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## Deciduous forest map symbol

This post is continuing my attempts started at the end of last year with path and waterbody rendering to write a little more about openStreetMap design map. What I want here to cover is differentiated rendering of forests. First a bit of history on tagging and playing forest in the world of OpenStreetMap. Apart from the ill-defined distinction between landuse=forest and natural=wood – which most likely there will never be a consensus on what it means – mappers in OpenStreetMap very early began differentiating forest types with wood key. The primary values were deciduous, coniferous and mixed. This was one of the most flashy cases of geographical bias in OpenStreetMap. The Mappers who introduced this concept (from the lowland areas of Central Europe) were used for conifers being evergreen and broad-leaved trees being deciduous. Globally, however, we have all the combinations of this, so over time the mappers realized that wood = deciduous/coniferous/mixed is not a very sensible way to classify forests and new keys leaf\_type and leaf\_cycle have been introduced. They are now generally accepted. Historical development of wood use and leaf\_type/leaf\_cycle To continue the context of the representation of forests in maps, in general, Jerry wrote a beautiful history of forest mapping in 2014. What I implemented in the style of alternative colors now goes back to the first major change of the forest style in OSM-Carto. Back then, the main differentiation was still landuse=forest and natural=wood – which, even under the assumption of a consistent difference between the two labels, was too strong compared to other differences in style. Playing wood and inherited forests in standard style before 2015 This was changed in 2015 to a unified rendering using the symbols of tree pairs – discussion here. Unified forest rendering after 2015 This was designed as a provisional solution until leaf\_type could be differentiated – what was being done here, continuing to use the symbols in pairs and maintaining the use of pairs for areas without specified leaf\_type. Playing the current OSM-Carto from August 2017 Now this design is in my eyes rather sub-optimal. Abstraction in the border symbols of being non-intuitive (you could also see a tennis racket and shovel cake). Model symbols are very different from individual icons of features, they work in very different ways for the map reader. Recognition of the individual symbol is not necessary to be able to read the map, it is the model as a whole that must work. This means that the lack of reliable recognition of the individual symbol necessarily kill this concept, but on the other hand, there is also no good reason for extreme geometric simplicity to ensure a very clear and sharp rendering. Instead, the model should be harmonic with the rest of the map while being - as as much as possible – intuitively understandable. Back in 2015, when forest playback was discussed we did a number of concept projects for different styling ideas for forest symbolization. The first uses the same symbol idea that was later chosen for OSM-Carto, the second is a design with a somewhat more sophisticated shape, the third is oriented towards the style used in German topographic maps, and the last is quite different – based on the idea of a top visualization representation, in contrast to the profile views of the trees that are used in most forest symbols. The advantage of this is that by that, by not using figurative symbols, but a simple structure model - similar to those used for empty land types - you in a better way avoid distracting from other distinct signatures of points and line features in the map. The downside is that you have far fewer possibilities to carry distinct information with the model. The three types - broadleaved, with needles and a mixture of both are about maximum in differentiation this allows while a figurative symbol pattern would in principle allow a much larger number of different types of symbols. Circles and points – which can be considered an abstract representation of the upper view of trees – are relatively common for the representation of forests. Older French topographic maps, for example, have used this universal, newer, only for broad-leaved forests, while conifer symbols are profile representations. You can find this as well as the newer variants on Géoportail IGN. Here a loan rendering from the newer French design. More abstract top view rendering of trees with needles can be found in Norwegian maps - here two examples - more can be found in the kartverket historical map collection. This concept is somewhat similar in terms of perspective as I have shown above and can also be adopted in digital map playback, of course. All this is based on the idea of two types of forest - conifers (which, so said is usually evergreen default) and broadleaved (which is by default deciduous). But this synchronicity between leaf\_type and leaf\_cycle is not actually so common globally and leaf\_cycle, which is the distinction between evergreen and deciduous forest, is often locally more significant distinction. Boreal forests are dominated by conifers, and the main distinction is between evergreen (mold, fir and pine) and deciduous forest (larca). At low latitudes (tropics and subtropics), forest