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Nowcasting and multifractal features of the seismicity in the subduction zone of Tehuantepec Isthmus, southern México

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After the M8.2 earthquake occurred on September 07, 2017 at Isthmus of Tehuantepec, notable spatial and temporal changes were registered, the temporal rate of occurrence increased and the spatial seismicity distribution showed a clear clusterization along the region of collision of the Tehuantepec Transform/Ridge with the Middle America Trench off Chiapas. Also, the b-value in the Gutenberg-Richer law showed changes in time. On the basis of that behavior we studied the sequence of magnitudes of the earthquakes occurred within the Isthmus of Tehuantepec at southern Mexico from 2010 to 2020, by using the nowcasting method and the multifractal detrended fluctuation analysis. Our findings suggest the b-value could depend on time and after the main-shock M8.2, the underlying dynamics in the Tehuantepec ridge has been changed, which is clearly described by our analyses based on nowcasting method and in the multifractality estimated changes.