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FOREST COVER ALTERATION NEAR THE TOWN OF XINGUARA IN THE BRAZILIAN AMAZON

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ABSTRACT

The conversion of tropical forests to other land cover types is occurring rapidly in many areas of the Brazilian Amazon. This study examines conversion around the settlement of Xinguara, in the state of Para. The primary impetus for the rapid population increase around Xinguara was the construction of highways into the area. Forest clearing in the region is mostly for cattle ranches.

The primary objective of this study was to determine the amount of forest clearing that occurred in the area between 1975 and 1979. Two techniques were used to determine this change. The first involved manual planimetry of changed areas from single-band and false color composite Landsat MSS images. Total cleared land for the two dates was measured and the difference between the two dates calculated. The second technique involved registering the 1979 Landsat digital data to the 1975 data and producing difference images for the four MSS bands. Areas of change were then classified from these difference images using a supervised parallelepiped classifier. The total amount of change was then calculated from the number of pixels in the change class, and results obtained from the two methods were compared.