

ORO-HYDROGRAPHY

This is a new map, replacing sheet 6 in the first edition of the Atlas of Belgium for the following three reasons.

Firstly, cartographic techniques of generalisation have been improved with modern scientific methods at the various stages of reduction.

Secondly, the study of the physical characteristics of a country requires a relief and drainage map in which morphological units are presented to their best advantage. The major characteristics of the hydrographic network should still remain clear despite a large reduction in scale.

Finally, in the course of recent decades a number of significant modifications have occurred in the hydrographic pattern and these must be brought-up-to-date. For instance this applies to alterations in the estuary of the Scheldt, the eastern Scheldt, Flemish Banks, recent port extensions and changes in canals together with recently-constructed storage-basins.

The stereographic projection, used previously, had been replaced by Lambert's conformal conic. This is also used in the topographic base map which has meridians as straight lines and parallels as arcs of circles.

In order to limit the amount of work required in generalisation, this oro-hydrographic map at the scale of 1:500 000 has been compiled from the 1:50 000 rather than the 1:25 000 base map. The photographic linear scale reduction thus carried out after the generalisation of the 1:50 000 map is in the ratio 1:10. For the regions beyond the frontiers it was possible to work from similar scale base maps in order to obtain continuity of generalisation over the entire map.

The *quantitative generalisation* is based on current modern cartographic theories. Streams of a low order have not necessarily been eliminated and are relatively well represented in the generalised hydrographic network. This has the effect of making the drainage density per unit of map surface appear similar in different regions.

After the quantitative generalisation by mathematical methods the *qualitative generalisation* must ensure the proper depiction and regional characterisation of the river network and the morphological significance of the chosen contour lines. In the case of a stream which has been retained as a result of quantitative generalisation but is not characteristic of the whole of the stream basin which is of a higher order, at the later stage of qualitative generalisation it will be replaced by another stream of an order typical of the hydrographic network and/or by one which accentuates the morphology and the underlying structure. After this process of qualitative generalisation the asymmetrical pattern of the Meuse downstream from Namur and the parallelism of the rivers of the Condroz are thus brought out. The deep incision of a number of rivers of Highland Belgium is strongly accentuated by the choice of the 150 m contour. The use of a very contrasting yellow tint for the altitude zone 100-150 m reinforces this impression and points out the differences between the valley forms of the Fagne-Famenne and of Condroz.

The choice of the total numbers of contours has been dictated purely by considerations of generalisation but, in contrast, their spacing has been related to the depiction of the *regional morphological units* of the country. These are also illustrated clearly on the map by the use of carefully determined colours. Some examples follow.

Lands which appear from beneath sea level (beaches, silts, sand-banks, etc.) are left blank, giving thus a very logical and clear image. The Polder region stands out not only by reason of a dense network of drainage lines, but also because it is depicted in a deep green. The choice of the 10 m contour line effectively distinguishes between the so called « Vlaamse vallei » (Flemish Valley) and the remainder of the Flemish Plain. Middle Belgium is well shown with a yellow tint to the area above 50 m. The slope between Low and Middle Belgium is distinguished by the close succession of contours at 10, 20 and 50 m, especially in the east where the plateau of Middle Belgium is well conserved. The 20 m contour draws attention to a number of cuesta features such as those between Knesselare and Zomergen, similarly those of the Land van Waas and van Boom and, further afield, those of Putte and Herselt. An intermediate contour line at 75 m draws attention to local features such as the asymmetric form of the Campine Plateau and the ridges of Hageland. The contour at 150 m not only picks out the hills of Flanders but also very clearly shows the division of the low plateau of Middle Belgium, the Fagne-Famenne depression and the elongated crests of Condroz; these too are also well indicated by the intermediate contour at 250 m. It is in the Ardenne that the new cartographic generalisations are shown to their best advantage. The pattern of the contour lines makes the plateau aspects show up more distinctly; it is a result of the suppression of the intricate twistings of the contour details, where the generalisation has eliminated stream lines. Whilst the general form of the contours have been preserved, the morphological characteristics have been brought out much better. This is particularly noticeable in the deeply eroded valleys especially where the rivers are in strongly incised meanders as in sections of the Semois, Ourthe and Amblève rivers. This permits the depiction of the distinctive regional features and also ensures a better concordance between relief and drainage.

The accent on colour differentiation is a result of the didactic aim of the map; it is also justified by the fact that the hypsometric tints remain distinguishable after a possible superimposition of other shades. The relief data is supplemented by a limited number of spot heights. These give absolute values to isolated peaks as well as indicating the characteristic heights of the country or else they delimit watersheds more effectively, as in the Campine Plateau. In some cases spot heights even replace contours which would be too small to draw on the map, as in the case of the summit of the Oudenberg to the east of Grammont (Geraardsbergen). The heights and hypsometric lines shown beyond the frontiers have been correlated with the base level of the Belgium Second General Levelling.

For completeness, the following points must also be noted. Canals are less accentuated than in the previous edition. Nevertheless, they still merge with the natural waterway networks as in the case of the Albert canal which extends from NW to SE in a system basically oriented from NE to SW. Port installations, inland waterways and lakes are shown in a pale blue; because they tend to occur in the dark colours of both low and high relief this results in their standing out clearly against the different tints (dark green and dark orange-brown). Dunes are represented as far as possible by contour lines, since a special configuration might lead the map reader to think this has been related to a geomorphological interpretation. In the Polder area of the left bank of the Scheldt a typical representation of the drainage system has been used though the new port works completely alter the old pattern.

The names of the Belgian localities on the map are those of the incorporated communes (population figures at 1 January 1978).

The principle of indicating only Belgian regional names has been followed: firstly in the language of the region, followed by the second national language.