

THE CHANGING CARTOGRAPHY OF THE FORMER EASTERN BLOCK

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Abstract

Since the breakup of the former Eastern Block and the emergence of newly independent states from the former Soviet Union, there has been a much more liberal approach to the publication of maps. This paper explores both the types of maps produced in the former Eastern Block and those being produced under the new, more liberal regimes.

Introduction

With the breakup of the former Eastern Block most of the countries that made up the Block have adopted more liberal map publication policies. It was therefore felt that the time was ripe to carry out a survey of what was currently available in Eastern Europe and to discover the likely future course of map production and publication.

In general, the countries of the former Eastern Block may be separated into the former allies of the Soviet Union and those countries which made up the former Soviet Union. This difference is still important in terms of attitudes to map publication. The former allies are, on the whole, much more liberal in their publication policy than the former Soviet Republics. The exceptions to this are the Baltic States which are amongst the most liberal.

The Soviet System

The Soviet system of mapping was highly centralised and produced topographic maps of uniform appearance, except for the characters used, throughout the former Soviet Block. In the Soviet Union itself direction was given by a military institution, the Central Board of Geodesy and Cartography (GUGK). Topographic mapping and geodesy were mainly the responsibility of military organisations or centralised bodies in Leningrad and Moscow.

Maps were classified into 4 groups: public, for authorised use only, secret and top secret.

"Public" maps were readily available to the public and generally took the form of enlargements from 1:2,500,000 scale maps. These maps could be enlarged and updated

manually by "visual estimates" (Jagomagi and Mardiste, 1994).

"For authorised use" maps were of limited extent, for example a topographic map extract could only cover less than 10km² and then only if all coordinate numbers, information on cross-country mobility (such as fords and peat depths) and military objects were omitted.

"Secret" maps included all topographical maps but extracts were permitted for publication if they did not show secret information.

"Top secret" maps included the "1942-year system" maps but also included gravimetric and radiometric maps. The "1942-year system" uses a sheet designation system and sheet-lines based on the International Map of the World (IMW).

Despite the high level of uniformity there was still some scope for variation. In the DDR, for example, two versions were produced of basic topographic maps, the "Ausgabe für die Volkswirtschaft" (AV) produced by the VEB Kombinat Geodäsie und Kartographie for the Interior Ministry and the "Ausgabe Staat" (AS) produced by the Militärtopographischer Dienst for the Ministerium für Nationale Verteidigung.

Changes since 1989 and the position today

An initial response to the greater openness after 1989 was simply to "declassify" much of the former secret or top secret mapping. It has thus become possible to acquire standard topographic mapping at scales up to 1:10,000 for much of the former Eastern Block. In a paper of this length it is not possible to cover all the former Eastern Block countries. The countries covered should not, however, be treated as typical but rather as those most forthcoming with information.

Bulgaria

Topographic mapping is now generally available at 1:25,000. The whole country is covered by mapping at 1:5,000 except for some mountain areas which are only covered at 1:10,000 scale. Consideration is however being given to a move to 1:10,000 as the base scale for topographic mapping.

Large scale plans of urban areas are now available to the public without limitation. There is now a policy to produce such plans at 1:1,000 and 1:500 scale both as hardcopy maps and digital products. Rural areas will similarly be covered by both digital and hardcopy plans for the purposes of land reform but no indication has been given regarding the scales being used.

Czech and Slovak Republics

The Czech and Slovak Republics now publish, without any restrictions, topographic mapping at 1:10,000, 1:25,000, 1:50,000, 1:100,000 and 1:200,000 for the whole country. The mapping differs in a number of respects from the 1942-system but, importantly the differences pre-date the change of regime. As the system was developed before the break with the Slovak Republic, the numbering systems of the two countries are the same.

Parry and Perkins (1987) state that Czech maps are on a transverse conformal cylindrical Gauss projection with sheet-lines based on subdivisions of the IMW system. This may have been true at the time of writing but the present sheet-lines are not based on "normal" subdivisions of the IMW. Curiously for a system with sheet-lines based on the graticule, no graticule or grid is printed on the maps at any scale and graticule and grid ticks are not shown for scales smaller than 1:25,000.

