=== Run information ===

Scheme: weka.classifiers.trees.RandomForest -P 100 -I 100 -num-slots 1 -K 0 -M 1.0 -V 0.001 -S 1

Relation: Dataset 2014\_x\_modified-weka.filters.unsupervised.attribute.Remove-R1-2-weka.filters.supervised.attribute.Discretize-Rfirst-last-precision6

Instances: 178

Attributes: 19

C1

C2

C3

E1

E2

E3

P1

P2

P3

S1

S2

X1

VA

GE

RL

PS

CC

POP

TR

Test mode: 10-fold cross-validation

=== Classifier model (full training set) ===

RandomForest

Bagging with 100 iterations and base learner

weka.classifiers.trees.RandomTree -K 0 -M 1.0 -V 0.001 -S 1 -do-not-check-capabilities

Time taken to build model: 0.02 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 164 92.1348 %

Incorrectly Classified Instances 14 7.8652 %

Kappa statistic 0.8763

Mean absolute error 0.0756

Root mean squared error 0.165

Relative absolute error 23.4475 %

Root relative squared error 41.1702 %

Total Number of Instances 178

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.957 0.000 1.000 0.957 0.978 0.975 0.997 0.986 Alert

0.947 0.095 0.918 0.947 0.932 0.854 0.989 0.991 Warning

0.816 0.043 0.838 0.816 0.827 0.781 0.988 0.958 Stable

0.957 0.000 1.000 0.957 0.978 0.975 1.000 0.998 Sustainable

Weighted Avg. 0.921 0.059 0.922 0.921 0.921 0.869 0.991 0.984

=== Confusion Matrix ===

a b c d <-- classified as

22 1 0 0 | a = Alert

0 89 5 0 | b = Warning

0 7 31 0 | c = Stable

1. 0 1 22 | d = Sustainable

=== Run information ===

Scheme: weka.classifiers.trees.J48 -C 0.25 -M 2

Relation: Dataset 2014\_x\_modified-weka.filters.unsupervised.attribute.Remove-R1-2-weka.filters.supervised.attribute.Discretize-Rfirst-last-precision6

Instances: 178

Attributes: 19

C1

C2

C3

E1

E2

E3

P1

P2

P3

S1

S2

X1

VA

GE

RL

PS

CC

POP

TR

Test mode: 10-fold cross-validation

=== Classifier model (full training set) ===

J48 pruned tree

------------------

C1 = '(-inf-2.5]': Sustainable (20.0/1.0)

C1 = '(2.5-4.55]'

| E3 = '(-inf-2.6]': Sustainable (4.0)

| E3 = '(2.6-4.55]': Stable (19.0)

| E3 = '(4.55-6.45]': Stable (6.0)

| E3 = '(6.45-inf)': Warning (1.0)

C1 = '(4.55-7.35]'

| PS = '(-inf--1.145215]': Warning (1.0)

| PS = '(-1.145215-0.19656]'

| | VA = '(-inf-0.3188]': Warning (59.0/1.0)

| | VA = '(0.3188-1.201215]'

| | | P3 = '(-inf-2.15]': Warning (0.0)

| | | P3 = '(2.15-3.35]': Warning (0.0)

| | | P3 = '(3.35-4.95]': Warning (2.0)

| | | P3 = '(4.95-7.95]': Stable (2.0)

| | | P3 = '(7.95-inf)': Warning (0.0)

| | VA = '(1.201215-inf)': Warning (0.0)

| PS = '(0.19656-inf)'

| | P2 = '(-inf-2.45]': Warning (0.0)

| | P2 = '(2.45-4.3]': Stable (7.0/1.0)

| | P2 = '(4.3-7.15]': Warning (11.0/3.0)

| | P2 = '(7.15-9.35]': Warning (1.0)

| | P2 = '(9.35-inf)': Warning (0.0)

C1 = '(7.35-9.3]'

| E2 = '(-inf-3.75]': Warning (0.0)

| E2 = '(3.75-5.45]': Warning (0.0)

| E2 = '(5.45-6.85]': Warning (13.0)

| E2 = '(6.85-inf)'

| | E1 = '(-inf-2.85]': Alert (0.0)

| | E1 = '(2.85-5.25]': Warning (1.0)

| | E1 = '(5.25-7.25]': Warning (6.0)

| | E1 = '(7.25-inf)': Alert (14.0/2.0)

