Abstract

This paper developed the Java Earthquake Program (JEP) to predict the recurrence time of significant earthquake in Indonesia. The 59 events of significant earthquake in Indonesia were taken from the National Geophysical Data Center (NGDC) of United States. Five probabilistic models were used to represent the significant earthquake data in Indonesia. The models were tested by two goodness fit tests, Kolmogorov-Smirnov (K-S) and Chi-Square test. The goodness of fit tests showed that gamma distribution is an appropriate model to represent the significant earthquake data in Indonesia. The JEP result shows that the next earthquake will be occurred on 64 days after the last hit earthquake. With the 7 days of error, it was confirmed that the range period of the next significant earthquake in Indonesia was on January 26 to February 9, 2013. This work successfully proved the reliability of the use of JEP to predict the Indonesia significant earthquake.

References


Index Terms

Computer Science

Applied Sciences

Keywords

Java earthquake program (JEP) gamma distribution K-S test Chi-Square test