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Guinea

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NATIONAL INTELLIGENCE SURVEY

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NATIONAL INTELLIGENCE SURVEY PUBLICATIONS

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This chapter was prepared for the NIS by the Defense Intelligence Agency. Research was substantially completed by March 1973.

Guinea

CONTENTS

This General Survey supersedes the one dated July 1969, copies of which should be destroyed.

A. Location and description	1
1. Topography	1
2. Climate	2
B. Military geographic regions	4
1. Western Plains	4
2. Highlands	5
3. Eastern Plains	5
C. Strategic area	6
D. Internal routes	7
E. Approaches	7
1. Land	7
2. Sea	7
3. Air	10

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FIGURES

	<i>Page</i>		<i>Page</i>
Fig. 1	1	Fig. 6	6
Fig. 2	1	Fig. 7	7
Fig. 3	2	Fig. 8	8
Fig. 4	2	Fig. 9	9
Fig. 5	3	Fig. 10	9
		Fig. 11	10

Military Geography

A. Location and description (U/OU)

Guinea is located on the western bulge of Africa, almost halfway on the sea route between London, England, and Cape Town, South Africa. Although far from the strategic centers of the African continent, Guinea is significant because of its potentially valuable mineral wealth, possessing one of the world's largest known reserves of bauxite as well as large deposits of iron ore. In addition, the country has good agricultural land suitable for a wide variety of crops.

This irregularly shaped country, with an area of about 95,000 square miles, is approximately the size of Ohio, Pennsylvania, and Maryland combined. The population of 4,068,000 is slightly larger than that of Maryland.

1. Topography

Guinea consists of extensive hills, scattered mountains, and broad upland plains in the east and a generally flat coastal plain up to 60 miles wide (Figure 11, the Military Geographic Factors map at the end of the chapter). The flat surfaces of the coastal plain are interrupted by spurs of low hills extending close to the coast at Cap Verga and Conakry (Figure 1). The

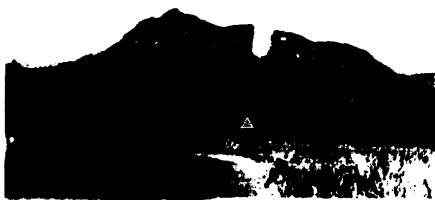


FIGURE 1. Plains area along road between Conakry and Forecariah (C)

coastal plain is usually less than 300 feet above sea level, is mostly covered by dense broadleaf evergreen forests, and has thick alluvial silt and clayey soils which are soft much of the time. The plain has several large rivers which meander into broad estuaries and tidal creeks bordered by mangrove swamps and marshes; there are numerous small mangrove-covered islands near river mouths and in places along the coast.

The hills and mountains are mostly flat topped or rounded and composed of basalt, granite, and hard sandstone. They are covered largely by open to moderately dense deciduous forests; on the higher slopes, there are scattered patches of broadleaf evergreen forest. Elevations are predominantly 1,000 to 3,000 feet, although there are scattered peaks ranging from 3,000 to over 5,000 feet. The highest peak, 5,748 feet, is Mont Nimba in the extreme southeastern part of the country. Most slopes are 10% to 30% in hills (Figure 2) and over 30% in the mountains. Numerous streams, generally less than 250 feet wide, have their sources in the highlands; they



FIGURE 2. Hills in southeastern Guinea, such as these near Beyla, have flat to rounded summits seldom more than 800 feet above adjacent valleys. The slopes of these low hills are covered by patches of broadleaf evergreen forest. (U/OU)

flow in narrow valleys and have rocky bottoms and numerous rapids. During high water—mid-June through October—the large streams are frequently over 20 feet deep and swiftflowing, but during low water—mid-January through April—they are less than 3.5 feet deep, and many of the small streams become dry.

The eastern plains, mostly between 650 and 1,000 feet above sea level, are covered chiefly by grass, scattered trees, and, near villages, small cultivated fields; narrow, dense stands of trees occur along most streams. The ground, consisting of silty sand generally less than 6 feet deep over hard laterite, is firm except for short periods during April or early May through October, when it is frequently miry for periods from a few hours to a day after heavy rains. The plains contain broad, poorly drained valleys 150 to 300 feet below the adjoining interstream areas. The Niger River (Figure 3) is 500 to 3,000 feet wide in many places, and its major tributaries are 100 to 500 feet wide.

Features of military significance are urban areas, rural villages, mines, and transportation facilities. The towns and villages are located mostly in the plains. The urban areas generally contain a commercial section and relatively modern residential sections with hard-surfaced streets forming a grid pattern; buildings are masonry and have tile or metal roofs. The urban areas also have sections of mudbrick and wood huts with thatch roofs (Figure 4); in these sections, streets are generally narrow, winding, and unsurfaced. The villages are mostly clusters of huts with thatch roofs and walls constructed of mudbrick over pole frames

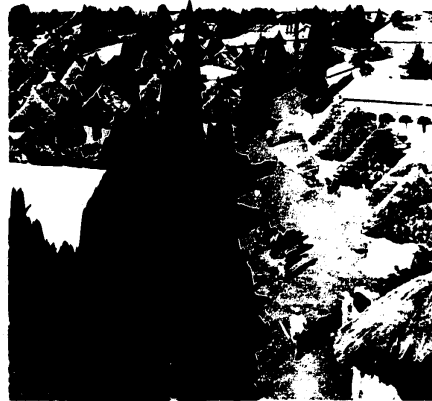


FIGURE 4. Thatch roof housing in Kankan (U/OU)

and they are generally surrounded by low walls of mud or stone, thorn hedges, or wooden fences. Connecting the urban areas and villages is a sparse network of tracks and roads that have mostly earth, laterite, or crushed-stone surfaces and winding alignments and steep grades. Most of the roads frequently have soft surfaces from early April or May through October. Ferries (Figure 3) and narrow wooden bridges are common. Roads with bituminous surfaces link Conakry with Kissidougou and Forecariah.¹ Single-track railroads connect Conakry with Kankan and Fria.

2. Climate

Guinea has a tropical monsoon climate, characterized by high temperatures throughout the year and pronounced wet and dry seasons (Figure 5). The daily temperatures in the lowlands generally range between mean maximums in the 80's and 90's (°F.) and mean minimums in the 60's and 70's. In the highlands mean maximum temperatures are cooler by 10 to 20 Fahrenheit degrees or more, but mean minimums are only slightly cooler than those in the lowlands. The wet and dry seasons vary in time of occurrence from north to south as the Intertropical Convergence Zone (ICZ) moves across the country. The ICZ traverses Guinea twice a year. It enters the country from the south, usually in late March or early April, and moves across the northern border some time in early May. Unsettled, often violent, and rapidly changing

¹For diacritics on place names see the list of names on the apron of the Military Geographic Factors map and the map itself.

