

Giant Eruptions did not Frequently Occur in the Periods When Giant Earthquakes Frequently Occurred and *vice versa* after 1900

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Background and objectives

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Background

- * Eruptions and earthquakes have to correlate with each other since they are of course mainly induced by the plate tectonics.
- * Hiei earthquake (M8.4-9.1) on Oct. 4, 1707 → Mt. Fuji eruption (VEI:5) on Nov. 23, 1707
- * M5.1 earthquake on May 18, 1980 → Immediately St. Helens eruption (VEI:5) followed.
- * However, giant eruptions (VEI 6+) and giant earthquakes (M8+) seem to have a negative correlation.

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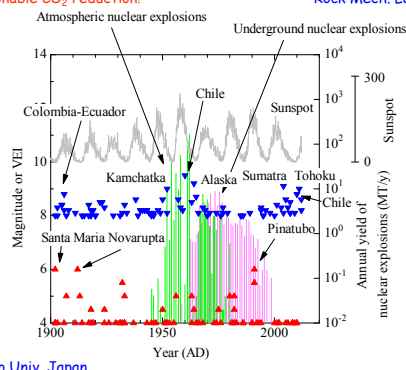
Ultimate goal

- * To clarify why giant eruptions (VEI 6+) and giant earthquakes (M8+) have a negative correlation.
- * To get deep understanding on the occurrences of giant earthquakes and giant eruptions and use it to predict them.

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Observations

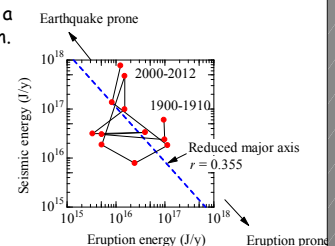
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- * Cumulated eruption energy and seismic show weak ($r = 0.36$) but a negative correlation.



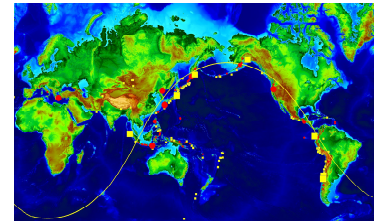
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Wouldn't you like to work together in my laboratory (Research Associate, approx. 75,000USD annual income, PhD required)?

They are on a great circle!

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- * They are on a great circle!
- * except for New Zealand and Mediterranean Sea events



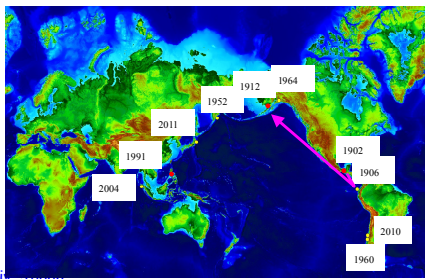
■ M₈ 8.8+ earthquakes, 1900-2011
 ● M₈ 7.8-8 earthquakes, 1900-2011
 ● VEI 7+ eruptions, 640BC-2011
 ● VEI 6 eruptions, 1900-2011
 ● VEI 4-5 eruptions, 1900-2011

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Sequence

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- * But how?
- * Are they influencing?
- * Aren't they too far?
- * M8.8+, VEI 6+

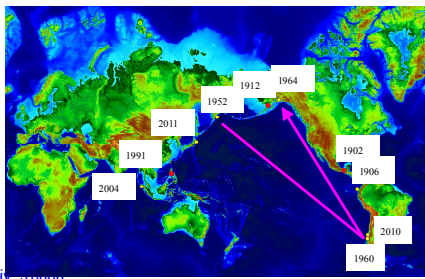


Map data: ETOPO1 by Amante & Eakins, 2009

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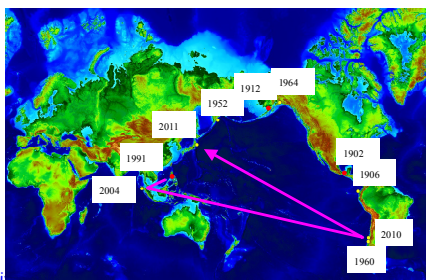
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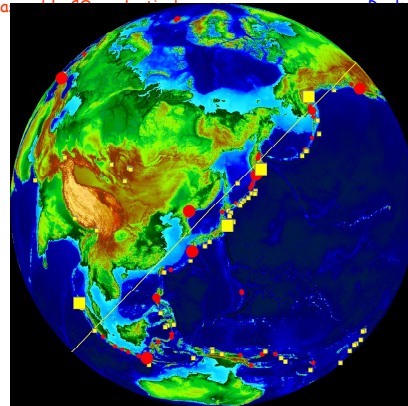
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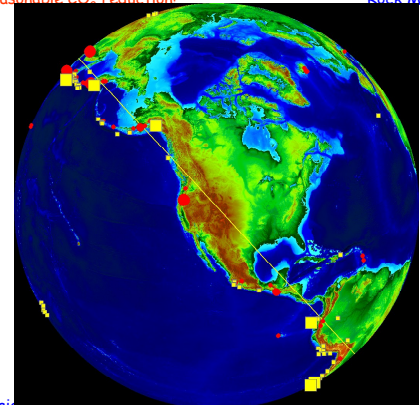
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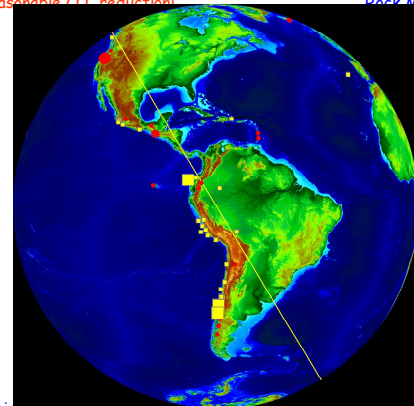
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