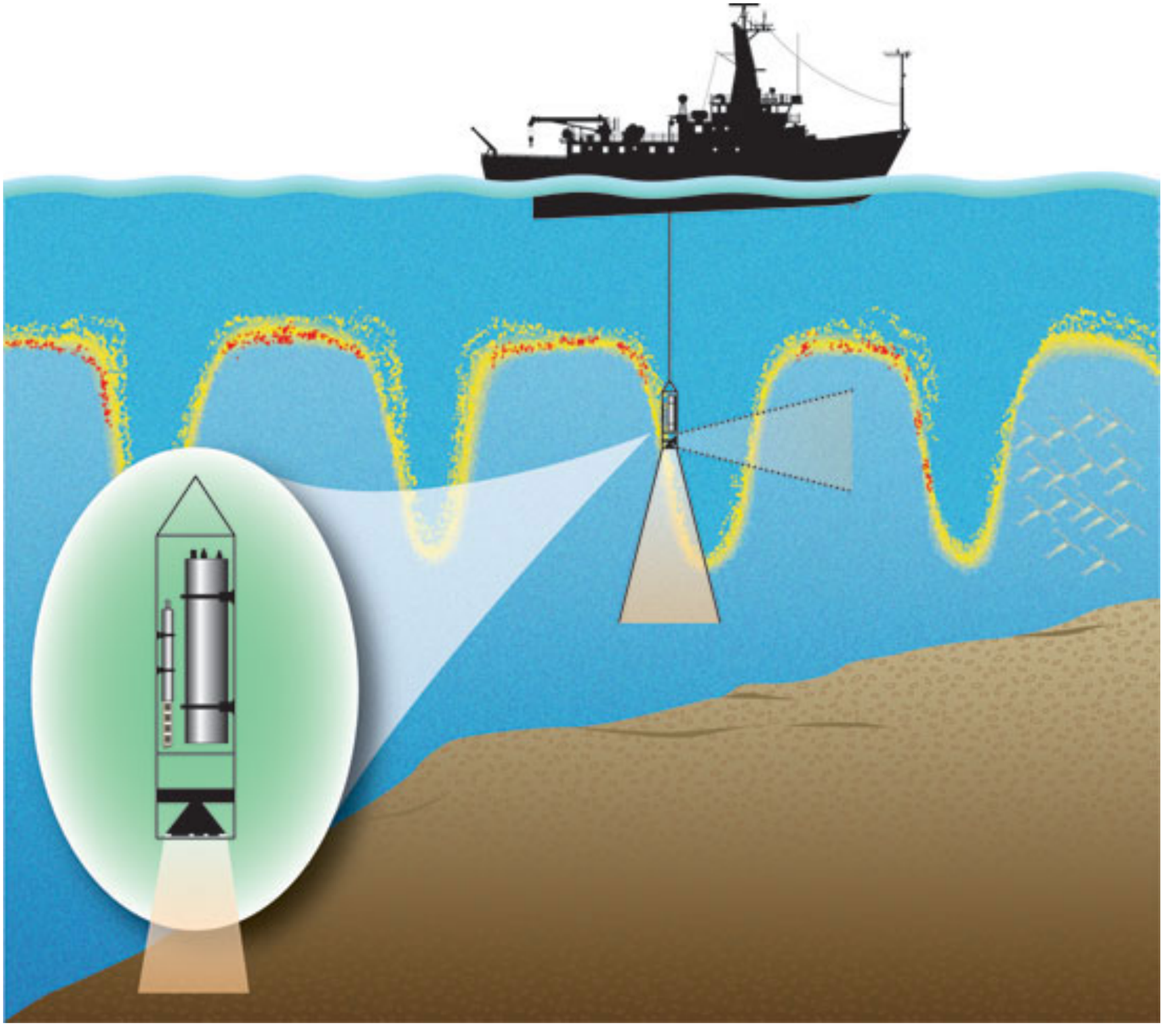