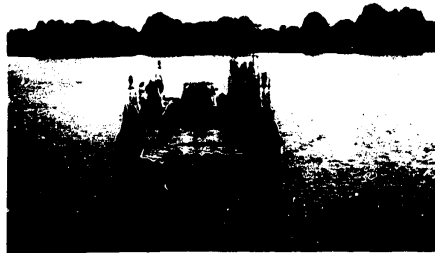


FIGURE 3. The Niger, the third longest river on the African continent, has its source in the highlands of southeastern Guinea and is already 500 feet wide here in its upper course near Kouroussa. In this stretch, the river is more than 20 feet deep and very swift during the high-water period, mid-June through October. (C)

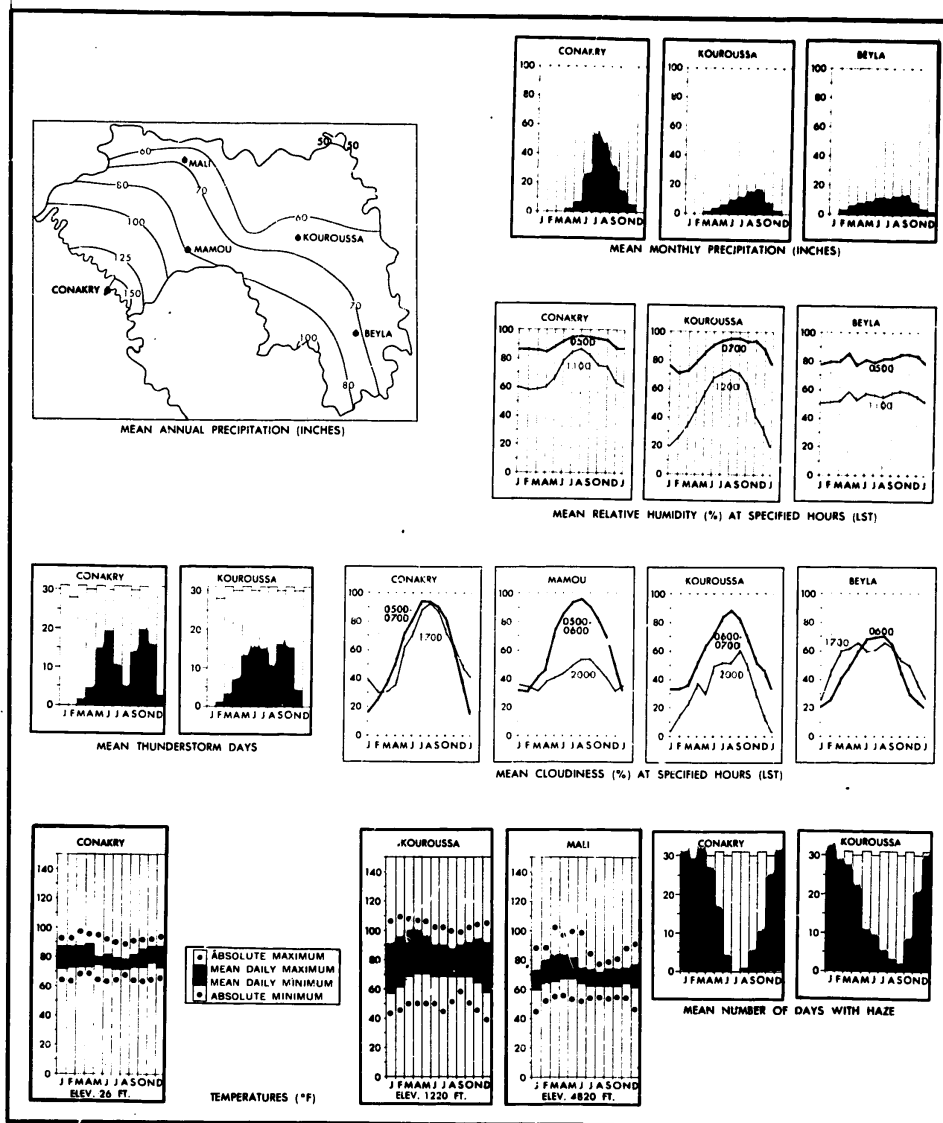


FIGURE 5. Precipitation, relative humidity, thunderstorms, cloudiness, temperature, and haze. (U/OU)

weather is typical during this transition period; thunderstorms and line squalls are distinctive features. The wet season generally prevails from early May to late October over most of the country, with the peak period in June through September. This season is marked by widespread and often multilayered cloudiness, with average monthly cloud cover varying mostly from 50% to 90%. Moderate to heavy showers occur almost daily. Average monthly rainfall during the peak period usually exceeds 8 inches throughout the country and, in some months, approaches 40 to 50 inches at several places along the coast. Thunderstorms are also frequent, beginning sometime in April and continuing into November, usually occurring on 10 to 25 days per month except for an August lull. Visibility is generally good except during showers, and the prevailing surface winds are light southwesterly. Relative humidity, however, is persistently above 50% and, in combination with the high temperatures, creates enervating conditions during this season.

The ICZ recrosses the northern border in late October, continues southward, and crosses the southernmost border early in November. This transition period is shorter and the weather less violent than during the first transition period. The dry season extends from early November through March or early April, with the driest part of the period in December through March at most places. This season is distinguished by clear or partly cloudy skies; average monthly cloudiness during the driest months varies mostly between 15% and 45%. Showers and thunderstorms are rare and monthly rainfall amounts are meager. Afternoon relative humidity is low away from the coast, mostly below 40%, and produces more comfortable conditions than during the wet season. However, the light northeast winds (harmattan) are usually laden with dust and haze which frequently restrict visibility to less than 6 miles.

B. Military geographic regions (C)

Guinea has three military geographic regions—the Western Plains, Highlands, and Eastern Plains (Figure 11). The Western Plains region is divided by the Highlands region but has similar environmental conditions throughout its extent and thus is treated as a single region. The combination of environmental conditions within each region would have a relatively uniform effect on military operations, but there would be marked differences between the regions.

1. Western Plains

Conditions are generally unfavorable for conventional ground operations because of wet areas,

dense forests, and streams. Cross-country movement of tracked and wheeled vehicles would be severely restricted by dense forest, by mangrove swamps and marshes along the coast, by several broad and deep streams, and by flooding and miry ground during April or early May through October. Onroad movement would be restricted generally to a sparse network of earth roads and tracks, which are mostly impassable during the rainy season. Low-capacity wooden bridges and ferries are potential bottlenecks. Construction of new roads would be difficult because of poor foundations in many places, the need for extensive clearing of forests, and the need for long bridges with raised approaches. During the rainy season, frequent periods of miry ground and extensive flooding after heavy rains would halt construction. In addition, rock suitable for building stone and for crushing is lacking. Concealment from air and ground observation would be afforded in most places by dense forests. Cover from flat-trajectory fire generally would be limited. There are few sites suitable for bunker-type installations because of a high water table, poor drainage, and flooding much of the year. Low relief prohibits construction of tunnel-type installations.

Conditions are generally unsuitable for airborne and airmobile operations. There are few sites suitable for parachute drops and helicopter landings because of mangrove swamps and marshes along the coasts and generally dense forests inland. Visibility is commonly restricted during April or early May through October by heavy rains and cloud cover and at times during the remainder of the year by haze. Assault-type aircraft could land at the large airfield near Conakry. In most places, construction of additional airfields would be difficult because of poor foundations, the need for extensive clearing of dense forests, and because of miry ground and flooding.

The region is unsuitable for large-scale amphibious operations because of hazardous sea approaches, extremely flat nearshore gradients, muddy shores, and poor exits. Offshore approaches are partly obstructed by islands, islets, shoals, reefs, and rocks; extensive tidal flats fringe much of the coast. The coastal terrain is mostly low and bordered by predominantly muddy, mangrove-covered shores; marsh and swamp back many stretches. There are no beaches suitable for large-scale landings because of extremely flat nearshore gradients, fronting tidal flats, and, in places, coral reefs. The few marginal beaches where limited landings might be made are in the vicinity of Conakry and Cap Verga. They range in length from 400 yards to 3½ miles and are composed of sand and coral rock. Exits are by tracks, trails, or cross country to nearby loose-surfaced roads. Movement inland would be

hindered by mangrove swamps and marshes and, further inland, by dense broadleaf evergreen forests.

