We estimated the focal region of two destructive historical earthquakes (the 1751 Takada and 1828 Sanjo earthquakes) which occurred in the Niigata Prefecture, central Japan using reliable historical documents. The Takada earthquake (M7.0-7.4) occurred on 21 May, 1751 and caused serious damage especially in the Takada town. The Sanjo earthquake (M6.9) occurred on 18 December, 1828 and also caused serious damage especially in the Sanjo town.

Some historical documents, especially those published long after the earthquake occurrences, sometimes include wrong or exaggerate descriptions. Thus, we selected reliable contemporary documents which describe the population and number of houses, as well as casualties and damages caused by these earthquakes. The collapse ratio of houses at each village is then converted into Japanese seismic intensity (SI) scale based on Usami (1986)'s table, i.e.,

- SI 7 (XII on MM scale): 81-100% collapse ratio of houses.
- SI 6 (XI-XI on MM scale): 71-80% collapse ratio of houses.
- SI 5+ (IX on MM scale): 1-70% collapse ratio of houses.
- SI 5- (VIII on MM scale): 0% collapse ratio of houses.

The SI distribution indicates that the focal region of the 1751 Takada earthquake is at the western part of present Joetsu City along the upper Kuwadori river valley. In the same way, the focal region of the 1828 Sanjo earthquake is estimated at the southern part of present Mitsuke City, in the Higashiyama hill to the eastern edge of the Nagaoka plain.