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GEOGRAPHIC INTELLIGENCE REVIEW



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NEDERLANDS NIEUW GUINEA OR IRIAN-BARAT?

Sovereignty over the western half of the island of New Guinea -- probably the least known habitable area in the world -- has been the basis of a bitter dispute between the Kingdom of the Netherlands and the Republic of Indonesia since 1949. At present the area is administered as a Dutch colony, and recent developments indicate an increasingly firm intention on the part of the Dutch to retain their control over the area, resisting Indonesian efforts to annex it. Strongly indicative of the seriousness of the Dutch intent is the fact that the Government's 1954 budget request for Netherlands New Guinea was 76,627,500 guilders -- an increase of more than 11,000,000 guilders over the 1953 budget total.

The physical geography of the area is not conducive to economic development. Coastal plains suitable for settlement are generally narrow and limited in extent. The majority are on the northeast coast and on the west coast of Geelvink Bay. Elsewhere, coastal plains are swampy and covered by dense vegetation. Much of the coastline is steep and heavily forested. The mountainous backbone of the colony is a rugged range with a number of peaks over 15,000 feet high and a maximum elevation of over 16,500 feet. The glaciers and permanent snowfields of this main central range are in startling contrast to the hot and humid lowlands. Elsewhere the interior is characterized by less spectacular but nevertheless formidable mountains and by broad

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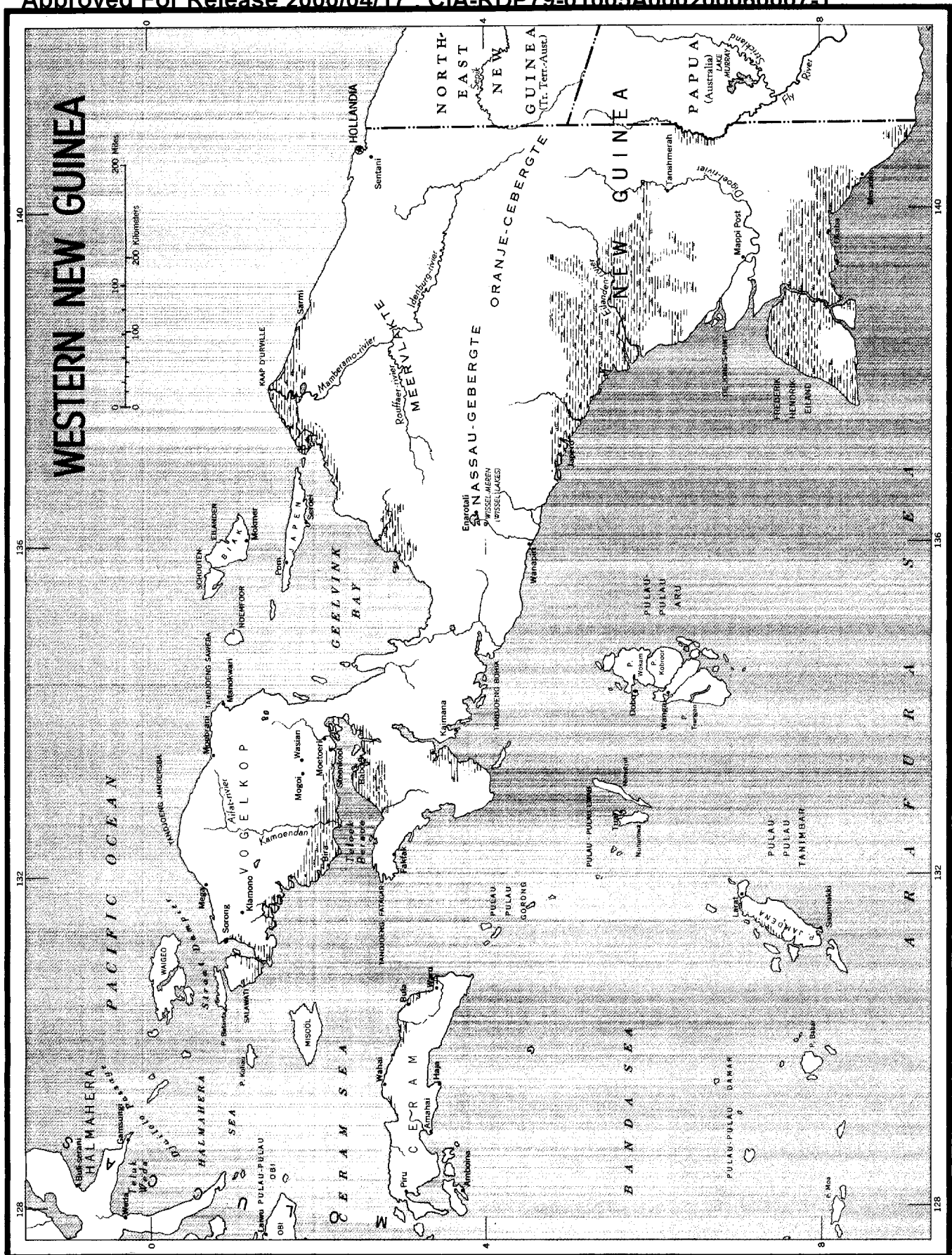
valleys isolated from the coast and from one another. These interior valleys form the setting for the recurring accounts of advanced "Shangri-La" civilizations and primitive Stone Age cultures that have been emanating from New Guinea since World War II.

Accentuating the effect of relief as a deterrent to economic development is the prevalence of dense tropical vegetation.* Rain forest and swamp forest cover most of the area. Mangrove and nipa palm forests fringe long stretches of the coast. Savanna and grassland vegetation is limited largely to the northern slopes of the main central range and to an area in the vicinity of Merauke on the south coast. Moss forest and alpine vegetation are the characteristic cover of the high mountains.

The lowlands have a wet tropical climate with monotonously uniform high temperatures and high humidity. The climate of the interior uplands -- at about 5,000 feet -- is temperate. Average annual rainfall varies from about 80 to 160 inches at coastal stations to an estimated 280 to 320 inches in the mountains.

The total population of the colony is very roughly estimated to be between 700,000 and 1,000,000, but much of the interior has never

*The many short roads constructed in connection with amphibious landings on the north coast during World War II have probably long since been reclaimed by the tropical forests, but the 30-mile road from Hollandia to the airfield at Sentani, built by United States forces in 1944, has been maintained.



been brought under effective administrative control and no census has been undertaken.

Two distinct ethnic groups -- Papuans and Negritos -- make up the indigenous population. The Papuans, who form the bulk of the population, are found throughout the colony, with the greatest numbers in the area between the central mountains and the north coast. The Negritos, a pygmoid people with extremely primitive cultures, are found in small concentrations in the central highlands. Anthropologically, linguistically, and culturally the indigenous population of western New Guinea, on the basis of studies conducted to date, appears to have more in common with the Melanesian peoples to the east than with the Indonesian groups to the west.

