

GIS AS A CHANGE ANALYSIS TOOL FOR SEISMICITY

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Seismicity is a distributed process of great spatial and temporal variability. Efforts to characterise and describe the evolution of seismicity patterns reach along way back. Today, the detection of changes in the spatial distribution of seismicity is still being regarded as one of the most important parameters in monitoring seismicity. The problem of how to best describe these spatio-temporal changes, also in view of the detection of possible precursors for large earthquakes, remains, however. Modern Geographic Information Systems with their advanced tools for spatial analysis are very well suited for this task. I apply and compare techniques such as image differencing, image ratioing and change vector analysis including image deviation based on principal components analysis to seismicity patterns and show promising results also in connection with the occurrence of extremal events. It is believed that the work represents a new and useful application of GIS as a change analysis tool.