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Introduction

This special issue of PAGEOPH regroups two extensive studies of the seismicity of the Pacific region. They are intended to provide a comprehensive update on our understanding of the occurrence of seismicity along the plate boundaries of the Pacific Basin, as well as in its interior.

The first paper, "*Circum-Pacific Seismic Potential, 1989–1999*", by Stuart P. Nishenko, is an assessment of the present seismic potential in 96 circum-Pacific plate boundary zones, in the form of the specific conditional probabilities for the occurrence of large to great earthquakes along these segments, during a number of time windows extending from 1989 to 2009. Both in its goals, its approach, and its general philosophy, this study follows in the steps of a previous study by Nishenko and three co-workers, published 12 years ago in PAGEOPH (McCann *et al.*, 1979). The paper builds on the experience acquired in the past decade, notably by the detailed seismological study of great historical earthquakes, but also through significant progress in the recognition and dating of the geological evidence for pre-instrumental events; in addition, we have obviously learned a great deal from the large subduction events of the past decade (Colombia, 1979; Mexico and Chile, 1985; Aleutian 1986, to name a few). The paper concludes by ranking the seismic gaps with the highest probability of activity in the next ten years, and the next twenty years, respectively.

The second paper, "*Intraplate Seismicity of the Pacific Basin, 1913–1988*", by Michael E. Wysession, Emile A. Okal, and Kristin L. Miller, presents a thorough compilation of all seismicity reported as intraplate in the Pacific Basin, since the inception of the regular listing of seismological observations in the International Seismological Summary. In addition to about 800 earthquakes belonging to well-defined temporal and spatial swarms, approximately 900 events were critically analyzed and most of them relocated. In the end, only 45% proved to be genuinely intraplate, with the remainder a mixture of plate boundary events erroneously listed as intraplate, poorly constrained solutions for which an interplate location cannot be ruled out, and blatant errors resulting from typographical or other systematic errors upon compilation. The paper also catalogs all available focal mechanisms and presents some statistics on the evolution with time of the detection of intraplate earthquakes, as well as of the accuracy of the location process.

Both papers in the issue are obviously intended and expected to serve as basic reference for future investigations of these problems.

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Reference

McCann, W. R., Nishenko, S. P., Sykes, L. R., and Krause, J. (1979), *Seismic Gaps and Plate Tectonics: Seismic Potential for Major Boundaries*, Pure Appl. Geophys *117*, 1082–1147.