Baltic States

The situation in Estonia is, broadly, very similar to that in the other Baltic States. Unlike the other states, however, the developments in Estonian cartography have been adequately documented in the literature (Jagomagi and Mardiste, 1994).

Perhaps the most significant development has been the emergence of a large private survey and cartography sector. A number of publishers have also emerged, including REGIO and Kobras but these are not active in the provision of topographic mapping.

The three Baltic States are cooperating on the establishment of a new control network, establishing ties with other Baltic countries and defining common mapping and GIS standards. Future mapping for all three states will be on GRS-80 using a Transverse Mercator projection centred on 24° East and will use the UTM grid.

Lander of the Former D.D.R.

Following the reunification of Germany, one of the first steps taken was to publish the existing AV versions of the topographic mapping (on the 1 January 1990). To bring it in line with the organisational structure for surveying and mapping in the rest of the Federal Republic, the Landesvermessungsämtern were established in 1991 using the former local survey administration of the DDR. Since the establishment of the Landesvermessungsämtern, there has been a policy of publishing the AS versions of topographic maps in addition to the AV editions. In time the AV versions will be phased out and replaced by AS versions recast on Federal sheetlines and with a new numbering

system (Bohme, 1993).

Hungary

Hungarian mapping had already diverged from the Soviet model long before the breakup of the Soviet Block. In common with other Soviet Block countries, military mapping after 1952 was based on the Krassovsky projection. Civilian mapping was initially based on the Gauss-Kruger projection and used neatlines based on the grid rather than the graticule. After 1965 civilian mapping was produced on a stereographic projection, this changed again in 1975 with a change to a new projection system, the Egyseges Orszagos Vetuleti Rendszer or EOVS (Uniform National Projection System). This is based on the IUGG International ellipsoid and an oblique secant cylindrical projection. All maps now conform to a Uniform National Mapping System (Egyseges Orszagos Terkepezesi Rendszer or EOVS) (Apagyi, 1994).

All map sheets at 1:100,000 and 1:200,000 are now available on the EOVS, about 70% of 1:10,000 sheets but only 26% of 1:25,000 are also available. All sheets not available as EOVS editions are available on the old projections (Apagyi, 1994).

The EOVS map at 1:100,000 is currently available in digital form but with reduced contents. It is also aimed to produce digital data at 1:10,000 and 1:25,000 to meet the growing demand for GIS purposes.

Poland

Following the change of regime the Wojskowe Zaklady Kartograficzne started to publish the 1942-system maps, the only significant changes being the addition of a printed cover. The whole country was covered by 1:200,000 scale maps during 1990-92 and a start was made on issuing the 1:100,000 maps during 1991-93. It was apparently realised that the 1942-system maps were inappropriate for civilian usage due to their relatively small area of coverage per sheet and the decision was made to produce a new series of 1:100,000 scale maps each sheet covering two of the former sheets. Only 28 of the 1942-system sheets were issued before the change-over took place. The first of the new double size sheets were issued in November 1993. Apart from some changes in the colours, these are recognisably the same maps as the 1942-system sheets.

Thus far there has been no attempt to issue topographic maps at 1:50,000. At the time of writing a start has been made on publishing 1:10,000 maps. These are published by Glowny Geodeta Kraju rather than the Wojskowe Zaklady Kartograficzne. Publication seems to have started in 1993 and covers major centres. The style and sheet-lines are again derived from early Soviet models but has the addition of a key. Despite the similarities of style with early maps, these are clearly new editions with a survey date

given as 1991.

Russia and Other Members of the CIS

In Russia and other members of the CIS, such as Belarus and the Ukraine, there has been some liberalisation in publication policy but there still appear to be institutional barriers to the adoption of policies similar to those in the Baltic States. It is not felt that people need to have access to topographic maps at scales larger than 1:200,000 (Glazovsky, 1994). The size of the country being the usual reason given for the lack of a perceived need public access to larger scales. It should, perhaps, be recognised that there has never been public access to good quality topographic mapping in Russia. Even in pre-Revolutionary Russia such maps were regarded as secret. It is therefore likely that the inertia in the system is likely to take longer to overcome in Russia and the CIS than it has elsewhere.

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