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Hungary

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NATIONAL INTELLIGENCE SURVEY

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NATIONAL INTELLIGENCE SURVEY PUBLICATIONS

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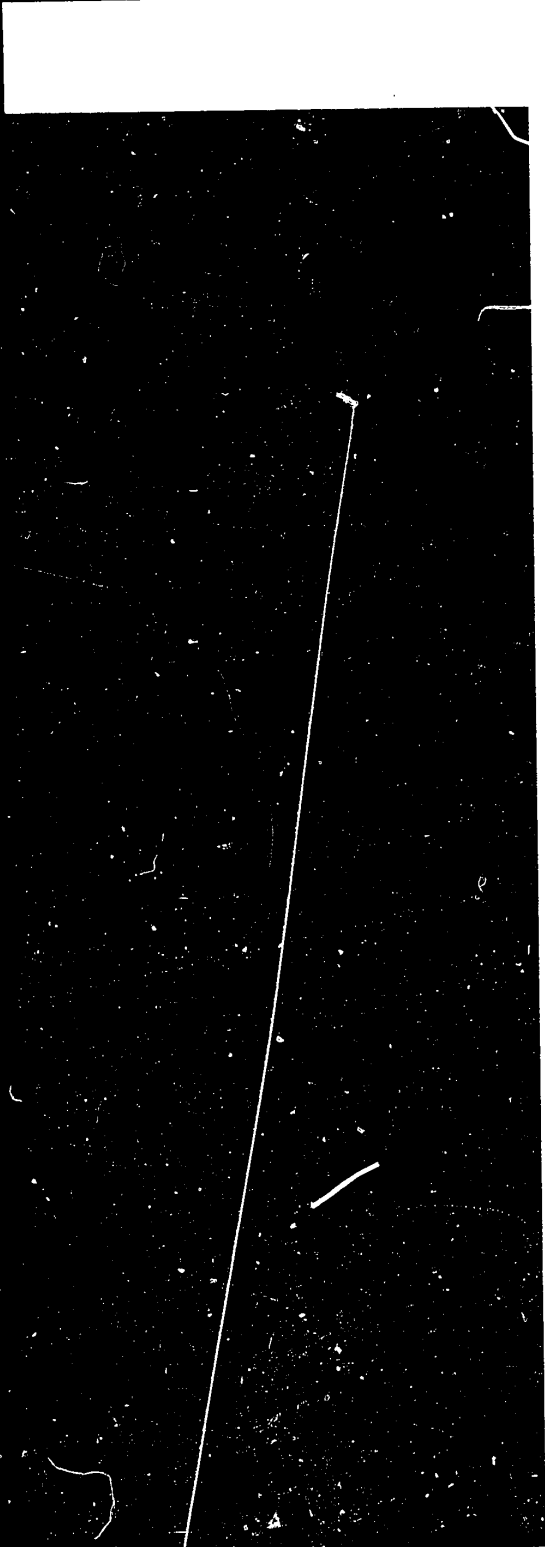
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HUNGARY

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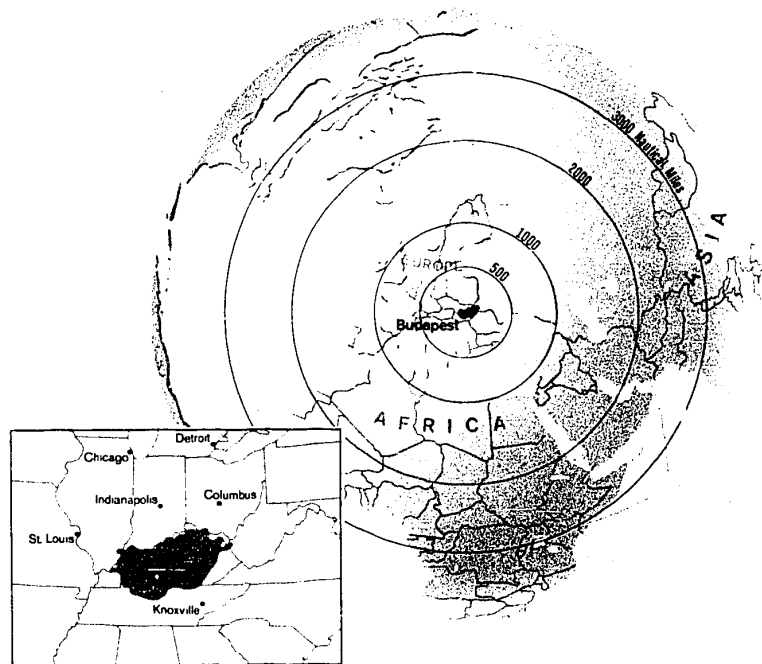
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Military Geography



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FIGURE 1. Location and comparative area (U/OU)

A. Location and description (U/OU)

Hungary, a landlocked country, occupies a large section of the fertile Danube valley in central Europe. The Danube flows across the country from north to south for about 172 miles¹ and forms the boundary with Czechoslovakia for 88 miles in the northwest. Hungary is on a main avenue of movement between Western Europe and the Balkan Peninsula and is also on the most direct land routes between the U.S.S.R.

¹Distances are in statute miles unless nautical miles are specifically indicated.

and the Mediterranean basin. Budapest and its major airfields are less than 1,500 nautical miles from most of the important industrial centers and seaports of Europe and North Africa (Figure 1). All political capitals of Europe and North Africa are within 1,500 nautical miles.

With an area of about 35,900 square miles, Hungary is slightly smaller than Kentucky; the population, estimated at 10.4 million, is about three times that of Kentucky. Compact in form, Hungary

extends east-west about 300 miles and north-south about 150 miles (Figure 16).

1. Topography

Approximately 80% of the country consists of flat to rolling, mostly well-drained, cultivated plains. The remainder is largely a narrow band of partly forested, rolling to rugged hills and isolated mountains that trend northeast-southwest from the Czechoslovakia border to Balaton, a large lake in western Hungary (Figure 2).