Except for a few missionaries, administrative officials, and oil-company personnel who live in the interior, the nonindigenous population, including Europeans, Eurasians, Indonesians, and Chinese, is limited almost entirely to coastal settlements.

In November 1949, when the Netherlands agreed to recognize Indonesian sovereignty over most of the former Netherlands East Indies, New Guinea was specifically excepted. On 9 January 1950, Netherlands New Guinea was established by Royal decree as a Dutch colony, pending further discussions on sovereignty. During the summer of 1950, a joint Dutch-Indonesian committee considered the question of sovereignty

of the area -- referred to by Indonesia as "Irian-Barat" (West Irian) -- but failed to reach an agreement.* Since that time, there has been no improvement in prospects for a settlement of the dispute. The Netherlands-Indonesian Union was dissolved in August 1954, and in December of that year the Indonesian efforts to have the question placed on the 1955 agenda of the United Nations General Assembly were unsuccessful.

In the last few years, there have been recurring reports of attempts by small armed groups of Indonesians to land on New Guinea. Dutch military patrols have intercepted a number of these groups. On 5 January 1955 the Indonesian Government announced that a state of war existed in the Moluccas as a consequence of resurgent dissident activity by the "South Molucca Republic" -- a trouble spot ever since 1949. Indonesia, claiming that the unrest in the Moluccas was encouraged by the Dutch, dispatched military forces to the area, presumably to squelch the dissident activity. The move has been widely interpreted, however, as a show of force to impress the Dutch and to convince the rest of the world that continued Dutch control of western New Guinea constitutes a threat to the security of Southeast Asia.

*The opposing views of the Dutch and Indonesian members of the joint committee are presented in Report of the Committee New Guinea (Irian) 1950, published by the Secretariat of the Netherlands-Indonesian Union. An English-language edition of the report is available in the CIA Library under Call No. 7T/9 124.4.N4.

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The issue continues to attract attention, especially in the Netherlands and Indonesia. In anticipation of elections scheduled to be held in 1955, Indonesian politicians of virtually all parties are making extensive use of the nationalistic and anticolonial aspects of the dispute. Meanwhile, Dutch political parties, with the notable exception of the Communists, who support Indonesian claims to New Guinea, are displaying a noteworthy unanimity in support of the Dutch decision to retain control of the colony.

Against the current background of political unrest, some recent developments in the economic geography of western New Guinea, which enhance the value of the area as a prize in the international tug-of-war, are of interest.

The principal industrial enterprise in western New Guinea is the production of crude petroleum. This activity is concentrated in the Vogelkop Peninsula and is conducted by the Nederlandsche Nieuw Guinee Petroleum Maatschappij, which is owned 40 percent by the Royal Dutch Shell Group, 40 percent by Standard-Vacuum Oil Company, and 20 percent by Far East-Pacific Investments Company (Caltex). Prior to 1954, production was limited to the Klamono field, which has been connected by pipeline with the oil port of Sorong since 1948. The two other Vogelkop oilfields, Wasian and Mogoi, had been discovered by 1940 but did not begin commercial production until the spring of 1954, when the completion of a fairly spectacular 2-year engineering project connected the fields by pipeline with a new tanker jetty at Moetoeri.

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As a result of the completion of this project, commercial oil production in the Vogelkop more than tripled -- from 4,800 to about 15,000 barrels daily. New Guinea has no refining facilities; the crude oil produced is shipped out by tanker for refining elsewhere.

Despite the unstable political climate the oil company is continuing to invest in geological reconnaissance and in the drilling of new wells. The now-familiar pattern of changes associated with the beginning of oil production in undeveloped areas is being repeated in New Guinea. Sorong, in 1947 a collection of a few native shacks, is now a town of about 8,000, with water-supply and electric systems, telephone and radio facilities, a refrigeration plant, bus service, schools, and many of the social amenities. Improved roads, a rarity in New Guinea, have been developed in conjunction with the oil pipelines to provide motorable routes between Sorong and Klamono and between Steenkool and Wasian and Mogoi.

Traditionally, the principal method of transportation in western New Guinea has been by water -- coastal vessels serving the more important coast settlements, and small craft penetrating the interior via navigable rivers. New Dutch shipping services, providing regular connections with Australia and with mainland Southeast Asia, have been opened within the past year. The colony has no railroads. Development of overland surface transportation is extremely difficult and, quite logically, air transport has become increasingly important.

The main air-transport center in the area is on Biak, an island off the north coast. KLM (Royal Dutch Airlines) uses the Mokmer International Airport at Biak on its weekly Constellation flights to Australia, and opened a hotel on the island in November 1953. Manokwari is currently being developed as an alternate to Biak. Weekly flights from Biak provide passenger and freight service to a number of points within the colony, including the otherwise inaccessible Wissel Lakes region in the interior. Hollandia is already connected with Lae, in North-East New Guinea, by periodic DC-3 flights of Qantas Empire Airways. Dutch missionaries and administrators are making increasing use of air transport to reach the isolated mountain valleys of the interior, which are inhabited by sizable populations of extremely primitive tribal groups. The Netherlands Government plans to build additional airstrips and landing grounds to aid in the further development of the colony by means of air transport -- a method that has been used with considerable success in Australian New Guinea.

The Netherlands-Indonesian dispute over the sovereignty of western New Guinea appears to have stimulated a determination on the part of the Dutch to resist vigorously any change in the sovereignty status of their colony and to proceed with plans for the development of the colony at an accelerated rate. Hollandia and Biak have been described by recent visitors as "beehives of constructional activity." At Manokwari, a slipway capable of accommodating ships up to 4,000 tons

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was scheduled for completion in early 1955. To supplement the expanding oil and air-transport activities, a plan drafted in 1954 by the Netherlands Government in consultation with the governor of Netherlands New Guinea proposes a number of other lines of development to be pursued in the colony over a 3-year period. The plan includes considerations basic to long-term economic development, such as the preparation of topographic maps and hydrographic charts and systematic research on soils and natural resources. The increase in size of the 1954 budget request for Netherlands New Guinea over the 1953 budget total has already been mentioned. It is apparent that the Netherlands intends to retain sovereignty over western New Guinea. (SECRET)

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SIKKIM, INDIAN-TIBETAN GATEWAY

