

# METADATA BULGARIA

<b>Title of working unit:</b>	<b>ZONE K7</b>
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## A: GENERAL INFORMATION

<b>Contractor:</b>	GISAT s.r.o.
<b>Address:</b>	Charkovská 7
<b>Phone:</b>	(+420) 271741935
<b>Fax:</b>	(+420) 271741935
<b>Responsible:</b>	Tomas Soukup
<b>E-mail:</b>	tomas.soukup@gisat.cz

<b>Contracted:</b>	SatGeo Ltd.
<b>Address:</b>	29 Latinka St., Sofia, Bulgaria
<b>Phone:</b>	+3592 888 355 869
<b>Fax:</b>	+ 3592 980 28 55
<b>Project leader:</b>	Anton Stoimenov
<b>E-mail:</b>	astoimenov@space.bas.bg

## 1. IMAGE1975 data used

Landsat MSS provided or other scene(s)				
Satellite & Sensor	Path-	Row	Date (m/d/y)	Remark (e.g. clouds)
Landsat 1 TM	195	029	19/08/1977	Very good quality, no clouds over coastal zone territory.
Landsat 1 TM	195	031	19/08/1977	Very good quality, no clouds over coastal zone territory.

## 2. Topographic maps used (indicate in remark if digital)

Scale	Sheet id	Title/Name	Year of production	Year of last revision	Remark
1:100000	K7-28	Shabla	1978	1972,1974	Digital, Georeferenced
1:100000	K7-28	Durankulak	1988	1989	Digital, Georeferenced
1:25000	K7-28-V-v	Durankulak	1979	1980	Digital, Georeferenced
1:25000	K7-28-V-g	Kamping Kosmos	1979	1980	Digital, Georeferenced
1:100000	K7-38	Shabla	1978	1972,1974	Digital, Georeferenced
1:100000	K7-38	Shabla	1988	1989	Digital, Georeferenced
1:25000	K7-38-A-a	Vaklino	1979	1980	Digital, Georeferenced
1:25000	K7-38-A-b	Krapec	1979	1980	Digital, Georeferenced
1:25000	K7-38-A-v	Shabla	1979	1980	Digital, Georeferenced
1:25000	K7-38-A-g	Shabla-Iztok	1979	1980	Digital, Georeferenced
1:25000	K7-38-V-a	Xadji Dimitar	1979	1980	Digital, Georeferenced
1:25000	K7-38-V-b	Kamen briag	1979	1980	Digital, Georeferenced
1:25000	K7-38-V-v	Balgarevo	1979	1980	Digital, Georeferenced
1:100000	K7-37	Balchik	1978	1973,1974	Digital, Georeferenced
1:100000	K7-37	Balchik	1988	1989	Digital, Georeferenced
1:25000	K7-37-A-a	Dabovik	1979	1980	Digital, Georeferenced
1:25000	K7-37-A-b	Preselenci	1979	1980	Digital, Georeferenced
1:25000	K7-37-A-v	Senokos	1979	1980	Digital, Georeferenced
1:25000	K7-37-A-g	Dropla	1979	1980	Digital, Georeferenced
1:25000	K7-37-B-a	Vasilevo	1979	1980	Digital, Georeferenced
1:25000	K7-37-B-b	Septemvriici	1979	1980	Digital, Georeferenced
1:25000	K7-37-B-v	Konare	1979	1980	Digital, Georeferenced
1:25000	K7-37-B-g	Vidno	1979	1980	Digital, Georeferenced
1:25000	K7-37-V-a	Odarci	1979	1980	Digital, Georeferenced
1:25000	K7-37-V-b	Sokolovo	1979	1980	Digital, Georeferenced
1:25000	K7-37-V-v	Gen. Kantardjievo	1979	1980	Digital, Georeferenced
1:25000	K7-37-V-g	Obrochishte	1979	1980	Digital, Georeferenced
1:25000	K7-37-G-a	Gurkovo	1979	1980	Digital, Georeferenced
1:25000	K7-37-G-b	Kavarna	1979	1980	Digital, Georeferenced
1:25000	K7-37-G-v	Balchik	1979	1980	Digital, Georeferenced
1:25000	K7-37-G-g	Kavarna-Jug	1979	1980	Digital, Georeferenced
1:100000	K7-46,47,56	Varna	1978	1972,1973	Digital, Georeferenced
1:100000	K7-46	Georgy Traikov	1994	1995	Digital, Georeferenced
1:25000	K-7-46-B-a	Ignatovo	1979	1980	Digital, Georeferenced
1:25000	K-7-46-B-b	Aksakovo	1979	1980	Digital, Georeferenced
1:25000	K-7-46-B-v	Beloslav	1979	1980	Digital, Georeferenced

