

## **THE CRETACEOUS-TERTIARY BOUNDARY IN THE BRAZILIAN EASTERN MARGIN: EVIDENCE FROM CALCAREOUS NANNOFOSSILS AND SPHERULES.**

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Quantitative analyses of calcareous nannofossil assemblages across 3 sections containing the K-T boundary in the Pernambuco-Paraiba and Campos Basins (Brazilian eastern coast) allowed to determine the pattern of nannoplankton extinctions. The integration of the 3 sections led to the recognition of 2 biozones in the uppermost Maastrichtian and 6 in the lowermost Danian, as well as of some other biological events. The extinctions were abrupt and, in the Campos Basin, correlate with stable isotopes shifts, with a 2.5 cm thick spherule layer and an iridium anomaly. In the Poty Quarry outcrops (Pernambuco-Paraiba Basin), there is a barren interval in the lowermost Danian, probably associated to meteoric diagenetic processes, as evidenced by stable isotopes, petrographic and geochemical patterns. The spherules of Campos Basin are intensely replaced by calcite and pyrite, but some contain relict glass inclusions. Microprobe analysis, which correlate with Caribbean occurrences, and glass flow and devitrification features indicate that these spherules are tektites directly ascribed to the Chicxulub impact structure (Mexico).