Marine Seismic Refraction

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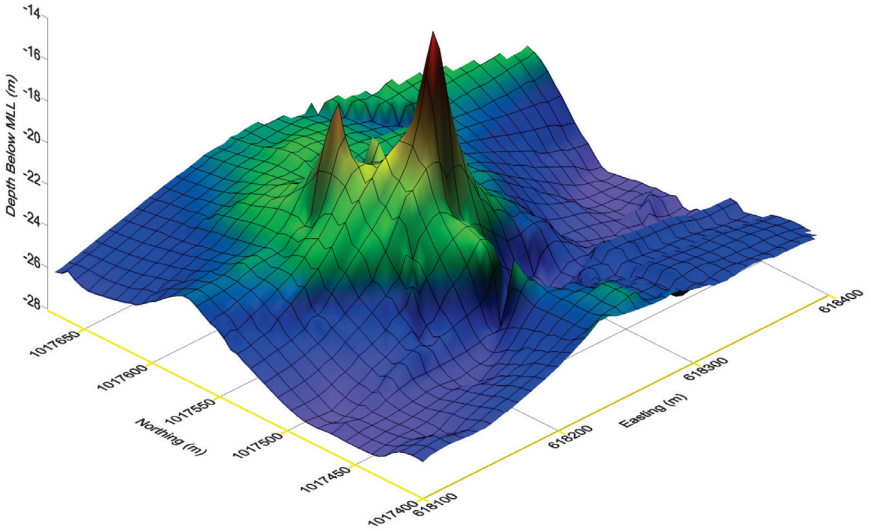
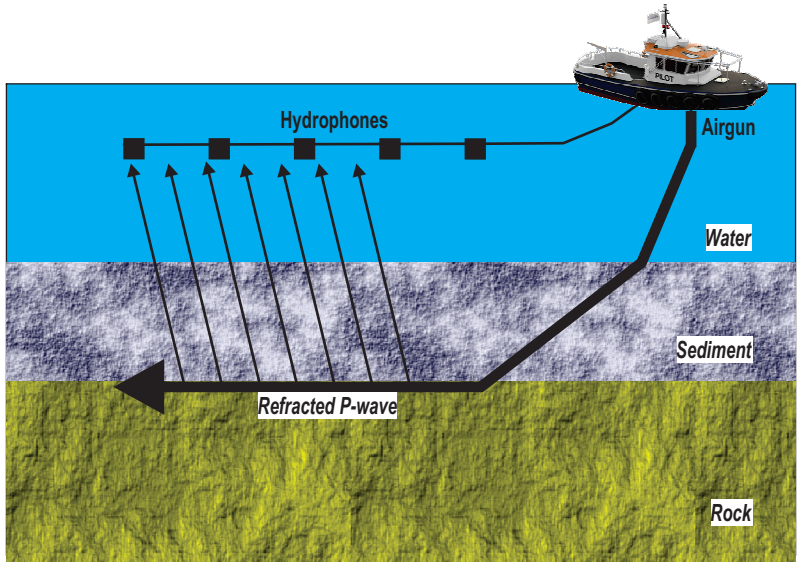
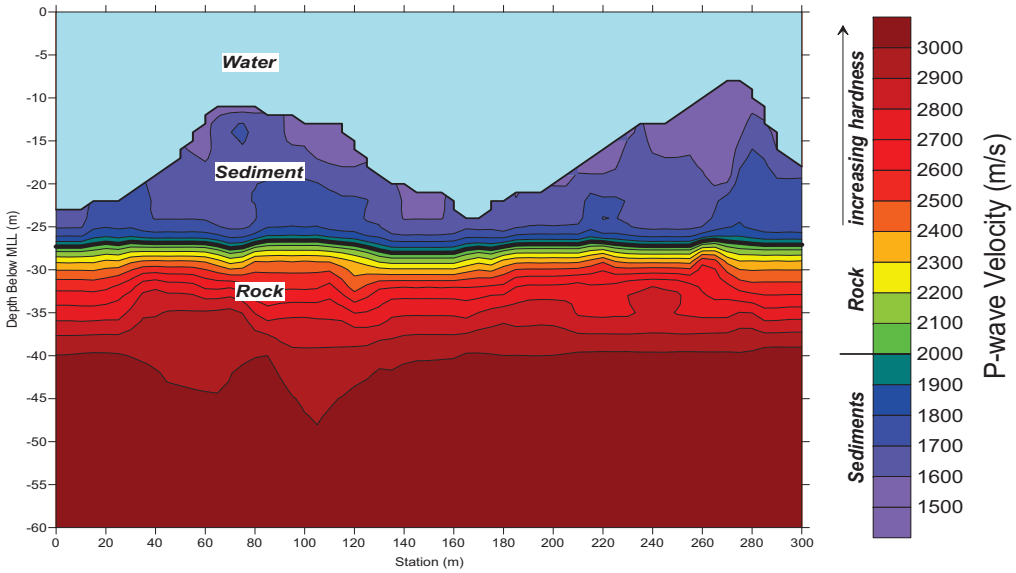
Marine seismic refraction is a method to determine the seismic P-wave velocity structure of the subsurface. The P-wave velocity is related to the hardness of the sub-bottom materials and can be used to map the top-of-rock, determine the dredgeability of sub-bottom materials, and identify anomalous conditions. Seismic P-waves are generated by a powerful airgun in the water column and propagate through the water and sub-bottom strata. Refracted P-waves are sensed by a hydrophone streamer and recorded by a seismograph. The data are processed to produce a continuous P-wave velocity cross-section, from which geologic interpretations and mapping are developed. Marine seismic refraction applications include harbor development, channel dredging, marine geotechnical assessments for bridges and piers, and assessments for geologic hazards prior to horizontal drilling and tunneling.







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