Conditions are generally fair for irregular force operations, although malaria, tuberculosis, and typhoid fever are endemic in the region. Good concealment from air and ground observation would be afforded in most places near the coast by dense broadleaf evergreen forests and, along the border with Portuguese Guinea, by generally dense deciduous forests, which are in leaf most of the year. Movement on foot would be feasible except in the mangrove swamps and marshes along the coast. The sparse network of generally earth roads and tracks is impassable at times during the rainy season because of miry ground and flooded stretches. Limited food supplies are available in widely scattered villages; wild berries and fish are prevalent. Fresh water is generally abundant but turbid and requires boiling before human consumption. Shelter materials are plentiful in the dense forests. Limited supplies could be obtained by airdrops at a few sites, but landing of supplies by boats would be difficult because of hazardous approaches and poor landing sites.

2. Highlands

Conditions are predominantly unfavorable for conventional ground operations because of rugged terrain. Cross-country movement of tracked and wheeled vehicles would be severely hindered or precluded by steep slopes and, during high water, mid-June through October, by streams too deep to ford; movement on foot would be difficult in most places. Onroad movement would be limited primarily to widely spaced tracks and earth roads in generally poor condition. Low-capacity wooden bridges and ferries are potential bottlenecks. The construction of additional roads would be difficult because alignments would be restricted, and much cutting would be required; also, where rocks and hard laterite are near the surface, blasting would be necessary. Numerous bridges also would be needed. Concealment from air observation would be provided in places by forests, however, concealment possibilities are reduced from about mid-January through March, when most trees are leafless. Good concealment would be provided by scattered patches of broadleaf evergreen forests on the higher slopes. Cover from flat-trajectory fire would be afforded by steep slopes and surface irregularities. There are numerous sites where tunnel-type installations could be constructed, with short adits and stable overhead cover, in hard massive rocks, but there are few sites suitable for bunkers because of steep slopes and, in the small areas of plains, hard laterite near the surface.

Conditions are predominantly unfavorable for airborne and airmobile operations because of extensive steep slopes. Sites suitable for parachute drops and helicopter landings are available on scattered ridges and small areas of plains. Assault-type aircraft could land at airfields near Boke, Labe, and Nzerekore during the dry season (November to April or early May). Movement from most sites, however, would be hindered by steep slopes. There are few sites suitable for new airfields because of the need for extensive grading and for much blasting of hard rock or laterite; also, the orientation of runways and approaches would be restricted by hills and mountains.

Terrain conditions generally are favorable for irregular force operations, but tropical diseases such as malaria, trypanosomiasis, trachoma, and yaws pose serious medical problems. Concealment from air observation would be provided by forests except from about mid-January through March, when most trees are leafless; good concealment throughout the year, however, would be provided by scattered patches of broadleaf evergreen forest on the higher slopes. The steep slopes and minor surface irregularities provide concealment from ground observation and good cover from flat-trajectory fire. Roads are sparse and, during April or early May through October, are often untrafficable. Movement on foot is feasible, but deep and swiftly flowing streams severely hinder movement during high water. The streams are fordable during low water, November to mid-June; however, they are infested with crocodiles and the snail hosts of an organism that causes schistosomiasis. Irregular forces would have to depend mostly on natural foods such as berries and fish; also, limited amounts of food are available at widely spaced settlements. Shelter materials are obtainable from forests, which cover large parts of the region. Water is generally plentiful but must be boiled before human consumption. Supplies could be airdropped at scattered sites.

3. Eastern Plains

Conditions generally are favorable for conventional ground operations only during the dry season, early November through March or April. During this period, tracked and wheeled vehicles could move cross country fairly easily on predominantly open, flat to rolling surfaces. During the rainy season, April or early May through October, frequent periods of miry ground and flooding along streams would hamper operations; in addition, the rivers are generally too deep to ford. Onroad movement would be limited to a sparse network of mostly earth roads and tracks, which would deteriorate rapidly if subjected to sustained

military traffic; during the rainy season, many stretches are impassable. New roads could be constructed with generally unrestricted alignments and on good foundations, but grading would be hindered in many places by hard laterite at or near the surface. In addition, construction would be frequently halted by miry ground during the rainy season. Concealment from ground observation would be provided by tall grass, which covers most of the region, but concealment from air observation would be limited mainly to narrow, dense stands of trees along streams. Cover from flat-trajectory fire is generally lacking except for streambanks and minor surface irregularities. In most places, bunker-type installations could be constructed in soils more than 20 feet deep, but power tools would be needed in many places because hard laterite is at or near the surface. Because of low relief there are few sites suitable for tunnel-type installations.

Conditions are generally favorable for airborne and airmobile operations. There are many sites suitable for parachute drops and helicopter landings in grassy areas; during the rainy season, however, frequent periods of miry ground and flooding would hamper landings, and cloudy skies and rainstorms would restrict visibility. Visibility is also restricted at times during the dry season, early November through March or April, by haze resulting from grass fires and from duststorms over the Sahara. Assault-type aircraft could land at airfields near Kankan and Faranah during the dry season. Construction of new airfields would be feasible in most places. Orientation of runways generally would be unrestricted, and natural foundations are good. Only small to moderate amounts of clearing and grading would be needed; however, in places, hard laterite is at or near the surface, and blasting would be required. Construction would be halted frequently by miry ground during the rainy season.

Conditions are generally poor for irregular force operations. In most places, concealment from air observation would be scarce except for narrow bands of trees along streams. Concealment from ground observation primarily would be limited to areas of tall grass, but during the dry season concealment possibilities are reduced because of dead grass and areas cleared of grass by numerous fires. Movement on foot generally would be easy although restricted in places by streams too deep to ford and by flooding during the rainy season. During most of the rainy season, the Niger River and its larger tributaries are important transportation routes, but the few roads and tracks are impassable at times after heavy rains.

Hookworm infestation is widespread. Moderate amounts of food would be available from cultivated fields around villages, but natural foods, such as wild berries and fruits, are scarce. Fish, however, are plentiful in the larger streams. Shelter materials are available from the few forests and areas of tall grass. Supplies could be airdropped in most places in the region.

