

**TECHNICAL REPORT:
MAPPING OF THE GEOECOLOGICAL UNITS OF THE
ITACOLOMI CEARÁ-BRAZIL RIVER SUB-BASIN**

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PRESENTATION

The material presented is contextualized in the dissertation project entitled: GEOECOLOGY OF LANDSCAPES: CONTRIBUTIONS TO ENVIRONMENTAL PLANNING IN THE SUB-BASIN OF THE ITACOLOMI-CEARÁ RIVER

BRAZIL defended in the Academic Master's Course in Geography of the University by the student Livana Sousa Guimarães of the State Vale do Acaraú-UVA in January 2020, whose General Objective is to Use landscape Geoecology as support for Environmental Planning in the Sub-basin of the Itacolomi-Ceará River, based on the potentialities and limitations of the area.

MATERIAL AND METHOD

Theoretical and Methodological Procedures: This research was based on landscape Geoecology, which arises through the theoretical assumptions developed by the Russian scientist Dokuchaev at the end of the 19th century. Thus, the Geoecology of Landscapes provides foundations for the elaboration of theoretical and methodological bases of environmental planning and management that incorporate sustainability linked to the development process (RODRIGUEZ; SILVA, 2010).

Cartographic Materials, Equipment and Software used;

- ✓ Topographic charts SUDENE/DGS SA.24-Y-C-V (Viçosa do Ceará), SA.24-Y-C-III (Farm), SA.24-Y-C-VI (Frecheirinha) and SA.24-Y-C-II (Chaval), in the range of 1:100.000;
- ✓ Geological map of the state of Ceará (CPRM, 2003) on a scale of 1:500,000;
- ✓ SRTM images (Shuttle Radar Topography Mission) in the scale of 1:250,000 collected on the Brazil Embossed website;
- ✓ Landsat 5 satellite images (25/06/1985); Landsat 8 (07/06/2019). Equipment
- ✓ Lenovo notebook, with Intel core i3 processor;
- ✓ GPS navigation receiver;
- ✓ Sony Cyber-Shot digital camera;
- ✓ Hammer (for adequacy of soil profiles);
- ✓ Measuring tapes;
- ✓ Clipboard.

Software used

- ✓ Quantum Gis (qgis); Version 2.8; Free software;
- ✓ Celina 1.0, estimated temperatures for the state of Ceará-UFC/2007 (Geography Department);
- ✓ EXCEL environment spreadsheets for water balance calculations.

Historical and socioeconomic materials

- ✓ Municipal demographic censuses of 1991, 2000 and 2010 (IPECE, 2017).

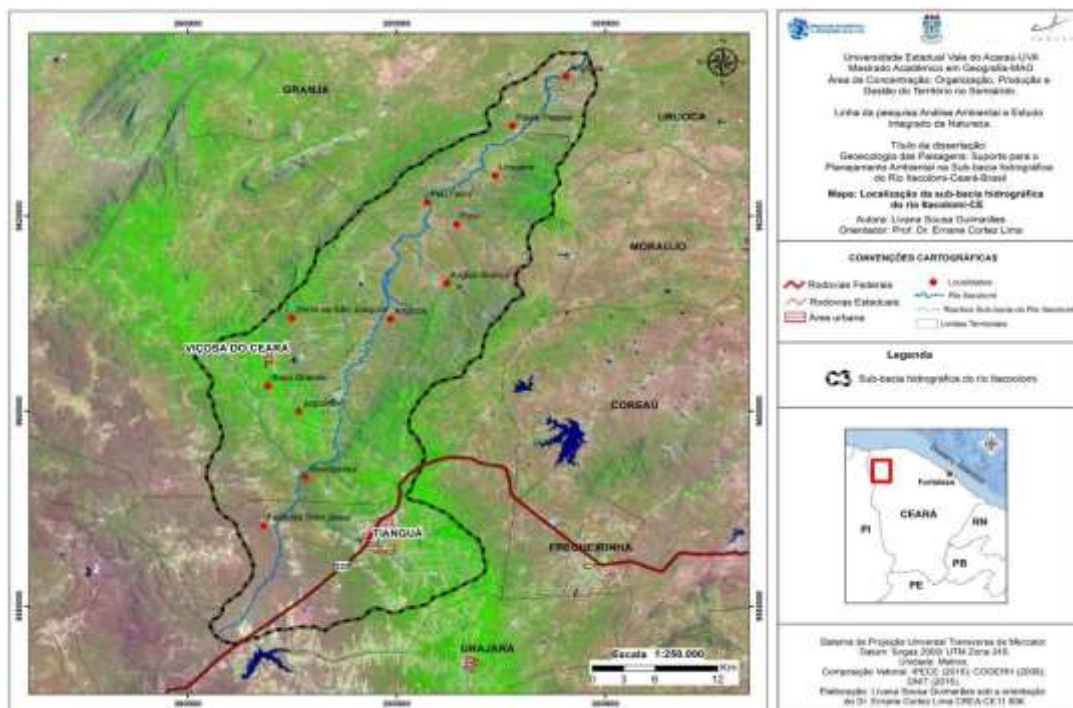
RESULTS:

Two maps will be displayed. The first location of the research area and the second that of the compartmentalization of the Geocological Units of the Hydrographic Sub-Basin of the Itacolomi River.