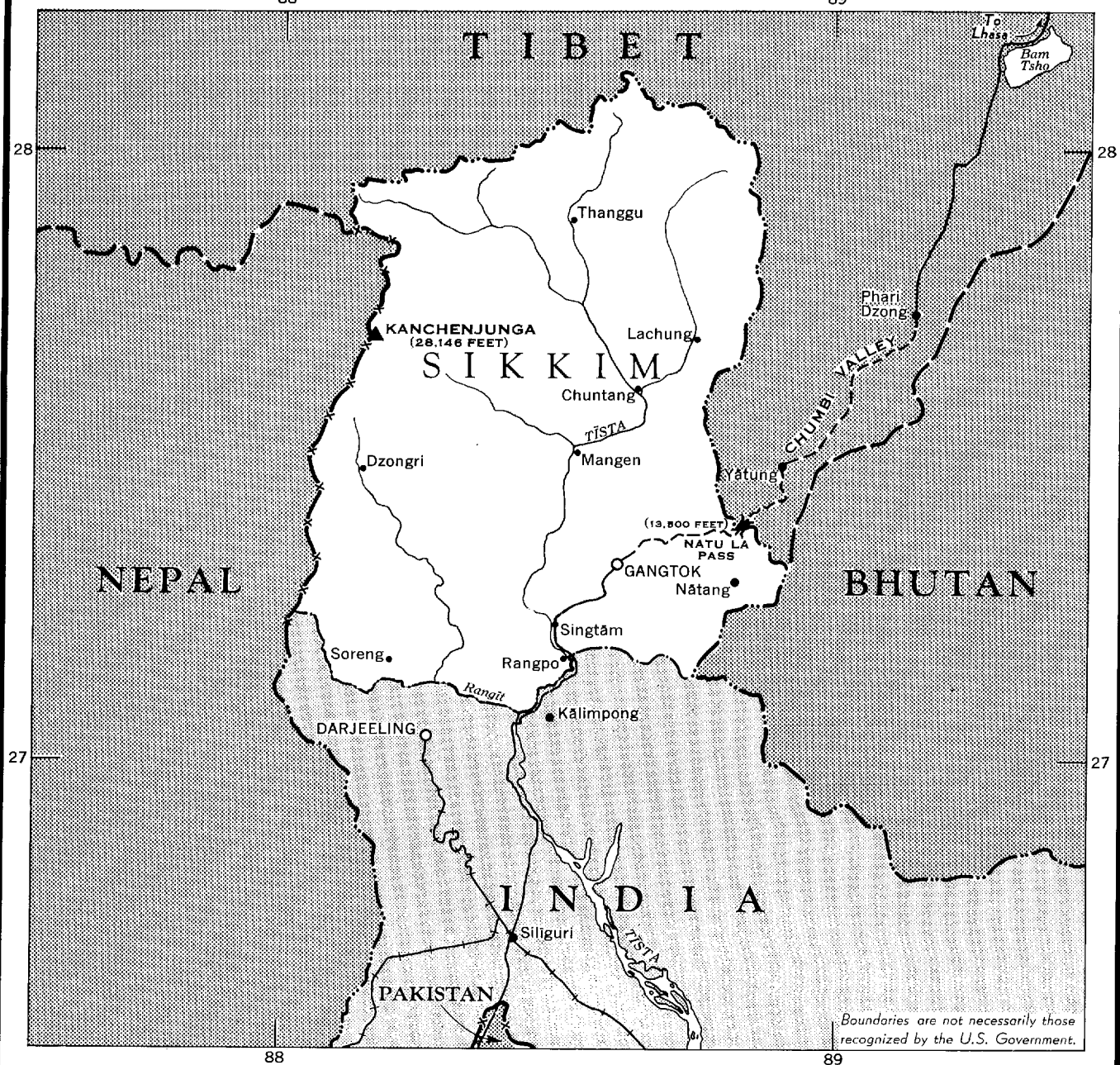
Since the seizure of Tibet by the Chinese Communists, the strategic importance to India of Sikkim, high in the Himalayan Mountains, has become increasingly apparent. This small Indian protectorate has long been the traditional gateway through the Himalayas for much of India's trade with Lhasa, the capital of Tibet. Now, however, India is faced with the fact that Sikkim has become a main route for infiltration of Communist propaganda and possibly for eventual military invasion of India. The present role of Sikkim as a Communist-border area has created a new interest in conditions prevailing in this remote country.

Sikkim is located directly north of Calcutta, one of India's two main ports. From the northern part of Sikkim to Calcutta is about 300 miles. This stretch of land may be roughly described as a great sloping trough, with its upper end in northern Sikkim, where the mountain peaks reach elevations of over 28,000 feet. Originating in these high ranges, the Tista River flows southward through the northern part of this trough and near Kālimpong cuts a great gorge through the 7,000-foot-high Darjeeling ranges, which are transverse to the trough. The head of this gorge, at the junction of the Rangit and Tista Rivers, is only 750 feet above sea level. From the railhead at Siliguri, somewhat south of Kālimpong, traders' goods are trucked northward through the gorge and along the Tista Valley to Gangtok, the capital of Sikkim. From here, they are moved eastward and across

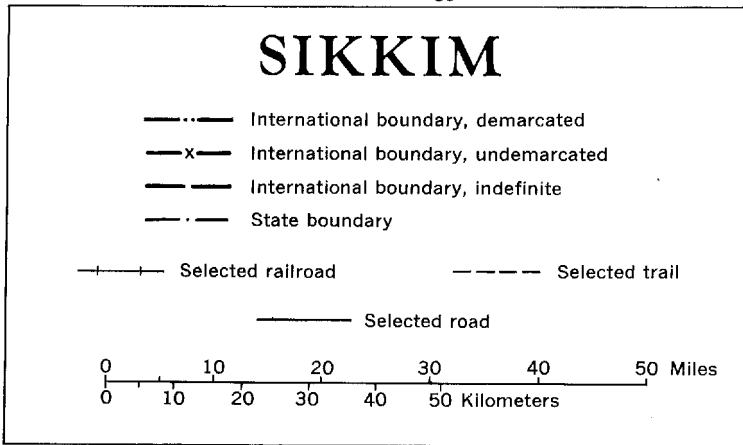
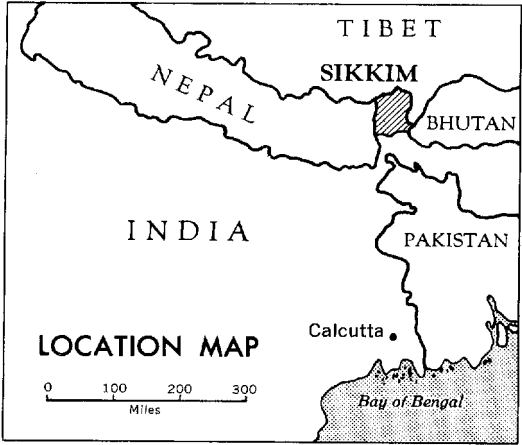
14,000-foot mountain passes to Yatung in the Chumbi Valley of Tibet. This route, the easiest and shortest between India and Tibet and also Tibet's shortest outlet to the sea, carries as much trade as all other Indo-Tibetan routes combined.

