66358015	73.00000	26.861	433.077
DRF	61	0.72131148	5.63362272	0.0000000	44.000000	0.72131148	44.00000	31.738	781.025
DRG	61	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRH	61	9.60655738	26.70660261	0.0000000	98.000000	3.41943007	586.00000	713.243	278.004
DRI	61	21.03278689	35.25193480	0.0000000	100.000000	4.51354774	1283.00000	1242.699	167.605
DRJ	61	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRK	61	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRL	61	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRM	61	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
SDIST	61	321.09836066	86.26136735	155.0000000	596.000000	11.04463633	19587.00000	7441.023	26.864
WDIST	61	140.54098361	40.88136241	70.0000000	259.000000	5.23432209	8573.00000	1671.286	29.089
ISLAND	61	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
GEOLOGY	61	5.42622951	3.10622502	2.0000000	11.000000	0.39771136	331.00000	9.649	57.245

SUMMARY STATS. FOR 1212 SQUARES
ENVIRONMENTAL VARIABLES BY NEW - LOG. REGRESSION - LAND CLASS

NEWCLASS=11

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
SUN	42	5.71428571	0.29514067	5.0000000	6.000000	0.04554119	240.00000	0.0871	5.165
TEMP	42	0.58333333	0.21855029	0.0000000	1.000000	0.03372304	24.50000	0.0478	37.466
SNOW	42	30.00000000	0.00000000	30.0000000	30.000000	0.00000000	1260.00000	0.0000	0.000
SEA	42	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
INLAND	42	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
TOWN	42	58.92857143	189.67345403	0.0000000	994.000000	29.26724936	2475.00000	35976.0192	321.870
VILL	42	49.92857143	104.85120534	0.0000000	375.000000	16.17889223	2097.00000	10993.7753	210.002
MOTO	42	0.85714286	4.17642296	0.0000000	25.000000	0.64443605	36.00000	17.4425	487.249
AROAD	42	5.09523810	9.69488053	0.0000000	26.000000	1.49595254	214.00000	93.9907	190.273
BROAD	42	2.80952381	7.55544738	0.0000000	25.000000	1.16583084	118.00000	57.0848	268.923
MROAD	42	16.35714286	14.64010767	0.0000000	49.000000	2.25901766	687.00000	214.3328	89.503
RAIL	42	0.61904762	3.85690626	0.0000000	25.000000	0.59513356	26.00000	14.8757	623.039
CANAL	42	2.59523810	7.43774003	0.0000000	25.000000	1.14766820	109.00000	55.3200	286.592
RIVER	42	13.42857143	15.85012558	0.0000000	48.000000	2.44572747	564.00000	251.2265	118.033
CLIFF	42	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
ROCK	42	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SAND	42	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
MUD	42	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SHING	42	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
TIDAL	42	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
HHILL	42	115.47619048	45.74331250	45.0000000	215.000000	7.05834636	4850.00000	2092.4506	39.613
HVALL	42	58.92857143	38.15142670	5.0000000	145.000000	5.88689294	2475.00000	1455.5314	64.742
DHILL	42	2840.14285714	2435.02797672	0.0000000	9898.000000	375.73297406	119286.00000	5929361.2474	85.736
DVALL	42	2831.95238095	2247.24114820	0.0000000	7070.000000	346.75683734	118942.00000	5050092.7782	79.353
GRAD	42	0.49065476	0.20861015	0.2026000	1.012900	0.03218925	20.60750	0.0435	42.517
NASP	42	98.57142857	50.90984037	0.0000000	180.000000	7.85555892	4140.00000	2591.8118	51.648
EASP	42	77.14285714	57.34090245	0.0000000	180.000000	8.84789334	3240.00000	3287.9791	74.331
SLOPE	42	6888.95238095	2421.02889791	3000.0000000	12726.000000	373.57286930	289336.00000	5861380.9245	35.144
XMEAN	42	82.85714286	48.97912518	15.0000000	215.000000	7.55764309	3480.00000	2398.9547	59.113
DRFREE	42	50.33333333	38.83276632	0.0000000	100.000000	5.99202593	2114.00000	1507.9837	77.151
DRA	42	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRB	42	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRC	42	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRD	42	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRE	42	9.21428571	21.25172672	0.0000000	86.000000	3.27921263	387.00000	451.6359	230.639
DRF	42	4.90476190	17.61347810	0.0000000	84.000000	2.71781868	206.00000	310.2346	359.110
DRG	42	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRH	42	1.64285714	10.02149258	0.0000000	65.000000	1.54634988	69.00000	100.4303	610.004
DRI	42	33.90476190	41.68570529	0.0000000	100.000000	6.43224397	1424.00000	1737.6980	122.949
DRJ	42	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRK	42	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRL	42	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRM	42	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SDIST	42	189.92857143	53.02847503	103.0000000	285.000000	8.18247134	7977.00000	2812.0192	27.920
WDIST	42	250.47619048	28.40580334	191.0000000	313.000000	4.38311061	10520.00000	806.8897	11.341
ISLAND	42	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
GEOLOGY	42	3.04761905	0.90936539	2.0000000	5.000000	0.14031813	128.00000	0.8269	29.839

SUMMARY STATS. FOR 1212 SQUARES
ENVIRONMENTAL VARIABLES BY NEW - LOG. REGRESSION - LAND CLASS

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
NEWCLASS=12									
SUN	17	5.88235294	0.21861866	5.5000000	6.0000000	0.05302281	100.000000	0.0478	3.717
TEMP	17	0.55882353	0.16605279	0.5000000	1.0000000	0.04027372	9.500000	0.0276	29.715
SNOW	17	30.00000000	0.00000000	30.0000000	30.0000000	0.00000000	510.00000	0.0000	0.000
SEA	17	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.000000	0.0000	.
INLAND	17	4.88235294	20.13045688	0.0000000	83.0000000	4.88235294	83.000000	405.2353	412.311
TOWN	17	0.47058824	1.94028500	0.0000000	8.0000000	0.47058824	8.000000	3.7647	412.311
VILL	17	110.35294118	173.60261417	0.0000000	589.0000000	42.10481854	1876.000000	30137.8676	157.316
MOTO	17	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.000000	0.0000	.
AROAD	17	9.23529412	11.54626245	0.0000000	27.0000000	2.80037998	157.000000	133.3162	125.023
BROAD	17	2.64705882	6.62326559	0.0000000	24.0000000	1.60637786	45.000000	43.8676	250.212
MROAD	17	14.00000000	16.37070554	0.0000000	65.0000000	3.97047930	238.000000	268.0000	116.934
RAIL	17	0.47058824	1.94028500	0.0000000	8.0000000	0.47058824	8.000000	3.7647	412.311
CANAL	17	1.00000000	3.24037035	0.0000000	13.0000000	0.78590525	17.000000	10.5000	324.037
RIVER	17	18.58823529	14.40077612	0.0000000	58.0000000	3.49270124	316.000000	207.3824	77.473
CLIFF	17	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.000000	0.0000	.
ROCK	17	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.000000	0.0000	.
SAND	17	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.000000	0.0000	.
MUD	17	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.000000	0.0000	.
SHING	17	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.000000	0.0000	.
TIDAL	17	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.000000	0.0000	.
HHILL	17	25.88235294	26.23423897	0.0000000	75.0000000	6.36273754	440.000000	688.2353	101.360
HVALL	17	12.35294118	16.87431916	0.0000000	70.0000000	4.09262354	210.000000	284.7426	136.602
DHILL	17	1198.94117647	1929.02852722	0.0000000	5656.0000000	467.85813956	20382.000000	3721151.0588	160.894
DVALL	17	852.00000000	1050.44038384	0.0000000	3000.0000000	254.76921506	14484.000000	1103425.0000	123.291
GRAD	17	0.15734706	0.16892283	0.0000000	0.5403000	0.04096980	2.674900	0.0285	107.357
NASP	17	50.29411765	52.48424133	0.0000000	135.0000000	12.72929828	855.000000	2754.5956	104.355
EASP	17	50.29411765	61.37666974	0.0000000	180.0000000	14.88602896	855.000000	3767.0956	122.035
SLOPE	17	3221.41176471	2338.76802662	1000.0000000	8484.0000000	567.23456515	54764.000000	5469835.8824	72.601
XMEAN	17	19.11764706	17.96135558	5.0000000	70.0000000	4.35626860	325.000000	322.6103	93.952
DRFREE	17	0.94117647	2.74933147	0.0000000	10.0000000	0.66681083	16.000000	7.5588	292.116
DRA	17	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.000000	0.0000	.
DRB	17	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.000000	0.0000	.
DRC	17	5.88235294	24.25356250	0.0000000	100.0000000	5.88235294	100.000000	588.2353	412.311
DRD	17	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.000000	0.0000	.
DRE	17	50.76470588	41.52037062	0.0000000	100.0000000	10.07016904	863.000000	1723.9412	81.790
DRF	17	16.76470588	26.84103531	0.0000000	94.0000000	6.50990728	285.000000	720.4412	160.104
DRG	17	13.70588235	33.44354330	0.0000000	100.0000000	8.11125068	233.000000	1118.4706	244.009
DRH	17	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.000000	0.0000	.
DRI	17	11.94117647	29.99264616	0.0000000	100.0000000	7.27428518	203.000000	899.5588	251.170
DRJ	17	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.000000	0.0000	.
DRK	17	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.000000	0.0000	.
DRL	17	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.000000	0.0000	.
DRM	17	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.000000	0.0000	.
SDIST	17	223.88235294	51.52654941	110.0000000	295.0000000	12.49702387	3806.000000	2654.9853	23.015
WDIST	17	257.23529412	25.88563649	206.0000000	301.0000000	6.27818903	4373.000000	670.0662	10.063
ISLAND	17	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.000000	0.0000	.
GEOLOGY	17	3.35294118	0.99631675	3.0000000	7.0000000	0.24164230	57.000000	0.9926	29.715

SUMMARY STATS. FOR 1212 SQUARES
ENVIRONMENTAL VARIABLES BY NEW - LOG. REGRESSION - LAND CLASS

NEWCLASS=13

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
SUN	40	5.31250000	0.33373373	5.0000000	6.000000	0.05276794	212.50000	0.111	6.282
TEMP	40	1.42500000	0.63599307	0.5000000	2.500000	0.10055933	57.00000	0.404	44.631
SNOW	40	21.75000000	3.84807644	20.0000000	30.000000	0.60843431	870.00000	14.808	17.692
SEA	40	22.35000000	95.43760211	0.0000000	578.000000	15.09000986	894.00000	9108.336	427.014
INLAND	40	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
TOWN	40	92.30000000	251.16959231	0.0000000	1000.000000	39.71339953	3692.00000	63086.164	272.123
VILL	40	30.90000000	74.71443069	0.0000000	365.000000	11.81338875	1236.00000	5582.246	241.794
MOTO	40	0.85000000	4.16671795	0.0000000	25.000000	0.65881595	34.00000	17.362	490.202
AROAD	40	8.70000000	13.95450483	0.0000000	53.000000	2.20640094	348.00000	194.728	160.397
BROAD	40	2.07500000	6.53349359	0.0000000	25.000000	1.03303604	83.00000	42.687	314.867
MROAD	40	13.05000000	15.90024996	0.0000000	49.000000	2.51405026	522.00000	252.818	121.841
RAIL	40	1.55000000	5.57903585	0.0000000	25.000000	0.88212302	62.00000	31.126	359.938
CANAL	40	2.42500000	7.51370543	0.0000000	33.000000	1.18802114	97.00000	56.456	309.844
RIVER	40	10.35000000	12.70483453	0.0000000	35.000000	2.00881072	414.00000	161.413	122.752
CLIFF	40	0.05000000	0.22072143	0.0000000	1.000000	0.03489912	2.00000	0.049	441.443
ROCK	40	0.05000000	0.22072143	0.0000000	1.000000	0.03489912	2.00000	0.049	441.443
SAND	40	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
MUD	40	0.05000000	0.22072143	0.0000000	1.000000	0.03489912	2.00000	0.049	441.443
SHING	40	0.02500000	0.15811388	0.0000000	1.000000	0.02500000	1.00000	0.025	632.456
TIDAL	40	0.12500000	0.33493206	0.0000000	1.000000	0.05295741	5.00000	0.112	267.946
HHILL	40	138.62500000	120.05334018	10.0000000	415.000000	18.98209978	5545.00000	14412.804	86.603
HVALL	40	16.62500000	23.81519392	0.0000000	95.000000	3.76551279	665.00000	567.163	143.249
DHILL	40	4121.95000000	3776.06560915	0.0000000	12726.000000	597.04839596	164878.00000	14258671.485	91.609
DVALL	40	2235.50000000	1747.20945275	0.0000000	7070.000000	276.25807100	89420.00000	3052740.872	78.157
GRAD	40	0.83198500	0.67439086	0.1351000	3.319400	0.10663056	33.27940	0.455	81.058
NASP	40	97.87500000	63.54775612	0.0000000	180.000000	10.04778248	3915.00000	4038.317	64.927
EASP	40	102.37500000	45.55902765	0.0000000	180.000000	7.20351477	4095.00000	2075.625	44.502
SLOPE	40	7554.10000000	4002.59295316	2000.0000000	19796.000000	632.86551393	302164.00000	16020750.349	52.986
XMEAN	40	44.37500000	26.31630819	5.0000000	120.000000	4.16097367	1775.00000	692.548	59.304
DRFREE	40	18.97500000	31.96110417	0.0000000	100.000000	5.05349428	759.00000	1021.512	168.438
DRA	40	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRB	40	6.50000000	20.35832848	0.0000000	100.000000	3.21893437	260.00000	414.462	313.205
DRC	40	7.35000000	23.69090489	0.0000000	100.000000	3.74586096	294.00000	561.259	322.325
DRD	40	2.07500000	13.12345229	0.0000000	83.000000	2.07500000	83.00000	172.225	632.456
DRE	40	3.07500000	11.39587757	0.0000000	61.000000	1.80184645	123.00000	129.866	370.598
DRF	40	1.12500000	7.11512474	0.0000000	45.000000	1.12500000	45.00000	50.625	632.456
DRG	40	4.42500000	18.16292010	0.0000000	100.000000	2.87180982	177.00000	329.892	410.461
DRH	40	5.77500000	20.69000440	0.0000000	100.000000	3.27137694	231.00000	428.076	358.268
DRI	40	50.72500000	41.47967528	0.0000000	100.000000	6.55851252	2029.00000	1720.563	81.774
DRJ	40	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRK	40	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRL	40	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRM	40	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
SDIST	40	423.32500000	141.59954141	246.0000000	719.000000	22.38885332	16933.00000	20050.430	33.449
WDIST	40	52.22500000	51.62760517	0.0000000	181.000000	8.16304112	2089.00000	2665.410	98.856
ISLAND	40	0.17500000	0.38480764	0.0000000	1.000000	0.06084343	7.00000	0.148	219.890
GEOLOGY	40	6.85000000	4.45806673	3.0000000	15.000000	0.70488224	274.00000	19.874	65.081

