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SEISMOTECTONIC ZONING IN THE PANTANAL SEDIMENTARY BASIN.

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Seismotectonic zoning provides subsidies for environmental, hydrogeological, hydrological, geotechnical (safety of civil works) studies and the exploration of some mineral deposits. The large territory, amongst the complex geology and reduced number of installed stations in the Pantanal Sedimentary Basin are the main elements/conditions that increase the inaccuracy of the locations of earthquakes that have occurred in the area. In order to assess the uncertainties of the epicenters, a selection and relocation of the events that have occurred in the past 20 years at BSP (1996-2016) were made, emphasizing that the epicentral area relocation brought more quality in information, mainly because 9 events show significant changes in position, all confirmed through Back-Azimuth (BAz). The criteria was the events selection with magnitudes above 3.5 mR. In this scope two lines of thought seek to explain the origin of earthquakes in the Pantanal Sedimentary Basin, where the first considers lineaments as the source of these seismic events, while the other believes these events come from the thinning of the crustal thickness. From the obtained results, we can say that the epicenters recorded in the Pantanal form a seismic zone in continuation to the seismic belt of Goiás-Tocantins, suggesting a non-confirmed relationship with the TransBrazilian Lineament. Concomitantly, the evidence of these reactivations in the Pantanal Sedimentary Basin can be found in the sedimentation process, tectonics, volcanology, relief and drainage. Although the Pantanal Basin is structured by normal faults, earthquakes of 1964, 2009 and 2015 show compressive stresses. It is suggested that the present seismicity occurs as reactivation of older normal faults, now subject to a new stress field.

PALAVRAS CHAVE: *PANTANAL SEDIMENTARY BASIN, 1D VELOCITY MODEL, SEISMOTECTONIC ZONING.*