

Author's Accepted Manuscript

Development and Implementation of a
DECATASTROPHIZE platform and tool for the
management of disasters or multiple hazards

A. Damalas, C. Mettas, E. Evagorou, S.
Giannecchini, C. Iasio, M. Papadopoulos, K.
Alexandra, D. Hadjimitsis



www.elsevier.com/locate/ijdr

PII: S2212-4209(17)30405-3
DOI: <https://doi.org/10.1016/j.ijdr.2018.05.011>
Reference: IJDRR898

To appear in: *International Journal of Disaster Risk Reduction*

Received date: 30 December 2017
Revised date: 12 May 2018
Accepted date: 23 May 2018

Cite this article as: A. Damalas, C. Mettas, E. Evagorou, S. Giannecchini, C. Iasio, M. Papadopoulos, K. Alexandra and D. Hadjimitsis, Development and Implementation of a DECATASTROPHIZE platform and tool for the management of disasters or multiple hazards, *International Journal of Disaster Risk Reduction*, <https://doi.org/10.1016/j.ijdr.2018.05.011>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Development and Implementation of a DECATASTROPHIZE platform and tool for the management of disasters or multiple hazards

International Journal of Disaster Risk Reduction

Damalas, A. ^{a*}, Mettas, C. ^a, Evagorou E. ^a, Giannecchini, S. ^b, Iasio, C. ^b, Papadopoulos, M. ^c, Alexandra K. ^c, Hadjimitsis D. ^a

^a Cyprus University of Technology, Faculty of Engineering and Technology, Department of Civil Engineering and Geomatics, ERATOSTHENES Research Centre, 2-6 Saripolou Street, 3603, Limassol, Cyprus, ^b GeoSolutions, Via Carignoni 51, Camaione, Italy

^c Ministry of Interior, Cyprus Civil Defence, Cyprus

1. ABSTRACT

Research studies using a Geo-Spatial Early Warning Decision Support System (GE-DSS) based platform and tool to integrate and link decision makers, Emergency Operation Centres (EOCs), Operational Resources (OR) in the field for multi-hazard or disaster management in accordance relative to the New European Union Civil Protection Mechanism (UCPM) priorities have neither been explored nor implemented. The goal of the DECATASTROPHIZE (DECAT) platform is to use a GE-DSS to assess, prepare for and respond to multiple and/or simultaneous natural and man-made hazards and disasters in a synergistic way on one multi-platform, distributed and integrated framework. The main results of the DSS platform include: 1) GE-DSS use-case analyses, workflows and functionalities for early warning, decision making and rapid mapping, 2) methodologies for rapid assessment and mitigation of impacts, and 3) Spatial Data Infrastructures (SDI) from Cyprus for disseminating geospatial data and information about various types of multi-hazards with dedicated capabilities aimed to support impact assessment as well as emergency management based on activities suitable for overall operational scenarios.

In addition to integrating the a) GE-DSS, b) EOCs, and c) OR in the field, the DECAT methodological framework software also integrated hazard/risk assessment with the common operational picture. The paper aims to introduce the GE-DSS prototype resulting from the implementation of these requirements, resulting by reuse, improvement and extension of Open Source SDI codes. It has been already tested in all of DECAT participating countries. The objectives achievement level was evaluated by analysing the test performed by Cyprus Civil Defense (CCD).

The DECAT project aimed to a) demonstrate the assessment and mitigation of impact of natural disasters, b) discuss and develop effective warning systems decision making and rapid notification for risk resilience at all levels, c) stimulate exchange of ideas and knowledge transfer on all phases of the disaster management cycle including disaster research, and risk reduction at all geographical scales—local, national and international, d) assess multi-disaster risk and impacts from a multidisciplinary and multi-faceted perspective, e) develop multi-disaster risk reduction strategies and techniques.

Keywords: Disaster management, Geo-spatial Early Warning Decision Support System, Multi-Hazard or Disaster Risk Assessment, Humanitarian Aid and Civil Protection (ECHO), European Union (EU) Civil Protection Mechanism

Download English Version:

<https://daneshyari.com/en/article/7470767>

Download Persian Version:

<https://daneshyari.com/article/7470767>

[Daneshyari.com](https://daneshyari.com)