SUMMARY STATS. FOR 1212 SQUARES
ENVIRONMENTAL VARIABLES BY NEW - LOG. REGRESSION - LAND CLASS

NEWCLASS=14

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
SUN	12	5.37500000	0.22613351	5.0000000	5.500000	0.0652791	64.500000	0.051	4.207
TEMP	12	1.41666667	0.46871843	1.0000000	2.500000	0.1353074	17.000000	0.220	33.086
SNOW	12	24.16666667	5.14928651	20.0000000	30.000000	1.4864710	290.000000	26.515	21.307
SEA	12	89.16666667	109.38159504	0.0000000	360.000000	31.5757467	1070.000000	11964.333	122.671
INLAND	12	0.00000000	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.000	.
TOWN	12	184.66666667	329.31425537	0.0000000	979.000000	95.0648370	2216.000000	108447.879	178.329
VILL	12	70.58333333	143.20389681	0.0000000	450.000000	41.3394042	847.000000	20507.356	202.886
MOTO	12	0.00000000	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.000	.
AROAD	12	12.58333333	11.95033916	0.0000000	29.000000	3.4497658	151.000000	142.811	94.970
BROAD	12	4.41666667	9.79293190	0.0000000	34.000000	2.8269759	53.000000	95.902	221.727
MROAD	12	11.50000000	16.41230137	0.0000000	46.000000	4.7378233	138.000000	269.364	142.716
RAIL	12	0.00000000	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.000	.
CANAL	12	8.00000000	15.63794918	0.0000000	50.000000	4.5142871	96.000000	244.545	195.474
RIVER	12	3.58333333	8.50089122	0.0000000	25.000000	2.4539959	43.000000	72.265	237.234
CLIFF	12	0.16666667	0.38924947	0.0000000	1.000000	0.1123666	2.000000	0.152	233.550
ROCK	12	0.50000000	0.52223297	0.0000000	1.000000	0.1507557	6.000000	0.273	104.447
SAND	12	0.41666667	0.51492865	0.0000000	1.000000	0.1486471	5.000000	0.265	123.583
MUD	12	0.25000000	0.45226702	0.0000000	1.000000	0.1305582	3.000000	0.205	180.907
SHING	12	0.33333333	0.49236596	0.0000000	1.000000	0.1421338	4.000000	0.242	147.710
TIDAL	12	1.00000000	0.00000000	1.0000000	1.000000	0.0000000	12.000000	0.000	0.000
HHILL	12	94.58333333	105.60342482	5.0000000	360.000000	30.4850829	1135.000000	11152.083	111.651
HVALL	12	2.50000000	8.66025404	0.0000000	30.000000	2.5000000	30.000000	75.000	346.410
DHILL	12	3523.33333333	3450.56847315	0.0000000	9898.000000	996.0933184	42280.000000	11906422.788	97.935
DVALL	12	1221.33333333	680.75644201	0.0000000	2000.000000	196.5174575	14656.000000	463429.333	55.739
GRAD	12	0.73750833	0.56685209	0.1432000	1.718400	0.1636361	8.850100	0.321	76.860
NASP	12	86.25000000	55.80505842	0.0000000	180.000000	16.1095328	1035.000000	3114.205	64.702
EASP	12	78.75000000	61.05604728	0.0000000	180.000000	17.6253627	945.000000	3727.841	77.531
SLOPE	12	5917.16666667	3664.65520723	2000.0000000	12726.000000	1057.8948352	71006.000000	13429697.788	61.933
XMEAN	12	22.50000000	26.41452768	0.0000000	80.000000	7.6252173	270.000000	697.727	117.398
DRFREE	12	6.91666667	17.67616954	0.0000000	59.000000	5.1026706	83.000000	312.447	255.559
DRA	12	0.00000000	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.000	.
DRB	12	24.66666667	36.02356131	0.0000000	99.000000	10.3991064	296.000000	1297.697	146.041
DRC	12	0.00000000	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.000	.
DRD	12	0.00000000	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.000	.
DRE	12	11.16666667	29.63362136	0.0000000	100.000000	8.5544896	134.000000	878.152	265.376
DRF	12	0.00000000	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.000	.
DRG	12	8.33333333	28.86751346	0.0000000	100.000000	8.3333333	100.000000	833.333	346.410
DRH	12	8.25000000	28.57883832	0.0000000	99.000000	8.2500000	99.000000	816.750	346.410
DRI	12	40.66666667	45.25349476	0.0000000	100.000000	13.0635587	488.000000	2047.879	111.279
DRJ	12	0.00000000	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.000	.
DRK	12	0.00000000	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.000	.
DRL	12	0.00000000	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.000	.
DRM	12	0.00000000	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.000	.
SDIST	12	425.16666667	104.91193999	301.0000000	590.000000	30.2854684	5102.000000	11006.515	24.675
WDIST	12	130.25000000	103.96688721	0.0000000	252.000000	30.0126552	1563.000000	10809.114	79.821
ISLAND	12	0.00000000	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.000	.
GEOLOGY	12	6.75000000	3.16586912	2.0000000	11.000000	0.9139077	81.000000	10.023	46.902

SUMMARY STATS. FOR 1212 SQUARES
ENVIRONMENTAL VARIABLES BY NEW - LOG. REGRESSION - LAND CLASS

NEWCLASS=15

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
SUN	20	5.22500000	0.25520889	5.0000000	5.500000	0.05706644	104.50000	0.0651	4.884
TEMP	20	1.50000000	0.51298918	1.0000000	2.500000	0.11470787	30.00000	0.2632	34.199
SNOW	20	22.50000000	6.38666374	10.0000000	40.000000	1.42810143	450.00000	40.7895	28.385
SEA	20	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
INLAND	20	7.45000000	33.31741286	0.0000000	149.000000	7.45000000	149.00000	1110.0500	447.214
TOWN	20	7.90000000	35.32987404	0.0000000	158.000000	7.90000000	158.00000	1248.2000	447.214
VILL	20	81.95000000	152.34603099	0.0000000	511.000000	34.06560814	1639.00000	23209.3132	185.901
MOTO	20	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
AROAD	20	8.15000000	11.84227485	0.0000000	31.000000	2.64801316	163.00000	140.2395	145.304
BROAD	20	6.15000000	10.22007828	0.0000000	33.000000	2.28527898	123.00000	104.4500	166.180
MROAD	20	21.50000000	22.23203000	0.0000000	75.000000	4.97123304	430.00000	494.2632	103.405
RAIL	20	1.25000000	5.59016994	0.0000000	25.000000	1.25000000	25.00000	31.2500	447.214
CANAL	20	0.55000000	2.45967478	0.0000000	11.000000	0.55000000	11.00000	6.0500	447.214
RIVER	20	12.70000000	17.10678536	0.0000000	51.000000	3.82519349	254.00000	292.6421	134.699
CLIFF	20	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
ROCK	20	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SAND	20	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
MUD	20	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SHING	20	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
TIDAL	20	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
HHILL	20	272.25000000	121.25956284	90.0000000	490.000000	27.11446254	5445.00000	14703.8816	44.540
HVALL	20	64.75000000	55.07112626	0.0000000	160.000000	12.31427819	1295.00000	3032.8289	85.052
DHILL	20	4207.30000000	2480.32869426	0.0000000	8000.000000	554.61835669	84146.00000	6152030.4316	58.953
DVALL	20	3145.20000000	2676.09860569	0.0000000	9898.000000	598.39383968	62904.00000	7161503.7474	85.085
GRAD	20	1.40561000	0.66877279	0.2149000	2.874500	0.14954214	28.11220	0.4473	47.579
NASP	20	103.50000000	46.39929673	45.0000000	180.000000	10.37519816	2070.00000	2152.8947	44.830
EASP	20	76.50000000	54.82268067	0.0000000	180.000000	12.25872407	1530.00000	3005.5263	71.664
SLOPE	20	8642.30000000	2393.58847758	4000.0000000	13000.000000	535.22265460	172846.00000	5729265.8000	27.696
XMEAN	20	137.75000000	46.23950806	65.0000000	225.000000	10.33946833	2755.00000	2138.0921	33.568
DRFREE	20	46.85000000	49.52009162	0.0000000	100.000000	11.07302911	937.00000	2452.2395	105.699
DRA	20	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRB	20	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRC	20	5.00000000	22.36067977	0.0000000	100.000000	5.00000000	100.00000	500.0000	447.214
DRD	20	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRE	20	1.85000000	7.58304896	0.0000000	34.000000	1.69562130	37.00000	57.5026	409.895
DRF	20	1.60000000	7.15541753	0.0000000	32.000000	1.60000000	32.00000	51.2000	447.214
DRG	20	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRH	20	9.90000000	30.47328424	0.0000000	100.000000	6.81403351	198.00000	928.6211	307.811
DRI	20	34.80000000	45.78393191	0.0000000	100.000000	10.23759840	696.00000	2096.1684	131.563
DRJ	20	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRK	20	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRL	20	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRM	20	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SDIST	20	266.90000000	111.26398197	164.0000000	557.000000	24.87938271	5338.00000	12379.6737	41.688
WDIST	20	57.20000000	43.93128606	2.0000000	192.000000	9.82333420	1144.00000	1929.9579	76.803
ISLAND	20	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
GEOLOGY	20	9.70000000	3.51088533	3.0000000	12.000000	0.78505783	194.00000	12.3263	36.195

