

Seismotectonics around the Sagami trough, central Japan, in special reference to the Kanto Asperity Project

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The Sagami trough south-off the Kanto district, central Japan, is the northernmost subduction boundary of the Philippine Sea plate, along which great interplate earthquakes such as the 1703 and 1923 Kanto earthquakes have recurred. I review the seismotectonics around the Sagami trough in special reference to the Kanto Asperity Project. The important issues are; (1) location of the subduction entrance along the Sagami trough, especially in and off Sagami Bay, (2) precise geometry, particularly depth distribution, of the upper surface of the subducted Philippine sea plate, (3) seismogenic nature of the middle and southeastern part of the Sagami trough, (4) mechanics around the off-Boso triple junction where the Sagami trough meets the Izu-Bonin trench and the Philippine Sea, the Pacific, and land plates converge one another, (5) mechanical boundary between the Pacific and land plates east-off the Kanto district, (6) recurrence pattern of the great interplate Kanto earthquakes. Concerning (6), the recurrence pattern is considered simple along the northwestern part of the Sagami trough, where the same asperities are inferred to repeat rupture every 200 to 300 years releasing almost all crustal strains accumulated by the relative plate motion with the rate of about 3 cm/yr. The 1293 and the 878 disastrous earthquakes are strongly suspected to be older events of the same type as in 1923 and 1703. As for (5), inferred splay faults within the overriding land plate, near to the east coast of the Boso Peninsula, seem very important, where large-scale rupture took place during the 1703 Kanto earthquake and the largest aftershock occurred one day after the 1923 Kanto earthquake.