



$$z_s = 1000 \text{ m}$$

$$c_w(z) = 1500.0 \left[1.0 + \epsilon \left(\tilde{z} - 1 + e^{-\tilde{z}} \right) \right]$$

$$\rho_w = 1000 \text{ kg/m}^3$$

$$D = 5000 \text{ m}$$

$$c_b = 1600 \text{ m/s}$$

$$\rho_b = 1800 \text{ kg/m}^3$$

$$\alpha_b = 0.2 \text{ dB}/\lambda$$