O-20

Report on the Earthquake Occurred in Suruga-bay, Central Japan on August 11, 2009

Daisuke MUTO, Jun FUNASAKI, Masaki NAKAMURA, Hiroshi UENO, and Takashi YOKOTA
Japan Meteorological Agency
d_muto@met.kishou.go.jp

A large earthquake (Mw6.3) occurred in Suruga-bay in central Japan at 05:07 on August 11, 2009 (JST). A maximum seismic intensity of 6-lower on the JMA scale was observed in Omaezki City and other three cities in Shizuoka Prefecture. In addition, maximum height of 36cm tsunami was observed at Omaezaki tidal stations.

The centroid moment tensor analysis showed a reverse-fault mechanism with its pressure axis in N-S direction. However non-double couple component was large. We showed that this earthquake had two faults by both 3D-distribution of aftershocks calculated by DD hypocenter relocation method and the source rupture process analysis by near-source strong-motion records.

Along the trough offshore from Shizuoka Prefecture to Kochi Prefecture, the great scale interplate earthquakes have occurred repeatedly with an interval of 100-150 years. In and around Shizuoka Prefecture containing the epicenter of the 2009s event, the M8 scale interplate earthquake called Tokai Earthquake is estimated to occur in the near future probably. Therefore Japanese governmental agencies and universities have launched various studies to predict Tokai Earthquake since 1970's. In addition, JMA has observed crustal data by the strain meters continuously to find phenomena of its preslip promptly. If we find abnormal changes by the strain meters, we summit 6 eminent seismologists and hold meeting called EAC (Earthquake Assessment Committee for the Area under Intensified Measure against Earthquake Disaster) and judge whether these abnormal changes are precursors of Tokai Earthquake or not. To judge rightly in emergency meeting, ordinary seismicity and crustal activities are discussed and assessed by the regular meetings every month.

The 2009s earthquake was the first event which magnitude was over 6 around the Assumed Source Region of Tokai Earthquake since we had started the plan of prediction Tokai Earthquake. Large strain changes were observed. These were considered by coseismic and aftersesimic slip after all. However we worried if this slip led to the preslip of Tokai Earthquake. So we summit EAC members immediately. They judged these strain changes not to lead to preslip directly.