AN INTEGRATED DESIGN FOR EARTHQUAKE ENERGY RELEASE AND FORECAST MODEL DEVELOPMENT

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ABSTRACT

The seismogenic behaviour observed by the recent strain energy release has been studied by dividing the region into in the six geo – tectonic block in North-East India. It has been found that the Arakan – Yoma to be seismically active followed by Naga Hills region. It also shown that the probability of occurring an earthquake is more in the Shillong Plateau than the other five tectonic blocks. For the region as a whole there is the probability that an earthquake of intensity is determined for unifying" slip − dependent law determined from strain energy bearing capacity of the region. Moreover, it has also been found that if strain energy released by a tectonic block is large it might affect the stress building process in the rocks of adjacent tectonic blocks. The iso-strain release map depicted areas of high and low seismic activity. We also identified a zone of future earthquake activity in the Indo-Myanmar border based on the study and developed an integrated functional block diagrams as part of the study. The first part of block identified the observational scenario of earthquake activity using precursory activity while the second is a knowledge drive expert system to identify the root cause of earthquake activity in any geo-tectonic region.

INTRODUCTION

The sizes of earthquakes are measured using well-defined, measurable quantities such as seismic moment and released or transformed elastic energy. No simple calculative measures exist for analysis of the nature of nucleation and strain energy released in earthquakes and eruptions some promising avenues of research such as "remote triggering" of earthquakes and the newly discovered Episodic Tremor and Slip (ETS) that may lead to success in the future indicates robust areas of elevated strain rates where data coverage is strong. The proposed study is a novel method for the observation of seismicity rate changes magnitudes events that would be expected to occur depending on the recurrence time of the recent events based on the size analyzed by the seismic moment and the effect of the dynamic strains as the region shows increase in moment rate and seismic strain energy release rate as a nucleation locking has taken place and earthquake is likely to occur in the vicinity. The seismic moment and the elastic energy transformed during an earthquake are directly related to measureable parameters. For example, the