

E-CITIJENS

Civil Protection Emergency
DSS based on CITizen Journalism
to ENhance Safety
of Adriatic Basin



**RELEVANT PUBLICATIONS
ON THE USE
OF SOCIAL MEDIA
DURING EMERGENCIES**

#EDSS

INCREASING SAFETY THROUGH SOCIAL MEDIA BASED TOOLS

Deliverable «Publications and booklets», WP 2 Communication Activities.
Activity 2.2 Media Relations, printed promotion documents and publications.
Partner in charge of WP: Adriatic Ionian Euroregion (PP7).
Partner in charge of publication: University of Bologna.

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Lead Partner: Molise Region (IT)

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- P1 Split and Dalmatia County (HR)
- P2 Veneto Region (IT)
- P3 University of Split (HR)
- P4 EEIG EuRelations (IT)
- P5 University of Bologna (IT)
- P6 Pescara Municipality (IT)
- P7 Adriatic Ionian Euroregion (HR)
- P8 Zadar County Rural Development Agency (HR)
- P10 City of Dubrovnik (HR)

Project communication channels:

www.italy-croatia.eu/web/e-citijens

Facebook - Twitter - LinkedIn - YouTube

In this document we will present some publications and documents, divided by topic, that can be considered relevant to the use of social media during emergencies.

Below a literature review that provide a comprehensive framework of the main approaches adopted so far to collecting and processing information sourced from social media platforms with a view to implement emergency management processes.

- Shempp T., Zhang H., Schmidt A., Hong M., Akerkar R. (2019) A framework to integrate social media authoritative data for disaster relief detection and distribution optimization. *International Journal of Disaster Risk Reduction*, 39, 101143, ISSN 2212-4209.
- Zhang C., Fan C., Yao W., Hu X., Mostafavi A. (2019) Social media for intelligent public information and warning in disasters: An interdisciplinary review. *International Journal of Information Management*, 49, pp. pp. 190-207.
- Imran M., Castillo C., Diaz F., Vieweg S. (2018) Processing Social Media Messages in Mass Emergency: A Survey. *Companion of The Web Conference 2018*, pp. pp. 507-551.

With regard in particular to the analysis of the content published by citizens during emergency situations and the possible approaches for their classification, the following publications can be considered useful references.

- Burton S.H., Tanner K.W., Giraud-Carrier C.G., West J.H., Barnes M.D. (2012) «Right Time, Right Place» health communication on Twitter: Value and accuracy of location Information. *Journal of Medical Internet Research*, 14(6):e156.
- Spence P.R., Lachlan K.A., Lin X., Greco M. (2015) Variability in twitter content across the stages of a natural disaster: Implications for crisis communication. *Communication Quarterly*, 63(2), pp. pp. 171–186.
- Takahashi B., Tandoc E.C. , Carmichael C. (2015) Communicating on twitter during a disaster: An analysis of tweets during Typhoon Haiyan in the Philippines. *Computers in Human Behavior*, 50, pp. pp. 392–398.

- Sheth A. (1999) Changing Focus on Interoperability in Information Systems: From System, Syntax, Structure to Semantics. In: Goodchild M., Egenhofer M., Fegeas R., Kottman C. (eds) Interoperating Geographic Information Systems. The Springer International Series in Engineering and Computer Science, vol 495. Springer, Boston, MA.
- Hellmund T., Schenk M., Hertweck P., Moßgraber J. (2019) Employing Geospatial Semantics and Semantic Web Technologies in Natural Disaster Management. Semantics Conference, Karlsruhe (Germany).
- Ludwig T., Reuter C., Pipel V. (2015) Social Haystack: Dynamic Quality Assessment of Citizen-Generated Content during Emergencies, ACM Transactions on Computer-Human Interaction, 22(4).
- Said, N., Ahmad, K., Conci, N., Al-Fuqaha A. (2021) Active learning for event detection in support of disaster analysis applications. Signal, Image and Video Processing, 15, pp. pp. 1081-1088.
- Lazreg M. B., Goodwin M., Granmo O. (2019) An Iterative Information Retrieval Approach from Social Media in Crisis Situations. International Conference on Information and Communication Technologies for Disaster Management (ICT-DM), pp. pp. 1-8.

Following some examples of the use of data obtained from social media in emergency situations.

- Cho S. E., Jung K., Park, H.W. (2013) Social media use during Japan's 2011 earthquake: How twitter transforms the locus of crisis communication. Media International Australia, 149(1), pp. pp. 28-40.
- Spielhofer T., Greenlaw R., Markham D., Hahne A. (2016) Data mining Twitter during the UK floods: Investigating the potential use of social media in emergency management. 3rd International Conference on Information and Communication Technologies for Disaster Management (ICT-DM), pp. pp. 1-6.
- Poblete B., Guzmán J., Maldonado J., Tobar F. (2018) Robust Detection of Extreme Events Using Twitter: Worldwide Earthquake Monitoring. IEEE Transactions on Multimedia, 20 (10), pp. pp. 2551-2561.

- Bhuvana N., Arul Aram I. (2019), Facebook and Whatsapp as disaster management tools during the Chennai (India) floods of 2015. *International Journal of Disaster Risk Reduction*, 39, 101135, ISSN 2212-4209.
- Pourebrahim N., Sultana S., Edwards J., Gochanour A. (2019), Understanding communication dynamics on Twitter during natural disasters: A case study of Hurricane Sandy, *International Journal of Disaster Risk Reduction*, 37:101176.

The Sendai Framework for Disaster Risk Reduction (2015-2030)¹ adopted by the member states of the United Nations is the international document which explicitly introduces the need to implement the use of social media to reduce the risks deriving from natural disasters, and more generally, from emergency situations.

¹ <https://www.undrr.org/publication/sendai-framework-disaster-risk-reduction-2015-2030>



**MOLISE REGION
LEAD PARTNER**

 VIA GENOVA, 11
86100 - Campobasso, ITALY

 e-citijens@regione.molise.it

www.italy-croatia.eu/web/e-citijens

