



Geotechnics for Catastrophic Flooding Events

Editor: Susumu Iai



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Progresses on disaster mitigation and rehabilitation technologies for embankment dam in China
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Use of biogeotechnologies for disaster mitigation
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Damage to river levees by the 2011 Off the Pacific Coast Tohoku earthquake and prediction of liquefaction in levees
M. Okamura & S. Hayashi

Geoenvironmental issues for the recovery from the 2011 East Japan earthquake and tsunami
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Proposed outline for LEAP verification and validation processes
B.L. Kutter, M.T. Manzari, M. Zeghal, Y.G. Zhou & R.J. Armstrong

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M.T. Manzari, B.L. Kutter, M. Zeghal, S. Iai, T. Tobita, S.P.G. Madabhushi, S.K. Haigh, L. Mejia, D.A. Gutierrez, R.J. Armstrong, M.K. Sharp, Y.M. Chen & Y.G. Zhou

LEAP: Selected data for class C calibrations and class A validations
M. Zeghal, M.T. Manzari, B.L. Kutter & T. Abdoun

Benchmark centrifuge tests and analyses of liquefaction-induced lateral spreading during earthquake
T. Tobita, M.T. Manzari, O. Ozutsumi, K. Ueda, R. Uzuska & S. Iai

Workshop on guidelines and recommendations for local governments to mitigate flooding disasters

Preparing 'Guidelines and Recommendations' for disaster mitigation – what is the lesson from recent flood and tsunami
K. Ichii

Geotechnical lesson and application on earth bank for tsunami disaster prevention
K. Tokida

On the failure mechanisms of different levee designs under extreme rainfall event – case studies in Southern Taiwan
W.-C. Huang, R.-K. Chen & M.-C. Weng

Impact of the recent earthquake and tsunami on Chilean port
F. Caselli, M. Beale & M. Reyes

Numerical analysis of Darcy/Navier-Stokes coupled flows and seepage-induced erosion of soils
K. Fujisawa

Effect of incidence angle of current and consolidation pressure on the hydraulic resistance capacity of clayey soil
Y.S. Kim, S.H. Jeong, T.M. Do, C. Lee & K.O. Kang

Evaluation of liquefaction susceptibility of soils using Dynamic Weight Sounding test
S. Sawada

Earthquake and tsunami damage estimation for port-BCP
Y. Akakura, K. Ono & K. Ichii

Reliability on the stability of long continuous earth-structures
T. Hara, M. Nonoyama, Y. Otake & Y. Honjo

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W.D.L. Finn

Prelude to Panel Discussion: How to meet catastrophic events
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Y.M. Chen, C.X. Xu & G. Zhou

The development of non-contact displacement test method and its application in shaking table test
S. Chen, G.X. Chen, L.Y. Wang, H.-M. Gao & D.-D. Jin

Engineering properties of varved clays from the Junikowski Stream Valley in Poland
A. Florkiewicz, M. Flieger-Szymańska, K. Machowiak & D. Wanatowski

Experimental study on static and dynamic characteristics for silty clay of dam foundation
L. Gao, Q.Y. Zhou & X.J. Yu

Practical assessment on seismic damage to an airport runway based on 2-D and 3-D non-linear FEM analyses with special reference to crack occurrence
Y. Hata, K. Ichii & A. Nozu

Experimental study on static and dynamic properties of asphalt concrete core material
B. Huang, W. Zhang & B.-J. Zhang

Seismic response of geosynthetic reinforced earth embankment on different soil deposit
W.Y. Hung & C.J. Lee

Laterally loaded behavior of mono-pile in sandy ground
C.J. Lee, Y.T. Lin, W.Y. Hung, C.H. Tsai & Y.C. Tu

Three-phase coupled analysis of shaking table test of unsaturated embankment on inclined ground
T. Matsumaru & R. Uzuoka

Seismic response of unsaturated embankment reinforced with soil nails
Y. Nakai, R. Uzuoka & T. Matsumaru

Subsidence of breakwater on sandy ground due to earthquake motion
Y. Ohya, E. Kohama, A. Nozu, T. Sugano & N. Yoshida

Evaluation of topographic slope based $V_{3,30}$ estimation for Indonesia
W.A. Prakoso, D. Damoerin, I.N. Sukanta & E. Santoso

Dynamic penetration test with measurement of the pull-out resistance
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Geotechnical study for inpit dump on low-wall part in coal mining South Kalimantan
S.T.M.T. Sujatono

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Ultra-soft soil improvement via vacuum preloading in combination with electroosmotic consolidation
Z.H. Sun & M.J. Gao

Centrifugal model tests on collapse of coastal levee due to tsunami overflow
H. Takahashi, Y. Morikawa, N. Mori & T. Yasuda

