



PROGRAMMA

II Workshop Istituto di Ricerca per la Protezione Idrogeologica

LA MITIGAZIONE DEI RISCHI GEO-IDROLOGICI IN UN CONTESTO DI CAMBIAMENTO GLOBALE: QUALI RISPOSTE DALLA COMUNITÀ SCIENTIFICA

Roma, 3 – 5 LUGLIO 2023
Aula MARCONI – CNR Roma

3 luglio 2023

10:00 – 10:30 Cerimonia di apertura:

- Presidente CNR - Prof.ssa Maria Chiara Carrozza
- Direttore DSSTTA - Dott. Fabio Trincardi
- Direttore IRPI – Dott. Tommaso Moramarco

10:30-11:00 SESSIONE 1: Advancements in monitoring techniques, models, and methods to acquire the relevant data for forecasting and early warning systems
Conveners: F. Bahmanpouri, H. Mosaffa, P. Filippucci, S. Modanesi, J. Dari, D. De Santis

10:30 D. Prasad Sahoo, P. Filippucci, A. Tarpanelli
A Copula-based Satellite Merging Approach for Near-daily River Discharge Estimation

10:45 V. Tripodi, V. Lupiano, S. Procopio, V. Rago, G. Buttafuoco, O. G. Terranova, C. Bruno, D. D'Onofrio, G. Iovine
Monitoring and modelling of indoor radon in Calabria (Southern Italy).
First results

11:00 P. Filippucci, H. Mosaffa, L. Brocca, C. Massari
Daily-1km precipitation estimates over Mediterranean basin

11:15 B. Bonaccorsi, S. Camici, A. Tarpanelli, L. Brocca, M. Dionigi, S. Barbetta
Flooding event analysis based on 2D modeling: the case study of the Sarca river in October 2020

Workshop CNR IRPI - Roma, 3-5 luglio 2023

11:30 M.F. Degano, R. Rivas, M. Bayala
Google Earth engine as a tools for quantifying evapotranspiration with satellite data

11:45 F. Bahmanpouri, H. Mosaffa, P. Filippucci, S. Modanesi, J. Dari, D. De Santis, M. Dionigi, S. Barbetta, T. Moramarco
Application of the Entropy concept in hydraulic and hydrological processes, focusing on high flow conditions

12:00 - 13:30 TAVOLA ROTONDA
Carlo Cacciamani (Italia Meteo), Paola Pagliara (Dipartimento Protezione Civile), Martina Bussetini (ISPRA)
«Clima Territorio e Società: sfide per la gestione dell'emergenza e la prevenzione dei rischi geo-idrologici»

13:30 - 14:30 PAUSA PRANZO

14:30-15:15 SESSIONE 1: Continuazione

14:30 D. De Santis, F. Avanzi, S. Gabellani, M. Galvagno, S. Modanesi, C. Massari
Drought propagation through eco-hydrological systems: an observation-based investigation of four italian catchments

14:45 M. Dionigi, M. Verdone, D. Penna, S. Barbetta, C. Massari
Throughfall variability between oak and beech trees in a mountainous Mediterranean catchment

15:00 S. Modanesi, G. De Lannoy, M. Bechtold, L. Brocca, J. Dari, L. Busschaert, M. Natali, C. Massari
Optimizing irrigation simulations through integration of land surface models and remote sensing data

15:15-15:45 Infrastruttura DATI IRPI (I. Marchesini, M. Cignetti, D. Guenzi, A. Sarretta)

15:45-18:00 SESSIONE 2: Geosciences in extraterrestrial environments.
Conveners: M.T. Brunetti, S. Peruccacci, P. Comodi

15:45 R. Pozzobon, F. Sauro, A.P. Rossi, M. Pajola, M. Massironi, C. Pernechele, E. Simioni, the DAEDALUS and ESA Lunar Caves CDF teams
DAEDALUS mission design and landing site characterization in the proximity of Marius Hills Hole (Moon) within the ESA Lunar Caves CDF Study

