

SEISMIC STRATIGRAPHIC STRUCTURE OF THE BRAZIL BASIN AND SEDIMENTARY PROCESSES INFERRED FROM SEISMIC FACIES ANALYSES

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The studied area of the Brazil basin includes the continental rise and abyssal plain, between 20 and 28° S. Gravity flows and bottom currents are important sedimentary processes, creating sedimentary deposits that were analysed by reflection seismic aiming the recognition of the sedimentary sequences and representative seismic facies. Investigated the geological history of the basin and the AABW flow beginning that is marked by an Eocene-Oligocene regional unconformity separating two megasequences of contrasting seismic characteristics. In this study was analysed the AABW flow influence about the sequences formed since Late Oligocene. The interpretation and integration of the seismic sections permitted definite the main horizons, which are used to construct isopach maps and a seismic facies map for the upper megasequence. A single drill site (DSDP 515), was used to correlate five depositional sequences recognised with respect to their distribution of seismic facies. The gravitational flows effect is observed in the proximal area, resulting in chaotic seismic units; and in the Columbia channel mouth, where turbidites are filling the lows of the Rio de Janeiro fracture zone, levelling the seafloor and building the abyssal plain. The presence of seismically transparent contourites are a safe clue that the AABW has deposited sediments from the Argentine basin and has reworked terrigenous sediments that occasionally arrive to the continental rise through deep-sea channels. This interaction of processes has deposited a relatively thick upper megasequence in the distal portion of the continental margin, levelling the bottom topography in contrast with the prograding wedge lower megasequence.