

PARALLEL-R and GIS: A FIRST LOOK

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INTRODUCTION

We report on work in progress on the integration of the parallel-R (Samatova et al), a parallel data analysis programming language for parallel computers and the GRASS GIS with PostgreSQL. The integration of GRASS GIS, PostgreSQL and R was reported in 2000 (Bivand-Neteler). The parallel-R code provides an interface and a user environment similar to the software R. Parallel-R, GRASS and PostgreSQL are Open Source software. We report on the performance GRASS/parallel-R applied to analyzing climate data on Beowulf clusters of PCs and also on a 256 processor SGI Altix. The results are visualized on the 35 Megapixel powerwall, EVEREST, at ORNL.

BIOGRAPHY

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Research interest in parallel computing, fast computational methods and feature extraction.

REFERENCES

Samatova, N., Bauer, D., and Yoginath, S. (2004) The Task-Parallel R ("task-pR") system, repackaged as an R package (<http://www.aspect-sdm.org/Parallel-R/>).

Bivand, R.S., and Neteler, M.. (2000) Open Source GeoComputation: Using the R Data Analysis Language Integrated with GRASS GIS and PostgreSQL Data Base Systems, Proc. 5th conference on GeoComputation (CDROM), 23-25 August 2000, University of Greenwich, U.K.