

15 August 1988:psrwksht

PRESSURE OBSERVATION WORKSHEET

A. Mercurial Barometer

1. Reading the barometer

Height of mercury in the column: _____ mb / mm / inches

(Circle units used; read mb and mm to tenths, inches to hundredths)

Temperature of the column: _____ oC / oF

(Read to nearest tenth of a degree)

2. Correction for temperature of the column and scale

From Table 2: - _____

(Two-way interpolation required)

(Net correction for temperature effects for all $T > 0^{\circ}\text{C}$ is to be subtracted from observed height)

3. Correction for local gravity

Latitude: _____ oN

From Table 3: +/- _____

(Two-way interpolation required)

(Correction is subtractive between 0 and $45^{\circ}32'40''\text{N}$; additive between $45^{\circ}32'40''$ and 90°N)

4. Station Pressure: _____ mb / mm / inches

Conversions: 1 mb = 0.750 mm Hg = 0.030 inches Hg

1 mm Hg = 0.039 inches Hg = 1.33 mb

1 inch Hg = 33.86 mb = 25.40 mm Hg

_____ mb / mm / inches

(Conversions should be made to mercurial readings only after corrections have been made)

B. Aneroid Barometer

Station Pressure: _____ mb / mm / inches

Conversions: 1 mb = 0.750 mm Hg = 0.030 inches Hg
1 mm Hg = 0.039 inches Hg = 1.33 mb
1 inch Hg = 33.86 mb = 25.40 mm Hg

_____ mb / mm / inches

C. Reduction to Sea Level Assuming An Isothermal Atmosphere

Height of Station Above MSL (z_0): _____ m

Local Gravitational Acceleration (g): _____ m/s²

Current Air Temperature: _____ °C / °F

Air Temperature 12 Hours Previous: _____ °C / °F

Mean Air Temperature (\bar{T}): _____ °K

Scale Height $H = 287.0(\bar{T}/g) =$ _____ m

p-sea level = p-station exp (z_0/H) = _____ mb / mm / inches

D. Altimeter Setting Assuming A Standard Atmosphere

Height of Station (z_0): _____ m / ft

Correction From Table: _____ mb / mm / inches

(one-way interpolation required)

p-sea level = _____ mb / mm / inches