

LOCAL EARTHQUAKE GROUND MOTION
SCALING FOR SOUTHEAST MISSOURI

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CHAPTER I

INTRODUCTION

Various means are employed by earth scientists to describe earthquake size and ground motion. The two terms one is likely to run across in the discipline are intensity and magnitude. Before going further, let us look at these terms in detail.

In the nineteenth century, a numerical intensity scale for rating earthquakes was introduced in Europe by M. S. De Rossi and F. A. Forel (Jacob et al., 1974). An intensity is a number which reflects the severity of earthquake effects on man-made and natural features of the earth's surface. The intensity value will therefore depend on the position of the observer with respect to the earthquake epicenter as well as the size. In a very simplistic sense, one would expect the highest value of the intensity nearest the earthquake, with values decreasing radially outward from the maximum value. As one might guess, there is a problem with the assignment of intensity values. Values are determined by empirical observations and not through the use of instrumentation. The possible conflict of objectivity versus subjectivity arises for that reason.