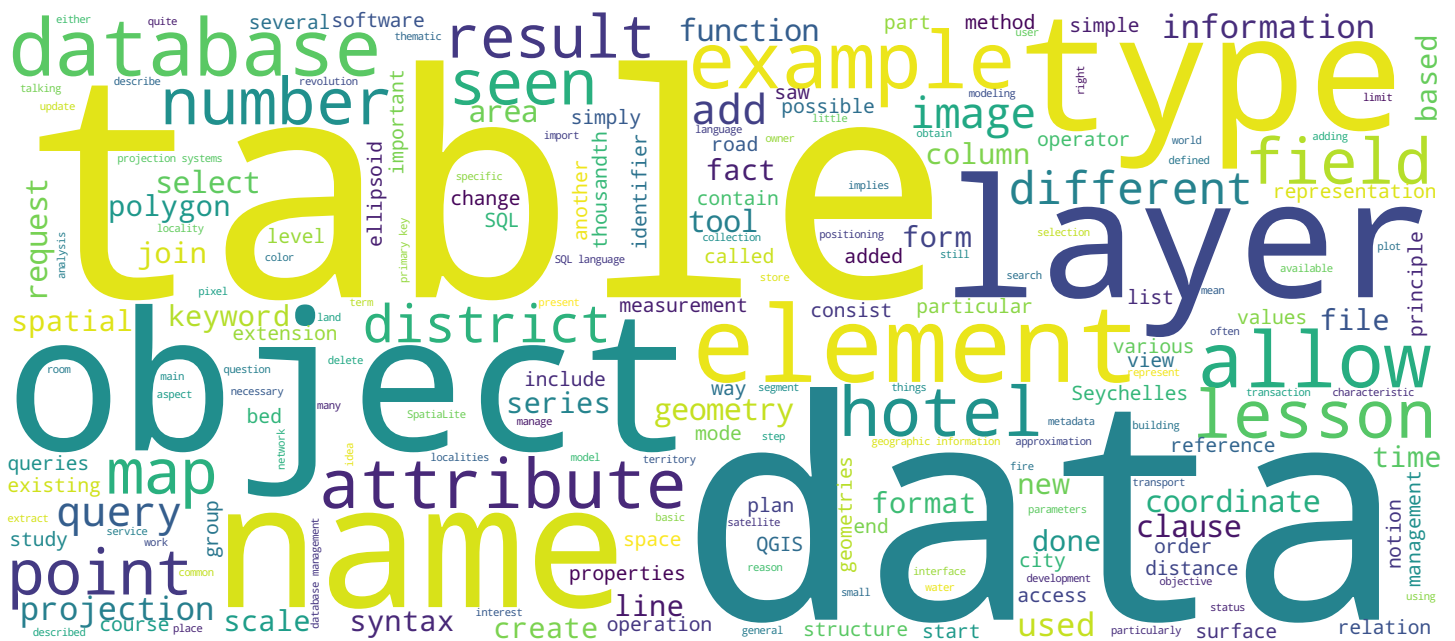


Coordinates and projection systems

An Introduction to Geographic Information Systems

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Video



In summary



An Introduction to Geographic Information Systems

[So we have seen in this lesson that the geometric description of the elements of the territory modeling is based on notions of scales, coordinates systems and projection systems. And we have seen more specifically that the scale of representation is closely linked to the spatial resolution of the territory objects with lower thresholds of 10 thousandth for objects of about 10 m, of 25 thousandth for objects of 25 m of 50 thousandth for objects of 50 m, etc. We have also seen that the representation of these elements in a plan requires to have an euclidean reference system and a metric and that this implies a projection of a terrestrial spheroid to a flat surface. We have seen that this transposition is done in 2 steps. First an approximation of the geoid by an ellipsoid of revolution, then a projection of the coordinates on this ellipsoid towards a plan. We have also seen that the approximation of the geoid by an ellipsoid can be done in a global way, it is the WGS84 system or it can be... based on a locally adjusted ellipsoid to map a particular area of interest.

