**Earthquake Reading Assignment Answer**

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Step 1

* What was the expected cost of the 2011 Tohoku earthquake? 220 billion = 220 x 10^9
* What is the maximum magnitude anticipated for Cascadia Subduction Zone? 9.2
* A full release will result in a maximum height of tsunami wave more than 100 ft = 30.48 metres
* A full release will result in tsunami speed of more than Km/h 13.4 mi\hr = 21.5 KM/hr
* Minimum amount of bulging each year in 0.003 – 0.004 METERS per year
* Maximum amount of bulging each year in 0.030-0.040 METERS per year
* Average amount of bulging in 0.0215 METERS per year
* How many years have passed between 2017 and the last major known CSZ earthquake 317
* Minimum total amount of sinking if a CSZ earthquake occurred 0.951 in 2017? METERS
* Maximum total amount of sinking if a CSZ earthquake occurred in 2017? 12.68 METERS
* Average total amount of sinking if a CSZ earthquake occurred in 2017? 6.815 METERS
* Which seismic waves is NOT discussed in the article? Shear Waves
* Which type of seismic waves were characterized in the article as “not very harmful, but potentially very useful”? Compressional waves
* Which part of the Pacific Northwest is not discussed much in this article and not included in FEMA? Southern British Columbia
* Which town has the most reasonable combination of short distance for trucking supplies from Victoria Airport and short distance for helicopter airlift to Pachena Campground
  + Port Renfrew : 58.24km + 73.84 = 132Km
  + Port Alberni: 55.53 + 119.97 km = 175.5 Km
* What information led to understanding the impact on community at Pachena Bay due to the last great CSZ earthquake Oral history of local first-nations communities
* Sequence of discoveries
  + 1 – Chief
  + 2 – Discovery of a “ghost forest”
  + 3 – Dendrochronology
  + 4- a tsunami in Japan
  + 5- CSZ mega-quake determined
  + 6 – sea floor

Step 2:

* First person experiences accounts by seismologist Dr. Goldfinger III to IV
* The article mentioned how trees are making a rattling sound and flagpole and building bases are shaking, but no damage is mentioned. This corresponds to the description of intensity level III- IV
* The description of how it felt as if there was ‘no ground’ and ‘driving in a rocky terrain with no shocks’. It’s scary to think that you would lose balance and struggle to stand.
* Coordinates of Kashiwa: 35, 140
* Scale : VII
* Minimum: VII

Maximum: IX

Step 3

* Written by author to present unpublished discoveries FALSE
* Central message based on work already presented in earlier publications TRUE
* Targeting a non-scientific audience TRUE
* Presented in a non-technical manner, FALSE
* Published in a peer reviewed journal FALSE
* Main purpose :
  + Explain some scientific matters to the general public
* Type of source: Tertiary
* One or more citations of primary/secondary sources are included in reference list: FALSE
* One or more citations of tertiary sources are included in reference list: FALSE
* Narrative or personal stories are incorporated TRUE
* The author targeted human emotion TRUE
* Descriptions of “aesthetic scenes” FALSE
* The author identified uncertainties/needs further work FALSE
* Ocean bottom cores…
  + i
* Tectonic plates are slabs…
  + iii
* Yamaguchi took samples…
  + Iii
* Trees of the so called…
  + Iv
* Overarching claim of article
  + We (humanity) know enough about mega-quakes and resulting tsunami to take actions that will save lives but society seems unwilling to take the necessary steps.
* The stuck edge…No
* Rocks making up…No
* In 2009… False
* FEMA calculates… TRUE
* Dendrochronology… False
* North America bulges upwards No
* We now know that…. Yes
* FEMA Calcualtes…. Yes
* The first sign that the…
  + Quantity measured with instruments
* Historical written accounts
  + Information collected from people, archives,records