Most of the plains area is between 250 and 650 feet above sea level. East of the Danube the plains are primarily flat, but west of the Danube they become rolling. Small areas of low dissected hills, which have rounded crests, are in parts of the western and southwestern plains (Figure 3). Local relief—differences in elevation between tops and bottoms of adjacent topographic features—is generally less than 70 feet east of the Danube and mostly less than 400 feet west of the Danube; in hilly areas local relief is 500 to 1,000 feet. The plains area is characterized by many small perennial streams. The Danube and Tisza, the largest rivers in the plains, are more than 500 feet wide and over 6 feet deep all year. There are also numerous canals, used mainly for irrigation, in the plains. Although levees are common along many streams, flooding occurs almost annually during the high water period (early March to early May and during November). Cultivated vegetation consists mostly of corn, wheat, and vegetables, and orchards are common between the Danube and Tisza rivers; locally, there are small areas of forests in the plains. Hundreds of small farming communities and villages dot the plains, but there are only a few large cities. Old, well-developed cities, some, such as Pecs,² dating from the Middle Ages, are characterized by a central square having a prominent townhall. Surrounding the square are other old, closely spaced, slate- or tile-roofed buildings (Figure 4). These structures are usually built of brick or stone and are from three to five stories high. Newer developments, built around old core areas, generally have wide streets and multistory buildings and apartments (Figure 5). These modern buildings are of brick or masonry and have roofs of tile, slate, or sheet metal. Buildings become widely separated in residential sections near the outskirts of urban areas. Individual houses are mostly of brick or stone and are one or two stories high. Streets

²For diacritics on place names see the list of names on the apron of the Terrain and Transportation map, Figure 16, the map itself, and maps in the text.

are narrow in the medieval core of some older cities; 10-foot widths, not uncommon, impede the orderly flow of vehicular traffic. A fairly well-developed network of two-lane, mostly bituminous-surfaced roads and mostly single-track railroads connects the larger population centers. One- to two-lane roads, surfaced with gravel or crushed stone, serve smaller, remote communities.

The hills and mountains area ranges in elevation from about 300 to 3,330 feet, the maximum elevation. Summits are generally rounded except in places east of the Danube, where summits tend to be sharp-crested. Local relief is 600 to 1,500 feet in the hills and 2,200 to 2,500 feet in the mountains. Many small, rocky-bottomed perennial streams drain the highlands. Dense broadleaf deciduous forests, mainly oak and beech, cover the mountains and steeper hill slopes; vineyards and other cultivated vegetation are common on the lower slopes and in the valleys. A sparse network of one- to two-lane gravel or crushed-stone roads connects the few villages and towns located in the highland areas. Most of these settlements are associated with agricultural activity on lower hill slopes or with mining activities north of Balaton lake and northwest of Miskolc.

2. Climate

Hungary has a temperate climate with both maritime and continental characteristics. Winters (December through February) are cold, cloudy, and humid. Summers (June through August) are warm, less cloudy, and less humid (Figure 6). Spring (March through May) and autumn (September through November) are lengthy periods of transition between winter and summer.

Winter weather is quite changeable and brings the most severe conditions of the year. Cloudiness is extensive, averaging 60% to 80%, and clouds are mostly of the stratiform type. Precipitation in the form of rain or snow is frequent but usually light, and monthly amounts normally total only 1 to 2 inches. The frequencies and depths of snow are greatest in the mountains, where snow falls on 7 to 12 days monthly and snow depths may reach 2 feet or more by late February. Mean daily temperatures in winter generally rise into the 30's (°F.) in the afternoon and dip into the 20's at night and in early morning, but during the bitter cold of polar outbreaks temperatures often drop below zero. Mean relative humidity remains high during most of the winter, ranging from 70% to 90%. Visibility is usually poor, reduced chiefly by precipitation and frequent widespread early morning fog. Winter surface winds are quite variable

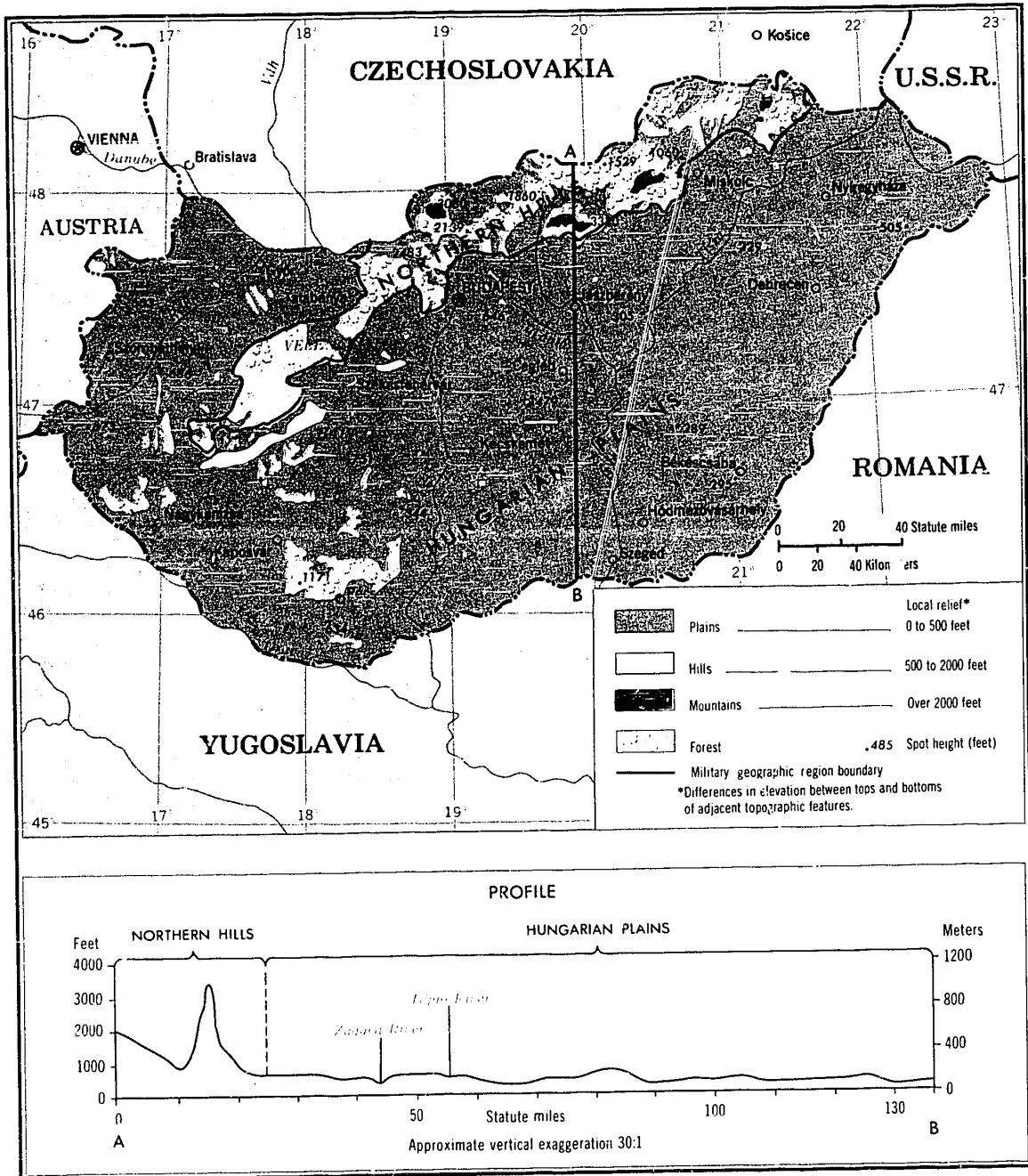


FIGURE 2. Military geographic regions and terrain (U/OU)