Measurement of the earth pressure in centrifuge tests – focusing on the variation due to the settlement
M. Takamachi, K. Ichii, K. Kitade, H.T. Chen, C.J. Lee, W.Y. Hung, N. Orai & T. Matsuno

Towards understanding flow liquefaction by computation
D. Wanatowski, D.A. Shuttle & M.G. Jefferies

Centrifuge model tests on seismic response of tailings dam
X. Wang, Y. Zhou, C.F. Lee & S. Lv

Fractal properties of filter membrane for silt clogging evaluation on PVD improved soft clays
J. Wang, Z.L. Dong & H.H. Ma

Bedrock elevation measurement using ambient vibrations and ultra-sonic pulse test
S.P.R. Wardani, M. Irsyam, W. Partono & S. Maarif

Experimental study on dynamic shear modulus of saturated silty soil
X.J. Yu, Y. Bai, L. Gao & Z. Ren

Study on cyclic shear behavior of frozen soil-structure interface
L. Zhao, P. Yang & G. Wang

Test study on fluid characteristics of post liquefied Nanjing fine sand
E.Q. Zhou, Z. H. Wang, C. Lv & G.X. Chen

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The compression of sand caused by multidirectional earthquake loading
G.Y. Gao, H.Q. Zhang & Q.S. Chen

Study on stability of rock slope based on Ant Colony Clustering Algorithm
W. Gao

The effect of liquefaction on the damages of factories in the Great East Japan Earthquake Disaster and on the damage estimate by the Nankai trough earthquake
K. Kitade, K. Ichii, H. Kinoshita, S. Kuga, D. Yoneura & K. Yamada

Model shake table test and numerical analysis on dynamic property of quay wall with coarse-grained rock waste
E. Kohama, S. Setoguchi, K. Kusunoki & T. Sugano

A study on seismic resistance evaluation methods with the consideration of the effect of rainfall
N. Orai & K. Ichii

River water fluctuations induced river embankment stability
R.A.A. Soemitro & D.D. Warnana

Combined effect of earthquake and tsunami on failure of a pile supported building
T. Tobita

InSAR time series analysis in deformation monitoring of Hanyuan resettlement zone, Southwest China
R. Xiao, X.F. He & G.Q. Shi

Nondestructive examination for the equality of the specimens for liquefaction test
K. Yamada, M. Takamachi & K. Ichii

Liquefaction potential of natural deposit during and after an earthquake by effective stress analysis
N. Yoshida, R. Uzuoka & H. Ishikawa

Theme 3. Disaster mitigation and rehabilitation

General Papers

Analysis of anchor failure of prestressed single anchorage in coal mine
X. Chu

Automatic damage detection system for road surface by using image analysis
S. Ishii, O. Kurihara, T. Ito, K. Ichii & T. Tamaki

A system for flatness evaluation of road surfaces using photographs taken from a car moving at a high speed
T. Ito, K. Yamada, K. Ichii, T. Tamaki & M. Kadota

Ground health monitoring of a slope of constructed fill using the surface wave method
M. Kawano, K. Kitade, Y. Murakami, M. Takamachi, T. Ito & K. Ichii

Study on design method of drain pipe recovering stability of road embankment
S. Kitaguchi, K. Tokida & S. Kamide

Preliminary study on evaluation of failure range of residential fill slope due to the past large-scale earthquake
S. Komai, Y. Hata & K. Tokida

Preliminary study on effects of extended core structure on seepage and dynamic characteristics of earth dam
Y.H. Lee, K. Tokida, Y. Hata, J. Kawaguchi & M. Uotani

The monitoring and early warning method for USAF of offshore wind turbines
H.-J. Li, H.-J. Liu, G.-G. Xi & M.-B. Ma

Development of tensile strength test for soil
Y. Murakami, M. Kawano & K. Ichii

Seismic stability for slopes reinforced with multi-row anchors
T.K. Nian, K. Liu, G.Q. Chen & L. Song

A simple device for trapping small-scaled debris flows
K. Ozasa, K. Kumagai, H. Takahashi, M. Imashiro & H. Ohta

Comparative experiments on influence of EKG and iron electrodes on electro-osmotic effects
Y. Shen, Y.D. Li, W.J. Huang, H.D. Xu & P.F. Hu

Study on hardly-permeable earth bank against tsunami flood
J. Shimakawa, K. Tokida, Y. Hata & R. Tanimoto

Numerical modeling of DJM column reinforced dyke performances under dredging
M.W. Wang, K.Y. Zhao, H. Jiang, L.B. Zhang & X.F. Li

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A treatment solution to differential settlement in existing highway on soft ground
Y.D. Wu, C.C. Zeng, J. Liu & H.L. Liu

Collapse episodes and remedial works for an earth dam during construction of cut-off walls
X.Y. Xie, L.W. Zheng & H.B. Cao

Research on slope stability treatment by using PCC pile based on Yanglintang project
Y. Zhuang, Y.M. Lu & H.L. Liu

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