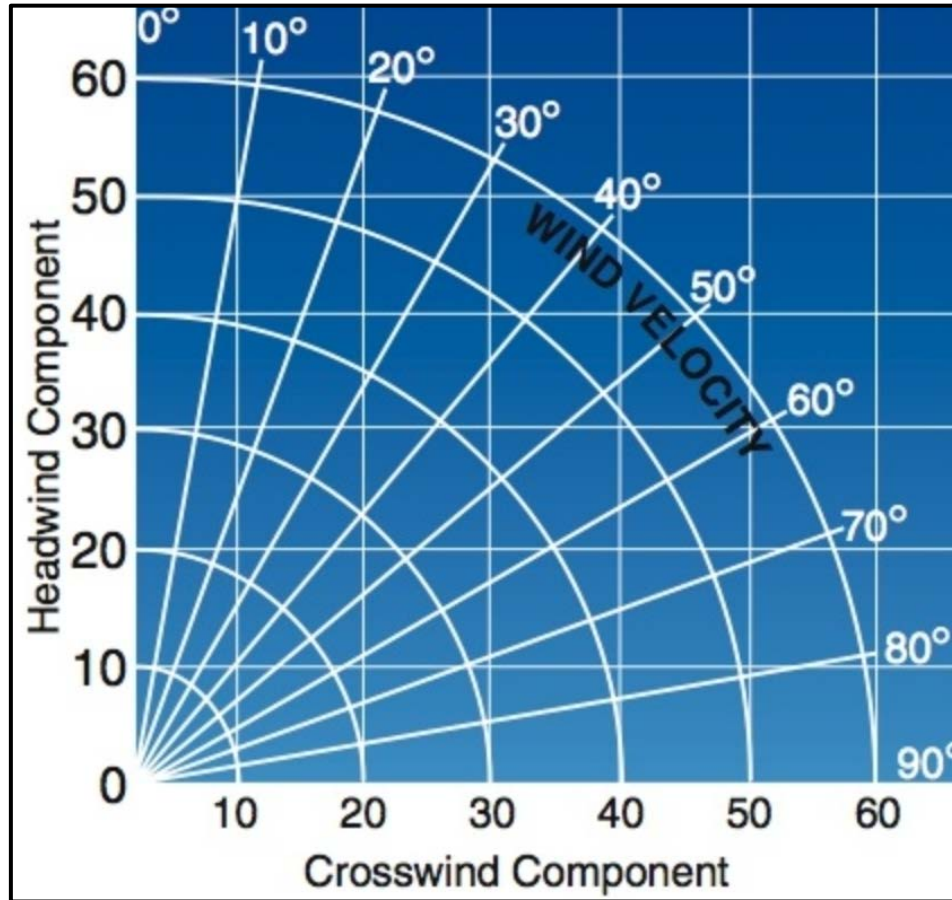


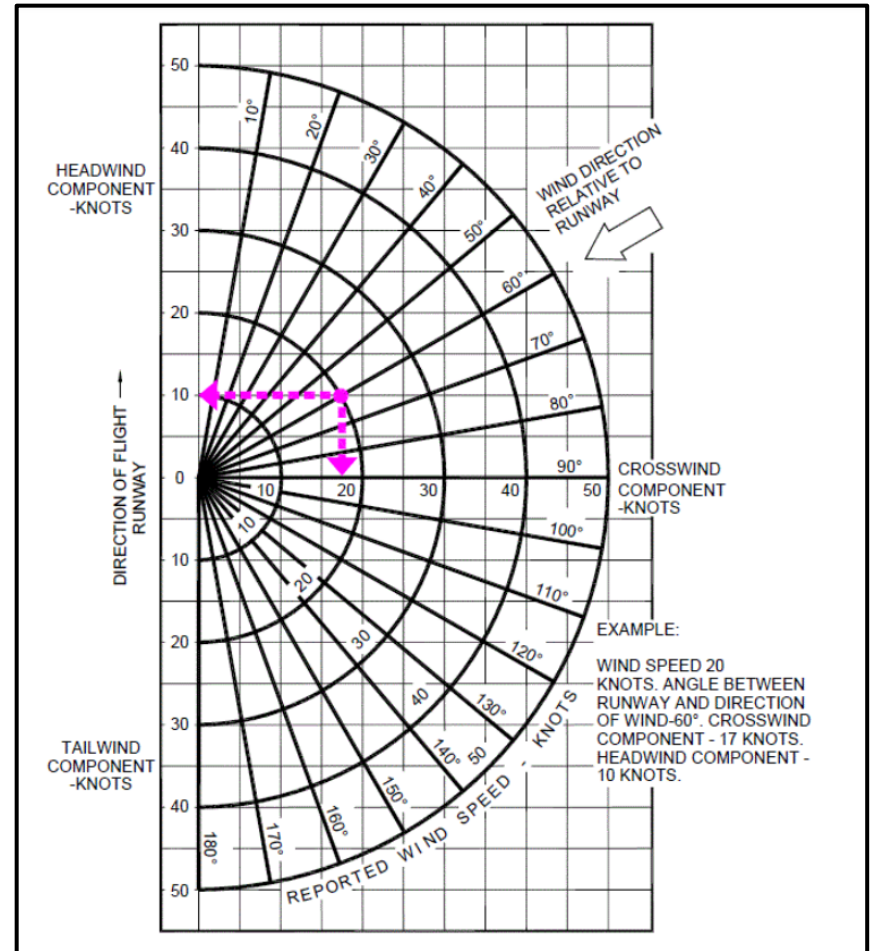
ATSC 113 – Final Exam

Tools Section

Headwind/Tailwind/Crosswind Component Calculator



Headwind/Tailwind/Crosswind Component Calculator



## Density Altitude Calculator

Aviation Weather Services, Advisory Circular 00-45G, Change 1 (July 2010)

### 13 APPENDIX D: DENSITY ALTITUDE CALCULATION

To determine density altitude:

1. Set the aircraft's [altimeter](#) to 29.92 [inches of Mercury](#). The [altimeter](#) will indicate pressure altitude.
2. Read the outside air temperature.
3. Mark the intersection of pressure altitude (horizontal) and temperature (vertical) lines on the chart.
4. Read the density altitude from the diagonal lines.

