

Report on the 2025 EMS Annual meeting

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The 2025 annual meeting of the European Meteorological Society was held in Ljubljana, Slovenia on 7th – 12th of September. The thematic focus of the conference was “Growing use of AI/ML in atmospheric sciences and meteorological applications with a particular focus on flooding and warnings”. I was awarded the Young Scientist Conference Award to attend this annual meeting. The following is my report on the conference.

Heavy precipitation events were studied in the past and future with a variety of methods ranging from purely statistical to model-heavy, and contexts from global to national, case study and urban perspectives. Many talks presented statistics on a particular country’s rainfall observation datasets, but even these contained significant variability: e.g. Joanna Wibig’s talk on extreme precipitation events after heat waves was interesting and showed spatial variability in extreme event trends within the boundaries of Poland. The Valencia flood of autumn 2024 was also a very common topic that was discussed in the terms of return period estimation through extreme value theory, climate change attribution, and predictability. I was particularly impressed by Jessica Keune’s presentation on a warning system based on return period estimation that showed good results with Valencia as a case study. Hearing talks on the application of methods such as extreme value theory, statistical analysis methods and assessments of how different mechanisms contribute to extreme precipitation events is sure to shape my own PhD research in the future.

My own talk was on changes to Rossby wave breaking under future sea surface temperature and sea ice cover conditions, which I presented in the session on atmospheric and climate dynamics, predictability and extremes. While I did not see other presentations explicitly on similar topics, there were many more impact-oriented talks on e.g. blocking and heatwave formation. Particularly the effect of warm conveyor belts on blocking formation was highlighted in the presentation by Annika Oertel, and the role Rossby wave breaking in dry intrusion formation and downstream impacts was discussed in many posters such as the one by Prof. Shira Raveh-Rubin, presenting the upcoming NAWDIC campaign.

My experience attending the EMS annual meeting was eye-opening and inspirational, and showed me the value of sharing one’s results in direct discussion with the international scientific community. I was delighted to meet many other young scientists attending for the first time and to exchange thoughts with them as well as with more senior attendees. I extend my gratitude to the European Meteorological society for this opportunity and look forward to attending the conference again in the future.