



A Rich Port



Along the Atlantic coast of Portugal midway between Lisbon in the south and Santiago de Compostela in the north astride the Douro river lies the city of Porto. With a municipal population of nearly 250,000 and a metropolitan area population ten times that, Porto is the second most populous political division in Portugal.

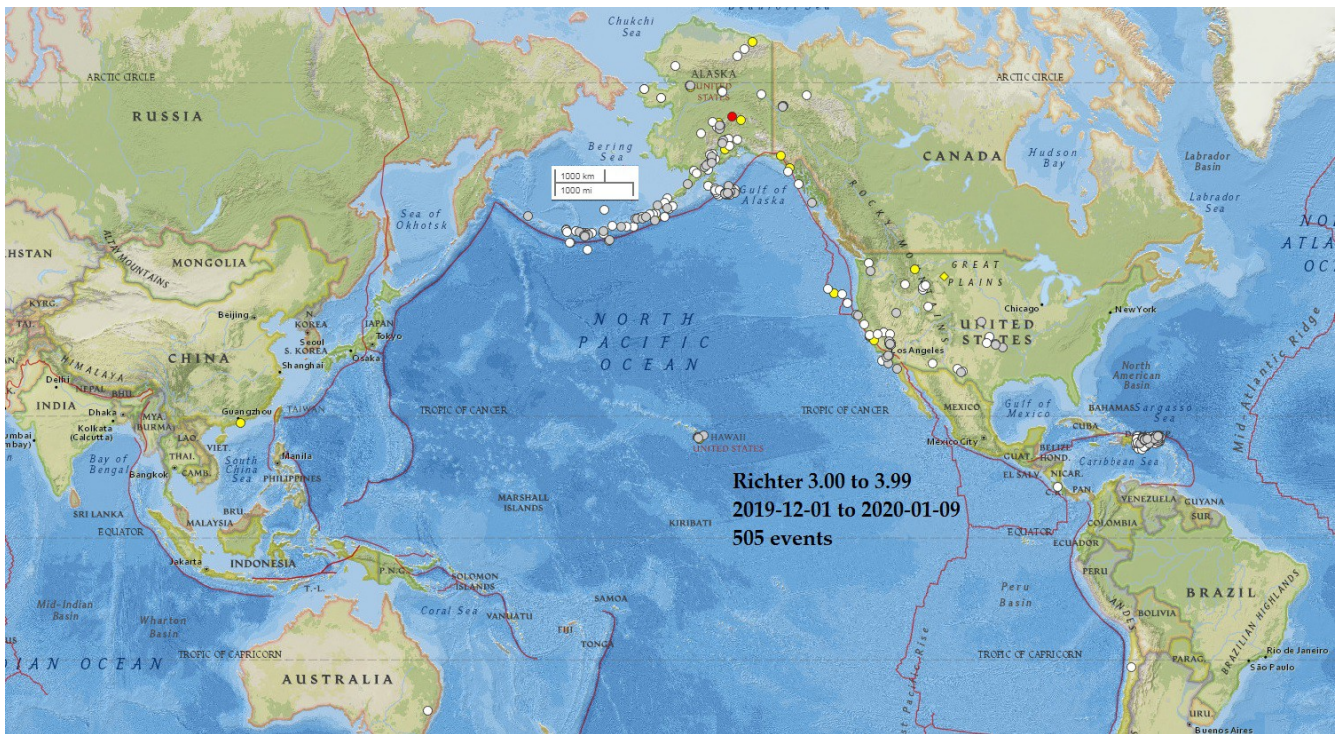


Among other pearls, Porto hosts the world-famous Sandeman Winery, famed for its fortified wines known as ports.



