



When tsunamology and geophysics clash, throw geophysics in the trash (Sergey Soloviev Medal Lecture)

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Tsunami science has evolved differently from research on other extreme natural hazards, primarily because of the unavailability, until recently, of instrumental recordings of tsunamis in the open ocean. Recordings and observations have catapulted tsunamology into a rapidly evolving high-interdisciplinary field spanning geology, geophysics, oceanography, coastal engineering, hydrodynamics and social science. I will discuss progress in tsunami geology and geophysics in the past thirty years, and describe the evolution of numerical codes and analytical results. I will describe field observations which, while counter-intuitive at first, they later helped explain complex dynamics and assisted us in improving tsunami hazard mitigation. While the grand science synthesis remains elusive, we are converging to where we can reduce tsunami-related fatalities and injuries by about one half in the next few years.