



# S -Wave Velocity Model (1D) For The Lithosphere Of The Pantanal Basin

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## Abstract

The Quaternary Pantanal sedimentary basin is tectonically active with earthquakes with magnitude up to 5.4. The upper mantle of this region presents low velocity in the propagation of the P and S seismic waves. To better understand the causes of this low-velocity anomaly of the S wave beneath the Pantanal Basin we analyzed surface-wave dispersion curves. We only use events of magnitude larger than or equal to 5.5 mb, with good azimuthal distribution. For the Rayleigh surface waves, we measured phase and group velocities for fundamental and first higher modes. For the Love waves, we only analyzed velocities of the fundamental mode. We intend to determine a new 1D velocity model of the S wave for the Pantanal Basin. Multiple Filtering techniques were used to measure the group velocities of the Rayleigh and Love waves were obtained. The filtered seismograms were stacked to obtain the phase velocities. The group and phase velocities were inverted with the Surf96 software, obtaining a preliminary S wave velocity model for the Pantanal Basin.

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