

## Zenisu fault, south of Nankai trough and 1498 Meio earthquake

Takashi Nakata<sup>1\*</sup>, Hidekazu Tokuyama<sup>2</sup>, Takashi Kumamoto<sup>3</sup>, Mitsuhisa Watanabe<sup>4</sup>, Yasuhiro Suzuki<sup>5</sup>, Hideaki Goto<sup>1</sup>, Azusa Nishizawa<sup>6</sup>, Ritsuko S. Matsu'ura<sup>7</sup>

<sup>1</sup>Hiroshima Univ., <sup>2</sup>Kochi Univ., <sup>3</sup>Okayama Univ., <sup>4</sup>Toyo Univ., <sup>5</sup>Nagoya Univ., <sup>6</sup>Japan Coast Guard, <sup>7</sup>ADEP

Zenisu fault was first recognized as an extensive active fault extending for about 150km along the southern fringe of the Zenisu ridge to the south of the Sagami trough (Research Group for Tokai-oki Submarine Active Faults, 1999). We discuss the relation between submarine active faults and historical earthquakes based on location and geometry by interpretation of anaglyph image made from DEM obtained from detailed bathymetric survey data by Japan Coast Guard.

We clarified that the Zenisu fault is an over 250km-long active fault extending ENE-WSW south of the Nankai trough from off Hamana-ko to south of Kouzu-shima across the Izu bar. Distinctive fault scarps with a relative height of about 100m along the southern foot of the Zenisu ridge is good evidence for repeated faulting in the recent geological periods.

We estimated magnitude of earthquake as about Mw8.3-8.4 from a fault model with fault plane 275 km long and 50 km wide. The plane strikes N 60 degree E and dips 24 degree NW with pure slip of 8-10 m. Tsunami height along the coast from southeast Kii peninsula to Boso peninsula is also simulated based on the same fault model. Tsunami height is 8-10 m around Shima peninsula, 6-10 m along the Enshu coast, 5-6 m on Izu peninsula and southern Boso peninsula. The estimated magnitude of the earthquake and tsunami height agree well with 1498 Meio earthquake.

Keywords: 1498 Meio earthquake, submarine active fault, large earthquak, Zenisu fault, tsunami, Nakai trough