TAB format summary

Observed wind climate file (*.tab)

The observed wind climate file contains the frequencies of occurrence of the wind in a number of sectors (the wind rose) and wind speed bins. It further contains the height of observation above ground level and the geographical coordinates (latitude and longitude) of the wind mast.

Data are stored in an ASCII (text) file with the default file name extension 'tab'. The tab-file can be generated by the Observed Wind Climate Wizard or may be prepared from a climatological table using a text editor.

The general format of the file is shown below (some variants are described further down). Numbers in the same line of the file must be separated by blank space(s) or a comma.

Line	Contents
1	Text string identifying the observed wind climate/anemometer
2	Latitude [°], Longitude [°] and height a.g.l. of anemometer [m]
3	Number of sectors, speed factor *au* and direction offset *bd* [º] wind speed bin limits [ms-1] = *au* · {column 1} wind rose rotated by *bd*
4	Sector-wise frequencies of occurrence [%]
5	Upper limit for speed class 1, sector-wise frequencies [‰] in class 1
6	Upper limit for speed class 2, sector-wise frequencies [‰] in class 2
7–*n*	Same as line 5 and 6, but for speed class 3–*n*

The speed distributions may be described by a maximum of 50 wind speed bins and 36 sectors. The wind speed bins need not have the same width and the bin limits need not be integer values. For the rose, the sectors are considered of equal angular width. The

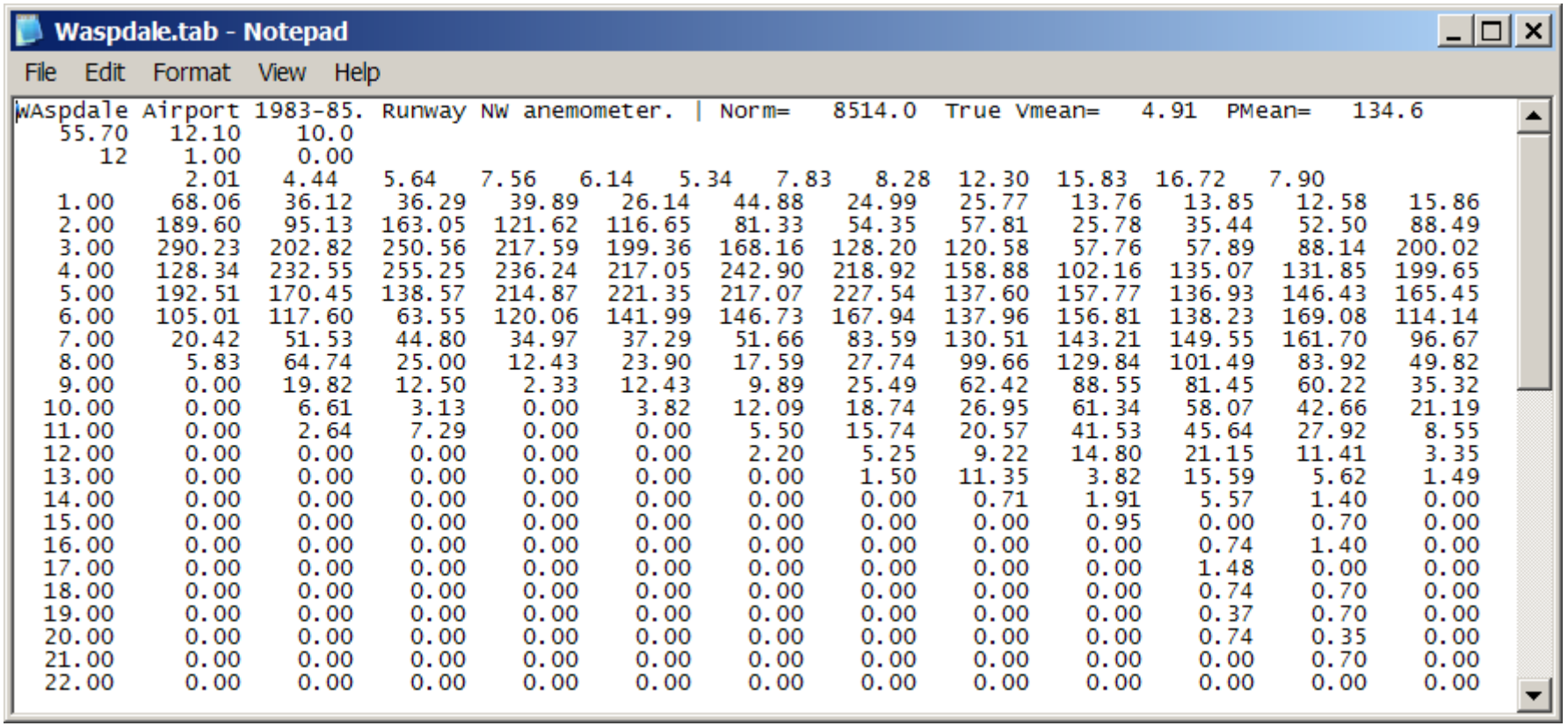
frequencies of occurrence of wind speed are given in per mille [‰], i.e. they will add up to 1000 for each sector. You may also give the frequency as an absolute number, e.g. the number of hours of observation.

