Table 4. Full details of the optimal regression tree for model failure shown in SI Fig. 8

```
   1) root 56780 13088 1 (0.23050370 0.76949630)
     2) ct< 0.00025 37773 12147 1 (0.32157891 0.67842109)
       4) entcoef< 1.8 12070  5622 0 (0.53421707 0.46578293)
         8) cw>=2.5 3950  1046 0 (0.73518987 0.26481013)
          16) eacf>=1.5 2575   540 0 (0.79029126 0.20970874) *
          17) eacf< 1.5 1375   506 0 (0.63200000 0.36800000)
            34) rhcrit>=1.5 925   284 0 (0.69297297 0.30702703) *
            35) rhcrit< 1.5 450   222 0 (0.50666667 0.49333333)
              70) dtice>=-7.5 267   108 0 (0.59550562 0.40449438) *
              71) dtice< -7.5 183    69 1 (0.37704918 0.62295082) *
         9) cw< 2.5 8120  3544 1 (0.43645320 0.56354680)
          18) ct< 7.5e-05 4070  1611 0 (0.60417690 0.39582310)
            36) eacf>=1.5 2699   834 0 (0.69099667 0.30900333)
              72) rhcrit>=1.5 1806   441 0 (0.75581395 0.24418605) *
              73) rhcrit< 1.5 893   393 0 (0.55991041 0.44008959)
               146) eacf>=2.5 405   142 0 (0.64938272 0.35061728) *
               147) eacf< 2.5 488   237 1 (0.48565574 0.51434426)
                 294) vf1< 0.75 170    67 0 (0.60588235 0.39411765) *
                 295) vf1>=0.75 318   134 1 (0.42138365 0.57861635) *
            37) eacf< 1.5 1371   594 1 (0.43326039 0.56673961)
              74) rhcrit>=2.5 463   122 0 (0.73650108 0.26349892) *
              75) rhcrit< 2.5 908   253 1 (0.27863436 0.72136564) *
          19) ct>=7.5e-05 4050  1085 1 (0.26790123 0.73209877)
            38) eacf>=1.5 2682   978 1 (0.36465324 0.63534676)
              76) rhcrit>=2.5 878   423 0 (0.51822323 0.48177677)
               152) eacf>=2.5 407   154 0 (0.62162162 0.37837838) *
               153) eacf< 2.5 471   202 1 (0.42887473 0.57112527) *
              77) rhcrit< 2.5 1804   523 1 (0.28991131 0.71008869) *
            39) eacf< 1.5 1368   107 1 (0.07821637 0.92178363) *
       5) entcoef>=1.8 25703  5699 1 (0.22172509 0.77827491)
        10) ct< 7.5e-05 12775  3872 1 (0.30309198 0.69690802)
          20) rhcrit>=2.5 4238  2010 1 (0.47428032 0.52571968)
            40) eacf>=1.5 2774  1201 0 (0.56705119 0.43294881)
              80) entcoef< 6 1417   457 0 (0.67748765 0.32251235) *
              81) entcoef>=6 1357   613 1 (0.45173176 0.54826824)
               162) vf1< 0.75 430   184 0 (0.57209302 0.42790698) *
               163) vf1>=0.75 927   367 1 (0.39590076 0.60409924) *
            41) eacf< 1.5 1464   437 1 (0.29849727 0.70150273)
              82) cw>=2.5 501   221 0 (0.55888224 0.44111776)
               164) entcoef< 6 279    80 0 (0.71326165 0.28673835) *
               165) entcoef>=6 222    81 1 (0.36486486 0.63513514) *
              83) cw< 2.5 963   157 1 (0.16303219 0.83696781) *
          21) rhcrit< 2.5 8537  1862 1 (0.21810941 0.78189059)
            42) entcoef< 6 4402  1459 1 (0.33144025 0.66855975)
              84) eacf>=1.5 2869  1234 1 (0.43011502 0.56988498)
               168) eacf>=2.5 1313   621 0 (0.52703732 0.47296268)
                 336) vf1< 1.5 890   377 0 (0.57640449 0.42359551)
                   672) rhcrit>=1.5 470   162 0 (0.65531915 0.34468085) *
                   673) rhcrit< 1.5 420   205 1 (0.48809524 0.51190476)
                    1346) ram_size>=2046.41 24     4 0 (0.83333333 0.16666667)
*
