Geophysical Research Abstracts
Vol. 17, EGU2015-12695, 2015
EGU General Assembly 2015


# How citizen seismology is transforming rapid public earthquake information and interactions between seismologists and society

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Historical earthquakes are only known to us through written recollections and so seismologists have a long experience of interpreting the reports of eyewitnesses, explaining probably why seismology has been a pioneer in crowdsourcing and citizen science.

Today, Internet has been transforming this situation; It can be considered as the digital nervous system comprising of digital veins and intertwined sensors that capture the pulse of our planet in near real-time. How can both seismology and public could benefit from this new monitoring system?

This paper will present the strategy implemented at Euro-Mediterranean Seismological Centre (EMSC) to leverage this new nervous system to detect and diagnose the impact of earthquakes within minutes rather than hours and how it transformed information systems and interactions with the public.

We will show how social network monitoring and flashcrowds (massive website traffic increases on EMSC website) are used to automatically detect felt earthquakes before seismic detections, how damaged areas can me mapped through concomitant loss of Internet sessions (visitors being disconnected) and the benefit of collecting felt reports and geolocated pictures to further constrain rapid impact assessment of global earthquakes.

We will also describe how public expectations within tens of seconds of ground shaking are at the basis of improved diversified information tools which integrate this user generated contents. A special attention will be given to LastQuake, the most complex and sophisticated Twitter QuakeBot, smartphone application and browser add-on, which deals with the only earthquakes that matter for the public: the felt and damaging earthquakes.

In conclusion we will demonstrate that eyewitnesses are today real time earthquake sensors and active actors of rapid earthquake information.