C. Strategic area (C)

The most important area in Guinea is Conakry, the capital, largest city (population 242,000 as of mid-1970), chief port, and major commercial, cultural, and

transportation center (Figures 6 and 7). Conakry serves as Guinea's railroad terminus, and the largest all-weather airport in the country, capable of handling heavy jet transports, is located immediately northeast of the built-up area. Important installations include storage facilities for 550,000 barrels of POL (refined petroleum products), large silo storage facilities for alumina, railroad repair shops, an oxygen and acetylene plant, an electric powerplant, a textile mill, an aluminum fabricating plant, and a truck assembly plant. The port has conveyor systems for handling alumina and iron ore and about 250,000 square feet of covered storage space. Additional covered storage space at other locations in the city totals approximately 100,000 square feet. Immediately

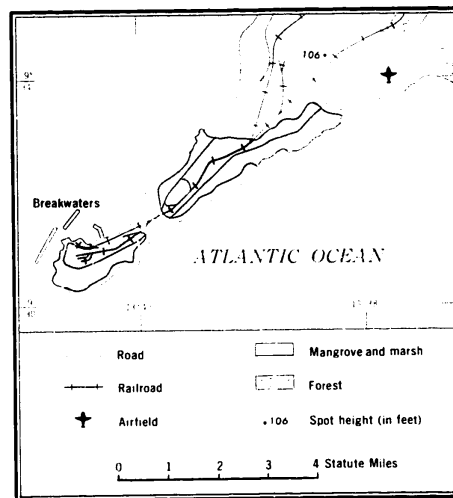
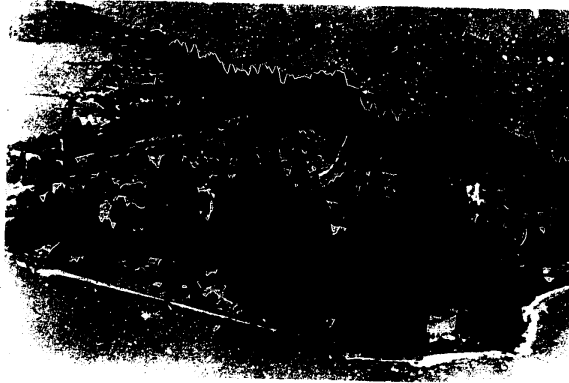


FIGURE 6. Conakry strategic area (C)

FIGURE 7. The central core of Conakry is located on an island that is joined to the mainland by causeways; much of the area between the causeways has been filled. The city has modern buildings and hard-surfaced streets that form a grid pattern. (U/OU)



northeast of the city is an iron mine, an iron-ore processing plant, and a mining equipment maintenance shop. The only polytechnical institute in the country, built by the Soviet Union in 1962, is located here.

The major facilities outside the strategic area are the bauxite mining complexes at Fria (population 15,000) and Boke (population 15,000) and the hydroelectric powerplant at Grandes Chutes.

D. Internal routes (C)

The internal routes provide the easiest avenues of movement from the best land approaches to the Conakry strategic area (Figure 11). A description of each route is provided in Figure 8.

E. Approaches

The perimeter of Guinea, about 2,375 miles, is unfortified; approximately 215 miles are coastline (excluding the offshore islands). The country claims 130 nautical miles from its shores as territorial waters. The boundaries with Portuguese Guinea, Liberia, and Sierra Leone are demarcated, and those with Senegal and Ivory Coast are defined. None is in dispute. Figure 9 presents data on land boundaries. (U/OU)

1. Land (C)

Conditions for cross-country movement in the border areas are often poor because of steep hills and, in the coastal plain bordering Portuguese Guinea and Sierra Leone, because of dense forests. Near the coast, there are mangrove swamps and marshes. Along much

of the Mali border, which is covered mainly by grass and scattered trees, conditions are fair in plains areas during November through April or early May; during the remainder of the year, movement would be slowed or precluded much of the time by miry ground and flooding. Streams forming part of the borders are potential barriers to movement during high water, about mid-June through October. Crossing the borders are widely spaced tracks and earth, laterite, and gravel-surfaced roads all of which are impassable after heavy rains. The approaches shown in Figure 11 are the best means of land access to Guinea. Figure 10 provides data on individual approaches.

2. Sea (C)

Offshore approaches are partly obstructed by shoals. Nearshore approaches are partly obstructed by islands, islets, shoals, reefs, and rocks; extensive tidal flats fringe most shores. Nearshore bottom slopes are extremely flat and would preclude landings by most amphibious craft; the 16 1/2-foot depth curve generally is about 7 nautical miles offshore, although in places it extends seaward as far as 35 nautical miles. Nearshore bottom material is sand and mud. Surf 4 feet or higher may occur at any time of the year, with a maximum occurrence of 31% during July through September. Tides are semidiurnal, with spring ranges averaging from 10 to 14 feet. The few beaches are located near Conakry and Cap Verga. They are composed of sand and coral rock and vary in length from 400 yards to 3 1/2 miles; they are narrow and have moderate to steep gradients. Most are backed by mangrove swamp and marsh. Exits from the beaches are by tracks, trails, or cross-country movement to nearby loose-surfaced roads.

8
FIGURE 8. Internal routes (C)

ROUTE	ROAD	RAILROAD	OFFROAD DISPERSAL AND CROSS-COUNTRY MOVEMENT
Connects approach from Damane, Ivory Coast, with Conakry strategic area. Across mainly forested and brush-covered hills in south and west and tall grass and scattered trees in the central part.	From border to Nzerekore, mostly one lane, earth and gravel, in poor condition; from Nzerekore to Kissidougou one lane, unimproved earth. Mostly poor condition. Kissidougou to Conakry, two lanes, bituminous, in good condition. Grades are less than 7%, and curve radius is a minimum of 100 feet. Road was reconstructed in 1969 and completed as far as Kissidougou. Two-lane bituminous highway to Nzerekore is to be completed by 1975.	Single track, 3'3 1/4" gage, in poor condition. Closely parallel road between Kankan and Conakry.	Conditions generally unfavorable because of steep slopes in hills. Favorable in central part except during rainy season, when ground frequently muddy and flooding occurs along streams.
Links approach from Liberia with internal route from Ivory Coast, at Nzerekore. Traverses densely forested hills.	One lane, earth and gravel, in poor condition.	None.	Generally precluded by steep slopes and dense forests.
Links approach from Kambia, Sierra Leone, with internal route from Ivory Coast, just east of Conakry. Traverses densely forested coastal plain and is bordered by low swampy areas.	North of Forecariah, generally two lanes, bituminous surface, in good condition; south to border, two lanes, laterite, in fair condition. Some small unbridged streams potential bottlenecks.	None.	Generally restricted by dense vegetation and, in swampy areas, by miry ground.
Links approach from Bafata, Portuguese Guinea, with internal route extending from Ivory Coast to Conakry strategic area, north of Conakry. Traverses chiefly forested coastal plains and is bordered in places by swamps.	Border to Boke, track, impassable much of time during Apr. or early May through Oct. because of miry surface and flooded sections. Remainder is two lanes, improved earth. Fair to good condition. Ferry at Boffa is potential bottleneck.	Single track, 3'3 1/4" gage, parallel road for about 20 mi. in south.	In most places restricted or precluded by dense forest; in places, precluded by swamps.
Connects approach from Kedougou, Senegal, with major internal route extending from Ivory Coast to Conakry, at Mamou. Across hills covered mostly by open deciduous forest and brush.	From border to Labe, one lane, earth, in poor condition; from Labe to Mamou, bituminous except for approx. 40 mi. center stretch which is earth and/or gravel. Sharp curves and steep grades common. Several narrow bridges potential bottlenecks.	None.	Generally restricted by steep slopes.
Connects approach from Bamako, Mali, with route from Ivory Coast to Conakry strategic area at Kissidougou. Across chiefly grass-covered hills north of Siguiri; from just south of Siguiri to Kissidougou crosses mainly grass- and brush-covered plains which are closely bordered by densely forested river valleys.	One lane, earth surface in poor to fair condition, difficult at times during April or early May through Oct., when miry. Ferries on Niger and Tinkisso rivers, potential bottlenecks. Narrow timber bridge over Bule River.	None.	Restricted by steep slopes in hills north of Siguiri, by dense forest along river south of Siguiri, and by dissected plains north of Kissidougou.
Connects route from Mali at Kankan with route from Ivory Coast at Nzerekore. Across mostly forested and brush-covered hills in southern three-quarters and grass- and brush-covered plains in remainder.	Two lanes, laterite, mostly in poor condition.	None.	Conditions are poor in hills because of steep slopes and, locally, dense thorny brush; conditions are fair in plains except during wet season, when conditions are poor because of flooding along streams and miry ground.

