

Evaluation of sixteen years of INGV seismic Bulletins

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Abstract

In this work we analyze earthquake parameters published in the Seismic Bulletin of the Istituto Nazionale di Geofisica e Vulcanologia (INGV). The analysis and the interpretation of the digital signals, done by specialized employees daily, produce most of the seismological information that comprises INGV's earthquake bulletins. After a brief introduction on the criteria we use to obtain seismic parameters, this paper will review the processing procedures employed over a period of sixteen years from 1988 to September 2003. This study also addresses the issue of the comparison between Magnitude calculated on signal duration (M_d) and on amplitude (M_L) and the lack of a correct calibration between them. A completeness analysis of the whole bulletin performed using both the Stepp and the Habermann techniques shows the importance of considering changes in the seismicity rate and in the geometry of the seismological network. To conclude this excursus, we calculated the errors of hypocentral locations and the detection capacity of individual seismic stations. This final step stresses the increasing improvement of the INGV seismic network over the past 16 years.

Keywords

earthquake parameters; errors of hypocentral locations

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References

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
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