Japan Geoscience Union Meeting 2012
(May 20-25 2012 at Makuhari, Chiba, Japan)

SSS25-P01 Room:Convention Hall Time:May 20 17:15-18:30

On the sea level changes that were witnessed before the 1946 Nankai earthquake on the Pacific coast of Shikoku, Japan

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There are a lot of witness testimonies on abnormal sea level changes just before the 1946 Nankai earthquake on the Pacific coast of Shikoku, Japan.

Keywords: 1946 Nankai earthquake, witness testimony, sea level change

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SSS25-P02 Room:Convention Hall Time:May 20 17:15-18:30

Laborsaving using the database system in a Manten project

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We report that improvement of Manten database system reported by Sawada,2009. The improving point is below.
1. The input-output method has been imporved in accordance with business.
2. Speed up of observation point maintenance report
The improving point 1 is shown below.
i.Correction and deletion of incorrect input data were enable.
ii.Search of the information of a sensor and logger is made easy.
iii.Unified for program
The improving point 2 is show below.
i.We enabled to input a maintenance report from web.
ii.We enabled to reflect in a database web.
iii.Security is raised.

Keywords: Manten Project, Data Base, Laborsaving

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SSS25-P03 Room:Convention Hall Time:May 20 17:15-18:30

A study on the time interval of Dashed-Line-Noise.

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Dashed-Line-Noise(DLN) is a noise like dotted lines which appear in the analog television image of VHF band. It means that the interval of DLN is calculable by the algebraic geometry. In the 2010's JpGU, I introduced a method of calculating the interval using two directional vectors, and then I presented the fact that there is a strange thing in the interval. It is that the interval sometimes changes a lot, without changing the angle of a dashed line. In order to explain this phenomenon briefly, I advocated the model in which some two phenomena are participating for generating of DLN. One is the phenomenon of changing angle continuously and the other is the phenomenon of changing the interval discontinuously.

In this meeting, I will show the calibrated data using the horizontal synchronization of analog broadcasting, and present the fact that the interval is really discrete.

Keywords: Dashed Line Noise, short term earthquake prediction, macroanomaly

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SSS25-P04 Room:Convention Hall Time:May 20 17:15-18:30

Fundamental measurements of Radon concentration in a cave and the atmosphere for earthquake prediction

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An increase of the radon in underground water at Nishinomiya City[1] and an increase of the radon in atmosphere[2] at the southern part of Hyogo Prefecture earthquake in 1995 were reported. Moreover, in the case of Tohoku Region Pacific Coast Earthquake, the data of the exhaust air monitor in the radiation facility of Fukushima Medical College (Fukushima) has been reported that the peak duration was long, and the peak decreased rapidly before the earthquake[3].

We had started to measure radon concentration in the cave in Kurashiki, Okayama from the beginning of November, 2009, and started to measure radon concentration in the atmosphere from the end of May, 2011 in Choshi, Chiba. We used a Radon Monitor of SUN NUCLEAR Corporation, Model 1028 in the Kurashiki, and a Pylon Trace Environmental Level Radon Gas Detector in Choshi.

In the cave in Kurashiki, there is a tendency that radon concentration goes up after rainfall. Moreover, radon concentration becomes high in May and June, and in September and October as the seasonal variation. Earthquakes hardly occur in Okayama Prefecture. An earthquake(M=5.4) at 19:16 on November 21, 2011, northern Hiroshima (N34.9^o, E132.9^o, depth:12km, Distance: 90km) occurred. The radon concentration increased before the earthquake. However, there is rainfall before the day of radon increase. Then we could not get clear correlation between radon increase and the earthquake.

The radon concentration in the atmosphere of Choshi has a tendency of increase from September to winter. However, one year has not passed since the measurement start. Whether this increase means the usual seasonal variation or not is not clear. There are many aftershocks near Choshi. It is difficult to search for correlation between radon concentration variation and earthquakes.

Since the data of Kobe Pharmaceutical University and Fukushima Medical University are a prolonged measurement over ten years, it is necessary to continue radon concentration measurement for a long period in Kurashiki and Choshi.

