



# Statistical Geophysics

## 0. General Introduction

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# 0. General Introduction

## Syllabus:

*In this course students will learn the description of univariate and multivariate data with statistical and graphical methods. Models to assess uncertainty are discussed (deterministic and stochastic signals, aleatory and epistemic probability). Commonly used probability functions will be introduced. Then aspects of statistical inference (parameter estimation, testing hypotheses, statistical modeling) will be treated. In the second part an introduction to advanced statistical methods, which are especially relevant for applications in geoscience will be given. The theoretical part is amended by practical exercises using statistical software.*

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## General outline:

### Lecture (Holger Fink):

Thursday, 2 p.m. - 4 p.m. st (!!!!), Location: Theresienstr. 41 - Room C 419

### Tutorial (Henry Port):

Thursday, 4 p.m. - 6 p.m. ct, Location: Theresienstr. 41 - Room C 419  
every other week

### Slides, exercise sheets etc:

All material will be provided via Moodle.

### Literature:

- Lecture Slides from Steffen Unkel (Winter Term 2013/14)
- Wilks, D. S. (2011): Statistical Methods in the Atmospheric Sciences, 3rd edition, International Geophysics Series Volume 100, Academic Press.
- Stark, P. B. (1996): Geophysics, Statistics in, Technical Report 450, Department of Statistics, University of California, Berkeley, CA.

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### And of course: THE EXAM!!

- Time, Location: **tba**, preferably on the last lecture day
- One handwritten DIN A4 sheet (double-sided) allowed
- English dictionary (without personal comments)
- **Exam registration:** Please register until January 17th 2016 (at the latest) by sending an email ([henry.port \[at\] stat.uni-muenchen.de](mailto:henry.port@stat.uni-muenchen.de)), providing your full name, your student registration number (matriculation number) and your course of studies (e.g. M.Sc. Geophysics)