FIGURE 3. Broadleaf deciduous forests cover the upper slopes and crests of the low rounded hills northwest of Balaton lake. The upper hill slopes are poorly suited for conventional military ground operations because of the forest cover, and the lower slopes are only moderately suited because of surface irregularities. (C)



FIGURE 4. Central district of Pecs. The old congested centers of most cities are usually focused upon a small, open town square. The closely spaced buildings are from three to five stories in height and are of brick or stone construction. Streets are narrow enough to hinder military traffic. (C)

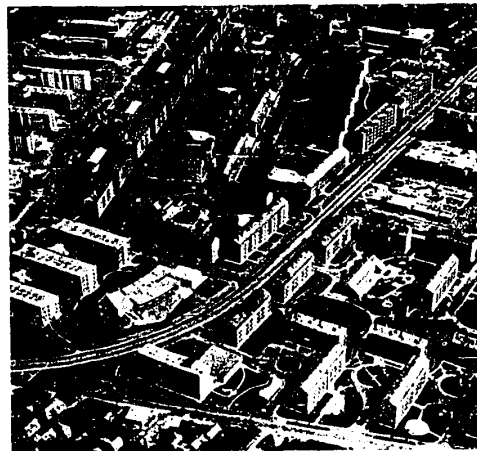


FIGURE 5. A new residential district of Pecs. Modern housing developments have multistory buildings of brick or masonry construction; streets are wide and are capable of sustaining heavy traffic. (C)

and wind speeds seldom exceed 15 knots except when channeled through mountain gaps, where some gale-force winds (speeds greater than 27 knots) have been recorded.

Summer weather is more settled and, except for occasional interruptions by thunderstorms, is generally pleasant. Clear to partly cloudy skies prevail except in the afternoons, when cumulus-type clouds are abundant. Precipitation is less frequent in summer than in winter, but heavy showers and thunderstorms result in larger monthly amounts, generally 2 to 4

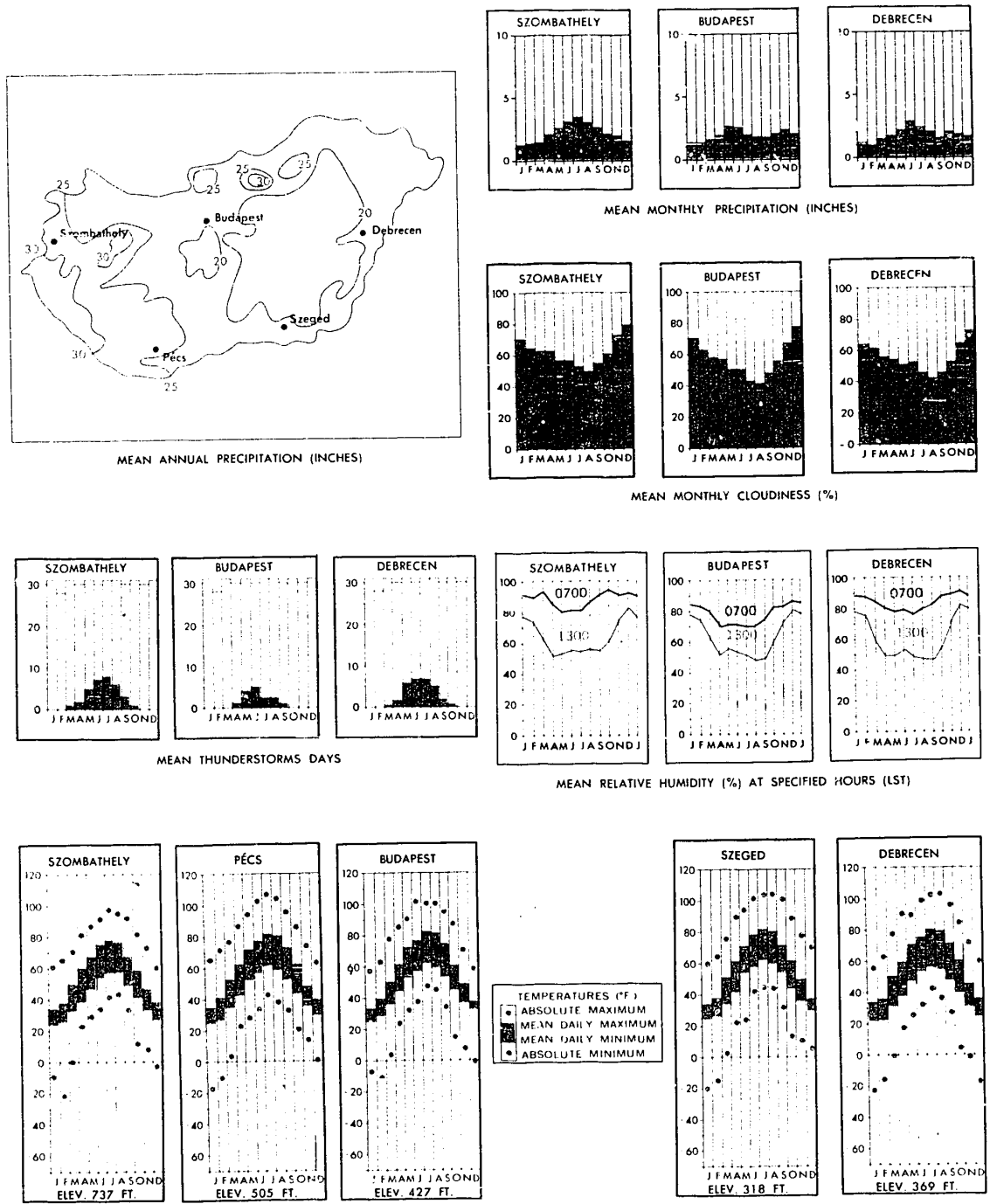


FIGURE 6. Precipitation, cloud cover, thunderstorm days, relative humidity, and temperature (U/OU)

inches. The greatest thunderstorm activity is from May through August, when thunderstorms usually occur on 3 to 8 days per month. Temperatures are mostly in the 70's or low 80's in the afternoon, and drop to 55°F. to 65°F. at night and in early morning. The warm afternoon temperatures are made more comfortable by moderate afternoon relative humidities, generally between 45% and 55%. Visibility is seldom restricted during this season. Surface winds are light except in thunderstorms where gusts may reach 35 knots or more.

B. Military geographic regions (C)

Differences in the terrain are the basis for dividing the country into two military geographic regions—the Hungarian Plains and the Northern Hills (Figure 2). 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 two regions.