FIGURE 9. Boundaries (U/OU)

BOUNDARY	LENGTH	TERRAIN
	<i>Miles</i>	
Portuguese Guinea	235	Primarily flat to rolling plains covered by deciduous forest except near coast where covered by mangrove; central segment forest-covered hills. Short section of boundary in north marked by Tomine river.
Senegal	205	Forest-covered flat to rolling plains in the west and brush- or grass-covered hills in the east.
Mali	535	Steep hills in the west and flat to rolling plains in the east; both hills and plains covered by grass and brush. Sections of boundary along winding streams.
Ivory Coast	420	Rolling plains and low hills covered by broadleaf evergreen forest in southern half and by tall-grass savanna in northern half. Winding streams mark sections of boundary.
Liberia	350	Forested and grass-covered hills, mountains, and discontinuous plains; sections along streams, which are deep and swift much of the year.
Sierra Leone	415	Dissected plains and hills covered by grass and scattered patches of trees except along the Kolente, Meli, and Makona rivers, where there is dense forest, and near the coast, where there is mangrove.

FIGURE 10. Land approaches (C)

APPROACH	ROAD	RAILROAD	OFFROAD DISPERSAL AND CROSS-COUNTRY MOVEMENT
From Ganta, Liberia, to border south of Nzerekore. Across forested hills.	One lane, gravel, in fair condition.	None	Generally precluded by steep slopes and dense forest.
From Danane, Ivory Coast, to border southwest of Nzerekore. Across densely forested hills.	Generally two lane, laterite in fair condition. Numerous sharp curves. Impassable at times during April or early May through Oct. because of miry ground.	None	<i>Do.</i>
From Bamako, Mali, to border northeast of Siguiri. In north, traverses mostly steep hills covered by brush; in south, across flat to gently rolling plains covered by grass and brush.	Mostly one lane, laterite, in poor condition. Sharp curves common in hills. Forging necessary at some small streams.	None	Restricted by steep slopes in north; fairly easy in south except during April or early May through Oct., when frequent periods of miry ground and flooding hinder movement.
From Kedougou, Senegal, to border north of Mali. Across mostly flat to rolling plains covered by clumps of deciduous trees and brush separated by grassy areas.	One lane, earth, in poor condition; impassable at times during April or early May through Oct. because of miry ground. Dust and haze restrict visibility at times during Nov. through April or early May.	None	Fairly easy except after heavy rains, when restricted or precluded by miry ground for short periods. Restricted locally by dense vegetation.
From Bafata, Portuguese Guinea, to border northwest of Boke. Traverses mainly grass-covered coastal plains; near border, fringed by mangrove swamps and marsh.	Bafata to approx. 12 mi. S.W. of Bafata at Bambadinea is two lanes, bituminous, good condition. Remainder one lane, earth, in poor condition; impassable at times during April or early May through Oct. because of miry ground.	None	Generally favorable except during April or early May through Oct.; restricted locally by mangrove swamps and marshes near border.
From Kambia, Sierra Leone, to border south of Forecariah. Across low coastal plain covered by brush, tall grass, and patches of dense broadleaf evergreen forest; in places, across tidal rivers fringed by mangrove swamps.	Mostly two lane, laterite, in fair condition; during April or early May through Oct., miry surfaces would frequently hinder on-road movement. Ferry at Kambia is a potential bottleneck.	None	Moderately restricted in direction by patches of forest, brush, and large streams. Slowed or precluded much of time during April or early May through Oct. by miry ground and flooding.

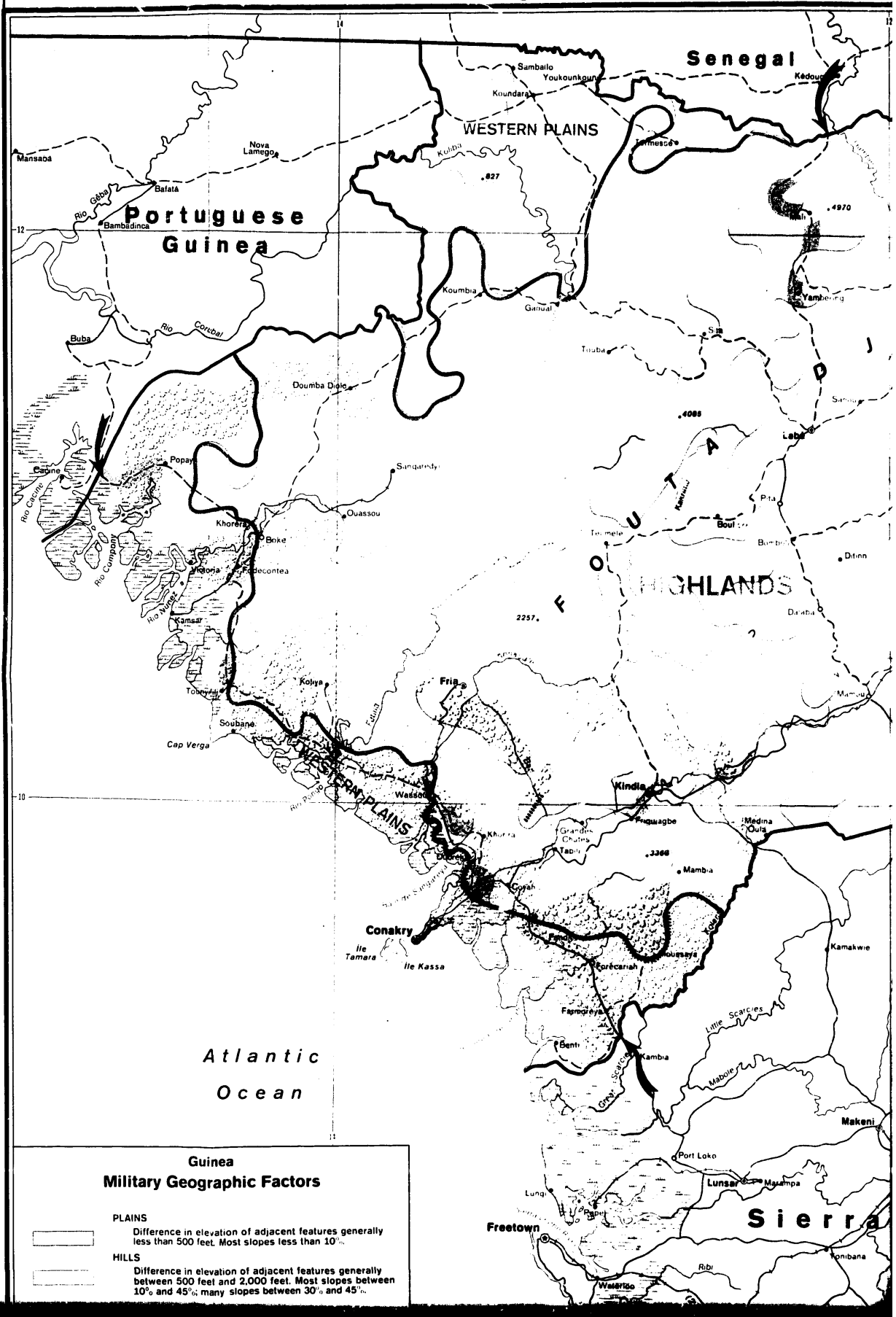
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3. Air (U/OU)

The air approaches² to Guinea are divided into two parts, those from south of 12°N, and those from north of 12°N. Adverse weather conditions in the air approaches generally are associated with the Intertropical Convergence Zone (ICZ) and its north-south movement. Weather conditions within and south of the ICZ are generally less favorable for flying than are conditions north of the ICZ. In both approaches the height of the freezing level is about 15,000 to 16,000 feet all year. The greatest risk of severe icing and severe turbulence is present in thunderstorms and well-developed line squalls. In the northern approach, thunderstorms occur most frequently (eight to 15 a month) in July through

²The discussion zone for air approaches extends approximately 300 nautical miles beyond the borders of Guinea.