To describe this route in its present condition as "the easiest" is to use the term in a relative sense only. Climate and terrain combine to make travel in this area extremely difficult. Snows block the 14,750 foot Natu La Pass throughout much of the year, and rains are heavy from May through September, the mean annual rainfall at Gangtok being 137 inches and at Nātong, somewhat south of Natu La Pass, 170 inches. As a result of the heavy precipitation, landslides are common.

The time involved in moving a large quantity of material over the difficult Gangtok-Yatung section of the route can be illustrated by the following example. On 30 November 1954, the Government of India announced it would supply the Chinese in Tibet with 4,500 tons of rice. On the basis of a similar reported movement of 1,000 tons in 1952, it is assumed that the rice would be loaded on mules in 70-pound water-repellent bags, two to each mule. If, as in 1952, an average of 136 mules left Gangtok daily and an equal number arrived daily at Yatung, it would take more than 15 months of "good" weather to complete the delivery of 4,500 tons of rice. The movement would involve almost a thousand mules (or coolies, who also may carry as much as 140 pounds) since the round trip requires a week -- 3 days to cover the 38 miles to Yatung and 2 days to return to Gangtok, where



Boundaries are not necessarily those recognized by the U.S. Government.



there is an average layover of at least a day and a half. Currently, improvements are under way along the Siliguri-Kālimpong-Gangtok road, and reports indicate that Indian engineers have completed about 21 miles of a "jeepable" road along the route from Gangtok to Natu La Pass but that the road still lacks 6 miles of actually reaching the pass. A 27-mile-long ropeway consisting of a series of trestles supporting freight-carrying aerial cables is also under construction between Gangtok and the pass.

Through the centuries the traditional Tibetan exports to India have been wool, hides, musk extract for perfume, yak tails, and prayer wheels. India, in turn, has sent Tibet salt, tea, cotton textiles, molasses, hardware, and small articles for household use. With the Chinese occupation of Tibet and the completion of improved roads from China to Lhasa, much of this commerce may be captured by the Chinese. India is acutely aware of this and of the fact that China will use this commerce to develop its own cultural affinities with the Tibetan peoples. Probably secondary in importance, but certainly not to be ignored, is

For these reasons,

India is making a vigorous effort to maintain traffic through road improvement. (SECRET)

IMPORTANT MULTIPURPOSE RIVER-DEVELOPMENT PROJECTS IN THE USSR*

A number of important development projects have recently been completed and others are under way along several of the major rivers in the USSR. These developments represent an ambitious effort by the Soviet Union to exploit more efficiently the water resources of the country. Several of the projects compare in size and scope with the largest reclamation and power installations in the United States. The main goal of the program is to increase the output of hydroelectric power, but consideration is also being given to the improvement of navigation and to providing water for irrigation.

The development sites are located in both the European USSR and Siberia. In the already comparatively well developed European areas, the projects will stabilize and cut the costs of power generation, water transport, and agriculture. The projects in Siberia are even more significant, because in most cases they represent the first effort to develop the vast water-power resources in that region.

The pattern for the coordinated multipurpose development is in general as follows: the upper courses of mountain rivers may be fully utilized for generating power; for the upper courses of rivers flowing through plains, the goal is usually the coordination of power generation with irrigation and river transport; in the middle and lower courses of rivers, preference is generally given to the improvement of transpor-

*The cutoff date for research on this article was October 1954.

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tation; and in areas of insufficient rainfall, the requirements of irrigation are paramount. In all cases, the water supply and the fishing industry are also considered.

The coordination of these uses is difficult. For example, irrigation, besides imposing rigid operating conditions, consumes water without returning any appreciable amount to the rivers for power generation or transportation. The Soviets concluded that the most satisfactory solution of the problems of river development was the regulation of water flow through the establishment of storage reservoirs. The construction of reservoirs, therefore, is basic to the program for river development. Although authoritative large-scale Soviet maps showing the exact areal extent of the reservoir basins are not available, a large amount of textual and graphic material on the various projects has been published by the USSR. From such information, it has been possible to determine the approximate size and shape of the reservoirs, as shown on the accompanying map (13545). Construction of reservoirs is emphasized in the following discussion, but the coordinated power, navigation, and irrigation aspects of the projects are summarized at the end of the article.

The Soviet Union first displayed an interest in the coordinated development of its rivers more than two decades ago. The first large-scale multipurpose river project, completed in the early 1930's, was the construction of the Dnepr River Dam at Zaporozh'ye. Plans for the extensive multipurpose exploitation of other rivers followed. In the

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period 1933-35, projected hydroelectric power installations were designed to allow water resources to be used for both transportation and irrigation. Later, some of the original plans were modified and new ones were prepared to meet changing requirements.

Soon after 1935, preliminary work was begun on a number of large projects. At the beginning of World War II all but one of these -- the Rybinsk Reservoir on the Volga -- were abandoned. The Rybinsk Reservoir, completed in 1941, is the southernmost component of the Mariinsk Canal System, which connects Lake Onega with the upper reaches of the Volga River.* At the Shcherbakov Dam of the Rybinsk Reservoir, a large hydroelectric power station and navigation locks were built.

After World War II, work was resumed on the multipurpose projects that had been started before the war. In June 1952 the completion of the Volga-Don Canal and the Tsimlyansk Reservoir was announced. In addition to facilitating water transport, the Tsimlyansk Reservoir provides water for irrigation as well as for power in the Lower Don Region. A description of the reservoir appeared in Map Intelligence Review No. 33S, January 1953.

The reservoirs that have been completed since June 1952, as well as the sites of those to be established in the near future, are all

*A recent Soviet publication states that work is progressing on the modernization of the Mariinsk System. The locks in the section being reconstructed were too small to permit the transfer of large submarines and destroyers through the canal systems connecting the White, Baltic, Caspian, and Black Seas.

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located in the valleys of the larger rivers. In the European USSR, a string of reservoirs will extend upstream along the Volga from the sites of dams now under construction near the cities of Gorodets (56°39'N-43°28'E, Gor'kovskaya Oblast', RSFSR), Stavropol' (53°31'N-49°20'E, Kuybyshevskaya Oblast', RSFSR), Stalingrad (48°42'N-44°30'E, Stalingradskaya Oblast', RSFSR), and Cheboksary* (56°09'N-47°15'E, Chuvashskaya ASSR).

