NUMERICAL TECHNIQUES AS APPLICABLE TO AGROCLIMATIC CLASSIFICATION - a review[1]

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Diversity is not only confined to data sets, but is a feature also of procedures that are involved in classification. Agroclimatic classification procedures vary from conventional descriptive methods to modern computer based numerical techniques. Conventional methods utilize few attributes and areas are grouped at discrete intervals and can be presented relative to geo-coordinates as a continuum. Where many attributes are considered, numerical techniques confer advantages. There are three mutually independent numerical classification techniques, namely ordination, cluster analysis, and minimum spanning tree; and under each technique there are several forms of grouping techniques existing. The major weakness of the numerical methods is that no two methods give identical results and also there is no established procedure for choice of optimal method. Also, choice of numerical classification

procedure differs with the type of data sets. In the
case of numerical continuous data with both positive
and negative values, the simple and least
controvertical procedures are unweighted pair group
method and weighted pair group method under clustering
techniques with similarity metrics obtained either
from Gower metric or standardized Euclidean metric.
Where the number of attributes are large these could
be reduced to fewer new attributes defined by the
principal component or coordinates by ordination
technique. These revised attributes are less affected
by noise in the data set. However, the final
results of numerical techniques have to be validated
by personal judgement and where necessary the groups
have to be adjusted to get agronomically meaningful
groups. Identification of attributes is critical
to any classification procedure.

Climatologia. Classificação numérica; Climatology
Numerical classification.