1. Hungarian Plains

This region is composed of flat to rolling, mostly well-drained, cultivated plains (Figure 7). The plains are mostly between 250 and 650 feet above sea level; local relief is generally less than 70 feet east of the Danube and mostly less than 400 feet west of the Danube. Drainage is mainly by many small perennial streams.

Terrain conditions in this region are generally well suited for large-scale ground operations. The network of roads and railroads would facilitate the movement

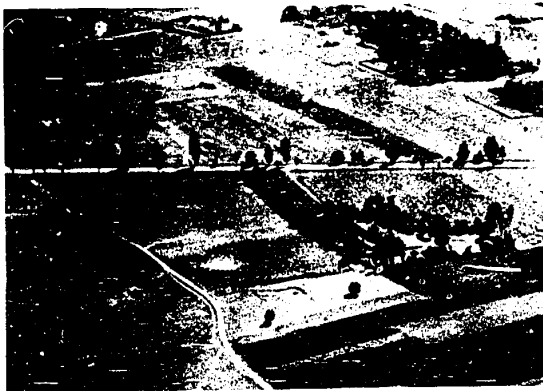


FIGURE 7. Flat, cultivated plains in eastern Hungary are well suited for conventional military ground and airborne/airmobile operations. Cross-country movement is generally unrestricted, and roads and airfields could easily be constructed. (C)

of men and materiel, although many roads would require constant maintenance to sustain heavy military traffic. Offroad dispersal and cross-country movement would be fairly easy in most places; there are few natural obstacles to movement except during winter and spring, when muddy ground conditions prevail. Road construction would also be easy, and there are few obstructions to alignments. In places, however, natural foundations are poor, and construction materials such as gravel, rock suitable for crushing, and sand are scarce. Concealment from air and ground observations would be limited mainly to buildings in the larger cities and to small patches of forests west of the Danube. These forests lose much of their value for concealment when they are leafless from early October through late April. Natural cover from flat-trajectory fire is scarce. There are few sites suitable for tunnel-type installations in the plains. Natural conditions are good for the construction of bunkers at many sites west of the Danube. The construction of underground installations is difficult east of the Danube, where there is a high water table in most places.

Conditions are well suited for airmobile and airborne operations, particularly in summer. There are numerous sites suitable for parachute operations and helicopter landings, and in some areas assault-type aircraft could land on unprepared terrain. In addition, there are numerous existing airfields as well as numerous sites where airfields having runways exceeding 6,000 feet could be constructed.

The region is poor to unsuited for irregular force operations. The very sparse forest vegetation and generally flat, cultivated, nondissected terrain provide few opportunities for cover and concealment, and movements of small groups could be easily detected. Concealment from air and ground observations and cover from small arms fire would be best in the scattered forested areas. Much of the concealment in these areas, however, is seasonal; the trees are leafless from early October through late April. Population density is fairly low, and nearly 45% of the total population is in towns and urban areas. Although the region is the agricultural center of Hungary, food and water would be most readily available in areas of high population density. Most water supplies are biologically contaminated and would require treatment. Shelter and natural fuel would be most plentiful in wooded areas. Large supplies of clothing, medical goods, and small arms and ammunition would be available only at scattered storage depots, mainly in urban areas. Supply by air would be relatively easy in the flat to rolling terrain.

2. Northern Hills

The hills and mountains of this region generally have rounded summits. Local relief is between 600 and 1,500 feet in the hills and 2,200 to 2,500 feet in the mountains. The maximum elevation is 3,330 feet. Drainage is by many small, rocky-bottomed perennial streams. Dense broadleaf deciduous forests cover the mountain and steeper hill slopes (Figure 8); elsewhere, cultivated vegetation is common.

This region is unsuited for large-scale ground operations. The numerous rugged slopes and dense forests preclude vehicular cross-country movement in much of region, and the few roads would require constant maintenance to sustain heavy military traffic. Construction of roads would be difficult because of fair to poor natural foundations and the need for extensive cutting, filling, and clearing. Steep grades and sharp curves would also be required in many places. Troops operating in the region would be provided excellent cover from flat-trajectory fire and concealment from ground observation by surface irregularities. The dense forests provide excellent concealment from air observation from May to September. Large areas exist where natural conditions are suitable for the construction of tunnel-type



FIGURE 8. The dense broadleaf deciduous forests southwest of Miskolc provide excellent concealment for operations by irregular forces. Movement of conventional forces is restricted to a few narrow, winding roads. (C)

installations, but most of the better sites are in remote areas where access would be difficult. Areas suitable for bunkers are limited to a few valleys and gaps that have soils of adequate depths.

The region is unsuited for airmobile and airborne operations. The only areas suitable for parachute operations and helicopter landings or for landings of assault-type aircraft are a few widely separated river valleys. High-speed, low-level air approaches are precluded in these areas by the surrounding high relief. The few existing airfields are in close proximity to urban areas, and conditions for the construction of new airfields are unfavorable. Natural grades and drainage suitable for the construction of landing strips more than 6,000 feet in length occur only in a few widely scattered valleys, and, even here, approaches would be restricted by surrounding high elevations.

Conditions for irregular force operations in this region would be fair to good. The hills and mountains are covered by dense broadleaf deciduous forests and would provide excellent cover and concealment when the trees are in leaf from late April through early October. Movement by small groups would be fairly easy. Population is not as dense as in the Hungarian Plains region. Food and water would be most readily available in the areas having a higher density of population and near the margins of the plains where agriculture is important. Most water supplies are biologically contaminated and would require treatment. Shelter and natural fuel are plentiful in wooded areas. Large supplies of clothing, medical goods, and small arms and ammunition would be available only at scattered storage depots, mainly in towns and urban areas. Sites for supply by air would be limited to isolated forest openings that have restricted approaches.

C. Strategic area (C)

1. Budapest

The only strategic area in Hungary is Budapest (Figure 9) and its environs (Figure 10); loss of this area would cripple the country's war-making potential. Budapest (1972 estimated population 2 million), the capital and about 12 times the size of the country's next largest city, contains about half of the country's urban population and accounts for about 40% of its industrial output and labor force. Centrally located, it is the focal point of the national highway and railroad network and is a leading port on the Danube. A commercial, cultural, and political center, it is the site of several educational and scientific institutes and the national administrative headquarters. It is the

