

A Plausible Physical Cause for Live Cetacean Mass Strandings

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ABSTRACT

One of the common causes presented in explanation of cetacean (whale and dolphin) mass strandings is that of reduced effectiveness of sonar as a navigational tool. Attenuation of sound and ultrasound by an ocean surface layer of resonant bubbles over a gently sloping beach is proposed as a significant mechanism for disrupting echolocation. An analysis of reflections and sound attenuation was undertaken along with preliminary laboratory tests providing basic qualitative support. Prevailing weather, coastal topography and cetacean sonar data, pertaining to recent Western Australian and Tasmanian strandings, have been combined to evaluate the theory's plausibility as a physical cause of cetacean mass strandings.