

INTRODUCTION

The Emilia seismic sequence that struck northern Italy on May-June 2012 had a relevant social, cultural, emotional and economical impact. There were 17 victims, and it caused severe damage in many localities, especially to the historical centers and factories. From the scientific point of view, the sequence represented an important case study and the whole geophysical community focused their attention on it.

The seismic sequence was characterized by two mainshocks (May 20 and 29, 2012) with magnitudes slightly less than M_L 6.0, five more shocks with $M_L > 5.0$, and about 2,500 located earthquakes. The past relevant earthquake activity that occurred in the area mainly refers to the Ferrara 1570 earthquake (M_W 5.4), a complex seismic sequence that lasted for four years and caused severe damage in Ferrara and its surroundings.

Immediately after the first large shock of May 20, 2012, hundreds of scientists and technicians were involved both in the field and in the geophysical monitoring centers of Italy and Europe. Most of them were Istituto Nazionale di Geofisica e Vulcanologia (INGV) personnel. They performed field surveys and measurements, deployment of supplementary seismic stations and GPS receivers, collection and quasi-real-time analysis of a large amount of multiparametric data, and improvements to the web communications.

To share the preliminary findings of this ongoing research, and to compare these in a critical way, on June 16, 2012, a dedicated working meeting was held at INGV in Rome. The first results on the seismic, ground-deformation, geological and geochemical phenomena and on the media communications were shown. The good quality of these results, although preliminary, induced us to quickly publish them in this special issue of 'Annals of Geophysics'. In this framework, I wish to acknowledge the Editor-in-Chief, Edoardo Del Pezzo, for having strongly encouraged and supported the rapid publication of this volume.

I would like to express my deep gratitude to the Guest Editors of this volume, Marco Anzidei, Alessandra Maramai and Paola Montone, for their invaluable efforts in guaranteeing the quality of the review process in a very short time.

Of those in the 'Annals of Geophysics' Editorial Office, Anna Grazia Chiodetti has strongly contributed with her team (with special thanks due to Francesco Caprara) to the final steps of this publication. Fabio Florindo and his staff are acknowledged for the contribution to the realization of the CD-ROM.

Finally, special thanks are due to Silvia Nardi for her fine work in the organization of the June 16, 2012, meeting in Rome.

I am sure this volume will give the reader a good opportunity to focus better on some different topics relating to the Emilia 2012 seismic sequence, while providing a useful tool to add new data, to compare results and/or models, and to better understand such a complex phenomenon.

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