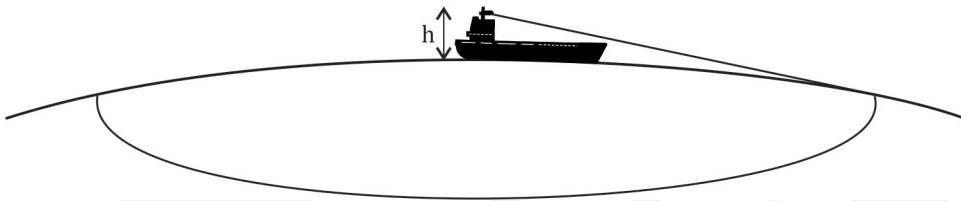


Distance of Horizon



Distance to the Visible Horizon

$$D_{(\text{n.miles})} = 1.17\sqrt{h_f} \quad h_f \text{ height of observer in feet}$$

$$D_{(\text{n.miles})} = 2.07\sqrt{h_m} \quad h_m \text{ height of observer in metres}$$

Example 1 An observer's eye is 15 m above the sea surface. Calculate the distance to the visible horizon.

$$\text{Distance} = 2.07\sqrt{h_m} = 2.07\sqrt{15} = 8.02 \text{ n. miles}$$

Distance to the Radar Horizon

$$D_{(\text{n.miles})} = 1.22\sqrt{h_f} \quad h_f \text{ height of radar scanner in feet}$$

$$D_{(\text{n.miles})} = 2.21\sqrt{h_m} \quad h_m \text{ height of radar scanner in metres}$$

The above formula should be used for 3 cm-wave radar only.

Example 2 The scanner of the ship's 3 cm radar is 23 m above the water surface. Find the radar horizon.

$$\text{Distance} = 2.21\sqrt{h_m} = 2.21\sqrt{23} = 10.6 \text{ n. mile}$$