

## Seismicity models for moderate earthquakes in the Kanto region of central Japan

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Seismicity models for moderate earthquakes of magnitudes greater than 5.0 in the Kanto region of central Japan have been proposed based on the a- and b- parameters of the Gutenberg-Richter relation and/or a parameter representing changes in mean event size. These models have been examined by retrospective testing to verify if they perform at a certain level. The catalogue used for these studies does not contain large earthquakes with magnitudes of 7.0 or greater, which could take place somewhere in the region in the near future. Therefore, it is quite important to examine whether these models will work well for earthquakes larger than those assumed in modeling. From this viewpoint, the probabilities of past earthquakes are being studied, not the overall performance of the models. Three models are being considered, a model based on a- and b-values, a model based on changes in mean event size, and a model combining these two. If we look at the relation between earthquake size and probability, we see that the combined model exhibits a slight tendency to assign a higher probability to a larger earthquake. If we examine the relation between the slip angle of the moment tensor solution and the probability, we recognize that a thrust-type earthquake is often predicted well with a probability exceeding the average value, but some non-thrust-type earthquakes indicate a loss of performance with probabilities less than the average. This evidence suggests that the present models will still function satisfactorily for large future thrust-type earthquakes with magnitudes of 7.0 and greater.