

DiSCourse Seminar

The Department of Statistics and the Digital Science Center
would like to invite you to the following presentation:

Mag. Reto Stauffer, Ph.D.

Hourly Probabilistic Snow Forecasts for Tyrol: A Hybrid Statistical Ensemble Postprocessing Approach

Since the early days of digitalization, atmospheric sciences were always closely linked to digital science – from automated in-situ measurements and satellite imagery to weather and climate forecasts.

Although weather forecasts have strongly improved over the past decades, their accuracy and reliability for specific locations and events still offer room for improvement. This is especially true for areas in complex terrain such as the European Alps, where weather (and climate) can strongly differ within just a few kilometers.

Statistical machine-learning algorithms are one way to improve weather forecasts. Given a (large) set of historical forecasts and corresponding observations, supervised learning can be used to identify systematic errors and allow one to correct forecasts for the upcoming days and weeks, known as postprocessing.

This seminar will give insights into a new hybrid statistical postprocessing method for probabilistic snow forecasts, which combines standardized anomaly model output statistics (SAMOS) with ensemble copula coupling (ECC) and a novel re-weighting scheme to produce spatially and temporally high-resolution probabilistic snow forecasts. These methods use data from different sources including different products from the European weather forecast center (ECMWF) and observations from multiple observation networks. For illustration, the method is applied to the region of Tyrol. The results demonstrate that the new hybrid method allows one not only to provide reliable high-resolution forecasts, but also to combine different data sources with different temporal resolutions to create hourly probabilistic and physically consistent predictions.

Date and Time: Friday, 29 November, noon (local time)

Place: Campus SOWI, Universitätsstraße 15, SR 18 (room no. 45), 4th floor (east wing)

Guests are welcome!