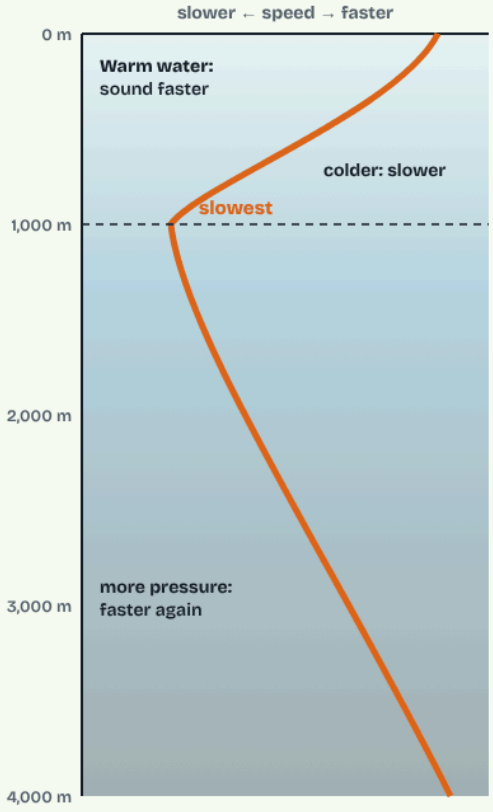
That is why

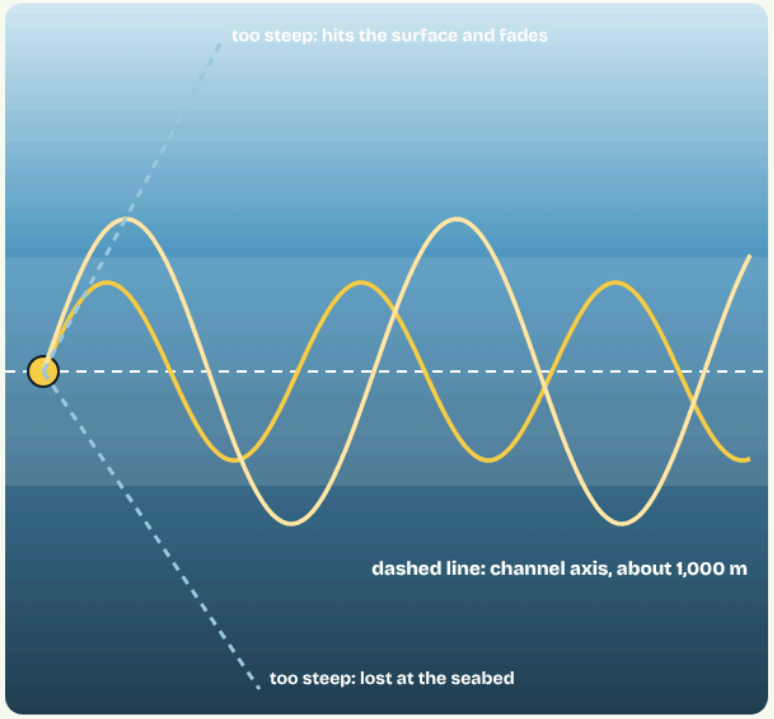
How does the SOFAR channel trap sound?

Sound is slowest about 1,000 m down. Sound waves bend back towards that layer, so they stay in it and travel huge distances.

A Speed of sound vs depth



B Sound bends back into the channel



A wave drifting up meets faster water and bends back down; drifting down, it meets faster water and bends back up. It stays in the layer.

C Key facts

1 Low notes go far

High-pitched sound is soaked up faster, so low sounds travel furthest.

2 1,450 km test

In the 1940s, a 4 lb blast was heard about 900 miles (1,450 km) away.

3 Listening posts

Hydrophones on the axis record whales, quakes and ship noise.

A layer of slow water works like a guide rail for sound.

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