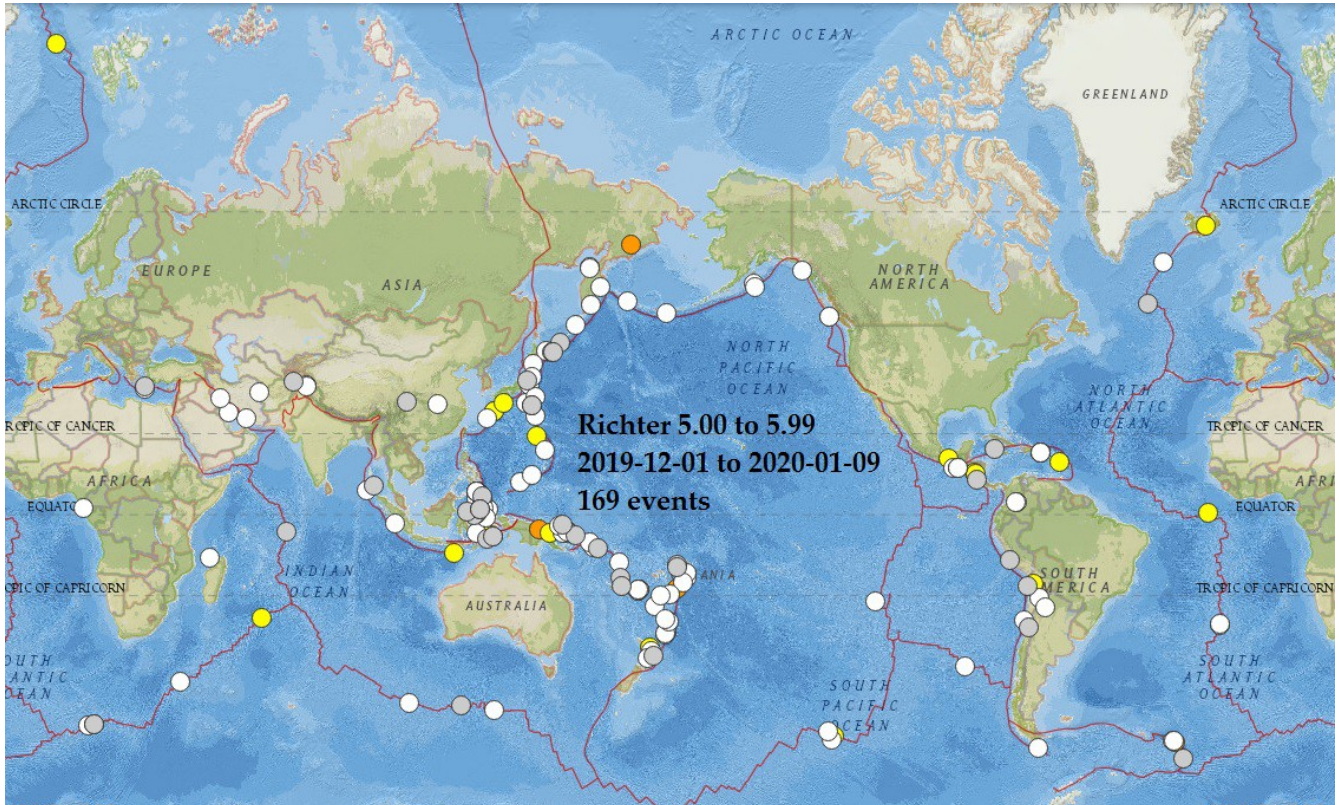
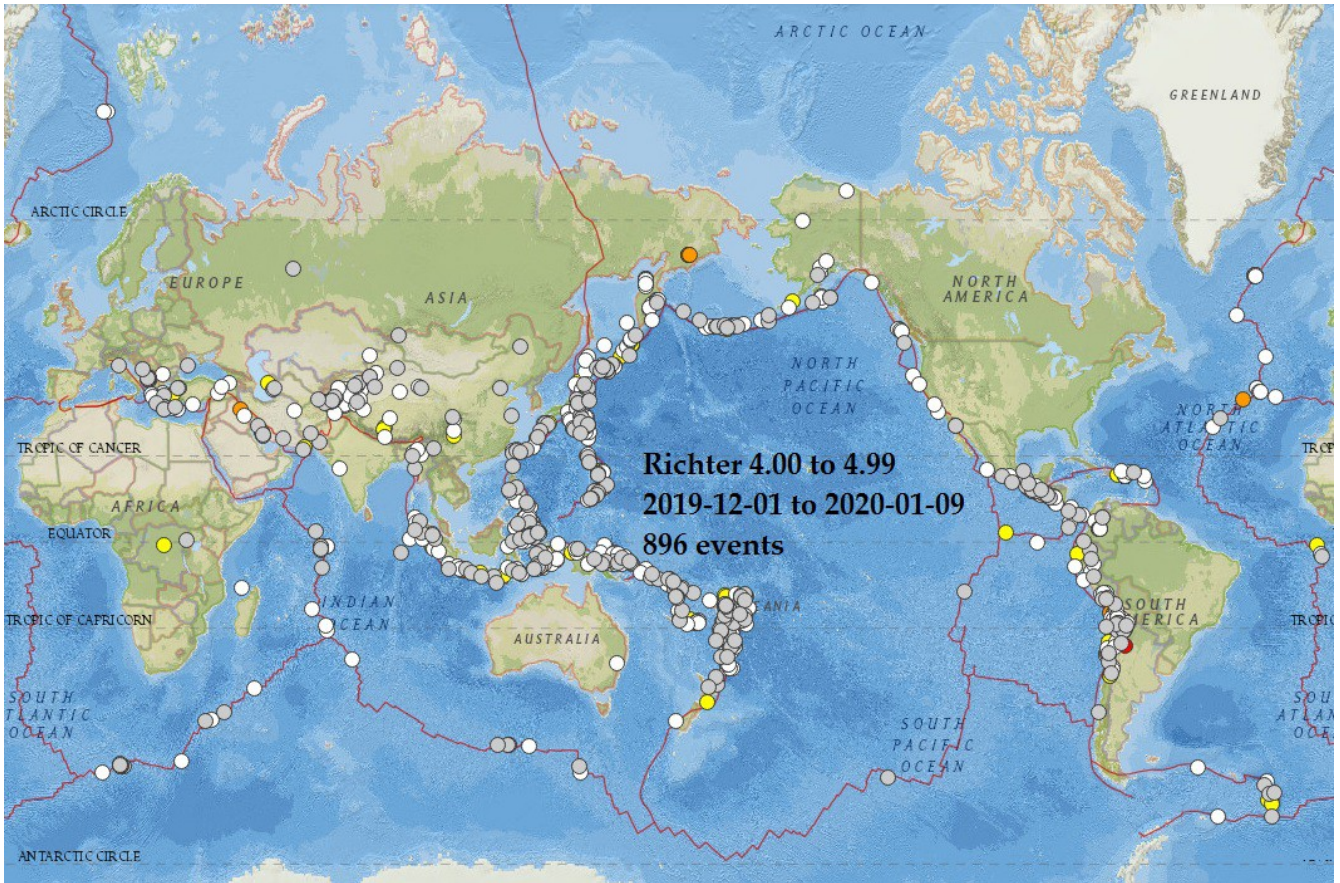
Given the vagaries of weather, grapes, people's tastes and many other influences, any agricultural producer that stays at the top its game for over two centuries (founded 1790) is bound to produce quality products consistently.

