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CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

REPORT

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SUBJECT Data on the Danube and Tisza Rivers

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2in The attached reports, containing fluvial data on the Danube and Tisza rivers,

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5th July 1950.

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ECONOMIC

RIVER TISA: JUNE 1950.

"A"

1. Heights of R. TISA above the Adriatic Sea level at the following points:

	<u>Metros</u>
Titel	69.79
Törökbecse	72.05
Zenta	72.79
Szeged	72.79
Algyő	74.84
Mindszent	75.60
Csongrad	76.93
Tiszaug	78.50
Martfű	79.06
Szolnok	79.57
Tiszabő	80.68
Taskony	81.81
Tiszafüred	83.93
Tiszakeszi	87.03
Polgar	88.33
Toktakenez	89.42
Tokaj	90.09
Bercel	92.11
Dombrad	94.89
Zahony	98.88
N. lonya	100.17
Vasarosnameny	102.76
Tivadar	106.18
Mező-Vari	110.06
Tiszaujflak	115.91
Tekehasza	138.33
Maramarossziget	263.72

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2. Details on R. TISA at various sectors:

	<u>Width</u> m.	<u>Mean</u> <u>Depth</u> m.	<u>Cross-section</u> sq. m.
Mouth - TÖRÖKBEOSE	<u>low-water</u>	4.2	861
	<u>mean water</u>	7.7	2147
	<u>high water</u>	9.7	7810
TÖRÖKBECSE - SZEGED	169	3.8	580
	250	8.3	1982
	1410	11.7	6000
SZEGED - CSONGRAD	143	4.3	561
	209	8.4	1695
	1240	11.7	6980
CSONGRAD - SZOLNOK	128	3.3	398
	204	7.8	1527
	2590	10.1	10250
SZOLNOK - TISZADERZS	125	3.5	421
	182	8.1	1440
	2690	10.7	10600

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TISZADERZS - AROKTO

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129	2.4	285
185	7.2	1309
8030	8.8	19450

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2. (Contd.)

AROKTŐ - SAJOTORKOLAT

	Width m.	Mean Depth	Cross-section sq.m.
low-water	155	1.9 m.	288
mean water	236	6.5	1540
high-water	5450	8.0	11810

SAJOTORKOLAT - TOKAJ

"	121	3.6	402
"	178	8.5	1498
"	1840	10.8	6550

TOKAJ - CSAP

"	96	2.4	215
"	179	7.4	1298
"	1445	9.8	5470

CSAP - VASAROSNAMENY

"	105	2.4	232
"	184	7.6	1380
"	2490	9.5	6340

VASAROSNAMENY - MAGYARVARI

"	91	1.6	134
"	179	6.7	1181
"	1985	8.2	4680

MAGYARVARI - BOKENY

"	90	1.3	112
"	855	3.8	816
"	910	6.0	3420

3. Low-water gradient in cms. per km.

TORKOLAT - TÖRÖKBECSE	1.28 cm
TÖRÖKBECSE - SZEGED	2.41
SZEGED - CSONGRAD	2.70
CSONGRAD - SZOLNOK	3.53
SZOLNOK - TISZADERZS	5.00
TISZADERZS - AROKTŐ	6.43
AROKTŐ - SAJOTOROK	6.76
SAJOTOROK - TOKAJ	3.12
TOKAJ - CSAP	8.79
CSAP - VASAROSNAMENY	7.90
VASAROSNAMENY - MAGYARVARI	14.98
MAGYARVARI - BÖKENY	39.75

4. Maximum & minimum flow, per minute.

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	<u>max. flow per minute.</u>	<u>min. flow per minute.</u>
TISZAUJLAK	2300 m ³	40 m ³
VASAROSNAMENY	3300	65
TOKAJ	4200	100
TISZADERZS	3600	106
PÜSPÖKI	3400	117
SZENTES	3000	179
SZEGED	3500	200