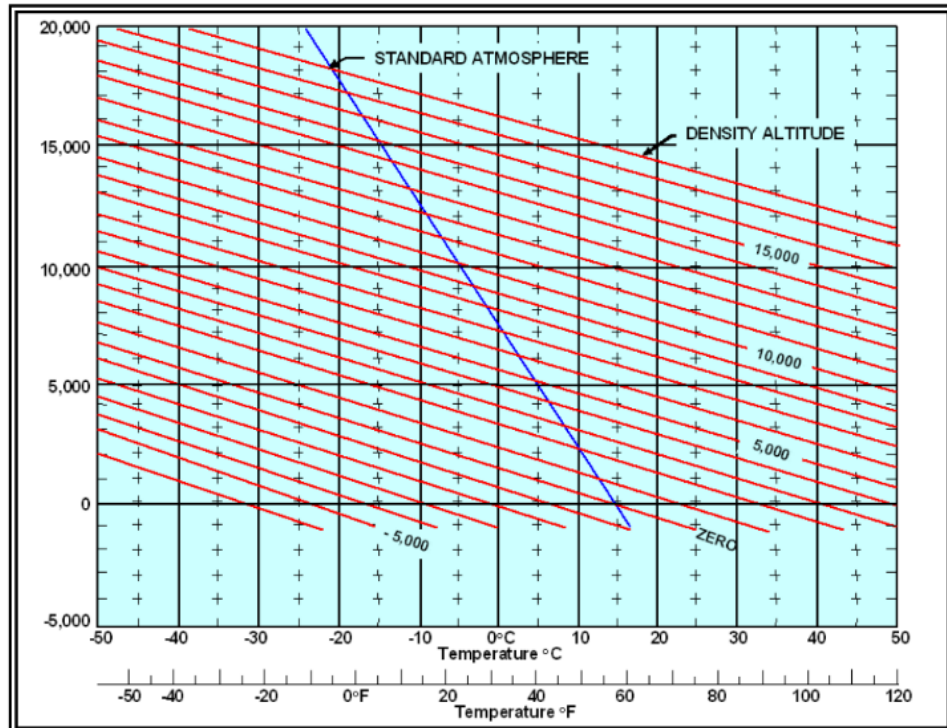
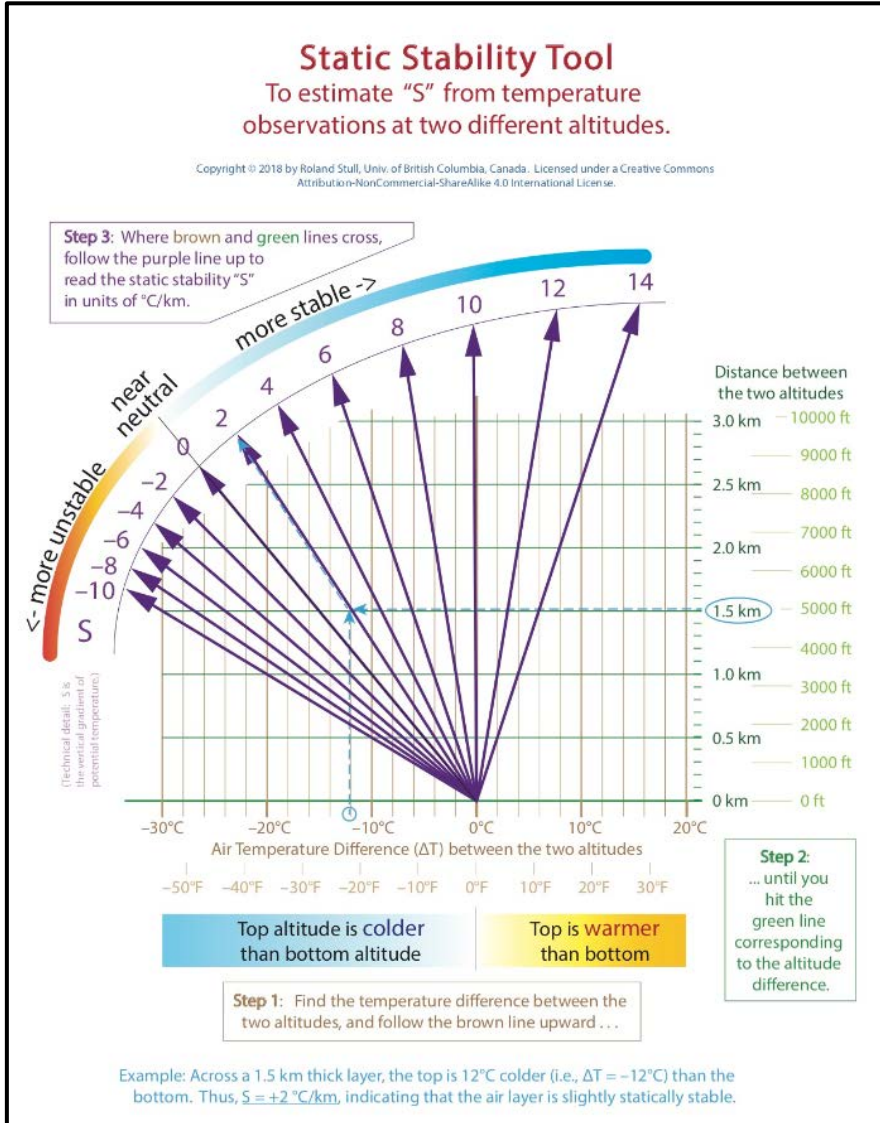
