# Earthquake Classification in Molluca Collision Zone Using Conventional Statistical Methods

**Authors :** H. J. Wattimanela, U. S. Passaribu, A. N. T. Puspito, S. W. Indratno

**Abstract :** Molluca Collision Zone is located at the junction of the Eurasian plate, Australian, Pacific, and the Philippines. Between the Sangihe arc, west of the collision zone, and to the east of Halmahera arc is active collision and convex toward the Molluca Sea. This research will analyze the behavior of earthquake occurrence in Molluca Collision Zone related to the distributions of an earthquake in each partition regions, determining the type of distribution of a occurrence earthquake of partition regions, and the mean occurrence of earthquakes each partition regions, and the correlation between the partitions region. We calculate number of earthquakes using partition method and its behavioral using conventional statistical methods. The data used is the data type of shallow earthquakes with magnitudes $\geq 4$ SR for the period 1964-2013 in the Molluca Collision Zone. From the results, we can classify partitioned regions based on the correlation into two classes: strong and very strong. This classification can be used for early warning system in disaster management.

**Keywords :** molluca collision zone, partition regions, conventional statistical methods, earthquakes, classifications, disaster management

**Conference Title :** ICESE 2014 : International Conference on Earthquake and Structural Engineering

**Conference Location :** Bangkok, Thailand

**Conference Dates :** December 18-19, 2014