

SATELLITE IMAGE OF BELGIUM

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The satellite image of Belgium has been developed from the multi-spectral data (XS) of the HRV (High Resolution Visible) bands captured from the SPOT satellite. Eighteen scenes captured during the spring and summer of 1992 were necessary to make this mosaic. The images have been graciously put at the disposal of the Atlas Commission by the federal Office for Scientific, Technical and Cultural affairs (O.S.T.C.). In order to facilitate its visual interpretation, the mosaic has been presented in a false colour composition in which blue is associated with spectral band XS1, green with band XS2 and red with XS3. The scale of publication (1/500 000) does not everywhere allow the fine detail of the 20 metre resolution of capture to be shown. The mosaic is geometrically corrected in the plane of the Belgian Lambert projection, but the graticule ticks and the grid intersections are expressed in geographical co-ordinates. The image has been completed with planimetric details (frontiers and hydrography) and placenames, selected with reference to the other sheets of the Atlas. It should be noted that, despite the careful selection of images, it has not been possible to totally eliminate cloud cover, of which several traces appear in white in the neighbourhood of Bertrix.

The interpretation of the coloured picture of the satellite image depends on different criteria such as the colour, both in shade and intensity and also the structure and the texture of the image. The reader tends to interpret the information in terms of the effects of the physique and soils although such classification has not been made. Above all the inference is problematic because there is no simple relationship between, on the one hand, colour and texture, and on the other hand, soil and land cover. Be that as it may, a synoptic examination of the satellite map puts the evidence for most of the main regional units of the country, whilst a more detailed study reveals the sub-regional characteristics and even now and then local features with astonishing clarity. These two successive levels of reading have led to the following brief analysis.

By their deep dark colours, the vast wooded massifs and the broad forest belts south of the Sambre-Meuse corridor bear witness, especially in the east, to the dominance of conifers. With the interstitial spaces that are essentially devoted to pasture and shown in red, they determine the central part of the Ardenne loosely curved along the anticlinal axis. Some parts of the Ardenne plateau are devoted to pasture and cultivation but the southern border is completely wooded and is marked by a clear limit with the Belgian Lorraine, where the sub-parallel forest bands indicate the succession of secondary cuestas. On the borders of the Ardennes the main pasture regions are individually shown in red and with a uniform texture, as much in the north east in the Pays de Herve and in the Region Saint-Vith as in the south west in Thiérache and the Pays de Beaumont. On the other hand, to the north of the Ardenne, the Famenne depression only shows up by a series of small wooded blocks with a well marked SW-NE orientation. The Condroz plateau, still further north shows a series of narrow wooded bands running in a rather similar direction, that emphasises their pattern of crests and hollows.

Just as contrasted as the wooded Ardenne, but more subtly shown, and above all in a more different environment, the conifers of the Campine (Kempen) equally appear in a darker colour. Without encroaching on the Maasland the southern limits of the low Campine plateau is thus well marked, while associated with dune zones shown in cyan they are found again on the plateau itself, as well as on the reverse of the Campine clay cuestas, especially to the north east of Antwerpen.

Another element, this time man-made and immediately perceptible at the synoptic level to the reader, is the pattern of towns and large agglomerations shown in blue. If the internal structure of the towns is poorly shown at the scale of publication, on the other hand the main infrastructures, such as ports and airports, are individually well shown. The morphological limits of the large agglomerations are often diffuse, whilst that of the small and medium sized towns are generally well delimited with respect to their rural surroundings. One can note that the urban and industrial Haine-Sambre-Meuse valley shows more breaks of continuity than those that usually appear on classic maps, whilst the medium sized towns of interior Flanders demonstrate a remarkable pattern and density.

Much of the textural information comes from the pattern of land units, underlined by the alternation of cultivation and unused land. Thus the large consolidated land parcels characterise all the limon regions, from the dry Hesbaye in the east to the Tournaisis in the west. It also bears witness to the appurtenances of the same large region, from the southern Thudinie and the Haut-Pays, both however situated to the south of the Haine-Sambre valley, and of the terrace of Dalhem, to the east of the Meuse. However, along the northern limit of the limon region the sharp change of texture could allow us to believe that there is a passage between the regions, whereas it can only be explained by the distinctly different politics of consolidation between the Flemish and Walloon Regions. In particular, to the north east, the limit between the dry Hesbaye, to the south and the humid Hesbaye, to the north, is further north, than the visible line of change of texture on the image.

The weak vegetation cover of the cultivated lands of the Flemish sablo-limon region, particularly to the west of the Lys, explains the dominance of the blue colour, which contrasts in a striking way with the neighbouring region of the Polders. Here, wetter and with more grassland, at least in the south, this appears in red and one can follow the limits of the Dunkirkian transgression very precisely, for example in the valley of the Yser and its tributaries.

The southern part of the Polders equally calls for an attempt to make a more detailed examination of the image. Thus, the rectangular parcelling characterising the Franco-Belgian Moères, perfectly portray the individuality of this sub-region. Moreover, behind the very distinct line of the coastline, one can pin-point the partially vegetated different dune blocks, amongst which are the old dunes of Adinkerke. Between Eeklo and the Polders of Zeeland Flanders, the typical strip-parcels of the Meetjesland is clearly identifiable, whilst to the south west of the region the sombre blemishes of small wooded surfaces denote the extension of the Houtland.

Thus in a general way the woodlands are easily distinguished amongst the agricultural space. This is especially clear in the case of the large blocks of the Forest of Soignes and the woodland of Meerdaal, but also of the more broken up wooded surfaces showing on the sides of the valleys incised into the Brabant Plateau (Dyle, Lasne, etc.) or the discontinuous wooded strips running along the edges of the Boom clay cuesta, between Malines (Mechelen) and Aarschot. The presence of woodland frequently brings out morphological features (see sheet II.1), quite as typical as those of the sub-regional facies. Thus, one can clearly distinguish the woods of Houssière lying between Senne and Sennette along this surprising linear feature which here marks the limit between the limons of Brabant and Hainaut, as well as the wooded crest lines of the Hageland hills to the north east of Leuven. The way in which the woods are made to stand out along the alignments of the Condroz crests and the calcareous massifs of the Fagne and the Famenne has already been noted; also note how particularly well the contorted calcareous band is shown in the environs of Han-sur-Lesse. By way of contrast, in the Hautes Fagnes, the large circular clearings give evidence of medieval clearances and these sectors where the environment was affected by old industrialisation, especially in the Campine, contrast with the main wooded blocks in the middle of which these territories are enclosed.

It would be possible to multiply these particular regional examples on the satellite image, but one can also be astonished by the non-discrimination of certain details. Certainly, not all the regional limits are clear and sharp, and in many cases the zones of transition are not well shown and difficult to observe on the satellite image. But the heart of the regions defined either as either homogeneous or specific are not always identifiable. Take for example the area of the hills of Flanders and of Hainaut which appear only feebly contrasted, despite the effect of local relief, whilst the Land van Waas with its particular parcelling, well altered it is true, is hardly perceptible. If the scale of the publication and, to a lesser extent, the resolution of the satellite image can explain certain irregularities, it can also be found that the colours, the contrasts and the textures are here largely dependent on the phenology of the vegetation. Consequently, a similar mosaic of images, given the same treatment, but utilising responses produced during a different season would certainly indicate other interesting relationships, but probably to the detriment of several observations made here.