001-2-4054 Statistical analysis (3 credits) Prof. Golan Bel

Prerequisite: Basic course in statistics.

• The course requirements include the submission of all exercises.

• The grade is determined by the final project and the exercises.

The Course includes:

1. Introduction:
    - Probability theory
    - Spatio-temporal variables
    - Concepts in Statistical Inference
    - Estimation
2. Confirmation and analysis:
    - Statistical Test of Hypotheses
    - Analysis of Spatiotemporal Data
3. Fitting Statistical Models:
    - Regression
    - Analysis of variance
4. Time Series:
    - Time Series and stochastic processes
    - Parameters of univariate and bivariate Time Series
    - Estimating covariance functions and spectra
5. Specific statistical concepts in periodic systems
6. Forecast quality evaluation

Recommended Reading:

• Von Storch H. and Zwiers F. W. (2003). Statistical Analysis in Climate Research, Cambridge University Press

• Wilks D. S. (2011). Statistical Methods in the Atmospheric Sciences, Third Edition, Academic Press