Studies on the Greek-type Earthquake Prediction Method by means of Geoelectric Potential and its Application to Japan

1995 Fiscal Year Final Research Report Summary

Studies on the Greek-type Earthquake Prediction Method by means of Geoelectric Potential and its Application to Japan

Research Project

Project/Area Number

06044085

Research Category

Grant-in-Aid for international Scientific Research

Allocation Type

Single-year Grants

Section

Joint Research

Research Institution

KANAGAWA UNIVERSITY

Principal Investigator

KUNO Yoshiteru PROFESSOR, FACULTY OF SCIENCE, KANAZAWA UNIVERSITY, 理学部, 教授 (80019489)

Co-Investigator(Kenkyū-buntansha)

PAPANIKOLAOU ディー アテネ大学, 地質学部, 教授
DOLOGLOU E. アテネ大学, 物理学部, 講師
ALEXOPOULOS ケイ アテナ大学, 物理学部, 名誉教授
LAZARIDOU M. アテネ大学, 物理学部, 研究員
VAROTSOS P. アテナ大学, 物理学部, 教授
SAKAI Hideo ASSOCIATE PROF., FACULTY OF SCIENCE, TOYAMA UNIV., 理学部, 助教授 (30134993)
UYESHIMA Makoto RESEARCH ASSOCIATE, EARTHQUAKE.RES.INST., UNIV.OF TOKYO, 地震研究所, 助手 (70242154)
UTADA Hisashi ASSOCIATE PROF., EARTHQUAKE RESEARCH INST., UNIV.OF TOKYO, 地震研究所, 助教授 (70134632)
UEDA Seiya PROF., SCHOOL OF MARINE SCI.& TECHNOLOGY, TOKAI UNIV., 海洋学部, 教授 (60011459)
NAGAO Toshiyasu RESEARCH ASSOCIATE, FACULTY OF SCIENCE, KANAZAWA UNIV., 自然科学研究科, 助手 (20183890)
ISHIWATARI Akira ASSOCIATE PROF., FACULTY OF SCIENCE, KANAZAWA UNIV., 理学部, 助教授 (90184572)
FURUMOTO Mituyoshi ASSOCIATE PROF., FACULTY OF SCIENCE, KANAZAWA UNIV., 理学部, 助教授 (80109264)

Project Period (FY)

1994 – 1995

Keywords

GREECE / EARTHQUAKE PREDICTION / VAN METHOD / SELF POTENTIAL / GEOELECTRIC CURRENT / GRAVITY SURVEY / ELECTRO-MAGNETIC SURVEY / GEOLOGICAL SURVEY

Research Abstract

Geophysical and geological surveys at several VAN stations in Greece were carried out to reveal characteristic subsurface features in those areas. The purpose of the present studies were to discriminate geological and geophysical contrast between sensitive and insensitive VAN stations.
In Assoiros region, one of the sensitive stations in northern part of Greece, we measured gravity, magnetotelluri, and electrical resistivity. After calculations, we obtained gravity anomaly distribution map and resistivity structures around the Assiros VAN station. The gravity anomaly distribution revealed that the Assiros station does not situate on geological active structures, such as active faults or recent dykes.
At Ioannina VAN station, the most sensitive station in northwestern part of Greece, new data concerning electric resistivity of near surface were obtained. Magnetotelluric data were also added in this area.
At Pirgos area, we added several gravity data.
In order to compare geological conditions of VAN stations more efficiently, geological and geomorphological observations were carried out at several VAN stations (Keratea, Bolos, Assiros, Ioannina, Patras, Pirgos, Sparta, Lutraki) all over Greece. Taking geophysical observations at some VAN stations into consideration, geological condition on VAN stations to be sensitive may related to ground water level around the station.
More geological and geophysical comparisons are required to establish criteria to select sensitive stations of geoelectrical current for earthquake prediction.

Research Products (12 results)

All | Other

All | Publications (12 results)

[Publications] T.Nagao,M.Uyeshima and S.Uyeda: "An independent check of VAN's criteria for signal recognition." Geophysical Research Letters,. (in press). (1996)

[Publications] T.Nagao,S.Uyeda,Y.Asai and Y.Kono: "Anomalous changes in geoelectric potential preceding four earthquakesin Japan." Critical Review on VAN. (in press). (1996)

[Publications] S.Uyeda: "Introduction to the VAN method of earthquake prediction." Critical Review on VAN. (in press). (1996)

[Publications] 小河勉,上嶋誠,河野芳輝,長尾年恭,堀 圭介,高橋一郎: "VAN法のSESの性質について-人工電場変動との比較-." 1995年CA研究会論文集. (投稿中).

[Publications] M,Uyeshima,.W.Kanda,J.Makris,T.Nagao and Y.Kono: "Physical property of VAN's seismic electr signals revealed by magnetotelluric observation at Ioannina,Greece." Physics of Earth and Planetary Interior. (submitted).

[Publications] 堀 圭介,長尾年恭,河野芳輝,小河勉,神田径,上嶋誠,高橋一郎: "ギリシャ,VANイオアニナ観測点周辺におけるMT観測." 1995年CA研究会論文集. (印刷中).

[Publications] S.Uyeda: "Introduction to the VAN Method of Earthquake Prediction." Critical Review on VAN.(in press).(1996)

[Publications] T.Nagao, M.Uyeshima and S.Uyeda: "Anomalous Changes in Geoelectric Potential for Signal Recognition." Geophysical Research Letters.(in press).(1996)

[Publications] M.Uyeshima, W.Kanda, J.Makris, T.Nagoa and Y.Kono: "Physical Property of VAN's Seismic Eloctric Signals Revealed by Magnetotelluric Observation at Ioannina, Greece." Physics of Earth and Planetary Interior.(in press).(1996)

[Publications] T.Nagao, S.Uyeda, Y.Asai and Y.Kono: "Anomalous changes in geoelectric potential Preceding Four Earthquakes in Japan." Critical Review on VAN.(in press).(1996)

[Publications] T.Ogawa, M.Uyeshima, Y.Kono, T.Nagao, K.Hori and I.Takahasi.: "Physical Properties of VAN' Seismic Electric Signals-Comparison with Variations of Artificial Electric Field." Proceedings of the CA Research Group 1995.(in press).(1996)

[Publications] K.Hori, T.Nagao, Y.Kono, T.Ogawa, W.Kanada, M.Uyeshima and I.Takahashi.: "MT Observation at Ioannina VAN Station, Greece." Proceedings of the CA Research Group 1995.(in press).(1996)

URL: https://kaken.nii.ac.jp/report/KAKENHI-PROJECT-06044085/060440851995kenkyu_seika_hokoku_

Published: 1997-03-03