

the cadastral record multiutilitaria applied, all in keeping with the standards, procedures and technical specifications established by the Geographic Institute of Venezuela Simon Bolivar (IGVSB) social by including socio- territorial elements obtained from the literature search in different institutions and community organizations, in order to analyze land use under the formal approach following the FAO (1.974) scheme and legend International Geographical Union (IGU), and environmental, compiling cartographic information and descriptive referred to the physical and natural elements, in order to establish the basis for delimiting Land Units (UT ), which served to determine the skills and the implementation of suitable land uses.

These components were the basis for the analysis of land evaluation and determination of the vocation of use, following the provisions of the Decree with Rank and Force of Law on Land and Agricultural Development (2.001) and the Partial Regulation of Decree with Rank Force of Law on Land and Agricultural Development for the Determination of Vocation Land Use (2005). As a result was obtained that the rural cadastre multiutilitario provided not only information for planning and management in the municipality, but also helped with the vocation of land use, generate the physical - natural, socio-economic and agro-ecological inventory, which allow to formulate strategies for the implementation of a plan of integrated watershed management and later to regional planning. Both tools are closely linked planning and management of resources in a territory allowing the implementation of public policies conducive to improving the quality of life of the inhabitants, and sustainable development over time. Finally, it would be desirable to share the methodology used in this study with different government institutions, in order to show that both tools help solve two existing gaps in the country, in relation to the formation of rural land and the determination of vocation use of rural land.

**Keywords:** multiutilitary cadastre, land evaluation, vocation land use, Monsignor Miguel Antonio Salas parish, municipality Jauregui, Tachira State.

**ANÁLISIS PRELIMINAR EN EL ESTUDIO MULTITEMPORAL DE LOS PROCESOS DE CAMBIO EN EL USO Y COBERTURA DE LA TIERRA A TRAVÉS DE SENSORES REMOTOS DURANTE EL LAPSO 1.991-2.016. CASO: MICROCUENCAS TORRENCIALES: CHARAVECA Y LA CHIVATA (MUNICIPIO CÁRDENAS), LA GARCÍA Y LA GURAPA (MUNICIPIO ANDRÉS BELLO), ESTADO TÁCHIRA - VENEZUELA**

*PRELIMINARY ANALYSIS IN THE MULTITEMPORARY STUDY OF THE PROCESSES OF CHANGE IN THE USE AND COVERAGE OF THE EARTH THROUGH REMOTE SENSORS DURING 1.991-2.016 PERIOD. CASE: TORRENCIAL MICROBASINS: CHARAVECA AND LA CHIVATA (CÁRDENAS MUNICIPALITY), LA GARCÍA AND GURAPA (ANDRÉS BELLO MUNICIPALITY), TÁCHIRA STATE - VENEZUELA*

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**Resumen**

El continuo avance de la intervención antrópica y por ende el crecimiento de la población y actividades económicas hacen que se produzcan fuertes presiones sobre los recursos naturales y

## Trabajos de Grado Magister Scientiae CEFAP

ambientales alterando en mayor o menor medida su estado inicial, escenario que se presenta en las microcuencas Charaveca, La Chivata La Gurapa y La García del Estado Táchira, por lo que se realizó el análisis preliminar del estudio multitemporal de los procesos de cambio en el uso y coberturas de la tierra que se desarrollan a lo largo de todo el área a través de imágenes satelitales LANDSAT 7 y 8, bajo metodología de análisis multitemporal elaborándose la base cartográfica por interpretación visual de los cambios de uso y cobertura de la tierra en las microcuencas de estudio para los años de 1.991- 2.016, relacionándolos con parámetros derivados de un DEM SRTM 30 m referidos a análisis morfométricos y valores de NDVI, permitió bajo un modelo PFEIR de Presión- Impacto- Estado y Respuesta determinar el estado de las microcuencas, cuyos indicadores reflejan que el territorio que ha sido ocupado de manera permanente aumento, con avances de las zonas urbanizadas, de 738,81 Ha para el año 1.991 a 1218,93 Ha al 2.016, es decir, que durante el periodo de 25 años, se incrementó 480,12Ha (10,04 %), los índices de deforestación muestran como las microcuencas han sido afectadas en las zonas con pendientes planas a intermedias con el pasar de los años en 4,3 Ha/año, lo cual evidencia el avance de la degradación ambiental y expansión de las áreas urbanizadas y otras actividades socioeconómicas en menor escala que están ejerciendo presiones sobre los recursos ambientales y naturales, que provocan diversos problemas ambientales debido a la fragilidad geológica que presentan, por lo que se amerita que se activen procesos de planificación y ordenamiento el uso de la tierra.

**Palabras claves:** Sistema de Información Geográfica SIG, multitemporal, uso de la tierra, cobertura de la tierra, sensores remotos.

### Abstract

The continuous advance of the anthropic intervention and therefore the growth of the population and economic activities cause that there are strong pressures on the natural and environmental resources altering to a greater or lesser extent its initial state, scenario that is presented in the Charaveca, La Chivata La Gurapa and La García of the Táchira State, for which the preliminary analysis of the multitemporal study of land use and land cover change processes was carried out throughout the area through satellite images LANDSAT 7 and 8, using a multitemporal analysis methodology. The cartographic base was constructed by visual interpretation of changes in land use and coverage in the study micro-basins for the years 1.991-2.016, relating them to parameters derived from a DETM SRTM 30 m referred to to morphometric analysis and NDVI values, allowed under a PFEIR model of Pressure-Impact-State and Re It is necessary to determine the state of micro-watersheds, whose indicators reflect that the territory that has been permanently occupied increases, with advances in urbanized areas, from 738.81 Ha for 1.991 to 1218.93 Ha to 2016, that during the 25-year period, there was an increase of 480.12 ha (10.04 %), deforestation rates show how micro-watersheds have been affected in areas with flat to intermediate slopes with the passing of the years by 4.3 ha / year, which shows the progress of environmental degradation and expansion of urbanized areas and other socio-economic activities on a smaller scale that are exerting pressures on environmental and natural resources, which cause various environmental problems due to the geological fragility they present, for which is required to activate planning and land use planning processes.

**Key words:** GIS Geographic Information System, multitemporal, land use, land cover, remote sensor