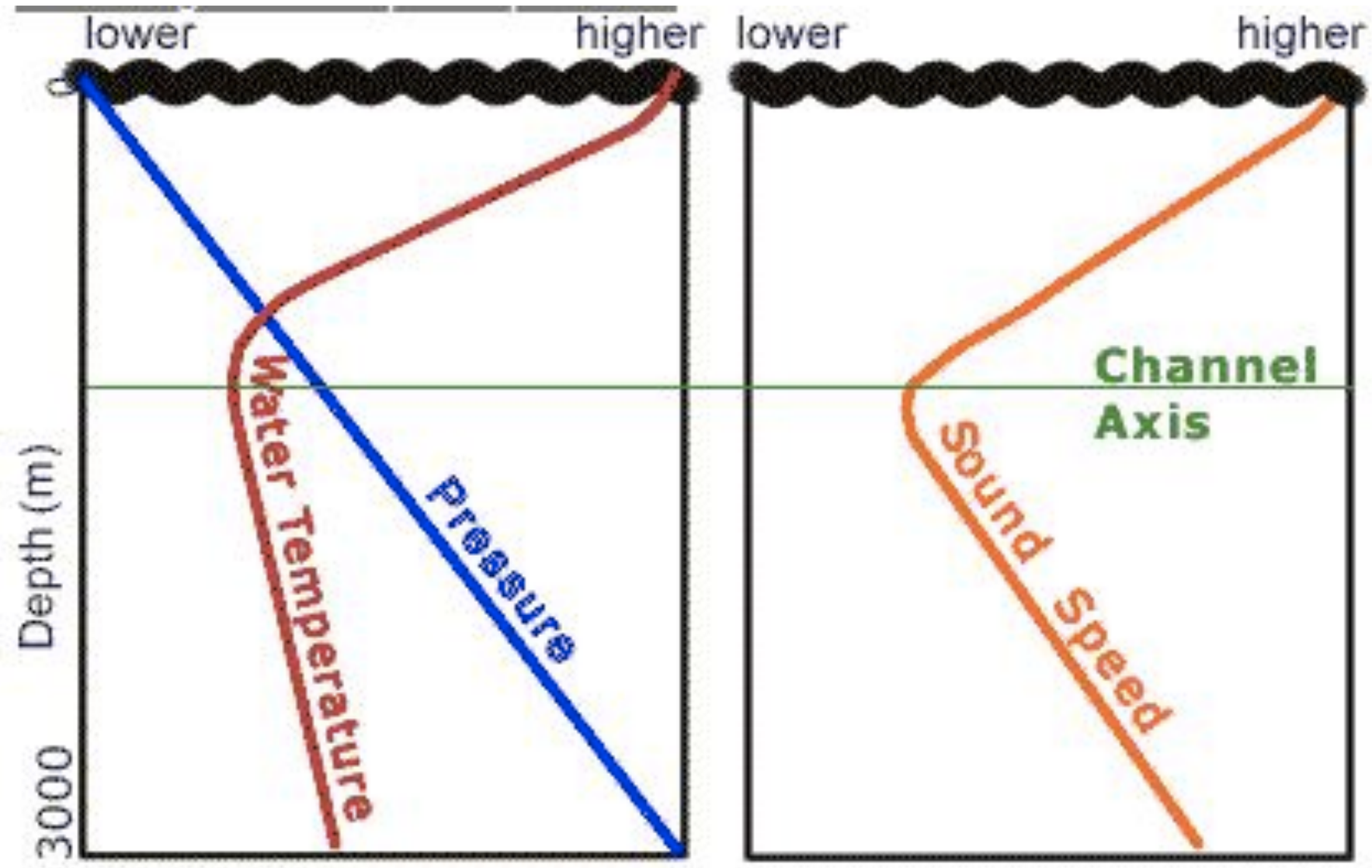
Sound Waves