SUMMARY STATS. FOR 1212 SQUARES
ENVIRONMENTAL VARIABLES BY NEW - LOG. REGRESSION - LAND CLASS

NEWCLASS=16

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
SUN	14	5.21428571	0.25677630	5.0000000	5.500000	0.06862635	73.000000	0.0659	4.924
TEMP	14	1.00000000	0.33968311	0.5000000	1.500000	0.09078413	14.000000	0.1154	33.968
SNOW	14	20.71428571	2.67261242	20.0000000	30.000000	0.71428571	290.000000	7.1429	12.902
SEA	14	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.0000	.
INLAND	14	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.0000	.
TOWN	14	38.78571429	108.66616385	0.0000000	388.000000	29.04225390	543.000000	11808.3352	280.171
VILL	14	32.71428571	80.08402181	0.0000000	281.000000	21.40335513	458.000000	6413.4505	244.798
MOTO	14	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.0000	.
AROAD	14	2.92857143	7.46751205	0.0000000	22.000000	1.99577655	41.000000	55.7637	254.988
BROAD	14	5.14285714	9.49378050	0.0000000	25.000000	2.53731957	72.000000	90.1319	184.601
MROAD	14	10.35714286	11.44624321	0.0000000	34.000000	3.05913717	145.000000	131.0165	110.515
RAIL	14	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.0000	.
CANAL	14	1.78571429	6.68153105	0.0000000	25.000000	1.78571429	25.000000	44.6429	374.166
RIVER	14	16.92857143	15.64738506	0.0000000	44.000000	4.18193956	237.000000	244.8407	92.432
CLIFF	14	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.0000	.
ROCK	14	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.0000	.
SAND	14	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.0000	.
MUD	14	0.07142857	0.26726124	0.0000000	1.000000	0.07142857	1.000000	0.0714	374.166
SHING	14	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.0000	.
TIDAL	14	0.07142857	0.26726124	0.0000000	1.000000	0.07142857	1.000000	0.0714	374.166
HHILL	14	196.78571429	142.72899472	0.0000000	415.000000	38.14592839	2755.000000	20371.5659	72.530
HVALL	14	46.78571429	46.10219179	0.0000000	140.000000	12.32132903	655.000000	2125.4121	98.539
DHILL	14	3318.00000000	2643.33134801	0.0000000	8000.000000	706.46001886	46452.000000	6987200.6154	79.666
DVALL	14	1682.42857143	1476.89303369	0.0000000	5656.000000	394.71626636	23554.000000	2181213.0330	87.783
GRAD	14	1.32375714	1.21995456	0.0000000	4.744700	0.32604657	18.532600	1.4883	92.158
NASP	14	106.07142857	57.48506734	0.0000000	180.000000	15.36353049	1485.000000	3304.5330	54.195
EASP	14	86.78571429	59.76257971	0.0000000	180.000000	15.97222127	1215.000000	3571.5659	68.862
SLOPE	14	6207.42857143	2779.47481797	1000.0000000	10000.000000	742.84589172	86904.000000	7725480.2637	44.777
XMEAN	14	74.28571429	54.20250998	5.0000000	165.000000	14.48623013	1040.000000	2937.9121	72.965
DRFREE	14	49.28571429	46.05586670	0.0000000	100.000000	12.30894813	690.000000	2121.1429	93.447
DRA	14	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.0000	.
DRB	14	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.0000	.
DRC	14	2.92857143	10.95771092	0.0000000	41.000000	2.92857143	41.000000	120.0714	374.166
DRD	14	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.0000	.
DRE	14	16.71428571	34.14770760	0.0000000	100.000000	9.12635874	234.000000	1166.0659	204.303
DRF	14	5.35714286	20.04459314	0.0000000	75.000000	5.35714286	75.000000	401.7857	374.166
DRG	14	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.0000	.
DRH	14	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.0000	.
DRI	14	25.71428571	34.55080667	0.0000000	100.000000	9.23409150	360.000000	1193.7582	134.364
DRJ	14	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.0000	.
DRK	14	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.0000	.
DRL	14	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.0000	.
DRM	14	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.0000	.
SDIST	14	384.35714286	59.04575428	323.0000000	512.000000	15.78064162	5381.000000	3486.4011	15.362
WDIST	14	75.50000000	64.35926806	2.0000000	191.000000	17.20073791	1057.000000	4142.1154	85.244
ISLAND	14	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.000000	0.0000	.
GEOLOGY	14	9.57142857	2.02728639	7.0000000	12.000000	0.54181508	134.000000	4.1099	21.181

SUMMARY STATS. FOR 1212 SQUARES
ENVIRONMENTAL VARIABLES BY NEW - LOG. REGRESSION - LAND CLASS

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
NEWCLASS=17									
SUN	57	5.18421053	0.33583025	5.0000000	6.000000	0.04448180	295.50000	0.1128	6.478
TEMP	57	1.42982456	0.48585893	0.5000000	3.000000	0.06435359	81.50000	0.2361	33.980
SNOW	57	29.64912281	6.53695874	10.0000000	40.000000	0.86584134	1690.00000	42.7318	22.048
SEA	57	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
INLAND	57	2.01754386	11.56115915	0.0000000	81.000000	1.53131294	115.00000	133.6604	573.031
TOWN	57	0.10526316	0.79471941	0.0000000	6.000000	0.10526316	6.00000	0.6316	754.983
VILL	57	5.36842105	23.09888029	0.0000000	122.000000	3.05952144	306.00000	533.5583	430.273
MOTO	57	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
AROAD	57	0.98245614	4.26987466	0.0000000	25.000000	0.56555871	56.00000	18.2318	434.612
BROAD	57	2.24561404	6.94694358	0.0000000	26.000000	0.92014516	128.00000	48.2600	309.356
MROAD	57	12.05263158	15.00883199	0.0000000	61.000000	1.98796836	687.00000	225.2650	124.527
RAIL	57	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
CANAL	57	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
RIVER	57	11.22807018	12.77416134	0.0000000	50.000000	1.69197900	640.00000	163.1792	113.770
CLIFF	57	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
ROCK	57	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SAND	57	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
MUD	57	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SHING	57	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
TIDAL	57	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
HHILL	57	409.56140351	101.59566525	195.0000000	715.000000	13.45667460	23345.00000	10321.6792	24.806
HVALL	57	163.42105263	100.80549648	0.0000000	460.000000	13.35201419	9315.00000	10161.7481	61.685
DHILL	57	1824.10526316	1638.14496223	0.0000000	5656.000000	216.97760080	103974.00000	2683518.9173	89.805
DVALL	57	3892.03508772	2413.98533820	0.0000000	11312.000000	319.74016899	221846.00000	5827325.2130	62.024
GRAD	57	2.15609825	0.90174376	0.8914000	4.573900	0.11943888	122.89760	0.8131	41.823
NASP	57	108.94736842	51.69222830	0.0000000	180.000000	6.84680290	6210.00000	2672.0865	47.447
EASP	57	80.52631579	55.59486913	0.0000000	180.000000	7.36372031	4590.00000	3090.7895	69.039
SLOPE	57	6919.50877193	2249.17176123	3000.0000000	12726.000000	297.91007744	394412.00000	5058773.6115	32.505
XMEAN	57	324.82456140	96.35298253	170.0000000	510.000000	12.76226431	18515.00000	9283.8972	29.663
DRFREE	57	76.54385965	34.61114095	0.0000000	100.000000	4.58435761	4363.00000	1197.9311	45.217
DRA	57	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRB	57	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRC	57	6.38596491	19.76446521	0.0000000	90.000000	2.61786737	364.00000	390.6341	309.498
DRD	57	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRE	57	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRF	57	1.49122807	11.25852504	0.0000000	85.000000	1.49122807	85.00000	126.7544	754.983
DRG	57	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRH	57	0.01754386	0.13245324	0.0000000	1.000000	0.01754386	1.00000	0.0175	754.983
DRI	57	15.56140351	30.82671473	0.0000000	100.000000	4.08309811	887.00000	950.2863	198.097
DRJ	57	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRK	57	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRL	57	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRM	57	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SDIST	57	217.43859649	97.49798854	29.0000000	588.000000	12.91392406	12394.00000	9505.8578	44.839
WDIST	57	78.54385965	48.06880120	7.0000000	217.000000	6.36686826	4477.00000	2310.6096	61.200
ISLAND	57	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
GEOLOGY	57	10.19298246	2.66215941	3.0000000	15.000000	0.35261163	581.00000	7.0871	26.118

SUMMARY STATS. FOR 1212 SQUARES
ENVIRONMENTAL VARIABLES BY NEW - LOG. REGRESSION - LAND CLASS

NEWCLASS=18

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
SUN	32	5.01562500	0.32339866	4.5000000	6.000000	0.05716935	160.50000	0.105	6.448
TEMP	32	1.48437500	0.66580505	0.0000000	2.500000	0.11769882	47.50000	0.443	44.854
SNOW	32	28.43750000	8.07599989	20.0000000	40.000000	1.42764857	910.00000	65.222	28.399
SEA	32	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
INLAND	32	33.18750000	135.15879251	0.0000000	719.000000	23.89292468	1062.00000	18267.899	407.258
TOWN	32	13.65625000	56.56204665	0.0000000	288.000000	9.99885169	437.00000	3199.265	414.184
VILL	32	26.25000000	63.10922431	0.0000000	211.000000	11.15624012	840.00000	3982.774	240.416
MOTO	32	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
AROAD	32	2.31250000	7.29311430	0.0000000	31.000000	1.28925264	74.00000	53.190	315.378
BROAD	32	3.62500000	8.57133256	0.0000000	28.000000	1.51521185	116.00000	73.468	236.451
MROAD	32	7.81250000	13.62501850	0.0000000	48.000000	2.40858574	250.00000	185.641	174.400
RAIL	32	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
CANAL	32	1.03125000	4.59652305	0.0000000	25.000000	0.81255816	33.00000	21.128	445.723
RIVER	32	16.03125000	12.95272888	0.0000000	43.000000	2.28974061	513.00000	167.773	80.797
CLIFF	32	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
ROCK	32	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
SAND	32	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
MUD	32	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
SHING	32	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
TIDAL	32	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
HHILL	32	439.53125000	100.39727036	220.0000000	720.000000	17.74789767	14065.00000	10079.612	22.842
HVALL	32	84.68750000	90.33930217	0.0000000	320.000000	15.96988329	2710.00000	8161.190	106.674
DHILL	32	2244.81250000	1784.31530986	0.0000000	7070.000000	315.42536384	71834.00000	3183781.125	79.486
DVALL	32	4622.18750000	3398.93123086	0.0000000	15554.000000	600.85183053	147910.00000	11552733.512	73.535
GRAD	32	2.74379688	1.11539089	1.1901000	6.220700	0.19717512	87.80150	1.244	40.651
NASP	32	99.84375000	49.47277477	0.0000000	180.000000	8.74563363	3195.00000	2447.555	49.550
EASP	32	97.03125000	57.27493646	0.0000000	180.000000	10.12487399	3105.00000	3280.418	59.027
SLOPE	32	8112.81250000	3428.23031030	4000.0000000	18382.000000	606.03122497	259610.00000	11752763.060	42.257
XMEAN	32	285.00000000	68.47415335	200.0000000	500.000000	12.10463454	9120.00000	4688.710	24.026
DRFREE	32	73.03125000	37.52460214	0.0000000	100.000000	6.63347516	2337.00000	1408.096	51.382
DRA	32	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRB	32	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRC	32	1.43750000	8.13172798	0.0000000	46.000000	1.43750000	46.00000	66.125	565.685
DRD	32	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRE	32	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRF	32	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRG	32	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRH	32	2.62500000	14.84924240	0.0000000	84.000000	2.62500000	84.00000	220.500	565.685
DRI	32	19.78125000	33.30769007	0.0000000	100.000000	5.88802338	633.00000	1109.402	168.380
DRJ	32	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRK	32	3.12500000	17.67766953	0.0000000	100.000000	3.12500000	100.00000	312.500	565.685
DRL	32	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRM	32	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
SDIST	32	472.09375000	197.77086112	113.0000000	897.000000	34.96127925	15107.00000	39113.314	41.892
WDIST	32	39.31250000	44.33118578	0.0000000	152.000000	7.83672052	1258.00000	1965.254	112.766
ISLAND	32	0.25000000	0.43994135	0.0000000	1.000000	0.07777138	8.00000	0.194	175.977
GEOLOGY	32	10.37500000	2.36575024	3.0000000	15.000000	0.41820951	332.00000	5.597	22.802

