

An Attempt to Observe EM Waves and Catfish Movement with its Biopotential -Keeping Twin Earthquakes in San-in Area in Mind-

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An old legend in Japan tells us that catfish move violently before earthquakes. Many scientists have studied the relationships between catfish activity and earthquakes. We consider electromagnetic (EM) waves may cause this kind of unusual animal behavior. Activity of catfish in aquarium and EM waves were monitored simultaneously. Violent movements of catfish and intense EM waves were observed at the same time in Osaka, 8 days before the Western Tottori Earthquake (Mj7.3), Oct. 6, 2000.

In San-in area, a big earthquake above M6.5 accompanied historically with another earthquake having almost the same magnitude. Hence, another earthquake may follow the Tottori Earthquake. To have a successful short-term forecast of twin earthquake, activity of catfish and EM waves are being measured.

Introduction

There are many reports all over the world that unusual phenomena occur before earthquakes. It has long been believed that catfish move violently before earthquakes especially in Japan. Many scientists have studied the relationships between catfish activity and earthquakes, but they have not reached a clear conclusion yet. Catfish have extraordinary sensitive electrosensory organs, so they can detect biopotential of small fish swimming around and use them to capture the prey animals. In this study, electromagnetic (EM) waves may cause violent movements of catfish. Activity of catfish in aquarium and EM waves are monitored simultaneously in this study.

Observation System

We use a electromagnetic radiation monitoring system to observe EM waves. EM waves from 100kHz to 3GHz are observed. A digital bio-amplifier system is used to monitor catfish activity in aquarium. We monitor catfish activity using three pairs of electrodes attached to the plastic pipe in which catfish lives.

Observed Result

Simultaneously, violent movements of catfish and intense EM waves were detected at Osaka University, 8 days before the Western Tottori Earthquake (Mj7.3), Oct. 6, 2000. This movement was the most violent in this half year. Many seismic electromagnetic signals (SEMS) were retrospectively reported to have been observed about one week before big earthquakes of M7 class. We must have detected a precursor phenomenon of the earthquake.

Twin Earthquakes In San-in Area

In San-in area, a big earthquake above M6.5 accompanied historically with another earthquake having almost the same magnitude. Hence, another earthquake may follow the Western Tottori Earthquake in these one or two years.

An Attempt of Newly Observation

Last year, a precursor phenomenon was detected at the Faculty of Science, Osaka University (Toyonaka City, Osaka Prefecture) separated about 200 km from the epicenter. If another earthquake follow the former earthquake on October 6, as in history, the next earthquake is expected statistically in March. Therefore, monitoring of activity of catfish and EM waves was started at newly observation point at the Faculty of Life and Environmental Science, Shimane University (Matsue City, Shimane Prefecture) in February of this year. Observation of movement of catfish and detection of EM waves are being made simultaneously for prospective forecast rather than retrospective report of twin earthquake.

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