Simulation of Possible Tsunamigenic Earthquakes in the Andaman Region-Impact Along the Chennai Coast

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The havoc created by the 26th December 2004 Sumatra tsunami is still fresh in the minds of mankind. The rupture of this earthquake has propagated till Andaman (1400km) and the seismicity in Andaman has increased after the occurrence of this earthquake signifying that the new faults have been activated and still there are some pockets which are locked. This region had experienced a significant earthquake with a magnitude of Mw 8.1 on 26th June 1941 which generated a tsunami that impacted the neighboring countries including the east coast of India and Sri Lanka. The Andaman Islands recently experienced an earthquake on August 10, 2009, of magnitude Mw 7.5 which occurred in the boundary region of India plate and the Burmese plate, at the northern end of the rupture zone. This earthquake did not generate a tsunami as it was a normal type mechanism. Keeping in view the devastation created by the past tsunamis in the Andaman-Sumatra subduction zone along the Indian coast, we have modeled possible thrust type tsunamigenic earthquakes from the Andaman region to asses the impact along the east coast of India and to quantify the run-ups and inundation extents at Chennai, Tamilnadu, India.