16:00 M. Fastelli, B. Schmitt, P. Beck, O. Poch, A. Zucchini, P. Comodi
Reflectance spectra of NH₄⁺ minerals under varying physical parameters: implications for planetary detection

16:15 A. Zinzi, E. Rognini, V. Camplone, M. Giardino
MATISSE: 10 years of the SSSC webtool for planetary exploration missions

16:30 - 16:45 PAUSA CAFFÈ

16:45 M. Bisolfati, A. Pisello, M. Porreca, A. Zinzi, C. Pauselli, D. Perugini
Geological mapping using ASTER remote sensing data: the case of the craters of the moon basaltic flow (Idaho, USA)

17:00 M.T. Brunetti, S. Peruccacci
The study of the extraterrestrial landslides

Workshop CNR IRPI - Roma, 3-5 luglio 2023

17:15 C. Malatesta, T. Gerya, S. Pittaluga, D. Cabiddu
Outer-rise faults formation as a trigger for intraslab stress increase and potential intermediate-depth earthquakes

17:30 M. Murri, G. Capitani, M. Fasoli, A. Monguzzi, A. Calloni, G. Bussetti, N. Malaspina, A. Bossi, T. Recca, M. Campione
Laboratory simulations of cosmic impacts in the water environment.

17:45 G. Schmidt, F. Salvini
Elastic thickness of Pluto's outer shell: insights from the topography of the Sputnik Planitia impact region

4 luglio 2023

9:00-11:30 SESSIONE 3: Back to Field: Methods, techniques and experiences of field data collection.
Conveners: F. Fiorucci, M. Santangelo, M. Cavalli, L. Picco

09:00 L. Picco, L. Martini, G. Pellegrini, M. Cavalli
Large infrequent disturbances affecting mountain watersheds. Approaching the issue taking advantage of IC maps

09:15 F. Ardizzone, M. Cardinali, F. Guzzetti, P. Reichenbach, F. Fiorucci, F. Bucci, M. Santangelo
Collazzone, a pilot study area in central Umbria

09:30 A. Ballaera, G. Bossi, G. Marcato
Integrating long-term and near-real-time approaches for improved landslide mitigation measures

09:45 F.T. Catelan, G. Bossi, G. Marcato
Hydrogeological and kinematic parameterization of Lamosano landslide (Eastern Italian Alps)

10:00 M. Donnini, I. Marchesini, A. Benigni, C. Cencetti
First experience of correlation between physical and chemical weathering at basin scale. The case study of Niccone basin

10:15 M. Donnini, F. Frondini, M. Vetuschki Zuccolini, L. Melelli, F. Fiorucci, C. Cardellini, G. Chiodini
Hydrogeological asset of alpine region: physical and chemical characteristics

10:30 M. Piantini, F. Gimbert, A. Recking
Using seismology to investigate the dynamics of mountain rivers during flood events

10:45 L. Borrelli, M. Ciurleo, M. Conforti, G. Gullà
The role of the weathering grade map of crystalline rocks in shallow landslide susceptibility assessment

11:00 - 11:15 PAUSA CAFFÈ

11:15 F. Bucci, M. Cardinali, L. Pisano, F. Filice, V. Zumpano, F. Santaloia, M. Santangelo, F. Ardizzone, F. Fiorucci
Geology and age constraints of ancient landslides along the front of the Daunia Subapennine

11:30 L. Marchi, M. Borga, A. Andreoli, S. Barbetta, A. Brenna, M. Cavalli, F. Comiti, V. Coviello, S. Crema, F. Fiorucci, S. Francalanci, L. Innocenti, C. Massari, J. Rocca, A. Sarretta, V. Scorpio, L. Solari, N. Surian

Field observations after the flash flood of 15-16 September 2022 in the Umbria and Marche regions (Central Italy)

