2 PhD positions: “Atmospheric deserts” and European heat waves

Come and work with us: Be part of an interdisciplinary team interfacing atmospheric science and data science to study the effect of advected desert air on heat waves and convection in Europe in a three-year project funded by the Austrian Science Fund and obtain a PhD degree in Atmospheric Science (see compensation details).

Who we are: A team of experts from the Departments of Atmospheric Science and Statistics, University of Innsbruck, led by Georg Mayr and Achim Zeileis. It is a stimulating environment where methodological research and real-world applications reinforce each other.

Your PhD research: Study convective dry, hot and deep boundary layers over deserts and semi-arid regions as they are advected by large-scale circulations to ride up over cooler and moister layers in Europe. The resulting dry and warm capping layers can lead to heatwaves as in the current summer, and suppress or boost convection. You will work with a trajectory model, ERA5 data, lightning measurements, statistical modeling, and machine learning.

Essential qualifications: We are looking for one person with a background in atmospheric dynamics and boundary layers and another one with a solid foundation in statistics or data science.

- Degree (MSc) in atmospheric science or related fields or also in statistics, machine learning, data science, etc.
- Thorough experience in data handling and coding in one or more computing languages.
- Working proficiency and communication skills in verbal and written English.
- Strong motivation, curiosity, creativity, and stamina.
- Ability to work independently and as part of a team.
- Good organizational skills.

Additional qualifications: Experience with one or more of the following would be welcome.

- Python and/or R.
- Gridded meteorological data and/or trajectory models.
- Machine learning and/or statistical modeling.

How to apply: Via e-mail to **synstat@gmail.com**, including the following materials.

- Curriculum vitae.
- Cover letter stating your motivation, interest, and qualifications for the position.
- Abstract of your Master’s thesis.
- Links to papers and/or blogs and/or software projects (e.g., on GitHub), if any.
- Contact information of one to three references.

Timeline: Review of applications will begin on **September 20, 2022** until the position is filled. One position should start in November, the second one in January or February.