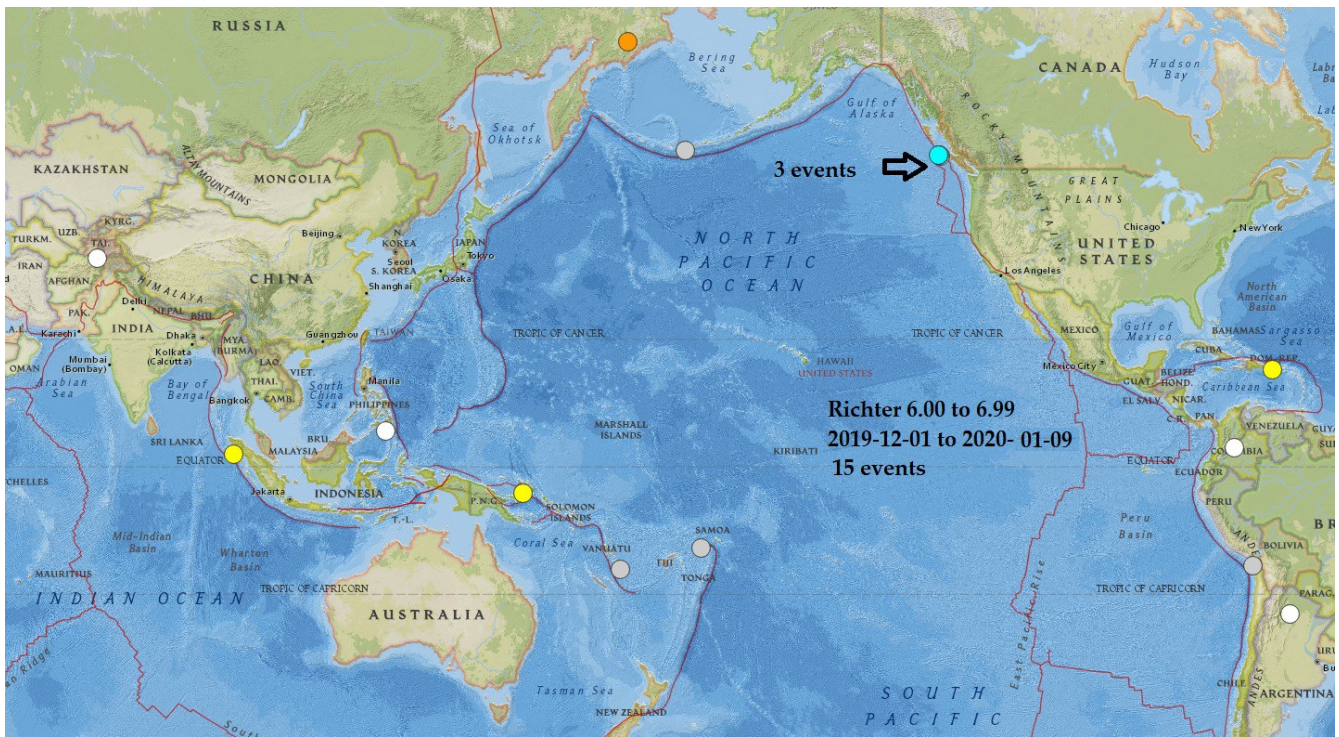
If only the same could be said of seismological data.



