

Rio de Janeiro State climate characterisation as a basis for environmental management

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This work aims at to the diagnosis of physical environment, relating the several landforms to the climatic variations, achieving homogeneously geo-environmental regions in the State of Rio de Janeiro, Brazil.

Located between 20⁰ and 24⁰ south latitude and with an area of 44,000 km², there are a lot of factors contributing to its great climate variability. In addition to the tropical characteristic as a main constraint, the spatial configuration of the State, its alignment and unusual topography provide considerable climatic variations. During five centuries of settlement deep changes in the landscape, specially in the urban climates were added at the region. As an example of this diversity it can mention a large moisture variation in the eastern littoral (towards Cabo Frio) and in the Paraíba do Sul river valley, in the Serras do Mar and Mantiqueira grabens.

This paper concludes that the climate-environment diversity of the state of Rio de Janeiro requires land use planning and management in order to avoid environmental problems such as water and energy supply collapse, catastrophic floodings, erosion and landslides.