September. They are most frequent in the southern approach in March through May and September through November, when five to 20 a month occur. In both approaches, the minimum number of thunderstorms, generally less than five a month, occur during the period December through February. Mean cloudiness ranges between 60% to 85% in July through September and 25% to 55% in some months during December through April. Blowing sand and dust frequently restrict visibility north of the ICZ. Upper winds are light to moderate (generally less than 50 knots) in both approaches except in the northern approaches during December through February, when mean speeds in the westerlies reach about 60 knots between 30,000 and 40,000 feet. There are scattered elevations up to 3,000 feet in the southern approach and up to 5,000 feet in the northern approach; the highest peak, 6,390 feet, is in northeastern Sierra Leone, about 25 nautical miles from the border.

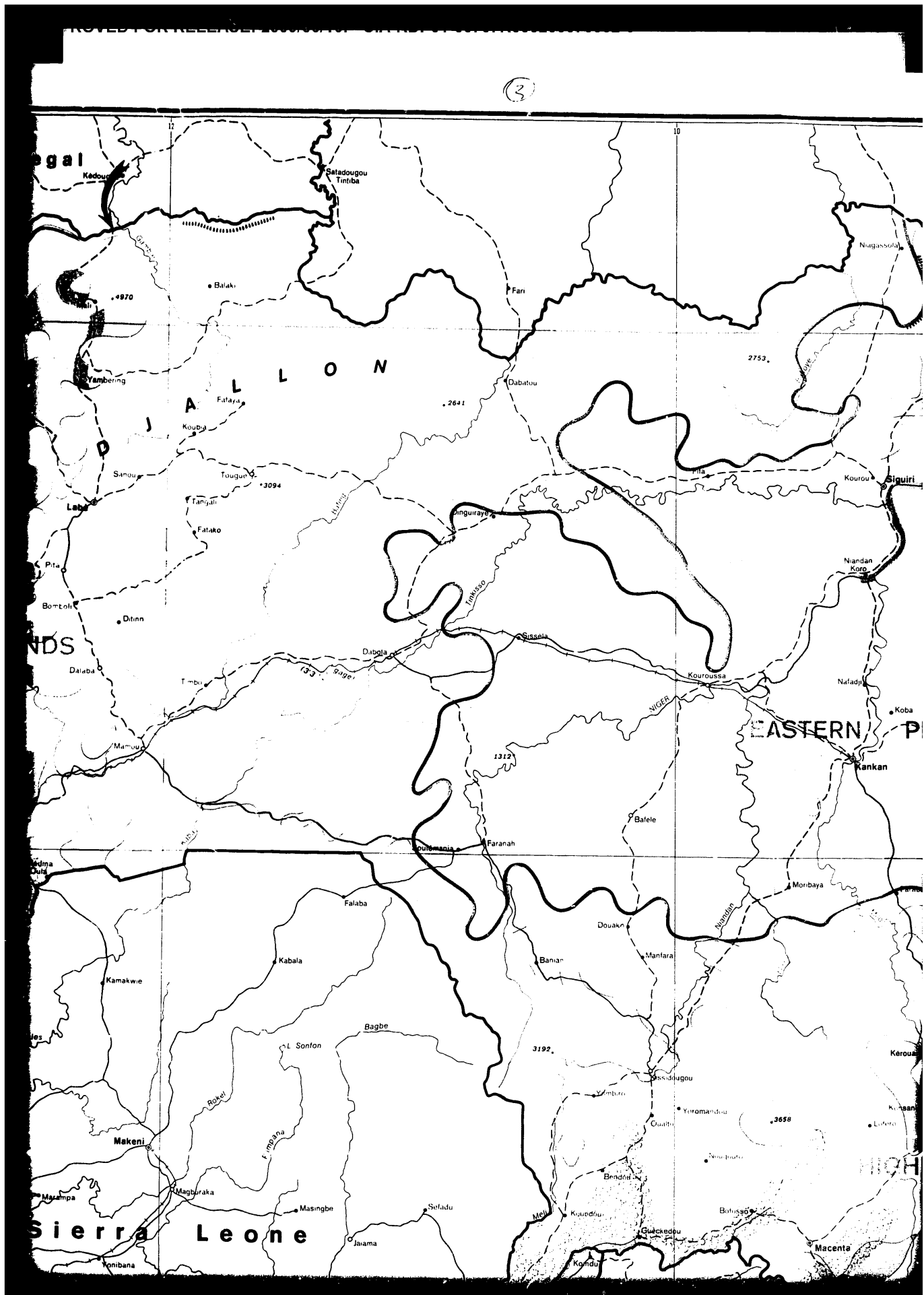


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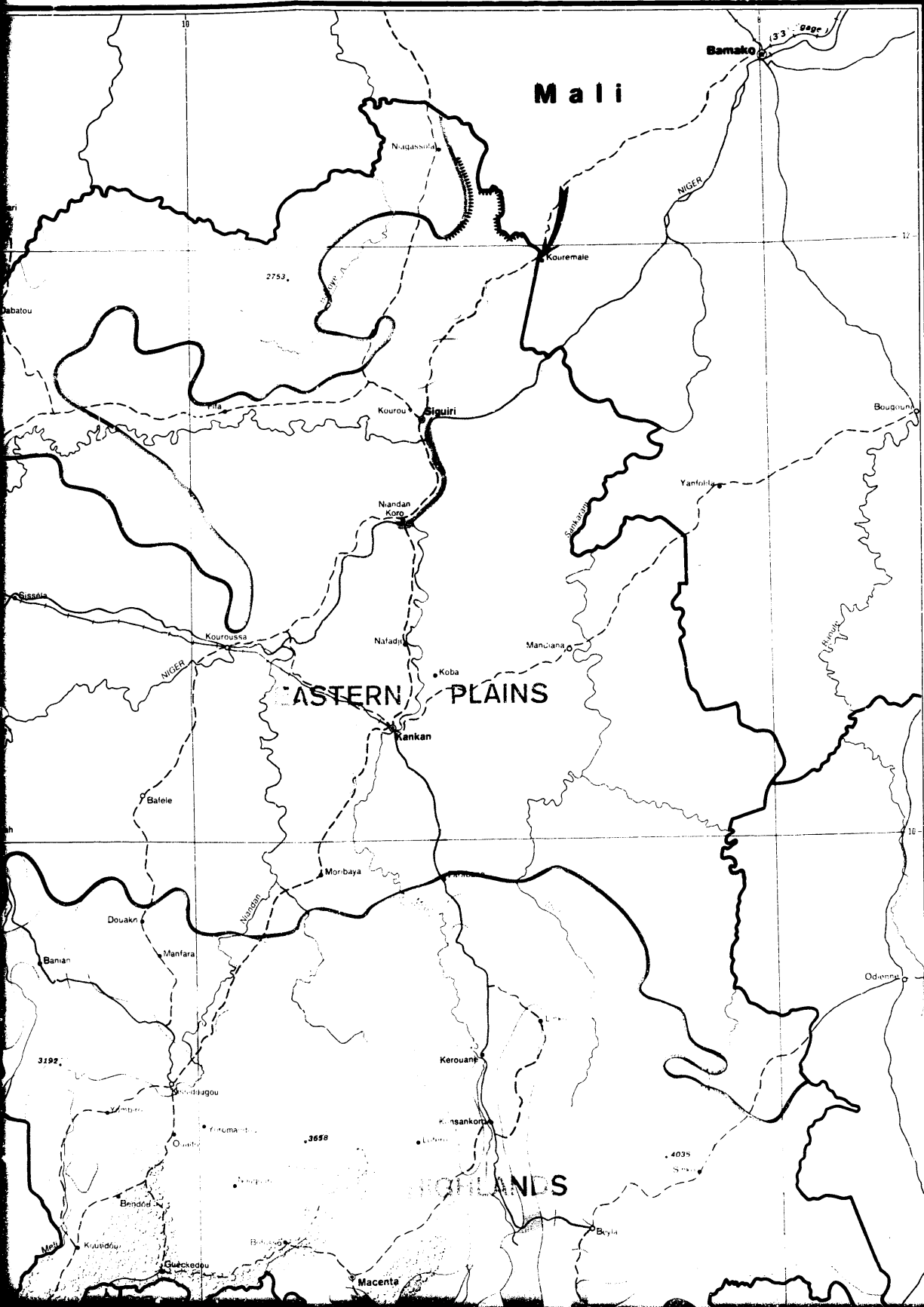
Guinea
Military Geographic Factors