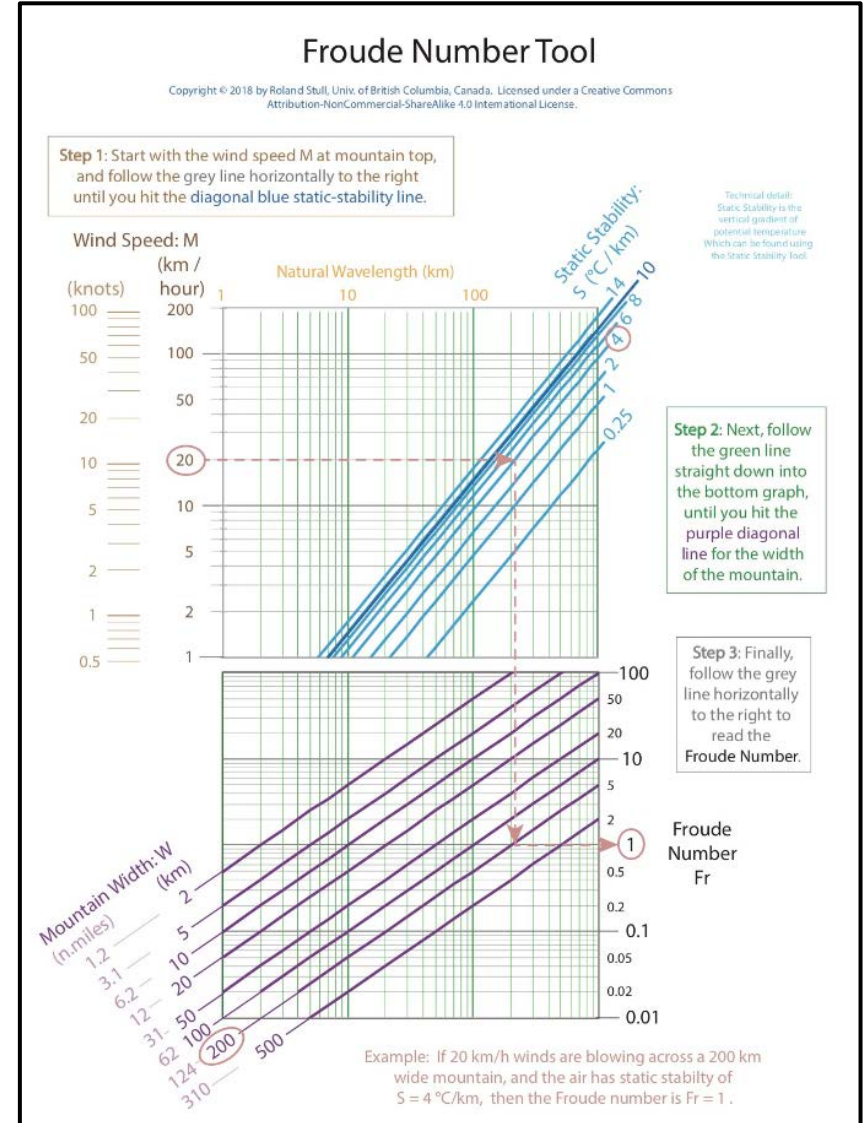


