



Abstract

Sharing Information for Wildfire Risk Management: The MEDSTAR Platform †

Mirko D'Andrea *, Andrea Trucchia , Guido Biondi, Silvia Degli Esposti and Paolo Fiorucci

CIMA Research Foundation, 17100 Savona, Italy

* Correspondence: mirko.dandrea@cimafoundation.org

† Presented at the Third International Conference on Fire Behavior and Risk, Sardinia, Italy, 3–6 May 2022.

Keywords: wildfire management; integrated platform; GIS

Within the Interreg-Maritime project, the MEDSTAR platform, an integrated tool for accessing and sharing data for wildfire risk management, has been implemented relying on the technology of the consolidated MyDewetra.world platform.

MyDewetra.world [1] is an open-source web-based system for real-time monitoring and forecasting of natural hazards (such as floods, landslides and wildfires). It is designed to be a single point of access to a wide range of data and information at global, regional and local scales, coming from multiple authoritative agencies and institutions. Its architecture systematically organizes data layers and information, allowing for a wide community of users to access, share and integrate both time-varying data and static maps. MyDewetra.world has been recently employed at the national scale in the framework of relevant projects related to civil protection. The Bolivian implementation and the Ethiopian one are remarkable examples of the latest reached milestones.

The MEDSTAR platform allows access to data-providing services in all the phases of the wildfire risk management cycle. Real-time meteorological data and satellite observations can be accessed and elaborated for the monitoring of fire weather, soil moisture, vegetation conditions and burned areas as well data on fire activity provided by regional operational rooms and remote sensing. Several meteorological prediction models at different spatial resolutions can be accessed. These data feed the RISICO system [2,3] and the FWI, providing fire danger forecasts up to 10 days in advance. Static data, including fuel models, topography, land use/land cover, fire hazard maps and WUI, and data supporting fire-fighting activities, are also available. The platform includes several applications supporting operational activities, from the issue of the fire danger bulletin to the simulation of fire spreading. A catalogue allows access to data for downloading and sharing via WMS on other legacy systems.

Author Contributions: Conceptualization, M.D. and P.F.; methodology, M.D., A.T. and P.F.; software, M.D.; investigation, A.T. and P.F.; data curation, M.D., G.B. and S.D.E.; writing—original draft preparation, A.T.; writing—review and editing, A.T. and M.D.; supervision, P.F.; project administration, S.D.E. All authors have read and agreed to the published version of the manuscript.

Funding: This work has been funded by the MED-Star project “Strategies and measures for the mitigation of fire risk in the Mediterranean area” in the framework of the Cross-border Cooperation Programme INTERREG “Italy-France Maritime” 2014–2020.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

Conflicts of Interest: The authors declare no conflict of interest.



Citation: D'Andrea, M.; Trucchia, A.; Biondi, G.; Degli Esposti, S.; Fiorucci, P. Sharing Information for Wildfire Risk Management: The MEDSTAR Platform. *Environ. Sci. Proc.* **2022**, *17*, 25. <https://doi.org/10.3390/environsciproc2022017025>

Academic Editors: Pierpaolo Duce, Donatella Spano, Michele Salis, Bachisio Arca, Valentina Bacciu, Grazia Pellizzaro and Costantino Sirca

Published: 9 August 2022

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright: © 2022 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

References

1. Italian Civil Protection Department; CIMA Research Foundation. The Dewetra Platform: A Multi-perspective Architecture for Risk Management during Emergencies. In Proceedings of the International Conference on Information Systems for Crisis Response and Management in Mediterranean Countries, Toulouse, France, 15–17 October 2014.
2. Fiorucci, P.; D'Andrea, M.; Negro, D.; Gollini, A.; Severino, M.I. Aggiornamento Del Manuale D'uso Del Sistema Previsionale Della Pericolosità Potenziale Degli Incendi Boschivi RIS.I.CO.—RISICO2015. Technical Report, Italian Department of Civil Protection-Presidency of the Council of Ministers, and CIMA Research Foundation. 2015. Available online: <http://www.mydewetra.org/wiki> (accessed on 20 December 2021).
3. Fiorucci, P.; Gaetani, F.; Minciardi, R. Development and application of a system for dynamic wildfire risk assessment in Italy. *Environ. Model. Softw.* **2008**, *23*, 690–702. [[CrossRef](#)]