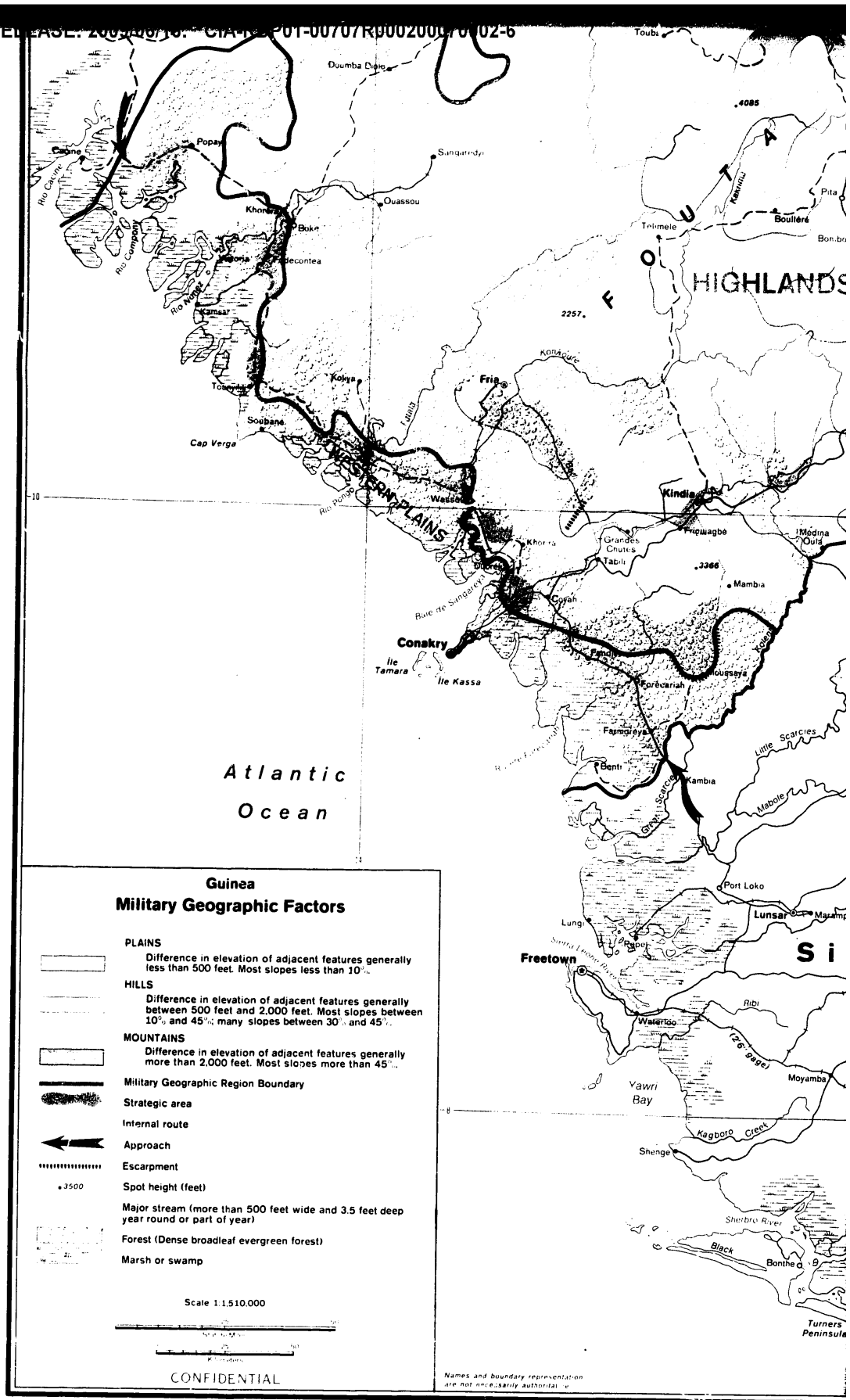
PLAINS
 [Symbol: Dotted pattern] Difference in elevation of adjacent features generally less than 500 feet. Most slopes less than 10%.

HILLS
 [Symbol: Stippled pattern] Difference in elevation of adjacent features generally between 500 feet and 2,000 feet. Most slopes between 10% and 45%; many slopes between 30% and 45%.