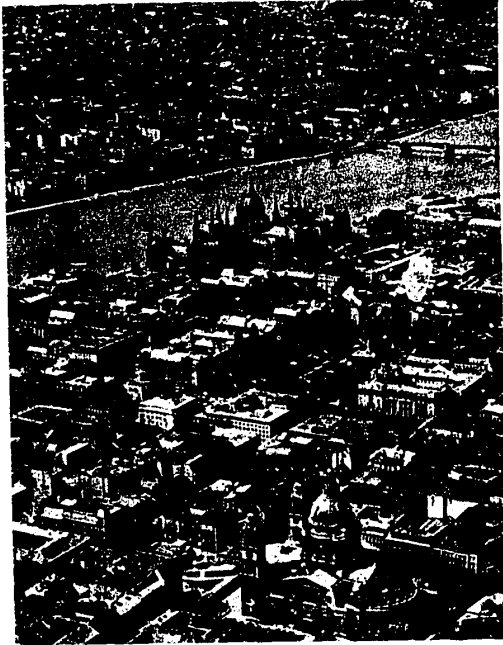


FIGURE 9. Budapest, the capital and most important city in Hungary, is bisected by the southward-flowing Danube River. Numerous bridges, one of which is shown in the background, provide the only connections between the two parts of the city. The prominent building along the Danube in the center is the seat of the national government. (U/OU)

country's military center, containing the headquarters of Hungarian and Soviet forces, and has billeting facilities for about half of the nation's armed forces. Industry in the area produces all of the country's locomotives and tractors, as well as large quantities of trucks, buses, railroad rolling stock, and river vessels. Another major industry is the production of steel and finished steel products such as steel plate, pipe, and tubing. Other important products include heavy machinery and machine tools, electrical and electronic equipment, and chemicals. Most of the country's small arms and ammunition are produced in the area. Capacity of POL (petroleum fuels, oils, and lubricants) storage facilities within the strategic area totals about 1.5 million barrels. Airfields are located south and east of the city; the one in the east serves military and international civil air traffic, and the one in the south is an important military field.

2. Other important areas

Five urbanized areas that possess various degrees of importance as military, industrial, commercial, and

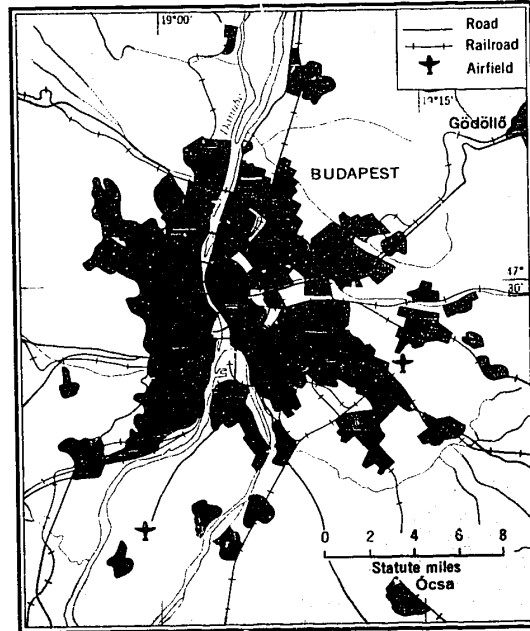


FIGURE 10. Budapest strategic area (C)

transportation centers, and which could become strategic, are described in the following tabulation:

NAME	IMPORTANCE
Debrecen 47°32'N., 21°38'E.	Population about 158,000 (1972 estimate). Largest city and most important highway and railroad junction in eastern Hungary. Site of large locomotive and railroad car repair shop. Important products include bearings, agricultural machinery, and pharmaceuticals. POL storage capacity 125,000 barrels. Military garrison and billeting for 10,000 troops.
Miskolc 48°06'N., 20°47'E.	Second largest city (1972 estimated population about 173,000) in Hungary and important industrial center. Industry centered on steel production and manufacture of lathes, railroad car wheels, castings for heavy industrial equipment, agricultural machinery, wire, ammunition, and explosives. Major junction of railroad and highway routes in northeast Hungary. Also center of coal mining area. Uranium mines near city. Billeting for 6,000 troops in military barracks. POL storage capacity 34,500 barrels.

NAME	IMPORTANCE
Gyor 47°41'N., 17°38'E.	Population about 104,000 (1972 estimate). Important industrial center in northwest Hungary. Principal products include railroad freight and passenger cars, light diesel motors for stationary and maritime users, vehicles, industrial machinery, amphibious armored vehicles, and textiles. Small iron and steel plant. Junction of important transportation routes between Budapest and the Austria and Czechoslovakia borders. POL storage capacity 211,000 barrels. Billeting for 8,000 troops in military barracks.
Pecs 46°05'N., 18°14'E.	Population about 148,000 (1972 estimate). Center of only open-pit coal basin in Hungary. Uranium mines and processing facilities in area. Main military concentration in southwest Hungary; billeting for 11,000 troops. Important industrial town with chemical plant, coke plant, foundry, machine tool factory, agricultural machinery plant, and a food-processing plant. POL storage capacity 91,000 barrels.
Szeged 46°15'N., 20°10'E.	Population about 120,000 (1972 estimate). Major road and railroad junction in southeast; important river port. Railroad classification yard and car repair shops. Major rubber products plant and country's largest textile combine. Important products include tires, cable, electrical wire, protective clothing. Military headquarters, billets for 7,000 troops. Important oil and natural gasfields in area. POL storage capacity 45,000 barrels.

D. Internal routes (C)

The internal routes are the easiest avenues of movement between the land approaches and the Budapest strategic area, and serve as connecting links within the country (Figure 11). All contain improved roads, and most contain railroads over at least a part of their length. Conditions for offroad dispersal and cross-country movement range from unsuited in areas of high hills and mountains to good in the plains. In most of the plains, however, conditions may be

unsuited during the spring thaw because of muddy ground or swollen streams. Detailed information on the selected routes is presented in Figure 12.

E. Approaches

The perimeter of Hungary is about 1,395 miles. Most of the boundaries are across cultivated or grassy plains except in portions of the north where the terrain is hilly or mountainous. Detailed information on the boundaries of Hungary is given in Figure 13. (U/OU)

1. Land (C)

Conditions for movement in the border zones, which are mostly flat to rolling plains, are generally fair to good. There are few hindrances to cross-country movement on the plains, although conditions may be unfavorable when soils are miry. Only along the eastern part of the boundary with Czechoslovakia, where there are numerous hills, are conditions for cross-country movement across the border unsuited throughout the year. Only a few roads, confined to valleys, extend through the hilly areas. Many roads, mostly in poor condition, approach or cross the border on the plains. All approaches contain surfaced, generally two-lane roads, and most contain 4'8 1/2"-gauge railroads. The approaches shown in Figure 11 are the best means of land access to Hungary; detailed information on the approaches is contained in Figure 15.

2. Air (U/OU)

Air approaches³ are mainly across mountainous terrain, the Carpathian and Balkan Mountains and the Alps. Plains extend for short distances into adjacent countries; the largest area of plains, southeast of the Danube, extends for about 100 miles to Belgrade. Approximate maximum elevations (in feet) and locations of critical terrain features in the air approaches to Hungary, together with their proximity to the Hungarian border, are as follows:

MAXIMUM ELEVATION	LOCATION
8,700	Czechoslovakia, within 45 nautical miles.
7,090	U.S.S.R., within 80 nautical miles.
8,300	Romania, within 115 nautical miles.
9,600	Bulgaria, within 270 nautical miles.
9,100	Albania, near Albania-Yugoslavia border, within 255 nautical miles.
9,600	Central Italy, within 255 nautical miles.
9,400	Yugoslavia, within 110 nautical miles.
13,300	Near Switzerland-Italy border, within 260 nautical miles.
12,500	Austria, within 140 nautical miles.