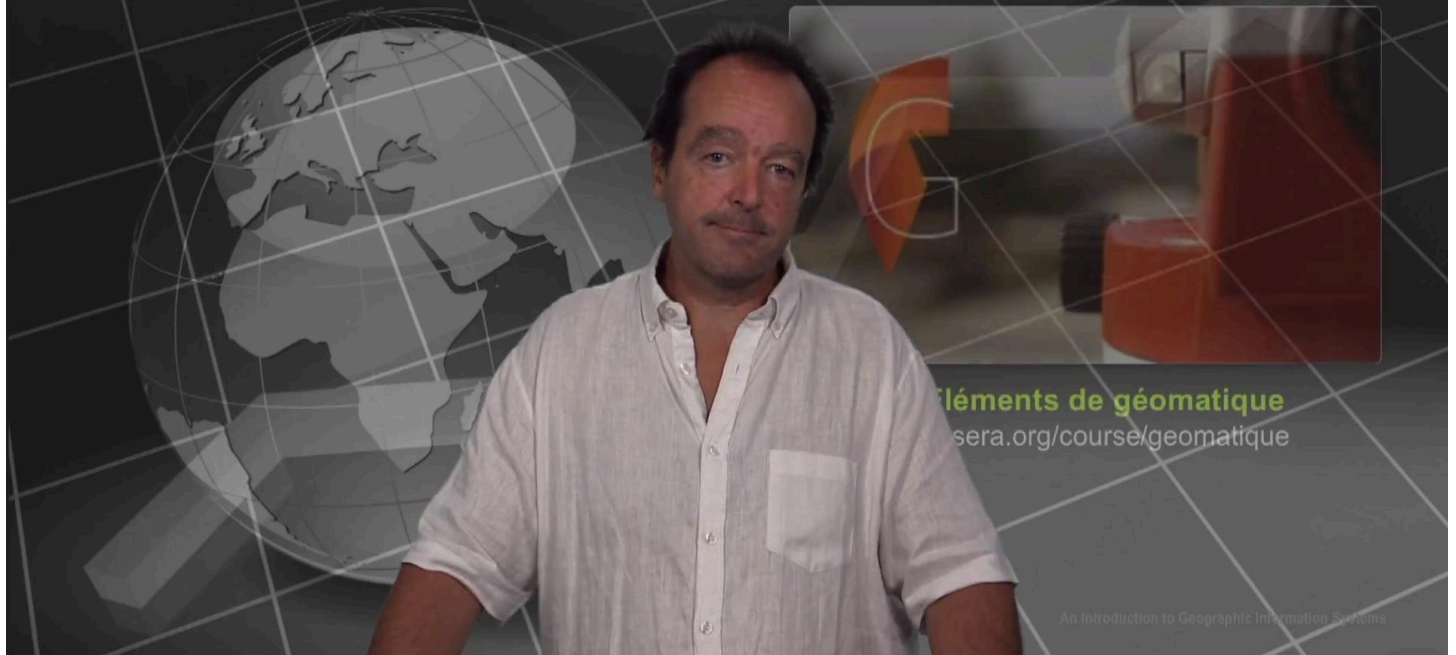
Notes

Summary



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In summary



At the level of projections, we have seen that going from a spherical system with 3 coordinates to a 2-coordinate plan system implies a loss of information and that it is for that reason that some projections preserve the direction or the angles, and we are talking here about a conformal projection, whilst other projections preserve the surfaces, and we are talking of equivalent projection or projections that preserve the distance and which are equidistant projections. We have also seen that there are three large projection families: The cylindrical projections, the conical projections and the azimuthal projections. Finally, the ellipsoids of revolution and the projection systems constitute a legal reference of positioning and these different systems have been inventoried and are described by a code, the EPSG code. To those of you who wish to explore these issues of projection system, coordinate system, I recommend the "elements of geomatics" MOOC whose address appears here.

Notes

Summary



1m 37s