



A review of potential tsunami impacts to the Suez Canal

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Destructive tsunamis in the eastern Mediterranean and Red seas, induced by earthquakes and/or volcanic activity, pose potential hazards to docked seaport shipping and fixed harbor infrastructure as well as to in-transit international shipping within the Suez Canal. Potential vulnerabilities of the Suez Canal to possible tsunami impacts are reviewed by reference to geological, historical, archaeoseismological, and anecdotal data. Tsunami catalogues and databases compiled by earlier researchers are perused to estimate potential return periods for tsunami events that could affect directly the Suez Canal and its closely associated operational infrastructures. Analysis of these various records indicates a centurial return period, or multiples thereof, for long-wave repetition that could generally affect the Nile Delta. It is estimated that tsunami waves 2 m high would have a breaking length about 5 km down Canal whereas a 10 m wave break would occur about 1 km into the Canal. Should a tsunami strike the eastern flanks of the Nile Delta, it would damage Egypt's maritime infrastructure and multi-national commercial vessels and military ships then using the Canal.