³The discussion zone for air approaches extends approximately 300 nautical miles beyond the borders of Hungary.

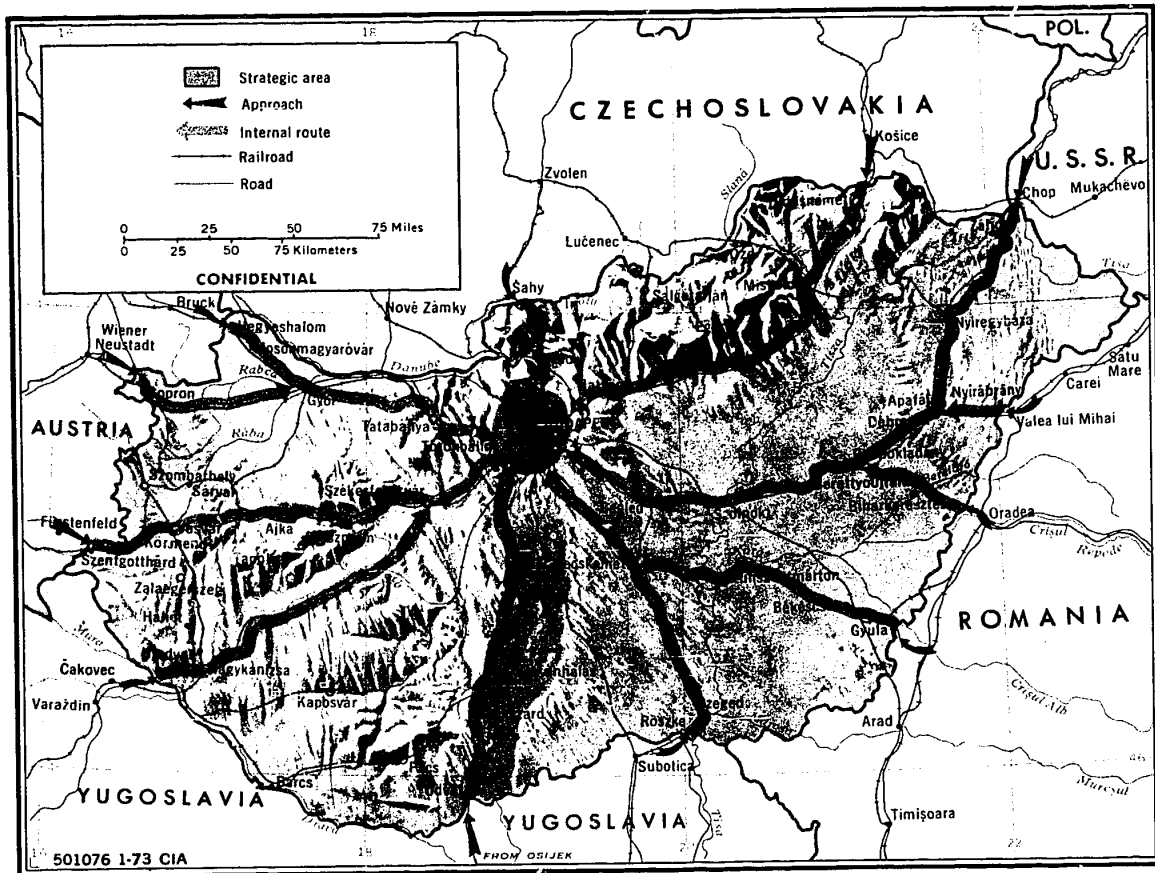


FIGURE 11. Strategic area, internal routes, and approaches (C)

Weather conditions are most favorable in May through September, when cloudiness is not a significant factor; however, hazardous conditions may be encountered in thunderstorms, which are most frequent during this period, occurring up to 8 days per month over most sections. Winter cloudiness, mostly 60% to 80%, and corresponding low visibilities are frequently widespread during the passage of low-pressure systems and associated fronts. Hazardous

icing conditions may be encountered in clouds above the freezing level that, from north to south, varies from near the surface to 7,000 feet in winter and from 10,000 to 15,000 feet in summer. The prevailing winds aloft are westerly and generally light all year to about 55,000 feet; mean speeds are usually less than 50 knots. Aircraft crossing the Alps and the Carpathian Mountains may encounter adverse weather conditions during all seasons.

FIGURE 12. Internal routes (C)