Special considerations

The location/position of the observed wind climate (anemometer) must be given in geographical coordinates, i.e. as latitude and longitude in decimal degrees. Conventionally, latitude N and longitude E are considered positive; latitude S and longitude W negative. Latitude can thus take values between -90º and +90º and longitude values between -180º and +180º.

Example of default format *.tab file

The following window shows part of an observed wind climate file, corresponding to the description given above.



Waspdale.tab - Notepad

File Edit Format View Help

```
WAspdale Airport 1983-85. Runway NW anemometer. | Norm=   8514.0  True Vmean=   4.91  PMean=   134.6
   55.70   12.10    10.0
      12    1.00    0.00
            2.01    4.44    5.64    7.56    6.14    5.34    7.83    8.28   12.30   15.83   16.72    7.90
  1.00     68.06   36.12   36.29   39.89   26.14   44.88   24.99   25.77   13.76   13.85   12.58   15.86
  2.00    189.60   95.13  163.05  121.62  116.65   81.33   54.35   57.81   25.78   35.44   52.50   88.49
  3.00    290.23  202.82  250.56  217.59  199.36  168.16  128.20  120.58   57.76   57.89   88.14  200.02
  4.00    128.34  232.55  255.25  236.24  217.05  242.90  218.92  158.88  102.16  135.07  131.85  199.65
  5.00    192.51  170.45  138.57  214.87  221.35  217.07  227.54  137.60  157.77  136.93  146.43  165.45
  6.00    105.01  117.60   63.55  120.06  141.99  146.73  167.94  137.96  156.81  138.23  169.08  114.14
  7.00     20.42   51.53   44.80   34.97   37.29   51.66   83.59  130.51  143.21  149.55  161.70   96.67
  8.00      5.83   64.74   25.00   12.43   23.90   17.59   27.74   99.66  129.84  101.49   83.92   49.82
  9.00      0.00   19.82   12.50    2.33   12.43    9.89   25.49   62.42   88.55   81.45   60.22   35.32
 10.00      0.00    6.61    3.13    0.00    3.82   12.09   18.74   26.95   61.34   58.07   42.66   21.19
 11.00      0.00    2.64    7.29    0.00    0.00    5.50   15.74   20.57   41.53   45.64   27.92    8.55
 12.00      0.00    0.00    0.00    0.00    0.00    2.20    5.25    9.22   14.80   21.15   11.41    3.35
 13.00      0.00    0.00    0.00    0.00    0.00    0.00    1.50   11.35    3.82   15.59    5.62    1.49
 14.00      0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.71    1.91    5.57    1.40    0.00
 15.00      0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.95    0.00    0.70    0.00
 16.00      0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.74    1.40    0.00
 17.00      0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00    1.48    0.00    0.00
 18.00      0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.74    0.70    0.00
 19.00      0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.37    0.70    0.00
 20.00      0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.74    0.35    0.00
 21.00      0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.70    0.00
 22.00      0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00    0.00
```

File formats variants

Four variants of the tab-file format are supported. All variants share the same four first lines, but differ from line 5 and onwards.

In the first variant, the sector-wise histograms have been replaced by sector-wise Weibull parameters:

WASP2.TAB - Notepad

File Edit Format View Help

```
Wasp Airport 1983-85. Distributions specified by Weibull A- and k-parameters.
     -55.70      -167.90        12.00
         12         1.00         0.00     2
        2.0   4.4   5.6   7.5   6.2   5.3   7.8   8.4  12.2  15.7  16.8   8.1
        3.5   4.4   3.8   4.0   4.3   4.4   5.1   5.9   6.9   6.9   6.3   4.8
       2.10  2.00  1.87  2.62  2.47  2.30  2.19  2.22  2.78  2.38  2.34  1.93
```

