





50 years ago, there were more than 100,000 black rhinoceroses in Africa. Today, 96% of the population has disappeared because of illegal poaching. To protect the survivors, rangers must anticipate and know their location constantly. They use ultra-light drones equipped with cameras that ply the nature reserves. High-resolution images are georeferenced, rhinoceros are detected and their positions are stored in a geographic information system. This makes it possible to represent animals on geographical maps and to organize the monitoring of these areas. The introductory course of Geographic Information System (GIS) will teach you to master the different phases of the cycle of geo-information, from the acquisition to the representation through the storage and the analysis.

Notes

Summary







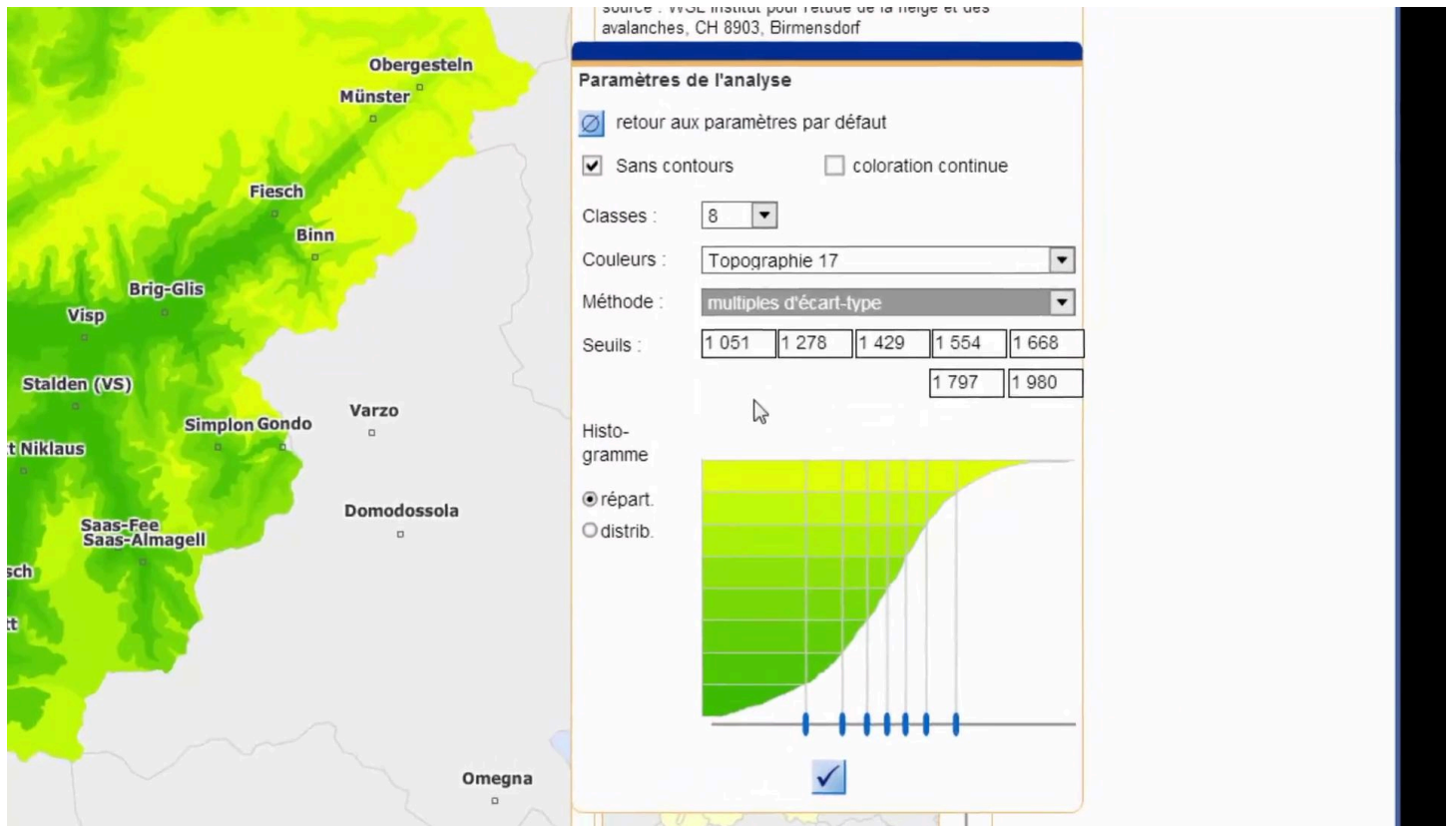
Geodata, generally the values of a variable such as altitude, temperature or soil moisture can be acquired through various methods such as satellite or airborne with airplanes, helicopters or drones, or simply by land measures. These raw geodata are interpreted to identify geographic objects such as buildings, roads or plots of land which are then associated to properties such as name, use or surface.

Notes

Summary

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To facilitate its use, geographic information is stored in databases. The hosting of these different kinds of data imposes a structure and a rigorous organization which can become complex. Thanks to these databases, geographic information system softwares access information effectively. The manipulation of geodata is facilitated by integrated tools that allow the analysis of landscape features, for example, which are not easy to apprehend on the field. Other algorithms make available spatial analysis functions whose role is to highlight recognizable structures on the territory capable of revealing relations between the analyzed geographical objects and climatic parameters for example. Finally, you will learn how GIS systems allow to represent the properties of analyzed objects.

Notes

Summary







By following this introductory course on Geographic Information Systems you will learn to produce quality cartographic documents and you will discover methods of advanced representation in 3 and 4 dimensions. The team that contributed to the presentation of this MOOC is composed of Marc Soutter of the geographical information system laboratory of the EPFL, of Amadou Sall environmental of the ecological monitoring center in Dakar, Senegal, of Stéphane Joost of the geographical information system laboratory of the EPFL and of Fernand Kouamé of the University Center for Applied Research in Remote Sensing of the Felix-Houphouët-Boigny University in Abidjan, Ivory Coast.

Notes

Summary



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