ABSTRACT:

CLIMATE MODELLING USING PARALLEL SYSTEMS

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The climatic change as a global problem nowadays became the central question of science and politics.
In the last few decades the research started at the following fields:

- elaborating climate scenarios,
- research of prospective natural, economical, sociological effects of climatic change,
- elaborating accommodation strategies for climatic change.

The climatic change and its effects as a stochastic system have inner laws, but we can't definite these rules exactly. In this way we probably can effectively use analogous techniques in modelling of effect of climatic change.
Based on agricultural, soil and weather data with the help of artificial neural networks and pattern analysis one can give high quality forecast for large number of parameters. There is no need for obtaining mathematical rules and algorithms because the network classifies the samples based on analogy, similarity.
Observation of enormous number of parameters together needs enormous computing capacity, which available using parallel systems. Distributed computing can help also in parameter studies, where the same model was calculated million and million times with a minor change of original parameters. The large computing facility makes available the observation of traditional scenarios in extreme weather-situations.
Also, a short summary about climatic change modelling running on distributed environments presented.