A map of seismic events Richter 3.00 to Richter 3.99 during the period 2019-12-01 to 2020-01-09. One such event in Asia, one event in Australia, one in South America and **502** in North America. As can be seen, the North American events were concentrated in mainland Alaska, the Aleutian Islands, California and Puerto Rico.

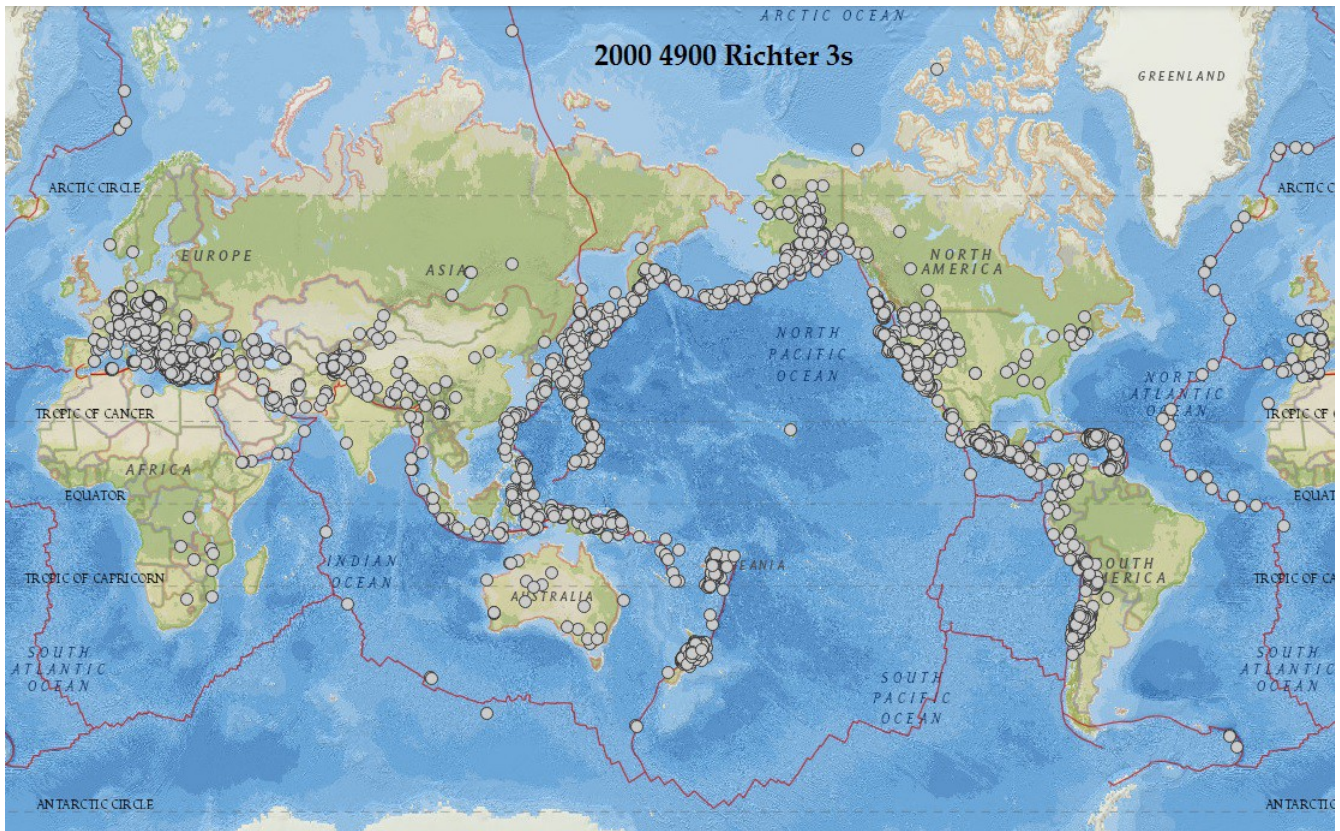
As can be seen on the next two images the distribution of Richter 4s (upper image) and of Richter 5s (lower image) is what one might expect.



