Sally K. Ride Papers - STS-76 Earth Observations Training Manual [KidSat], (folder 2 of 2)

T40
Atlas Pg. 15, 16

Central Zaire River Basin, Congo, Zaire
Deforestation, drought

Significance: The Zaire (formerly the Congo) River Basin is one of the few parts of Africa that matches the stereotype of a vast, steamy jungle. Because of very frequent cloud cover, this large tract of virgin rain forest cannot easily be monitored from space. The increasing demand for arable acreage has, however, encouraged deforestation of the land. Unfortunately, the soils over much of the basin are not suited to intensive cultivation or conversion to pasture. The low humus content leads to very rapid soil exhaustion and the development of impermeable soil layers. Under these conditions, heavy tropical rainfall hardens the surface, which accelerates runoff and soil erosion. As the soil is depleted of its fertility, additional forest must be cleared or expensive fertilizers applied.

The Belgian colonial administrators advocated cash-crop farming thus changing traditional land use practices. Following the independence of Zaire in 1960, there has been a return to subsistence cultivation as the population has been affected by reduced spending power, a deteriorating transportation system, and a general decline of the rural agricultural marketing system. Environmental scientists will use photographic coverage of the region to assess and monitor the extent and patterns of deforestation, map land use practices, and document stream sedimentation in the Zaire River Basin.

Since the river basin lies astride the equator, the rainy seasons to the north and south occur at different times of the year. Consequently, the flow of water in the mainstream of the Zaire River remains fairly constant throughout the year. Drought has persisted both north and south of the basin in this decade. Photography of the region is requested to study the effects of the drought on the water level of the Zaire River.

Physical Characteristics: The middle Zaire River Basin is an ancient lake bed encircled by mountains and high plateaus. In this area, the Zaire River spreads out into a network of many channels separated by forested islands. The stream bed, in some places, is over twelve kilometers wide. Huge areas of swampland flank sections of the river from the junction of the Oubangui and Zaire Rivers upstream to Lisala. A dense canopy of tropical rain forest with little undergrowth dominates the landscape and is broken only by rivers and clearings. The basin may be partially obscured with smoke produced by slash and burn clearing. Swamp grasses grow along some of the river channels, especially along the larger streams.

Observation Techniques: Concentrate on clearings in the forest and stream courses. Using the 100 mm lens, take low oblique views of the region and concurrently take near-vertical photographs with the 250 mm lens. The large area perspective and stream courses are key to geographically locating the 250 mm views. Use CIR film if available.

Center Point 2.0°N, 21.5°E

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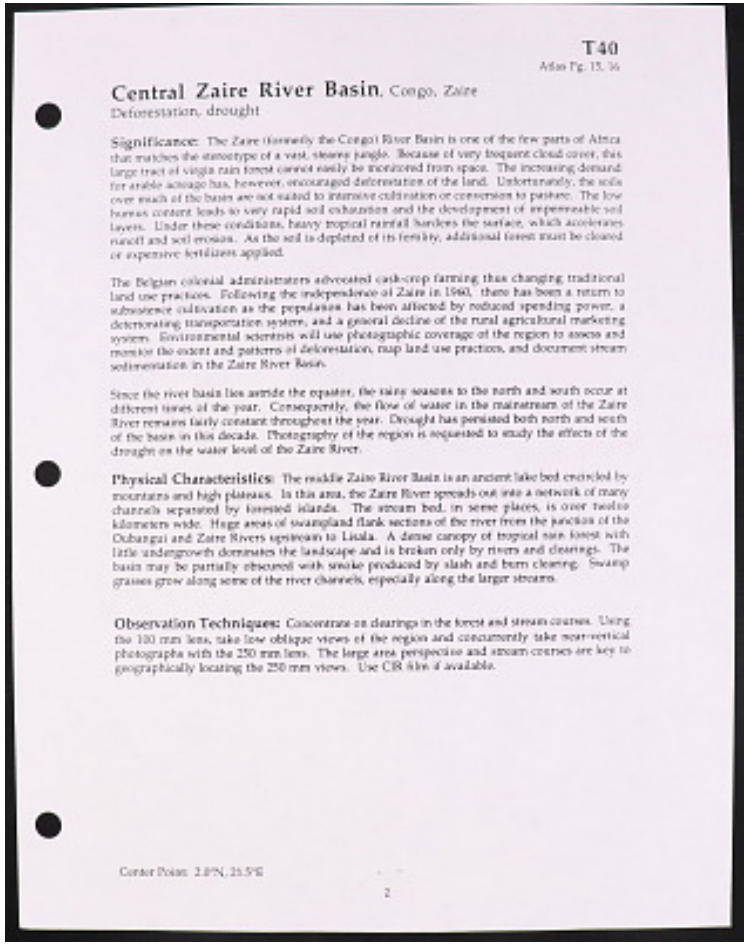
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