SUMMARY STATS. FOR 1212 SQUARES
ENVIRONMENTAL VARIABLES BY NEW - LOG. REGRESSION - LAND CLASS

NEWCLASS=19

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
SUN	19	4.84210526	0.29119636	4.5000000	5.500000	0.06680503	92.00000	0.085	6.014
TEMP	19	0.39473684	0.39366326	-0.5000000	1.000000	0.09031255	7.50000	0.155	99.728
SNOW	19	35.78947368	6.06976979	30.0000000	50.000000	1.39250069	680.00000	36.842	16.960
SEA	19	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
INLAND	19	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
TOWN	19	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
VILL	19	21.94736842	64.44504436	0.0000000	247.000000	14.78470715	417.00000	4153.164	293.634
MOTO	19	0.47368421	2.06474160	0.0000000	9.000000	0.47368421	9.00000	4.263	435.890
AROAD	19	1.36842105	4.42481043	0.0000000	18.000000	1.01512113	26.00000	19.579	323.352
BROAD	19	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
MROAD	19	11.00000000	16.47557114	0.0000000	51.000000	3.77975524	209.00000	271.444	149.778
RAIL	19	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
CANAL	19	2.00000000	5.12076383	0.0000000	16.000000	1.17478379	38.00000	26.222	256.038
RIVER	19	7.26315789	10.33785979	0.0000000	25.000000	2.37166769	138.00000	106.871	142.333
CLIFF	19	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
ROCK	19	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
SAND	19	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
MUD	19	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
SHING	19	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
TIDAL	19	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
HHILL	19	403.94736842	108.28946480	250.0000000	620.000000	24.84330704	7675.00000	11726.608	26.808
HVALL	19	151.84210526	74.68843668	0.0000000	255.000000	17.13470251	2885.00000	5578.363	49.188
DHILL	19	2680.84210526	2139.62523362	0.0000000	8484.000000	490.86369318	50936.00000	4577996.140	79.812
DVALL	19	3828.00000000	3218.59486250	0.0000000	11312.000000	738.39630241	72732.00000	10359352.889	84.080
GRAD	19	2.02985789	0.89534271	0.8329000	4.004200	0.20540570	38.56730	0.802	44.109
NASP	19	92.36842105	43.66438992	45.0000000	180.000000	10.01729806	1755.00000	1906.579	47.272
EASP	19	63.94736842	54.73620951	0.0000000	180.000000	12.55734767	1215.00000	2996.053	85.596
SLOPE	19	7792.10526316	2749.60477755	4000.0000000	12726.000000	630.80259790	148050.00000	7560326.433	35.287
XMEAN	19	287.89473684	53.52350962	180.0000000	400.000000	12.27913524	5470.00000	2864.766	18.591
DRFREE	19	55.52631579	40.36275569	0.0000000	100.000000	9.25985122	1055.00000	1629.152	72.691
DRA	19	0.84210526	3.67065174	0.0000000	16.000000	0.84210526	16.00000	13.474	435.890
DRB	19	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRC	19	8.21052632	24.91001349	0.0000000	100.000000	5.71474902	156.00000	620.509	303.391
DRD	19	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRE	19	0.10526316	0.45883147	0.0000000	2.000000	0.10526316	2.00000	0.211	435.890
DRF	19	0.52631579	2.29415734	0.0000000	10.000000	0.52631579	10.00000	5.263	435.890
DRG	19	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRH	19	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRI	19	34.78947368	35.78109207	0.0000000	100.000000	8.20874550	661.00000	1280.287	102.850
DRJ	19	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRK	19	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRL	19	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRM	19	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
SDIST	19	428.15789474	109.88391003	262.0000000	661.000000	25.20909786	8135.00000	12074.474	25.664
WDIST	19	104.57894737	50.57592289	46.0000000	202.000000	11.60291247	1987.00000	2557.924	48.361
ISLAND	19	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
GEOLOGY	19	8.26315789	2.37678834	2.0000000	12.000000	0.54527264	157.00000	5.649	28.764

SUMMARY STATS. FOR 1212 SQUARES
ENVIRONMENTAL VARIABLES BY NEW - LOG. REGRESSION - LAND CLASS

NEWCLASS=20

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
SUN	11	4.86363636	0.32333490	4.5000000	5.500000	0.0974891	53.500000	0.105	6.648
TEMP	11	0.31818182	0.33709993	0.0000000	1.000000	0.1016395	3.500000	0.114	105.946
SNOW	11	40.00000000	8.94427191	20.0000000	50.000000	2.6967994	440.000000	80.000	22.361
SEA	11	0.00000000	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.000	.
INLAND	11	3.36363636	11.15591975	0.0000000	37.000000	3.3636364	37.000000	124.455	331.662
TOWN	11	0.00000000	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.000	.
VILL	11	2.27272727	7.53778361	0.0000000	25.000000	2.2727273	25.000000	56.818	331.662
MOTO	11	0.00000000	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.000	.
AROAD	11	1.00000000	3.31662479	0.0000000	11.000000	1.0000000	11.000000	11.000	331.662
BROAD	11	4.36363636	9.67752786	0.0000000	28.000000	2.9178844	48.000000	93.655	221.777
MROAD	11	6.54545455	11.04865274	0.0000000	25.000000	3.3312941	72.000000	122.073	168.799
RAIL	11	0.00000000	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.000	.
CANAL	11	0.00000000	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.000	.
RIVER	11	14.36363636	13.59612244	0.0000000	38.000000	4.0993852	158.000000	184.855	94.657
CLIFF	11	0.00000000	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.000	.
ROCK	11	0.00000000	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.000	.
SAND	11	0.00000000	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.000	.
MUD	11	0.00000000	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.000	.
SHING	11	0.00000000	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.000	.
TIDAL	11	0.00000000	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.000	.
HHILL	11	463.18181818	100.00681795	270.0000000	615.000000	30.1531901	5095.000000	10001.364	21.591
HVALL	11	173.18181818	74.17117794	50.0000000	275.000000	22.3634516	1905.000000	5501.364	42.829
DHILL	11	3655.45454545	1948.99422080	0.0000000	6000.000000	587.6438681	40210.000000	3798578.473	53.317
DVALL	11	3132.00000000	3592.10679129	0.0000000	11312.000000	1083.0609485	34452.000000	12903231.200	114.691
GRAD	11	2.48733636	1.52748812	0.7653000	6.088500	0.4605550	27.360700	2.333	61.411
NASP	11	98.18181818	66.19186987	0.0000000	180.000000	19.9575997	1080.000000	4381.364	67.418
EASP	11	98.18181818	44.17424177	0.0000000	135.000000	13.3190350	1080.000000	1951.364	44.992
SLOPE	11	8013.27272727	3383.63594646	3000.0000000	14140.000000	1020.2046238	88146.000000	11448992.218	42.225
XMEAN	11	247.72727273	69.97726904	85.0000000	330.000000	21.0989405	2725.000000	4896.818	28.248
DRFREE	11	56.36363636	42.77913680	0.0000000	100.000000	12.8983951	620.000000	1830.055	75.898
DRA	11	0.00000000	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.000	.
DRB	11	0.00000000	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.000	.
DRC	11	0.45454545	1.50755672	0.0000000	5.000000	0.4545455	5.000000	2.273	331.662
DRD	11	0.00000000	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.000	.
DRE	11	15.27272727	25.86151933	0.0000000	70.000000	7.7975415	168.000000	668.818	169.331
DRF	11	0.00000000	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.000	.
DRG	11	0.00000000	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.000	.
DRH	11	2.18181818	7.23627227	0.0000000	24.000000	2.1818182	24.000000	52.364	331.662
DRI	11	25.72727273	34.23475108	0.0000000	100.000000	10.3221658	283.000000	1172.018	133.068
DRJ	11	0.00000000	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.000	.
DRK	11	0.00000000	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.000	.
DRL	11	0.00000000	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.000	.
DRM	11	0.00000000	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.000	.
SDIST	11	495.18181818	76.62482389	376.0000000	584.000000	23.1032537	5447.000000	5871.364	15.474
WDIST	11	112.63636364	64.81862807	32.0000000	189.000000	19.5435517	1239.000000	4201.455	57.547
ISLAND	11	0.00000000	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.000	.
GEOLOGY	11	9.45454545	2.01809992	8.0000000	12.000000	0.6084800	104.000000	4.073	21.345

SUMMARY STATS. FOR 1212 SQUARES
ENVIRONMENTAL VARIABLES BY NEW - LOG. REGRESSION - LAND CLASS

NEWCLASS=21

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
SUN	50	4.09000000	0.24095897	4.0000000	5.000000	0.03407674	204.50000	0.0581	5.891
TEMP	50	0.11000000	0.64118831	-1.0000000	1.500000	0.09067772	5.50000	0.4111	582.898
SNOW	50	53.40000000	12.22409798	30.0000000	70.000000	1.72874852	2670.00000	149.4286	22.892
SEA	50	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
INLAND	50	29.68000000	100.57151786	0.0000000	553.000000	14.22296045	1484.00000	10114.6302	338.853
TOWN	50	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
VILL	50	3.30000000	19.95530721	0.0000000	140.000000	2.82210661	165.00000	398.2143	604.706
MOTO	50	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
AROAD	50	1.26000000	4.80565143	0.0000000	25.000000	0.67962174	63.00000	23.0943	381.401
BROAD	50	0.10000000	0.58028846	0.0000000	4.000000	0.08206518	5.00000	0.3367	580.288
MROAD	50	2.18000000	6.66605780	0.0000000	28.000000	0.94272293	109.00000	44.4363	305.782
RAIL	50	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
CANAL	50	0.76000000	3.95154323	0.0000000	25.000000	0.55883260	38.00000	15.6147	519.940
RIVER	50	14.40000000	14.26570027	0.0000000	49.000000	2.01747468	720.00000	203.5102	99.067
CLIFF	50	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
ROCK	50	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SAND	50	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
MUD	50	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SHING	50	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
TIDAL	50	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
HHILL	50	521.00000000	147.69660021	280.0000000	965.000000	20.88745351	26050.00000	21814.2857	28.349
HVALL	50	141.70000000	101.57238296	0.0000000	380.000000	14.36450415	7085.00000	10316.9490	71.681
DHILL	50	3349.92000000	2202.78891723	0.0000000	9000.000000	311.52139618	167496.00000	4852279.0139	65.756
DVALL	50	3057.44000000	2497.00251453	0.0000000	13000.000000	353.12948213	152872.00000	6235021.5576	81.670
GRAD	50	3.05407200	1.24805021	1.0026000	6.175600	0.17650095	152.70360	1.5576	40.865
NASP	50	89.10000000	66.49144490	0.0000000	180.000000	9.40331032	4455.00000	4421.1122	74.626
EASP	50	96.30000000	43.61017013	0.0000000	180.000000	6.16740941	4815.00000	1901.8469	45.286
SLOPE	50	7597.80000000	2878.95236756	4000.0000000	15554.000000	407.14534836	379890.00000	8288366.7347	37.892
XMEAN	50	294.80000000	89.97709459	95.0000000	475.000000	12.72468275	14740.00000	8095.8776	30.521
DRFREE	50	36.48000000	44.27384173	0.0000000	100.000000	6.26126674	1824.00000	1960.1731	121.365
DRA	50	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRB	50	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRC	50	27.18000000	41.62303620	0.0000000	100.000000	5.88638623	1359.00000	1732.4771	153.138
DRD	50	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRE	50	2.52000000	13.83612545	0.0000000	97.000000	1.95672363	126.00000	191.4384	549.053
DRF	50	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRG	50	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRH	50	3.60000000	17.83941978	0.0000000	100.000000	2.52287494	180.00000	318.2449	495.539
DRI	50	30.22000000	39.37122641	0.0000000	100.000000	5.56793224	1511.00000	1550.0935	130.282
DRJ	50	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRK	50	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRL	50	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRM	50	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SDIST	50	793.34000000	89.14093633	561.0000000	921.000000	12.60643211	39667.00000	7946.1065	11.236
WDIST	50	61.10000000	33.11220874	9.0000000	134.000000	4.68277347	3055.00000	1096.4184	54.193
ISLAND	50	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
GEOLOGY	50	10.94000000	2.07423455	6.0000000	15.000000	0.29334106	547.00000	4.3024	18.960

