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**Extending the geological record for Cascadia Subduction Zone (CSZ) earthquakes in British Columbia, Canada**

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Evidence for prehistoric earthquakes and tsunamis is widely present across the west side of Vancouver Island, Canada (1). Representative deposits are typically found in either shallow freshwater lakes along the coast or contained within intertidal peats and muds, and span much of the Holocene (2).





*Figure 1: View of two paleosols and coeval tsunamis produced by CSZ earthquakes at Tofino, B.C., Canada*



The geological record for Cascadia Subduction Zone (CSZ) earthquakes in British Columbia is confidently inferred based on a multi-faceted approach comprising physical evidence for a subduction zone event (subsidence and paleosol), coeval sedimentological evidence (paleotsunami deposit), consequential paleobiological proxy data (fossil foram and diatom signatures) and where possible correlative geochronology (radiocarbon dating) (3). The evidence attests to tsunami inundation from both local and extra-local sources but excluding the well defined 1700 AD event unequivocal evidence for older CSZ earthquakes is presently lacking in BC (4). Recent field studies in the general area of Tofino, British Columbia by a multi-national team have resulted in the discovery of several paleotsunami deposits also representing much of the Holocene. However, some sites have yielded additional physical evidence for older subsidence, hence the geological record for CSZ events has now been extended to three for this area. A small number of radiocarbon dates have been generated, some biological, geochemical and sedimentological studies have also been undertaken. These early results are preliminary and not fully conclusive but they do suggest that the evidence for great earthquakes along the Cascadia recognized in Washington and Oregon states (5) are also present in Canada. This contribution presents and discusses the new data in the realm of the broader record for CSZ earthquakes of the Pacific Northwest.

*References:*

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*Example.....*

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