Report on EMS 2025 Annual Meeting
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The European Meteorological Society (EMS) brings together 38 Member Societies and 31 Associate Members across Europe, supporting the advancement of meteorological sciences and their applications. Its Annual Meeting, held each September, has become a key event for climate and weather communities, attracting more than 600 participants from academia, research institutions, and operational services. The 2025 edition took place in hybrid format, with on-site sessions in Ljubljana, Slovenia, and a central theme dedicated to the “Growing use of AI/ML in atmospheric sciences and meteorological applications.”

I had the privilege of attending this year’s conference thanks to the support of the EMS Young Scientist Conference Award, which covered my travel and registration expenses. This generous support enabled me to present my work, expand my professional network, and broaden my knowledge through the diverse program.

Presenting My Research

I contributed to the session *“UP3.1 – Climate change detection, assessment of trends, variability and extremes”* with a poster entitled *“Thermodynamic and Dynamic Contribution in Precipitation Extremes over Europe and the Mediterranean Basin.”* The study uses the CHAPTER dataset (Computational Hydrometeorology with Advanced Performance to Enhanced Realism), a convection-permitting dynamical downscaling of ERA5 at 3 km resolution performed with the WRF model. My role focused on validating CHAPTER, emphasizing its representation of extreme precipitation.

The poster drew attention from researchers in two main ways. First, several groups expressed interest in the CHAPTER dataset itself, given its high resolution and potential applications. Some envisioned using it to investigate flash floods, lightning activity, or drought events, while others, particularly colleagues working on downscaling validations over Italy, discussed the possibility of collaborative studies on extreme precipitation.

Second, I received constructive feedback on the analysis presented in my poster, which focused on decomposing precipitation extremes into thermodynamic and dynamic components. My results show that between 1981 and 2022, extreme precipitation intensity increased by up to 50% in certain regions. The scaling framework indicated that thermodynamic changes, linked to increased atmospheric moisture, contribute modestly across most of the domain, while dynamic changes in vertical motion dominate the spatial distribution of extremes. Several colleagues suggested refinements to this approach, such as examining mid-tropospheric temperature trends or assessing local variations in CAPE and CIN, to better understand why the thermodynamic contribution appears comparatively weak. These exchanges were highly stimulating and may shape the next steps of my work.

Building Professional Connections

As I approach the completion of my PhD, networking opportunities at EMS 2025 were of particular significance. I was able to meet several researchers who may soon open postdoctoral positions and with whom I established direct contact.

A highlight was the Early Career Scientist Speed Networking event, which provided a structured setting to exchange with peers and mentors. These interactions, complemented by informal

discussions during the week, helped me gain a clearer picture of the diversity of career paths available after a PhD—not only within academia but also in operational services and private industry. Such conversations were reassuring, as many colleagues expressed optimism about the range of opportunities awaiting early-career scientists in our field.

Learning Opportunities

Beyond presenting and networking, the conference gave me the chance to attend a wide range of sessions. Some talks were closely related to my research, such as those on Mediterranean cyclones and regional reanalyses. Others, especially those focusing on applications of artificial intelligence to forecasting, reanalysis, and climate impact assessments, provided new perspectives outside my immediate area of expertise (like session " *UP3.8 – From Global Large Ensembles to Regional Climate Models: leveraging models and AI to assess Climate Change Impacts on Extratropical Storms and Precipitation Extremes*").

I particularly enjoyed the organized visits. The tour of the International Phenological Park in Tivoli introduced me to the concept of phenological gardens, where genetically identical trees and shrubs are grown across Europe to monitor plant responses to climate. The long-term records collected from the 89 gardens in this network offer a unique dataset to study climate change effects on ecosystems, and I found this initiative both fascinating and inspiring.

The visit to the Slovenian National Weather Agency (ARSO) was equally enriching. It was striking to learn how ARSO develops many of its own observation instruments, and to compare national approaches to early warning systems. These insights resonated with discussions I attended in the session *"ES2.2 – Communicating science and dealing with uncertainties."*

Finally, I was deeply moved by the keynote lecture of Dr. Florence Rabier, Director-General of ECMWF. Her presentation traced key scientific achievements of the center, while her personal trajectory served as an inspiring example for young scientists, especially women pursuing careers in atmospheric sciences.

Concluding Remarks

I am sincerely grateful to the EMS for granting me the Young Scientist Conference Award, without which my participation would not have been possible. I would also like to thank the Organizing Committee for creating a stimulating and welcoming environment that fostered both scientific exchange and personal growth. EMS 2025 has been a significant experience in advancing my research, strengthening my professional network, and broadening my outlook on future career opportunities.