

TOWARDS A DYNAMIC DIGITAL CARTOGRAPHY: GIS-AIDED GEOLOGICAL-GEOTECHNICAL MAPPING OF THE JUNDIAÍ-ATIBAIA REGION, SÃO PAULO STATE, BRAZIL

CARNEIRO, C.D.R., SILVA, A. B., REGINATO, M. IG-Unicamp, Campinas SP Brazil.

A digital geological-geotechnical cartography of 450 km² north of the São Paulo metropolitan area has revealed that conventional mapping methods do not give suitable answers to the geological problems and the social-economic consequences of occupation. Jundiaí and Atibaia are the largest cities in this particular portion of the state, subjected to a disarticulated expansion induced by the growth of São Paulo city. The effects of human and social activities on a mountain land surface and exhibiting thick soil cover on deformed foliated rocks caused a number of environmental interactions. They can best be studied under an interdisciplinary focus: thematic map products on a Proterozoic basement should emphasize single aspects from the reality rather than the ancient multipurpose geological maps. It is not just a consequence of adoption of GIS technologies but a symptom that the nature of such maps is changing fast as it happens for other types of representations of spatial data. The available geological maps are deficient for restrict access, too small scales, expensive and slow updating. GIS packages such as Arc/Info offer powerful migrations between different systems, permanent updates, precision and unlimited span of data recovery. The results yield new data and constraints for land-use planning as well as for field Geology teaching-learning. A valuable database was built and offers an undoubtable source for environmental planning and monitoring by city halls.