



## Social media as a tool for providing information following a hazardous event: „Zagrebački potres 2020 – vaše info za seizmologe“ Facebook group

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### Abstract

Today, social networks are an omnipresent method of human interaction and one of the most powerful tools to spread and gather information. Thus, when the ML5.5 earthquake struck Zagreb on 23 March 2020, Croatian Seismological Survey (CSS) at the Department of Geophysics, Faculty of Science, University of Zagreb created a Facebook group “Zagrebački potres 2020 – vaše info za seizmologe” to complement existing methods for macroseismic data collection.

**Key words:** Zagreb earthquake 2020, macroseismic data, social media, public outreach

Today, social networks are an omnipresent method of human interaction and one of the most powerful tools to spread and gather information. Thus, when the  $M_L 5.5$  earthquake struck Zagreb on 23 March 2020, Croatian Seismological Survey (CSS) at the Department of Geophysics, Faculty of Science, University of Zagreb created a Facebook group “Zagrebački potres 2020 – vaše info za seizmologe” (<https://www.facebook.com/groups/210791050014517/>; English translation: Zagreb earthquake 2020 – your info for seismologists; abbreviation: ZP2020) to complement existing methods for macroseismic data collection. However, as aftershocks continued to shake Croatia’s capital, it was clear from group members’ comments that they wanted more information on the topic of earthquake occurrence and seismology in general. Therefore, the group gained an additional purpose – sharing reports on current seismicity and public education. The group was moderated by two seismologists from CSS and one from the Andrija Mohorovičić Geophysical institute at the Department of Geophysics, Faculty of Science, University of Zagreb.

The ZP2020 Facebook group rapidly gained followers, especially in the first few weeks after the mainshock but also after each consecutive aftershock. A number of users provided macroseismic data for the 22 March event, most often including dozens of photographs of earthquake damage and an approximate or detailed location (neighborhood or street). Certain posts contained videos and some only a textual description of the earthquake effects. Most contributions were received in the first three days and they continued until the end of April 2020. Additionally, 74 posts (until 22 November) contained macroseismic data on aftershocks of magnitudes equal to or greater than 1.3, threshold chosen because people were mainly reporting events of such magnitudes and many group members worried that numerous reports would cause spread of fear. Group members showed signs of apprehension and fear even after minor events, but this kind of behaviour is rather common after natural hazards [1, 2, 3]. Comments of the members were useful to improve the way information is presented to the general public, similar to the experience with CSS Twitter account @seizmo\_hr ([https://twitter.com/seizmo\\_hr](https://twitter.com/seizmo_hr)) and the Department of Geophysics Facebook page Geofizika uživo (<https://www.facebook.com/geofizika.uzivo/>).

In this work we present our experience with ZP2020 Facebook group and how social media can be used as a tool in seismological practice. We present the collected dataset and the ways this information can be used as a supplementary material in macroseismic studies. We reflect on our approach to educate and engage the group members, and how it should be further improved to satisfy the needs of the general public. Besides the advantages and positive aspects, we also discuss possible disadvantages of social media usage in seismology. These primarily stem from the fact that obtaining useful scientific information requires a great deal of moderation and practically 24-hour monitoring for positive user response, but also because it makes the seismological organization dependent on the social network regulations and their software changes.

## References

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