SUMMARY STATS. FOR 1212 SQUARES
ENVIRONMENTAL VARIABLES BY NEW - LOG. REGRESSION - LAND CLASS

NEWCLASS=22

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
SUN	52	4.50961538	0.18498502	4.0000000	5.000000	0.02565281	234.50000	0.0342	4.102
TEMP	52	-0.43269231	0.44312666	-1.0000000	1.000000	0.06145061	-22.50000	0.1964	-102.411
SNOW	52	50.96153846	9.55061139	30.0000000	70.000000	1.32443150	2650.00000	91.2142	18.741
SEA	52	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
INLAND	52	11.92307692	73.32999444	0.0000000	524.000000	10.16904058	620.00000	5377.2881	615.026
TOWN	52	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
VILL	52	2.59615385	14.51606225	0.0000000	99.000000	2.01301565	135.00000	210.7161	559.137
MOTO	52	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
AROAD	52	0.28846154	1.94368297	0.0000000	14.000000	0.26954033	15.00000	3.7779	673.810
BROAD	52	1.00000000	5.05266383	0.0000000	27.000000	0.70067840	52.00000	25.5294	505.266
MROAD	52	3.38461538	7.50203592	0.0000000	25.000000	1.04034520	176.00000	56.2805	221.651
RAIL	52	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
CANAL	52	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
RIVER	52	12.40384615	11.34185311	0.0000000	43.000000	1.57283204	645.00000	128.6376	91.438
CLIFF	52	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
ROCK	52	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SAND	52	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
MUD	52	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SHING	52	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
TIDAL	52	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
HHILL	52	493.36538462	121.08869361	300.0000000	920.000000	16.79198053	25655.00000	14662.4717	24.543
HVALL	52	208.55769231	84.18197224	35.0000000	405.000000	11.67393913	10845.00000	7086.6044	40.364
DHILL	52	2768.11538462	2088.55688665	0.0000000	8000.000000	289.63072871	143942.00000	4362069.8688	75.450
DVALL	52	4044.19230769	2723.25754356	0.0000000	11312.000000	377.64787345	210298.00000	7416131.6486	67.337
GRAD	52	2.13396154	1.02936770	0.5065000	5.000600	0.14274762	110.96600	1.0596	48.237
NASP	52	83.07692308	55.92496589	0.0000000	180.000000	7.75539739	4320.00000	3127.6018	67.317
EASP	52	84.80769231	50.13669098	0.0000000	180.000000	6.95270808	4410.00000	2513.6878	59.118
SLOPE	52	8067.07692308	2631.56741369	3000.0000000	15554.000000	364.93274019	419488.00000	6925147.0528	32.621
XMEAN	52	358.17307692	70.62069939	210.0000000	540.000000	9.79332895	18625.00000	4987.2832	19.717
DRFREE	52	56.03846154	43.67929538	0.0000000	100.000000	6.05722843	2914.00000	1907.8808	77.945
DRA	52	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRB	52	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRC	52	11.65384615	25.95009133	0.0000000	100.000000	3.59863019	606.00000	673.4072	222.674
DRD	52	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRE	52	1.00000000	7.21110255	0.0000000	52.000000	1.00000000	52.00000	52.0000	721.110
DRF	52	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRG	52	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRH	52	1.25000000	6.59136393	0.0000000	46.000000	0.91405772	65.00000	43.4461	527.309
DRI	52	30.05769231	35.83153035	0.0000000	100.000000	4.96893923	1563.00000	1283.8986	119.209
DRJ	52	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRK	52	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRL	52	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRM	52	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SDIST	52	591.80769231	112.19469046	411.0000000	781.000000	15.55860420	30774.00000	12587.6486	18.958
WDIST	52	138.48076923	44.81617809	24.0000000	229.000000	6.21488570	7201.00000	2008.4898	32.363
ISLAND	52	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
GEOLOGY	52	10.38461538	1.84872872	6.0000000	13.000000	0.25637255	540.00000	3.4178	17.803

SUMMARY STATS. FOR 1212 SQUARES
ENVIRONMENTAL VARIABLES BY NEW - LOG. REGRESSION - LAND CLASS

NEWCLASS=23

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
SUN	33	4.36363636	0.31306767	4.0000000	5.000000	0.05449809	144.00000	0.0980	7.174
TEMP	33	-0.43939394	0.71542793	-1.0000000	2.000000	0.12454002	-14.50000	0.5118	-162.822
SNOW	33	59.39393939	9.98104264	30.0000000	70.000000	1.73747651	1960.00000	99.6212	16.805
SEA	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
INLAND	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
TOWN	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
VILL	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
MOTO	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
AROAD	33	0.84848485	3.93796594	0.0000000	22.000000	0.68551188	28.00000	15.5076	464.117
BROAD	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
MROAD	33	0.54545455	3.13339781	0.0000000	18.000000	0.54545455	18.00000	9.8182	574.456
RAIL	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
CANAL	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
RIVER	33	14.33333333	14.05717492	0.0000000	48.000000	2.44704006	473.00000	197.6042	98.073
CLIFF	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
ROCK	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SAND	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
MUD	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SHING	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
TIDAL	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
HHILL	33	779.09090909	118.85163115	545.0000000	980.000000	20.68941336	25710.00000	14125.7102	15.255
HVALL	33	345.60606061	146.37151776	0.0000000	575.000000	25.48001071	11405.00000	21424.6212	42.352
DHILL	33	1834.00000000	1570.90960911	0.0000000	5656.000000	273.46026247	60522.00000	2467757.0000	85.655
DVALL	33	3705.63636364	2434.94298981	0.0000000	8484.000000	423.86916805	122286.00000	5928947.3636	65.709
GRAD	33	4.24414545	3.84614887	1.7592000	23.509000	0.66952858	140.05680	14.7929	90.622
NASP	33	88.63636364	57.89636117	0.0000000	180.000000	10.07846284	2925.00000	3351.9886	65.319
EASP	33	75.00000000	51.14318136	0.0000000	180.000000	8.90288513	2475.00000	2615.6250	68.191
SLOPE	33	6752.90909091	2178.25750836	2000.0000000	11312.000000	379.18596112	222846.00000	4744805.7727	32.257
XMEAN	33	620.90909091	144.62480848	105.0000000	830.000000	25.17594765	20490.00000	20916.3352	23.292
DRFREE	33	48.24242424	44.47684110	0.0000000	100.000000	7.74242424	1592.00000	1978.1894	92.194
DRA	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRB	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRC	33	26.51515152	40.05942555	0.0000000	100.000000	6.97345090	875.00000	1604.7576	151.081
DRD	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRE	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRF	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRG	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRH	33	4.03030303	16.22013573	0.0000000	77.000000	2.82356321	133.00000	263.0928	402.454
DRI	33	21.21212121	33.08866647	0.0000000	100.000000	5.75999750	700.00000	1094.8598	155.989
DRJ	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRK	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRL	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRM	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SDIST	33	638.39393939	141.65008370	301.0000000	779.000000	24.65811454	21067.00000	20064.7462	22.189
WDIST	33	120.09090909	45.00094696	17.0000000	223.000000	7.83365936	3963.00000	2025.0852	37.472
ISLAND	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
GEOLOGY	33	10.87878788	1.29319314	8.0000000	14.000000	0.22511603	359.00000	1.6723	11.887

SUMMARY STATS. FOR 1212 SQUARES
ENVIRONMENTAL VARIABLES BY NEW - LOG. REGRESSION - LAND CLASS

NEWCLASS=24

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
SUN	35	4.12857143	0.28030596	4.0000000	5.0000000	0.04738035	144.50000	0.0786	6.789
TEMP	35	0.05714286	0.67269682	-1.0000000	2.5000000	0.11370652	2.00000	0.4525	1177.219
SNOW	35	48.85714286	10.22437358	30.0000000	60.0000000	1.72823457	1710.00000	104.5378	20.927
SEA	35	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.00000	0.0000	.
INLAND	35	3.05714286	9.45871169	0.0000000	38.0000000	1.59881409	107.00000	89.4672	309.397
TOWN	35	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.00000	0.0000	.
VILL	35	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.00000	0.0000	.
MOTO	35	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.00000	0.0000	.
AROAD	35	1.48571429	5.18125257	0.0000000	25.0000000	0.87579153	52.00000	26.8454	348.738
BROAD	35	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.00000	0.0000	.
MROAD	35	0.80000000	4.24125398	0.0000000	25.0000000	0.71690277	28.00000	17.9882	530.157
RAIL	35	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.00000	0.0000	.
CANAL	35	0.71428571	4.22577127	0.0000000	25.0000000	0.71428571	25.00000	17.8571	591.608
RIVER	35	19.31428571	16.25490230	0.0000000	49.0000000	2.74757997	676.00000	264.2218	84.160
CLIFF	35	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.00000	0.0000	.
ROCK	35	0.02857143	0.16903085	0.0000000	1.0000000	0.02857143	1.00000	0.0286	591.608
SAND	35	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.00000	0.0000	.
MUD	35	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.00000	0.0000	.
SHING	35	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.00000	0.0000	.
TIDAL	35	0.02857143	0.16903085	0.0000000	1.0000000	0.02857143	1.00000	0.0286	591.608
HHILL	35	683.42857143	122.09429473	470.0000000	920.0000000	20.63770253	23920.00000	14907.0168	17.865
HVALL	35	211.57142857	128.66264271	0.0000000	455.0000000	21.74795598	7405.00000	16554.0756	60.813
DHILL	35	2255.31428571	1199.85214215	0.0000000	5000.0000000	202.81202860	78936.00000	1439645.1630	53.201
DVALL	35	1843.48571429	1618.09789152	0.0000000	7070.0000000	273.50846352	64522.00000	2618240.7866	87.774
GRAD	35	5.30392857	1.57564752	2.5309000	9.3694000	0.26633304	185.63750	2.4827	29.707
NASP	35	91.28571429	58.25076189	0.0000000	180.0000000	9.84617585	3195.00000	3393.1513	63.811
EASP	35	75.85714286	52.08146495	0.0000000	180.0000000	8.80337434	2655.00000	2712.4790	68.657
SLOPE	35	5299.88571429	1369.13617617	2828.0000000	8484.0000000	231.42625292	185496.00000	1874533.8689	25.833
XMEAN	35	380.85714286	115.46890156	185.0000000	580.0000000	19.51780669	13330.00000	13333.0672	30.318
DRFREE	35	56.94285714	39.58605136	0.0000000	100.0000000	6.69126395	1993.00000	1567.0555	69.519
DRA	35	0.02857143	0.16903085	0.0000000	1.0000000	0.02857143	1.00000	0.0286	591.608
DRB	35	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.00000	0.0000	.
DRC	35	2.57142857	15.21277659	0.0000000	90.0000000	2.57142857	90.00000	231.4286	591.608
DRD	35	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.00000	0.0000	.
DRE	35	1.31428571	7.77541914	0.0000000	46.0000000	1.31428571	46.00000	60.4571	591.608
DRF	35	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.00000	0.0000	.
DRG	35	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.00000	0.0000	.
DRH	35	8.71428571	25.73458582	0.0000000	93.0000000	4.34993894	305.00000	662.2689	295.315
DRI	35	30.42857143	37.75718530	0.0000000	100.0000000	6.38212916	1065.00000	1425.6050	124.085
DRJ	35	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.00000	0.0000	.
DRK	35	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.00000	0.0000	.
DRL	35	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.00000	0.0000	.
DRM	35	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.00000	0.0000	.
SDIST	35	740.80000000	54.02929489	647.0000000	827.0000000	9.13261769	25928.00000	2919.1647	7.293
WDIST	35	43.91428571	23.05539547	0.0000000	91.0000000	3.89707312	1537.00000	531.5513	52.501
ISLAND	35	0.02857143	0.16903085	0.0000000	1.0000000	0.02857143	1.00000	0.0286	591.608
GEOLOGY	35	11.48571429	1.31443185	10.0000000	15.0000000	0.22217953	402.00000	1.7277	11.444

SUMMARY STATS. FOR 1212 SQUARES
ENVIRONMENTAL VARIABLES BY NEW - LOG. REGRESSION - LAND CLASS

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
NEWCLASS=25									
SUN	56	4.82142857	0.32232919	4.0000000	5.500000	0.04307305	270.00000	0.104	6.685
TEMP	56	0.20535714	0.57030124	-1.0000000	2.000000	0.07620971	11.50000	0.325	277.712
SNOW	56	38.92857143	9.08116361	20.0000000	60.000000	1.21352153	2180.00000	82.468	23.328
SEA	56	13.92857143	72.48218769	0.0000000	474.000000	9.68583975	780.00000	5253.668	520.385
INLAND	56	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
TOWN	56	4.60714286	34.47670021	0.0000000	258.000000	4.60714286	258.00000	1188.643	748.331
VILL	56	16.28571429	55.80606493	0.0000000	294.000000	7.45739911	912.00000	3114.317	342.669
MOTO	56	0.10714286	0.80178373	0.0000000	6.000000	0.10714286	6.00000	0.643	748.331
AROAD	56	2.25000000	6.46740077	0.0000000	25.000000	0.86424278	126.00000	41.827	287.440
BROAD	56	2.08928571	6.21808736	0.0000000	30.000000	0.83092687	117.00000	38.665	297.618
MROAD	56	15.14285714	16.90984498	0.0000000	54.000000	2.25967308	848.00000	285.943	111.669
RAIL	56	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
CANAL	56	2.07142857	6.76315457	0.0000000	25.000000	0.90376454	116.00000	45.740	326.497
RIVER	56	7.91071429	11.12618008	0.0000000	34.000000	1.48679835	443.00000	123.792	140.647
CLIFF	56	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
ROCK	56	0.01785714	0.13363062	0.0000000	1.000000	0.01785714	1.00000	0.018	748.331
SAND	56	0.05357143	0.22720778	0.0000000	1.000000	0.03036192	3.00000	0.052	424.121
MUD	56	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
SHING	56	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
TIDAL	56	0.05357143	0.22720778	0.0000000	1.000000	0.03036192	3.00000	0.052	424.121
HHILL	56	219.46428571	112.62842598	35.0000000	515.000000	15.05060650	12290.00000	12685.162	51.320
HVALL	56	47.85714286	49.84391221	0.0000000	220.000000	6.66067294	2680.00000	2484.416	104.151
DHILL	56	4066.85714286	3345.36509451	0.0000000	13000.000000	447.04321490	227744.00000	11191467.616	82.259
DVALL	56	3813.10714286	3260.15747349	0.0000000	14000.000000	435.65686760	213534.00000	10628626.752	85.499
GRAD	56	1.07454643	0.52885650	0.1910000	2.814800	0.07067142	60.17460	0.280	49.217
NASP	56	81.16071429	57.19179114	0.0000000	180.000000	7.64257456	4545.00000	3270.901	70.467
EASP	56	74.73214286	48.75187309	0.0000000	180.000000	6.51474307	4185.00000	2376.745	65.235
SLOPE	56	9109.14285714	3614.07132509	3000.0000000	16968.000000	482.95059535	510112.00000	13061511.543	39.675
XMEAN	56	118.66071429	69.59291416	0.0000000	245.000000	9.29974433	6645.00000	4843.174	58.649
DRFREE	56	14.14285714	31.70398803	0.0000000	100.000000	4.23662361	792.00000	1005.143	224.170
DRA	56	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRB	56	4.21428571	18.22656831	0.0000000	100.000000	2.43562764	236.00000	332.208	432.495
DRC	56	0.85714286	4.23160649	0.0000000	24.000000	0.56547220	48.00000	17.906	493.687
DRD	56	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRE	56	6.16071429	17.63857012	0.0000000	70.000000	2.35705308	345.00000	311.119	286.307
DRF	56	0.53571429	4.00891863	0.0000000	30.000000	0.53571429	30.00000	16.071	748.331
DRG	56	0.28571429	2.13808994	0.0000000	16.000000	0.28571429	16.00000	4.571	748.331
DRH	56	10.57142857	27.78806620	0.0000000	100.000000	3.71333654	592.00000	772.177	262.860
DRI	56	63.25000000	42.33513477	0.0000000	100.000000	5.65727035	3542.00000	1792.264	66.933
DRJ	56	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRK	56	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRL	56	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRM	56	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
SDIST	56	642.33928571	113.60110063	456.0000000	878.000000	15.18058562	35971.00000	12905.210	17.686
WDIST	56	160.00000000	55.42267340	0.0000000	238.000000	7.40616626	8960.00000	3071.673	34.639
ISLAND	56	0.03571429	0.18725634	0.0000000	1.000000	0.02502318	2.00000	0.035	524.318
GEOLOGY	56	8.41071429	1.85645592	6.0000000	12.000000	0.24807936	471.00000	3.446	22.073