In the Kama River valley in the Urals are the sites of two large reservoirs. The Kama Reservoir dam, situated just north of the city of Molotov (58°00'N-56°13'E, Molotovskaya Oblast', RSFSR), was completed in September 1954; the dam for the Votkinsk Reservoir is to be located not far from the city of Votkinsk (57°03'N-53°58'E, Udmurtskaya ASSR). Another large reservoir in the Urals is to be located on the Ufa River just upstream from the city of Ufa (54°43'N-55°56'E, Bashkirskaya ASSR). Construction work on the dams for the last two reservoirs is known to be in progress, but available data are insufficient to permit elaboration.

In the southern part of the Ukrainian SSR, a large artificial body of water, the Kakhovka Reservoir, will soon occupy a considerable part of the lower Dnepr River valley. Elsewhere in the European USSR, reservoir construction projects are under way near the cities of Narva

*Work on this reservoir is still in the preliminary stage, and so little information is available that the reservoir is not included among those described at the end of this article.

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(57°23'N-22°12'E, Estonskaya SSR) on the Narva River; Kaunas (54°54'N-23°54'E, Litovskaya SSR) on the Neman River; and Dubossary (47°16'N-29°08'E, Moldavskaya SSR) on the Dnestr River. Although the last three reservoirs are frequently highlighted in the Soviet press, they have comparatively little significance beyond their immediate areas.

In Siberia, four large reservoir sites are located along the valleys of three rivers -- the Ob', the Angara, and the Irtysh. The one on the Ob' is upstream from the city of Novosibirsk (55°02'N-82°53'E, Novosibirskaya Oblast', RSFSR); that on the Angara is upstream from Irkutsk (52°16'N-104°20'E, Irkutskaya Oblast', RSFSR); and the two on the Irtysh River are upstream from the cities of Ust'-Kamenogorsk (49°58'N-82°40'E, Vostochno-Kazakhstanskaya Oblast', Kazakhskaya SSR) and Ust'-Bukhtarma (49°35'N-83°31'E, also Vostochno-Kazakhstanskaya Oblast'). The reservoir at Ust'-Kamenogorsk was established in 1954; the others are now under construction. In the Caucasus, the dam of the Mingeaur Reservoir, located on the Kura River near the city of Mingeaur (40°45'N-47°03'E, Azerbaydzhanskaya SSR) was established in 1954. In southern Central Asia, preliminary work on the Main Turkmen Canal was begun in 1951, but construction has apparently been abandoned in favor of other projects considered of more immediate significance.

The following summaries give the main features of 10 of the principal projected and recently completed reservoirs in the USSR,

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under name and date (or expected date) of establishment, according to
(1) hydroelectric-power generation, (2) navigation, and (3) irrigation.*

Gorodets - 1956

- (1) Installed capacity, 400,000 kw; power to be carried by high-tension lines to Gor'kiy industrial region and surrounding agricultural settlements.
- (2) Volga waterway will be deepened considerably to permit navigation by large river vessels.
- (3) None at present.

Kuybyshev - 1955-56

- (1) Installed capacity, 2,100,000 kw; to be one of the largest hydroelectric stations in the world. High-tension lines will carry power to Moscow, to cities of the Kuybyshev area, and to water-pumping stations of irrigation projects.
- (2) A deep-water route upstream to Cheboksary (56°09'N-47°15'E, Chuvashskaya ASSR) will be provided. Port facilities at Kazan' and other cities along the Volga are being modified and enlarged to accommodate larger vessels. Lower reaches of the Kama River also will be deepened considerably.
- (3) Reservoir will provide water to irrigate 2,500,000 acres** in Kuybyshev Oblast, the northern part of Saratov Oblast,

*The names given here are the anglicized forms of those used most frequently by the Soviets in referring to the various projects. In most cases they are the names of the reservoirs only; the other facilities, such as the hydroelectric stations, may have other titles.

For further technical details of the dams, including type of construction and dimensions of reservoirs, see Intelligence Review No. 219, February-March 1955, Office of the Assistant Chief of Staff, G-2, Department of the Army, pp. 19-28.

**Area figures are from Soviet publications. The water will be used mainly for livestock and other farm needs. Much less water per acre is required for such uses than for irrigation, but, obviously for propaganda purposes, the acreage of grazing land has been added to that of irrigated land.

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the western part of Chkalov Oblast, the southwestern part of Ul'yanovsk Oblast, and the southern part of Penza Oblast.

Stalingrad - 1956-57

- (1) Installed capacity, 1,700,000 kw. Power to be transmitted by high-tension lines to Moscow and to the cities of the Stalingrad area and to pumping stations for irrigation projects.
- (2) Deep water will be provided upstream from the dam and the flow downstream will be regulated, considerably improving navigation along the Volga.
- (3) Reservoir waters will be used for irrigating and watering 30 to 35 million acres of agricultural land in the Trans-Volga steppes, in the northern part of the Caspian Depression, and along the right bank of the Volga as far west as Groznyy Oblast.

Kama - 1954

- (1) Installed capacity, 400,000 to 500,000 kw; in partial operation only. Power will be consumed primarily in mining and other industries in Molotov, Sverdlovsk, and Chelyabinsk Oblasts.
- (2) The reservoir above the dam regulates the water level downstream and assures a navigable stretch from the confluence of the Kama with the Volga to the junction of the Kama with the Vishera; the new channel will be twice as deep as the former Kama waterway. The reservoir also shortens the water route between Molotov and Solikamsk.
- (3) None at present.

Kakhovka - 1955-56

- (1) Planned installed capacity, 250,000 kw; power to be used for pumping water for irrigation and for use by farms and industries in surrounding area. Project also includes a power station on the Molochnaya River (installed capacity, 10,000 kw) near the city of Melitopol' (46°50'N-35°22'E).
- (2) Dam raises the level of the Dnepr River, deepening it enough for large river vessels. Reservoir will supply water to

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South Ukraine and North Crimea Canals, which connect with the Black Sea. (Canals were originally scheduled for completion in 1957 but have not been mentioned recently in the Soviet press.)

- (3) According to Soviet publications, agriculture is the principal beneficiary of this project; 3,750,000 acres in the South Ukraine and North Crimea regions are to be irrigated and 4,250,000 acres to be supplied with water. An elaborate system of irrigation canals and reservoirs is to be completed by 1957.

Novosibirsk (Ob') - 1956-57

- (1) Generating capacity not known, but plant has been included among the largest Soviet hydroelectric developments. The power will increase the possibilities of long-range growth of industry, electrification of railroads, and other developments in the area.
- (2) Dam will maintain the water of the Ob' River at high levels both upstream and downstream, improving navigation conditions.
- (3) None at present.

Irkutsk - 1956-57

- (1) Planned capacity, 600,000 kw; plant expected to attract industries requiring large quantities of electric power to eastern Siberia.
- (2) Navigational importance of this reservoir, the first of six to be established on the Angara River, is not now very great, but it will provide a deep waterway from the city of Irkutsk to the point where the river flows out of Lake Baykal. Because of the rapid current below the dam, conditions downstream will be little improved by this first dam.
- (3) None.