1:25000	K-7-46-B-g	Varna-Zapad	1979	1980	Digital, Georeferenced
1:25000	K-7-46-G-a	Avren	1979	1980	Digital, Georeferenced
1:25000	K-7-46-G-b	Priselci	1979	1980	Digital, Georeferenced
1:25000	K-7-46-G-v	Georgi Traikov	1979	1980	Digital, Georeferenced
1:25000	K-7-46-G-g	Staro Oriahovo	1979	1980	Digital, Georeferenced
<b>1:100000</b>	<b>K7-46,47,56</b>	Varna	1978	1972,1973	Digital, Georeferenced
<b>1:100000</b>	<b>K7-47</b>	Varna	1994	1995	Digital, Georeferenced
1:25000	K7-47-A-a	Kv.Vinica	1979	1980	Digital, Georeferenced
1:25000	K7-47-A-b	k. Zlatni piasaci	1979	1980	Digital, Georeferenced
1:25000	K7-47-A-v	Varna	1979	1980	Digital, Georeferenced
1:25000	K7-47-V-a	h. Chernomorec	1979	1980	Digital, Georeferenced
1:25000	K7-47-V-v	(73,8)	1979	1980	Digital, Georeferenced
<b>1:100000</b>	<b>K7-46,47,56</b>	Varna	1978	1972,1973	Digital, Georeferenced
<b>1:100000</b>	<b>K7-56</b>	Rudnik	1988	1989	Digital, Georeferenced
1:25000	K7-56-B-a	Rudnik	1979	1980	Digital, Georeferenced
1:25000	K7-56-B-b	Shkorpilovci	1979	1980	Digital, Georeferenced
1:25000	K7-57-A-a	(98,7)	1979	1980	Digital, Georeferenced

### 3. Other ancillary data used (thematic data, satellite images, aerial photos, city maps, vegetation maps)

<b>Id</b>	<b>Data source/type</b>	<b>Title (if relevant)</b>	<b>Date of production (m/d/y)</b>	<b>Scale (spatial detail)</b>	<b>Remark</b>
ALB_xxxx_1978	BW Aerial photos	10 pcs.	09/1978	1:14 000	Digital, georeferenced
DUR_xxxx_1974	BW Aerial photos	5pcs.	1974	1:11 500, 23 000	Digital, georeferenced
TOP_xxxx_1978	BW Aerial photos	3 pcs.	09/1978	1:25 000	Digital, georeferenced
SHK_xxxx_1979	BW Aerial photos	8 pcs.	1979	1:10 000 - 12000	Digital, georeferenced
BGmaps	Datecs Ltd	BG city maps	1997 / 2002	1:5 000	Digital
Bondev	Paper Copy	Vegetation map of Bulgaria	1991	1:600 000	

### 4. Photointerpreter(s)

<b>Name</b>	<b>Affiliation</b>	<b>Phone</b>	<b>E-mail</b>	<b>Interpretation</b>		
				<b>start (m/d/y)</b>	<b>End (m/d/y)</b>	<b>no. of days</b>
Nevena Borissova	SRI - BAS	+3592-9793729	Zaek78@yahoo.com	04.22.2003	06.10.2003	33

## B: DATA PREPARATION

### 1. Checking and systematic correction of IMAGE90 data (optional)

<b>Landsat TM or any other satellite scenes used (e.g. SPOT)</b>							
<b>Satellite &amp; Sensor</b>	<b>path-</b>	<b>row</b>	<b>Date (m/d/y)</b>	<b>Max. systematic geom. Error (m)</b>	<b>(optional) Checked &amp; corrected (name)</b>	<b>(optional) Date (m/d/y)</b>	<b>(optional) Reference data</b>
Landsat 5 TM	181	030	28/08/1992	< 50 m			

