

Pressure Altitude

From the user, a station pressure (P_{sta}) is given. To calculate the pressure altitude, the station pressure must be in units of millibars (mb). To see how to convert station pressure to millibars see the link below:

<http://www.srh.noaa.gov/elp/wxcalc/formulas/pressureConversion.pdf>

Then, the 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 in units of feet. To convert the answer to units of meters, see the equation below:

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