



The ERSE PROJECT: preliminary results

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The aim of this is to carry out a realistic evaluation of damage in two zones in Spain: one urban, (city of Malaga, S. Spain) and another rural, (Cerdanya, NE Spain) as a consequence of the occurrence of a moderate magnitude earthquake ($6.5 > Mw > 5$). As a first step historical and instrumental seismicity of Malaga city has been reevaluated. Historical documentation in archives, churches, etc, for the 1494, 1581 and 1680 earthquakes has retrieved to obtain the intensity maps. Preliminary results, show significant similarity between the 1680 and the 1494 events. In order to improve the study of seismicity in this area, three permanent broad band stations has been installed. The first one, near the city of Malaga (2 km of North), the second one in Ceuta (CEU, North Africa) and the last at Peñón de Velez (PVLZ, North Africa). A permanent GPS station has been also installed on the VBB station at PVLZ, to evaluate the geodynamic displacements at this site. In city of Malaga city one strong motion station on rock site, has been installed and in 2005 two similar instruments will be installed. Focal mechanisms of earthquakes ($3.5 < M < 5.0$) occurred during the period 2002-2004 in Malaga and the Cerdanya have been determined from waveform modelling and inversion of seismic moment tensor. Spectra response has been estimated from shallow ($h < 40km$) and intermediate shocks ($60 < h < 150km$) occurred in the Malaga region. Data coming from permanent GPS stations deployed at South Spain and North Africa region, by ROA and some other Institutes, are being daily processed. Data coming from periodic GPS campaigns carried out at this area are being re-processed. New geodynamic velocity vectors are being produced. A new GPS re-observation campaign is planned to be carried out 2005.