SUMMARY STATS. FOR 1212 SQUARES
ENVIRONMENTAL VARIABLES BY NEW - LOG. REGRESSION - LAND CLASS

NEWCLASS=26

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
SUN	34	5.05882353	0.26868665	4.5000000	5.500000	0.04607938	172.00000	0.072	5.311
TEMP	34	0.41176471	0.52901550	-0.5000000	1.500000	0.09072541	14.00000	0.280	128.475
SNOW	34	30.88235294	4.51774083	20.0000000	40.000000	0.77478616	1050.00000	20.410	14.629
SEA	34	16.29411765	67.43101050	0.0000000	330.000000	11.56432289	554.00000	4546.941	413.837
INLAND	34	1.50000000	8.74642784	0.0000000	51.000000	1.50000000	51.00000	76.500	583.095
TOWN	34	145.05882353	270.05969499	0.0000000	956.000000	46.31485560	4932.00000	72932.239	186.173
VILL	34	13.11764706	39.04834975	0.0000000	174.000000	6.69673674	446.00000	1524.774	297.678
MOTO	34	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
AROAD	34	16.94117647	17.24149536	0.0000000	72.000000	2.95689206	576.00000	297.269	101.773
BROAD	34	2.73529412	7.73934781	0.0000000	30.000000	1.32728720	93.00000	59.898	282.944
MROAD	34	16.44117647	21.15053001	0.0000000	77.000000	3.62728597	559.00000	447.345	128.644
RAIL	34	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
CANAL	34	4.85294118	11.57880078	0.0000000	50.000000	1.98574795	165.00000	134.069	238.593
RIVER	34	16.02941176	16.18170552	0.0000000	56.000000	2.77513960	545.00000	261.848	100.950
CLIFF	34	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
ROCK	34	0.05882353	0.23883257	0.0000000	1.000000	0.04095945	2.00000	0.057	406.015
SAND	34	0.02941176	0.17149859	0.0000000	1.000000	0.02941176	1.00000	0.029	583.095
MUD	34	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
SHING	34	0.02941176	0.17149859	0.0000000	1.000000	0.02941176	1.00000	0.029	583.095
TIDAL	34	0.08823529	0.28790224	0.0000000	1.000000	0.04937483	3.00000	0.083	326.289
HHILL	34	222.50000000	156.48240292	0.0000000	715.000000	26.83651070	7565.00000	24486.742	70.329
HVALL	34	29.85294118	30.08788375	0.0000000	105.000000	5.16002949	1015.00000	905.281	100.787
DHILL	34	5784.52941176	3284.51597131	0.0000000	15554.000000	563.28984196	196674.00000	10788045.166	56.781
DVALL	34	1532.58823529	1567.77105080	0.0000000	6000.000000	268.87051704	52108.00000	2457906.068	102.296
GRAD	34	1.34290588	1.13741296	0.0000000	4.858500	0.19506471	45.65880	1.294	84.698
NASP	34	96.61764706	55.53760108	0.0000000	180.000000	9.52462001	3285.00000	3084.425	57.482
EASP	34	72.79411765	53.14632711	0.0000000	180.000000	9.11451991	2475.00000	2824.532	73.009
SLOPE	34	8548.47058824	3441.23501646	1000.0000000	18382.000000	590.16693647	290648.00000	11842098.439	40.256
XMEAN	34	52.50000000	38.65641191	5.0000000	170.000000	6.62951995	1785.00000	1494.318	73.631
DRFREE	34	27.73529412	41.06558599	0.0000000	100.000000	7.04268990	943.00000	1686.382	148.063
DRA	34	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRB	34	2.82352941	15.60394392	0.0000000	91.000000	2.67605431	96.00000	243.483	552.640
DRC	34	2.94117647	17.14985851	0.0000000	100.000000	2.94117647	100.00000	294.118	583.095
DRD	34	2.94117647	17.14985851	0.0000000	100.000000	2.94117647	100.00000	294.118	583.095
DRE	34	13.44117647	26.47719565	0.0000000	89.000000	4.54080159	457.00000	701.042	196.986
DRF	34	2.94117647	17.14985851	0.0000000	100.000000	2.94117647	100.00000	294.118	583.095
DRG	34	11.26470588	27.60468650	0.0000000	100.000000	4.73416468	383.00000	762.019	245.055
DRH	34	18.41176471	32.88374163	0.0000000	100.000000	5.63951516	626.00000	1081.340	178.602
DRI	34	17.50000000	30.32275873	0.0000000	100.000000	5.20031022	595.00000	919.470	173.273
DRJ	34	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRK	34	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRL	34	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRM	34	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
SDIST	34	606.14705882	100.40739208	403.0000000	841.000000	17.21972568	20609.00000	10081.644	16.565
WDIST	34	143.44117647	62.64531769	17.0000000	244.000000	10.74358335	4877.00000	3924.436	43.673
ISLAND	34	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
GEOLOGY	34	8.38235294	2.65163993	2.0000000	12.000000	0.45475250	285.00000	7.031	31.634

ENVIRONMENTAL VARIABLES BY NEW - LOG. REGRESSION - LAND CLASS

NEWCLASS=27

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
SUN	30	4.95000000	0.33088179	4.5000000	5.500000	0.06041047	148.50000	0.1095	6.684
TEMP	30	0.18333333	0.53309981	-0.5000000	1.500000	0.09733026	5.50000	0.2842	290.782
SNOW	30	36.33333333	8.08716878	30.0000000	50.000000	1.47650826	1090.00000	65.4023	22.258
SEA	30	2.70000000	14.78850905	0.0000000	81.000000	2.70000000	81.00000	218.7000	547.723
INLAND	30	2.80000000	15.33623161	0.0000000	84.000000	2.80000000	84.00000	235.2000	547.723
TOWN	30	31.93333333	97.61180445	0.0000000	344.000000	17.82139573	958.00000	9528.0644	305.674
VILL	30	4.16666667	14.39608025	0.0000000	60.000000	2.62835263	125.00000	207.2471	345.506
MOTO	30	0.83333333	4.56435465	0.0000000	25.000000	0.83333333	25.00000	20.8333	547.723
AROAD	30	5.86666667	11.10990032	0.0000000	39.000000	2.02838101	176.00000	123.4299	189.373
BROAD	30	4.36666667	8.64424598	0.0000000	26.000000	1.57821617	131.00000	74.7230	197.960
MROAD	30	9.23333333	14.80140565	0.0000000	49.000000	2.70235459	277.00000	219.0816	160.304
RAIL	30	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
CANAL	30	0.66666667	3.65148372	0.0000000	20.000000	0.66666667	20.00000	13.3333	547.723
RIVER	30	20.53333333	15.03956468	0.0000000	57.000000	2.74583628	616.00000	226.1885	73.245
CLIFF	30	0.03333333	0.18257419	0.0000000	1.000000	0.03333333	1.00000	0.0333	547.723
ROCK	30	0.06666667	0.25370813	0.0000000	1.000000	0.04632056	2.00000	0.0644	380.562
SAND	30	0.03333333	0.18257419	0.0000000	1.000000	0.03333333	1.00000	0.0333	547.723
MUD	30	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SHING	30	0.06666667	0.25370813	0.0000000	1.000000	0.04632056	2.00000	0.0644	380.562
TIDAL	30	0.06666667	0.25370813	0.0000000	1.000000	0.04632056	2.00000	0.0644	380.562
HHILL	30	250.83333333	111.85800214	50.0000000	465.000000	20.42238367	7525.00000	12512.2126	44.595
HVALL	30	93.50000000	70.54162381	0.0000000	200.000000	12.87907953	2805.00000	4976.1207	75.446
DHILL	30	3524.40000000	2343.52492538	0.0000000	8484.000000	427.86715523	105732.00000	5492109.0759	66.494
DVALL	30	2341.60000000	2731.89843806	0.0000000	8484.000000	498.77413311	70248.00000	7463269.0759	116.668
GRAD	30	1.32426000	0.67207812	0.4052000	2.874500	0.12270412	39.72780	0.4517	50.751
NASP	30	87.00000000	55.34531099	0.0000000	180.000000	10.10462509	2610.00000	3063.1034	63.615
EASP	30	84.00000000	55.09239887	0.0000000	180.000000	10.05844987	2520.00000	3035.1724	65.586
SLOPE	30	7086.80000000	2791.59233265	2828.0000000	12726.000000	509.67269732	212604.00000	7792987.7517	39.391
XMEAN	30	132.66666667	59.47664470	0.0000000	230.000000	10.85889998	3980.00000	3537.4713	44.832
DRFREE	30	27.40000000	37.94515098	0.0000000	100.000000	6.92780505	822.00000	1439.8345	138.486
DRA	30	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRB	30	2.36666667	12.96276719	0.0000000	71.000000	2.36666667	71.00000	168.0333	547.723
DRC	30	11.46666667	29.27012521	0.0000000	100.000000	5.34396928	344.00000	856.7402	255.263
DRD	30	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRE	30	5.26666667	15.61151947	0.0000000	64.000000	2.85026046	158.00000	243.7195	296.421
DRF	30	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRG	30	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRH	30	6.10000000	16.55575741	0.0000000	70.000000	3.02265393	183.00000	274.0931	271.406
DRI	30	47.40000000	38.76062702	0.0000000	100.000000	7.07668992	1422.00000	1502.3862	81.773
DRJ	30	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRK	30	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRL	30	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRM	30	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SDIST	30	613.56666667	99.17962921	404.0000000	851.000000	18.10764005	18407.00000	9836.5989	16.164
WDIST	30	160.40000000	60.95651361	14.0000000	253.000000	11.12908584	4812.00000	3715.6966	38.003
ISLAND	30	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
GEOLOGY	30	8.43333333	2.17641485	6.0000000	12.000000	0.39735717	253.00000	4.7368	25.807