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5. Current speedTHIS IS AN ENCLOSURE
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to reach various points

at High-water				Hours.
	m/sec.			
Tiszaujlak	4.0	Tiszaujlak		--
Vasarosnameny	2.5	Vasarosnameny		37
Tokaj	1.4	Csap		83
Tiszadersz	2.0	Tokaj		115
Püspöki	2.0	Tiszafüred		233
Szentes	1.5	Szolnok		395
Szeged	2.0	Csongrad		381
		Szeged		661
		Törökbecse		683
		Titel		615

The River TISA falls from the end of April to the end of May, then rises to the end of June. Subsequently falls again from the end of June to the end of September, beginning of October. The lowest water levels occur during this period. Autumn high-water level starts at the beginning of October, and in December the ice motion begins, which is associated with low-water.

6. Fords of the River TISA.(a) Sector TOKAJ - SZOLNOK.

The data given below is based on a water level at TOKAJ -22, TISZAFÜRED -51, and SZOLNOK -70. (See Note at end of page 4.)

Km.		cm.
488	Tiszapalkonya	180
479	Orte ford	100
477	Tiszatarjan - above the ferry ..	170
470	Rigos	120
468	Tiszakeszi - above the ferry ..	150
457	Tiszacsege " " " ..	150
456	Tiszacsege - below " " ..	120
450	Egyek crossing	170
449	Tiszadorogma	100
445	Tiszababolna - above the ferry ..	150
444	Tiszababolna - below " " ..	170
442	Tiszavalk - right bank ..	90
442	Tiszavalk - left bank (new road)	120
435	Poroszlo landing stage	180
434	Tiszafüred	180
420	Aranyos - above the bend (Ecke)	170
415	Tiszaderzs	160
392	Eklózia Island ?gauge (akolhat)	240
380	Tiszaroff	230
369	Tiszabó	220
353	Dobai - above the bend (Ecke)	230
336	Szolnok , at the road bridge	240

On the sector TOKAJ - SZOLNOK, the mean level is 100 - 120 cm. when the water level (gauge ?) at TOKAJ shows 0.

(b) Sector SZOLNOK - CSONGRAD.

The data given below is based on a waterlevel at SZOLNOK -202 and songrad -290.

Km.		cm.
325	Szanda distillery (above)	110
324	Szanda distillery (below)	170
322	Toszeg (below)	210
320	Tiszavarkony	140
314	Vezseny (above the village) ..	160
302	Vezseny (above the boat station)	130
304	Martfű brickworks	140
300	Tiszafülvár ford	120
296	Gibakhaza landing stage	140

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6. (b) (contd.)

<u>Km.</u>		<u>cm.</u>
292	Menyora (above)	150
286	Okecske boat station	140
279	Tiszainoka - (below the ferry) ..	160
274	Sag bank	120
(? Tiszaug) 269	Tiszug (above)	120
269	Tiszug (below)	150
257	Kisgyora	140
255	Gyora (above the bend)	150
254	Gyora (below the bend)	160
252	Mama (below the ferry)	130
246	Csongrad bridge, at present below the ferry	130.

On the sector SZOLNOK - CSONGRAD the mean level is 350 cm. when the water level (gauge ?) at CSONGRAD shows 0.

(c) Sector CSONGRAD - SZEGED.

The data given below is based on a water level at CSONGRAD -290 and SZEGED -189.

<u>Km.</u>		<u>cm.</u>
243	Csongrad fall (sillyedtek)	140
239	Szentes - (above the bridge)	120
233	Szentes - (at upper end of the island)	130
231	Felgyo major	140
224	Csany - above the ? estate (Grundstück)	130
220	Akosszög	130
215	Midszent (above the ferry)	140
210	Anyas crossing	150
196	Ludvar ferry	170
174	Mouth of R. Maros (below)	140

On the sector CSONGRAD - SZEGED, the mean level is 300 cm. when the water level (gauge ?) at SZEGED shows 0.

(d) Sector SZEGED - mouth.

