

Altimeter Setting

From the user, a station pressure (P) and a station elevation (h) are given. To calculate altimeter setting, 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.wrh.noaa.gov/Saltlake/projects/wxcalc/formulas/pressureConversion.pdf>

Also to calculate the altimeter setting, the station elevation must be in units of feet (ft). To convert meters to feet, see the equation below:

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

Then, the altimeter setting can be calculated using the formula below:

$$Alt = (P_{mb} - 0.3) \times \left(1 + \left(\left(\frac{1013.25^{0.190284} \times 0.0065}{288} \right) \times \left(\frac{h_m}{(P_{mb} - 0.3)^{0.190284}} \right) \right) \right)^{\frac{1}{0.190284}}$$

Then, the answer can be converted to different pressure units. See the link above to see how to do this.