11:45-12:00 Presentazione GRANT OFFICE IRPI**12:00-13:30 SESSIONE 4 - Status and challenges of geo-hydrological natural hazard modeling at the regional scale and beyond***Conveners: M. Alvioli, I. Marchesini, M. Moscatelli*

12:00 F. Ardizzone, M. Alvioli, G. Falcone, A. Mendicelli, F. Mori, F. Fiorucci, M. Moscatelli

Seismically induced rockfall hazard from a physically based model at national scale in Italy

12:15 M. Burnelli, L. Melelli, M. Alvioli

Land surface diversity: a geomorphodiversity index of Italy

12:30 C. Masciulli, M. Zocchi, R. Marini, F. Troiani, P. Mazzanti, G. Scarascia Mugnozza

Enhancing site prioritization through a semi-automatic ranking: a case study of landslides monitoring in the Central Appennines, Italy

12:45 J. Rocca, M. Cardinali, S. Crema, F. Fiorucci, I. Marchesini, L. Marchi, M. Rossi, M. Santangelo, A. Sarretta, M. Cavalli

Debris-flow susceptibility assessment along the railway network: methodological framework and testing in an alpine area

13:00 M. Rossi, M. Donnini, G. Beddini

Nationwide groundwater recharge evaluation for sustainable water withdrawal over Italy

13:15 P. Mazzoglio, I. Butera, P. Claps

Approaching the estimation of high return period rainfall quantiles through a high-resolution investigation of local orographic gradients

13:30 - 14:30 PAUSA PRANZO

14:30-16:30 SESSIONE 4 - Continuazione

14:30 A.C. Mondini, F. Guzzetti, M. Melillo

Deep learning forecast of rainfall-induced shallow landslides

14:45 D. de Lucia, N.L. Fazio, A. Ugenti, J. Wasowski

Seismic Microzonation Study of the Hilltop Towns in the Daunia Apennines, Italy: initial results of numerical analysis

15:00 M. Loche, M. Alvioli, I. Marchesini, L. Lombardo

Landslide susceptibility maps of Italy: lesson learnt from dealing with multiple landslide types the uneven spatial distribution of the national inventory

15:15 A. Ugenti, F.A. Mevoli, D. de Lucia, J. Wasowski, P. Lollino, N.L. Fazio

Slope stability analysis at municipality scale: a 3D physically based approach

15:30 G. Ciotoli, F. Mori, L. Ruggiero, C. Varone, M. Moscatelli, S. Nisio

Sinkhole susceptibility map of Italy by maximum entropy modelling

15:45 I. Marchesini, O. Althuwaynee, M. Santangelo, M. Alvioli, M. Cardinali, M. Mergili, P. Reichenbach, S. Peruccacci, V. Balducci, I. Agostino, R. Esposito, M. Rossi

Exposure of the Italian railway to rapid flow-like landslides

16:00 - 16:15 PAUSA CAFFÈ

16:15 M. Fiorucci, G. Amato, L. Lombardo, S. Martino, L. Palombi

Earthquake-triggered landslide susceptibility in Italy by means of artificial neural network

16:30 F. Mori, A. Mendicelli, C. Varone, G. Ciotoli, M. Moscatelli, M. Alvioli

Real-Time earthquake-induced landslides prediction modeling using machine learning

16:45-17:15 In ricordo di VELIO COVIELLO (M. Arattano, A. Manconi)**17:15 -18:45 SESSIONE 5 - High mountain natural hazards and processes in a changing climate***Conveners: M. Chiarle, G. Nigrelli, D. Giordan, N. Dematteis, R. Paranunzio*

17:15 G. Nigrelli, A. Gramazio, M. Chiarle

Rock temperature monitoring in mountain rockfall-prone areas with PERA@ IOT

17:30 R. Paranunzio, M. Chiarle, F. Marra, G. Nigrelli

Data, tools and methods to support geo-hydrological risk assessment at high elevation sites in the Alps

17:45 M. Chiarle, R. Paranunzio, L. Turconi, F. Luino, G. Mortara, M. Guerini, M. Giardino, G. Nigrelli