ROUTE AND TERRAIN	ROAD	RAILROAD	OFFROAD DISPERSAL AND VEHICULAR CROSS-COUNTRY MOVEMENT
U.S.S.R. border at Zahony to Budapest strategic area. Flat to gently rolling, cultivated plain with low grasses.	Two lane, some sections bituminous surfaced, other sections concrete surfaced; in good condition. International bridge, 721-feet long, over Tisza 1 mile northeast of Zahony. Numerous sharp curves.	Double track 4'8 1/2" gage from border to Nyiregyhaza, single track from Nyiregyhaza to Apafaja, and double track for remainder of route. Entire line is electrified, and work is underway to complete the double tracking. Dual-gage (4'8 1/2" and 5'0") transloading area in Zahony. Two large railroad bridges on this line. 846-foot dual-gage international bridge over Tisza River 1 mile northeast of Zahony, and 1,290-foot bridge over the Tisza River at Szolnok.	Conditions range from poor in clayey plains to good on silty plains except during miry period, mid-November through April.
Czechoslovakia border near Hidasnemeti to Budapest strategic area. Flat to gently rolling plains from border to Budapest, cultivated vegetation on plains.	Two to three lanes wide, some sections bituminous, other sections concrete surfaced; in good condition. Two underpasses under railroad near Budapest. Bottlenecks consist of steep grades and sharp curves.	Single track 4'8 1/2" gage from border to near Miskolc, double track and electrified for remainder of route. Rail bridge, 300 feet long, over Sajó River near Miskolc.	Fair most of year on silty plains; poor, much of time mid-November through April, when ground is miry.
Czechoslovakia border southward, via Vác, to Budapest strategic area. Flat to gently rolling valley; southern half of route in Danube valley.	Two lane, mostly bituminous surfaced, some stretches of stone block and concrete; in good condition. In spring subject to occasional flooding between Vác and Budapest.	Double track 4'8 1/2" gage from Vác to Budapest strategic area. Work underway to electrify this section.	Offroad dispersal and cross-country movement confined to valley bottom; good except during periods when soils are miry, mid-November through April.
Austria border near Hegyeshalom to Budapest strategic area. Flat to gently rolling from border to Tatabánya, then hilly to Budapest. Cultivated vegetation on plain, broadleaf deciduous forest in hills.	Mostly three lane, a few two-lane stretches; some sections bituminous surfaced, other sections concrete surfaced; in good condition. Four-lane divided highway from Budapest a few miles westward to Torokbalint. Narrow bridge over Rába River at Győr constitutes bottleneck. Subject to snowdrifts in winter.	Double track 4'8 1/2" gage and electrified. Twelve railroad bridges over 100 feet in length.	Good on plains to Tatabánya except when ground is miry, mid-November through April. Fair to poor in hills from Tatabánya to Budapest.
Austria border near Sopron to Győr and the Hegyeshalom Budapest internal route. Flat to gently rolling; cultivated vegetation.	Two lane, concrete surfaced; in good condition.	Single track 4'8 1/2" gage.	Good most of year on silty plains, fair most of year on alluvial plains; poor only for short periods from mid-November through April when ground miry.
Austria border at Szenigotthard to Budapest strategic area. Flat to gently rolling from border to Ajka; mostly cultivated vegetation and scattered deciduous forests. Hilly from Ajka to Veszprem; broadleaf deciduous forests. From Veszprem to Budapest flat to rolling; cultivated vegetation.	Mostly three lane and concrete surfaced, some two lane and some bituminous-surfaced stretches; in good condition. Subject to snowdrifts and heavy fog from about December through February as far as Szekesfehervar. Parallel to and north of three-lane road, a four-lane divided highway under construction from Budapest to Szekesfehervar. Only one segment—from Budapest to a few miles beyond Torokbalint—is open as a divided highway; two lanes now in use on remainder of route. One underpass on four-lane stretch constitutes only bottleneck.	Single track 4'8 1/2" gage from border to Szekesfehervar; double track remainder of the route. Railroad generally parallels road except in west-central portion of route, where it is 15 to 20 miles north of road. Bridge, 371 feet long, over the Rába River 1.9 miles northeast of Sarvar.	Good to poor. Good on flat to rolling plains except when ground is miry, mid-November through April. Poor to unsuited in hills because of relief and forests.

FIGURE 12. Internal routes (C) (Continued)

ROUTE AND TERRAIN	ROAD	RAILROAD	OFFROAD DISPERSAL AND VEHICULAR CROSS-COUNTRY MOVEMENT
Yugoslavia border near Nagykanizsa to Szekesfehervar and the Austria border (Szentgotthard) Budapest internal route. Flat to gently rolling, cultivated vegetation except for areas of tall marsh grass and swamp near Balaton Lake.	Mostly two lane, short one-lane gravel segments near Yugoslav border, some sections bituminous surfaced, other sections concrete surfaced; in good condition. Underpasses and steep grades constitute bottlenecks near Szekesfehervar, section is also subject to snowdrifts from December through February. Landslides and flooding occasionally occur in vicinity of Balaton Lake.	Single track 4'8 1/2" gage. International bridge, 520 feet long, over Mura River at border	Good to unsuited. Good east of Balaton Lake, fair to west. Unsuitable near lake because of marsh and swamp and occasional flooding.
Yugoslavia border at Udvar to Budapest strategic area. Flat to gently rolling; cultivated vegetation.	Mostly two lane, bituminous surfaced; condition ranges from fair to good. Two underpasses on section near Budapest.	No direct rail connections.....	Good on west side of internal route except for short periods from mid-November through April when ground is miry. Fair most of year across partly forested plains on east side of internal route; poor when ground is soft.
Yugoslavia border at Roszke to Budapest strategic area. Flat to gently rolling; cultivated vegetation.	Two lane, stretches of bituminous, brick, or concrete; in good condition.	Single track 4'8 1/2" gage roughly parallel to road the entire length of this route.	Fair most of year on sandy plains; good during summer.
Romania border near Gyula to Keeskemet on the Yugoslavia border (Roszke) Budapest internal route. Flat to gently rolling; cultivated vegetation.	Two lane, some sections bituminous surfaced, other sections concrete surfaced; in fair to good condition. 1,022-foot bridge over Tisza River. Section near Keeskemet subject to heavy fog from November through December.	Single track 4'8 1/2" gage parallels road between Gyula and Bekescsaba, and between Kunszentmarton and Keeskemet.	Good most of year on silty plains; poor for short periods from mid-November through April when ground miry.
Romania border near Biharkeresztes to Puspokladany and the U.S.S.R. border (Zahony) Budapest internal route. Flat to gently rolling; cultivated vegetation and sparse, low grass.	Two lane, some sections bituminous surfaced, other sections concrete surfaced; in good condition.	Single track 4'8 1/2" gage. 280-foot bridge over the Berettyo River 1.4 miles southeast of Berettyoujfalu.	Fair through summer and autumn on alluvial plains; poor much of time mid-November through April when ground miry. Poor most of year in small local areas of clayey plains.
Romania border near Nyirabranzy to Debreceen and the U.S.S.R. border (Zahony) Budapest internal route. Flat to gently rolling; cultivated vegetation and areas of broadleaf deciduous forests.	Two lane, concrete surfaced; in good condition.	Single track 4'8 1/2" gage.....	Fair most of year on sandy plains; good during summer. Unsuitable in forests.

FIGURE 13. Boundaries (C)

