

## Geological Facts about the Rupture History of the Itoigawa-Shizuoka Tectonic Line Active Faults System

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The 1996 assessment of the Itoigawa-Shizuoka Tectonic Line Active Fault System (ISTL) relied mostly on the geologic records of the Gofukuji fault. The short recurrence time (about 1000 years) and long elapsed time (1155 years), large slip by the last event (6 to 9 m) and high slip rate, and empirical relationship among fault length, slip, and magnitude were the bases of the assessment. However, 3000 to 5000 year interval of past earthquakes in the Middle ISTL, or 2000 to 4000 year interval in the Northern ISTL were not taken into account. After the assessment, considerable amount of new geologic data and speculation on the data have been accumulated. We must deliberate for a realistic model of the coming earthquake concordant with objective geologic records. The new and important constraints are as follows.

(1) Average recurrence interval of surface faulting events along the Gofukuji fault is 582-843 years. The total offset during three most recent events is 17 m while the last slip was 5.7 m.

(2) Along the Middle ISTL south of Okaya, more geologic data support long, 3000-5000 year recurrence interval. On the other hand, the analyses of lake-deposits in Suwa lake indicate 1100 year average recurrence time in 11000 years. New trench on the Shimotsutaki fault suggests 1500-2500 year recurrence time.

(3) Re-interpretation of the Kamishiro trench on the Northern ISTL brought 1258-1510 year recurrence interval. This is still much longer than that of the Gofukuji fault, but close to the elapsed time since the 841 AD last event.