Alexandru-Cristian Szatmari

Meteorologist | Numerical Weather Prediction | Geomatics Master's Student
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Professional profile

Hydrology and Meteorology graduate with a strong focus on meteorology, currently pursuing a master's degree in Geomatics. Experienced in operational forecasting, numerical weather prediction, radar monitoring, severe weather analysis and high-resolution WRF modelling, particularly convective storms and hail risk.

Professional experience

Atmospheric Intervention Coordinator | ICEWOLFS TEAM S.R.L. | Aug 2026 – present | Târgu Mureș, Romania
Meteorologist (university-qualified) | Intervenții Active în Atmosferă SA | Aug 2023 – Oct 2025 | Târgu Mureș, Romania

• Producing forecasts for hazardous weather and monitoring weather developments in an operational setting.
• Configuring, running, interpreting and validating numerical weather prediction models for convective and hail-prone situations.
• Validating field reports of severe weather using observations, radar data and numerical model outputs.
• Operating meteorological and radar software, including ASU-MRL, TITAN and OMNIWXTRACK.
• Contributing to research, innovation and in-house forecast tools supporting hail-suppression operations.

Education

MSc in Geomatics | Babeș-Bolyai University, Faculty of Geography | Sep 2024 – present | Cluj-Napoca, Romania
BSc in Hydrology and Meteorology | Babeș-Bolyai University, Faculty of Geography | Oct 2020 – Jul 2023 | Cluj-Napoca, Romania

Technical skills

• Weather forecasting and NWP: WRF setup, model validation, convective forecasting and hail risk.
• Meteorological analysis: radar interpretation, vertical profiles, cross sections, severe-weather reports and atmospheric monitoring.
• Technical tools: Python, Linux, ArcGIS/mapping, GRADS, Microsoft Office 365, PC hardware and software.
• Communication: public speaking, operational reporting, teamwork and coordinating field observers/storm chasers.

Selected projects and activities

• WXRadar – open-data weather platform with weather warnings and real-time radar and satellite data. Link: https://wrf.one/
• WRF-RO / RAW METEO – open-source WRF-based forecasting platform for public severe-weather products and applied meteorology.
• WRF-IAA / "NIMBUS" – internal 2 km WRF forecasting system for Intervenții Active în Atmosferă SA, focused on convective storms, hail risk, thermodynamic reports, vertical profiles and cross sections.
• T°ermo and Zephyr – Linux tools for thermodynamic diagrams, atmospheric cross sections and mapping/managing severe-weather reports.
• ESWD volunteer observer network – three months of collecting, validating and submitting severe-weather reports from Romania to ESSL/ESWD during the 2025–2026 convective season.

Selected publications and conferences

• Szatmari et al. (2021): "Synoptic and mesoscale conditions generating high amounts of precipitation in June 2020, in Romania". DOI: 10.24193/AWC2021_05.
• Weather Modification Association Conference, Las Vegas, USA (Apr 2024): presentation on numerical modelling of summer convection and associated hail.
• "Air and Water" Conference, Cluj-Napoca (Mar 2021): presentation of the published study on heavy rainfall in June 2020.
• URBAN-LAB 2025, Cluj-Napoca (Nov 2025).
• IS-ENES Spring School, Cluj-Napoca (May 2022), and IS-ENES Autumn School, Prague (Nov–Dec 2022).

Languages and strengths

• Romanian: native. English: advanced/proficient, with strong reading, speaking and writing skills.
• Organized, detail-oriented, experienced under pressure and able to communicate technical information clearly.