SUMMARY STATS. FOR 1212 SQUARES
ENVIRONMENTAL VARIABLES BY NEW - LOG. REGRESSION - LAND CLASS

NEWCLASS=28

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
SUN	33	4.33333333	0.29755952	4.0000000	5.000000	0.05179846	143.00000	0.089	6.867
TEMP	33	0.10606061	0.39046398	-0.5000000	1.500000	0.06797105	3.50000	0.152	368.152
SNOW	33	48.78787879	13.40652261	30.0000000	70.000000	2.33377603	1610.00000	179.735	27.479
SEA	33	14.15151515	81.29426533	0.0000000	467.000000	14.15151515	467.00000	6608.758	574.456
INLAND	33	11.60606061	55.37821063	0.0000000	316.000000	9.64010910	383.00000	3066.746	477.149
TOWN	33	3.78787879	21.75970699	0.0000000	125.000000	3.78787879	125.00000	473.485	574.456
VILL	33	15.12121212	46.99983881	0.0000000	237.000000	8.18162177	499.00000	2208.985	310.821
MOTO	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
AROAD	33	1.87878788	6.18343339	0.0000000	25.000000	1.07639759	62.00000	38.235	329.118
BROAD	33	2.81818182	8.01738169	0.0000000	29.000000	1.39564701	93.00000	64.278	284.488
MROAD	33	8.36363636	14.68804399	0.0000000	49.000000	2.55686027	276.00000	215.739	175.618
RAIL	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
CANAL	33	1.66666667	5.80229840	0.0000000	24.000000	1.01005050	55.00000	33.667	348.138
RIVER	33	24.03030303	17.80709979	0.0000000	63.000000	3.09981819	793.00000	317.093	74.103
CLIFF	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
ROCK	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
SAND	33	0.03030303	0.17407766	0.0000000	1.000000	0.03030303	1.00000	0.030	574.456
MUD	33	0.03030303	0.17407766	0.0000000	1.000000	0.03030303	1.00000	0.030	574.456
SHING	33	0.03030303	0.17407766	0.0000000	1.000000	0.03030303	1.00000	0.030	574.456
TIDAL	33	0.03030303	0.17407766	0.0000000	1.000000	0.03030303	1.00000	0.030	574.456
HHILL	33	293.78787879	172.60879858	15.0000000	765.000000	30.04733505	9695.00000	29793.797	58.753
HVALL	33	94.69696970	59.25236538	0.0000000	200.000000	10.31451288	3125.00000	3510.843	62.570
DHILL	33	4393.15151515	3418.72224048	0.0000000	14000.000000	595.12315399	144974.00000	11687661.758	77.819
DVALL	33	1912.36363636	2272.52747258	0.0000000	8484.000000	395.59625552	63108.00000	5164381.114	118.833
GRAD	33	1.47461818	0.81785721	0.2865000	4.431600	0.14237067	48.66240	0.669	55.462
NASP	33	94.09090909	65.94806841	0.0000000	180.000000	11.48008516	3105.00000	4349.148	70.090
EASP	33	85.90909091	48.20941534	0.0000000	180.000000	8.39218202	2835.00000	2324.148	56.117
SLOPE	33	7468.60606061	3499.81201227	3000.0000000	15000.000000	609.23907138	246464.00000	12248684.121	46.860
XMEAN	33	137.87878788	59.08191219	5.0000000	250.000000	10.28484078	4550.00000	3490.672	42.851
DRFREE	33	23.27272727	37.89976313	0.0000000	100.000000	6.59750193	768.00000	1436.392	162.851
DRA	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRB	33	1.60606061	9.22611577	0.0000000	53.000000	1.60606061	53.00000	85.121	574.456
DRC	33	12.06060606	31.10962411	0.0000000	100.000000	5.41549044	398.00000	967.809	257.944
DRD	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRE	33	8.03030303	20.39375647	0.0000000	92.000000	3.55009732	265.00000	415.905	253.960
DRF	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRG	33	0.42424242	2.43708718	0.0000000	14.000000	0.42424242	14.00000	5.939	574.456
DRH	33	2.93939394	16.88553263	0.0000000	97.000000	2.93939394	97.00000	285.121	574.456
DRI	33	51.66666667	43.96636972	0.0000000	100.000000	7.65356258	1705.00000	1933.042	85.096
DRJ	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRK	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRL	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
DRM	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.000	.
SDIST	33	731.42424242	162.77496550	436.0000000	931.000000	28.33548444	24137.00000	26495.689	22.255
WDIST	33	94.69696970	46.83247061	0.0000000	189.000000	8.15248671	3125.00000	2193.280	49.455
ISLAND	33	0.03030303	0.17407766	0.0000000	1.000000	0.03030303	1.00000	0.030	574.456
GEOLOGY	33	10.00000000	2.83945417	2.0000000	13.000000	0.49428553	330.00000	8.063	28.395

SUMMARY STATS. FOR 1212 SQUARES
ENVIRONMENTAL VARIABLES BY NEW - LOG. REGRESSION - LAND CLASS

NEWCLASS=32

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
SUN	20	4.47500000	0.19701723	4.0000000	5.0000000	0.04405439	89.50000	0.0388	4.403
TEMP	20	1.35000000	0.63037165	0.5000000	2.5000000	0.14095539	27.00000	0.3974	46.694
SNOW	20	50.00000000	12.97771369	30.0000000	60.0000000	2.90190500	1000.00000	168.4211	25.955
SEA	20	6.70000000	24.66640588	0.0000000	109.0000000	5.51557603	134.00000	608.4316	368.155
INLAND	20	74.50000000	177.11266114	0.0000000	776.0000000	39.60359500	1490.00000	31368.8947	237.735
TOWN	20	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.00000	0.0000	.
VILL	20	41.00000000	112.37296922	0.0000000	479.0000000	25.12735980	820.00000	12627.6842	274.080
MOTO	20	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.00000	0.0000	.
AROAD	20	4.10000000	8.71719414	0.0000000	25.0000000	1.94922387	82.00000	75.9895	212.614
BROAD	20	1.60000000	4.96726124	0.0000000	18.0000000	1.11071338	32.00000	24.6737	310.454
MROAD	20	4.10000000	11.08294090	0.0000000	43.0000000	2.47822092	82.00000	122.8316	270.316
RAIL	20	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.00000	0.0000	.
CANAL	20	1.25000000	5.59016994	0.0000000	25.0000000	1.25000000	25.00000	31.2500	447.214
RIVER	20	18.20000000	14.43169028	0.0000000	47.0000000	3.22702405	364.00000	208.2737	79.295
CLIFF	20	0.10000000	0.30779351	0.0000000	1.0000000	0.06882472	2.00000	0.0947	307.794
ROCK	20	0.10000000	0.30779351	0.0000000	1.0000000	0.06882472	2.00000	0.0947	307.794
SAND	20	0.10000000	0.30779351	0.0000000	1.0000000	0.06882472	2.00000	0.0947	307.794
MUD	20	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.00000	0.0000	.
SHING	20	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.00000	0.0000	.
TIDAL	20	0.15000000	0.36634755	0.0000000	1.0000000	0.08191780	3.00000	0.1342	244.232
HHILL	20	167.75000000	119.60983721	10.0000000	495.0000000	26.74557268	3355.00000	14306.5132	71.302
HVALL	20	16.75000000	32.04745659	0.0000000	115.0000000	7.16602914	335.00000	1027.0395	191.328
DHILL	20	2493.30000000	1664.42470225	0.0000000	5656.0000000	372.17667777	49866.00000	2770309.5895	66.756
DVALL	20	1998.40000000	1279.69282498	0.0000000	4242.0000000	286.14801470	39968.00000	1637613.7263	64.036
GRAD	20	1.51309500	1.03706147	0.1351000	4.7162000	0.23189399	30.26190	1.0755	68.539
NASP	20	90.00000000	48.42248282	0.0000000	180.0000000	10.82759632	1800.00000	2344.7368	53.803
EASP	20	72.00000000	60.90112781	0.0000000	180.0000000	13.61790617	1440.00000	3708.9474	84.585
SLOPE	20	5698.70000000	1628.48076116	3000.0000000	8484.0000000	364.13936820	113974.00000	2651949.5895	28.576
XMEAN	20	62.75000000	44.41061395	5.0000000	195.0000000	9.93051517	1255.00000	1972.3026	70.774
DRFREE	20	53.05000000	46.64702281	0.0000000	100.0000000	10.43059139	1061.00000	2175.9447	87.930
DRA	20	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.00000	0.0000	.
DRB	20	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.00000	0.0000	.
DRC	20	36.30000000	45.80978981	0.0000000	100.0000000	10.24338040	726.00000	2098.5368	126.198
DRD	20	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.00000	0.0000	.
DRE	20	0.65000000	2.90688837	0.0000000	13.0000000	0.65000000	13.00000	8.4500	447.214
DRF	20	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.00000	0.0000	.
DRG	20	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.00000	0.0000	.
DRH	20	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.00000	0.0000	.
DRI	20	10.00000000	22.92091667	0.0000000	91.0000000	5.12527278	200.00000	525.3684	229.209
DRJ	20	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.00000	0.0000	.
DRK	20	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.00000	0.0000	.
DRL	20	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.00000	0.0000	.
DRM	20	0.00000000	0.00000000	0.0000000	0.0000000	0.00000000	0.00000	0.0000	.
SDIST	20	947.80000000	96.41281854	762.0000000	1099.0000000	21.55856162	18956.00000	9295.4316	10.172
WDIST	20	5.75000000	22.33212225	0.0000000	100.0000000	4.99361434	115.00000	498.7237	388.385
ISLAND	20	0.85000000	0.36634755	0.0000000	1.0000000	0.08191780	17.00000	0.1342	43.100
GEOLOGY	20	8.90000000	3.30708967	3.0000000	13.0000000	0.73948773	178.00000	10.9368	37.158

SUMMARY STATS. FOR 1212 SQUARES
ENVIRONMENTAL VARIABLES BY NEW LOG. REGRESSION - LAND CLASS

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
---- NEWCLASS=31 ----									
SUN	26	4.40384615	0.20095924	4.0000000	4.500000	0.03941135	114.50000	0.0404	4.563
TEMP	26	1.03846154	0.59871658	0.0000000	2.500000	0.11741798	27.00000	0.3585	57.654
SNOW	26	57.30769231	8.27414881	10.0000000	70.000000	1.62269409	1490.00000	68.4615	14.438
SEA	26	276.92307692	262.76421721	0.0000000	915.000000	51.53230273	7200.00000	69045.0338	94.887
INLAND	26	8.53846154	28.95131191	0.0000000	125.000000	5.67781940	222.00000	838.1785	339.069
TOWN	26	1.46153846	7.45241314	0.0000000	38.000000	1.46153846	38.00000	55.5385	509.902
VILL	26	34.53846154	69.73448545	0.0000000	250.000000	13.67605777	898.00000	4862.8985	201.904
MOTO	26	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
AROAD	26	0.30769231	1.56892908	0.0000000	8.000000	0.30769231	8.00000	2.4615	509.902
BROAD	26	2.46153846	6.28796164	0.0000000	25.000000	1.23317073	64.00000	39.5385	255.448
MROAD	26	3.65384615	7.08769247	0.0000000	19.000000	1.39001086	95.00000	50.2354	193.979
RAIL	26	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
CANAL	26	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
RIVER	26	1.92307692	4.21353132	0.0000000	13.000000	0.82634148	50.00000	17.7538	219.104
CLIFF	26	0.65384615	0.48516452	0.0000000	1.000000	0.09514859	17.00000	0.2354	74.202
ROCK	26	0.84615385	0.36794648	0.0000000	1.000000	0.07216024	22.00000	0.1354	43.485
SAND	26	0.15384615	0.36794648	0.0000000	1.000000	0.07216024	4.00000	0.1354	239.165
MUD	26	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SHING	26	0.30769231	0.47067872	0.0000000	1.000000	0.09230769	8.00000	0.2215	152.971
TIDAL	26	0.96153846	0.19611614	0.0000000	1.000000	0.03846154	25.00000	0.0385	20.396
HHILL	26	81.15384615	55.12363726	10.0000000	250.000000	10.81063469	2110.00000	3038.6154	67.925
HVALL	26	0.38461538	1.35873244	0.0000000	5.000000	0.26646936	10.00000	1.8462	353.270
DHILL	26	2429.92307692	2395.28373139	0.0000000	10000.000000	469.75378796	63178.00000	5737384.1538	98.574
DVALL	26	1555.84615385	895.48215805	0.0000000	4000.000000	175.61849992	40452.00000	801888.2954	57.556
GRAD	26	0.93725385	0.55341507	0.1910000	2.564600	0.10853362	24.36860	0.3063	59.046
NASP	26	98.65384615	58.35336652	0.0000000	180.000000	11.44403671	2565.00000	3405.1154	59.150
EASP	26	91.73076923	50.07878408	0.0000000	180.000000	9.82125759	2385.00000	2507.8846	54.593
SLOPE	26	5224.61538462	2554.39033943	2000.0000000	13000.000000	500.95716100	135840.00000	6524910.0062	48.891
XMEAN	26	21.53846154	21.39014870	0.0000000	90.000000	4.19495329	560.00000	457.5385	99.311
DRFREE	26	59.07692308	39.91783870	0.0000000	100.000000	7.82853225	1536.00000	1593.4338	67.569
DRA	26	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRB	26	4.76923077	19.98460946	0.0000000	100.000000	3.91930437	124.00000	399.3846	419.032
DRC	26	4.96153846	15.48284410	0.0000000	62.000000	3.03643555	129.00000	239.7185	312.057
DRD	26	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRE	26	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRF	26	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRG	26	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRH	26	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRI	26	31.19230769	37.97369535	0.0000000	100.000000	7.44725437	811.00000	1442.0015	121.741
DRJ	26	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRK	26	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRL	26	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRM	26	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SDIST	26	951.84615385	73.51178835	860.0000000	1094.000000	14.43645943	24748.00000	5418.6954	7.734
WDIST	26	14.42307692	34.87483113	0.0000000	120.000000	6.83951709	375.00000	1216.2538	241.799
ISLAND	26	0.76923077	0.42966892	0.0000000	1.000000	0.08426501	20.00000	0.1846	55.857
GEOLOGY	26	8.46153846	2.51763014	6.0000000	11.000000	0.49374789	220.00000	6.3385	29.754