Inventory of high-elevation mass movements in the Italian Alps: a tool for understanding and managing the impacts of climate change on slope stability

18:00 E. Matta, M. Chiarle, G. Nigrelli, M. Bresciani, C. Giardino

Use of Sentinel-2 images for the analysis of temporal and spatial changes of water colour in Lake Ceresole

18:15 A. Manconi, V. Coviello

Investigation of slope failure in high alpine areas with regionale and local seismic networks

18:30 N. Dematteis, F. Troilo, R. Scotti, D. Colombaroli, D. Giordan, V. Maggi

Monoscopic terrestrial time-lapse cameras: an effective tool for surveying glacier surface velocity

5 luglio 2023

9:00-10:30 SESSIONE 6: Risk communication and risk perception: comparing methods, techniques and experiences.*Conveners: P. Salvati, L. Antronico, R. Coscarelli***09:00-09:15 Comunicazione e Divulgazione (P. Salvati)**

09:15 G. Lelow, F. Marincioni

Crowdsourcing for next generation emergency management

09:30 I. Marchesini, S. Sterlacchini, D. Voltolina, P. Salvati

Citizen science and engagement: experience from IRPI and IGAG collaboration

09:45 G. Nigrelli, S. Barbero, D. Berta, B. Migliorati, M. Battain, D. Genovese, I. Borroni, M. Chiarle

On-site science communication: the Bessanese high-elevation experimental site

10:00 Melissa Sessa

Resilient communities and crisis management for environmental disaster risk reduction

10:15 D. Godone, R. Beltramo, E. Vesce, P. Cantore, C. Vari, E. Favaro, L. De Bellis

Assessing human and land fragility in mountain areas: a methodology for evaluating cost and benefit of monitoring and intervention

10:30 - 10:45 PAUSA CAFFÈ

10:45-12:30 SESSIONE 7: Geo-hydrological risk mapping and monitoring through innovative technologies and solutions*Conveners: D. Godone, M. Cignetti, D. Notti*

11:00 L. Turconi, B. Bono, F. Faccini, F. Luino

Morphological changes of coastal mediterranean floodplains since the XIX century

11:15 M. Arattano, M. Chiarle, V. Coviello, G. Nigrelli

Detection and warning of the August 5, 2022 debris flow on the Rochefort torrent (Aosta Valley)

11:30 M. Cignetti, D. Notti, D. Cardone, D. Godone, P. Allasia, N. Dematteis, F. Calò, S. Verde, D. Reale, G. Fornaro, D. Giordan

Multi-band and multi-techniques InSAR application for landslide mapping and monitoring: part of the ASI-MEFISTO Project outcomes

11:45 F. Chiaravallotti, S. Gabriele, V. Lupiano, V. Rago, A. Tiesi, O.G. Terranova, V. Tripodi, C. Bruno, D. D'Onofrio, G. Iovine

Examples of application of a dynamic and quick method for predicting rainfall-induced shallow landslides triggering

12:00 V. Coviello, E. Adirosi, M. Palo, M. Picozzi

Seismic signature of an extreme hydrometeorological event

12:15 P. Allasia, D. Godone, M. Cignetti, D. Guenzi, D. Giordan

Monitoring of large slow rock-slope deformation interacting with infrastructures through robotized inclinometer system

12:30-13:00 DISCUSSIONE**13:00-13:30 - CONCLUSIONI**

SEGRETERIA ORGANIZZATIVA

Federica Ceccotto

Luca Pisano

✉ segreteria_wpirpi-2023@irpi.cnr.it

Webinar gotomeeting (richiesta link a segreteria)

COMITATO ORGANIZZATORE

Marco Baldo, Antonella Barizza, Alessia Basso, Federica Ceccotto, Cristiano Corradini, Valeria Lupiano, Davide Notti, Luca Pisano, Mauro Rossi, Enzo Valente

