

# THE THEORY OF COMPUTER GEOGRAPHY

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## **ABSTRACT:**

ABSTRACT The computer geography (COMGEOGRAPHY) is new science of geographical knowledge, which is engaged in measurement of the characteristics of geographical objects by electronic devices (space ships, artificial satellites, planes, helicopters and probes), preservation of geoinformation on electronic (floppy diskettes, hard disks, magnetic tapes) and laser carriers of the information (laser disks - CD), development of algorithms and software packages for the analysis of the geoinformation (photogrammetric, geostatistical, geoinformation and other software packages) and description of terrestrial surface on the computer as a video of the records which have been removed with different distance from the surface of the Earth (on the Earth, with flying devices and space ships). Besides, the computer geography is engaged in development of methods of remote training of geographical disciplines, drawing up of the electronic textbooks on geography (geomultimedia of processes, conditions and phenomena; speaking maps; audio and video textbooks on geographical disciplines of higher Educational establishments and general educational establishments and others) Comgeography, as distinct from traditional "paper geography", opens wide ways of application of new methods of adjacent sciences for the cause and effect analysis of change of elements of geosystems and of it as a whole (for example, for definition, of emergent features the algorithms of cybernetics etc. are used). Comgeography opens access to use of the early developed mathematical-statistical and physical-chemical methods for all geographers, as earlier these methods were accessible to those who owned even average level of mathematical, physical and chemical methods of research. Comgeography uses these methods in the automatized kind (software packages, utilities, program procedures), which requires only data input, then the results of the analysis of geographical researches are deduced. Use of the new equations or procedures in this case is not excluded. For this purpose it is necessary only to bring in the new formulas or procedures of algorithms to used packages as the appendices. Mainly this property of software, carried out by the geographical software packages (GIS, GPS), allows use them even in general educational processes. For example, GIS package is now used by the schoolboys of V-XI forms. The company ERSI (USA) annually will carry out measures "GIS DAY" for the schoolboys. The simplicity of use of GIS is connected with nice appearance of working tools and geographical marks for construction of cards and plans.

**TOPIC:** Image processing and pattern recognition

**ALTERNATIVE TOPIC:** Land cover classification