

Numerical analysis of catfish movement at different location, concerning the possibility of earthquake foretelling

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1. Outline

It has been reported several times that some kind of animals act unusually before big earthquakes. Besides, the 3.11(2011) Earthquake in Japan encouraged civil studies toward General natural unusualness observation and Abnormal animal movement.

However, official case studies of constantly monitoring animals for earthquake foretelling challenge have been quite rare. In this report, we observed two catfishes (Japanese and South American) located in different places (Kanagawa and Tokyo), which is often referred to doing unusual action before big earthquakes. First objective is to compare two catfish movement at different places, secondly, to compare the movement with actual earthquakes on the viewpoint of magnitude and seismic center.

2. Keeping and observation of catfish

Species: [Tokyo] Tiger shovel nose cat (South American)

[Kanagawa] Japanese catfish

Condition: 60cm glass tank, GEX* Dual Clean upper filtering system

Monitoring: one Keyence* infrared counter near the top of tank

1) Observation

Recorded every 24hr. moving counts by resetting the infrared counter once a day.

This has been continued since July 2011.

2) Overall trend

A catfish's habit is rather benthos, and it seldom moves. Normally, the counter value per day is around 20 - 30. However, sometimes a catfish moves in a different manner, and the counter value exceeds 100 or 200. Thus, the unusual action of catfish is clearly distinguished from the usual one.

Some positive correlation between this unusual action and actual earthquakes could be found. The degree of correlation depends on the settings of magnitude range and location range of epicenters. Further studies should be required on these points of view.

3) Keeping a catfish

Keeping a catfish requires general water state control (commonly with tropical fish) and feeding just once a day. These facts are bright factors to build a future catfish observation network.

3. Results

The results of catfish observation since July 2011 are as follows.

- Positive correlation of 2 catfish of Kanagawa and Tokyo (Especially August 2011, there was clearly high correlation.)
- Positive correlation with actual earthquakes (Especially epicenter location of Chiba, Ibaraki area)

Further desirable studies;

- 1) Larger number of catfish in different area
- 2) More analysis of correlated earthquakes

Keywords: earthquake foretelling, catfish, abnormal animal action, sign of earthquake, multiple point observation