Figure D-1. Density Altitude Computation Chart

## Static Stability Tool



## Froude Number Tool



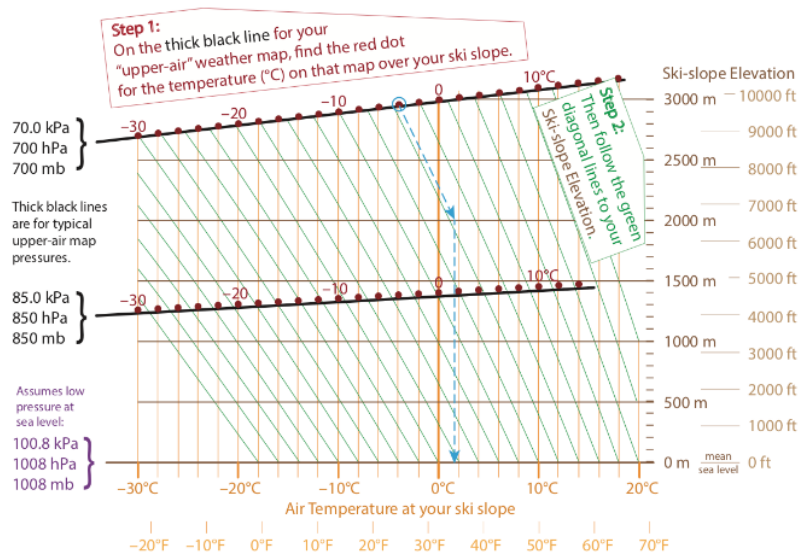
## Moist air graphical tool

### Moist-air Tool<sub>v2</sub> to estimate ski-slope air temperature from upper-air weather maps

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Thanks to Marjolein Ribberink for updated calculations.

Use this diagram when  
the upper-air relative humidity  
(RH) is GREATER than 80%  
or if in clouds.

(Use other tool for dry air.)



Example: -4°C on the 70.0 kPa chart gives +1.5°C air temperature at your 2000 m ski slope.

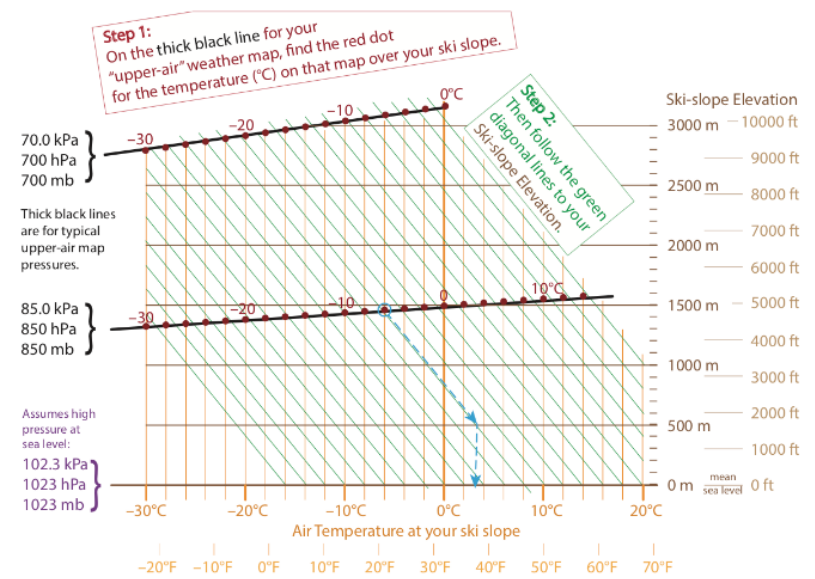
## Dry air graphical tool

### Dry-air Tool<sub>v2</sub> to estimate ski-slope air temperature from upper-air weather maps

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Licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.  
Thanks to Marjolein Ribberink for updated calculations.

Use this diagram when  
the upper-air relative humidity  
(RH) is LESS than 80%.

(Use other tool for moist air.)



Example: -6°C on the 85.0 kPa chart gives +3°C air temperature at your 500 m ski slope.