Irtysk (Ust'-Kamenogorsk) - 1954

- (1) Installed capacity, approximately 250,000 kw; primarily for use in mining ores and manufacturing metal products in the Altay Region, the principal source of polymetallic ores in the USSR.

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- (2) The section of the Irtysh River upstream from the dam at Ust'-Kamenogorsk (including the Ust'-Bukhtarma Reservoir and Lake Zaysan) will serve as a waterway from the eastern interior of the Altay Region to the railroad terminus at Ust'-Kamenogorsk and elsewhere downstream.
- (3) The irrigation scheme for the Irtysh River has not yet been coordinated with the power-generating and navigational aspects of the project. Irrigation facilities will be established later with the building of additional dams downstream from Ust'-Kamenogorsk.

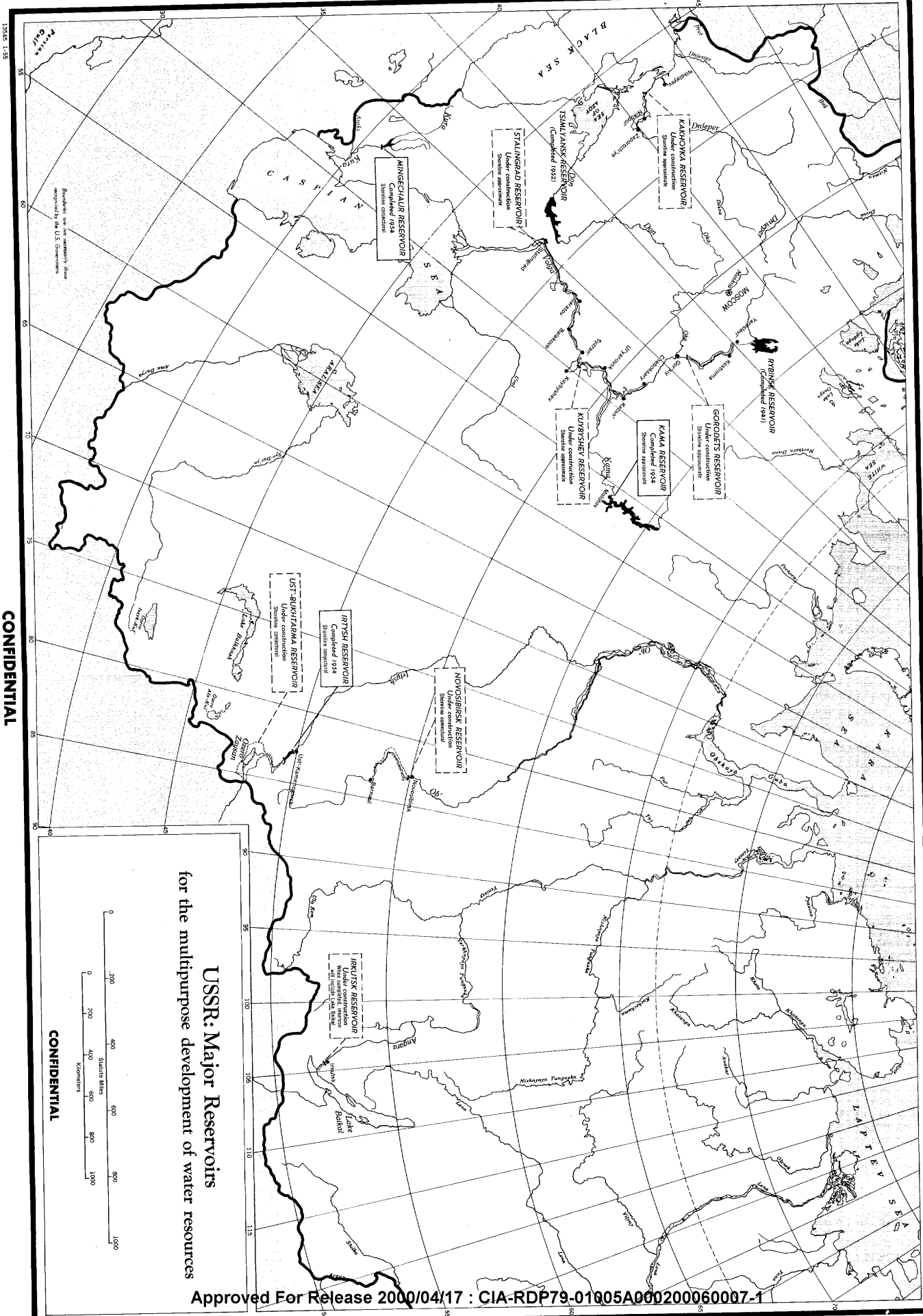
Ust'-Bukhtarma - 1956-57

- (1) Installed capacity, about 500,000 kw. Chief consumers will be mining and light industries of the Altay Region. Power from both the Ust'-Bukhtarma and Ust'-Kamenogorsk stations may contribute greatly toward future electrification of the Turk-Sib Railroad.
- (2) Dam will maintain high enough water levels upstream on the Irtysh for safe navigation by large river vessels; downstream it will facilitate navigation by regulating the river flow.
- (3) Plans for irrigation not yet coordinated with power generation and improvements in navigation; facilities will be established later with the building of additional dams downstream.

Mingechaur - 1954

- (1) Installed capacity, 300,000 kw. First section of turbines was put into operation in January 1954. Power is fed along high-tension lines to cities of Baku, Sumgait, and Kirovabad.
- (2) By regulating flow downstream along the Kura, dam will facilitate navigation during low-water stages and eliminate the threat of spring floods along the lower reaches.
- (3) Water is now being accumulated in the reservoir for irrigating the steppes in the Kura Lowland. The Verkhne-Karabakhskiy trunk canal, now under construction, will feed water from the reservoir into the bed of the Araks River, which is very shallow in summer when water is most needed.
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USSR: Major Reservoirs for the multipurpose development of water resources

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KIRGIZ ADMINISTRATIVE-TERRITORIAL HANDBOOK

A 1954 administrative-territorial handbook for the Kirgiz SSR, Kirgizskaya SSR: Administrativno-Territorial'noye Deleniye, has been received in Washington.* The handbook bears the imprint "Third Edition" on the title page, and the foreword implies that a previous edition was issued in 1949. The book was published in Frunze, capital of the Kirgiz Republic, by the Kirgizgosizdat (Kirgiz State Publishing House).

The new handbook is of particular interest in two respects. First, it is the only available handbook for one of the smaller SSR's; second, it is one of the most detailed of the Soviet administrative handbooks, which are by no means uniform in the amount of information given.