C1 = '(9.3-inf)': Alert (11.0)

Number of Leaves : 26

Size of the tree : 34

Time taken to build model: 0.02 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 158 88.764 %

Incorrectly Classified Instances 20 11.236 %

Kappa statistic 0.8245

Mean absolute error 0.0684

Root mean squared error 0.2283

Relative absolute error 21.217 %

Root relative squared error 56.9538 %

Total Number of Instances 178

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.913 0.013 0.913 0.913 0.913 0.900 0.969 0.884 Alert

0.904 0.119 0.895 0.904 0.899 0.786 0.919 0.895 Warning

0.789 0.050 0.811 0.789 0.800 0.747 0.902 0.799 Stable

0.957 0.006 0.957 0.957 0.957 0.950 0.973 0.890 Sustainable

Weighted Avg. 0.888 0.076 0.887 0.888 0.887 0.813 0.929 0.872

=== Confusion Matrix ===

a b c d <-- classified as

21 2 0 0 | a = Alert

2 85 7 0 | b = Warning

0 7 30 1 | c = Stable

0 1 0 22 | d = Sustainable

=== Run information ===

Scheme: weka.classifiers.trees.RandomTree -K 0 -M 1.0 -V 0.001 -S 1

Relation: Dataset 2014\_x\_modified-weka.filters.unsupervised.attribute.Remove-R1-2-weka.filters.supervised.attribute.Discretize-Rfirst-last-precision6

Instances: 178

Attributes: 19

C1

C2

C3

E1

E2

E3

P1

P2

P3

S1

S2

X1

VA

GE

RL

PS

CC

POP

TR

Test mode: 10-fold cross-validation

=== Classifier model (full training set) ===

RandomTree

==========

C1 = '(-inf-2.5]'

| P1 = '(-inf-3.05]' : Sustainable (18/0)

| P1 = '(3.05-4.7]'

| | C3 = '(-inf-3.55]' : Sustainable (1/0)

| | C3 = '(3.55-5.65]' : Stable (1/0)

| | C3 = '(5.65-8.05]' : Alert (0/0)

| | C3 = '(8.05-inf)' : Alert (0/0)

| P1 = '(4.7-7.75]' : Alert (0/0)

| P1 = '(7.75-inf)' : Alert (0/0)

C1 = '(2.5-4.55]'

| E3 = '(-inf-2.6]' : Sustainable (4/0)

| E3 = '(2.6-4.55]' : Stable (19/0)

| E3 = '(4.55-6.45]' : Stable (6/0)

| E3 = '(6.45-inf)' : Warning (1/0)

C1 = '(4.55-7.35]'

| E1 = '(-inf-2.85]' : Alert (0/0)

| E1 = '(2.85-5.25]'

| | VA = '(-inf-0.3188]'

| | | P2 = '(-inf-2.45]' : Alert (0/0)

| | | P2 = '(2.45-4.3]'

| | | | P3 = '(-inf-2.15]' : Alert (0/0)

| | | | P3 = '(2.15-3.35]' : Alert (0/0)

| | | | P3 = '(3.35-4.95]' : Stable (1/0)

| | | | P3 = '(4.95-7.95]' : Stable (3/0)

| | | | P3 = '(7.95-inf)' : Warning (1/0)

| | | P2 = '(4.3-7.15]' : Warning (8/0)

| | | P2 = '(7.15-9.35]' : Warning (1/0)

| | | P2 = '(9.35-inf)' : Alert (0/0)

| | VA = '(0.3188-1.201215]' : Stable (5/0)

| | VA = '(1.201215-inf)' : Alert (0/0)

| E1 = '(5.25-7.25]'

| | C2 = '(-inf-2.75]' : Alert (0/0)

| | C2 = '(2.75-4.95]'

| | | S2 = '(-inf-1.85]' : Alert (0/0)

| | | S2 = '(1.85-3.45]' : Stable (1/0)

