

Japan Geoscience Union Meeting 2011

(May 22-27 2011 at Makuhari, Chiba, Japan)

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MIS036-P05

Room:Convention Hall

Time:May 26 14:15-16:15

Foreshock activity before the 2011 Off-Pacific Tohoku earthquake: migrations and tidal responses

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The 2011 Off the Pacific Coast of Tohoku Earthquake M9.0 ruptured nearly 500 km length and 200 km width of the fault off-shore of the Tohoku region along the Japan Trench subduction zone as a huge thrust earthquake at 14:46 (JST = UT + 9 hours) on March 11, 2011.

Before the earthquake, a M7.2 foreshock occurred to the approximately 30 north of the M9 initial rupture area on March 9. Following the M7.2 foreshock, the significant aftershock activity continued. It is very important to investigate a relationship between the aftershocks and M9.0 initial rupture stage. However, a significant portion of the aftershock events is missing in existing earthquake JMA catalogue. We searched missing events after the M7.2 foreshock, applying the matching filter technique (Shelly et al., 2007), and investigate detailed foreshock activity before the huge thrust earthquake.

Keywords: Foreshock activity, migrations, tide, preslip