

Pressure Altitude

From the user, a station pressure (p_{sta}) is given. In order to calculate pressure altitude, the units for station pressure must be converted to millibars (mb) or hectopascals (hPa). For information on how to convert to millibars, see the link below:

<http://www.wrh.noaa.gov/Saltlake/projects/wxcalc/formulas/pressureConversion.pdf>

Then, pressure altitude (h_{alt}) can be calculated using the equation below:

$$h_{alt} = \left(1 - \left(\frac{p_{sta}}{1013.25} \right)^{0.190284} \right) \times 145366.45$$

The answer will be units of feet. To convert the answer to units of meters see the equation below:

$$h_m = 0.3048 \times h_{alt}$$