1. The evolution equation of linear sound waves
2. The sound wave guide
3. Seismic oceanography
4. Filtering out sound waves

Acoustic oceanography

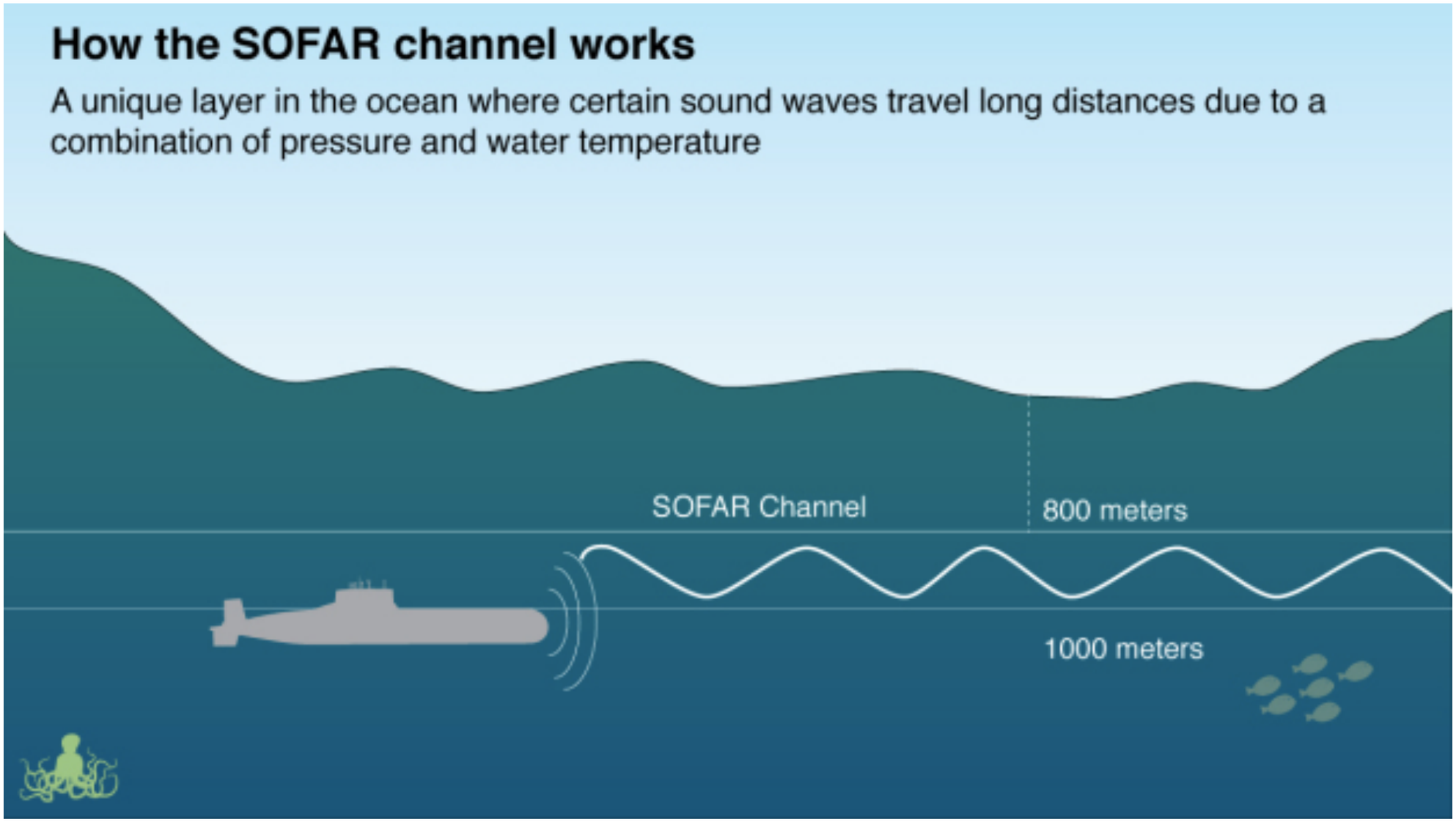


