TEACHING PROBLEMS IN LAND-USE CLASSIFICATIONS RELATED TO THE ACTUAL REMOTE SENSING DATA COMPLEXITY

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ABSTRACT:

From the beginning of the spatial technology, the investigations in land-use appear in numerous projects. Though the object of study is clear, as opposed to other applications of the remote sensing, this discipline has the particularity of needing more a conceptual framework, within which to define and to establish the land-use classes. The physical and associated socio-cultural characteristics of each region or country are so different that it is impossible to apply the same classification criterion in all of them.

That is the reason why different land-use classification systems were elaborated, adapted to each case, though in most of them, the classification systems accomplished by organizations or recognized prestige authors were taken as guides. Meanwhile the satellite imagery was produced by few remote sensing systems, great problems in land-use teaching with remote sensing data were not presented, regarding the classifications and the definition of types and quantity of classes. The continuous appearance of new satellite systems derived into the combined uses, interrelated or added of a great diversity of data.

Concerning to these spectral regions, spatial and temporal resolutions, coverage, etc., the amount of data was widening, in such a way that the teaching of this discipline becomes very complex and generates numerous problems.

1. How to respect the conceptual framework of the meaning of each class of land-use facing to that complexity and variety of data.
2. How to establish land-use classes in the digital classification systems, if the classes are defined by the spectral signatures of the objects that not always represent their use.
3. Which conceptual framework must be established for land-use classification, updating the concepts considering the huge variety of data and information.
4. How to focus, complement and classify the real and the potential land-use.

This work presents land-use classification examples, adopted according to remote sensing data (NOAA, LANDSAT, SPOT, ERS, SOYUZ, RESURS, RADARSAT, etc.). The examples are resulting of personal teaching experiences, in different civilian and military educational institutions, in addition to the ambit of the Argentinean universities.