Administrative handbooks of various dates for the USSR and the RSFSR, a few for individual oblasts of the RSFSR (including Chkalov, Rostov, and Moscow Oblasts), and a 1946 handbook for the Ukrainian SSR have proved valuable sources of intelligence information. It can be assumed that similar books have been published for the smaller individual republics, but such books have not become available.

The Kirgiz handbook contains far more complete data than the 1954 USSR handbook. Information on oblasts is identical in the two, but the Kirgiz book also gives for each rayon the date of creation and the area, the name of the nearest railroad station and its distance from

*Available at the CIA Map Library.

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the rayon center, and the distance of the rayon center from the oblast center. These items are not included in the 1954 USSR Deleniye, although some of them have appeared in past editions; the amount of detail in handbooks for the USSR has declined in the last several issues, although the recent books for individual oblasts continue to be very detailed. The Kirgiz handbook also includes information at the sel'sovet level, listing sel'sovets for each rayon, with the name of the sel'sovet center and its distance from the rayon center. The information on sel'sovets is more complete than that given in recent handbooks for the RSFSR, which list only the names of the sel'sovets in each rayon.

A significant inclusion in the new Kirgiz handbook is an alphabetical listing of the 720 collective farms in the republic, identified by the sel'sovet, rayon, and oblast within which they are located. This identification is essential, since there are no less than 53 collective farms named for Stalin and 51 for Lenin; other Communist leaders enjoy varied degrees of popularity, along with such standard Soviet toponyms as "Put' k Kommunizmu" (Road to Communism), "Krasnyy Oktyabr'" (Red October), and "Bolshevik." A number of state farms can also be located by their function as poselkovyy soviet (settlement soviet) centers. Such lists of collective and state farms have been included in some oblast handbooks, but not in the other available republic handbooks. (CONFIDENTIAL)

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1:25,000 MAP COVERAGE OF THE WEST GERMAN PROVISIONAL BOUNDARY

Map coverage at 1:25,000 is now available for most of the 1949 provisional rectifications along the West German boundary with the Netherlands, Belgium, and Luxembourg.* These rectifications are clearly indicated by red overprinting or manuscript coloring on black-and-white sheets of the Topographische Karte published by three German Land mapping agencies -- Niedersächsisches Landesvermessungsamt, Landesvermessungsamt Nordrhein-Westfalen, and Landesvermessungsamt Rheinland-Pfalz (CIA Call No. 86232).

Coverage at 1:25,000 is lacking only for two very small changes along the boundary west of Bentheim, Germany, and for the northeastern part of the change near Dinxperlo, Netherlands.

As part of the 1949 provisional boundary rectification, jurisdiction over the three roads that cross Belgian territory from Fringshaus to three towns in Germany was transferred from Germany to Belgium. The 1:25,000 sheet for this area, published in August 1954, however, shows these roads as under German control. [REDACTED]

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[REDACTED] Belgium returned the control of the roads to Germany at the time the maps of the boundary rectifications were being prepared. (UNCLASSIFIED)

*For an analysis of the 1949 provisional boundary see Map Research Bulletin No. 20, November 1950, and No. 25, March 1951.

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ECONOMIC ATLAS OF EUROPE

An economic map of Europe, originally available in two large proof sheets, has been published (1953) in bound atlas form (Economic Map of Europe, CIA Map Library Call No. aFOOO .W5 1953). This colored map at the scale of 1:3,250,000 is one of a postwar series on the economic and social aspects of the geography of Europe being prepared under the direction of Professor W. William-Olsson of the Handelshögskolan, Stockholm (Stockholm School of Economics).

The map is trilingual (English, French, and German) and shows all of Europe in 20 sheets, with two insets at larger scale showing industrial districts in (1) central England and (2) northern France, Belgium, the Netherlands, and western Germany. According to a statement by Professor Olsson, errors appearing on the original sheets have been corrected in the atlas; careful examination, however, has revealed no major differences. The atlas has an introductory text in English only, which supplements the map legend and is essential to a complete understanding of the symbols, or "system of signs," used. Both the merits and defects of the system are fully discussed.

Rural land is divided into three categories on the basis of use -- wasteland, forest and meadow, and land under cultivation. The cultivated land is indicated by white squares, each representing 100 square kilometers (38.6 square miles), which are superimposed on the gray

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used for the land surfaces. The squares make it possible to determine at a glance the amount of cultivated land in a country.

The only urban areas shown are those with more than 10,000 inhabitants. Such population centers (termed "agglomerations") are marked by proportionally sized spheres in colors that indicate the one or two branches of industry constituting the economic base of the city. The five categories of industry represented are: (1) metal, ore mining; (2) coal, petroleum; (3) textile, clothing, shoes; (4) wood, pulp, paper; and (5) other single industry. Towns with more than two types of industries among which none predominates are classed as "diversified."

The agglomerations are designated as "villages" or "village-towns" if a majority of the inhabitants are supported by agriculture, forestry, or fishing; as "towns" if the majority are supported by industry, handicrafts, and services. Towns are further classified as "service" or "industrial," depending on the percentage of the population engaged in one or the other type of work.

Completing the introductory material are a sheet index, a small-scale black-and-white map of Europe, and a useful list of sources arranged alphabetically by country. In addition to recent official statistics (latest date 1952), the list includes some secondary sources with an explanation of their reliability, which varies widely. The information obtained from western European countries is rated as of

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considerably higher validity than that from eastern Europe, Africa,
and Asia. (UNCLASSIFIED)

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NEW MAP OF WORLD CLIMATIC REGIONS ACCORDING TO
KÖPPEN'S CLASSIFICATION

A significant new wall map of the climates of the world was published in Germany in 1954.* The map is the first major revision of the 1928 map of the late Wladimir Köppen, which has been used extensively throughout the world in the teaching of geography and climatology. The compilers of the revision -- Rudolph Geiger, who collaborated in the preparation of the 1928 map, and W. Pohl -- sought to incorporate new data that have become available in the last 25 years and at the same time to simplify the presentation. Examination of the revised map suggests that substantial progress was made toward achieving these goals, although it is a moot question whether the compilers had access to all of the pertinent climatic information on both sides of the Iron Curtain.

The format and sheet size of the 1928 and 1954 editions are the same -- four sheets that can be assembled to form a wall map approximately 7' x 5' -- but in other respects the two maps are quite different. The 1954 edition is drawn on the Winkel projection, whereas the 1928 map is on Mercator. By using the Winkel projection and eliminating some unimportant sections of the equatorial Pacific, it was possible to prepare the 1954 map at the scale of 1:16,000,000 instead of 1:20,000,000, the scale of the 1928 map.