Vertical profile of sound speed

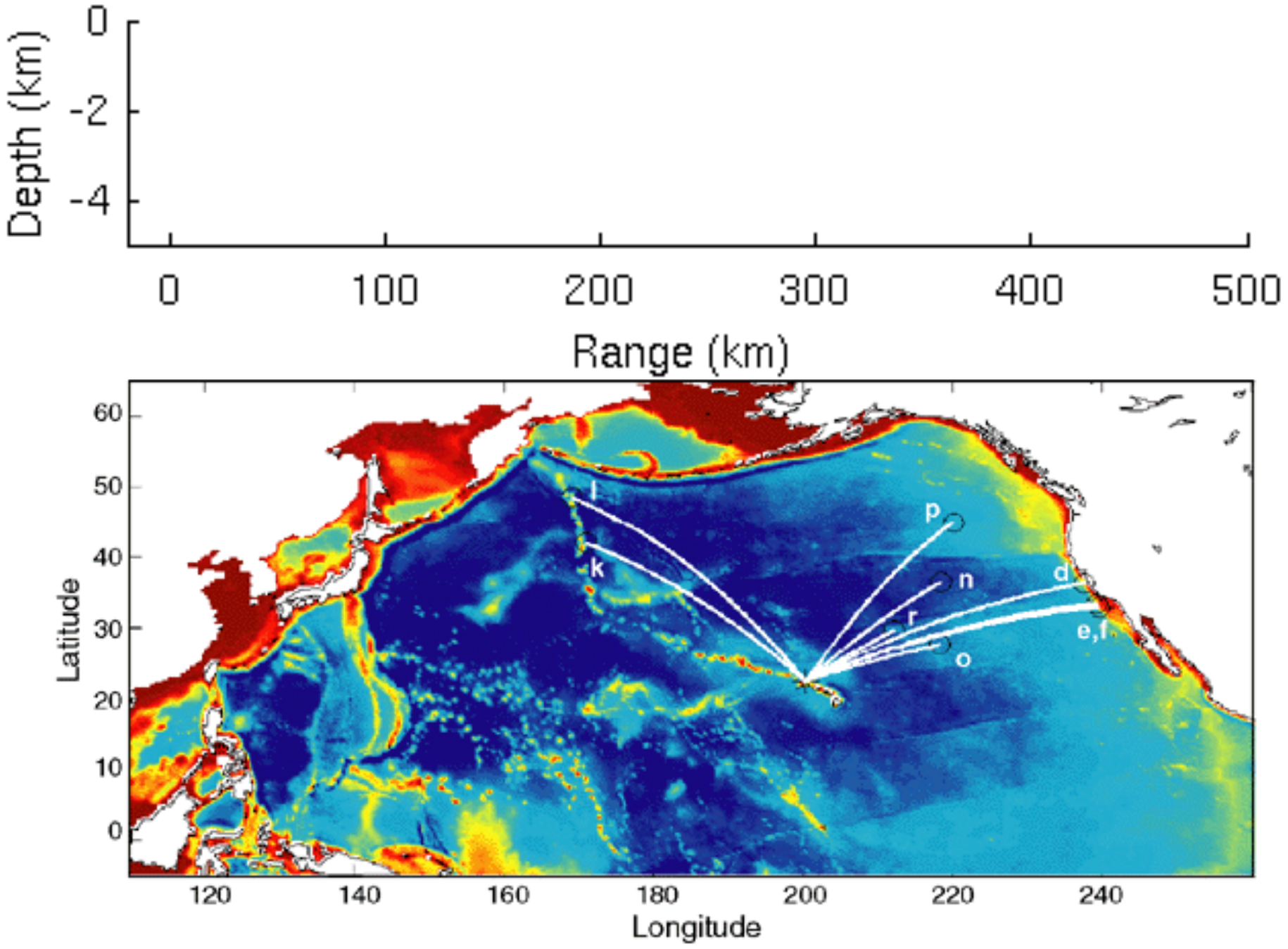


The SOFAR Channel

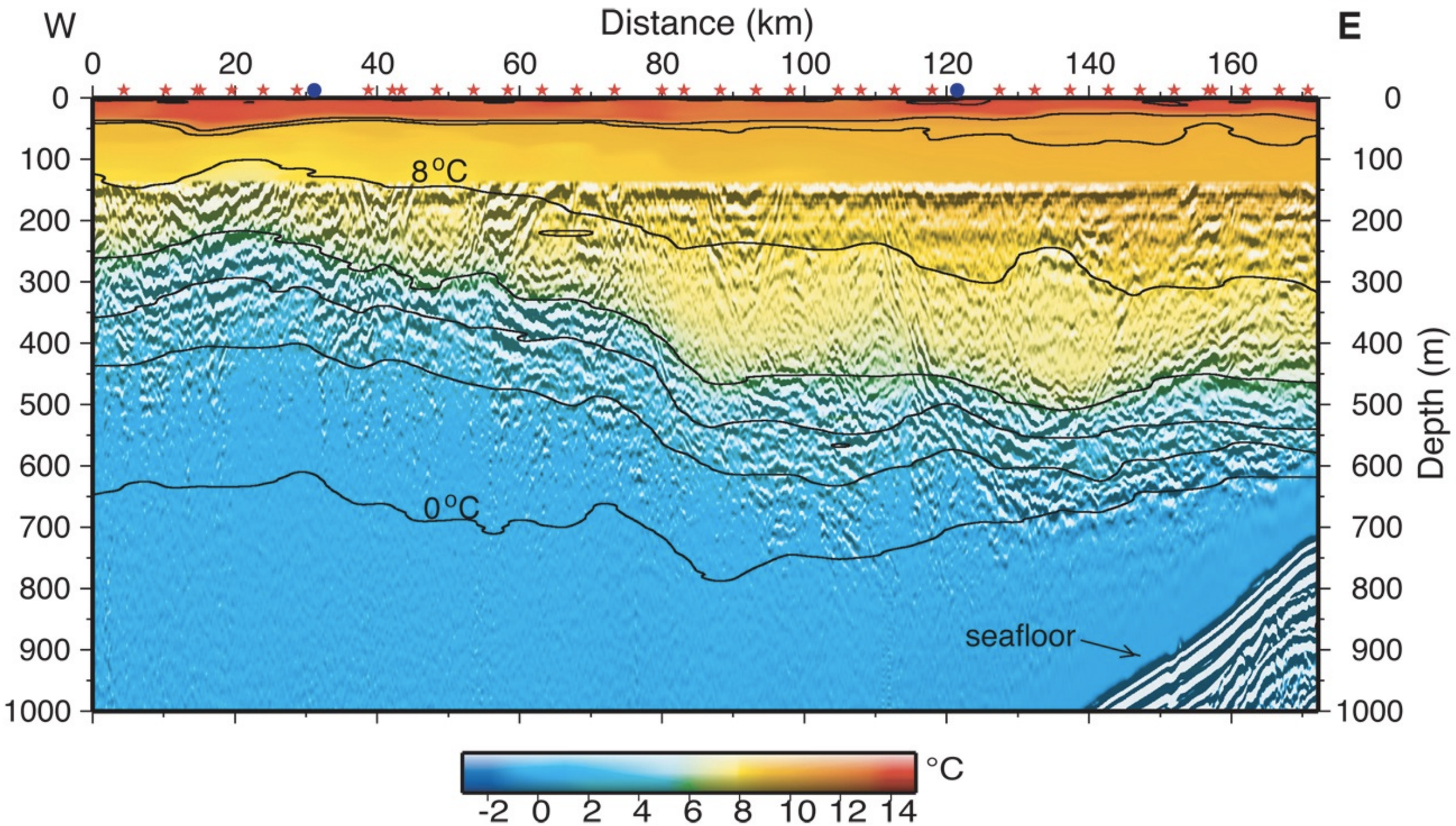
SOFAR stands for SOund Fixing And Ranging