SUMMARY STATS. FOR 1212 SQUARES
ENVIRONMENTAL VARIABLES BY NEW - LOG. REGRESSION - LAND CLASS

NEWCLASS=30

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
SUN	33	4.77272727	0.33285951	4.0000000	5.000000	0.05794340	157.50000	0.1108	6.974
TEMP	33	2.36363636	0.25838220	1.5000000	2.500000	0.04497857	78.00000	0.0668	10.932
SNOW	33	26.36363636	6.03022689	20.0000000	40.000000	1.04972776	870.00000	36.3636	22.873
SEA	33	142.42424242	258.88318194	0.0000000	987.000000	45.06577748	4700.00000	67020.5019	181.769
INLAND	33	9.27272727	35.27239778	0.0000000	167.000000	6.14013633	306.00000	1244.1420	380.389
TOWN	33	7.57575758	43.51941399	0.0000000	250.000000	7.57575758	250.00000	1893.9394	574.456
VILL	33	12.03030303	37.94443705	0.0000000	181.000000	6.60527866	397.00000	1439.7803	315.407
MOTO	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
AROAD	33	2.45454545	8.03543290	0.0000000	34.000000	1.39878932	81.00000	64.5682	327.369
BROAD	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
MROAD	33	3.72727273	8.72594095	0.0000000	36.000000	1.51899135	123.00000	76.1420	234.111
RAIL	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
CANAL	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
RIVER	33	16.84848485	17.38735390	0.0000000	67.000000	3.02674981	556.00000	302.3201	103.198
CLIFF	33	0.21212121	0.41514875	0.0000000	1.000000	0.07226812	7.00000	0.1723	195.713
ROCK	33	0.42424242	0.50189037	0.0000000	1.000000	0.08736790	14.00000	0.2519	118.303
SAND	33	0.18181818	0.39167473	0.0000000	1.000000	0.06818182	6.00000	0.1534	215.421
MUD	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SHING	33	0.15151515	0.36410954	0.0000000	1.000000	0.06338334	5.00000	0.1326	240.312
TIDAL	33	0.57575758	0.50189037	0.0000000	1.000000	0.08736790	19.00000	0.2519	87.170
HHILL	33	241.66666667	141.77263194	0.0000000	485.000000	24.67944745	7975.00000	20099.4792	58.665
HVALL	33	6.96969697	19.48314151	0.0000000	95.000000	3.39157960	230.00000	379.5928	279.541
DHILL	33	2262.48484848	1571.51829693	0.0000000	5656.000000	273.56622142	74662.00000	2469669.7576	69.460
DVALL	33	2510.12121212	2229.24650608	0.0000000	11000.000000	388.06200633	82834.00000	4969539.9848	88.810
GRAD	33	2.20028788	1.29429508	0.0000000	5.319800	0.22530785	72.60950	1.6752	58.824
NASP	33	72.27272727	58.39106991	0.0000000	180.000000	10.16458058	2385.00000	3409.5170	80.793
EASP	33	102.27272727	48.08993705	0.0000000	180.000000	8.37138352	3375.00000	2312.6420	47.021
SLOPE	33	6010.96969697	2539.65628192	1000.0000000	14140.000000	442.09741249	198362.00000	6449854.0303	42.250
XMEAN	33	82.72727273	73.05916811	0.0000000	210.000000	12.71796873	2730.00000	5337.6420	88.313
DRFREE	33	42.27272727	44.00090392	0.0000000	100.000000	7.65957421	1395.00000	1936.0795	104.088
DRA	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRB	33	7.06060606	24.64997388	0.0000000	100.000000	4.29100967	233.00000	607.6212	349.120
DRC	33	23.42424242	37.26763870	0.0000000	100.000000	6.48746319	773.00000	1388.8769	159.099
DRD	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRE	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRF	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRG	33	2.42424242	9.94996954	0.0000000	49.000000	1.73206738	80.00000	99.0019	410.436
DRH	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRI	33	24.81818182	37.70481944	0.0000000	100.000000	6.56356659	819.00000	1421.6534	151.924
DRJ	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRK	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRL	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRM	33	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SDIST	33	759.87878788	86.98769941	575.0000000	927.000000	15.14261481	25076.00000	7566.8598	11.448
WDIST	33	0.21212121	0.85723304	0.0000000	4.000000	0.14922512	7.00000	0.7348	404.124
ISLAND	33	0.93939394	0.24230584	0.0000000	1.000000	0.04218003	31.00000	0.0587	25.794
GEOLOGY	33	9.87878788	3.03888935	2.0000000	15.000000	0.52900273	326.00000	9.2348	30.762

SUMMARY STATS. FOR 1212 SQUARES
ENVIRONMENTAL VARIABLES BY NEW - LOG. REGRESSION - LAND CLASS

NEWCLASS=29

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
SUN	40	4.50000000	0.39223227	4.0000000	5.000000	0.06201737	180.00000	0.1538	8.716
TEMP	40	1.63750000	0.68862088	0.5000000	2.500000	0.10888052	65.50000	0.4742	42.053
SNOW	40	31.75000000	9.02631481	20.0000000	60.000000	1.42718568	1270.00000	81.4744	28.429
SEA	40	392.30000000	331.33654747	0.0000000	999.000000	52.38890810	15692.00000	109783.9077	84.460
INLAND	40	3.80000000	16.78094157	0.0000000	78.000000	2.65329983	152.00000	281.6000	441.604
TOWN	40	13.05000000	82.53544693	0.0000000	522.000000	13.05000000	522.00000	6812.1000	632.456
VILL	40	35.95000000	79.50292689	0.0000000	285.000000	12.57051648	1438.00000	6320.7154	221.149
MOTO	40	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
AROAD	40	1.30000000	5.38373619	0.0000000	32.000000	0.85124343	52.00000	28.9846	414.134
BROAD	40	1.20000000	5.30215244	0.0000000	25.000000	0.83834391	48.00000	28.1128	441.846
MROAD	40	3.75000000	9.89366542	0.0000000	36.000000	1.56432586	150.00000	97.8846	263.831
RAIL	40	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
CANAL	40	0.65000000	4.11096096	0.0000000	26.000000	0.65000000	26.00000	16.9000	632.456
RIVER	40	3.02500000	5.75342707	0.0000000	23.000000	0.90969670	121.00000	33.1019	190.196
CLIFF	40	0.17500000	0.38480764	0.0000000	1.000000	0.06084343	7.00000	0.1481	219.890
ROCK	40	0.72500000	0.45220259	0.0000000	1.000000	0.07149951	29.00000	0.2045	62.373
SAND	40	0.22500000	0.42290206	0.0000000	1.000000	0.06686669	9.00000	0.1788	187.956
MUD	40	0.02500000	0.15811388	0.0000000	1.000000	0.02500000	1.00000	0.0250	632.456
SHING	40	0.52500000	0.50573633	0.0000000	1.000000	0.07996393	21.00000	0.2558	96.331
TIDAL	40	0.97500000	0.15811388	0.0000000	1.000000	0.02500000	39.00000	0.0250	16.217
HHILL	40	241.25000000	191.15958563	30.0000000	775.000000	30.22498436	9650.00000	36541.9872	79.237
HVALL	40	0.75000000	2.13337340	0.0000000	10.000000	0.33731595	30.00000	4.5513	284.450
DHILL	40	4087.40000000	2937.56233147	0.0000000	14140.000000	464.46938681	163496.00000	8629272.4513	71.869
DVALL	40	1065.60000000	793.68962480	0.0000000	2828.000000	125.49334848	42624.00000	629943.2205	74.483
GRAD	40	2.11124500	1.52620764	0.3438000	6.255700	0.24131462	84.44980	2.3293	72.289
NASP	40	103.50000000	48.01442091	0.0000000	180.000000	7.59174653	4140.00000	2305.3846	46.391
EASP	40	92.25000000	61.10048470	0.0000000	180.000000	9.66083489	3690.00000	3733.2692	66.234
SLOPE	40	6360.00000000	2885.20715161	2000.0000000	15554.000000	456.19130602	254400.00000	8324420.3077	45.365
XMEAN	40	33.37500000	39.26222658	0.0000000	180.000000	6.20790310	1335.00000	1541.5224	117.640
DRFREE	40	79.75000000	37.04034529	0.0000000	100.000000	5.85659282	3190.00000	1371.9872	46.446
DRA	40	1.02500000	6.48266920	0.0000000	41.000000	1.02500000	41.00000	42.0250	632.456
DRB	40	2.75000000	15.84985643	0.0000000	100.000000	2.50608234	110.00000	251.2179	576.358
DRC	40	0.47500000	2.40712085	0.0000000	15.000000	0.38059922	19.00000	5.7942	506.762
DRD	40	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRE	40	1.52500000	9.17071006	0.0000000	58.000000	1.45001658	61.00000	84.1019	601.358
DRF	40	1.05000000	6.64078309	0.0000000	42.000000	1.05000000	42.00000	44.1000	632.456
DRG	40	4.35000000	19.42711560	0.0000000	100.000000	3.07169668	174.00000	377.4128	446.600
DRH	40	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRI	40	9.07500000	26.56138271	0.0000000	94.000000	4.19972336	363.00000	705.5071	292.687
DRJ	40	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRK	40	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRL	40	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
DRM	40	0.00000000	0.00000000	0.0000000	0.000000	0.00000000	0.00000	0.0000	.
SDIST	40	775.95000000	85.13125612	586.0000000	915.000000	13.46043347	31038.00000	7247.3308	10.971
WDIST	40	18.52500000	34.02034648	0.0000000	108.000000	5.37908908	741.00000	1157.3840	183.646
ISLAND	40	0.50000000	0.50636968	0.0000000	1.000000	0.08006408	20.00000	0.2564	101.274
GEOLOGY	40	10.97500000	2.69365351	3.0000000	15.000000	0.42590402	439.00000	7.2558	24.544

5. RECOMMENDATIONS AND CONCLUSIONS

As a result of the comparisons shown above it was concluded that the Logistic/Discriminant should be recommended for the following principal reason.

The Discriminant Function failed to identify coastal classes (7 & 8) in the south of Britain which would lead to two classes having to be completely redefined. In addition, land class 25 (Scotland/northern England) extended into southern Britain.

The following supporting reasons are also significant:

1. The balance of survey squares was closest to proportional to stratum size in the Logistic/Discriminant.

2. The proportion of squares remaining in the original classification was the highest.

3. The standard errors were generally lower than the original and although comparable to the Discriminant Function were lower in several important cases, eg coastal factors.

4. Both methods showed less dispersion than the original classification which is advantageous for developing policies. Also the 4800 squares classified by the indicator attributes showed significant divergences from the original classification and emphasised that the technique recommended showed a considerable improvement over these patterns.

Appendix A

References to studies carried out using the Merlewood Land Classification System outside the Land Use Research Group (a separate list is available of the use of the methodology as compared with the classification itself)

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In addition the following studies are ongoing:-

Nature Conservancy Council:

Support policies for the maintenance of heather
Forest strategy in Grampian Region
Bird populations in Less Intensive Agricultural Land
Farmers' attitudes to conservation in Norfolk

Edinburgh University:

Financial considerations of the distribution of heather
Influence of climate change on tree growth

Nottingham University:

The use of land classifiction as a terrain model for Remote Sensing

Royal Society for the Protection of Birds:

Estimation of moorland bird populations

Rothamsted:

Relation of sites for moth traps in Great Britain

Newcastle University:

Comparison of house valuations in different regions
Catchment modelling

Wye College:

Farmer response to policy instruments

Institute of Freshwater Ecology:

The estimation of gravel pit areas in Great Britain

Coleraine:

Comparisons between Northern Ireland and Great Britain

Paisley College:

Construction of Regional Classifications

Land Use Consultants:

Policies for maintenance of hedgerows

ITE, Monks Wood:

Influence of climate change on GB vegetation

University of Birmingham:

Influence of climate change in crop growth

Ecological consultants/ITE Monks Wood:

Estimation of critical pollution loads