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The hypothetical collapse of cape Canaille: different scenarios investigation

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Cassis is a nice touristy town located near Marseille, France. This is one of the top places in the south French coast of the Mediterranean. One of its sightseeing's, the cliff of Cape Canaille is 390 m high, and is the highest coastal cliff in Europe.
Due to global warming, the scientific community predicts a rise of the sea level. This will probably enhance the slow erosion of the marl masses located at the foot of the cliff, causing the overhanging of the cliff. This may cause a local tsunami which may become a hazard to the citizens of Cassis.
This hypothetical event was discussed and investigated with different scenarios. For the first scenario an axisymmetric, parabolic disturbance of water surface was used. This formula has been used by many researchers to describe the waves generated by explosions in water, explosive eruptions of underwater volcanoes and asteroids striking the ocean. Also the collapse of several blocks was analyzed. Seven identical blocks was considered. The third scenario is cliff falling in a form of an avalanche of rock debris.
Funwave model was chosen for the modeling of this hypothetical event. This model is based on Boussinesq-type equations, which provide a general basis for studying wave propagation in two horizontal dimensions. The basic foundation is extended by the addition of terms which include the lowest order effects of non linearity and frequency dispersion. This formulation provides a sound and increasingly well-tested basis for the simulation of wave propagation in coastal region. The results of all the scenario simulations are shown. Also the scenario results were compared to each other.