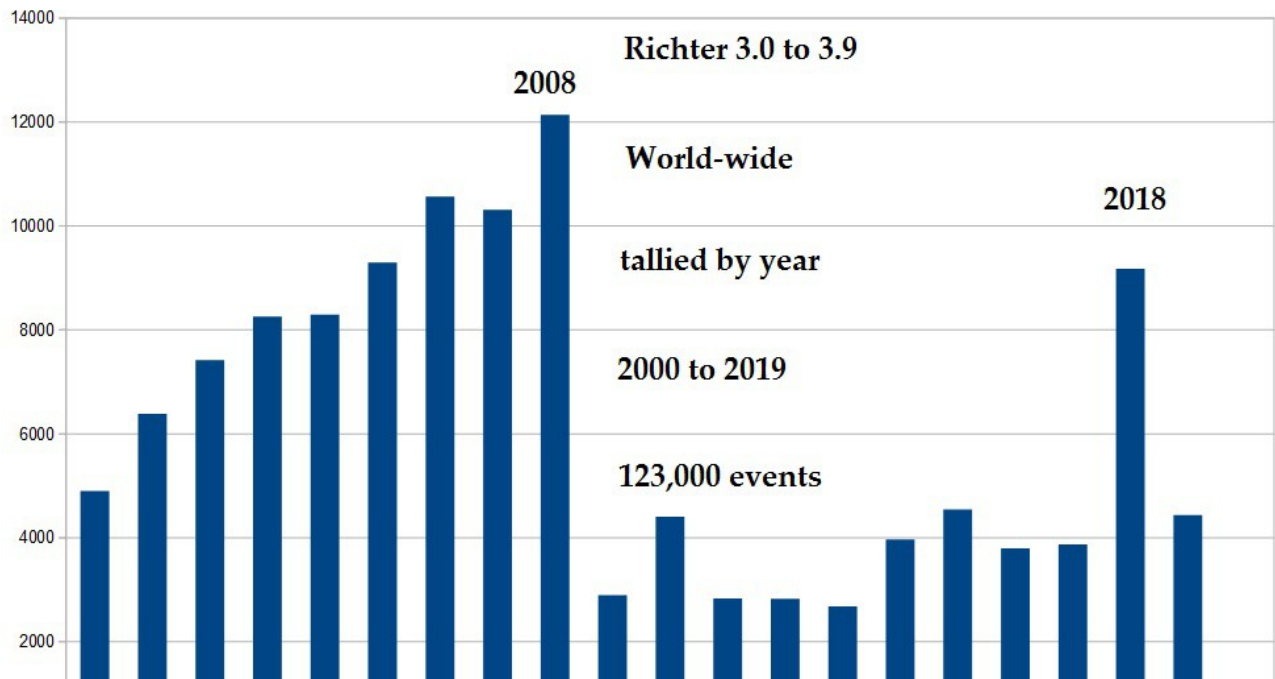


No (zero) Richter7s anywhere on Planet Earth during this time.

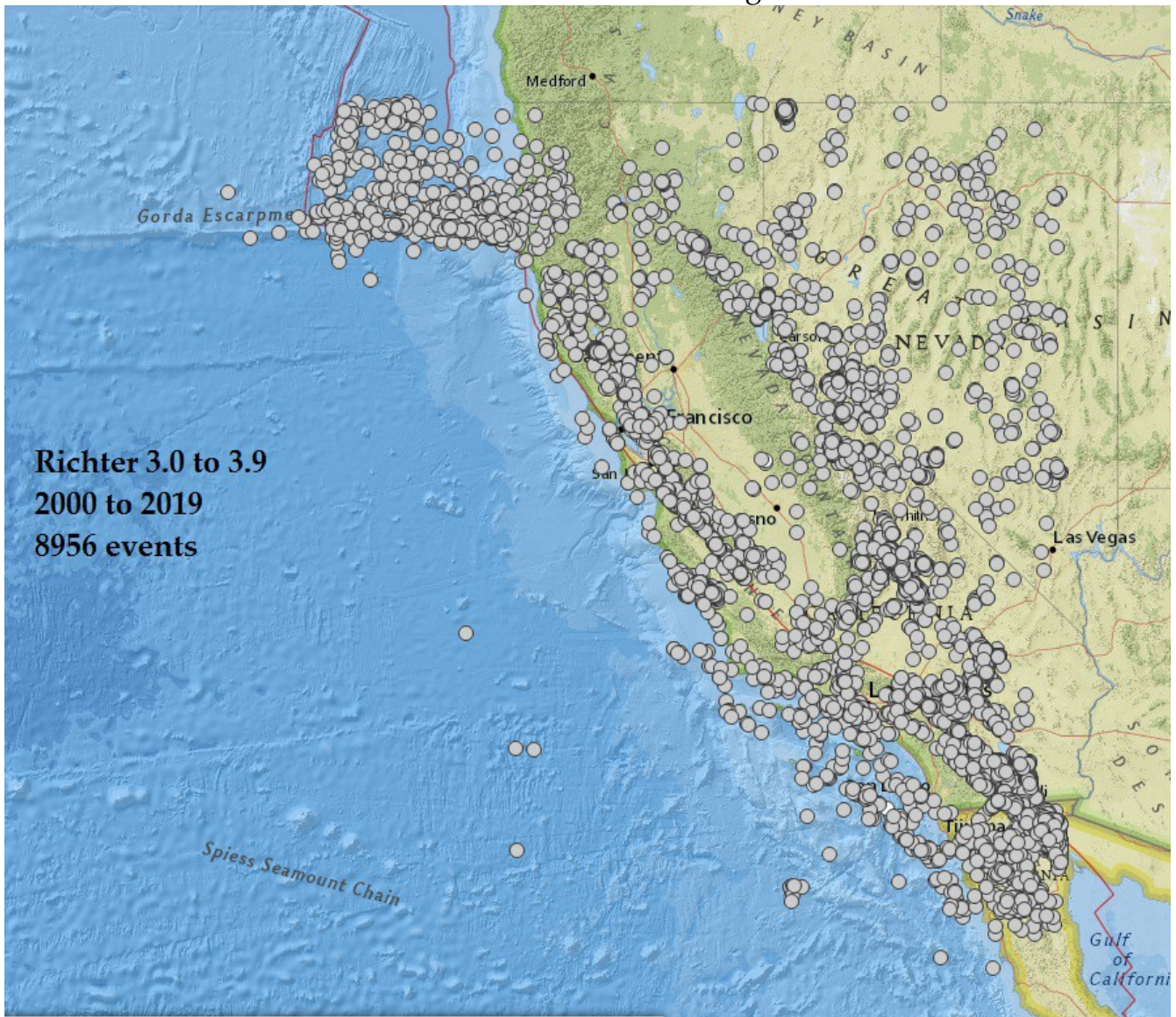
The maps for Richter 4, Richter 5 and, to an extent, Richter 6 events all reveal a geographical distribution of events that is quite different from the map of the Richter 3 events.

