

Nat. Hazards Earth Syst. Sci. Discuss., referee comment RC1  
<https://doi.org/10.5194/nhess-2020-427-RC1>, 2021  
© Author(s) 2021. This work is distributed under  
the Creative Commons Attribution 4.0 License.

## **Comment on nhess-2020-427**

Anonymous Referee #1

---

Referee comment on "Assessing local impacts of the 1700 CE Cascadia earthquake and tsunami using tree-ring growth histories: a case study in South Beach, Oregon, USA" by Robert P. Dziak et al., Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2020-427-RC1>, 2021

---

First of all, the manuscript deals with an interesting topic that has not received much attention despite the occurrence of mega tsunamis in 2004 and 2011 both in Asia and earlier in Chile in the 60's. Tree-rings offer an excellent methodology to dig in the past effect of the tsunami and the its post effect. The manuscript is well written and well documented, however the structure does not follow a traditional pattern with Introduction, methodology, results, discussion and conclusion (maybe this is the structure proposed by the EGU and if that is the case my apologies for the comment).

Below please see more detail comments:

1. I assume that the soil is sandy and if the pp in this area is above 800 mm the salinity that was deposited after the tsunami had a short effect. It will be interesting to cite any work on this issue.
2. If the tree-rings allows it, it will be interesting to see the effect of the tsunami years after the event because I am completely sure that even though the forest survived the tsunami the growth of the remaining forests might have changed.
3. The tsunami in Japan affected tree growth for 4 to 5 years. Based on Figure 4, the effect in the study of South Beach site seem to be a much shorter disturbance.
4. A final suggestion, not for this study of course, but for future studies I would suggest the use of  $\delta^{13}C$  in tree rings to understand not only the physical recovery (inferred from tree ring growth) but also the physiological recovery (inferred from the isotope analysis).