LOCATION

The sub-basin of the Itacolomi River is located in the Northwest region of the State of Ceará, located in the matrixes of SUDENE/DGS SA.24-Y-C-V (Viçosa do Ceará), SA.24-Y-C-III (Farm), SA.24-Y-C-VI (Frecheirinha) and SA.24-Y-C-II (Chaval), corresponding to an area of approximately 1,065 km², which makes up the system of the hydrographic basin of the Coreaú River. The sub-basin, object of analysis, partially drains the municipalities of Tianguá, Viçosa do Ceará, Granja and Uruoca.

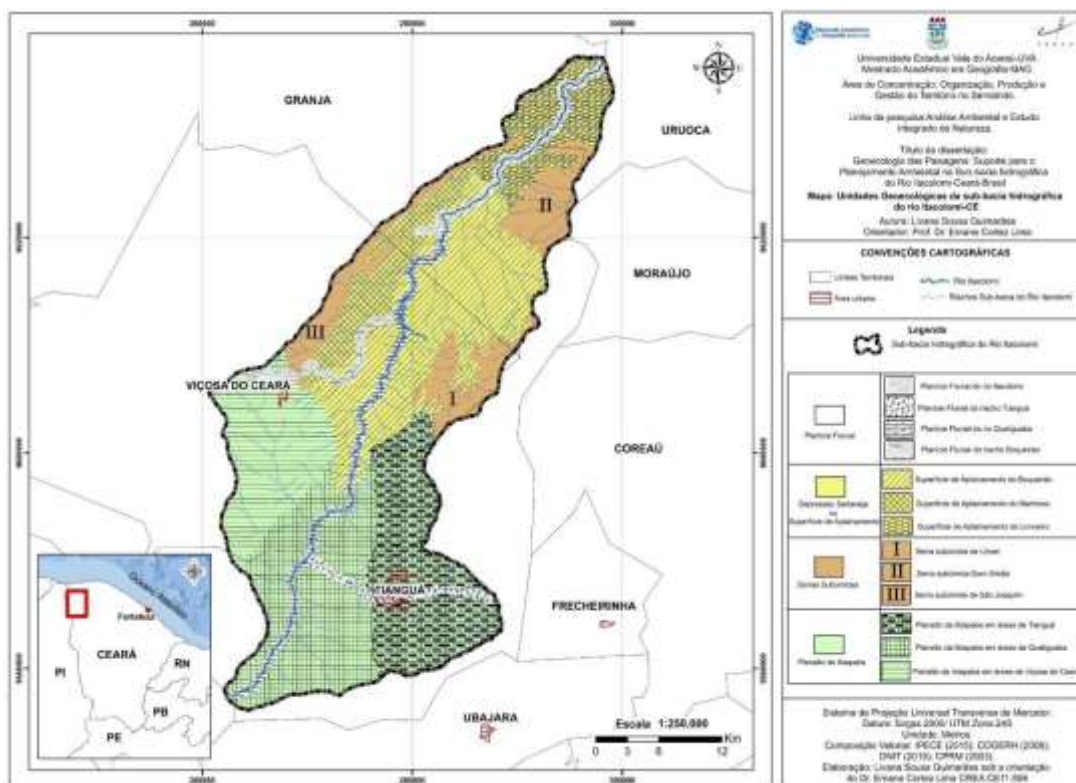
LOCATION MAP



Source: Guimarães, 2019.

MAP OF THE GEOECOLOGICAL UNITS OF THE ITACOLOMI CEARÁ-BRAZIL RIVER SUB-BASIN

The geoeological compartmentalization of the area of the sub-basin of the Itacolomi River was carried out based on the systemic approach adopted by the Geoeology of Landscapes, which considers the interaction of geological, climatic and geomorphological factors. From this, four geoeological units and their respective features were defined according to the interpretation of satellite images, aspects of use and occupation and field surveys, four geoeological units and their respective features: planning surface, Ibiapaba plateau, sub humid mountains and river plain. The relief was the criterion used in the delimitation and distinction of the units present in the sub-basin of the Itacolomi River, and is a significant geoeological factor. And, according to Farias (2012), the realization of geoeological compartmentalization provides a more detailed investigation of each unit, besides providing the elaboration of more specific measures for the resolution of problems encountered in each unit, combining both environmental aspects and economic factors, reflected in the forms of use and occupation of the territory. The sub-basin of the Itacolomi River presents itself as an integrated system that has natural peculiarities, providing identification of the different units or geoeological compartments. Analyzing the landscapes of the Itacolomi river sub-basin in a systemic view provides a greater detail in the analysis of the geographical space of the sub-basin, as well as of the main transformation agents.



Fonte: Guimarães, 2019.

FINAL CONSIDERATIONS:

The main focus of the research was to use landscape Geoecology as a subsidy to environmental planning in the sub-basin of the Itacolomi River. The excessive use of natural resources by human action can cause irreversible impacts on the environment; therefore, as a result of this marked exploitation of natural resources, studies in watersheds become important. Such resources have their limits, and it is necessary to propose some measures to mitigate or reduce the impacts caused by anthropic action those results in the mischaracterization of the natural landscape.

The analysis of the landscape obtained through systemic vision is an approach used in geographic studies considering its solid theoretical foundation. This perspective offers subsidies to the proposal of Landscape Geoecology that aims at the analysis of the landscape from the interaction between variables in a sequence of essential steps for conducting environmental studies with a view to environmental planning.

In summary, with this Map of the Geoecological Units of the Itacolomi River Sub-Basin, it makes clear the magnitude of knowledge of this dissertation as well as expresses responsibility and seriousness with research of this nature, aiming to assist in future scientific work in the area, as well as collaborate with the public power in the implementation phase proposed by the Landscape Geoecology in carrying out works aimed at environmental and socioeconomic sustainability in the sub-basin of the Itacolomi River.

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