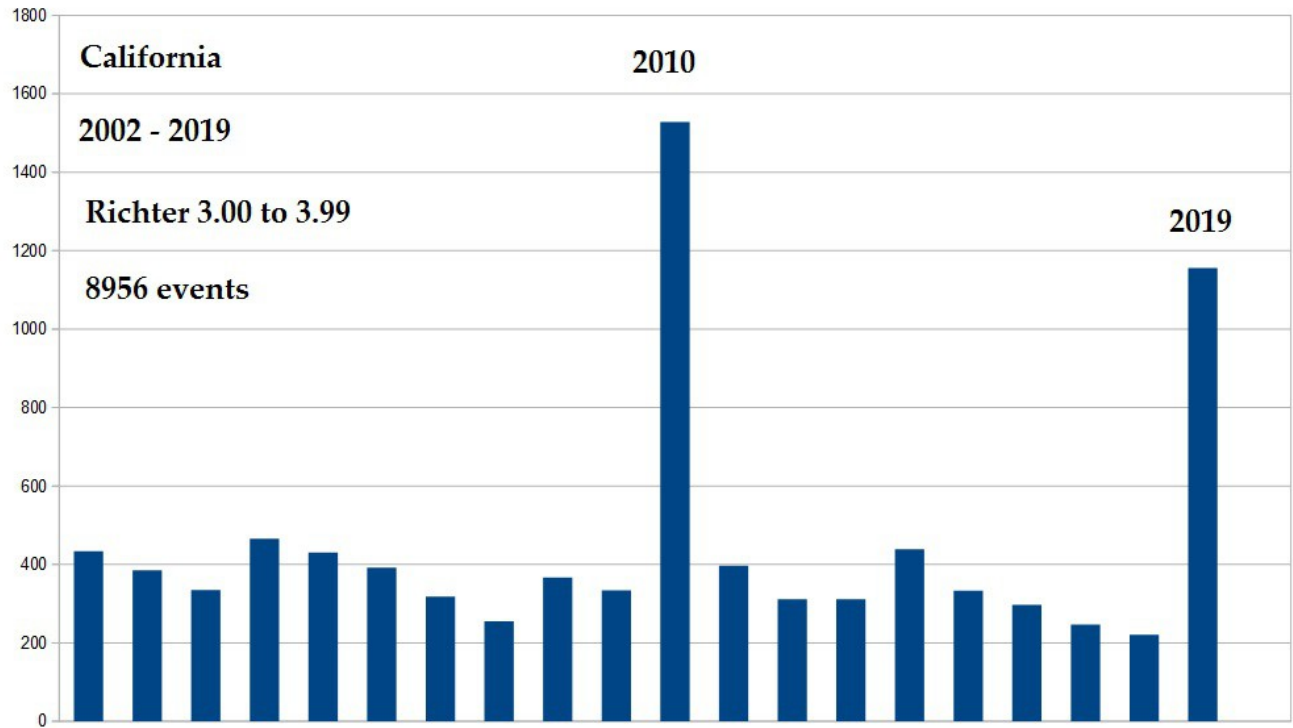


On our Planet Earth in the year 2000 of the revised Gregorian calendar there were 4900 Richter 3+ events reported. For 2000 to present for Richter 3s tallied by year one sees