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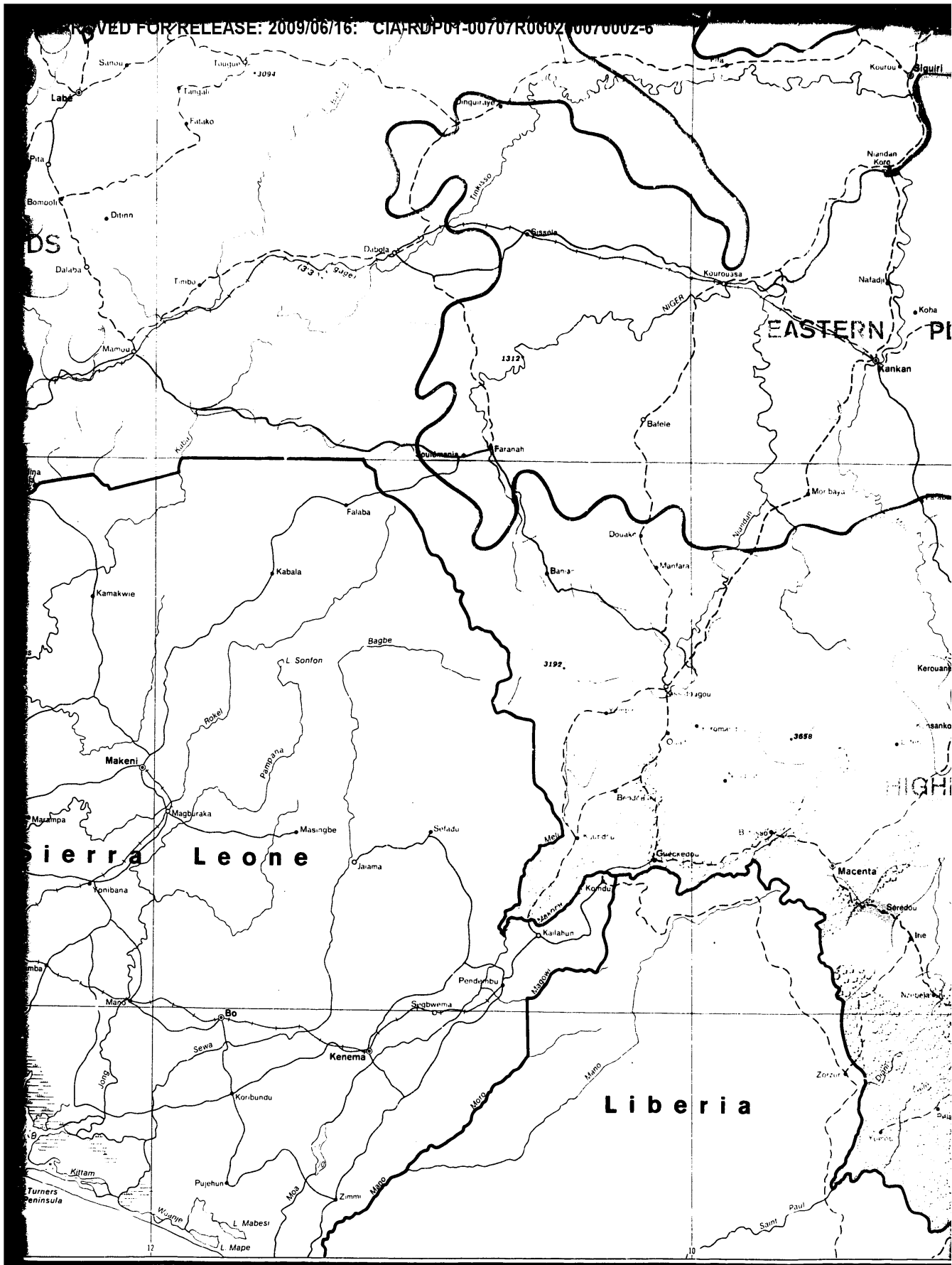




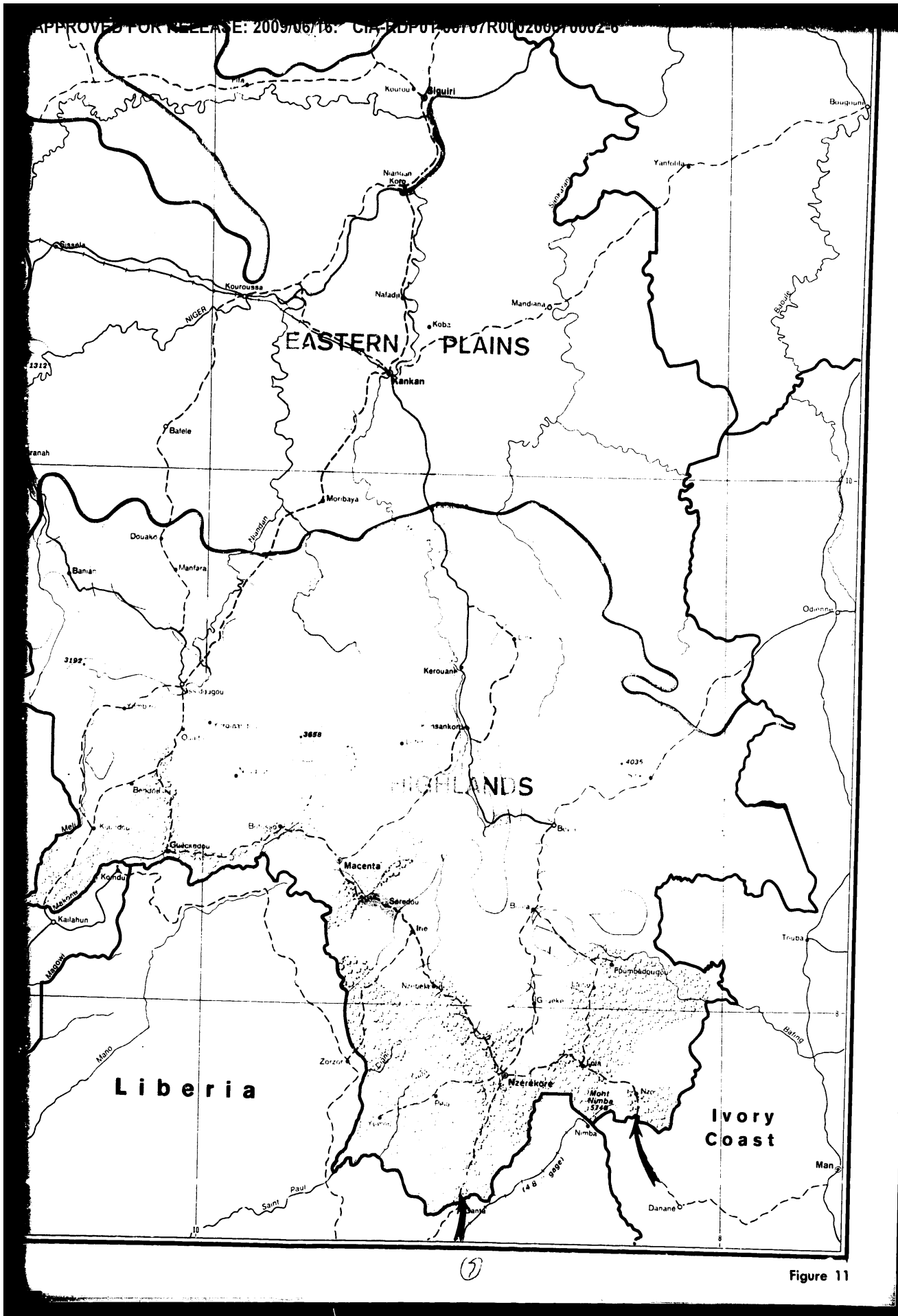
COORDINATES		
° N.	° W.	
11 57	8 47	
11 28	9 13	
10 39	9 53	
11 19	12 17	
12 07	12 24	
8 33	9 28	
6 59	11 36	
12 05	12 18	
10 23	12 05	
8 17	10 41	
9 10	13 10	
11 04	9 14	
6 19	10 48	
11 00	12 30	
10 39	9 41	
5 33	6 33	
7 37	8 25	
7 35	8 28	
10 50	14 32	
7 45	8 49	
11 05	12 24	
10 03	14 04	
10 39	14 37	
9 56	13 14	
11 06	13 46	
12 01	8 19	
11 07	14 51	
8 23	9 17	
11 25	9 10	
10 50	10 38	
10 09	12 32	
9 10	9 10	
9 29	13 49	
10 54	13 02	
10 56	14 18	
11 21	9 10	
9 31	13 43	
11 27	11 41	
10 50	14 33	
5 15	4 02	
10 02	13 39	
9 35	13 37	
10 02	10 46	
10 24	9 18	

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(5)



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(5)

Figure 11