### 2. Checking and systematic correction of CLC90 data

<b>Corrections</b>	<b>Type of correction</b>	<b>Checked and Corrected by</b>	<b>Date (m/d/y)</b>		<b>Remarks</b>
			<b>Start</b>	<b>end</b>	
Geometrical errors	Systematic correction	Ventzeslav Dimitrov	04/18/2003	04/21/2003	
	Local correction	Nevena Borisova	04/22/2003	05/02/2003	Lot of sleeve polygons less than 100m
Thematic errors	Logical coherence*	Nevena Borisova	05/23/2003	05/30/2003	Polygons less than 25ha; polygons with wrong codes
	Semantic accuracy** and exhaustiveness***	Nevena Borisova	04/22/2003	05/26/2003	Incorrect interpretation of codes 321, 322, 221, 222, 244, 211

\* = respectation of internal rules of CLC (100 m, 25 ha) according to Tech.Guide and Addendum

\*\*= interpretation according to CLC nomenclature;

\*\*\* = details are appropriate

**3. Verification and acceptance on national level**

Date (m/d/y)	Accepted by	Signature	Remark
06/12/2003	Anton Stoimenov		Some geometric and thematic corrections in 1990 revision DB. Some Change polygons correction.

**C: INTERPRETATION OF CHANGES AND CREATION OF CLC1975****1. Photo-interpretation and internal quality control**

Date of submission (m/d/y)	Control made by	Date of control (m/d/y)	Remark (errors, corrections, etc.)
04/22/2003	Nevena Borisova	06/11/2003	- changes from 221 and 222 to 211; from 211 to 221 and 222. - changes from 242 to 112. - changes from 324 to 311; from 311 to 324.

**2. Field checking (if carried out)**

Date (m/d/y)	Itinerary (main settlements crossed on the working unit)	Problems checked and main conclusions
07/27-28/2003	K - 7 - 28, 38 (Shabla), K - 7 - 37 (Balchik), K - 7 - 46, 47, 56 (Varna) Varna, , Obrochishte, Balchik, Kavarna, Shabla, Durankulak, Staro Oryahovo, Gorica.	"Uncertain" polygons were checked: 112, 211, 221, 222, 411

**3. Border matching with neighbour working units**

Working unit /Country	Controlled and corrected by	Date (m/d/y)	Remark
BWU Zone 5	Rumiana Vatsseva	06/17/2003	Some small polygons were removed.
BWU Zone 7	Nevena Borisova	06/17/2003	Some small polygons were removed and some polygons were merged.

**D: FINAL TECHNICAL QUALITY CONTROL****1. Control of topology, unnecessary boundaries, 25 ha limit, invalid codes and invalid changes**

	Date (m/d/y)	Controlled by	Remark
CLC1975	06/20/2003	Todor Lubenov	
CLC Changes	06/21/2003	Todor Lubenov	
CLC90	06/22/2003	Todor Lubenov	2 polygons < 25 ha were re-edited and retained

**2. Verification and acceptance**

	Date (m/d/y)	Name	Signature	Remark
National level	06/24/2003	Anton Stoimenov		Separation 112 – 121.
	07/26/2003	Tomas Soukup	GISAT	Forest changes 32-31, 31-32 Changes close to urban areas
Integration level	08/22/2003	Erika Orlitová	GISAT	Few cases discussed with SatGeo
	09/02/2003	Tomas Soukup	GISAT	OK

**E: SOFTWARE / HARDWARE**

Work phase	Software used	Hardware used
Systematic geometric correction of IMAGE90	-	-
Systematic geometric correction of CLC90	PCI Geomatica	PC: P4/ RAM 512 /HDD 40GB/17"
Topological and thematic corrections of CLC90	PCI Geomatica	PC: P4/ RAM 512 /HDD 40GB/17"
Interpretation of changes	ArcView 3.2	PC: Athlon/ RAM 256 /HDD 20GB/17"
Creation of CLC2000	ArcView 3.2	PC: Athlon/ RAM 256 /HDD 20GB/17"

Technical quality control	ArcView 3.2	
Database integration (border matching)	Arc Info 8.1.2.	PC: P4/ RAM 1 G /HDD 80GB/19"