THE AMERICAN UNIVERSITY
Department of Biology

SR 368
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ERTS Image Analysis: Preliminary Report #2
February, 1973

ID # 1000 - 10163 11 Oct. 72
ID # 1116 - 10171 16 Nov. 72
Location N 14° W 6°
Office du Niger, Republic of Mali

Geologic: Lineaments reported earlier in the Inland Delta (ID # 1099 - 10104) continue into the large irrigation district, Office du Niger, an irrigated area of some 250,000 hectares. The orientation of the lineaments is particularly interesting being both similar (identical ?) to the adjacent fracture zone in the Inland Delta to the east and forming a mirror image of Lake Fagubine to the northeast. Analysis of orientation of the lineaments indicates similarity with the fracture zone in the Bandiagara Highlands as well.

Hydrologic: The system of irrigation canals installed by the French are easily identified in color additive projections at a scale of 1:100,000. Digital maps at 1:25,000 show these systems very clearly. It is possible now to compare these systems to those installed two or three centuries ago - visible in the southeast corner of the images. Change detection of losses in soil moisture were observed in color additive projection of MSS7 images of the two dates. Losses occurred in and around the irrigation schemes and apparently in the savannah to the west of the Office du Niger.

A definite unwatered stream channel running due north can be seen to the west of Office du Niger. Its course is not controlled by the fracture system as are the Niger east of Bamako and the Bani north of San. No vegetation was observed in the meanders or meander scars of the empty channel. Its mode of formation and dewatering is unknow-

Agriculture: Changes in vegetation in the savannah and in cropland in the Office du Niger and other irrigated districts are easily observed in detail in color additive views of MSS5 and MSS7 for the two dates. The land occupancy patterns are very evident with easy separation of pastoral, nomadic and sedentary peoples. Dr. P. Reining of Catholic University has observed these photos and contributed the attached analysis.