

## **An Updated North Moroccan Poissonian Seismic Catalog (1045-2005).**

**J.A. Pelaez<sup>1</sup>, M. Chourak<sup>2</sup>, B.A. Tadili<sup>3</sup>, L. Ait Brahimi<sup>4</sup>, M. Hamdache<sup>5</sup>, C. Lypez Casado<sup>6</sup>, and J.M. Martinez Solares<sup>7</sup>**

<sup>1</sup> Dpt. Of Physics, Univ. of Jaen, Spain

<sup>2</sup> Dpt. De Geologie, Univ. Moulay Ismail, Morocco

<sup>3</sup> Dpt. De Physique du Globe, Institut Scientifique, Morocco

<sup>4</sup> Dpt. De Sciences de la Terre, Univ. Mohammed V, Morocco

<sup>5</sup> Dpt. D'Etudes et Surveillance Sismique, CRAAG, Algeria

<sup>6</sup> Dpt. Of Theoretical Physics, Univ. of Granada, Spain

<sup>7</sup> IGN, Spain

In this work an updated Poissonian earthquake catalog for Northern Morocco is presented. It has been compiled specifically to perform seismic hazard studies in this region. The final version shows all known available data in the area in the coordinate range 27°-37°N and 15°W-1°E, spanning from years 1045 to 2005.

Among the goals that have been pursued, there is the compilation of a main earthquake catalog as complete and homogeneous as possible. About its completeness, data from different national and international agencies have been collected, as well as from numerous papers from different authors in the region under study, both of historic and instrumental seismicity. Afterwards, a process of unification of magnitudes has been performed. Given our aim, the assessment of seismic hazard in Northern Morocco, the moment magnitude has been used. Finally, all non-Poissonian earthquakes, including foreshocks, aftershocks and swarms, have been removed.

The obtained final catalog, although not as complete and uniform as it should be desirable for this type of studies, improves significantly those developed until now in the study region. As an example, it can be considered complete since 1910 for magnitudes above MW 4.0, and since 1700 for magnitudes above MW 6.0.

Key words: Northern Morocco, Earthquake catalog; Poissonian