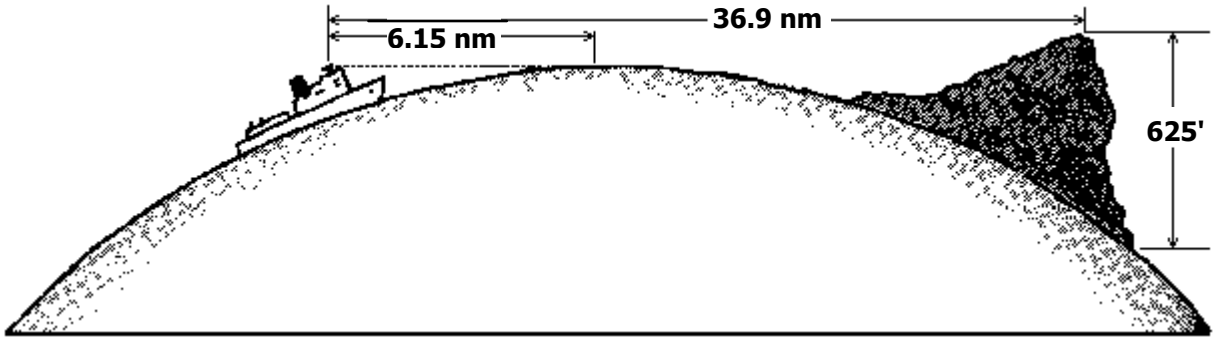
Radar Horizon

The radar horizon is a little farther away than the visible horizon—about 15% farther because microwaves are subject to less atmospheric bending than light. However, the same principles apply to the radar horizon as to the visible horizon.

- **The higher you locate your radar scanner, the farther the radar will be able to see objects at sea level.**
- **Your radar may be able to detect objects that are beyond the horizon because some portion may project above the horizon. Sailboats with radar reflectors in their rigging may be visible to your radar even when the hull is not. Also, your radar will be able to see the tops of mountains at considerable distances, even though the shore line is over the horizon.**



To calculate the distance to the horizon multiply the square root of the antenna height, in feet, by 1.23. To calculate the maximum range that you can detect a target with your radar add the square root of the antenna height to the square root of the target height and multiply by 1.23.

In the drawing above if the radar antenna on the boat is 25 feet above the water the distance to the horizon is 6.15 Nautical miles. √25 = 5 x 1.23 = 6.15 Nautical Miles.

Maximum range that this radar installation will detect an object 625′ high is 36.9 NM. (√625 = 25) + (√25 = 5) = 30 x 1.23 = 36.9 Nautical miles.