

Paper Number: 1870

Seismotectonics and Seismic Hazard Map of Tunisia (North Africa)

Soumaya, A.^{1,2}, Ben Ayed, N.³, Khayati Ammar, H.², Kadri, A.³, Ghanmi, M.¹, and Zargouni, F.¹

¹Faculté des Sciences de Tunis, Tunisie. Email: abdelkader.smeya@gmail.com

²Geological Survey (National Office of Mines), Tunis, Tunisia.

³Faculté des Sciences de Bizerte, Tunisie.

One natural hazard in Tunisia is caused by earthquakes and one way to measure the shaking risk is the probabilistic seismic-hazard map. The study of seismic hazard and risk assessment in Tunisia started in 1990 within the framework of the National Program for Assessment of Earthquake Risk. Because earthquakes are random events characterized by specific uncertainties, we used a probabilistic method to build the seismic hazard map of Tunisia. Probabilities were derived from the available seismic data and from results of neotectonic, geophysical and geological studies on the main active domains of Tunisia. This map displays earthquake ground motions for various probability levels across Tunisia and it is used in seismic provisions of building codes, insurance rate structures, risk assessment and other public management activities. The product is a seismotectonic map of Tunisia summarizing the available datasets (e.g., active fault, focal mechanism, instrumental and historical seismicity, peak ground acceleration). In addition, we elaborate some thematic seismic hazard maps that represent an important tool for the social and economic development.