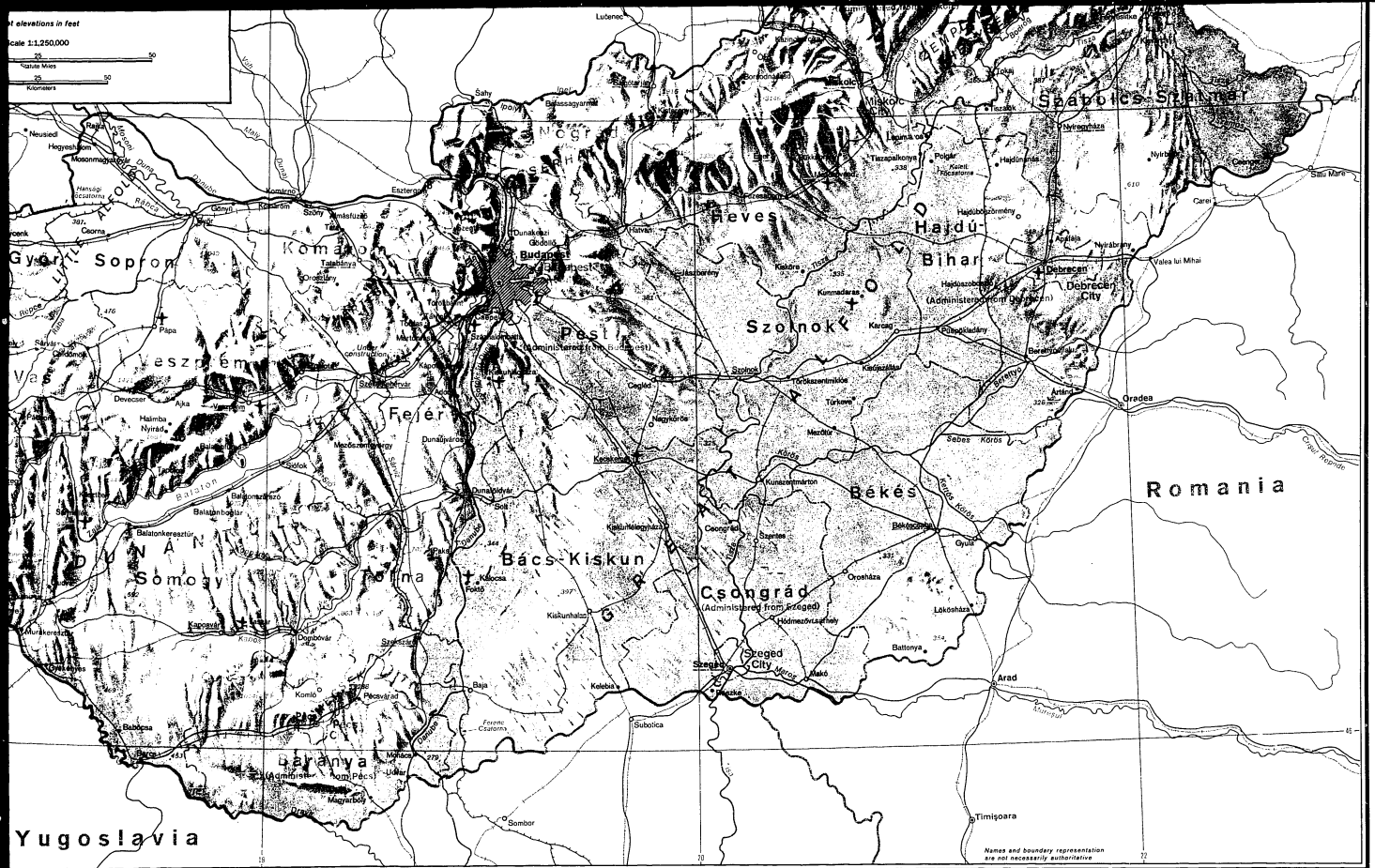
BOUNDARY	LENGTH	STATUS	TERRAIN
U.S.S.R.	<i>Miles</i> 75	Demarcated, undisputed. Recognized as legal international boundary. Light security measures including floodlights, observation towers, and patrols.	Flat to gently rolling plains. Predominantly cultivated vegetation of grains and vegetables, pasture grass; scattered patches of forest and brush.
Romania.....	275	.....do.....	Flat to gently rolling plains. Predominantly cultivated vegetation of grains and vegetables, pasture grass; scattered patches of forest and brush. 12 miles formed by Maros (Muresul) River in south.
Yugoslavia.....	390	.....do.....	Flat to gently rolling plains. Predominantly cultivated vegetation of grains and vegetables, pasture grass; scattered patches of forest and brush. Part of border in west is along the wide, deep Drava River, and short section is along the Mura River.
Austria (Figure 14)...	235	Demarcated, undisputed. Recognized as legal international boundary. Heavy security measures including fences (some electrified), trip flares, some mines. Possible use of border control radar in places.	Predominantly flat to gently rolling plains. Cultivated vegetation of grains and vegetables, pasture grass; scattered patches of forest and brush in low areas, broadleaf deciduous forests in higher areas.
Czechoslovakia.....	420	Demarcated, undisputed. Recognized as legal international boundary. Light security measures including floodlights, observation towers, and patrols.	Low mountains and forested hills for much of the border's length. In west, the wide, deep Danube forms the boundary, flows across mainly cultivated plains.

FIGURE 14. Security measures used along the Hungary-Austria border are fences, cleared strips, watch towers, trip flares, land mines, and possibly radar (C)



FIGURE 15. Land approaches (C)

APPROACH	ROAD	RAILROAD	OFFROAD DISPERSAL AND VEHICULAR CROSS-COUNTRY MOVEMENT
From Chop, U.S.S.R. Flat to gently rolling plains; cultivated vegetation.	Two lane, bituminous surfaced, good condition. International bridge crosses Tisza River at border.	Two tracks, 5'0" gage and 4'8 1/2" gage, connect the major transloading stations at Chop and Zahony.	Good to fair except from mid-November through April when soils are frequently miry.
From Kosice, Czechoslovakia. Flat to rolling plains; cultivated vegetation.	Two lane, bituminous surfaced; good condition.	Single track 4'8 1/2" gage.....	Fair except from mid-November through April when soils are frequently miry.
From Zvolen, Czechoslovakia. Hilly; broad-leaf deciduous forests.	Two lane, bituminous, gravel surface; poor condition.	.....do.....	Unsuited because of steep slopes and forests.
From Bruck, Austria. Flat to rolling plains; cultivated vegetation.	Two lane, bituminous surfaced; good condition.	Double track 4'8 1/2" gage.....	Good to fair except from mid-November through April when soils are miry.
From Wiener Neustadt, Austria. Flat to rolling plains; cultivated vegetation.	.....do.....	Single track 4'8 1/2" gage.....	Do.
From Furstenfeld, Austria. Flat to rolling plain; cultivated vegetation.	.....do.....	.....do.....	Do.
From Varazdin, Yugoslavia. Flat to gently rolling plains; cultivated vegetation.	Two lanes, intermediate bituminous Varazdin to Cakovec, good condition; one lane, gravel Cakovec to border, good condition.	.....do.....	Good to fair except from mid-November through April when soils are frequently miry.
From Osijek, Yugoslavia. Flat to gently rolling plains; cultivated vegetation.	One lane, gravel surfaced; good condition...	None.....	Do.
From Subotica, Yugoslavia. Flat to gently rolling plains; cultivated vegetation.	Two lane, bituminous surfaced; good condition.	Single track 4'8 1/2" gage.....	Good to fair except from mid-November through April when soils are miry.
From Arad, Romania. Flat to gently rolling plains; cultivated vegetation.	Two lane, bituminous surfaced; good condition except near the border where the road is one lane, gravel surfaced, and in poor condition.	None.....	Good to fair except from mid-November through April when miry ground makes conditions unsuited.
From Oradea, Romania. Flat to rolling plains; cultivated vegetation.	Two lane, bituminous surfaced; good condition.	Single track 4'8 1/2" gage.....	Do.
From Valea lui Mihai, Romania. Flat to rolling plains; cultivated vegetation.do.....do.....	Do.



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