

## Distribution of Cumulative Tsunami Energy from Aleutian-Alaska to West Canada

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[1] None

Large Aleutian-Alaska tsunamis have been recorded since 1788. The 1946 Aleutian tsunami associated with a moderate earthquake ( $M_s$  7.4) hit the Hawaiian Islands. The 1964 Alaska tsunami was observed in the whole of the Pacific regions. Tsunami magnitude was the largest (Imamura-Iida scale:  $m=4$ ). The source areas of large tsunamis in 1957, 1964 and 1965 extend 600-900km along the trench. In the present paper, the distribution of cumulative energy (square value of tsunami height,  $H^2$ , where  $H$ : the mean height in segment unit) for each 200km segment along the Aleutian-Alaska trench is investigated for the recent 103-year (1900-2002) and historical (1788-1899) periods.

For the total tsunamigenic energy,  $\Sigma(H^2)$ , during 215-year period, percentages of the received energy in the 1,000km range were 39% in Central Alaska, 32% in the Alaska Peninsula and 11% in Central Aleutian Islands. During the recent 103-year, the energy value in Central Alaska is nearly comparable with that of the Kamchatka and South Chilean regions. If the tsunami energy is accumulated with the mean rate since 1788, the expected value in Central Alaska is small comparing with the observed value of the recent 103-year, because of the 1964 event. On the contrary, the expected value in the ranges of the Central Alaska Peninsula (400 km length) and Yakutat regions is about twice larger than the observed value, suggesting the high tsunami risk.