

ABSTRACT

ARAÚJO, SILVIA M.B., Federal University of Pelotas, April 2005. **Study of the Climatic Variability in Homogeneous Regions of Averaged Temperatures of the air in Rio Grande do Sul.** Adviser: Prof. Dr. Gilberto Barbosa Diniz.

The State of Rio Grande do Sul presents different geographical and climatological characteristics in function of latitude, longitude and influence of meteorological systems. Therefore it is necessary a more detailed study about the behavior of certain meteorological variables. The averaged temperature, although being one of the less studied variable in relation to its variability, plays an important role in the climatological characterization of one region. This work has the main objective to identify the homogeneous regions of the three months period averaged temperature, utilizing data from 40 meteorological stations and to study its climatic variability (1913-2002) in the State of Rio Grande do Sul. To determine the regions it was applied the statistics multivariate technique of the Cluster Analysis utilizing the euclidian distance as cluster function. The cluster method was the Complete Connection that was coherent with the morphology and climatology of the State. It was obtained 4 homogeneous regions R1, R2, R3 and R4 that had a composition, in terms of quantity of stations contained in each one, little variable; emphasizing only a shorter number of stations in region R1. By the tierces study it is was verified that R4 is a warmer region (24,5°C in JFM) with little climatic variability and the R1 region is the coldest (12,0°C in JAS). The climatological study with statistical parameters (averaged, standard deviation, coefficient of variation and variance) calculated for these regions,

indicated that the greater variability in averaged temperature is found during the three month period AMJ and JAS.