

## **Routine to obtain real surface observations of geocological elements**

Fernandes Manoel do Couto  
UFRJ  
mfernandes@acd.ufrj.br  
Brasil

The geocological analysis are based on geoprocessing have been used more often to obtain resolutions of complex and integrative needs, concerning the environmental studies. However, from the elaboration process of accepted models representatives of reality, together with the application of geoprocessing, some doubts come up and they need to be resolved through scientific investigations. One of these doubts is not to consider the dimension of data and information to be used, which are not valuated from observations on real surface, thus it can not interpret the structure, function and dynamics of geocological elements of a landscape correctly.

According to what was exposed, this paper has the purpose of developing a routine to obtain observations on real surface of linear and plain elements and apply them to geocological studies, making it possible the accomplishment of analysis, considering the surface as an unique relief. The routine is established from the choice of the best method of development of DEM (Digital Elevation Model) in areas of irregular relief and also in tests of geometrically known shapes. After analyzing the procedure of this routine using cartographic basis of different sources and scales, it was applied to the valuation and/ or elaboration of mapping of the structural and functional elements, and in analytic and integrative resultants of massif of Tijuca – RJ on scale of 1: 10.000.

The results show a definition of a routine to obtain observations on real surface from developing of DEM based on triangulated irregular network through Delaunay's method with restriction and using the extension Surface Tools of software ArcView (ESRI). The scale and quality of cartographic basis are also important elements on this study.

The differences noticed on geocological readings on real and plain surface are too relevant and allow the elaboration of distinct diagnosis and prognosis, which are certainly more truthful, considering the observations on real surface.