**The skies over Awaji Island are mysteriously bright shortly before the predawn quake** KYODO

Ishibashi, who in 1976 released a now-famous theory on the mechanisms of earthquakes beneath Suruga Bay off Shizuoka Prefecture and pointed out the existence of a fault in west Sagami Bay in 1977, has long been warning that a major quake will hit the area around Odawara, Kanagawa Prefecture, by early next century.

"Since the early 17th century, the Odawara area has suffered severe earthquakes on five occasions, occurring about 70 years apart," he said.

Some experts say the 70-year cycle has only been relevant during the last few hundred years and therefore may only have been a coincidence.

Others say the five major quakes did not have their epicenters at exactly the same place, so the theory cannot be applied to predict future events. But history suggests the quake-cycle phenomenon cannot be denied, Ishibashi said.

Ishibashi attributes the quakes in the area to the activity of the Philippine Plate, which has been moving beneath the Kanto Plain in a north-northeast direction for millions of years.

According to Ishibashi, the plate is continuing to move at a rate of 3 cm a year and is applying strain on the fault that runs approximately from Odawara to the Izu Peninsula. The strain on the fault is accumulating and will be released after a certain period, he said.

When a major quake hit Odawara in 1853, it triggered temblors in neighboring areas, one with a magnitude believed to be 8.4 in the Tokai region in 1854.

Ishibashi admits this is an extreme example, and such major quakes do not occur in the Tokai region or in Tokyo as often as they do in Odawara.

However, he predicts that a future quake in Odawara will play a role in triggering other quakes, possibly in Tokyo.

Earthquakes under the Kanto Plain are caused by either the region's numerous faults, collisions between the Kanto Plain and its underlying plates (the Philippine and the Pacific plates), or collisions between the plates themselves. But researchers are at a loss when it comes to predicting when or where the quakes will occur, Ishibashi said.

"The nest of faults is spread widely under the Kanto Plain, sometimes down to 100 km beneath the ground. Because of a thick layer of sediment on the plain and a high level of human activity, such as subways and construction work, signs of natural underground action are hard to detect," said Abe of the University of Tokyo.

One in every 10 major earthquakes in the world is said to occur in Japan, and the country is considered one of the most advanced in the study of temblors. And yet, prediction remains an almost hopeless task, with the possible exception of the Tokai region.

"It is possible to forecast earthquakes in the Tokai region, since submarine seismometers have been placed there and the mechanism of the quakes in the area is clearly known, but forecasting in other areas remains impossible at present," Kozo Ninomiya, director general of the Meteorological Agency, reportedly said when he met with Transport Minister Shizuka Kamei before the Jan. 17 quake.

Ninomiya briefed Kamei on the state of the country's quake forecasting system, and reportedly emphasized the need for the government to improve it.

Ishibashi said researchers themselves appear reluctant to address the toiling and possibly sensitive task of earthquake prediction. "They seem to be tired of bearing the heavy responsibility of predicting quakes for society," he said.