habitats are dominated by broad-leaved trees that are either evergreen or deciduous - the loss of their leaves during the dry season. In the southern hemisphere the temperate zone evergreen broadleaved are much more common than on the northern hemisphere, so the situation is different there as well. The representation of leaf\_cycle independent of leaf\_type or tree species is something very very in classical cartography – largely because, after it has already been indicated to separate these two dimensions of forest typology, it is not significant in many of the countries that have been historical leader in cartography. The additional problem with OpenStreetMap-based maps that serve as feedback mapper is that you wouldn't just need three classes of leaf\_cycle - evergreen, deciduous and mixed, you also need an unknown fourth class. I went with the use of different colors for symbols to illustrate the leaf\_cycle for the time being. I combined this with new, relatively traditional forms - but this is not set in stone, I'm still contemplating other ideas. Here's this show. leaf\_cycle differentiation by the color of the symbol New tree symbols This is implemented for natural=wood/landuse=forest, natural=scrub and natural=wetland + wetland=swamp, as well as natural=wetland + wetland=mangrove – the latter without differentiation, since mangroves are always wide and evergreen. After you can see i make unknown leaf\_type for wood and swamp without symbols - not using the concept of pair of trees as is OSM-Carto. This means leaf\_cycle is not displayed if leaf\_type is not labeled, which is failedly rare in reality. Friction symbols are simplified torsoless versions and smaller versions of tree symbols. I kept the inherited friction symbol for areas with unspecified leaf\_type. Labelling leaf\_type and especially leaf\_cycle for friction is much less common than for wood/forest and next to non-existent swamp. Here are the numbers. natural=wood: 4.6M leaf\_type: 258k leaf\_type=broadleaved: 144k leaf\_type=mixed: 83k leaf\_type=aleaved: 30k leaf\_cycle: 111k leaf\_cycle=foieux: 84k leaf\_cycle=mixed: 14 k leaf\_cycle: 111k leaf\_cycle= deciduous: 84k leaf\_cycle=mixed: 14k leaf\_cycle leaf\_cycle &lt;9&gt;=evergreen: 12k lanuse=forest: 3.5M leaf\_type: 329k leaf\_type=broadleaved: 16 5k leaf\_type=mixed: 85k leaf\_type=aleaved: 78k leaf\_cycle: 115k leaf\_cycle=foieux: 68k leaf\_cycle leaf\_cycle=mixed: 24k leaf\_cycle=evergreen: 18k leaf\_cycle=semi\_deciduous: 2k natural=scrub: 1.9M leaf\_type: 48k leaf\_type=broadleaved: 15k leaf\_type=mixed: 4.1k leaf\_type=aleaved: 29k leaf\_cycle leaf\_type 15k leaf\_cycle= deciduous: 11k leaf\_cycle=mixed: 2.6k leaf\_cycle=evergreen : 1.8k wetland=swamp: 80k less than 1k with leaf\_type/leaf\_cycle This also means further differentiation in rendering – for example, showing distinct species of trees beyond the broad classification of leaf\_type, is currently limited by the fact that there is no significant amount of data that could build on. This is an interesting cartographic topic and you can find in classical paper-based cartography various attempts in this direction. De for the distinction between dense, closed canopy forests and open forests. Something for another time. The symbols used will be in the next version of jsdotpattern. Forest with deciduous leaves at z14 Mixed/mixed forest and unspecified scrub + forest at z16 This is one of the of articles that provide photos of features on the ground, which have standard symbols on the Ordnance Survey 1:25.000 maps, and also show the symbol. See the OS 25K map symbols for entering the series and links to other articles in it. Ordnance Survey told us that although the symbols are copyrighted allow them to be copied without specific fee or license. Click a photo thumbnail to see a page with a larger photo and other details about the photo. The photo page also has a section of the 1:50,000 Ordnance Survey map; Click on this map to see a section of the Ordnance Survey 1:25.000 scale map. For vegetation there are more symbols on 25K than on maps of 50K. Forests and orchards have symbols on 50K maps - see the symbols of Land features on 50K maps for our examples. DescriptionSymbolPhotoNotesChildren coniferous Trees Map trees - scatterMap link of scattered conifers have the same tree symbol, but without the temptation that shows the forest. Non-coniferous trees Map linkNon-conifers - scattered map link scattered non-coniferous trees have the same tree symbol, but without tinge that shows the forest. The CoppiceMap Wood link has some coppic symbols and some non-coniferous tree symbols. Boundary treeName of tree silk, adjacent to boundary symbolMap link The example has the word sycamore of the points of a parish boundary. There is oak and ash just north of it. ScrubMap link Area here has the symbol for scrub (three blobs, the highest on the left), and many areas that could be considered scrub have the symbol for bracken, heath and rough pasturesBrack, heath or rough pasture Map link Do not appear to be several slightly different symbols, this area has one with vertical strokes, but no blobs, probably the one for rough pastures. Bracken, Heath or Rough Pasture Map Symbol link with some blobs - bracken hereMarsh, reed or saresMap link ReedsMarsh, reed or salted Map link SaltmarshOrchardMap link Map symbols are Crown Copyright. Copyright.