Did the east-ward migration of the Amur Plate cause the series of inland large earthquakes from central Honshu to eastern Kyushu during late 16 th century ?

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A series of large inland earthquakes including the 1586 Tensho earthquake (M7.8+/-0.1) and the 1596 Keicho earthquake (M7.5+/-0.25) occurred in the central to western part of Japan arc during late 16 th century. The source faults of these earthquakes are active faults in central Honshu Island (Shogawa fault zone, Atera fault zone and Yoro-Kuwana-Yokkaichi fault zone) and the Median Tectonic Line active fault zone in Shikoku Island and eastern Kyushu Island. These source faults locate along the south-eastern marginal area of the Amur Plate demonstrated by Tamaki and Honza (1985) and Taira (2001). The source faults in the central Honshu Island can be projected on the N10W direction line which is normal to the motion of the Amur Plate and strike of the Median Tectonic Line in Shikoku and eastern Kyushu Island with a little gaps and a little overlaps except for the southern-most part (Arima-Takatsuki fault zone). Toda (2011) calculated static Coulomb stress changes by movement of one of the source fault of the Tensho earthquake source faults, and he made clear only little stree change caused on the other source faults. These two facts suggest that the east-ward migration of the Amur Plate is a major factor of series of major inland earthquakes in late 16th century. This hypothesis would support that southeastern margin of the Amur Plate makes broad collisional plate boundary in central Honshu Island (Komatsubara, 2015), and huge earthquake sequence which total seismic moment is compatible with the plate boundary earthquake would occur.

References

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