References

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Keywords: radon, cave, atmosphere, earthquake, prediction

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SSS25-P05 Room:Convention Hall Time:May 20 17:15-18:30

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

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

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

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SSS25-P06 Room:Convention Hall Time:May 20 17:15-18:30

Anomalous electric fields before 2011 Far E off Miyagi Pref. EQ

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Introduction: To develop a method for earthquake prediction, electric fields are being observed, and the fields before and after the EQ of M9.0 occurred on 2011/03/11 were observed. But the observation had the problems as follows:

(1) The data for one month before the EQ were lacking.

The instrument erases the recorded data when the power comes back on after power failure. The power was cut off by the EQ, and we could not arrive on the observation site before the power came back on.

(2) The observed data are recorded every two minutes, but it is doubtful whether the data at four sites were synchronized or not, as the clock is not accurate.

In our observing area, except special bands, man-made noise is not simultaneously observed at the sites which are separated about 100km apart, so we regard the pulses as precursory ones only when the pulses are simultaneously observed at four sites. But our clocks are crystal ones, so the synchronization is doubtful.

(3) The source region of the fields is not located.

The instrument which was developed at CRL could locate the source regions, but after S. Hyogo Pref. EQ of 1995/01/17 (M7.2) Japanese Government decided to stop the research on earthquake prediction, and the instrument was discarded.

Observing Sites: On the Pacific Ocean side of central Japan, there are four sites. The distances between them are about 100km or more. These sites are away from private houses, factories, highways and railroads.

Observing Frequencies: Main frequency is 1.5kHz, which is chosen to avoid the 50 & 60Hz and their harmonics. Additionally 3kHz and 12kHz also observed to reject lightning fields, using the relation E(1.5kHz)>E(3kHz)>E(12kHz), as near lightning fields have the relation as E(1.5kHz)<E(3kHz) and far ones have the relation as E(3kHz)<E(12kHz).

Observed Pulses before EQ: As the source region was not located, and as from 5th Feb. before EQ to 3rd Mar. after EQ no data were obtained, so it is doubtful really precursory fields were observed, but the possibility exists that precursor was detected. The reason is as follows:

From 2/2 22:40 (in the following, time is UT) the pulses were successively recorded three times and farther more from 2/3 00:10 two times. On the contrary, from 4/26 05:00 to 5/25 00:00 for one month no pulse was observed. Namely successively recording pulses is very rear, so it might be the precursor. Anyway it is essential to locate the source regions of the fields to predict earthquakes.

Ending: The Prediction System of Tokai EQ, which will be M8 or more and is supposed to occur in a few ten years, is based on the observation that the 5mm level difference during leveling between one day before and on the day of SE Sea EQ of M7.9 on 1944/12/07 (M:7.9). But the late Prof. M. Ikeya repeatedly said that the level difference might be observed not by crustal movement but the babble movement in the level caused by the change of electric fields at the observing points (K. Takahashi, 2004). As in 2011/03/11 EQ no crustal precursor was observed, possibly the prediction system of Tokai EQ is ineffective. As the researchers on earthquakes in Japan failed to predict or warn not only 2011/03/11 EQ but also Hyogo Pref. EQ (1995/01/17 M7.3), they must be blamed to be swindlers and tax parasites, when they fail to predict coming Tokai EQ. Although crustal precursors were seldom detected and to the contrary electric ones were often detected, the electric fields are rarely used for the prediction, because their sources are not located. The locating is easy as the method is the same as the locating lightning. Now lightning fields are identify by their spectrum and man-made ones are rejected by observing at four or more sites.

Reference: Takahashi, K. Quantitatively Showing the Prediction of Tohkai Earthquake to be Illusional. 2004 Japan Earth and Planetary Science Joint Meeting. S049-012 (2004)

Keywords: earthquake prediction, precursory electric fields, 2011 Far E off Miyagi Pref. EQ

SSS25-P06 Room:Convention Hall Time:May 20 17:15-18:30