Acoustic tomography



Seismic oceanography



Seismic oceanography

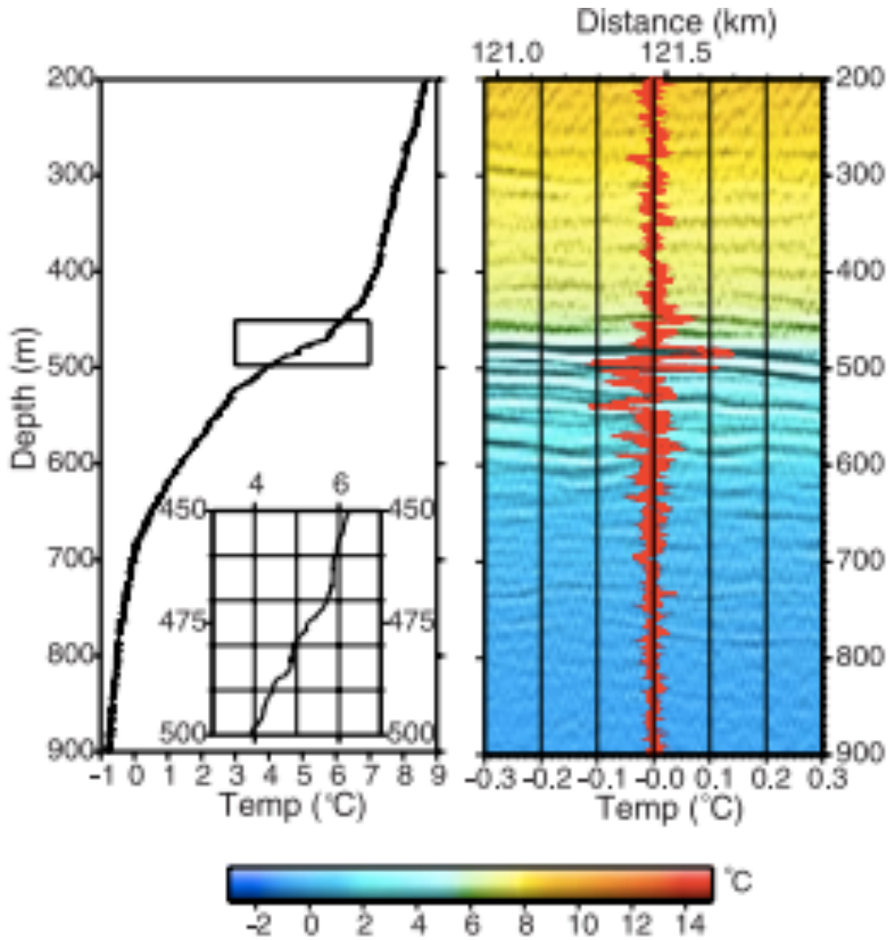


Figure 3. (a) An unfiltered XCTD profile located at km 121.5 on the seismic profile (Figure 2) showing temperature from 200–900 m depth. (b) Short-wavelength temperature variations (red), produced by removing wavelengths greater than 35 m from the XCTD temperature profile, plotted with a 5-km-wide section of the reflection image surrounding the XCTD location (black and white image). Background color scheme is ocean temperature, plotted as in Figure 2. The seismic image has been shifted upward by 14 m to reflect the lag between the onset of energy and peak amplitude in the seismic wavelet.