Ice Draft Calculations

Sea level η is derived from the relationship

$$\eta = \left(\frac{P_{btm} - P_{atm}}{\rho\, g} \right) - \Delta D$$

Where

P_{btm} is bottom pressure at instrument depth,

P_{atm} is atmosphic pressure,

ρ is the density of sea water,

g is the local acceleration due to gravity,

ΔD is the vertical spacing between the pressure sensor and the range (acoustic transducer) sensor.

Ice draft (d) is computed as

$$d = \eta - \beta \bullet r \bullet \cos\theta$$

Where
β is the calibration factor for sound speed *
r is range
θ is the tilt angle

* calibration factor for the actual mean sound speed relative to the initially assumed sound speed used in decoding the raw range data.