<u>Km.</u>		<u>cm.</u>
The data given below is based on a water level at TITEL +43.		
166	Vederhaza crossing	200 cm.
152	Vöröskereszt ford	210
151	Yellow guard-house (Wachhaus) ..	160
140	Torontal - Jozseffalva	200
132	Kikirics ?halt (tanya)	220
127	Szanad crossing	170
120	Jerd Island	190
105	Pade	210
98	Mohol	190
94	Kerekto ?drinking trough, (itato)	180
85	Peterreve	220
72	Obecse (below)	160

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Note:

The depths of the fords reported above are not announced during normal water level periods but are the result of calculations based on last year's average of deep water level. On other navigable parts of the river, the water level is 250 cms. higher at deep water (periods). The Hungarian Radio Station gives out daily water level reports, so that the above details can always be calculated on the data announced.

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7. Navigation on the TISA.

(a) The TISA is navigable as from VASAROSNAMENY by vessels having a draught of not more than 1.2 m [redacted]

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(b) The M.Sz.H.R. operates the following tugs :-

"CSABA"	250 HP.	single-funnel	paddle	steamer.
"IPOLYSAG"	350 "	"	"	"
"VASARHELYI PAL"	400 "	"	"	"
"FULTON"	250 "	"	"	" (not in operation now.

Also passenger steamers.

* Magyar Szovjet Hajozasi Resvenytarsasag.
(Hungarian-Russian Shipping Company).

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GERMANY - AUSTRIA - CZECHOSLOVAKIA - HUNGARY - YUGOSLAVIA - BULGARIA - RUMANIA

ECONOMICRIVER DANUBE

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1. Length of river: 2,890 kms.
2. Average gradients and speeds of certain sectors.

	<u>Average gradient</u> per 1000 m.	<u>Average speed</u> per second.
Source - ULM	1.218	3.50 m.
ULM - DONAUWÖRTH	0.607	2.10
REGENSBURG - STRAUBING	0.237	1.15
PASSAU - ENGELHARTSELL	0.510	1.93
GREIN - STRUDEN	0.633	2.13
NUSSDORF - TABOR Bridge, VIENNA	0.238	1.18
DEVINSKA - BRATISLAVA	0.378	1.54
GÖNYÜ - KOMÁROM	0.090	0.86
ESZTERGOM - NAGYMAROS	0.069	0.78
NAGYMAROS - BUDAPEST	0.072	0.82
BUDAPEST - EROSI	0.072	0.78
MOHACS - DALJ	0.041	0.65
VUKOVAR - ILOK	0.013	0.52
ILOK - PETROVARADIN	0.136	0.98
PETROVARADIN - SLANL	0.020	0.55
BÁZIÁS - MOLDOVA	0.043	0.67
MOLDOVA - STANKA	0.095	0.88
STANKA - KOZLA	0.112	0.92
KOZLA - ISZLIÁS	0.340	1.42
ISZLIÁS - TACHTALIA	1.200	3.50
TACHTALIA - GREBEN	0.633	2.15
ORSOVA - VASKAPU	0.582	2.10
VASKAPU - SULINA	0.033	0.64

3. Width of river at the following points: m

PASSAU	211
DEVINSKA	292
GÖNYÜ	379
ESZTERGOM	506
BUDAPEST, Suspension Bridge	380
PETROVARADIN	260
ZIMONY (? ZEMUN)	600
KAZAN pass	117
GREBEN	2000
RUSE (RUSCUK)	1300
SILISTRIA	2600

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4. Depth of river:

(a) at mountain passes:

BUDAPEST : GELLERT Hill .. 16 m.

ORSOVA : "Iron Gate" .. 40 m.

(b) mean depth : 2.3 m.

5. Flow, in cu.m. per second:

	<u>high-water</u>	<u>low-water</u>
BRATISLAVA	11,000 m ³	700 m ³
BUDAPEST	10,000 m ³	1000 m ³
Confluence of R. SAVA	16,000 m ³	2100 m ³

6. Ice motion:

(a) Usually begins at a temperature of -2.7° C,
and remains up to -9.6° C.

(b) Average yearly duration of ice :

BRATISLAVA	:	17 days
GONYU	:	21 "
KOMAROM	:	25 "
BUDAPEST	:	26 "
PAKS	:	24 "
ORSOVA	:	22 "

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