AMBIENTAL EXERTION CHARTOGRAPHY

AMBIENTAL POLUTION MEASURE WITH G.I.S. (Geografical Information Sistem)

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Chartography has always been the constitutive element of grafic representation in relation to geografical references, as times passes away technology has influenced on it, instead of other troublesome investigations previously produced.
Nowadays, themative chartography is a distinctive element of applyed statistics, which shows us, previously chosen subjects with geografical references of themselves. That's why we consider it's possible to apply a G.I.S to ambiental polution, however many people say it's impossible to measure it, this doesn't mean that we aren't able to make reference to an area, with a previous analysis of state-area when, we make reference to origin, we are talking about agents, which produce pollution and state-area, to the influence areas.
In this case we settle an analysis area, which was Córdoba city in Argentina.
This is a colonial city by the riversides and valleys. Valleys origined the stagnation of emanation, which shows us the importance about topography. We analyzed pollution elements which contaminate atmosphere in a hierarchical order.
Then, we made a demonstration about analyzed area.
The analysis showed that pollution was origined in a 90% from vehicles emanation. We tried to make a vehicle pollution percentage.

PLANOMETRY

The analyzed area should have had a quality graphic support, to provide an exact georeference information. The area was inclosed to the city planometry, containing microcenter and periphery with 530 blocks.
There was taken a conditionant series which could elevate the support quality.
A support sistem is produced to guide us towards points of the Military Geographic Institute. This circunstance was a limit for us, because we had got only one first point order, which could have origined a sistem rotation.
A relative sistem was prepared by Córdoba Municipality. There is a net of points (G.P.S.) Global Position sistem with a nearly 10 cm. exactness.
We chose this sistem, because we considered it was the best one.
We had to determine geographic coordinates through astronomical observations which showed lower exactness than G.P.S.
A block level verification was made by two polygonals. There were analyzed twenty blocks, and there was a 2 mm. graphic mistake.
There was settle a layer for the planometry. In our case we made a block planometry and we determined nodes.

The digital ways were settled in horary way North-East was the initial point of blocks.

DATA BASE ORGANIZATION

It was conformed with the elements we used:
-streets: their numbers
-nodes: with pollutionant factor
-built area: georeference block: *area
*place
*most probable contamination equivalency.
Blocksorganization is closed related to communications ways.

STUDY METHODOLOGY

First, we got the area, and the cause of pollution by a digital planometry to make an ambiental impact test methodology.
The pollutionant agents proceed from the vehiche area. We classify the ways in: mains ways, secundary ways, local ways and walking ways.
Each one of these are represented by a layer with different contamination immutabilities.
Immutabilities contamination were obtained by investigations of different countries with the same flux.
There were attribute the ways values, going into the ways through nodes assignation, which gave us the lineal value.
We tried to put them into areas and determine blocks contamination in order to the nodes which were all around the blocks. We tried to obtain the most probable value of block pollution.
Then we put the areal pollution marks in levels in order to know which were the dangerous areas.
Malignant pollution limit index for human being is settle in order to analyze the worst areas. In our case the worst areas met in the same point with low areas of high traffic which influenced city moving and produced winter effect as a cosecuence of topography and high buildings.
After we had identified we considered the effects in order to prove the agents wich were malignant for the urban ecosistem we had studied.

CONCLUSION

When planometry is studied, we analyze georeferencement and we also investigate the topography.
We confirmed that the resolution depended on the investigation about urban structure closed related to field topography.
We concluded that it was impossible to continue with vehicle access, into the microcentre area in order to the ways and their classification.

It was presented the transport regulator sistem which was called CIRCOR.
This sistem produces a way currency all around the microcentre periphery.
This is a high-speed highway with intelligent semaphores, and it has also got trnsference stations in areas which can lodge a high number of vehicles from the periphery.
The CIRCOR (circumvallation) runs over low areas river the Suquia River riverside, where the traffic pollution is blown away by the winds and the 60% of the CIRCOR is situated in the highest level component of Córdoba city.
Five ways run over the city in the microcentre (from East to West and from North to South)
The East to West ways are run over by electrical trolebuses which make possible to travel people, who have parked their vehicles in parking places away from the microcentre, into the microcentre. This is the way we can remove the atmospherical pollution from Córdoba city making progress of climatical and topographical circunstances with a low inversion.
The investigation has been made with the use of digital chartography and it has been used a simple detection methodology of dangerous areas.
We go on working with a data base which make us possible to measure the atmospherical pollution with a movable management station, in order to a S.I.G development.