*Klima der Erde, 1:16,000,000, Justus Perthes, Darmstadt, West Germany, 1954; CIA Map Library Call No. 93111.

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The new data available for preparing the revised edition permitted a sharper drawing of regional boundaries and presentation of a more accurate world picture. The following improvements are worthy of note: (1) a corrected delineation of the climatic regions of oceans and offshore islands, the greatest change between the 1928 map and the new edition; (2) an improved portrayal of the extent of desert and steppe regions on all continents; (3) considerable refinement in the representation of the climatic regions of China; and (4) recognition of some climate types not shown on the 1928 map, e. g., the Ds "Oregon type" climate.

Elimination of the data on the wind system of the earth, a prominent feature of the 1928 map, did much toward improving the clarity of the revision. Also discarded to simplify the map or for other reasons were the boundaries of some minor subregions, various place names, and precipitation data.

The color scheme of the new map is similar to that of the old; the humid mesothermal (Cf) climate, however, is shown in light green rather than pink. Portrayal of the drainage pattern in blue instead of black makes the climatic region boundaries stand out much more distinctly. Some of the color differentiation within major classifications has been eliminated, permitting a reduction in the number of plates from 14 to 10.

In something akin to its present form, the Köppen system has been discussed and evaluated by geographers, climatologists, and

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ecologists for over 30 years and has stood up fairly well under criticism. Much of the adverse comment made to date has come from specialists who have concentrated on relatively small regions and have felt that the Köppen "shoe" did not fit as well as one of their own devising. Some of this criticism has been valid and has led to modification of the system. The failure of the Köppen scheme to take adequately into account the role of evaporation has been criticized, as has its miscellany of definitions. Despite these and other problems, the system has for the most part been accepted as a finished product.

There is reason to believe that the Köppen classification will continue to figure importantly in the teaching of geography and climatology. The new map, which brings the modifications of the scheme up to date and offers a clear picture of the world's climatic regions, should encourage use and further refinement of the system.

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NATIONAL GEOGRAPHIC SOCIETY MAP OF NORTHERN AFRICA

With the December 1954 issue of the National Geographic Magazine, the National Geographic Society distributed a map entitled "Northern Africa." The map is at the scale of 1:7,500,000, on an Oblique Mercator projection, and covers an area extending from approximately 20°S to 45°N and 18°W to 55°E. Included are Northern Africa, the Mediterranean countries of Europe, and nearly all of the Near East. Of three larger-scale insets, two show the Eastern Mediterranean from the Dead Sea to Antioch and the third covers the Nile Delta area.

In 1950 the Society published a map of Africa that was discussed in Map Research Bulletin No. 15, April 1950. Most of the errors pointed out in that article have been corrected in the new map. In addition, the 1954 map has many more place names -- over 9,000 in all -- which, although somewhat crowded in some areas, enhance the value of the map. Most of the railroad information is up to date, and the road classification is an improvement over that used on the 1950 map of Africa. There are, however, a few inaccuracies and omissions in the 1954 map, the more obvious of which are noted below.

A symbol for passes is included in the legend, but none of the few passes shown are in Africa or in the Alps, Pyrenees, or Caucasus Mountains.

The selection of airports appears to have been arbitrary; a number of those located have a lower classification than some that

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have been omitted. In Africa, for example, several of the less important (class 5) airports are shown, but at least one class 2 airport -- Port Lyautey -- and several class 4 airports are omitted.

The chotts in French North Africa are all shown as dry lakes, whereas a number actually contain water at all seasons of the year and others are dry only during the summer months.

Although the Libyan boundary eastward from Tummo is labeled as undefined, only the French version is shown. Pending settlement of the boundary, this seems inappropriate because the French version assigns some territory to French Equatorial Africa at the expense of Libya. Since the French version of the boundary from Tummo to the northeast has the additional disadvantage of having no basis in international agreement but is merely a cartographic convenience to complete the circuit of the boundary, it would appear to be less valid than the French-Italian version of 1935 (see Map Research Bulletin No. 9, September 1949). The international boundary between Morocco and Algeria given on the map is not the one authorized by the Institut Géographique National. Evidence is insufficient to justify the definite assignment to any specific country of the Hanish Islands, located in the Red Sea between Eritrea and Yemen.

The following additional comments are arranged by country:

Aden

Aden Colony is a separate entity from Aden Protectorate.

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Trucial Oman

Sharja is one of six sheikdoms on the Trucial coast, but it is not the capital of all six. Islands off the coast are of undetermined sovereignty and should not be allocated to Trucial Oman.

Iran

There is no railroad connection between Mianeh and Tabriz. Much of the roadbed has been completed, but rails have been laid for only part of the line. The Tehran-Kashan railroad has not been extended beyond Kashan.

Iraq

Probably because space on the map is at a premium, the Butman and Mushorah oil fields, as well as the recent Rumaila field, have been omitted.

Israel

The road from Beersheba to the Israeli coast skirts the Gaza strip but does not pass through it.

USSR

The Society has not followed any of the commonly accepted transliteration systems. Either it used a system of its own or there are numerous errors in transliteration.

On most maps Hasan Kuli is written Gasan-Kuli and Voroshilova appears as Byurgyutli.

Many important short rail lines are not shown. Such cities as Grozny, Dzaudzhikau, Buinaksk, Stepanakert, Staliniri, and Kutaisi

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(spellings as on the map) are served by short lines that branch from the main trunklines.

There are numerous minor irregularities in the road pattern. Some of the roads omitted are as important as those shown.

Rumania

The railroad connecting Craiova with Calafat should be added, and also the line connecting Roşiorii de Vede with Turnu Măgurele.

Important roads not shown are the Bucureşti-Tăndărei-Constanţa, the road connecting Caracal with Corabia on the Bulgarian border, and the Craiova-Caracal-Alexandria road.

Bulgaria

The Sofiya-Burgas railroad via Kazanluk and Sliven has been completed and the Khaskovo-Momchilgrad rail line has been extended to Podkova. Rail connections have been made between Sofiya and Vidin, and between Pleven and Nikopol. These additions to the rail net are not shown on the map.

Among the other omissions are some major roads that connect highways of international importance, such as the Stara Zagora-Khaskovo-Momchilgrad highway to the Greek border and the Stalin-Burgas-Malko-Turnovo road to the Turkish frontier.

Cyprus

The railroad shown in Cyprus should be deleted.

Spain

The inclusion of mountain names is not consistent. For example,

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the Cordillera Cantabria and Sierra Morena are named, whereas the Sistema Central and others of equal importance are not. Likewise, the Montes de Toledo are named, but not the more important Guadarrama.

A similar inconsistency prevails with regard to historical names. In the north, Leon, Old Castile, Aragon, and Catalonia are named but Galicia is not; in the south, Granada is the only regional name shown.

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