

## REVIEWS

SEISMICITY AND SEISMIC RISK IN THE OFFSHORE NORTH SEA AREA : (Eds.)  
A. Reinier Ritsema and Aybars Gurpinar (1983). D. Reidel Publishing Company,  
pp. 420, price: U. S. \$ 58.50

This volume includes thirty-four papers presented at the NATO Advanced Research Workshop held at Utrecht, The Netherlands, in June 1982 on 'Seismicity and Seismic Risk in the Offshore North Sea Area'. Historically, no devastating earthquakes are known to have occurred in the North Sea area. However, considering the huge investments made in the region during the last decade, the importance of the North sea oil and gas production in the economy of Western Europe, and the increase in potential seismic hazard with the growing size and number of structures in the area, it was thought necessary to convene this workshop and bring together experts concerned with siting, designing and constructing of offshore structures. Certain features, unique to the North Sea basin area, render the task of the workshop difficult. These include the absence of significant historical earthquakes; intraplate character of the region; lack of earthquake intensity distribution information due to offshore nature of the region; uncertainty of frequency-magnitude relation, attenuation and associated parameters.

The papers in the volume under review cover the following topics: (1) Geology and Tectonics, (2) Seismicity, (3) Tides, Ocean Waves and Sea Level Changes, (4) Instrumentation, (5) Soil-mechanics, Liquefaction, Geotechnology, and (6) Risk Analysis. There are six papers under the topic 'Geology and Tectonics' covering geological setting, historical earthquakes, seismotectonic model and neotectonic fault movements. Under the second topic, 'Seismicity', regional seismicity has been dealt with in six papers. Four papers dealing with 'Tides, Ocean Waves and Sea Level Changes' are presented in the third section. Under 'Instrumentation', acquisition of seismic data, strong motion data analysis, ocean bottom seismometry, regional earthquake detection and location capabilities, and testing methods related to soil and structure behaviour under dynamic loading, are dealt with in five papers. The next section, 'Soil mechanics, Liquefaction, Geotechnology' includes seven papers dealing with various aspects of geotechnical engineering relevant to the North Sea area. The last section, 'Risk Analysis', deals with seismic risk evaluation and assessment in six papers. The papers are brief and address specific problems very competently. All the sections, with the exception of the last, include discussion. There are a couple of minor irritants: abstract is missing in a number of papers, reproduction of some diagrams is very poor. One single paper by Peterschmitt is in French.

It is nice to see a volume, with specific aims and objectives, well spelled out, and where pertinent papers are written by experts to fulfil the same. I recommend this volume to all concerned with seismic risk assessment and related problems.

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