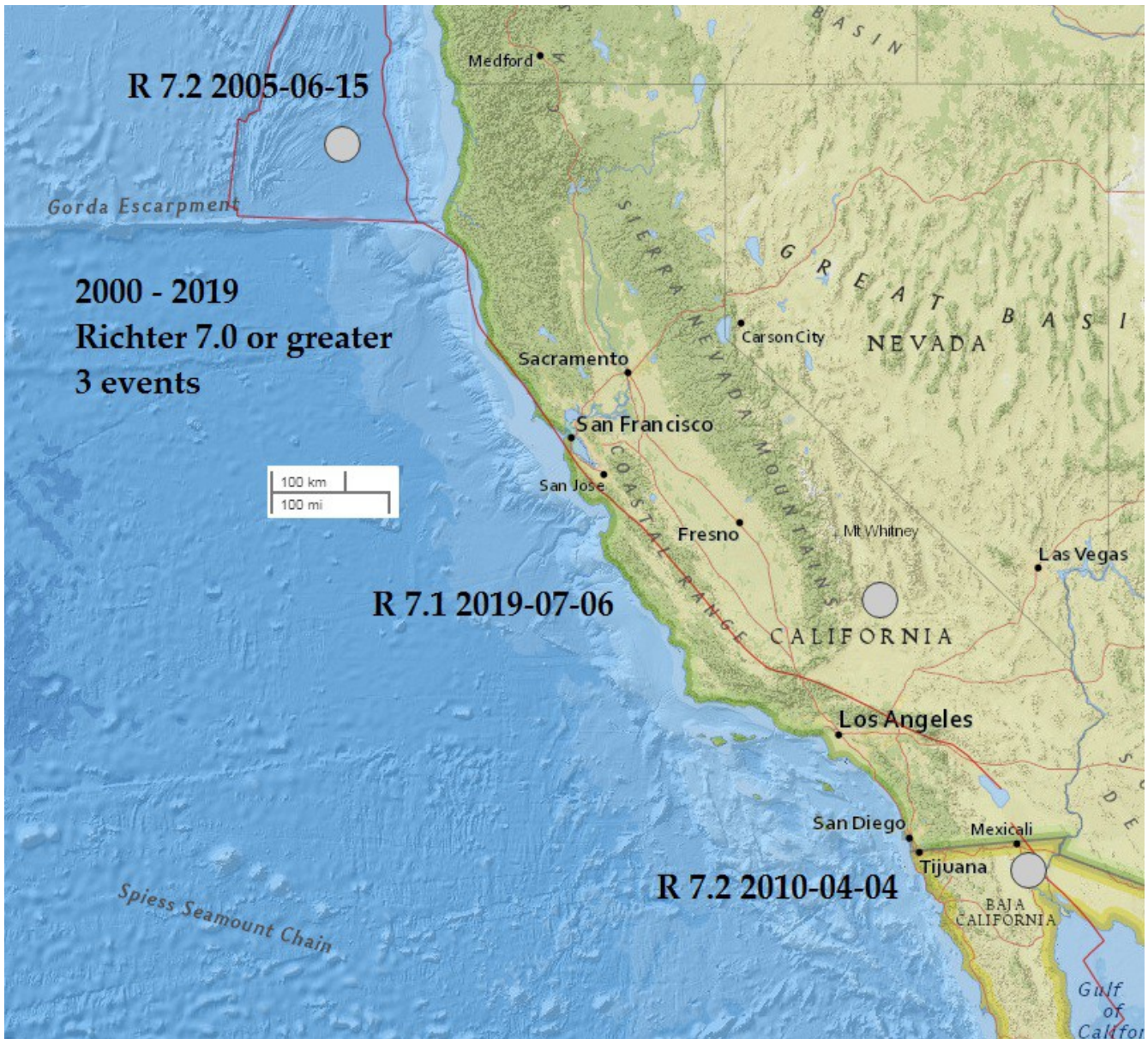


In an attempt to understand and perhaps even explain the significant drop after 2008 one can travel the Pacific Rim counter-clockwise starting with **California**





An unsettling profile.



Major seismic events in California. For those concerned that there was not a spike in Richter 3s in 2005 like there were accompanying the two other major seismic events in 2010 and 2019, there were sixty R3 events after the Richter 7.2.