白山における甚の助谷巨大地すべり突発災害の前兆現象および運動予測

2005 Fiscal Year Final Research Report Summary

Emergent Disaster Precursive Phenomena and Motion Prediction of the Giant Jinnosuke-dani Landslide in Haku-san Mountain, Japan

Research Project

Project/Area Number

15310127

Research Category

Grant-in-Aid for Scientific Research (B)

Allocation Type

Single-year Grants

Section

一般

Research Field

Natural disaster science

Research Institution

Kyoto University (2004-2005)
Kanazawa University (2003)

Principal Investigator

WANG Fawu Kyoto University, Disaster Prevention Research Institute, Assistant Professor, 防災研究所, 助手 (10324097)

Co-Investigator(Kenkyū-buntansha)

MATSUMOTO Tatsunori Graduate School of Kanazawa University, Professor, 大学院・自然科学研究科, 教授 (10143877)
MIYAJIMA Masakatsu Graduate School of Kanazawa University, Professor, 大学院・自然科学研究科, 教授 (70143881)
MASUYA Horishi Graduate School of Kanazawa University, Professor, 大学院・自然科学研究科, 教授 (20157217)
WANG Gonghui Kyoto University, Disaster Prevention Research Institute, Assistant Professor, 防災研究所, 助手 (50372553)
SASSA Kyoji Kyoto University, Disaster Prevention Research Institute, Professor, 防災研究所, 教授 (30086061)

Project Period (FY)

2003 – 2005

Keywords

landslide / debris flow / groundwater / initiation mechanism / motion mechanism / field investigation / ring shear tests / grain crushing

Research Abstract

The Jinnosuke-dani landslide is a giant landslide 2,000 m long and 500 m wide in the Haku-san Mountain area, Japan. It was also the first landslide to be designated as a "Landslide Prevention Area" according to the "Japan Landslide Prevention Law". This landslide consists of alternating layers of sandstone and shale in the Tedori Formation, which was deposited from the Jurassic period to the Early Cretaceous. Based on deformation monitoring results for more than 7 years, the landslide is divided into upper and lower blocks. The upper block has moved at a speed of 80 to 170 mm/year, while the lower block has moved more slowly (3 to 15 mm/year). Monitoring data show that the variation of the groundwater level has a great influence on the landslide movement. The deteriorating effect of the weathering of the alternating layers of sandstone and shale on the landslide deformation has been confirmed by borehole exploration and monitoring.
Concerning the landslide motion prediction when a giant ⋯▾ More

Research Products (13 results)

All | 2006 | 2005

All | Journal Article | Book

[Journal Article] Initiation and traveling mechanisms of the May 2004 landslide-debris flow at Bettou-dani of the Jinnosuke-dani landslide, Haku-san Mountain, Japan 2006

[Journal Article] Deformation characteristics and influential factors for the giant Jinnosuke-dani landslide in the Haku-san Mountain area, Japan 2006

[Journal Article] Initiation and traveling mechanisms of the May 2004 landslide-debris flow at Bettou-dani of the Jinnosuke-dani landslide, Haku-san Mountain, Japan 2006

[Journal Article] Deformation characteristics and influential factors for the giant Jinnosuke-dani landslide in the Haku-san Mountain area, Japan 2006

[Journal Article] Two recent flowslides in Yamashina area, Kanazawa City, Japan 2005

[Journal Article] Fluidization mechanisms and motion simulation on flowslides triggered by earthquake and rainfall. 2005

[Journal Article] Dynamic properties of earthquake-induced large-scale rapid landslides within past landslide masses 2005

[Journal Article] Displacement monitoring and physical exploration on the Shuping Landslide reactivated by impoundment of the Three Gorge Reservoir, China 2005

[Journal Article] Two recent flowslides in Yamashina area, Kanazawa City, Japan 2005

[Journal Article] Fluidization mechanisms and motion simulation on flowslides triggered by earthquake and rainfall 2005

[Journal Article] Displacement monitoring and physical exploration on the Shuping Landslide reactivated by impoundment of the Three Gorge Reservoir, China 2005

[Book] Landslides - Risk Analysis and Sustainable Disaster Management 2005

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URL: https://kaken.nii.ac.jp/report/KAKENHI-PROJECT-15310127/153101272005kenkyu_seika_hokoku_

Published: 2007-12-12