Tsunami Sound (T-Sound): Neutralizing Tsunamis Using Acoustic Gravity Waves

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Although millions of dollars have been dedicated to warning people of incoming tsunamis, little has been done to neutralize the threat. To create a life-saving device that prevents the loss of life and property, the idea of T-Sound was born. If dual Acoustic Gravity Waves (AGWs) can exchange energy with oceanic (surface) waves in water-based mediums, then mankind could use AGWs to mitigate tsunamis by reducing the amplitude and overall energy of these waves.The first step in proving this hypothesis was to measure how waves interact with each other using an online simulation. I intended to prove that two surface waves moving toward each other will have an interaction where energy is exchanged because Newton's First Law of Motion says that if another force acts upon an object, it will change its motion. The experiment was divided into three test groups, each measuring the amplitude of the waves before, during, and after their interaction. I found the amplitude of the waves changed during the interaction, but the change was impermanent. When the waves passed each other, their amplitudes were unaffected. When the waves were measured at the same amplitude with an inverse frequency, their interaction was measured at zero. When the waves were measured at the same frequency and with the same amplitude, the interaction doubled. I rejected my secondary hypothesis because the amplitude of the meeting waves did not change because of the interaction, but I learned a valuable lesson. When I conduct further testing, the frequency of the second wave must be of an inverse frequency to the original surface wave in order to decrease the amplitude of both waves. I also plan to experiment with two AGWs waves, which should affect surface waves differently than my experiment reflected.

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