Visual Analytics
Das Auge analysiert mit

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Geoscience - Challenge

- Increase of geoscientific data
- Geoscientific research targets systems rather than single processes

- demand for analysis of large and heterogeneous data
- demand for substantial innovation in data analysis methods
Visual Analytics - Insight into data

- maximize insight into a data set;
- uncover underlying structure;
- extract important variables;
- detect outliers and anomalies;
- test or formulate assumptions;
- develop parsimonious models; and
- determine optimal factor settings.
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Basic idea:
Exploratory Data Analysis, EDA, John F. Tuckey (1977)

The EDA approach is an attitude/philosophy about how a data analysis should be carried out.
Exploratory data analysis can never be the whole story, but nothing else can serve as the foundation stone – as the first step.
I CAN ONLY SHOW YOU THE WAY TO MY HOUSE IF YOU DRIVE ME BACK TO SCHOOL FIRST.

THERE'S MY HOUSE!
Need for good data exploration tools

Our approach
Interactive visualization & automated data analysis
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Our methodical Approach
Basis: Activity Theory

Understand the user’s data analysis goals and analysis tasks → Derive generic tasks → Define shortcomings → Develop visual analytics approach/tool to overcome shortcoming
Visual Analytics Tools

- are about creating insight not making pictures
- facilitate insight into complex data spaces (data sets as well as data repositories)