                    1347) ram_size< 2046.41 396   185 1 (0.46717172
0.53282828) *
                 337) vf1>=1.5 423   179 1 (0.42316785 0.57683215)
                   674) cw>=2.5 143    63 0 (0.55944056 0.44055944)
                    1348) processor_name= AMD Athlon MP, Intel Pentium 4,
Intel Pentium III Mobile, Intel Xeon, Unknown x86 116    43 0 (0.62931034
0.37068966) *
                    1349) processor_name= -1, AMD Athlon XP, Intel Celeron,
Intel Pentium 4 mobile, Intel Pentium M, Opteron, Unknown AMD 27     7 1
(0.25925926 0.74074074) *
                   675) cw< 2.5 280    99 1 (0.35357143 0.64642857) *
```

```
              169) eacf< 2.5 1556   542 1 (0.34832905 0.65167095) *
            85) eacf< 1.5 1533   225 1 (0.14677104 0.85322896) *
          43) entcoef>=6 4135   403 1 (0.09746070 0.90253930) *
       11) ct>=7.5e-05 12928  1827 1 (0.14132116 0.85867884)
         22) cw>=2.5 4205  1090 1 (0.25921522 0.74078478)
           44) entcoef< 6 2159   783 1 (0.36266790 0.63733210)
             88) eacf>=1.5 1362   655 1 (0.48091043 0.51908957)
              176) rhcrit>=2.5 427   161 0 (0.62295082 0.37704918) *
              177) rhcrit< 2.5 935   389 1 (0.41604278 0.58395722)
                354) eacf>=2.5 427   208 1 (0.48711944 0.51288056)
                  708) ice< 1.5 323   148 0 (0.54179567 0.45820433)
                   1416) vf1< 0.75 111    37 0 (0.66666667 0.33333333) *
                   1417) vf1>=0.75 212   101 1 (0.47641509 0.52358491)
                     2834) processor_name= AMD Athlon XP, Intel Celeron
Mobile, Unknown AMD, Unknown x86 54    20 0 (0.62962963 0.37037037) *
                     2835) processor_name= -1, AMD 64, AMD Athlon, AMD Athlon
MP, AMD Duron, AMD Mobile Athlon XP, Intel Celeron, Intel Pentium, Intel
Pentium 4, Intel Pentium M, Intel Xeon, Opteron 158    67 1 (0.42405063
0.57594937) *
                  709) ice>=1.5 104    33 1 (0.31730769 0.68269231) *
                355) eacf< 2.5 508   181 1 (0.35629921 0.64370079) *
             89) eacf< 1.5 797   128 1 (0.16060226 0.83939774) *
           45) entcoef>=6 2046   307 1 (0.15004888 0.84995112) *
         23) cw< 2.5 8723   737 1 (0.08448928 0.91551072) *
     3) ct>=0.00025 19007   941 1 (0.04950808 0.95049192)
       6) cw>=2.5 6264   733 1 (0.11701788 0.88298212)
        12) entcoef< 1.8 2007   469 1 (0.23368211 0.76631789)
          24) eacf>=1.5 1288   414 1 (0.32142857 0.67857143)
            48) rhcrit>=2.5 393   179 1 (0.45547074 0.54452926)
              96) eacf>=2.5 200    69 0 (0.65500000 0.34500000) *
              97) eacf< 2.5 193    48 1 (0.24870466 0.75129534) *
            49) rhcrit< 2.5 895   235 1 (0.26256983 0.73743017) *
          25) eacf< 1.5 719    55 1 (0.07649513 0.92350487) *
        13) entcoef>=1.8 4257   264 1 (0.06201550 0.93798450) *
       7) cw< 2.5 12743   208 1 (0.01632269 0.98367731) *
```

Each node is given on a separate numbered line, the indentation indicating the depth in the tree, starting at the root. After the node number in order is (*i*) the statement evaluated at the node, (*ii*) the number of model runs arriving at that node, (*iii*) their deviance, (*iv*) a 0 or 1 to indicate failure or success respectively in fitting an adequate climate sensitivity, and (*v*) (in brackets) the class probabilities for failure and success respectively. An asterisk indicates a terminal node.