

# Japan-Tohoku: Signs of big quake emerged in February

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Seismic activity began increasing in mid-February in an area about 50 kilometers north of the epicenter of the March 11 magnitude 9.0 earthquake, and shifted southward before the big quake, a study has found.

The analytical study by Aitaro Kato, an assistant professor at the University of Tokyo's Earthquake Research Institute, shows that seismic activity on March 9 and 10 accelerated southward at a speed six times the preceding period — providing a clue to the cause of the massive earthquake.

The assistant professor analyzed a series of earthquakes starting with a magnitude 5.5 quake in the Pacific off Miyagi Prefecture, about 50 kilometers north-northeast of the March 11 epicenter. It was followed by about 80 tremors with magnitudes 2 to 4 through early March which moved southwest parallel to the Japan Trench.

On March 9, a magnitude 7.3 earthquake took place near the March 11 epicenter and about 250 more tremors occurred over a 51-hour period prior to the megaquake — as if they were approaching the March 11 epicenter.

The epicenters of these quakes moved at a speed of 1.6 kilometers per hour until March 9, but those over the last 51 hours before the big quake moved at a speed of 10 kilometers per hour.

Seismic activity in waters off Miyagi Prefecture over the last 10 years had not shown similar signs.

"I cannot say for sure if they were signs of the big earthquake but they were certainly unique activities," Kato said.

Koshun Yamaoka, professor of seismology at Nagoya University, said, "The study is valuable for uncovering the details of seismic activity before the March 11 earthquake." However, he added, "Earthquakes which were preceded by a pile-up of tremors have also taken place along inland active faults. It is difficult to utilize the analysis for future earthquake predictions."

Kato will announce his findings at a meeting of the Japan Geoscience Union starting May 22 in the city of Chiba.

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\* Mainichi, May 21, 2011:

<http://mdn.mainichi.jp/mdnnews/national/news/20110521p2a00m0na020000c.html>