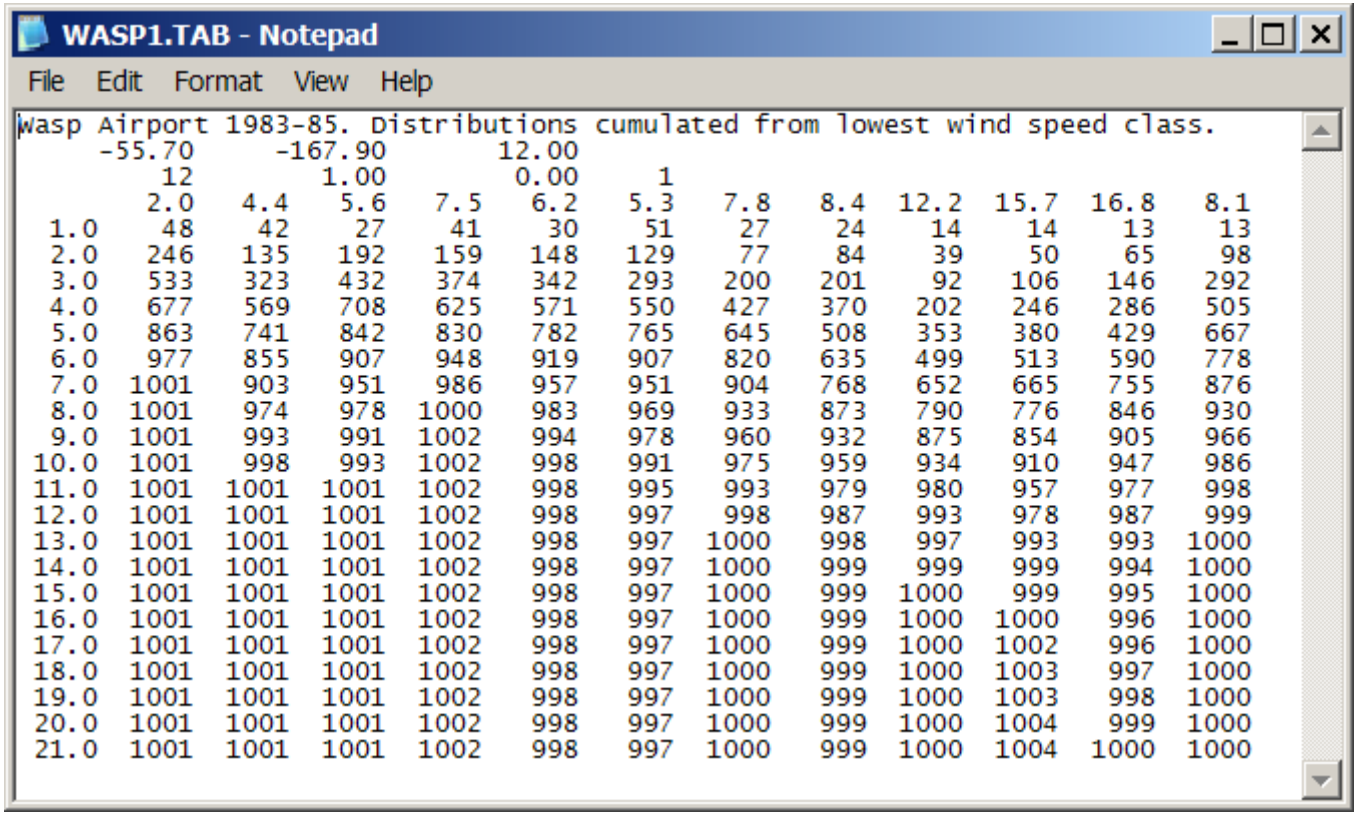
In the second variant, the sector-wise histograms have been replaced by cumulated wind speed distributions:

WASP-1.TAB - Notepad

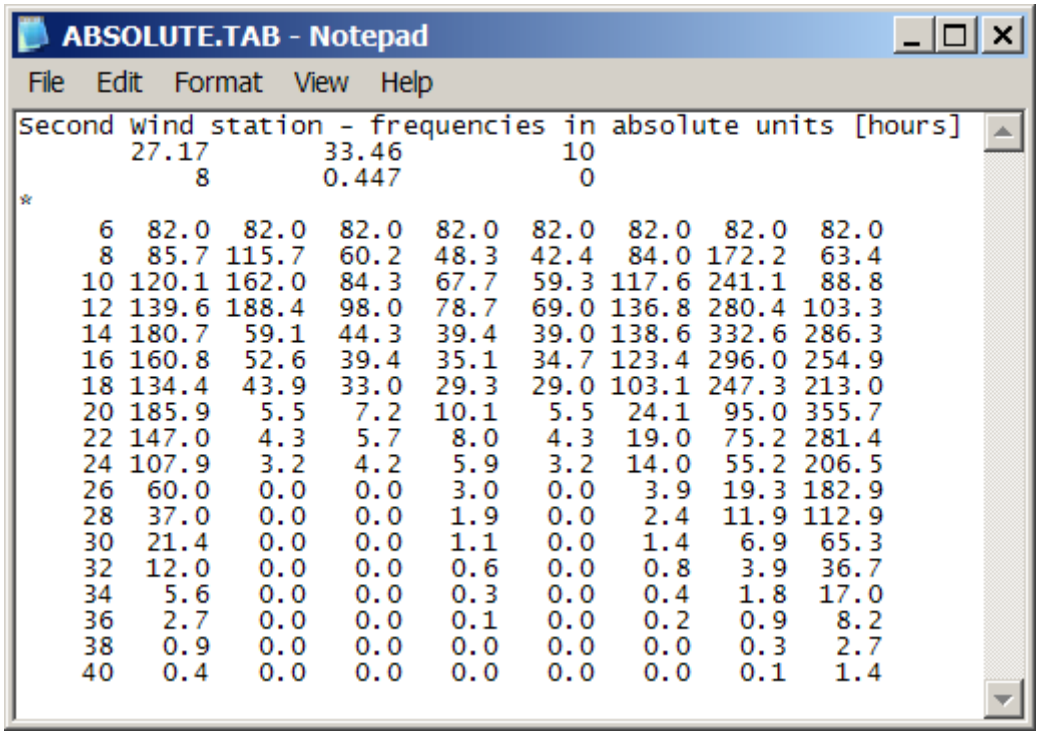
File Edit Format View Help

```
Wasp Airport 1983-85. Distributions cumulated from highest wind speed class.
     -55.70      -167.90        12.00
         12         1.00         0.00    -1
        2.0   4.4   5.6   7.5   6.2   5.3   7.8   8.4  12.2  15.7  16.8   8.1
  0.0  1001  1001  1001  1002   998   997  1000   999  1000  1004  1000  1000
  1.0   953   959   974   961   968   946   973   975   986   990   987   987
  2.0   755   866   809   843   850   868   923   915   961   954   935   902
  3.0   468   678   569   628   656   704   800   798   908   898   854   708
  4.0   324   432   293   377   427   447   573   629   798   758   714   495
  5.0   138   260   159   172   216   232   355   491   647   624   571   333
  6.0    24   146    94    54    79    90   180   364   501   491   410   222
  7.0     0    98    50    16    41    46    96   231   348   339   245   124
  8.0     0    27    23     2    15    28    67   126   210   228   154    70
  9.0     0     8    10     0     4    19    40    67   125   150    95    34
 10.0     0     3     8     0     0     6    25    40    66    94    53    14
 11.0     0     0     0     0     0     2     7    20    20    47    23     2
 12.0     0     0     0     0     0     0     2    12     7    26    13     1
 13.0     0     0     0     0     0     0     0     1     3    11     7     0
 14.0     0     0     0     0     0     0     0     0     1     5     6     0
 15.0     0     0     0     0     0     0     0     0     0     5     5     0
 16.0     0     0     0     0     0     0     0     0     0     4     4     0
 17.0     0     0     0     0     0     0     0     0     0     2     4     0
 18.0     0     0     0     0     0     0     0     0     0     1     3     0
 19.0     0     0     0     0     0     0     0     0     0     1     2     0
 20.0     0     0     0     0     0     0     0     0     0     0     1     0
```

In the third variant, the sector-wise histograms have been replaced by cumulated wind speed distributions:



In the fourth variant, the sector-wise histogram values are given as absolute numbers (e.g. hours of observation) rather than per mille [‰]. In this variant, the wind rose frequencies in line 4 are replaced by some non-numeric input, e.g. 'Absolute frequencies' or '*':


ABSOLUTE.TAB - Notepad
File Edit Format View Help
Second wind station - frequencies in absolute units [hours]
27.17 33.46 10
8 0.447 0
*
6 82.0 82.0 82.0 82.0 82.0 82.0 82.0 82.0
8 85.7 115.7 60.2 48.3 42.4 84.0 172.2 63.4
10 120.1 162.0 84.3 67.7 59.3 117.6 241.1 88.8
12 139.6 188.4 98.0 78.7 69.0 136.8 280.4 103.3
14 180.7 59.1 44.3 39.4 39.0 138.6 332.6 286.3
16 160.8 52.6 39.4 35.1 34.7 123.4 296.0 254.9
18 134.4 43.9 33.0 29.3 29.0 103.1 247.3 213.0
20 185.9 5.5 7.2 10.1 5.5 24.1 95.0 355.7
22 147.0 4.3 5.7 8.0 4.3 19.0 75.2 281.4
24 107.9 3.2 4.2 5.9 3.2 14.0 55.2 206.5
26 60.0 0.0 0.0 3.0 0.0 3.9 19.3 182.9
28 37.0 0.0 0.0 1.9 0.0 2.4 11.9 112.9
30 21.4 0.0 0.0 1.1 0.0 1.4 6.9 65.3
32 12.0 0.0 0.0 0.6 0.0 0.8 3.9 36.7
34 5.6 0.0 0.0 0.3 0.0 0.4 1.8 17.0
36 2.7 0.0 0.0 0.1 0.0 0.2 0.9 8.2
38 0.9 0.0 0.0 0.0 0.0 0.0 0.3 2.7
40 0.4 0.0 0.0 0.0 0.0 0.0 0.1 1.4