| | | S2 = '(3.45-5.55]' : Warning (1/0)

| | | S2 = '(5.55-8.05]' : Warning (2/0)

| | | S2 = '(8.05-inf)' : Alert (0/0)

| | C2 = '(4.95-6.65]'

| | | E2 = '(-inf-3.75]' : Alert (0/0)

| | | E2 = '(3.75-5.45]' : Stable (1/0)

| | | E2 = '(5.45-6.85]'

| | | | PS = '(-inf--1.145215]' : Alert (0/0)

| | | | PS = '(-1.145215-0.19656]' : Warning (4/0)

| | | | PS = '(0.19656-inf)'

| | | | | P2 = '(-inf-2.45]' : Alert (0/0)

| | | | | P2 = '(2.45-4.3]' : Stable (1/0)

| | | | | P2 = '(4.3-7.15]' : Warning (1/0)

| | | | | P2 = '(7.15-9.35]' : Alert (0/0)

| | | | | P2 = '(9.35-inf)' : Alert (0/0)

| | | E2 = '(6.85-inf)' : Warning (6/0)

| | C2 = '(6.65-8.65]' : Warning (31/0)

| | C2 = '(8.65-inf)' : Warning (1/0)

| E1 = '(7.25-inf)' : Warning (15/0)

C1 = '(7.35-9.3]'

| E3 = '(-inf-2.6]' : Alert (0/0)

| E3 = '(2.6-4.55]' : Warning (3/0)

| E3 = '(4.55-6.45]' : Warning (12/0)

| E3 = '(6.45-inf)'

| | C2 = '(-inf-2.75]' : Alert (0/0)

| | C2 = '(2.75-4.95]' : Warning (1/0)

| | C2 = '(4.95-6.65]' : Alert (0/0)

| | C2 = '(6.65-8.65]'

| | | C3 = '(-inf-3.55]' : Alert (0/0)

| | | C3 = '(3.55-5.65]' : Warning (1/0)

| | | C3 = '(5.65-8.05]'

| | | | E2 = '(-inf-3.75]' : Alert (0/0)

| | | | E2 = '(3.75-5.45]' : Alert (0/0)

| | | | E2 = '(5.45-6.85]' : Warning (1/0)

| | | | E2 = '(6.85-inf)' : Alert (1/0)

| | | C3 = '(8.05-inf)' : Alert (1/0)

| | C2 = '(8.65-inf)'

| | | S2 = '(-inf-1.85]' : Alert (0/0)

| | | S2 = '(1.85-3.45]' : Alert (0/0)

| | | S2 = '(3.45-5.55]' : Alert (0/0)

| | | S2 = '(5.55-8.05]' : Warning (3/0)

| | | S2 = '(8.05-inf)'

| | | | P2 = '(-inf-2.45]' : Alert (0/0)

| | | | P2 = '(2.45-4.3]' : Alert (0/0)

| | | | P2 = '(4.3-7.15]' : Warning (1/0)

| | | | P2 = '(7.15-9.35]' : Alert (8/0)

| | | | P2 = '(9.35-inf)' : Alert (2/0)

C1 = '(9.3-inf)' : Alert (11/0)

Size of the tree : 84

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 157 88.2022 %

Incorrectly Classified Instances 21 11.7978 %

Kappa statistic 0.8165

Mean absolute error 0.0587

Root mean squared error 0.2391

Relative absolute error 18.1869 %

Root relative squared error 59.6575 %

Total Number of Instances 178

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.913 0.019 0.875 0.913 0.894 0.878 0.950 0.845 Alert

0.915 0.095 0.915 0.915 0.915 0.820 0.914 0.885 Warning

0.763 0.050 0.806 0.763 0.784 0.728 0.856 0.665 Stable

0.913 0.019 0.875 0.913 0.894 0.878 0.946 0.805 Sustainable

Weighted Avg. 0.882 0.066 0.881 0.882 0.881 0.815 0.910 0.823

=== Confusion Matrix ===

a b c d <-- classified as

21 2 0 0 | a = Alert

3 86 5 0 | b = Warning

0 6 29 3 | c = Stable

0 0 2 21 | d = Sustainable

